CEG Report No.: 172E-01-0124

(Includes CME Report No.: 28062B-03-1223 & 28062B-02-0523)

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Soils Investigation and
Conceptual Foundation Recommendation Report

Micron Campus

Clay, New York

Prepared For: (Client)

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1.0 INTRODUCTION

CME Engineering Group, D.P.C (CEG) is pleased to present this report to Ramboll (Client). CEG is a subconsultant to CME Associates, Inc. (CME). This report is provided pursuant to CME Proposal/Agreement No.: 05.7126, Addendum 3, dated 04/07/2023 (Agreement), which was executed by Client via a Purchase Order (Ramboll PO # 1950006347, dated 04/14/2023).

CME executed two phases of a multiphase subsurface exploration and testing program in 2023. The Project Site is shown on the Google Earth Image in Figure 1. Due to access restrictions, a significant portion of the exploration and testing remains outstanding. For each phase, a *Geotechnical Data Report*[1] (*GDR*) presenting the findings of the field and the laboratory program was issued by CME to Client. These reports are included as Exhibits A-5 and A-6 in Appendix A.

Figure 1 – Google Earth Image: (1995)
See Exhibit A-1 in Appendix A for a Full-Size Image with Scale

[1] Geotechnical Data Report for Phase 1 - CME Report No.: 28062B-01-0523R1, dated 06/20/2023 and Geotechnical Data Report for Phase 2 - CME Report No.: 28062B-03-1223, dated 12/08/2023, by CME Associates, Inc.

The scope of this report and specific items to be included herein are given in the Agreement referenced in the first paragraph. This report's scope is intended to provide a summary of subsurface conditions, site characterization, and conceptual site development and foundation recommendations, based on the GDR reports published in 2023.

The Design and Construction Team(s) have not been selected and the FEIS[2] has not been approved and published at the time of this report's preparation. CEG has had no interaction with project design professionals and has no knowledge of site specific changes and/or construction limitations, which may arise as a result of the FEIS and selection of the Design and Construction Team(s).

Client has provided CEG with information[3] to help progress the geotechnical engineering evaluation. CEG has relied on said information to produce this report. Client has acknowledged that significant changes may occur to the currently proposed development and that much of the site area has not been explored as of this writing, January 2024.

2.0 PROPOSED DEVELOPMENT

Project information (drawings and loading information) and an archive geotechnical report, provided by Client, are included in Appendix B as Exhibits B-1, B-2, and B-3. Figure 2 illustrates the reported EIS Scope Proposed Layout of the structures including FAB, CUB, and various support buildings and ancillary site facilities, as well as an overall Cut & Fill Layout. Four terraces, or levels (platforms), are planned for the site: Level +400, Level +395, Level +390, and Level +387. These Levels represent elevation in feet, using project site datum, as established by Thew Associates – Licensed Land Surveyors.

According to Ramboll, this project will be constructed in several phases. Phase 1A and Phase 1B, in that order, are the focus of this report. As shown in the EIS Report Scope, Phase 1A will include the construction of the FAB 1 building and all support buildings and ancillary site facilities with ID ending with number 1. Phase 1B will include the construction of the FAB 2 building and all support buildings and ancillary site facilities with ID ending with number 2. The support buildings include HPM buildings and CUB buildings. Ancillary site facilities include, but are not limited to, an electrical yard, bulk gas yard, SMS yard, mechanical pump house, and WWT structures.

An Admin/Probe Building and an Office Building, both with an underground parking garage, are shown to be located along the southern end of the proposed FAB buildings.

Several sitework features, including asphalt pavement parking lots and drive lanes, stormwater management areas, bio treatment structures, bio detention areas, and gravel-paved areas are also shown.

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[2] FEIS = Final Environmental Impact Statement
[3] Client provided information is presented in Appendix B.

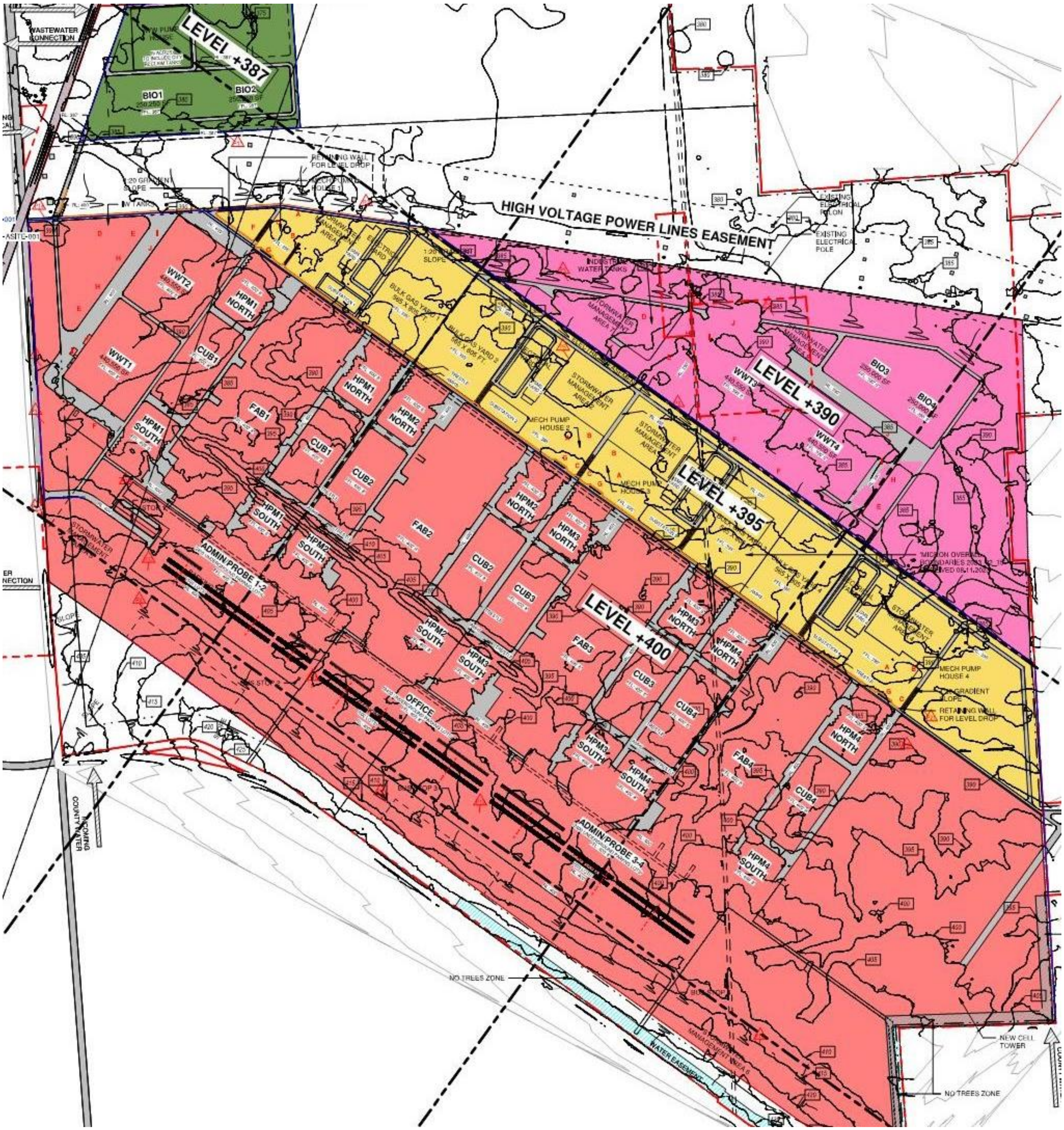

Figure 2 - EIS Scope Civil - Overall Cut & Fill Layout & Schedule
The above figure is obtained from Drawing labeled NYWP-LAY-S0-00-SSITE-003, dated Dec. 2023

First Floor Level (FFL) for all FAB and support buildings, admin/probe building, and the office building is shown at elevation 400.67 feet. Underground parking garages shown within the office building and the admin/probe building will have their lowest floor level at elevations 384 feet and 390 feet, respectively. Partial basements (sub level) are shown along the west end within the FAB buildings, with finish floor at elevation 384 feet. These structures are all within the platform Level +400 area.

Ancillary site facilities associated with, and shown north of, FAB 1 & 2 buildings are all within the platform Level +395 area.

Ramboll provided CEG with design loading information (reportedly obtained from past similar Micron projects) for the FAB, CUB, and Admin/Probe Buildings only. This information is summarized in Table 2.1 and below.

Table 2.1: Preliminary Loading Information Provided by Ramboll

Building	Estimated Design Loading
FAB – Fab Level	Maximum column load is 200 kips
FAB – Sub Level	Mat foundation slab load is 3,000 psf to 4,000 psf
CUB	Maximum column load is 500 kips Maximum slab loading in boiler and chiller areas is 500 psf Maximum slab loading in the tank areas is 2,500 psf
Admin/Probe Building	Maximum column load is 2,200 kips

In addition to the preliminary design loadings, Client provided parameters for tolerable foundation settlement of 1 inch total and ½ inch differential between columns. Column spacing was not provided. The risk category for seismic load analysis is "Risk Category III, Non-essential Facilities".

Design traffic loading for the proposed asphalt pavements is 3,500 passenger cars per day and 50 trucks (five-axle) per day.

No other information is available to CEG at the time of this report preparation.

3.0 THE 2023 EXPLORATION PROGRAM

At the direction of Ramboll, and as site access was permitted, CME conducted subsurface exploration and on-site geotechnical testing. The Exploration Area Map (provided in Appendix A as Exhibit A-2) provides information on the extent of the areas of the site where no exploration or testing has been conducted as of 12/31/2023.

The total site area is reportedly approximately 1,400 acres, and the current EIS layout of buildings and ancillary site facilities is approximately 600 acres.

Most of the areas of the proposed structure footprints were not accessible during the 2023 exploration. The exploration locations were selected at an approximate grid spacing of 200 feet x 200 feet, where permitted. The total area of exploration covered by the grid spacing is approximately 180 acres, or less than one-third of the total area of the proposed structures.

CEG understands that as site access is permitted, additional exploration and testing will be authorized by Ramboll. As acknowledged by Client and Owner (Micron), it would not be prudent to presume that the subsurface conditions and characterizations over the large expanses of "no exploration" areas are similar to those investigated, nor to complete the geotechnical engineering evaluations for sitework and foundation recommendations on the very limited extent of the 2023 exploration. However, CEG understands Client's request to advance the planning and conceptual design beyond the current EIS Scoping and Pre-Permitting Phase.

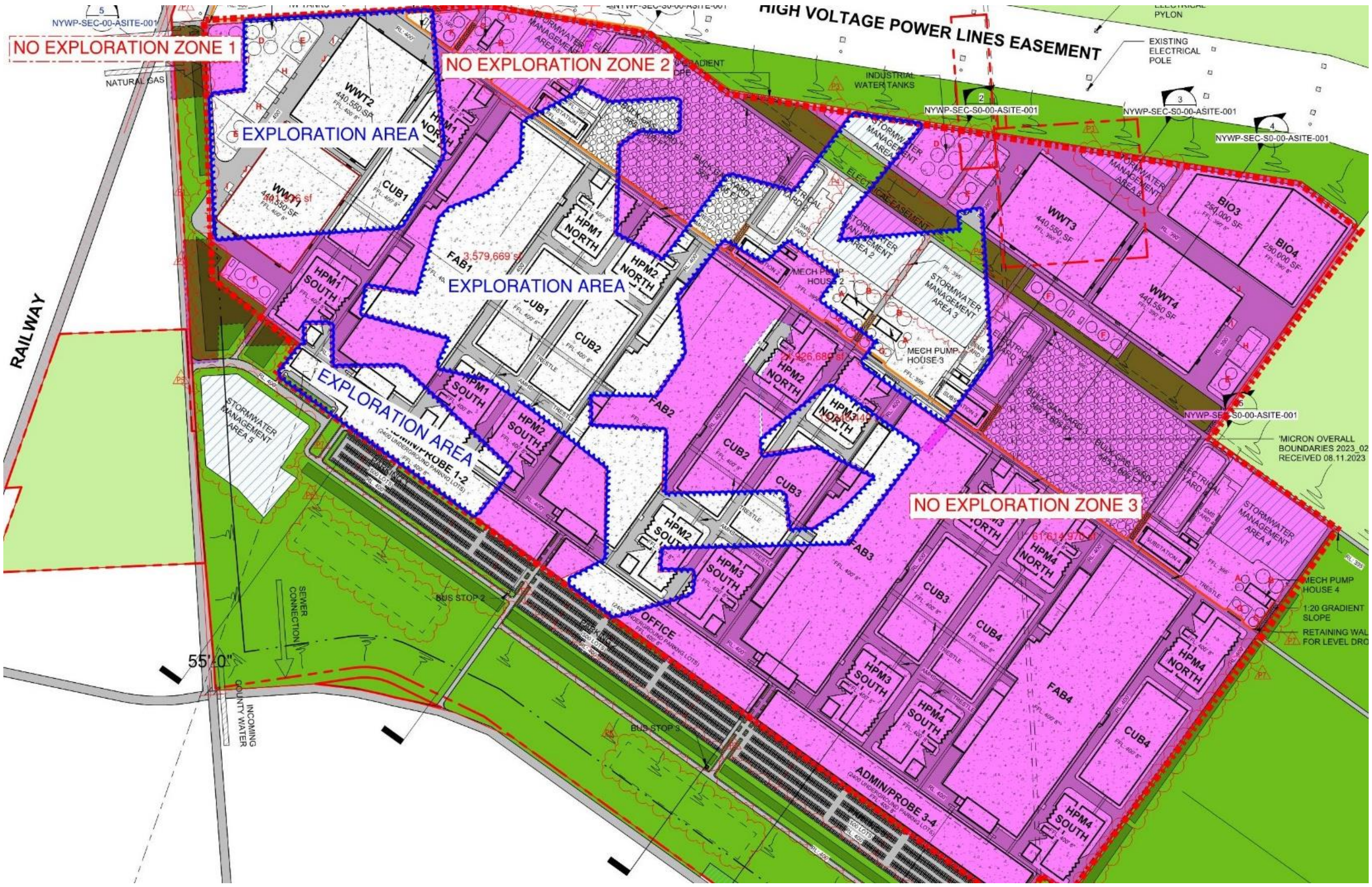

Figure 3 – Exploration Area Map
See Exhibit A-3 in Appendix A for a Full-Size Drawing with Scale

At Client's request, CEG will endeavor to provide a broad-brush, concept-level characterization of the currently known formidable and moderate to severely limiting geotechnical conditions of the site vis-à-vis the planned improvement as shown on the Drawings given in the EIS[4] Scope Report and information as provided to CEG by Client in 2023.

Since EIS Scope Report Phase 1A and Phase 1B Areas are to be developed first, Client has requested emphasis on the structures and earthwork in these areas of the site.

[4] *EIS Scope Report* by Exyte Singapore Pte Ltd, various dates and revisions in 2023 for *US NY White Pine Project*. See Appendix B for Client-provided drawings and information.

4.0 SITE DESCRIPTION AND GEOLOGICAL SETTING

4.1 Site Description

The Micron Project Site lies entirely within the watershed and headwaters of Youngs Creek. At least six natural drainage swales (a.k.a. tributaries) to Youngs Creek collect runoff from the core of the site and discharge to the north and east. The creek meanders northwesterly through a wide, shallow swampland and lowland topography along the eastern and northern extremities of the site and makes its way northwesterly to confluence with the Oneida River. This river delineates the northern border of Onondaga County and the Town of Clay (See Figure 4).

Figure 4 - Watershed Map

The site is reportedly comprised of about 1,400 acres, with the core of the developable area bounded by High Voltage Power Lines and the Youngs Creek riparian swamplands along the northern and eastern fringes of the site. State Route 31 (SR-31) is the southern limit and Caughdenoy Road and/or the Railway ROW is the western limit. The core of the site is shown to have about 7,200 feet of frontage on SR-31 and be about 4,400 feet deep.

Burnet Road, formerly known as CowPath Road, transects the site, commencing at SR-31 and continuing due north to a dead end at the High Voltage Power Lines Easement. Burnet Road was primarily occupied by small farms and this prime arable land was developed by installing drainage in and around the tilled fields, shedding to ditches, creek tributaries, and wooded swamplands. Prior to 1943, about 1 ½ miles of Burnet Road north of the dead end, which made its twisting and turning way through the then-active tilled mucklands, was abandoned.

Topographically, there are two long hills projecting up through the plain and oriented lengthwise, parallel with the straight portion of SR-31 (i.e., 10 O'clock to 4 O'clock or NW to SE). See Figure 5.

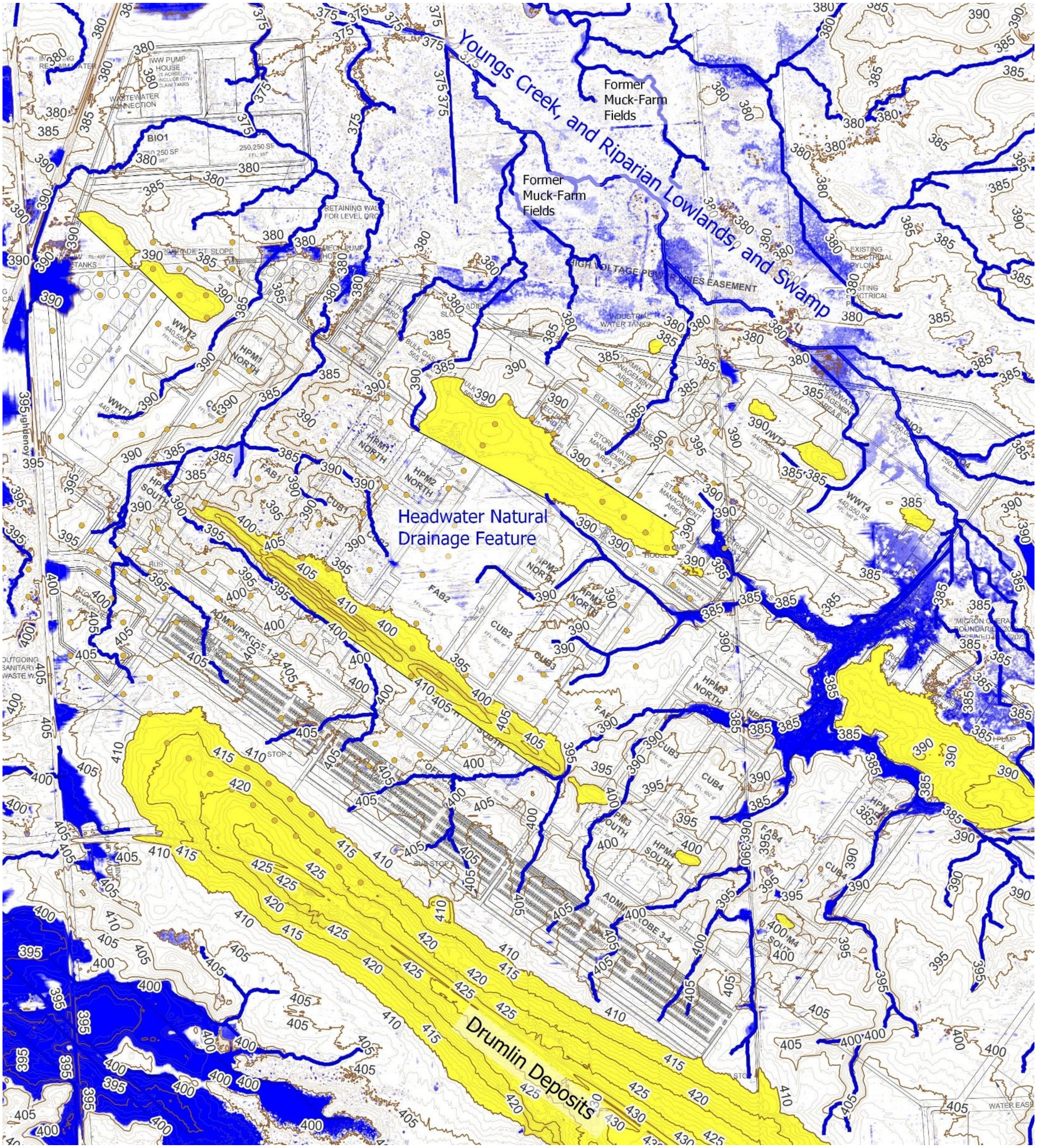

Figure 5 - Topo, Surficial Geology and Surface Hydrology Map
See Exhibit A-4 in Appendix A for a Full-Size Map

These two long cigar-shaped hills are referred to as drumlins, a geologic deposit remaining after glacial ice receded. The largest drumlin (hill) runs along the entire SR-31 southern limit of the Micron site. This elongated hill is about 400 feet wide x 8,000 feet long. SR-31 was built on this hill routed along the crest. The highest elevation on the site is about 427 feet (AMSL) located just north of SR-31, one-quarter mile east of the Caughdenoy Road intersection. The lowest elevation is along the northwest edge of the site, north of the High Voltage Power Lines given as elevation 375.

A second parallel-oriented drumlin, located about 1,800 feet northeasterly, is about 400 feet wide x 4,000 feet long in plan dimension above the plane and has a crest elevation of about 412 feet. The plain north and east of this lesser drumlin varies from approximate elevation 395 feet to the edge of the swamplands at about elevation 380 feet. Typical slopes in the plain vary from about 0 to 2%. Local slope measured from the crest to foot of the hills varies from about 8 to 12%. Gradient within natural drainageways is about 4%.

Vegetation outside of the now fallow agricultural fields is generally wet wooded or wet emergent forest and/or scrub-shrub.

4.2 Surficial Geology and Setting

According to geologists, and as reported in the NYS Geotechnical Design Manual[5] (GDM), the Micron Site lies within the *Ontario Lowlands* physiographic province of New York. See Figure 6 – Map of Physiographic Provinces of NYS.

According to the GDM, a physiographic province is further described in the following excerpt.

> "On a broad basis, the bedrock, topography, and many of the soils in any province exhibit similarities. Repetitive units occur within a physiographic province. That is, soils formed on similar landforms throughout a province will exhibit similar generalized engineering characteristics. However, a soil formed on the same landform in another physiographic province may display different engineering properties because of different source bedrock type, etc."

At the project site, this **lowland plain** is chiefly dominated by glacial lakebed deposits also known as Lacustrine or Glacio-lacustrine, which are generally composed of laminated clay and silt deposited in proglacial lakes.

The GDM reports that hundreds of low "whale-back" or "cigar-shaped" oblong hills protrude up out of the Ontario Lake Plain. These long, narrow low hills are called "drumlins" and are composed of glacial deposits referred to as "Glacial Till" or just "Till". Two drumlin hills are easily identified on a topographic map of the site and were described previously in Section 4.1. However, a closer examination of the topography in conjunction with the Test Boring Logs, reveals several less prominent, mostly buried drumlins oriented parallel with the others.

[5] NYS GDM, Chapter 3 – Geology of New York State, June 17, 2013.

Figure 6 - Map of Physiographic Provinces of New York
Adapted from NYSDOT GDM

The Till sampled by the CME exploration is an unsorted, variably textured deposit consisting of a mixture of sand, gravel, silt, clay, and cobbles or boulders. Where the till has been overridden by glaciers and/or deposited below the ice, it is generally very dense and relatively impervious.

The glacial till drumlins (See Figure 5) at this site with crest elevation above that of the lake-plain act as dams interrupting and directing surface runoff that concentrates along the toe of the slope to flow around the terminal ends. Small ponds have formed as collection points in depressions present in the poorly defined and erratically sloped ground between these drumlins. The overflow from several of these ponds represents the source of headwaters for Youngs Creek and tributaries. The drumlin deposits, headwater ponds, and Youngs Creek tributaries are shown in Figure 5.

It should be noted that with a very large site such as this, it is very possible that man-placed fill that was placed over the years will be identified, in areas. Typically, the man-placed fill is placed in an uncontrolled manner, and if encountered, should be further investigated.

4.3 Bedrock Geology

The Geologic Map of New York, Finger Lakes Sheet (1970) shows the project site to be within the Lockport Group, Oak Orchard and Penfield Dolostones of the upper Silurian epoch of the Paleozoic era.

The GDM cites the Bedrock[6] of the Ontario Lowlands as "stratified beds of shale, sandstone, limestone, and dolostone."

The 2023 Test Borings sampled shale and dolostone, confirming the resource documents referenced above.

4.4 Seismic Site Classification

Based on a computational analysis using the CME Subsurface Exploration data (i.e., the SPT, CPT and MASW results reported in the GDR reports) and the 2020 New York State Building Code[7] Section 1613 (which references ASCE 7 Chapter 20), the proposed Micron site in Clay, New York is defined as a "Stiff Soil Profile", representative of a Site Class "D". The 2023 explorations did not sample soils vulnerable to liquefaction, sudden collapse or failure under seismic loading conditions.

Please refer to the *ASCE 7 Hazards Reports,* provided in Appendix C, Exhibit C-2, for recommended Design Spectral Response Curves applicable for Risk III Structures, Non-essential Facilities.

4.5 USDA Soil Survey

A Custom Soil Resource Report[8] (Web Soil Survey Report) for Onondaga County, New York subtitled: "Micron Clay, NY" is provided in Appendix A as Exhibit A-7. This report has been assembled by CEG for approximately 820 acres representing the core of the approximately 1,400-acre Micron Site. A Glossary is appended to the Web Soil Survey (WSS) Report to assist those readers who may not be familiar with all the terminology used in said report. The WSS Soil Map is given in Figure 7. Sixteen soil units are identified on this Map. It is important to note that the upper-case postscript letters "A, B, and C", following the two-letter Soil Unit Symbol, designate ranges of "slope" and are omitted here for simplicity.

Soil surveys contain information that affects land-use planning, which highlights soil limitations for various land uses (such as farming) and provide information about the properties (i.e., characteristics) of the soils within the survey area.

CEG will highlight some, but not all, of the WSS Report here. For more specific and detailed information, the reader is directed to the WSS Report. It is important to note that the soil mapping, identification, characteristics, and properties, including, but not limited to, depositional history, taxonomic soil classes, and

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[6] New York State Geotechnical Design Manual, Section 3.2.12.2
[7] Building Code = 2020 NYS Building Code
[8] CEG assembled the WSS Report from the USDA Natural Resources Conservation Service on-line application: Web Soil Survey, on January 9, 2024.

landforms are determined by soil scientists (i.e., pedologists), not geotechnical engineers, using pedological terminology and a taxonomic classification system, which describe soil series (i.e., units), properties, and horizons generally within the upper 60 inches of the surface soil profile. The Unified Soil Classification System (USCS) and the AASHTO[9] Soil Classification System classifications are also provided in the WSS Report and may relate more closely to the geotechnical descriptions used throughout this engineering report. The Engineering Properties Table, starting on Page 53 of the WSS Report, ties the Taxonomic Soil units to the USCS and AASHTO group symbols.

In general, the 16 soil survey units can be assembled into four groups of soil exhibiting similar modes of deposition, USCS classes, properties, and character. Please note that the WSS Report Area (WSS Area) of 820 acres outlined in Figure 7 represents the EIS Scope core building area. Approximately 580 acres north and east of the core is not represented.

Group 1 – Glacio-lacustrine origin representing about 83% of the WSS Area, where 73% is Silty Loam (i.e., USCS group symbols: CL, CL-ML, ML, SC-SM, and SM) and 10% is Sandy Loam (i.e., USCS group symbols: ML and SM). These surficial soils[10] generally exhibit reported limitation terms of *very limited* due to low strength, depth to saturated zone, shrink-swell potential and cemented pan.

Group 2 – Till Plains, Ridges, and Drumlins representing about 12% of the WSS Area, where 6% is Fine Sandy Loam (i.e., USCS group symbol: ML, ML-CL, SM, and SP-SM) and about 6% is Gravelly Silt Loam (i.e., USCS group symbol: GC-GM, ML, SC-SM, and SP-SM). These surficial soils[11] generally exhibit reported limitation terms of *somewhat limited* due to depth to saturated zone.

Group 3 – Mucky and Flooded Glacio-lacustrine depressions representing about 3% of the WSS Area where Mucky Silt Loam is predominant with Muck and Mucky Silty Clay Loam subordinate (i.e., USCS group symbol: MH-ML, OH, and OL; and PT and CL, CL-ML, respectively). These surficial soils[12] generally exhibit reported limitation terms of *very limited* due to ponding, depth to saturated zone, subsidence and shrink-swell potential.

Group 4 - Alluvium termed Fluvaquent[13] representing about 2% of the WSS Area where a variably textured and frequently flooded soil is present. This surficial soil exhibits reported limitation terms of *very limited* due to frequent flooding, ponding, depth to saturated zone, low strength, and shrink-swell potential.

[9] AASHTO – American Association of State Highway and Transportation Officials. Standard Specifications for Transportation Materials and Methods, 2004.
[10] WSS Map units listed in order of most to least coverage: Ng, Ch, Ww, Rh, Md, Du, and Mt.
[11] WSS Map units listed in order of most to least coverage: Hl, Og, On, and Ao.
[12] WSS Map units listed in order of most to least coverage: Cd, Pb, and Fo.
[13] Fluvaquent – of or pertaining to rivers or streams; produced by river or stream action. WSS Map Unit is “FL”.

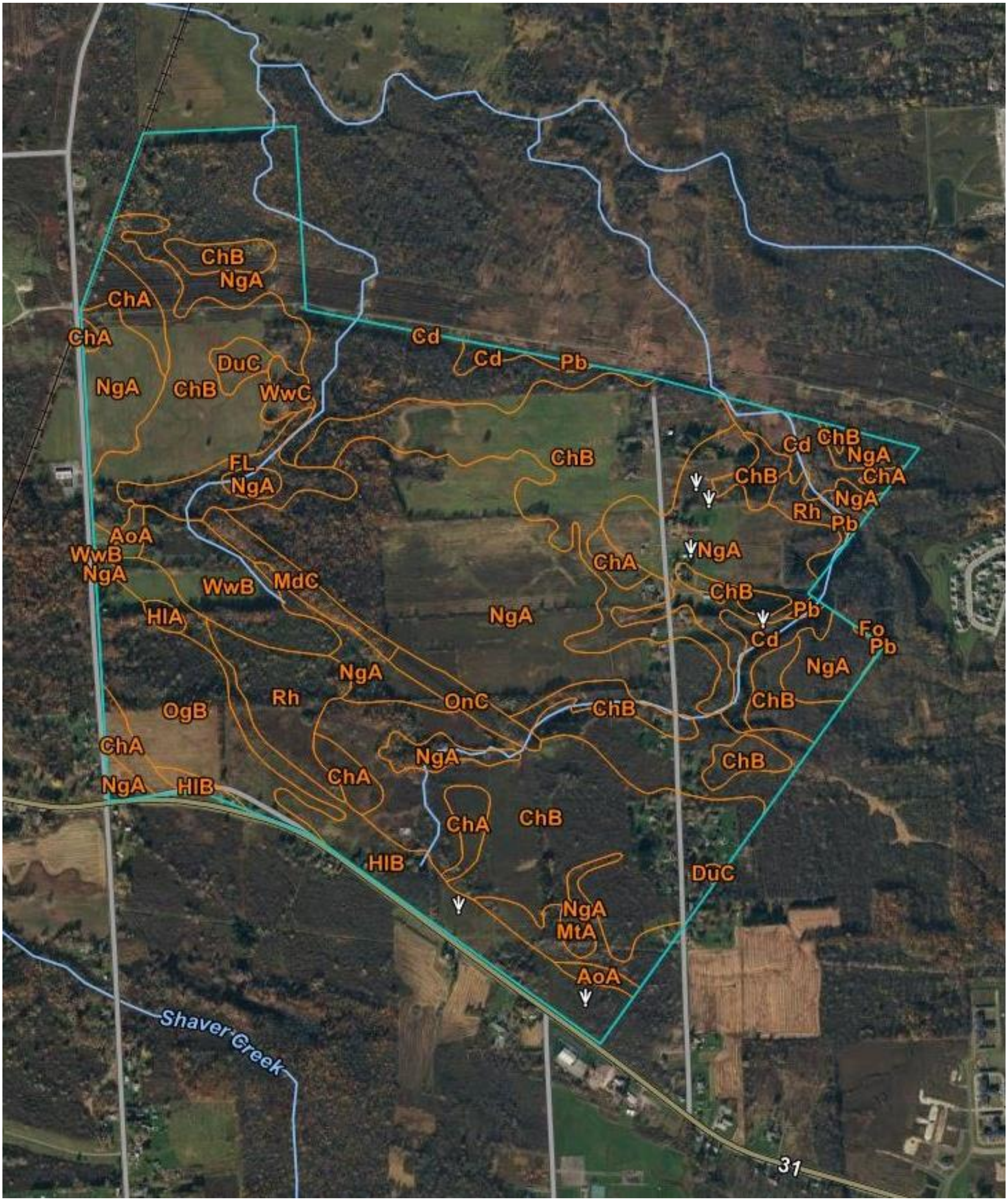

Figure 7 – Web Soil Survey – Soil Map

5.0 SUBSURFACE CONDITIONS

5.1 Preface

CEG has endeavored to present very general subsurface profiles based on the regional geologic history and as confirmed by the 2023 CME exploration and testing, which was very limited in extent and coverage of the project site. Therefore, the actual in-situ subsurface conditions between exploration locations are unknown and may vary significantly from that reported herein and/or summarized in this section.

Using a broad-brush to paint with, CEG composed the Generalized Subsurface Profiles (See Exhibit C-1 in Appendix C) using the fundamentals of published glacial deposition theory in the region as colored by the spectrum of Test Borings and their spatial relationship or inferred association with each other.

5.2 The Regional Glacial Deposition Theory

The region and project site are underlain by soil deposits and sediments originating from pre-historic glaciers[14]. Massive glaciers, reported to be upwards of two miles thick, covered the entire lake plains region south of Great Lake Ontario. These glaciers excavated (cut into) bedrock and soil, mixing, grinding, and transporting the now ex-situ soil materials, then depositing the altered soil and rock (named “drift”) as the glaciers melted and receded. Between mountainous terrain and glaciers, immense glacial lakes were formed. Sediments such as sand, silt, and clay slowly settled through the depth of these vast lakes. These glacial lakebed sediments are called “glacio-lacustrine” deposits. This site is located within a plain once occupied by glacial lake(s).

The drumlins present on the site are composed of soil and rock material called “glacial till” or “till”. Till is deposited directly out of the ice. When till is overridden by the glacier, it is compressed and consolidated into a very hard or stiff, dense, nonhomogeneous mass composed of particles and/or zones of soil ranging in size from boulders (over 1 foot in nominal dimension) to clay (less than 0.005 mm).

The drumlin deposits at this site were subject to some erosional action subsequent to deposition and some of the till was scoured, transported, and splayed out between and around the drumlin formations. This till-like soil called “drift” may be relatively loose in-situ and of an altered composition than the parent material. It is important to note that the till and drift were deposited before the glacio-lacustrine sediments, thus a mantle of lakebed sediments may cover or bury these deposits.

As the glacial lakes receded and dried out as the glacial period ended, the present day hydrologic features such as lake, river, stream, swamp, marsh, and lagoonal environs evolved. The near surface deposits, located in areas of the site which have not yet been explored geotechnically, are likely to be softer, more compressible, wetter, and thicker than similar soils encountered in the arable fields and fallow meadows where exploration was permitted. Lowland, swampland, and riparian or freshwater wetland areas are abundant and widespread at the project site.

[14] A glacier is a slowly moving mass or river of ice.

5.3 Generalized Subsurface Profiles

Four distinct subsurface profiles are evidenced by the 2023 CME exploration, published geologic history, and the WSS Report. These soil profiles are intended to characterize the soil and bedrock sampled below the topsoil, organic-rich soil, and surfacings present at the time of the 2023 field programs.

The first and oldest profile is the drumlin glacial till or "Till Profile". Till over bedrock, overridden and compacted by glacier, then covered with lakebed sediments.

The second profile is the eroded and scoured glacial drift or "Drift Profile" splayed out erratically and loosely over bedrock then covered with lakebed sediments.

The third and likely dominant profile is simply the glacial lakebed or "Lakebed Profile", consisting of layers of lakebed sediments of clay, silt, and sand (or mixture thereof) overlying bedrock.

The fourth profile is the "Unknown Profile" and was not explored in 2023. However, the WSS Report serves as the basis to infer its presence within the riparian, wetland, and swamp areas. The unknown profile is likely Peat, Muck, and organic-rich soils over any of the three previously identified profiles.

The thickness of soil over confirmed (cored) bedrock varies from about 4 feet and bedrock contact elevation 395 feet (at Boring B-41 near Stormwater Management Area 5) to about 28 feet and bedrock contact elevation 366 feet, north of the two most prominent drumlins.

5.4 Soil Descriptions

The subsurface materials sampled in the 2023 explorations are generally grouped by layer or stratum and represented by USCS group symbol. The materials are described consistent with the modified Burmister Classification System as given in the "General Information & Key to Test Boring Logs" appended to the GDR reports.

Topsoil is an organic-rich soil of varying thickness. The topsoil sampled at this site is consistent with the material descriptions given in the WSS Report and Section 4.5.

Upper Silt & Clays are the predominant soil encountered below surfacings or topsoil. These fine-grained, water-loving soils are chiefly non-plastic to slightly plastic, dilatant, Clayey Silt, Silt, Silty Clay, and Clay with respective USCS group symbols ML-CL, ML, CL-ML, and CL. Trace fractions of sand and fine gravel may be included. The in-situ upper silts and clays generally exhibited moisture contents between the plastic and liquid limit. All samples were much wetter than Optimum Moisture Content (OMC about 12%) based on Moisture-Density Relationship Test[15] results (i.e., Proctor Tests).

Standard Penetration Testing (SPT-N values) indicate the upper silts and clays exhibit consistency described as medium stiff to stiff. Hand penetrometer test results, which gives an idea of the unconfined compressive strength of the soil, varies from 0.5 to 3 tsf, and in-situ shear strength based on vane shear test results, which

[15] ASTM D1557 – Modified Proctor Test

gives an idea of the shear strength of the soil, varies from 100 psf to 3,500 psf in the upper 4 feet of the profile. A sharp drop in strength is evident below a depth of about 3 feet. California Bearing Ratio (CBR) tests completed on samples extracted from Test Pits at 2 feet to 4 feet depth and compacted within 6% of Maximum Dry Density resulted in soaked CBR at 0.1 inch penetration of 2 to 8, with swell measured prior to test (and after soaking) of 2.5% to 3.1%.

Sandy Silt with varying proportions and zones of gravel, cobbles, and clay indicative of unsorted, variably textured Till and Drift deposits. These soils are represented by USCS group symbols SM, SP, SC, SP-SM, GM, GC, ML, and ML-CL. SPT-N values in Till vary from about 20 to over 100 blows per foot. SPT-N values in Drift are generally less than 20 blows per foot. These soils exhibit wide ranges of shear and unconfined compressive strengths due, in part, to texture, grain size, and precompression by glacier. These soils in-situ are generally wet of OMC (OMC about 9% to 10%) with MDD in the range of 120 to 140 pcf. CBR testing indicates a range of soaked CBR values of 2 and 26, at 89% and 94% compaction, and swell at 2.6% and 1.0%, respectively for Till.

Lower Silty Clay with USCS group symbols of CL and CL-ML is present intermittently, lying just above bedrock. This lower Silty Clay stratum is plastic, with in-situ moisture content very close to Liquid Limit, indicating that it is normally consolidated (i.e., has not experienced long-term loading greater than currently loaded) indicative of glacial lakebed sediments. This normally loaded state has been confirmed by One-Dimensional Consolidation (1-D) testing. This stratum, where present, will compress and consolidate under any future permanent loading, such as weight of new fill and structural gravity loads. The lower Silty Clay deposits are sandwiched between impervious bedrock below and a more pervious, but thicker, upper Silt and Clay stratum above, which is very poorly drained. The interstitial (pore) water within the saturated clay is trapped by the surrounding soils and bedrock. Lab 1-D testing of two samples indicates dry unit weight of 88 and 108 pcf, initial water content of 33% and 22%, initial void ratio of 0.95 and 0.55, and virgin compression indices of 0.33 and 0.04, respectively.

Loose Sand is present intermittently lying just above bedrock. This sand is very loose to loose in relative density, exhibiting STP-N values of 0 to 10. USCS group symbols SP, SM, and SP-SM are applicable. When Sand is present at an exploration, it is sampled below the groundwater table, and has little to no shear strength in-situ, indicative of glacial lakebed sediments.

Bedrock was core-sampled at 13 Test Boring locations and verified to be sedimentary interbedded shale and dolostone. The bedrock is nonreactive to slightly reactive to dilute Hydrochloric Acid, and karst topography is not noted at the project site. NQ-size Core Recovery varied from 98% to 100% and RQD[16] varied from 20% to 95% in the 0 to 5-foot core runs, and from 47% to 100% in the 5-foot to 10-foot core runs, indicative of very poor to excellent in-situ rock quality for the upper 5 feet of bedrock and poor to excellent for the lower 5 to 10-foot runs. Generally, in-situ rock quality is better with depth, however, at Boring B-292 rock quality dropped from RQD 83% to RQD 47%. Drill water (used to lubricate the diamond-impregnated drill bit) was lost,

[16] RQD, Rock Quality Designation, an estimate of in-situ rock quality, is defined in the General Information & Key to Test Boring Logs.

that is no return of drill water at that Boring. No water loss was noted in the other 12 Test Borings[17] where bedrock was cored.

Unconfined compression testing of intact rock core specimens indicates unconfined compressive strength ranging from about 750 tsf to 1750 tsf.

The bedrock is generally described as medium hard to hard, slightly to moderately weathered, laminated to bedded Shale with interbedded Dolostone or Dolostone with interbedded Shale, where interbed layers are 1/8 inch to 2 inches in thickness.

Due to the shale component within the bedrock mass, samples were tested and evaluated for potential expansive characteristics. The results indicate nil to very low potential risk for expansion.

5.5 Groundwater & Surface Water Hydrology

Groundwater Monitoring Wells were installed near nine Test Borings. The Well and Test Boring Logs are given in the GDR reports. Water level monitoring commenced on 04/17/2023, with the most recent readings taken on 01/16/2024. See Table 5.5.1 for the monitoring data.

Table 5.5.1 - Observed Groundwater Elevation and Depth Below Grade (Feet)

Boring ID	B-129		B-24		B-227		B-337		B-391		B-370		B-400		B-420		B-422	
Elev. at Grade (ft)	418.8		394.6		389.3		403.5		393.0		393.7		399.6		390.9		382.0	
WELL ID	**W-1**		**W-2**		**W-3**		**W-4**		**W-5**		**W-6**		**W-7**		**W-8**		**W-9**	
DATE	**Elev.**	**Depth**	**Elev.**	**Depth**	**Elev.**	**Depth**	**Elev.**	**Depth**	**Elev.**	**Depth**	**Elev.**	**Depth**	**Elev.**	**Depth**	**Elev.**	**Depth**	**Elev.**	**Depth**
04/19/23	418.7	0.1			385.5	3.8												
04/21/23			393.8	0.8														
05/16/23	416.1	2.7	392.5	2.1	385.7	3.6												
05/17/23	416.0	2.8	391.8	2.8	386.4	2.9												
06/12/23	414.6	4.2	386.8	7.8	385.3	4.0												
10/05/23	415.2	3.6	389.2	5.4	386.4	2.9												
11/09/23	416.4	2.4	394.2	0.4	386.2	3.1	398.4	5.1	392.3	0.7	388.7	5.0	398.5	1.1	388.7	2.2	379.4	2.6
11/17/23	417.8	1.0	394.4	0.2	387.1	2.2	398.9	4.6	392.1	0.9	389.8	3.9	398.5	1.1	386.7	4.2	377.0	5.0
01/16/24	418.0	0.8	394.0	0.6	388.8	0.5	401.8	1.7	392.6	0.4	391.1	2.6	398.8	0.8	389.3	1.6	377.9	4.1

An examination of Figures 3 and 5 show that the project site exhibits surface water hydrology in the form of swamplands, ponds, wet spots, man-made ditches, natural drainageways, and tributaries to Youngs Creek. Accordingly, one can surmise that water is present above grade at numerous locations. Table 5.5.1 shows recorded groundwater levels at Well locations varying from 0.1 feet to 7.8 feet below existing grade, over the 8-month monitoring period. The shallow groundwater conditions and surface water hydrology are very important site features since the predominant Upper Silt & Clay soils are water-loving and their character changes dramatically when in contact with water.

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[17] Reference Boring Logs B-41 and B-227 in Phase 1 CME GDR, and B-13, 15, 30, 35, 39, 217, 292, 300, 366, 400, and B-426 in Phase 2 CME GDR Report.

6.0 SITE CHARACTERIZATION AND ENGINEERING SIGNIFICANCE

6.1 Preface

Site access restrictions severely limited the acquisition of essential subsurface and geotechnical testing data necessary to satisfy the professional standard of care locally recognized by currently practicing geotechnical engineers. While this fact has been acknowledged by Client and Owner, Client has requested a geotechnical engineering report with foundation recommendations based on the EIS Scope Report (of 2023), information provided and described in this report Section 2.0, and the 2023 CME GDR reports.

This engineer's presentation of the site characteristics, engineering significance, and consequentially applicable geotechnical solutions, tools, and technologies, which may overcome and/or mitigate the subject conditions and characteristics, are CEG's professional opinions based on the known facts and evidence currently at hand.

Therefore, CEG has taken a professionally prudent and conservative approach to this presentation (and that of report Sections 7.0 and 8.0), endeavoring not to omit a geotechnical site limitation or its potential mitigation and/or solution with regard to currently available earthwork, sitework, and geotechnical construction technologies, including those that may be proprietary.

6.2 Characterization and Significance

It is CEG's professional opinion that the existing headwaters hydrology, irregular topography, and ubiquitous soft, compressible, water-loving soils underlying the project site and surrounding areas constitute the predominant and most severely limiting geotechnical impediment to the Micron-Clay, NY Project as currently envisioned and presented in the 2023 EIS Scope Report. The following geotechnical limitations are identified.

1. **This is a very wet site.** Soft water-loving soils easily become muddy and unworkable leading to very poor earthwork and construction equipment mobility and large volumes of unsuitable and water-laden soil waste.

2. **A myriad of natural and man-made drainageways and low topography** intercept and traverse most of the structure footprints. These features will impede and slow down earthwork operations. Replacing these drainageways with French drains[18] and secondary feeders at an effective spacing may be needed where permanent drainage cannot be utilized during the construction phase.

3. **Stormwater runoff, peak discharge, and hydrograph** for this site will change substantially as earthwork and site preparation operations are underway to include more and more effected area. As the site is cleared, grubbed, topsoil stripped, and graded to quickly shed and drain stormwater runoff, the time of concentration will shorten, resulting in greater volume and peak discharges out of the earthwork area.

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[18] A French drain or "trench drain" is a subsurface trench filled with open-graded aggregate or cobble sized stones with or without perforated pipe that collects, channels, and directs surface runoff out of the contributory area.

Sedimentation basins must be sized to accommodate the increased discharge and reduce turbidity level to the permitted limits for discharge to Youngs Creek and tributaries. The hydrograph will change as the landscape is denuded and drainage installed to facilitate the earthwork. Construction phase stormwater management must be carefully designed and skillfully implemented in concert with the predetermined area(s) of disturbance as allowed by environmental permits.

It is recommended that some redundancies be designed into the construction stormwater management to prevent off-site flooding events (downstream and in and around the Youngs Creek swamp) and mudflows into protected areas east and north of the development. Basins will fill with groundwater and exist as wet ponds until decommissioned. Very large, elevated stormwater/sedimentation basins (SWB) are recommended to be hydraulically separated from the swamp, and storage volumes calculated above the seasonal high-water elevation of the swamp.

Interlocking steel sheet pile cutoff walls and weirs may warrant consideration to prevent adjacent swamp area water levels from backing up into and inundating stormwater/sedimentation basins. Levees and earthen berms of SWBs constructed of native silts and clays may slough, collapse, and fail when permanently saturated and exposed to only a few feet of differential static water head. Sheet pile core walls, or other types of liners and/or cutoff barriers, should be considered. It is recommended that grassed and armor-stabilized native earth slopes not exceed 5 horizontal: 1 vertical in design of the temporary and permanent SWBs.

4. **Nil to little infiltration is exhibited in the predominant silt and clay soils** based on three Infiltration Tests conducted in mid-May 2023 and the WSS Report. Seasonal high groundwater levels are within a foot or two of existing grade or standing on grade surface. Once the one or more feet of organic-rich topsoil is stripped, it is likely that vast areas of the site grade will exhibit saturated or nearly saturated soils exhibiting natural moisture (water) content near Liquid Limit[19].

   The water-loving native silt and clay soils exposed below topsoil will tend to swell (i.e., expand and increase unit volume) due to absorption in the presence of water, and shrink (i.e., decrease unit volume) when dried. Shrink-swell characteristic is noted in the WSS Report and swell test results for inundated (i.e., soaked) test specimens compacted and penetrated in the 2023 CBR testing. Well-compacted samples of Clayey Silt and Till exhibited 2.5% to 3.1% and 1.0% to 2.6% swell, respectively, when inundated for several days. This is how firm, trafficable native soil grades left uncovered overnight are rendered un-trafficable the next morning, because early-morning dew wets the surface and is absorbed, thus approaching or exceeding the soil's Liquid Limit.

5. **Consolidation of the Intermittent Lower Silty Clay Strata** is a concern relative to post-construction subsidence or settlement. As the load (weight) on the lower silty clay layer is increased, the layer is

[19] The Liquid Limit is defined by an Atterberg Limits test and is intended to define the approximate upper limit of moisture (water) content where silt and clay soils change from a plastic state to a viscous liquid (flowable) state. The Plastic Limit or lower limit of the plastic state is the water content at which the soil transforms from a plastic to solid state upon remolding.

compressed, excess water is forced out of it, and the layer volume decreases. This process is called "consolidation", and the duration of time it takes for the water to squeeze out of the layer due to the new load applied can vary from weeks to years.

Therefore, post-construction consolidation must be controlled such that settlement of completed structures and on-grade improvements is predicted to be less than or equal to tolerable limits. One method to increase the rate of consolidation is to install vertical sand drains or prefabricated vertical drains (PVD) at a spacing and grid pattern that will shorten the drainage path that the excess porewater needs to travel to escape the layer.

In addition to PVD, CEG anticipates that a temporary surcharge (approximately equal to the slab live and dead loading) would be beneficial. The PVD allows the excess water to drain vertically upward to native soil grade, where a blanket drain is installed. A blanket drain is open-graded aggregate sandwiched between two layers of geotextile, one on top, one on bottom, and tied into the French drain grid. CEG estimates that consolidation with an applied preload but without PVD and blanket drain may take 1 to 2 years, but with PVD and blanket drain may be shortened significantly. Where PVDs are needed, typically effective spacings of 4 to 8 feet on center may apply, depending on the scheduled time period allowed for preload/surcharge.

However, there remain several uncertainties, such as; the presence of the deep seated compressible soils is intermittent, such that the precise location, thickness and horizontal extents of these sediments may not be fully disclosed by the future exploration. The long-term consolidation and settlement risks will need to be weighed as more information becomes available.

6. **Currently fallow previously drained farmland** occupies much of the project site and these fields were tilled, drained, and productive less than a decade ago. In the lower elevations requiring earthwork fill, these fields can be converted most expeditiously into hardstands, staging areas, and access points to the more difficult and time-consuming earthwork in adjacent areas exhibiting standing water.

7. **Earthwork equipment travel-ways, haul roads**, and hardstands should be strategically located and as-builts mapped. Construction of haul roads may involve pushing and dumping a thick layer (initial lift) of granular fill onto soft, saturated mucked-out drainageways, then covering with granular fill which is eventually completely covered, buried, and hidden when fill reaches platform level. It will be important to cut-in (aka: step-in) each lift of fill into the sides of the haul road fill, to help assure that an unmapped anomaly is not created far below the platform level. The concern is that the haulage way may continue to settle or subside differently after platform completion, thereby warranting identification, monitoring and mitigation prior to foundation construction.

8. **The weakness (i.e., low strength) of the predominant upper silt and clay soils** may slow the installation of the mass fill operations. If the weight of fill is applied too quickly, the underlying soil may fail by shearing, displacement and plastic flow. Geotechnical instrumentation can be specified to be installed and monitored by the contractor where deep fills are planned, to help determine the pace of the controlled fill installation.

7.0 CONCEPTUAL PHASE FOUNDATION EVALUATION

In a Microsoft Teams Meeting on January 23, 2024, with Client, Owner, and others, CEG was asked to recommend foundation design concepts and geotechnical applications to be considered to optimize schedule compression including earthwork, platform preparation, and foundation installation. In addition, Client requested CEG's professional opinion of ranges of capacity for various conventional shallow and deep foundation elements. CEG has endeavored to satisfy these requests in this report.

It is likely that the overall geotechnical solutions elected by the Design and Construction Team(s) will be hybrids of vertical and horizontal sub-platform drainage, lightweight solid and slurry fill, conventional mass fill, ground improvement, preloading, surcharging, foundation and slab compensation, and conventional shallow and deep foundation support systems and applications. It is recommended that the Design Team consider changes to the current site plan in light of the known subsurface and geotechnical conditions, as more exploration and testing information becomes available, and through continued future interaction with CEG.

It must be noted that many geotechnical construction technologies may only impart a very limited attribute or improvement and not represent a universal or all-inclusive solution. For example, some may save money; some may save time and money; and some may only save time but at an additional expense.

Table 7.1 lists the available explorations for each of the buildings listed therein. CEG's conceptual phase foundation evaluation for these buildings, conducted based on the available subsurface information and the client-provided information given in Table 2.1 and Section 2.0, are discussed in the following sub sections.

Table 7.1: Proposed Buildings, Dimensions and Applicable Test Borings		
Building ID	Footprint	Applicable Borings and Coverage Area
CUB 1 - West	315' x 740' = 233,100 sf = 5.4 acres	5 Borings (19, 23, 27, 28, & 29) within the northwestern two-thirds and none within the southeastern third of the building footprint. Coverage area is about 25% of the building footprint.
CUB 1 - East	315' x 740' = 233,100 sf = 5.4 acres	6 Borings (363, 364, 370, 380, 426, & 427) within the southeastern half of the building footprint and none within the other half. Coverage area is about 25% of the building footprint.
CUB 2 - West	315' x 740' = 233,100 sf = 5.4 acres	3 Borings (426, 427, & 242) near the northwest corner and 3 Borings (361, 363, & 384) near the south end of the building footprint. Coverage area is less than about 30% of the building footprint.
CUB 2 - East	315' x 740' = 233,100 sf = 5.4 acres	2 Borings (338 & 339) near the south end of the building footprint and none elsewhere. Coverage area is about 10% of the building footprint.
FAB 1 – Fab Level	1,840' x 650' = 1,196,000 sf = 27.5 acres	13 Borings (38, 39, 40, 50, 370, 366, 382, 251, 260, 271, 281, 430, & 428). Coverage area is about 30% of the building footprint.
FAB 1 - Sub Level South	540' x 125' = 67,500 sf = 1.5 Acres	1 Boring (366). Coverage area is less than about 10% of the sub level footprint.
FAB 1 – Sub Level North	540' x 125' = 67,500 sf = 1.5 Acres	None
FAB 2 – Fab Level	1,840' x 650' = 1,196,000 sf = 27.5 acres	10 Borings (317, 333, 334, 335, 336, 337, 347, 390, 391, & 392). Coverage area is about 25% of the building footprint.
FAB 2 – Sub Level South	1,840' x 650' = 1,196,000 sf = 27.5 acres	1 Boring (361). Coverage area is less than about 10% of the sub level footprint.
FAB 2 – Sub Level North	1,840' x 650' = 1,196,000 sf = 27.5 acres	3 Borings (241, 317, & 392). Coverage area is less than about 30% of the sub level footprint.
Admin/Probe	1,990' x 230' = 457,700 sf = 10.5 acres	9 Borings (33, 37, 38, 43, 44, 45, 88, 424, & 425) within the western two-thirds, and none within the eastern third of the building footprint. Coverage area is about 65% of the building footprint.

7.1 The FAB and CUB Structures

The Phase 1A and 1B structures are all located in the Level +400 platform. First Floor Elevation (FFL) is shown as 400.67 feet. The orientation of the long dimension of these structures is roughly perpendicular to the existing topographic contours. In addition, Figure 5 shows a tributary to Youngs Creek transecting FAB 1 at two locations and discharging at the NW corner of its footprint, about elevation 383 feet. When accounting for approximately 3 feet of unsuitable soil removals on existing wetland grade, earthwork fill of up to about 20 feet will be necessary within the FAB 1 footprint to establish Level +400 platform. See Generalized Soil Profiles provided in Appendix C, Exhibit C-1.

CEG understands that the RFP for Design and Construction Teams is imminent, and that this report will be made available to the firms proposing. It is recommended that any questions related to the earthwork, site preparation, structure foundations, ground improvement and subsurface drainage be passed through Client and the proper channels to CEG. CEG will respond in a timely manner back to the Client, then Client back to the proposers.

Vast areas of the building footprints were not explored in 2023. The 2023 explorations identified layers of soft to medium stiff Silt and Clay soils. The Silt and Clay soils within the inaccessible wetland areas are estimated to be softer than those sampled outside these areas, based on the WSS Report.

The variable thickness and depth of the compressible Silt and Clay soils, combined with the variable loading conditions (cut/fill, FFL slab and foundation, etc.), pose a high risk for excessive differential settlement throughout the building footprints. The Silt and Clay soils will compress in the short-term and consolidate in the long-term under the weight of the new platform fill and the structure gravity loads, leading to high and variable post-construction foundation settlement risk. The post-construction building settlements (total and differential) are estimated to be in excess of the tolerable limits given in Section 2.0 for conventional shallow footing foundations and slab-on-grade systems. Therefore, a combination or hybrid of the foundation, ground improvement, and mass fill concepts require consideration.

One or more of the foundation concepts, along with preloading (presented in Section 8.0), should be considered for these buildings at their currently planned locations and elevation. Preloading may be required for all buildings planned in the fill areas of the Level +400 platform. This means that it may be necessary to install all the mass fill up to platform elevation (i.e., preload), then allow a “rest period” to allow consolidation of the deep seated compressible soils. In some locations, the entire fill zone within a building footprint may warrant an additional load, called “surcharge”, to speed up the consolidation and reduce post-construction settlement risk. Imported mass fill material will be specified for use as surcharge and temporarily be installed to specified thickness, then allowed to “rest”. After settlement monitoring results are deemed satisfactory, the surcharge is removed, and excavation for foundations, sublevels, and underground utilities may commence.

7.2 Admin/Probe Building

An underground parking garage is planned under the entire footprint of this building. The lowest parking level is planned at elevation 390 feet. Bedrock contact above elevation 390 feet was confirmed in only one Test Boring (B-41, advanced near the southwest corner of Admin/Probe Building), at elevation 395. The existing grade within this building footprint is at about elevation 406 to 392 feet. The observed groundwater level near this area is about elevation 400 to 390 feet.

It is currently anticipated that the underground garage and Admin/Probe Building columns and walls may be supported on conventional footing foundations bearing on bedrock or very dense or hard till soils, and that foundation and subslab drainage will be required.

8.0 FOUNDATION CONCEPTS

Due to the geotechnical challenges described earlier in this report, the selection of building location and orientation, site grading, platform fill placement, building pad preparation, selection of appropriate foundation system(s), selection of specialty foundation contractors, sequencing of earthwork, and foundation installation, etc. will need to be carefully planned, coordinated, scheduled and executed for successful and timely completion of this project.

Earthwork and foundation systems such as, but not limited to, preloading, installation of drainage systems (e.g., vertical drain and blanket drain), settlement monitoring, ground improvement (e.g., aggregate piers, rigid inclusions), conventional footing foundations (e.g., spread and continuous footings), mat foundations, compensated foundations with subgrade replacement using lightweight fill (e.g., lightweight aggregate fill, EPS geofoam block fill, lightweight cellular concrete fill), deep foundations (e.g., driven piles such as timber piles, steel pipe piles, steel H-piles) and combinations thereof should be considered for planning, estimating, and scheduling purposes. An appropriate combination of earthwork and foundation systems should be selected for each of the proposed buildings, depending on their location (i.e., cut area, fill area), design loading, and settlement tolerance. A brief description of the above-mentioned geotechnical systems and applications is given in Sections 8.1 through 8.5.

Preloading and installation of vertical and horizontal drainage systems will likely be required for all buildings and site facilities planned in the fill areas, regardless of the foundation systems to be utilized. After platform level is achieved and the completion of a successful preloading program, buildings and site facilities may be supported utilizing one or a combination of the following foundation systems:

1. Conventional footing foundation and slab-on-grade (after preloading)
2. Conventional footing foundation and slab-on-grade (after preloading and ground improvement)
3. Conventional footing foundation and slab-on-grade (after preloading and subgrade replacement with lightweight fill)
4. Conventional mat foundation (after preloading and subgrade replacement with lightweight fill)
5. Conventional mat foundation (after preloading and ground improvement)
6. Structurally supported mat foundation (after preloading and installation of deep foundations)
7. Deep foundation to support superstructure and grade-level structural slab (after preloading)
8. Deep foundation to support superstructure, with slab-on-grade (after preloading or preloading and subgrade replacement (i.e., compensation) under slab areas with lightweight fill).

The above foundation systems also apply to the buildings and site facilities planned in the cut areas; however, the preloading program may not be warranted. For structure footprints within fill areas, a minimum setback distance of 2.5 x Height of Fill (measured from edge of structure to crest of the slope between platforms) is recommended. Note that this recommended setback distance is much greater than what is currently shown in Figure 2.

8.1 Drainage and Preloading

A significant amount of platform fill (Mass Fill) will be installed to develop the proposed building pads. CEG's settlement analysis, using limited field and laboratory data available at this time, indicates that the platform fill itself will cause the Silt and Clay soils to consolidate, leading to long-term settlements in excess of the tolerable limits given in Section 2.0. Additionally, the gravity loads from slabs and superstructures may cause additional settlement.

CEG utilized Settle3 (a computer software by RocScience) and the available limited subsurface information for a preliminary geotechnical evaluation relative to the time-dependent settlement behavior at this site.

Based on this preliminary study, CEG estimates that long-term consolidation settlements up to several inches may occur over a period of 1 to 2 years, after completion of platform fill installation. Obviously, this is an unacceptable delay to the project schedules.

A temporary surcharge, in addition to the preload program, may be required to speed up the settlement process to meet a reasonable project schedule. A brief description of this program is presented below.

A blanket drain is installed over structurally competent native soil grades exposed after clearing, grubbing, topsoil stripping and installation of storm drainage. Then, settlement monitoring gauges are installed, prior to installing a blanket drain. Blanket drain is typically a 1 to 2-foot thick layer of drainage stone, placed over a geotextile soil separator sloped to drain.

After the installation of the blanket drain, Prefabricated Vertical Drains (PVD) are installed at a predetermined design spacing. The PVD spacing is selected to shorten the consolidation time period of the underlying soils. After PVD installation, the blanket drain is covered with a soil separator fabric. Placement of mass fill in compacted lifts to platform elevation is completed. Additional fill above platform level (a.k.a. Surcharge Fill) may be required.

Preload Fill material and Surcharge Fill material will consist of the normal weight, imported Granular Fill material used for the Mass Fill earthwork, and remains in-place for a “rest” period. The “rest” period is the duration between completion of Preload and/or Surcharge Fill placement and start of excavation below platform elevation.

The settlement is typically monitored daily during fill placement and weekly during the rest period. Once the rate of settlement approaches zero, the building pad is released for removal of Surcharge Fill and foundation excavation or ground improvement can commence.

The PVD system may be designed by the Design Team or through a Delegated Design[20], whereby it is specified in the Construction Contract Documents to be designed and installed by a Specialty Geotechnical Contractor. The sole purpose of the PVD/Blanket Drain system is to reduce the duration of the “rest” periods for a better fit into the overall construction schedule.

8.2 Ground Improvement

Ground improvement techniques such as Aggregate Piers and Rigid Inclusions are viable ground improvement options for this site. These systems are typically used to improve the bearing capacity of soils and to control foundation settlement, such that conventional footing foundation and slab-on-grade systems may be utilized following ground improvement.

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[20] Delegated Design guideline and rules can be found at www.op.nysed.gov/professions/engineering/professional-practice/design-delegation; where a design professional may delegate through, or accept delegation from, a contractor or subcontractor for the design of certain ancillary [building] components or systems pursuant to and in full conformance with the NYSED Regents Rules and governing laws.

The Aggregate Piers and Rigid Inclusions can be installed through the platform fill and the compressible native soils at a given spacing to support a Load Transfer Platform (LTP). The LTP is typically a compacted 6 to 18-inch thick Granular Fill Pad. The slab-on-grade and any subbase course is typically installed directly on the LTP. The columns and wall loadings can also be supported on shallow spread and continuous footings bearing on a similar LTP, typically 6 to 12 inches in thickness. No pile caps or grade beams are necessary.

Aggregate Pier and Rigid Inclusion ground improvement systems are Delegated Design items, which will be designed and installed by Ground Improvement Contractors, to meet the required performance specifications (including, but not limited to, design soil bearing capacity and settlement tolerances).

CEG estimates that ground improvement systems may be considered for this project to achieve Design Soil Bearing Pressure of between 3 and 6 ksf for conventional shallow footing and/or mat foundation design.

8.3 Deep Foundations

Driven piles are appropriate for this project when considering schedule compression and constructability. Driven piles can be installed much more quickly compared to drilled piers, and do not generate spoils. Also, driven piles can be dynamically load tested, which is very quick and inexpensive compared to static load testing typically required for drilled piers. Vibration monitoring may be necessary after the first phase of manufacturing facilities are commissioned. It is CEG's understanding that semiconductor manufacturing is vibration sensitive.

Several driven pile types are recommended for Phase 1A and possibly some Phase 1B or ancillary structures and may be considered to achieve the currently estimated axial service capacities given in Table 8.3. These are end bearing elements driven or augered/cored to refusal in bedrock or dense till bearing stratum. Piles will be driven after the building pad preparation and preloading period are complete.

Drilled piers are not currently recommended by CEG, but at Client's request, a preliminary estimate of axial service capacity is provided in Table 8.3. The range of axial service capacity includes a downdrag component which will vary considerably depending on the depth of mass structural fill below platform level as measured at the drilled shaft element.

Table 8.3: Deep Foundation Options and Preliminary Axial Service Capacities		
Pile Type	Axial Service Capacity (tons)	Remarks
Timber Pile	20 to 30	1
Steel Pipe Pile – 8.625" OD x 0.25" Wall Thickness	40 to 50	2
Steel Pipe Pile – 10.75" OD x 0.375" Wall Thickness	80 to 100	2
Steel H-pile – HP12x53	80 to 100	3
Steel H-pile – HP14x73	140 to 160	3
Drilled Pier – 5-foot Diameter	350 to 450	4

Remarks:
1. Preservative treated timber pile with pile shoe (steel driving point). The minimum pile tip diameter is 8 inches.
2. Steel pipe pile with closed end and concrete filled. Secondary steel pipes with minimum yield strength of 50 ksi may be allowed.
3. New and unused H-piles with pile shoe (steel driving point). The minimum yield strength of steel is 50 ksi.
4. A 5-foot diameter drilled shaft with full-diameter x 3' deep bedrock socket and 3 ksi concrete. Minimum (verified by N-size Rock Core) RQD = 75%.

8.4 Shallow Foundations

For building footprints planned entirely within cut areas, and when all footing foundations will bear on dense till or bedrock, no preloading is warranted. Preliminary soil bearing capacity estimates of 4 to 6 ksf may be considered for footings bearing on dense till bearing grade, and 30 tsf may be considered for footings bearing in intimate contact with properly prepared, competent bedrock.

Please note, shallow footing foundations may be utilized for the lightly loaded support buildings and site facilities with footprints entirely within platform fill areas, after a successful preloading and settlement monitoring program. Relatively low soil bearing capacities (1 to 2 ksf) may be feasible depending on design loading and settlement tolerances, which are unknown at this time.

Also, shallow footing foundations may be feasible for the heavily loaded buildings and site facilities, after implementing a successful preloading and settlement monitoring program, and after installing ground improvement elements. Please refer to Section 8.2 for a range of soil bearing capacities to consider for footings installed over a ground improvement system.

8.5 Compensated Foundations and Slabs

A compensated foundation (a.k.a.; floating foundation) design involves replacing a calculated volume of subgrade below the foundations/slabs with lightweight fill material (which has a much lower unit weight) thereby reducing the net increase in bearing pressure on soils below the replacement depth. This design may be considered to compensate for very light gravity loads imposed by the structure or slab-on-grade, partly or fully, depending on the settlement tolerance limits.

Lightweight fill consisting of Lightweight Aggregate (LWA), EPS Geofoam Block (EPS) or Lightweight Cellular Concrete (LCC) may be used for subgrade replacement.

8.6 Frost Cover

For heated space, a minimum of 4'-6" frost cover is recommended for all foundation elements (footings, pile caps, grade beams, mats, foundation slabs, etc.) exposed to freezing temperatures. The bottom of interior foundation elements in heated space may be set as high as practical. For unheated space, a minimum frost cover of 5'-0" is recommended for all foundation elements. Frost cover is measured from the final adjacent exterior grade to bottom of foundation element.

8.7 Mass Fill Material and Compaction

Normal weight mass fill material should be clean, well-draining mineral aggregate which is sound and durable and meets the requirements of NYSDOT Item No.304-2.02 Subbase Course Material Types 1 to 4. All fill should be compacted in lifts of appropriate thickness. Each lift should be compacted to a minimum in-place density of 95% of MDD as determined by ASTM D1557 (Modified Proctor), after adjusting the moisture content to within plus or minus 3% of OMC.

8.8 Geotechnical Engineering Inspections

The NYS Building Code specifies minimum levels of in-process tests and inspections pertaining to the work. Refer to the Building Code, Chapter 17, for minimum Special Inspections and Structural Tests applicable to this project.

9.0 CLOSING

CEG has endeavored to conduct the services identified herein in a manner consistent with that level of care and skill ordinarily exercised by members of the geotechnical engineering profession currently practicing in the same locality and under similar conditions as this project.

Please do not hesitate to contact the undersigned engineers if you have any questions regarding this report, its conclusions, its recommendations, or its application to planning, design, and/or actual field conditions revealed in the future. CEG looks forward to working with the Design & Construction Teams and future interaction necessary to the success of this project.

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Appendix A

Geotechnical Data

Exhibit A-1 Google Earth Image
Exhibit A-2 Exploration Area Map
Exhibit A-3 2023 Exploration Location Plan
Exhibit A-4 Topo, Surficial Geology and Surface Hydrology Map
Exhibit A-5 Geotechnical Data Report- Phase 1
Exhibit A-6 Geotechnical Data Report- Phase 2
Exhibit A-7 Web Soil Survey Report

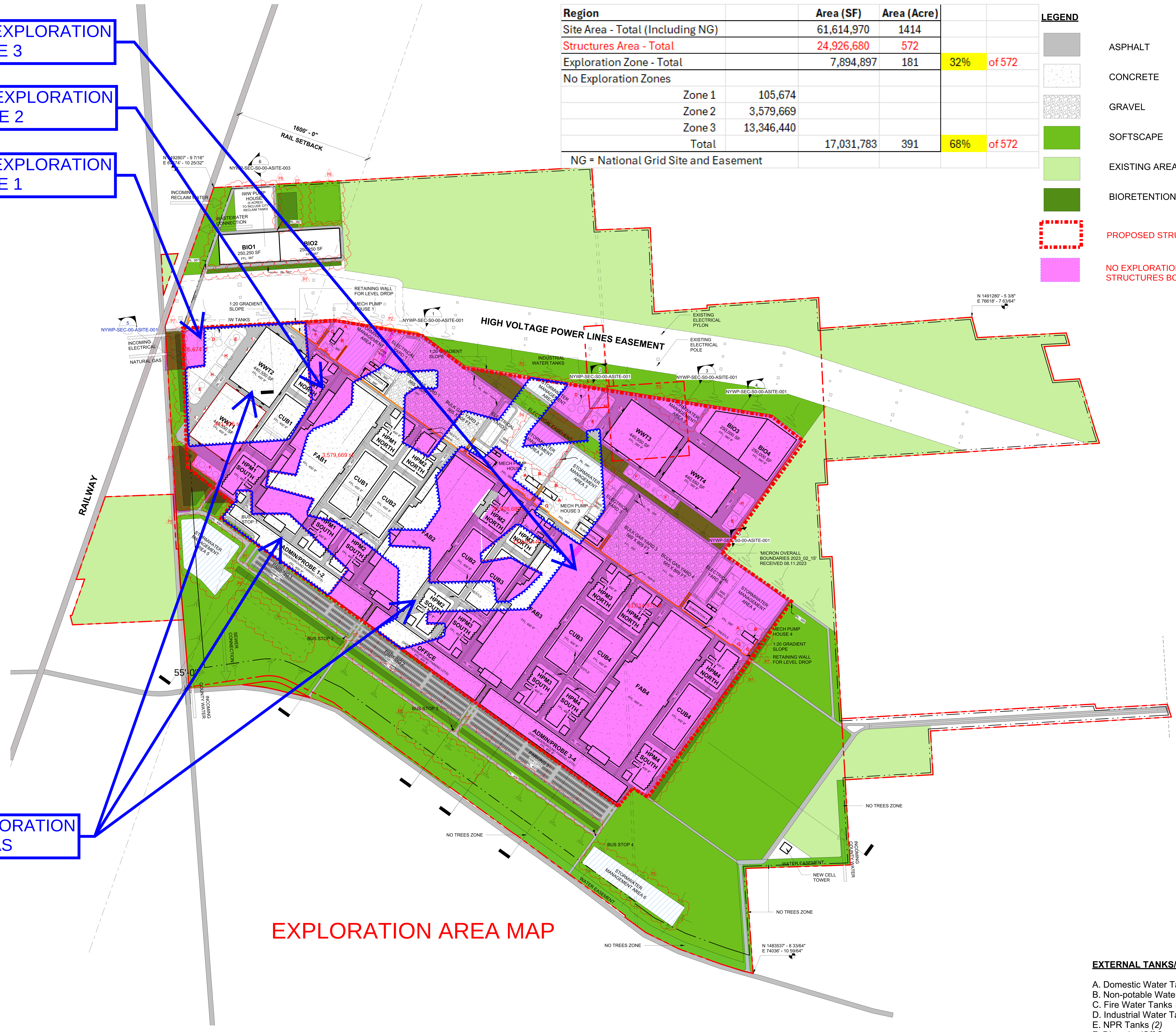
GOOGLE EARTH IMAGE

MICRON CAMPUS, CLAY, NY

Region		Area (SF)	Area (Acre)		
Site Area - Total (Including NG)		61,614,970	1414		
Structures Area - Total		24,926,680	572		
Exploration Zone - Total		7,894,897	181	32%	of 572
No Exploration Zones					
Zone 1	105,674				
Zone 2	3,579,669				
Zone 3	13,346,440				
Total		17,031,783	391	68%	of 572
NG = National Grid Site and Easement					

LEGEND

- ASPHALT
- CONCRETE
- GRAVEL
- SOFTSCAPE
- EXISTING AREAS TO BE UNDISTURBED
- BIORETENTION AREAS
- PROPOSED STRUCTURES BOUNDARY
- NO EXPLORATION ZONE (WITHIN PROPOSED STRUCTURES BOUNDARY)



1 SITE PLAN - EIS LANDSCAPE ZONE
SCALE: 1" = 400'-0"

EXTERNAL TANKS/TREATMENT AREA (PER FAB):

A. Domestic Water Tanks *(2)*
B. Non-potable Water Tanks *(2)*
C. Fire Water Tanks *(2)*
D. Industrial Water Tanks *(3)*
E. NPR Tanks *(2)*
F. Diversion/Off Spec Tanks with Pump House *(3)*
G. Diesel Tanks *(2)*
H. APM & IPAL Treatment Area *(1)*
I. WH2SO4 & WDSP *(1)*
J. Lime Area *(1)*

P1 - Road setback for 50' front perimeter landscape strip along Caughdenoy Road, to Town of Clay NY requirement.

P2 - Layout reconfigured to achieve larger Stormwater Management Area 1 required.

P3 - Additional Stormwater Management Area 7 & 8 created to meet design requirements.

P4 - Stormwater Management Area 2 & 3 decreased to meet balance additional Stormwater Management Area 7 & 8.

P5 - Stormwater Management Area 5 & 6 enlarged to meet design requirements.

P6 - Stormwater Management Area removed to meet design requirements.

P7 - Bioretention Areas added to meet design requirements.

P8 - Layout relocated slightly northwards to meet design requirements of additional Bioretention Areas (refer P7).

REV	DATE	DESCRIPTION	DRAWN	CHK
A	07 DEC 2023	EIS SCOPE INTERIM SUBMISSION	JEA	RK

PROJECT PHASE:
SITE PERMITTING

KEY PLAN:

BUILDING OWNER/DEVELOPER:
Micron

MAIN CONSULTANT & GENERAL CONTRACTOR:
exyte
Exyte Singapore Pte Ltd

ARCHITECTURAL CONSULTANT:

STRUCTURAL CONSULTANT:

SWPPP ENGINEER:

M & E CONSULTANT:

PROJECT TITLE:
PROPOSED FAB, CUB AND VARIOUS ANCILLARY BUILDINGS IN TOWN OF CLAY, NEW YORK

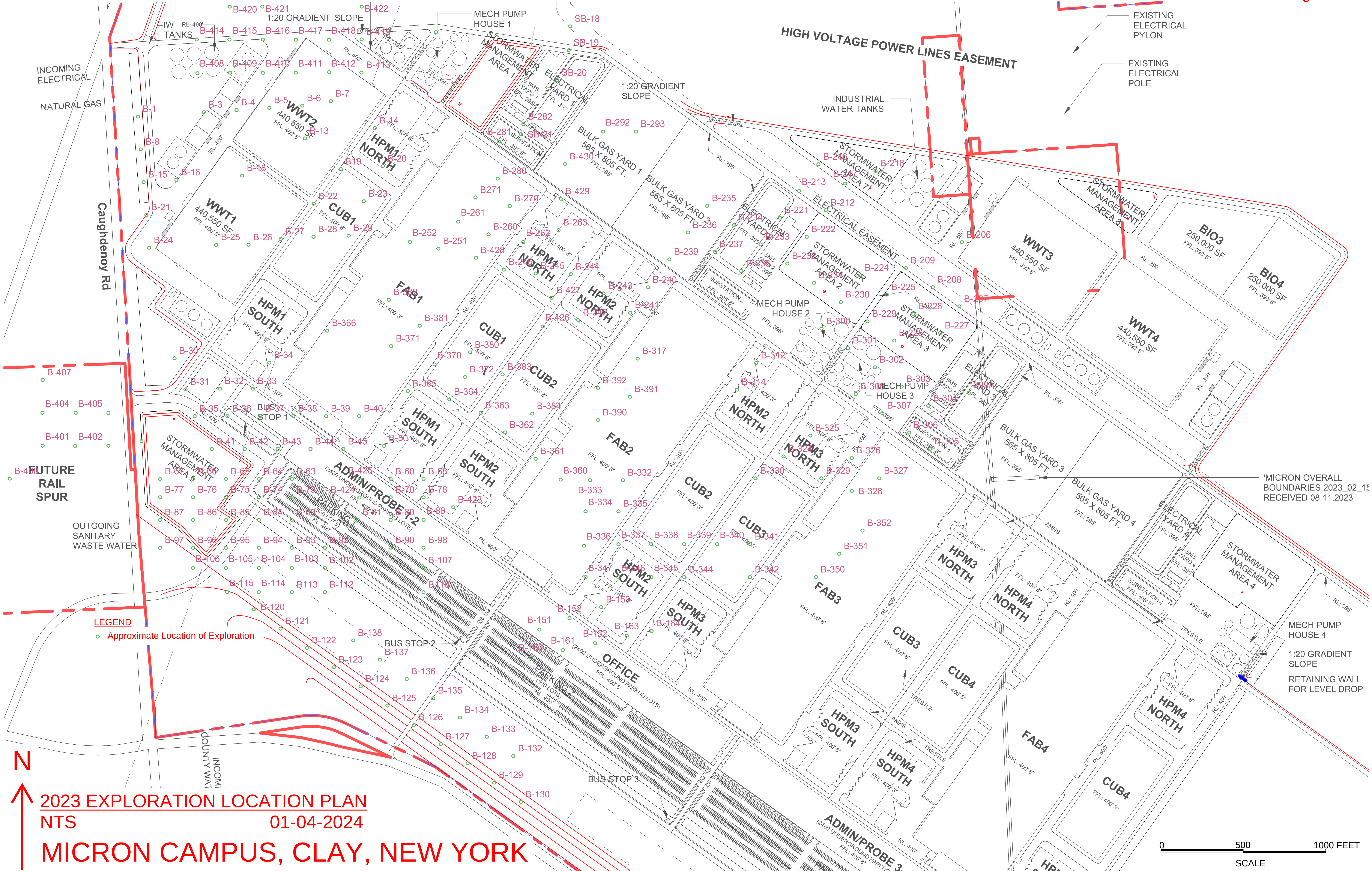
DRAWING TITLE:
ARCHITECTURAL SITE PLAN
EIS - LANDSCAPE ZONE

DESIGNED: JRW	DRAWN: MZD	CHECKED: JRW
JOB NO. : S-86386-2	SCALE: 1" = 400'-0"	DATE : NOV 2023

DRAWING NO. : NYWP-LAY-S0-00-ASITE-014 REV A

SHEET: SIZE: A0

Autodesk Docs://SEA-S1106445-Micron NY Fab/NYWP-A-Site----.rvt

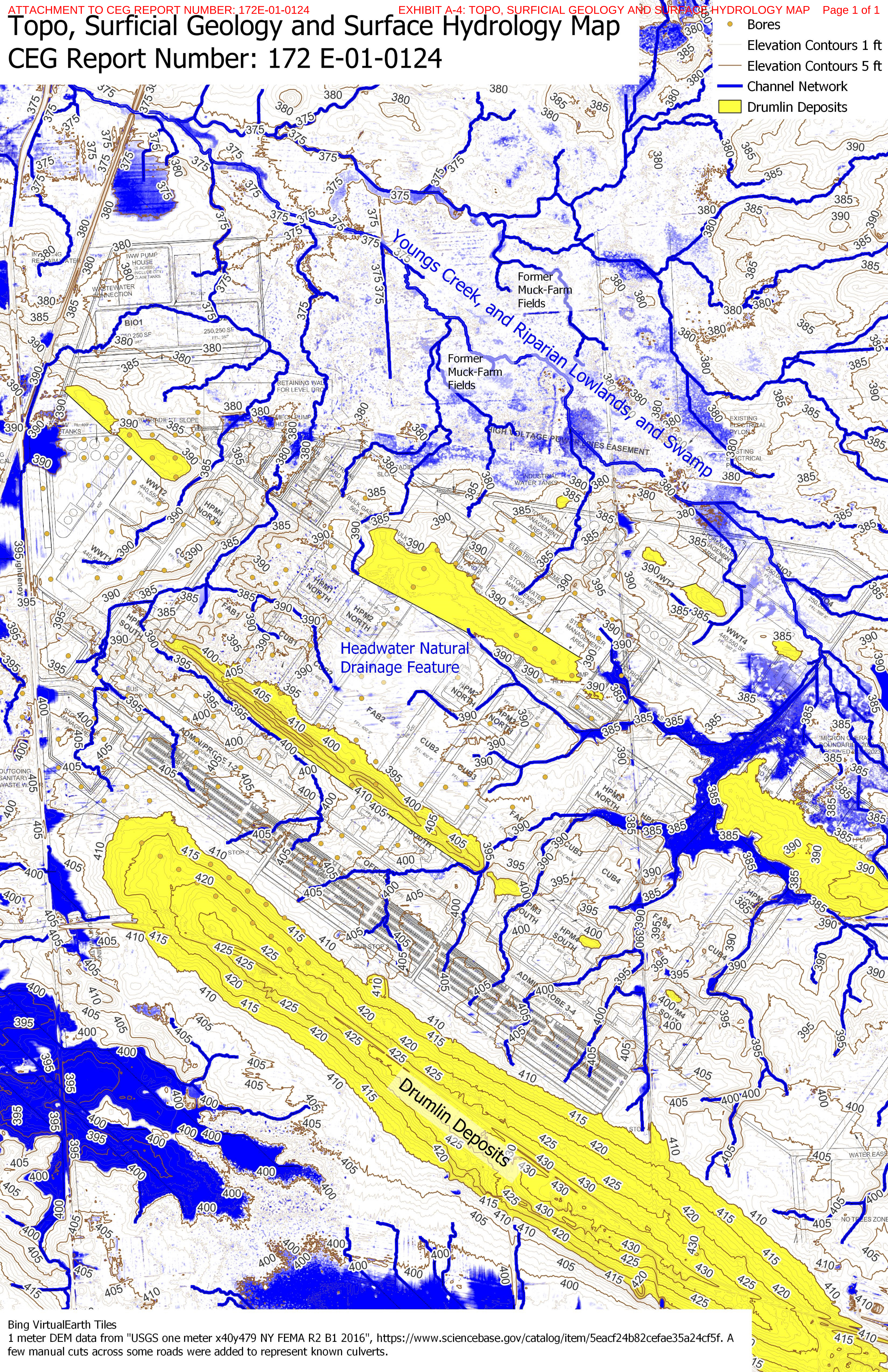


2023 EXPLORATION LOCATION PLAN

NTS 01-04-2024

MICRON CAMPUS, CLAY, NEW YORK

Topo, Surficial Geology and Surface Hydrology Map
CEG Report Number: 172 E-01-0124



Bing VirtualEarth Tiles
1 meter DEM data from "USGS one meter x40y479 NY FEMA R2 B1 2016", https://www.sciencebase.gov/catalog/item/5eacf24b82cefae35a24cf5f. A few manual cuts across some roads were added to represent known culverts.

CME Associates, Inc.

6035 Corporate Drive
East Syracuse, New York 13057
(315) 701-0522
(315) 701-0526 (Fax)

www.cmeassociates.com

June 20, 2023

Ramboll (Client)
94 New Karner Road
Albany, New York
Phone: 518.339.8829

Attn: Mr. Steve Maxwell, Construction Manager
Stephen.maxwell@ramboll.com

Re: Geotechnical Data Report – Revision 1
Micron Campus
Clay, New York
CME Report No. 28062B-01-0523R1
Page 1 of 3

1.0 INTRODUCTION

CME Associates, Inc. (CME) was retained by Ramboll (Client) to provide subsurface exploration and geotechnical services for the subject project. CME conducted a limited subsurface exploration at the subject project site, as part of the Phase 1 Exploration Program.

The Scope of Basic Services and this report have been provided pursuant to CME Proposal/Agreement No.: 05.7126, Addendum 3, dated 04/07/2023, authorized by Client via a Purchase Order (Ramboll PO # 1950006347, dated 04/14/2023). This report provides a summary of exploration activities conducted at the subject project site.

2.0 EXPLORATION METHODOLOGY

2.1 Exploration Layout and Utility Clearance

The exploration locations were selected by the Client and staked by Thew Associates (Thew). Following the field stakeout, CME contacted UDig NY to clear public utilities at the exploration locations. Private utilities at the exploration locations were cleared by Thew. No utility conflicts were noted at the exploration locations.

The attached *CME Exploration Location Plan* depicts the approximate locations of the explorations. Elevation at grade at the exploration locations, along with Northing and Easting coordinates, was provided by Thew (See Table 1, attached).

2.2 Test Borings

A total of 60 Test Borings were advanced using either a Central Mine Equipment Model 550X (ATV-mounted) or Model 55 (track-mounted) rotary exploration drill rig, equipped with 3-¼" I.D. hollow stem augers. Soil sampling was conducted using a 140-pound hammer dropping through a distance of 30 inches to drive a 2" O.D. split barrel sampler in general conformance with ASTM Standard Practice D1586. Rock coring was performed in general conformance with ASTM Standard Practice D2113. Undisturbed Shelby Tube sampling was conducted in general conformance with ASTM D1587.

All Borings were backfilled with auger cuttings to nearly match the existing grade.

Soil samples were logged and visually classified in the field by the driller or an on-site Geotechnical Engineer or Geologist, and a portion of each soil sample was placed and sealed in a glass jar. Bedrock cores were placed and secured in a wooden box. The soil and rock classifications were later reviewed by a CME Engineer in CME's East Syracuse AASHTO resource[1] Accredited Laboratory. The visual soil and rock classifications were made using a modified Burmister Classification System, as practiced by CME and as generally described in the attached document entitled *General Information & Key to the Test Boring Logs*. The *Test Boring Logs* are attached. *Bedrock Core Photographs* are also attached to this report.

2.3 Infiltration Testing

A total of 3 Infiltration Tests (labeled IT-1 to IT-3) were performed. The tests were performed in general conformance with the requirements of the New York State Stormwater Management Design Manual, Appendix D: Infiltration Testing. The test details and results are given in the attached *Infiltration Test Reports*.

2.4 MASW Survey

An MASW Survey was conducted along four survey lines. CME Engineer Chen Liu, Ph.D., EIT, or Astitwa Sharma, EIT, and CME Field Technician Sahin Yumusak conducted this survey over a two-day period. Please refer to the attached *Geophysical Investigation Report* for details and the survey results.

2.5 Groundwater Level Monitoring Well

Three Groundwater Monitoring Wells, labeled W-1, W-2 and W-3, were installed near Boreholes, B-129, B-24, and B-227, respectively. Please refer to the attached *Groundwater Monitoring Well Logs*, labeled W-1 to W-3, for details of the well installation. Periodic monitoring of the groundwater level in said wells will be performed by CME. Please refer to the attached *Groundwater Level Monitoring Table* for observed groundwater levels thus far.

2.6 Laboratory Testing

Laboratory Testing on selected soil samples was conducted in CME's East Syracuse Laboratory. Please refer to the attached *Laboratory Test Summary Report* for the ASTM Test Methods and test results.

3.0 STANDARD OF CARE

CME endeavored to conduct services identified herein in a manner consistent with that level of care and skill ordinarily exercised by members of the industry currently practicing in the same locality and under similar conditions as this project. No warranty, either expressed or implied, is made or intended by CME's proposal, contract, and written and oral reports, all of which warranties are hereby expressly disclaimed. CME shall not be responsible for the acts or omissions of the Client, its contractors, agents, and consultants. CME may rely upon information supplied by Client, its contractors, agents, and consultants or information available from generally accepted reputable sources without independent verification, and CME assumes no responsibility for the accuracy thereof.

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[1] **AASHTO re:source** – American Association of State Highway & Transportation Officials (AASHTO) Materials Reference Laboratory, a Federal Agency having jurisdiction to assess laboratory competency according to the Standards of the United States of America. CME East Syracuse accreditation includes testing of Portland Cement Concrete, Aggregate and Soil Materials. www.AASHTOresource.org.

CME Associates, Inc.

4.0 CLOSING

CME's services have been provided according to the requirements of the referenced CME Proposal/Agreement. No other representations, expressed or implied, are intended or made with respect to the information provided herein, including but not limited to, its suitability for use by others.

Respectfully Submitted,
CME Associates, Inc.

Anas N. Anasthas, P.E.
Senior Geotechnical Engineer

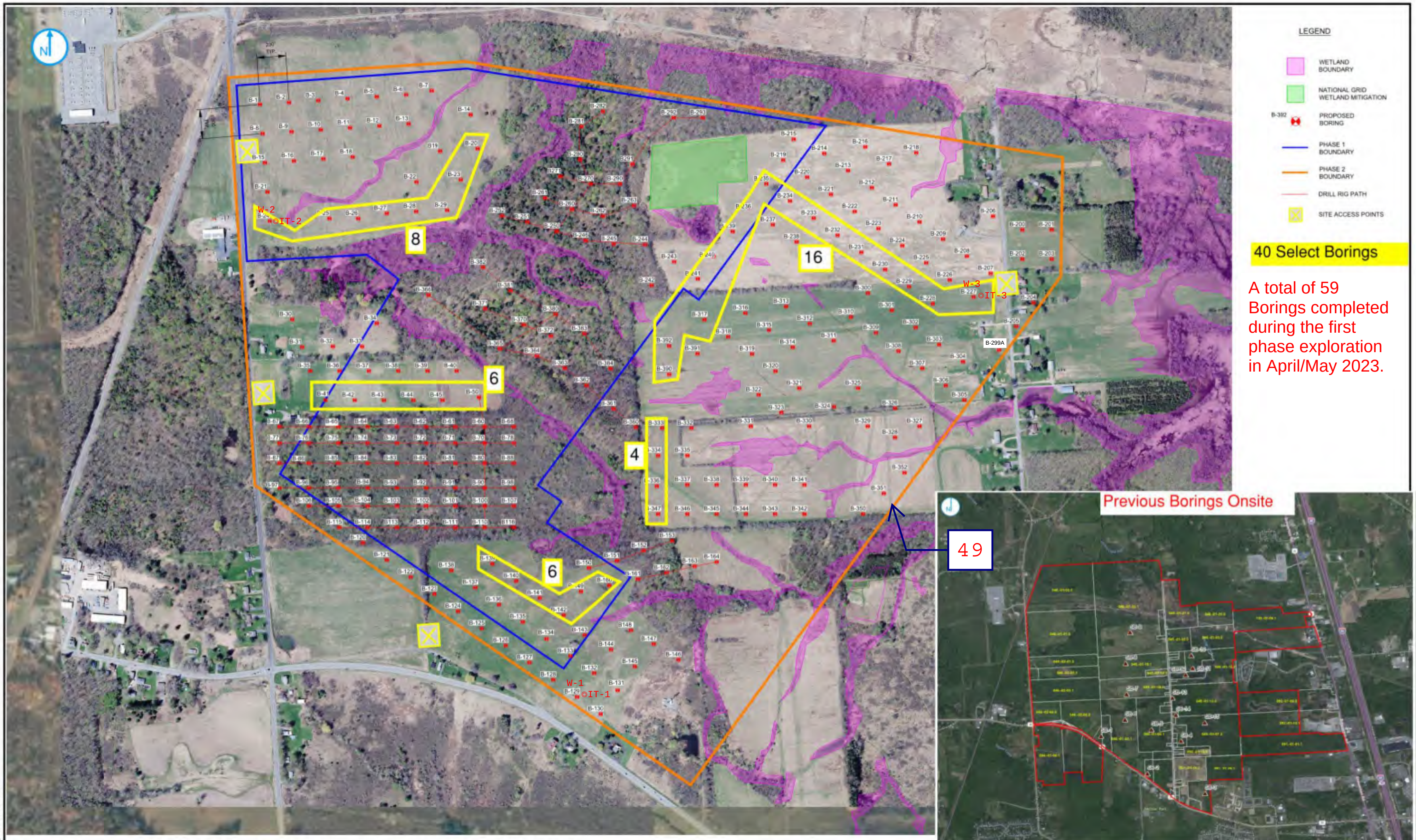
Reviewed by:
CME Associates, Inc.

Christopher R. Paolini, P.E.
Senior Vice President

Attachment Listing:

- Exploration Location Plan (1 of 1)
- Coordinates and Elevations Table (3 of 3)
- Groundwater Level Monitoring Table (1 of 1)
- MASW Survey Report (16 of 16)
- Infiltration Test Reports (3 of 3)
- Bedrock Core Photographs (3 of 3)
- Laboratory Test Summary Report- 05/15/2023 (23 of 23)
- Laboratory Test Summary Report- 06/02/2023 (3 of 3)
- Groundwater Monitoring Well Logs (3 of 3)
- Test Boring Logs (91 of 91)
- General Information & Key to Test Boring Logs (4 of 4)

Attachment to CME Report No. 28062B-01-0523-R1



PRELIMINARY NOT FOR CONSTRUCTION
DATE: ----

MICRON

NO.	DATE	REVISION	INT.
	3/20/2023	BORING NUMBERING ADDED	AP
	3/08/2023	PHASE I BOUNDARY REVISED	AP
	3/06/2023	SITE ACCESS ADDED	AP
	3/03/2023	INTERNAL REVIEW	AP

DESIGNED BY: AP
PROJECT NO: 124597
DRAWN BY: JRD

RAMBOLL AMERICAS INTEGRATED SOLUTIONS
RAMBOLL

MICRON

BORING PLAN LOCATIONS
CLAY, NY

C-100

EXPLORATION LOCATION PLAN 05-17-23

Point ID	Lattitude	Longitude	Northing	Easting	Elevation
B-14	43.19581	-76.1611	1164726	932791.1	394
B-19	43.19513	-76.1619	1164477	932583.5	391.8
B-20	43.19518	-76.161	1164494	932838.9	392.4
B-22	43.19456	-76.1625	1164266	932420.1	391.8
B-23	43.19459	-76.1614	1164281	932723.3	387.3
B-24	43.19384	-76.1663	1163999	931420	394.6
B-25	43.19386	-76.1648	1164010	931827.8	393
B-26	43.19386	-76.164	1164010	932027.5	392.1
B-27	43.19397	-76.1633	1164052	932218.3	390
B-28	43.19403	-76.1626	1164075	932415.6	390.5
B-29	43.19416	-76.1618	1164121	932620.7	389.7
B-41	43.19048	-76.1649	1162775	931799.5	398.8
B-42	43.19047	-76.1641	1162775	931999.6	398.8
B-43	43.19047	-76.1634	1162775	932199.7	396.3
B-44	43.19047	-76.1626	1162775	932399.7	397.9
B-45	43.19047	-76.1619	1162775	932599.5	399.9
B-50	43.19052	-76.161	1162795	932847.7	396.6
B-123	43.18683	-76.1621	1161450	932542.7	418.3
B-124	43.18651	-76.1615	1161334	932705.1	420.8
B-125	43.18618	-76.1609	1161216	932867.1	422.1
B-126	43.18586	-76.1603	1161099	933029.3	421.6
B-127	43.18554	-76.1597	1160982	933191.5	420.6
B-128	43.18521	-76.1591	1160865	933353.9	419.5
B-129	43.18489	-76.1585	1160748	933516.1	418.8
B-130	43.18457	-76.1579	1160631	933678.1	418.8
B-131	43.18501	-76.1574	1160793	933795.2	409.4
B-132	43.18533	-76.1581	1160910	933632.8	410.3
B-133	43.18566	-76.1587	1161027	933470.7	410.3
B-134	43.18598	-76.1593	1161145	933308.4	411.5
B-135	43.1863	-76.1599	1161261	933146.2	412.5
B-136	43.18663	-76.1605	1161378	932984	413
B-137	43.18695	-76.1611	1161495	932821.9	413.5
B-138	43.18727	-76.1617	1161612	932659.7	412.4
B-139	43.18739	-76.1606	1161658	932938.8	407.3
B-140	43.18707	-76.16	1161541	933101.2	407.2
B-141	43.18675	-76.1594	1161424	933263.4	407.4
B-142	43.18642	-76.1588	1161307	933425.4	407.3
B-143	43.18601	-76.1583	1161156	933552.5	405.7
B-144	43.18578	-76.1576	1161073	933749.8	406.4
B-145	43.18545	-76.157	1160955	933911.7	406.5
B-148	43.18608	-76.1571	1161185	933892.8	404.3
B-149	43.18687	-76.1584	1161469	933542.5	406.1
B-160	43.18698	-76.1576	1161510	933738.3	405.1
B-207	43.19279	-76.1478	1163642	936342.3	389.9
B-208	43.19311	-76.1484	1163759	936180.1	390.8
B-209	43.19344	-76.1491	1163876	936017.8	391

Point ID	Lattitude	Longitude	Northing	Easting	Elevation
B-210	43.19376	-76.1496	1163993	935855.6	386.3
B-211	43.19407	-76.1503	1164106	935687.4	385.9
B-212	43.19441	-76.1509	1164227	935531.1	386.8
B-213	43.19473	-76.1515	1164344	935369	387.3
B-214	43.19505	-76.1521	1164461	935206.7	383.5
B-215	43.19533	-76.1529	1164559	934998	382.3
B-216	43.19517	-76.151	1164506	935485.7	385.8
B-217	43.19485	-76.1504	1164389	935648.1	387.8
B-218	43.19506	-76.1497	1164465	935832.9	386.4
B-219	43.19493	-76.1531	1164416	934927.3	385.9
B-220	43.19461	-76.1525	1164299	935089.6	387.4
B-221	43.19429	-76.1519	1164181	935251.9	389.8
B-222	43.19396	-76.1513	1164065	935414.1	389.7
B-223	43.19364	-76.1507	1163948	935576.4	386.9
B-224	43.19332	-76.1501	1163831	935738.7	389.5
B-225	43.19299	-76.1495	1163714	935900.8	391.5
B-226	43.19267	-76.1489	1163597	936062.9	390.1
B-227	43.19235	-76.1483	1163480	936225.2	389.3
B-229	43.19255	-76.1499	1163551	935783.8	391.9
B-230	43.19287	-76.1505	1163668	935621.5	391
B-231	43.1932	-76.1511	1163785	935459.3	388.2
B-232	43.19352	-76.1518	1163902	935297.1	387.8
B-233	43.19384	-76.1524	1164019	935134.9	389.9
B-234	43.19417	-76.153	1164136	934972.7	389.9
B-235	43.19449	-76.1536	1164253	934810.5	390.4
B-236	43.19405	-76.154	1164091	934693.5	394
B-239	43.19361	-76.1544	1163930	934600.3	393
B-240	43.19308	-76.1549	1163739	934457.1	392.8
B-241	43.19272	-76.1553	1163604	934342.7	393.5
B-317	43.19195	-76.1552	1163325	934387.9	392.9
B-333	43.18993	-76.1563	1162586	934098.8	394.9
B-334	43.18941	-76.1564	1162398	934071.1	397.8
B-336	43.18884	-76.1564	1162189	934062.2	403.9
B-337	43.18886	-76.1556	1162197	934270.9	403.5
B-338	43.18885	-76.1549	1162197	934470.9	394.4
B-339	43.18885	-76.1541	1162197	934670.9	391.9
B-340	43.18878	-76.1533	1162172	934882.8	391.4
B-341	43.18886	-76.1527	1162201	935059.4	391
B-342	43.1883	-76.1526	1161997	935071	391.5
B-343	43.1883	-76.1534	1161997	934870.9	393.1
B-344	43.1883	-76.1541	1161997	934671	395.8
B-345	43.1883	-76.1549	1161997	934471	406.6
B-346	43.18831	-76.1556	1161998	934271.1	403.9
B-347	43.18831	-76.1564	1161998	934071.1	401.7
B-390	43.19093	-76.1561	1162952	934146.7	392.8
B-392	43.19146	-76.1561	1163147	934146.1	393.5

Point ID	Lattitude	Longitude	Northing	Easting	Elevation
IT-1	43.18489	-76.1585	1160748	933516.1	418.8
W-1	43.18489	-76.1585	1160748	933516.1	418.8
IT-2	43.19384	-76.1663	1163999	931425	394.6
W-2	43.19385	-76.1663	1164004	931420	394.6
IT-3	43.19235	-76.1483	1163480	936230.3	389.3
W-3	43.19236	-76.1483	1163485	936225.2	389.3
B-1	43.19603	-76.1665	1164796	931352	392.7
B-2	43.19606	-76.1658	1164809	931551.5	392.8
B-3	43.19609	-76.165	1164822	931751.1	393
B-4	43.19613	-76.1643	1164835	931950.8	393.2
B-5	43.19616	-76.1635	1164849	932150.3	392.7
B-6	43.19619	-76.1628	1164862	932349.9	391.2
B-7	43.19628	-76.1622	1164895	932518.1	391.2
B-8	43.19548	-76.1665	1164596	931369	393.7
B-9	43.19551	-76.1657	1164610	931568.6	392.4
B-10	43.19555	-76.165	1164623	931768.2	393.1
B-11	43.19558	-76.1642	1164636	931967.8	392.3
B-12	43.19561	-76.1635	1164649	932167.2	391.5
B-13	43.19565	-76.1627	1164663	932366.8	391.1
B-15	43.19493	-76.1664	1164397	931386.1	394
B-16	43.19497	-76.1657	1164410	931585.5	393.9
B-17	43.195	-76.1649	1164424	931785.1	393.3
B-18	43.19497	-76.1643	1164413	931955.2	391.9
B-21	43.19438	-76.1663	1164198	931403.1	393.7
B-35	43.19103	-76.1653	1162975	931696.1	397.4
B-36	43.19102	-76.1645	1162975	931896	394.7
B-37	43.19102	-76.1638	1162975	932096.1	394.3
B-38	43.19102	-76.163	1162975	932296	397.2
B-39	43.19102	-76.1623	1162975	932496	397
B-40	43.19101	-76.1615	1162975	932696.2	396.5
B-121	43.18748	-76.1633	1161684	932218	414.8
B-122	43.18715	-76.1627	1161567	932380.2	418.8
B-206	43.19386	-76.1478	1164032	936358.1	390.7
B-305	43.19042	-76.1485	1162776	936163.8	388.1
B-306	43.19069	-76.149	1162876	936036.6	388.3
B-307	43.19102	-76.1496	1162993	935874.3	388.7
B-303	43.19146	-76.1492	1163155	935991.3	390.8
B-304	43.19114	-76.1486	1163038	936153.5	390.5
B-350	43.18829	-76.1511	1161997	935470.9	391.4
B-351	43.18868	-76.1506	1162139	935612.5	390.1
B-352	43.18901	-76.1501	1162261	935756.5	388.7
B-299	43.19145	-76.1475	1163154	936425.5	387.7

SURVEY DATA PROVIDED BY THEW ASSOCIATES ON 04/20/23 AND 05/03/23

ATTACHMENT TO CME REPORT NO.: 28062B-01-0523R1

Groundwater Level Monitoring Table
Micron Campus, Clay, New York

Reading Date	Observed Groundwater Elevation and Depth Below Grade (ft)					
	W-1 (Grade Elevation 418.8 ft)		W-2 (Grade Elevation 394.6 ft)		W-3 (Grade Elevation 389.3 ft)	
	Elevation	Depth Below Grade	Elevation	Depth Below Grade	Elevation	Depth Below Grade
4/19/2023	418.7	0.1	-	-	385.5	3.8
4/21/2023	-	-	393.8	0.8	-	-
5/16/2023	416.1	2.7	392.5	2.1	385.7	3.6
5/17/2023	416.0	2.8	391.8	2.8	386.4	2.9
6/12/2023	414.6	4.2	386.8	7.8	385.3	4.0

MASW Survey Report

Micron Campus
Clay, New York

Prepared For: (Client)

Ramboll
Attn: Mr. Steve Maxwell, Construction Manager
94 New Karner Road Suite 106
Albany, New York 12203
Phone: 518.339.8829
Email: stephen.maxwell@ramboll.com

Prepared By: (Geotechnical Engineer)

CME Associates, Inc.
Attn: Ms. Chen Liu, Ph.D., EIT and
Mr. Anas N. Anasthas, P.E.
6035 Corporate Drive
East Syracuse, New York 13057
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Fax: 315.701.0526
Email: cliu@cmeassociates.com

CME Report No.: 28062N-01-0523
May 23, 2023

Table of Contents
CME Report No. 28062N-01-0523

Page

MASW Survey Report
Micron Campus
Clay, New York

1.0 INTRODUCTION

CME Associates, Inc. (CME) conducted a limited Geophysical Investigation consisting of a surficial seismic survey to determine vertical seismic shear wave velocity profiles at the subject project site. This report presents the shear wave velocity (Vs) measurements obtained from the surficial seismic survey.

The fieldwork and this report have been provided pursuant to the execution of CME Proposal/Agreement No.: 05.7126, Amendment 3, dated 04/07/2023, by Ramboll (Client), via a Purchase Order (Ramboll P.O.#1950006347, dated 04/14/2023).

2.0 MASW SURVEY

A Surface-wave Analysis was conducted for indirect measurement of seismic shear wave velocity (Vs), using MASW (Multichannel Analysis of Surface Waves) and MAM (Microtremor Array Measurement) methods. These survey methods are less time consuming and more cost effective, compared to the direct measurement methods such as Crosshole and Downhole Seismic Testing, and these practices are widely utilized and accepted in the geotechnical profession.

2.1 Theory and Application

Recently, surface wave methods have become the seismic techniques most often used to estimate the Vs structure of soil because of their non-invasive nature and greater efficiency in data acquisition and processing (Park and Miller, 2004). Surface waves are a form of mechanical waves that propagate while attenuating (breaking down) along the interface of strata. The signal-to-noise ratio for surface waves is stronger than that of body waves (primary and secondary waves) (Park, Miller and Xia, 1999). Love waves and Rayleigh waves are formed by surface waves; however, the Surface-wave Analysis method focuses on Rayleigh waves.

Particle motion of Rayleigh waves in a homogeneous medium moving from left to right is elliptical in a counterclockwise (retrograde) direction along the free surface (Xia, et al., 2004). As Rayleigh waves propagate through the ground, wave frequency (or wavelength) is altered by vertical variation in Vs. Variation in wave frequency has a direct relationship on wave velocity. The velocity at which the phase of a certain wave frequency travels is called phase velocity. A property known as dispersion develops by propagation of phase velocities (Park, Miller and Xia, 1999).

Longer wavelengths (lower frequencies) are more sensitive to elastic properties of deeper layers, therefore have greater phase velocity and penetrate further underground. Shorter wavelengths are more sensitive to physical properties of near-surface layers (Xia, Miller and Park, 1999). Within the range of frequencies recorded from the survey, the strongest energy waveforms will have the highest signal-to-noise ratio, termed the Fundamental Mode (M0). Any higher modes or body waves within recorded data are considered noise. By recording M0 Rayleigh waves propagating horizontally and directly from the seismic source to receiver, the dispersive properties directly beneath the source and receiver spread can be measured and usually represented by a curve (called Dispersion Curve) depicting variation of phase velocities with frequency (Park and Miller, 2004). This curve is then used to back-calculate the vertical variation of Vs and construct a one-dimensional (1D) Vs profile. An overview of procedure for data collection and processing of M0 Rayleigh waves is depicted below in Figure 1.

Determined Vs of waves are used to interpret the structure of soil layers because of the close relationship Vs has to shear strength and stiffness of soil (Park et al., 2007). An increase or decrease in Vs demonstrates a greater or reduced shear strength and stiffness of soil layer.

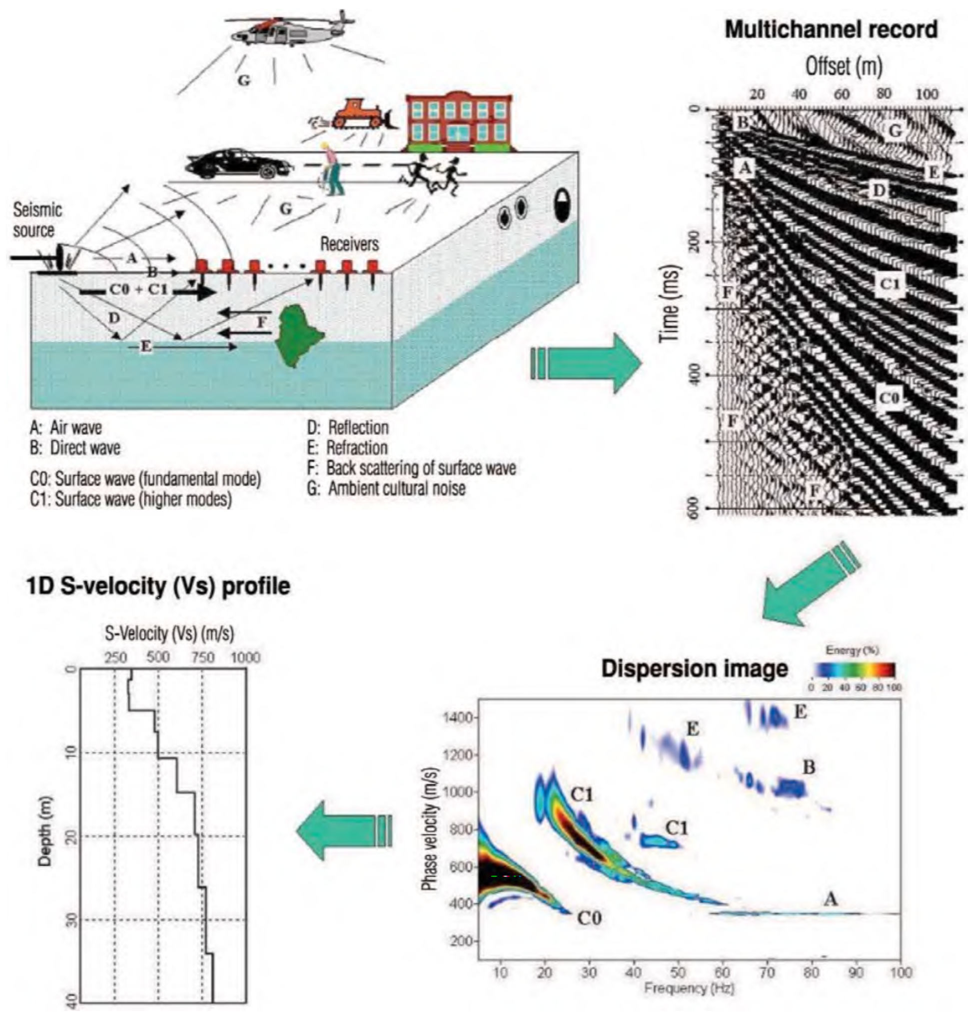

Figure 1. Overall procedure for data collection and processing.

2.2 Equipment

The data collection for the surface wave analysis was achieved by utilizing an underground imaging tool (Geometrics ES-3000 Seismograph) and data acquisition software (Seismodule Controller). As illustrated in Figure 2, attached to the seismograph is a channel cable, power cable, Ethernet cord, and time break (trigger) cable. The channel cable has 24 connectors used to connect receivers along a spread. The receivers are geophones coupled to the ground within a spread configuration at desired intervals of spacing. The power cable is equipped to a battery to power the seismograph.

An Ethernet cord is used to connect the seismograph to a computer for data collection via the Seismodule Controller software. A time-break cable is attached to the upper handle of a sledgehammer, which sends a signal to the seismograph at hammer strike, initiating a recording. A metal strike plate is placed at a fixed off-set distance away from the receiver spread, amplifying dynamic energy when struck by the hammer. Once the hammer strikes the plate, vibrational impulses felt in the geophones are transported via the channel cable, acquired by the seismograph, and recorded on the computer.

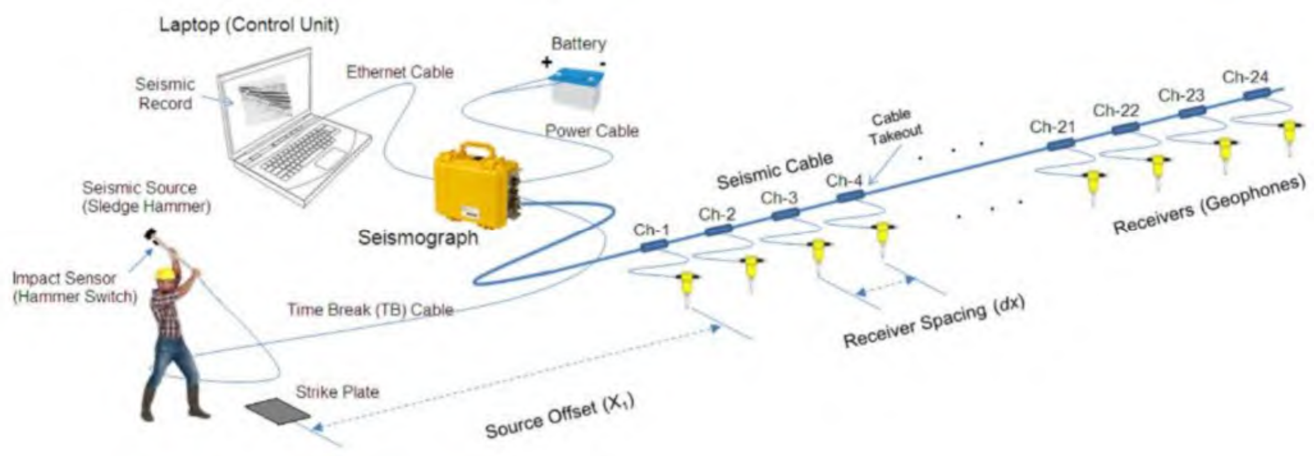

Figure 2. Typical field configuration with an active source survey.

2.3 Methodology

There are two methods used for Surface-wave Analysis; active (MASW) and passive (MAM) source surveying. Both techniques are employed along the same spread configuration, but with different data quality for underlying strata. To perform an active survey, a dynamic source (such as a sledgehammer) provides surface wave data. To perform a passive survey, noise from ambient energy sources (such as traffic or wind) provides surface wave data.

As explained in the Geometrics *SeisImager/SW Manual*, the investigation depth for active surveys is approximately half the spread length, and that for passive surveys is approximately equal to the spread length. Lower frequency Rayleigh waves can penetrate deeper and propagate faster than higher frequencies, providing deeper Vs soil surveys. Higher frequencies will provide higher resolution of data at shallower depths. An active survey emits and records higher frequency surface waves compared to passive surveys. When active and passive source files are combined by vertically stacking both sets of image data (as shown in Figure 3), two trends are merged naturally to make one continuous trend over a broader bandwidth (Park, et al. 2007). Therefore, a combination of both techniques will optimize resolution throughout the profile.

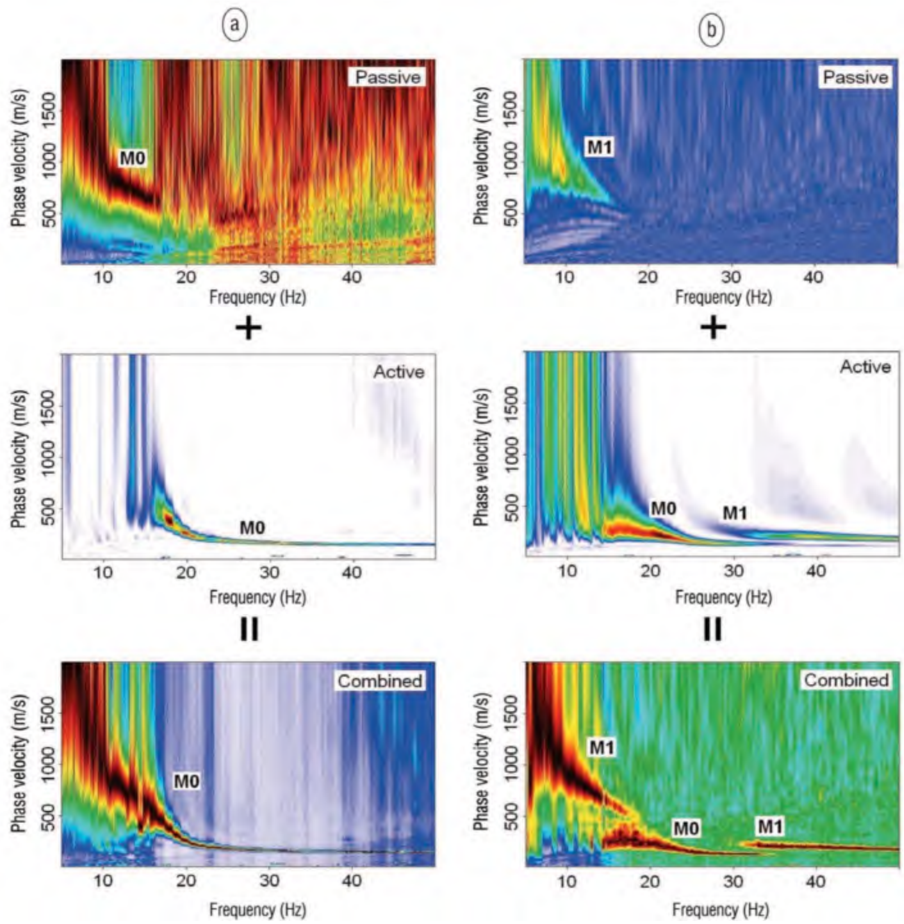

Figure 3. Dispersion images from passive and active sources are combined to enlarge dispersion bandwidth.

2.4 Data Acquisition and Processing

To acquire and process data after equipment setup completion, a *Seismodule Controller* and *SeisImager/SW* software are used. Procedures for data acquisition are followed as outlined in the *Geometrics SeisImager/SW Manual*.

Parameters set in the *Seismodule Controller* for active and passive surveys are listed below. A few of these parameters are illustrated in Figure 4.

- **Spread configuration** – Layout of receivers
- **Receiver spread** – Distance between first and last receiver
- **Receiver spacing** – Distance interval between each receiver
- **Receiver type** – Method of collecting seismic energy
- **Receiver count** – Amount of receivers
- **Source-receiver offset** – Distance between source and first receiver
- **Seismic source** – Method used for dynamic energy
- **Sample interval** – Time between recorded samples
- **Record length/count** – Allotted time for data acquisition (and number of files with MAM)
- **Stacking** – Way to increase signal-to-noise ratio (with MASW) by layering "shots" (field records).

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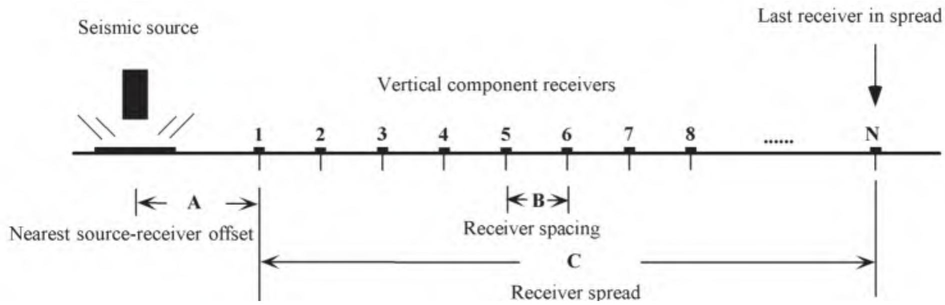


Figure 4. Three acquisition parameters for active source field configuration

Once parameters are set and first shot ran (for the MASW), a shot record displays all seismic waves in a tapered layout, indicative of dispersion (Figure 1). Further processing is performed within *SeisImager/SW* software using *Pickwin* and *WaveEq* modules (Figure 5). Within *Pickwin* the shot record waveform is converted into a phase velocity vs. frequency plot (Figure 1). In *WaveEq* the Dispersion Curve is displayed and optimized by removing any interference of noise (Figure 6a). Based on the Dispersion Curve, an initial model of Vs is back-calculated. Given the initial model, a best fit line using an iterative inversion with the Least Square Method is calculated to generate the Final one-dimensional (1D) Vs profile (Figure 6b) (Xia, Miller and Park, 1999).

Green points defining the dark grey shaded section of the Figure 6b represent the best indicator of the reliable depth range of penetration calculated using one-third wavelength approximation. Geophone reception of frequency vibrations will reach a depth limit when attenuation (loss of energy) is too large. Survey results for depths below the dark grey shaded section generally tend to yield poor accuracy and may not represent a true representation of the Vs profile. Such depth ranges will be indicated by light grey shaded sections to call attention to use caution when interpreting the survey results. For a Combined Vs profile, respective Dispersion Curves for active and passive surveys are appended within *WaveEq* and processed.

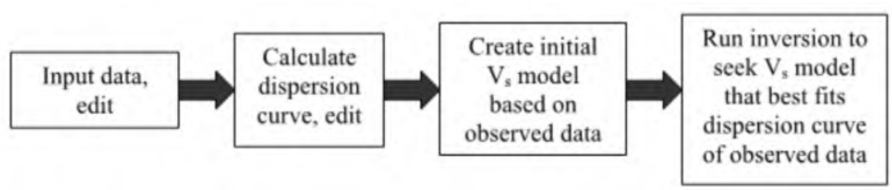


Figure 5. General processing flow using SeisImager/SW software.

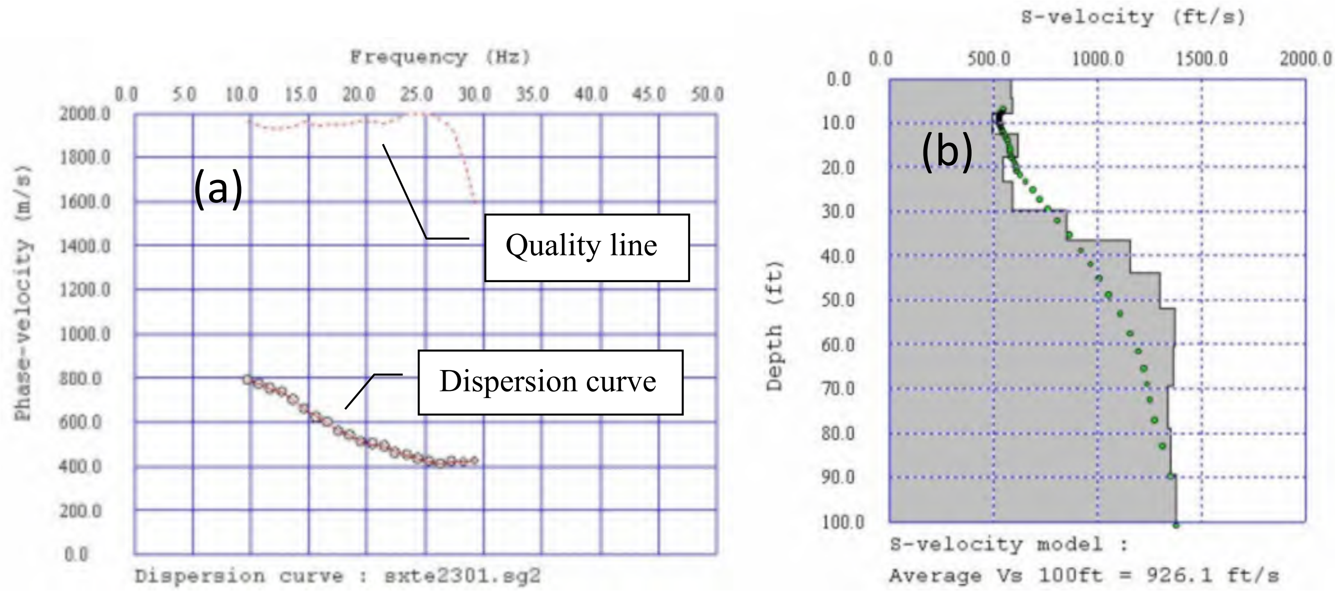


Figure 6. (a) Example of Dispersion Curve and Quality Line. Quality Line is used to assess Dispersion Curve quality based on signal amplitude. (b) Example of Final 1D Vs profile. Green points represent one-third wavelength approximation.

2.5 Results

The field data collection for the Surface-wave Analysis was conducted at the subject project site on 04/21/2023 and 04/26/2023. A total of 4 survey lines (Line 1 to Line 4) were surveyed using both active (MASW) and passive (MAM) sources. Figures 7 through 10 show aerial views of the approximate location of the survey lines. Site pictures for Line 1 to Line 4 are shown in Figures 12 to 15.

Data from this survey was recorded using 24 vertical-component 4.5 Hz geophones coupled to the ground using spikes. For each survey, the geophones were equally spaced 5 feet apart along a 115-foot linear spread. For active source surveys, an 8-pound sledgehammer with a shot on a strike plate, placed at an offset of 23 feet, provided dynamic energy. Multiple shots were made at each survey line to stack data. The record length was 1.0 second with a 0.5-millisecond sample interval. For passive source surveys, a minimum of 20 records of ambient energy were compiled for each survey line. The record length was 8 seconds with a 2.0-millisecond sample interval.

The raw data collected in the field was processed in the CME office, by the undersigned Engineer. Dispersion Curves for active and passive source surveys at each survey line were combined to create a Final 1D Vs Profile.

Please note, the data processing for the 3 lines surveyed on 04/21/2023 revealed unreliable/unrealistic results, possibly caused by soft and wet ground conditions noted at the energy source location, as a result of rain earlier that week. Therefore, the Dispersion Curve and 1D Vs Profile for these 3 survey lines are not presented in this report.

The grade surface at the energy source for the survey along Line 4, conducted on 04/26/2023, was noted to be relatively dry and firm. The Dispersion Curve and 1D Vs Profile for Line 4 is presented in Figure 11. The survey at this location yielded better and more reliable data compared to that of the 04/21/2023 survey. However, this data is insufficient to characterize the entire site, relative to its shear wave velocity profile. CME recommends that additional MASW surveys and/or Vs profiling via CPT (Cone Penetration Test) be conducted as part of the Phase 2 exploration.

CME will utilize the shear wave velocity profile given in Figure 11, and the additional shear wave velocity profiles to be obtained during the Phase 2 exploration to determine Site Class, in accordance with Section 20.4.1 of ASCE 7.

Figure 7. Approximate Location of Surface-wave Analysis Survey Line 1

Figure 8. Approximate Location of Surface-wave Analysis Survey Line 2

Figure 9. Approximate Location of Surface-wave Analysis Survey Line 3

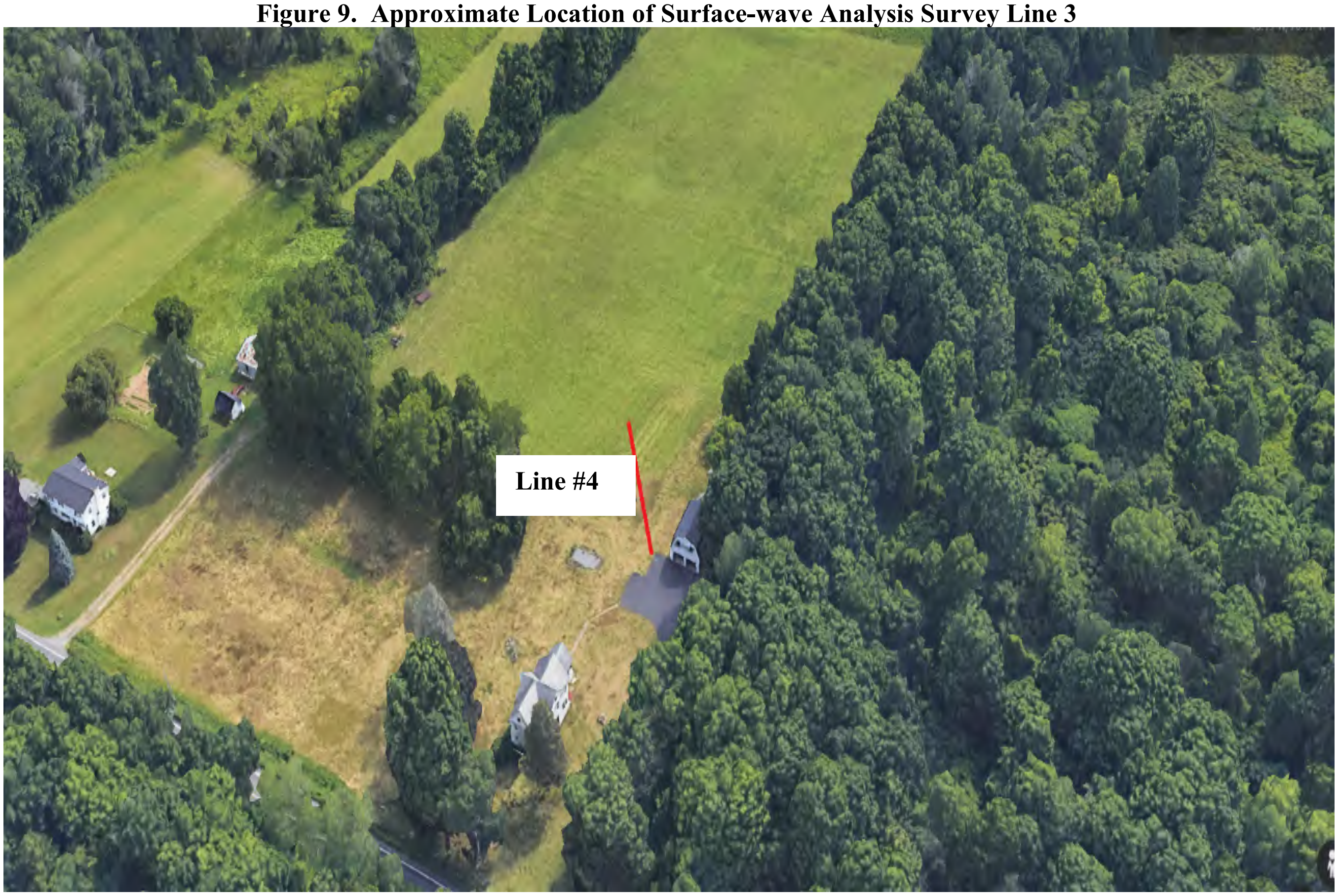
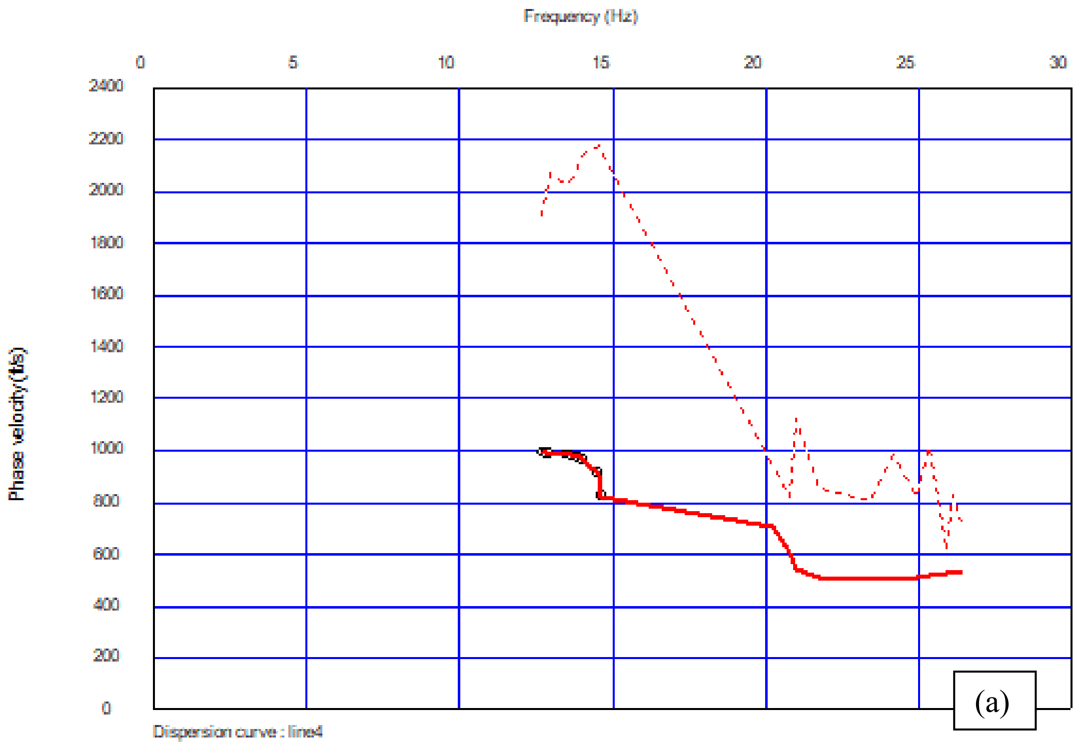


Figure 10. Approximate Location of Surface-wave Analysis Survey Line 4



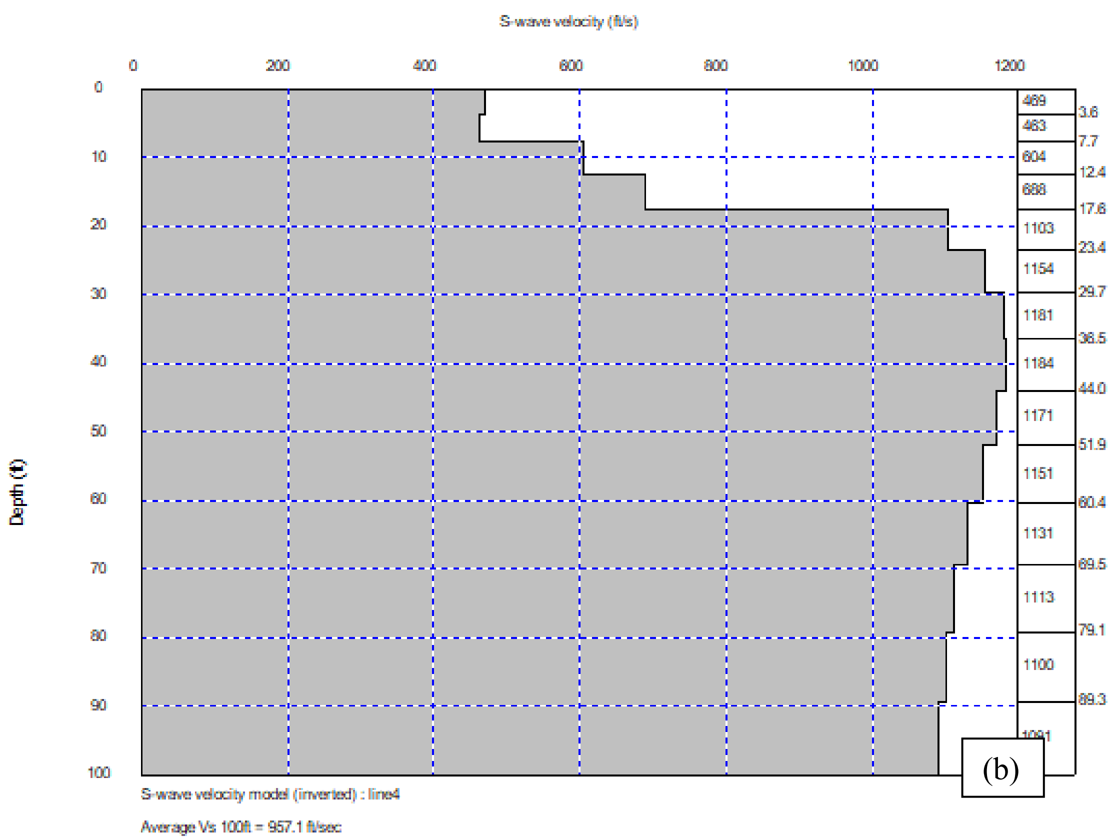


Figure 11. Survey Line 4: (a) Dispersion Curve (b) 1D Vs Profile.

Please note, as explained in Report Section 2.4, dark grey shaded section of the above Vs Profile represents the best indicator of the reliable depth range of wave penetration for the model. The light grey shaded sections (if any) represent ranges of depth where results are generally less accurate and/or unreliable, and thus, caution shall be exercised when interpreting the survey results.

Figure 12: Survey Location and Spread Configurations, Line 1

Figure 13: Survey Location and Spread Configurations, Line 2

3

Figure 14: Survey Location and Spread Configurations, Line 3

Figure 15: Survey Location and Spread Configurations, Line 4

3.0 CLOSING COMMENTS

The interpretation presented in this report is based on observed geophysical responses obtained during the test procedure and data processing.

We have endeavored to conduct these services in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical engineering profession, practicing contemporaneously under similar conditions in the locality of the project. No other representation, express or implied is made. Under no circumstances is any warranty, express or implied, made in connection with the providing of geotechnical engineering services.

If you have any questions regarding the information presented in this report, please contact our office.

Respectfully Submitted,
CME Associates, Inc.

Chen Liu, Ph.D., EIT
Geotechnical Engineer

Reviewed By,
CME Associates, Inc.

Anas N. Anasthas, P.E.
Senior Geotechnical Engineer

References:

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< ftp://geom.geometrics.com/pub/seismic/Literature/SurfaceWaves/KGS/TLE23n82004_Xia-Miller-Park-Ivanov.pdf>
[Accessed 27 September 2018].

INFILTRATION TEST REPORT

CME Associates, Inc.

Test ID: IT-1

Project:	Micron Campus Clay, NY	CME Report No.:	28062B-01-0523R1
		Test Date:	05/17/23
Client:	Ramboll	Test Location:	See Exploration Location Plan
		Technician:	S.Yumusak

Test Preparation and Dimensions

Casing Installed in: ☐ Test Pit ☑ Borehole

Casing Diameter and Type: 4 inch I.D. HDPE

A Existing Grade Elevation (ft): 418.8

B Casing Stickup Length Above Grade (ft): 2.8

C Top of Casing Elevation (ft): .... (A+B)= 421.6

D Depth to Bottom of Test Hole, Below Top of Casing (ft): 6.5

E Bottom of Test Hole Elevation: .... (C-D)= 415.1

Burmister Classification of Soil at Bottom of Hole: Brown SILT and cmf SAND, some CLAY

Thickness&Type of Scour/Sediment Protection Layer Installed: 3" of Pea Gravel

Date and Time Pre-Soaked: .... 05/16/23 Time: 14:05

Depth to Water Level, Below Top of Casing

Just After Pre-Soak Filling (ft): 4.50

Just Prior to First Test Filling (ft): 5.20 Date: 5/17/2023 Time: 11:20

Test Observations

Run 1			Run 2			Run 3			Run 4		
Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)
11:22	0:00	4.50		0:00			0:00			0:00	
11:23	0:01	4.50		0:01			0:01			0:01	
11:24	0:02	4.50		0:02			0:02			0:02	
11:25	0:03	4.50		0:03			0:03			0:03	
11:27	0:05	4.50		0:05			0:05			0:05	
11:32	0:10	4.50		0:10			0:10			0:10	
11:37	0:15	4.50		0:15			0:15			0:15	
11:52	0:30	4.50		0:30			0:30			0:30	
12:07	0:45	4.50		0:45			0:45			0:45	
12:22	1:00	4.50		1:00			1:00			1:00	

Test Results

Run:	Run 1	Run 2	Run 3	Run 4
Infiltration Rate (feet/hour):	0.00			
Infiltration Rate (inches/hour):	0.00			

Final Infiltration Rate (inches/hour): 0.00

☐ Based on average of all four runs
☐ Based on result of last run

Note(s)

1. Test performed in general conformance with NYS Stormwater Management Design Manual, Appendix D: Infiltration Testing Requirements.
2. Test Pipe installed near Test Boring B-129

INFILTRATION TEST REPORT

CME Associates, Inc.

Test ID: IT-2

Project:	Micron Campus Clay, NY	CME Report No.:	28062B-01-0523R1
		Test Date:	05/17/23
Client:	Ramboll	Test Location:	See Exploration Location Plan
		Technician:	S.Yumusak

Test Preparation and Dimensions

Casing Installed in: ☐ Test Pit ☑ Borehole

Casing Diameter and Type: 4 inch I.D. HDPE

A Existing Grade Elevation (ft): 394.6
B Casing Stickup Length Above Grade (ft): 3.0
C Top of Casing Elevation (ft): .... (A+B)= 397.6
D Depth to Bottom of Test Hole, Below Top of Casing (ft): 7.3
E Bottom of Test Hole Elevation: .... (C-D)= 390.3

Burmister Classification of Soil at Bottom of Hole: Brown Mottled SILT, little CLAY

Thickness&Type of Scour/Sediment Protection Layer Installed: 3" of Pea Gravel

Date and Time Pre-Soaked: .... 05/16/23 Time: 13:15

Depth to Water Level, Below Top of Casing

Just After Pre-Soak Filling (ft): 5.30

Just Prior to First Test Filling (ft): 5.30 Date: 5/17/2023 Time: 9:47

Test Observations

Run 1			Run 2			Run 3			Run 4		
Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)
9:47	0:00	5.30		0:00			0:00			0:00	
9:48	0:01	5.30		0:01			0:01			0:01	
9:49	0:02	5.30		0:02			0:02			0:02	
9:50	0:03	5.30		0:03			0:03			0:03	
9:52	0:05	5.30		0:05			0:05			0:05	
9:57	0:10	5.30		0:10			0:10			0:10	
10:02	0:15	5.30		0:15			0:15			0:15	
10:17	0:30	5.30		0:30			0:30			0:30	
10:32	0:45	5.30		0:45			0:45			0:45	
10:47	1:00	5.30		1:00			1:00			1:00	

Test Results

Run:	Run 1	Run 2	Run 3	Run 4
Infiltration Rate (feet/hour):	0.00			
Infiltration Rate (inches/hour):	0.00			

Final Infiltration Rate (inches/hour): 0.00

☐ Based on average of all four runs
☐ Based on result of last run

Note(s)

1. Test performed in general conformance with NYS Stormwater Management Design Manual, Appendix D: Infiltration Testing Requirements.
2. Test Pipe installed near Test Boring B-24

INFILTRATION TEST REPORT

CME Associates, Inc.

Test ID: IT-3

Project:	Micron Campus, Clay Clay, NY	CME Report No.:	28062B-01-0523R1
		Test Date:	05/17/23
Client:	Ramboll	Test Location:	See Exploration Location Plan
		Technician:	S.Yumusak

Test Preparation and Dimensions

Casing Installed in: ☐ Test Pit ☑ Borehole

Casing Diameter and Type: 4 inch I.D. HDPE

A Existing Grade Elevation (ft): 389.3
B Casing Stickup Length Above Grade (ft): 1.0
C Top of Casing Elevation (ft): .... (A+B)= 390.3
D Depth to Bottom of Test Hole, Below Top of Casing (ft): 6.0
E Bottom of Test Hole Elevation: .... (C-D)= 384.3

Burmister Classification of Soil at Bottom of Hole: Light Brown/Grey SILT, little CLAY

Thickness&Type of Scour/Sediment Protection Layer Installed: 3" of Pea Gravel

Date and Time Pre-Soaked: .... 05/16/23 Time: 14:40

Depth to Water Level, Below Top of Casing

Just After Pre-Soak Filling (ft): 4.00

Just Prior to First Test Filling (ft): 3.70 Date: 5/17/2023 Time: 12:20

Test Observations

Run 1			Run 2			Run 3			Run 4		
Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)	Real Time (hh:mm)	Elapsed Time (h:mm)	Depth to Water Level, Below Top of Casing (feet)
12:26	0:00	4.00		0:00			0:00			0:00	
12:27	0:01	4.00		0:01			0:01			0:01	
12:28	0:02	4.00		0:02			0:02			0:02	
12:29	0:03	4.00		0:03			0:03			0:03	
12:31	0:05	4.00		0:05			0:05			0:05	
12:36	0:10	4.00		0:10			0:10			0:10	
12:41	0:15	4.00		0:15			0:15			0:15	
12:56	0:30	4.00		0:30			0:30			0:30	
13:11	0:45	4.00		0:45			0:45			0:45	
13:26	1:00	4.00		1:00			1:00			1:00	

Test Results

Run:	Run 1	Run 2	Run 3	Run 4
Infiltration Rate (feet/hour):	0.00			
Infiltration Rate (inches/hour):	0.00			

Final Infiltration Rate (inches/hour): 0.00

☐ Based on average of all four runs
☐ Based on result of last run

Note(s)

1. Test performed in general conformance with NYS Stormwater Management Design Manual, Appendix D: Infiltration Testing Requirements.
2. Test Pipe installed near Test Boring B-227

Bedrock Core Photographs
Attachment to CME Report No: 28062B-01-0523

Top

Bottom

Photograph 1 Boring: B-227 Run 1 Depth 24.0' - 29.0' See Photograph Nos. 2 and 3 for detailed views.

Photograph 2 B-227 Run 1 Top Depth 24.0' - 26.5'

Photograph 3 B-227 Run 1 Bottom Depth 26.5' - 29.0'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-01-0523

Photograph 4 Boring: B-41 Run 1 Depth 4.3' - 9.3' See Photograph Nos. 5 and 6 for detailed views.

Photograph 5 B-41 Run 1 Top Depth 4.3' - 6.8'

Photograph 6 B-41 Run 1 Bottom Depth 6.8' - 9.3'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-01-0523

Photograph 7 Boring: B-129 Run 1 Depth 29.8' - 34.8'

CME Associates, Inc.

6035 Corporate Drive
East Syracuse, New York 13057
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(315) 701-0526 (Fax)

www.cmeassociates.com

LABORATORY TEST SUMMARY
Micron Campus, Clay, New York
Ramboll
CME Report No.: 28062L-01-0523
May 15, 2023
Page 1 of 11

CME Representatives obtained soil and rock samples from Test Borings advanced as part of the Subsurface Exploration Program conducted for the subject project. Selected samples were delivered to CME's East Syracuse facility, an AASHTO re:source[1] accredited laboratory for various laboratory testing. The results are presented below:

Sample ID Notations: B - Test Boring, S – Sample, R – Run

I. Natural Moisture Content (ASTM D2216)

Sample ID	Natural Moisture (%)	Sample ID	Natural Moisture (%)
B-24; S-1B	25.9	B-135; S-1A	39.2
B-24; S-2	27.1	B-135; S-1B	21.5
B-24; S-3	28.2	B-135; S-2	8.9
B-24; S-4	24.0	B-135; S-3	10.0
B-24; S-5	20.2	B-135; S-4A	11.5
B-24; S-6A	22.2	B-135; S-4B	7.0
B-24; S-6B	12.5	B-135; S-5	6.7
B-24; S-7	3.1	B-135; S-6A	5.8
B-24; S-8	6.0	B-135; S-6B	12.0
B-42; S-2	15.3	B-135; S-7	4.5
B-43; S-2	17.4	B-136; S-2	19.4
B-50; S-2	10.8	B-136; S-3	20.3
B-229; S-2	27.4	B-129; S-2	28.4
B-23; S-3	36.2	B-129; S-3	30.0
B-226; S-2	27.7	B-132; S-2	16.2
B-134; S-2	11.0	B-132; S-3	17.9
B-134; S-3	6.4		

[1]**AASHTO re:source** – American Association of State Highway & Transportation Officials (AASHTO) Materials Reference Laboratory, a Federal Agency having jurisdiction to assess laboratory competency according to the Standards of the United States of America. CME East Syracuse accreditation includes testing of Portland Cement Concrete, Aggregate and Soil Materials. www.AASHTOresource.org.

CME Associates, Inc.

II. Atterberg Limits Testing (ASTM D4318)

Sample ID	Liquid Limit	Plastic Limit	Plasticity Index	Natural Moisture (%)
B-24; S-1B	41	23	18	25.9
B-24; S-2	28	21	7	27.1
B-129; S-2	27	18	9	28.4
B-226; S-2	33	20	13	27.7
B-229; S-2	25	19	6	27.4

III. Organic Content (ASTM D2974)

Sample ID	Organic Content (%)
B-23; S-3	5.0
B-226; S-2	3.0

IV. Soil Sulfates (AASHTO T290) and Chlorides (AASHTO T291)

Four soil samples were shipped to Geotechnics for Sulfate and Chloride testing. Please see attached *Geotechnics Reports* for testing results.

CME Associates, Inc.

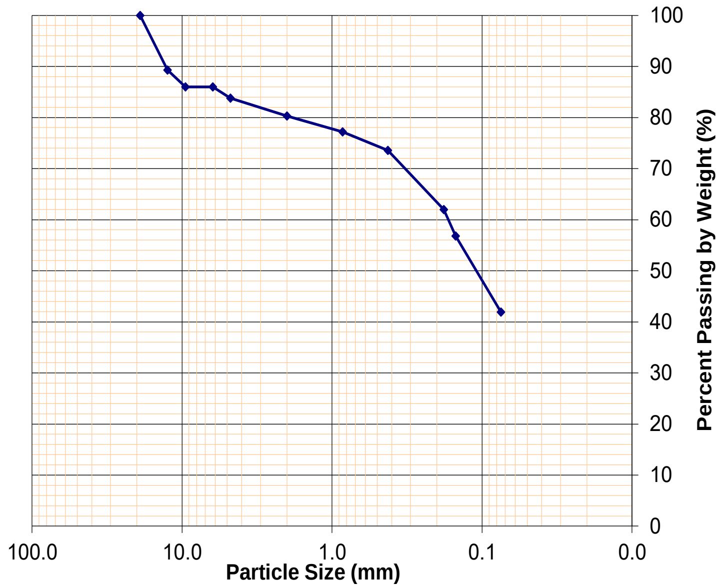
V. Particle Size Analysis (ASTM D422)

Sample #
B-42; S-2

Classification
Light Brown SILT and cmf SAND, little mf GRAVEL

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/4"	19.0	100
1/2"	12.5	89
3/8"	9.5	86
1/4"	6.25	86
No.4	4.75	84
No.10	2.00	80
No.20	0.850	77
No.40	0.425	74
No.80	0.180	62
No.100	0.150	57
No.200	0.075	42

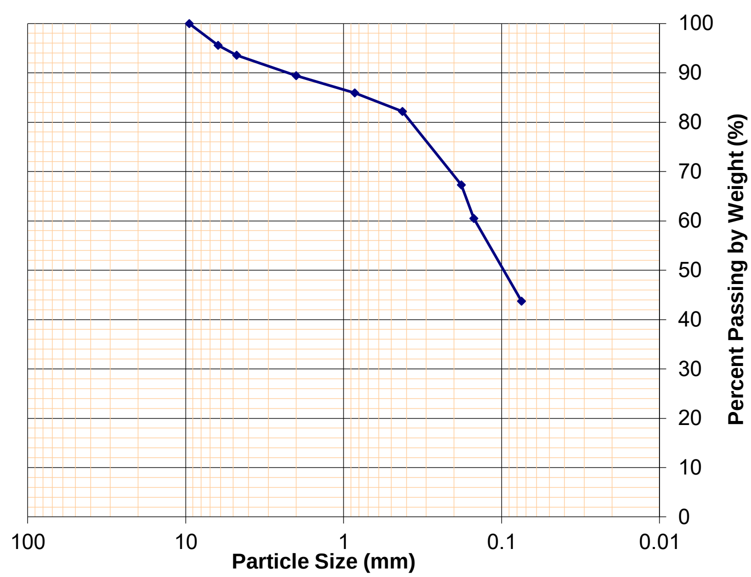


Sample #
B-43; S-2

Classification
Light Brown cmf SAND and SILT, trace fine GRAVEL

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/8"	9.5	100
1/4"	6.25	96
No.4	4.75	94
No.10	2.00	89
No.20	0.850	86
No.40	0.425	82
No.80	0.180	67
No.100	0.150	60
No.200	0.075	44

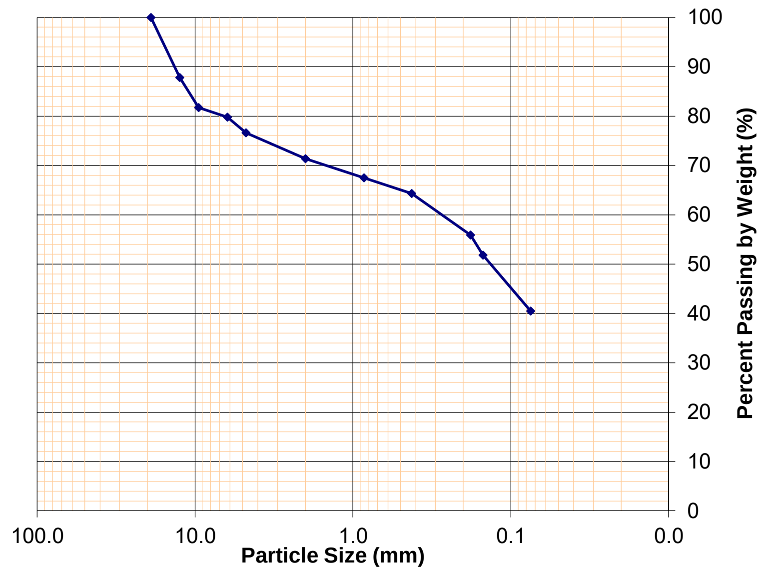


Sample #
B-50; S-2

Classification
Light Brown SILT and cmf SAND, some mf GRAVEL

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/4"	19.0	100
1/2"	12.5	88
3/8"	9.5	82
1/4"	6.25	80
No.4	4.75	77
No.10	2.00	71
No.20	0.850	67
No.40	0.425	64
No.80	0.180	56
No.100	0.150	52
No.200	0.075	40

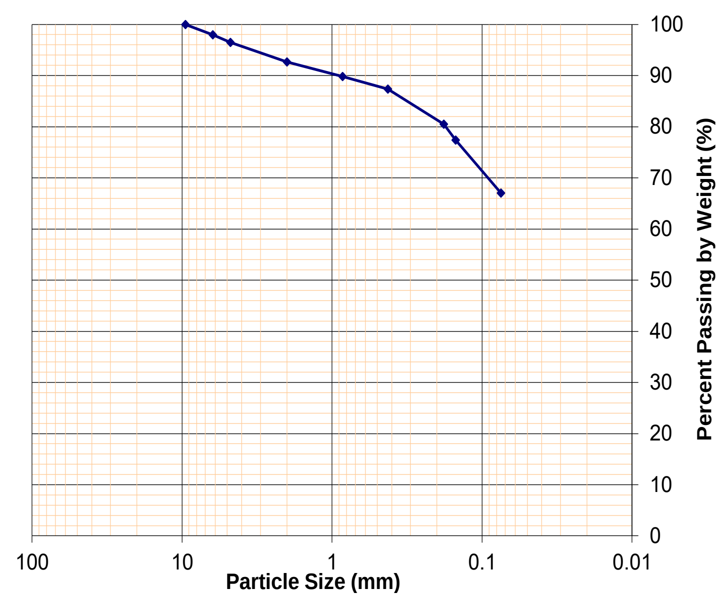


Sample #
B-132; S-2

Classification
Light Brown SILT, some cmf SAND, trace CLAY, trace fine GRAVEL

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/8"	9.5	100
1/4"	6.25	98
No.4	4.75	96
No.10	2.00	93
No.20	0.850	90
No.40	0.425	87
No.80	0.180	80
No.100	0.150	77
No.200	0.075	67



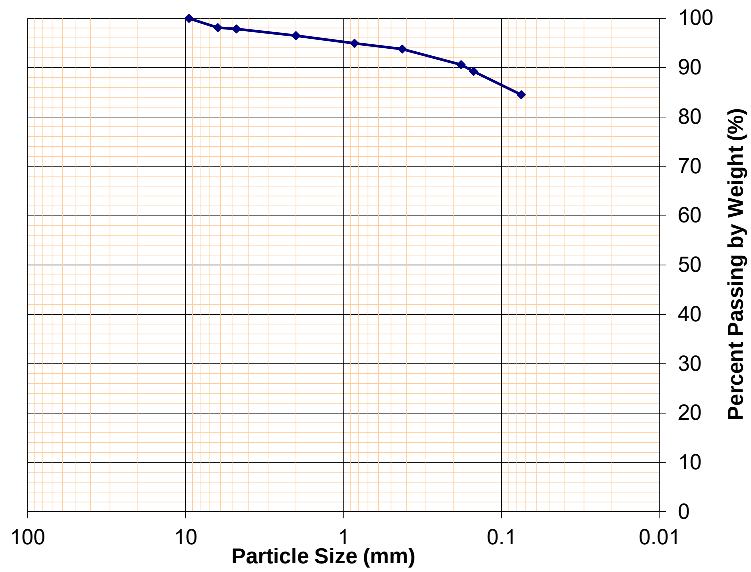
CME Associates, Inc.

Sample #
B-132; S-3

Classification
Light Brown SILT, little cmf SAND, trace CLAY, trace fine GRAVEL

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/8"	9.5	100
1/4"	6.25	98
No.4	4.75	98
No.10	2.00	96
No.20	0.850	95
No.40	0.425	94
No.80	0.180	91
No.100	0.150	89
No.200	0.075	85

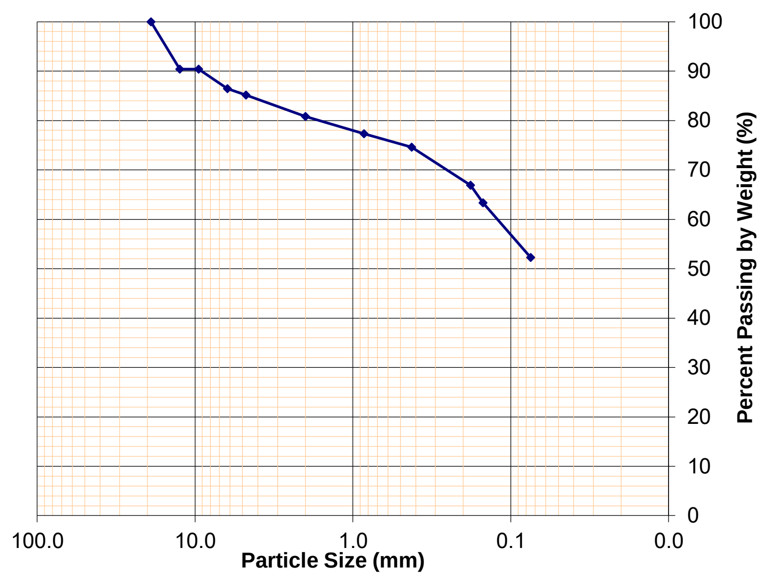


Sample #
B-134; S-2

Classification
Brown SILT, some cmf SAND, little mf GRAVEL

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/4"	19.0	100
1/2"	12.5	90
3/8"	9.5	90
1/4"	6.25	86
No.4	4.75	85
No.10	2.00	81
No.20	0.850	77
No.40	0.425	75
No.80	0.180	67
No.100	0.150	63
No.200	0.075	52



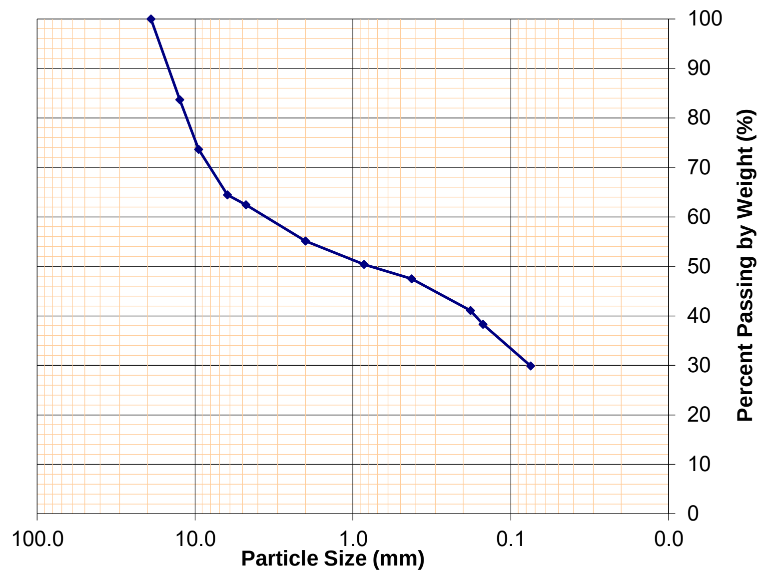
CME Associates, Inc.

Sample #
B-134; S-3

Classification
Brown mf GRAVEL, some cmf SAND, some SILT, trace CLAY

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/4"	19.0	100
1/2"	12.5	84
3/8"	9.5	74
1/4"	6.25	64
No.4	4.75	62
No.10	2.00	55
No.20	0.850	50
No.40	0.425	48
No.80	0.180	41
No.100	0.150	38
No.200	0.075	30

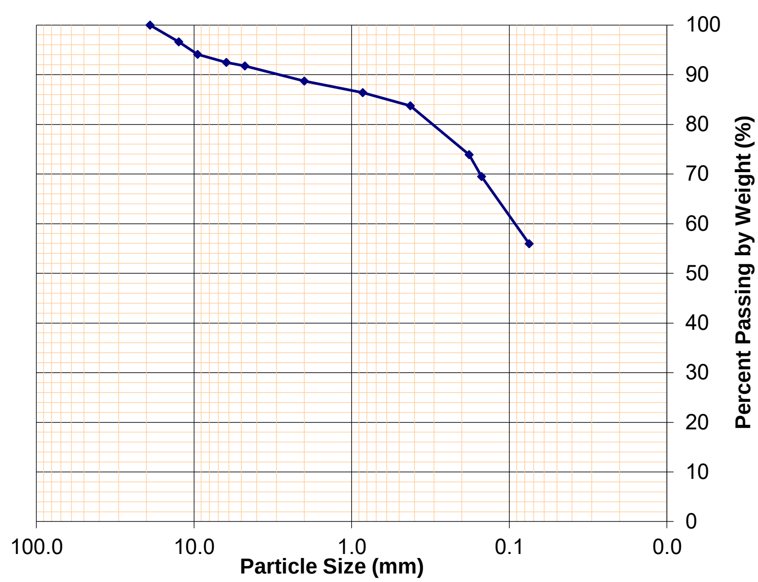


Sample #
B-136; S-2

Classification
Brown SILT and cmf SAND, trace mf GRAVEL, trace CLAY

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/4"	19.0	100
1/2"	12.5	97
3/8"	9.5	94
1/4"	6.25	92
No.4	4.75	92
No.10	2.00	89
No.20	0.850	86
No.40	0.425	84
No.80	0.180	74
No.100	0.150	69
No.200	0.075	56



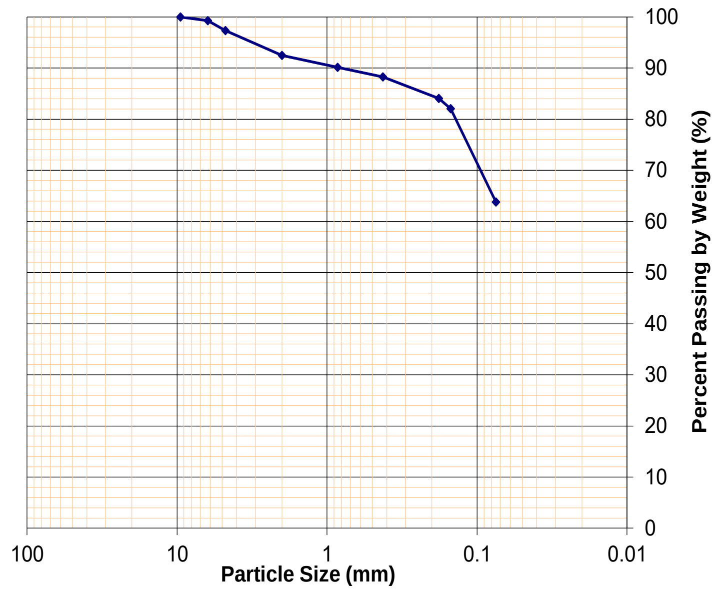
CME Associates, Inc.

Sample #
B-136; S-3

Classification
Brown SILT, some cmf SAND, trace fine GRAVEL

Grain Size Distribution Curve

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/8"	9.5	100
1/4"	6.25	99
No.4	4.75	97
No.10	2.00	92
No.20	0.850	90
No.40	0.425	88
No.80	0.180	84
No.100	0.150	82
No.200	0.075	64

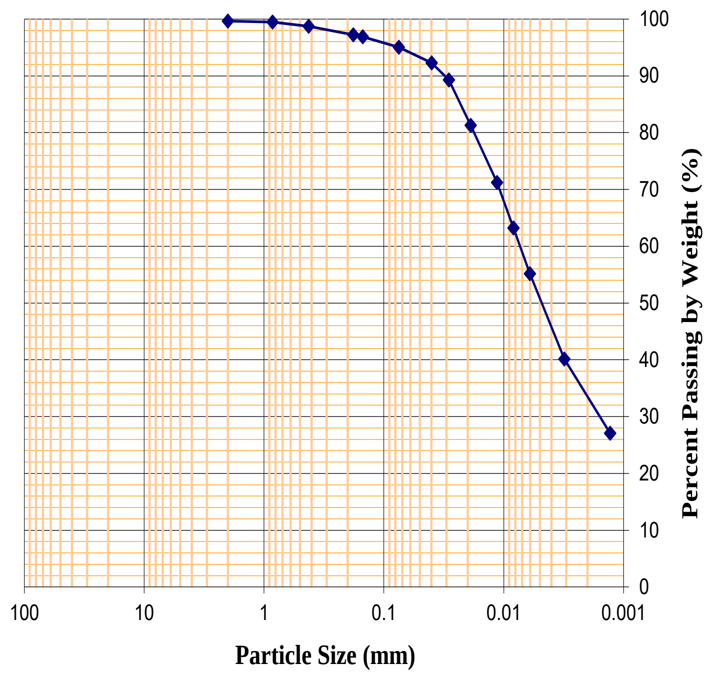


Sample #
B-24; S-1B

Classification
Brown SILT and CLAY, trace mf SAND

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.10	2.00	100
No.20	0.850	99
No.40	0.425	99
No.80	0.180	97
No.100	0.150	97
No.200	0.075	95
Hydrometer	0.040	92
	0.029	89
	0.019	81
	0.011	71
	0.008	63
	0.006	55
	0.003	40
	0.001	27

Grain Size Distribution Curve

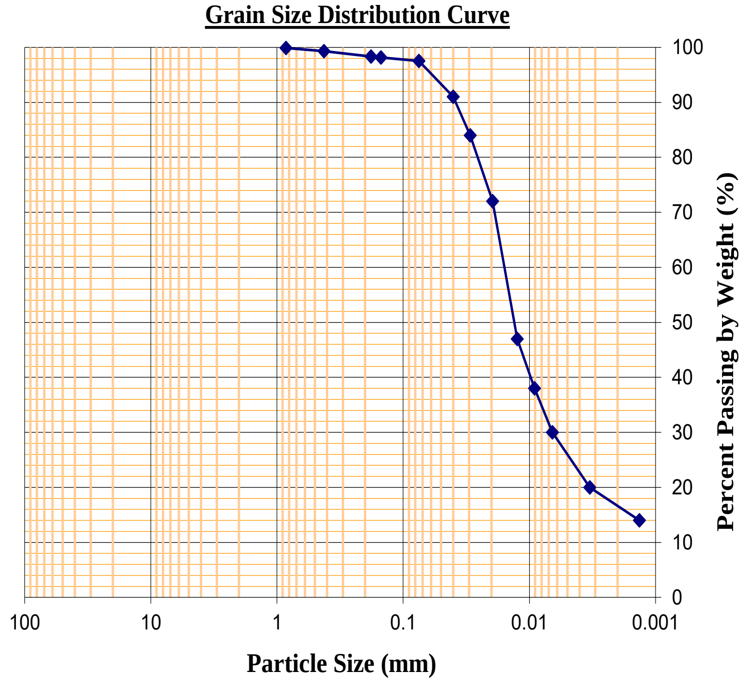


CME Associates, Inc.

Sample #
B-24; S-2

Classification
Brown SILT, some CLAY, trace mf SAND

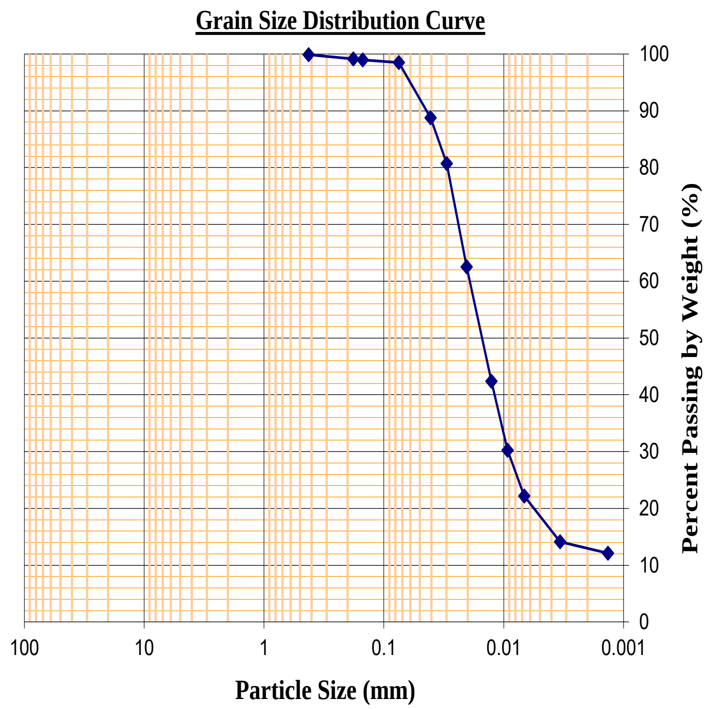
Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.20	0.850	100
No.40	0.425	99
No.80	0.180	98
No.100	0.150	98
No.200	0.075	98
Hydrometer	0.040	91
	0.029	84
	0.020	72
	0.012	47
	0.009	38
	0.007	30
	0.003	20
	0.001	14



Sample #
B-24; S-3

Classification
Brown SILT, some CLAY, trace fine SAND

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.40	0.425	100
No.80	0.180	99
No.100	0.150	99
No.200	0.075	99
Hydrometer	0.041	89
	0.030	81
	0.020	63
	0.013	42
	0.009	30
	0.007	22
	0.003	14
	0.001	12



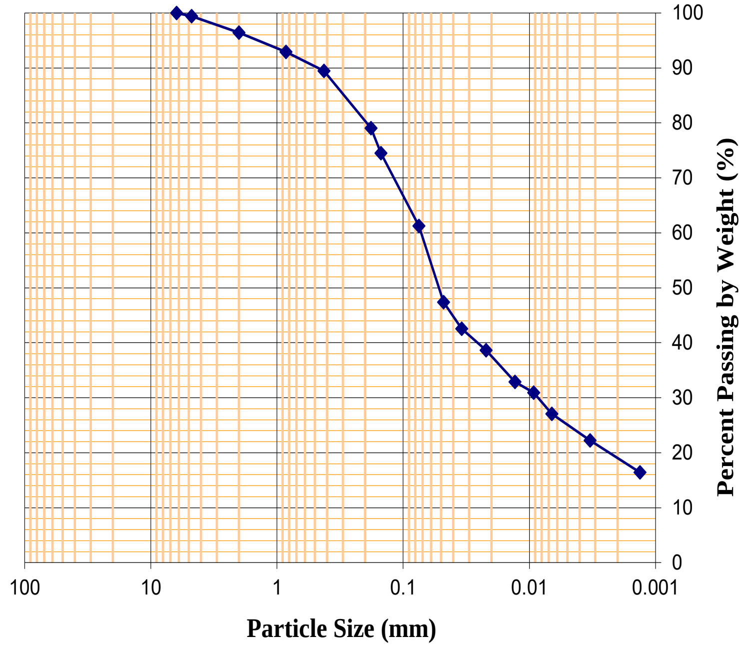
CME Associates, Inc.

Sample #
B-129; S-2

Classification
Light Brown cmf SAND and SILT, some CLAY, trace fine GRAVEL

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
1/4"	6.25	100
No.4	4.75	99
No.10	2.00	96
No.20	0.850	93
No.40	0.425	89
No.80	0.180	79
No.100	0.150	75
No.200	0.075	61
Hydrometer	0.048	47
	0.034	43
	0.022	39
	0.013	33
	0.009	31
	0.007	27
	0.003	22
	0.001	16

Grain Size Distribution Curve

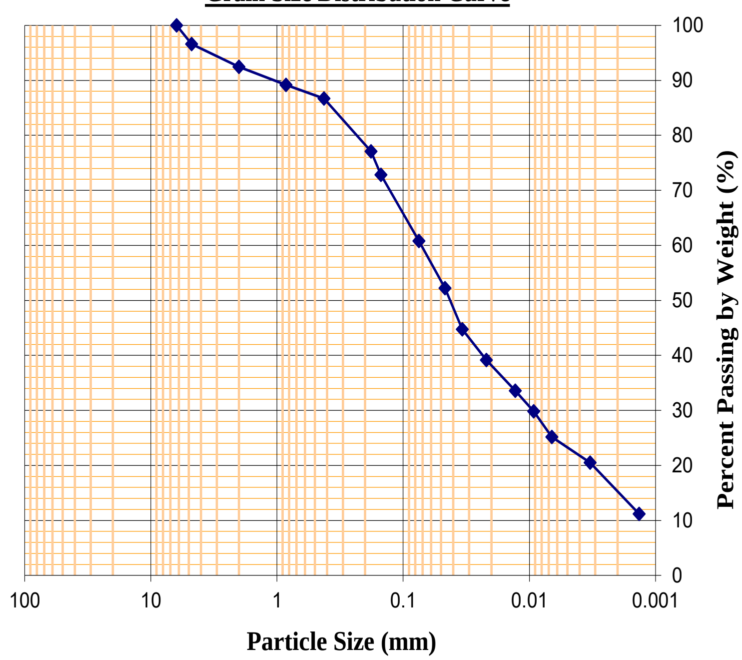


Sample #
B-129; S-3

Classification
Brown SILT and cmf SAND, some CLAY, trace fine GRAVEL

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
1/4"	6.25	100
No.4	4.75	97
No.10	2.00	92
No.20	0.850	89
No.40	0.425	87
No.80	0.180	77
No.100	0.150	73
No.200	0.075	61
Hydrometer	0.047	52
	0.034	45
	0.022	39
	0.013	34
	0.009	30
	0.007	25
	0.003	21
	0.001	11

Grain Size Distribution Curve

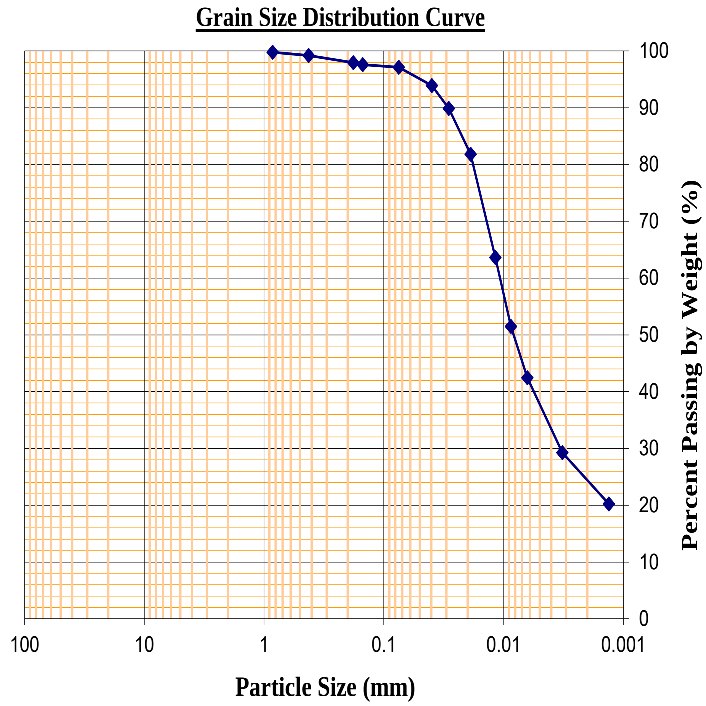


CME Associates, Inc.

Sample #
B-226; S-2

Classification
Light Brown/Grey SILT and CLAY, trace mf SAND

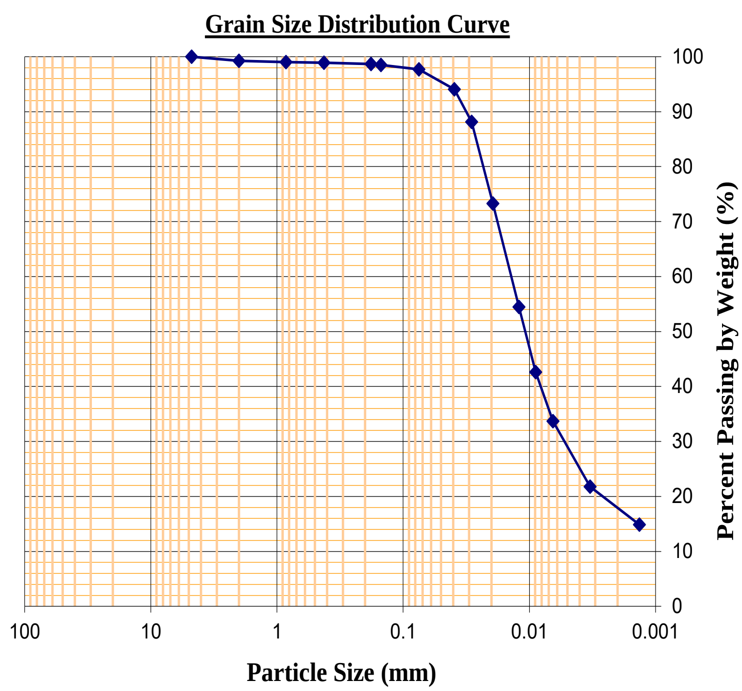
Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.20	0.850	100
No.40	0.425	99
No.80	0.180	98
No.100	0.150	98
No.200	0.075	97
Hydrometer	0.040	94
	0.029	90
	0.019	82
	0.012	64
	0.009	51
	0.006	42
	0.003	29
	0.001	20



Sample #
B-229; S-2

Classification
Light Brown/Grey SILT, some CLAY, trace cmf SAND

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.4	4.75	100
No.10	2.00	99
No.20	0.850	99
No.40	0.425	99
No.80	0.180	99
No.100	0.150	98
No.200	0.075	98
Hydrometer	0.039	94
	0.029	88
	0.019	73
	0.012	54
	0.009	43
	0.006	34
	0.003	22
	0.001	15



CME Associates, Inc.

VI. Rock Core Compression (ASTM D7012 Method C)

A) Testing Conditions:

Tested by:	H.K.	Moisture Condition:	Laboratory air-dry	Equipment:	Forney QC-400-DR
Date of Test:	5/4/2023	Load Direction:	Generally perpendicular to laminations		

B) Core Identification and Location:

Core ID	Location	Description
B-227; R-1	24.3' – 24.7'	Grey DOLOSTONE, slightly weathered, medium to thickly bedded, hard, thin layers (<1/8") of SHALE interbedded
B-41; R-1A	4.3' – 4.9'	Grey DOLOSTONE, slightly weathered, thinly to medium bedded, hard, thin layers (<1/4") of SHALE interbedded
B-41; R-1B	7.0' – 7.6'	Dark Grey SHALE, fresh, thinly bedded, medium hard

C) Core Measurements:

Core ID	Core Diameter (inch)	Length (in.)	Length to Diameter	Mass (g)	Density (lb./ft^3)
B-227; R-1	1.99	4.24	2.13	583.96	169
B-41; R-1A	1.98	4.15	2.09	595.34	177
B-41; R-1B	1.99	4.35	2.18	623.57	176

D) Compression Test Results:

Core ID	Specimen Area (inch^2)	Total Load (lbs.)	Compressive Strength (psi)	Temperature (°C)	Time to Failure (seconds)	Rate of Loading (psi/sec)
B-227; R-1	3.11	51,500	16,560	22	68.50	242
B-41; R-1A	3.08	57,000	18,510	22	96.10	193
B-41; R-1B	3.11	77,500	24,920	22	120.49	207

If you have any questions regarding this report please contact our office.

Hannah Kloiber
Laboratory Supervisor

Attachments:

Geotechnics Report, dated 05/10/2023 (5 of 5)
Geotechnics Report, dated 05/12/2023 (5 of 5)
Rock Compression Test Photographs (2 of 2)

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May 10, 2023

Project No. 2023-294-001

Ms. Hannah Kloiber
CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057

Transmittal
Laboratory Test Results
28062

Please find attached the laboratory test results for the above referenced project. The tests were outlined on the Project Verification Form that was transmitted to your firm prior to the testing. The testing was performed in general accordance with the methods listed on the enclosed data sheets. The test results are believed to be representative of the samples that were submitted for testing and are indicative only of the specimens that were evaluated. We have no direct knowledge of the origin of the samples and imply no position with regard to the nature of the test results, i.e. pass/fail and no claims as to the suitability of the material for its intended use.

The test data and all associated project information provided shall be held in strict confidence and disclosed to other parties only with authorization by our Client. The test data submitted herein is considered integral with this report and is not to be reproduced except in whole and only with the authorization of the Client and Geotechnics. The remaining sample materials for this project will be retained for a minimum of 90 days as directed by the Geotechnics' Quality Program.

We are pleased to provide these testing services. Should you have any questions or if we may be of further assistance, please contact our office.

Respectfully submitted,
Geotechnics, Inc.

Nathan Melaro
Director of Operations

We understand that you have a choice in your laboratory services and we thank you for choosing Geotechnics.

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CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	CME Associates, Inc.	Boring No.:	B129
Client Reference:	28062	Depth (ft):	2.0-4.0'
Project No.:	2023-294-001	Sample No.:	B129
Lab ID:	2023-294-001-001	Description:	Brown Soil

(- # 10 Sieve material)

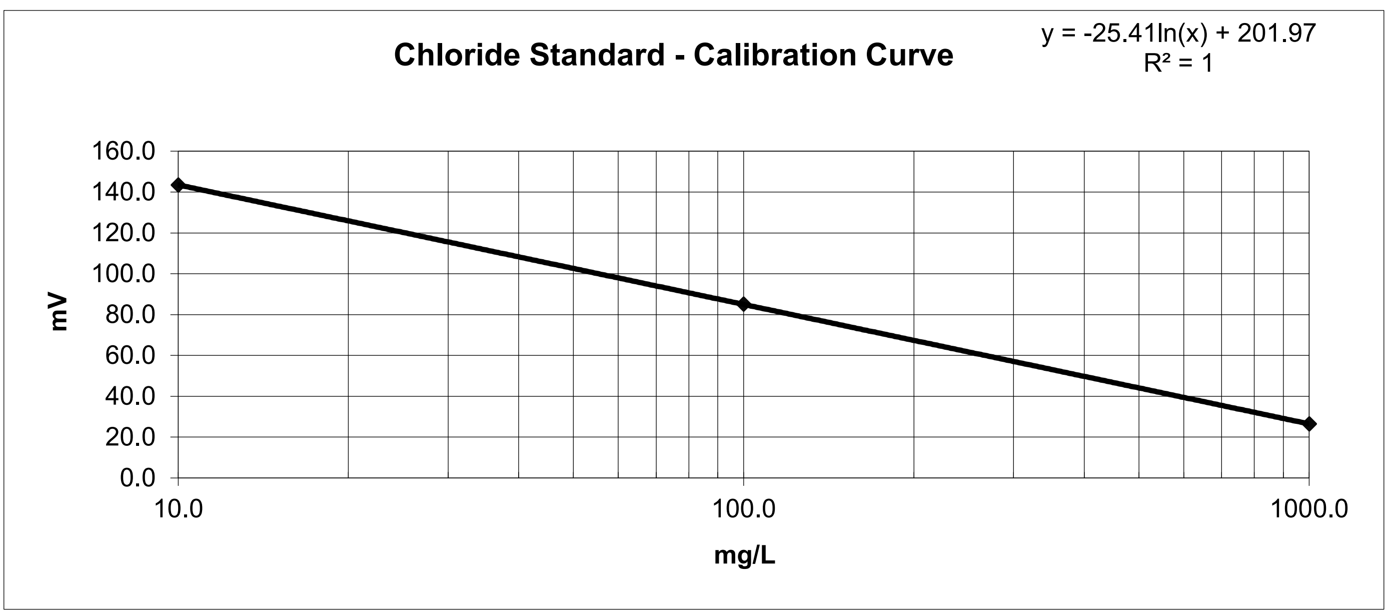
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	143.4
100.0	mg/L	85.1
1000.0	mg/L	26.4

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	174.3	2.97	2.97

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	5/9/23	Checked By	TWV	Date	5/10/23

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Water-Soluble Sulfate Ion Content in Soil
AASHTO T 290-95 (2020)

Client:	CME Associates, Inc.	Boring No.:	B129
Client Reference:	28062	Depth (ft):	2.0-4.0'
Project No.:	2023-294-001	Sample No.:	B129
Lab ID:	2023-294-001-001	Soil Description:	Brown Soil

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)								
0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
Spectrophotometer Readings (FAU)								
Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

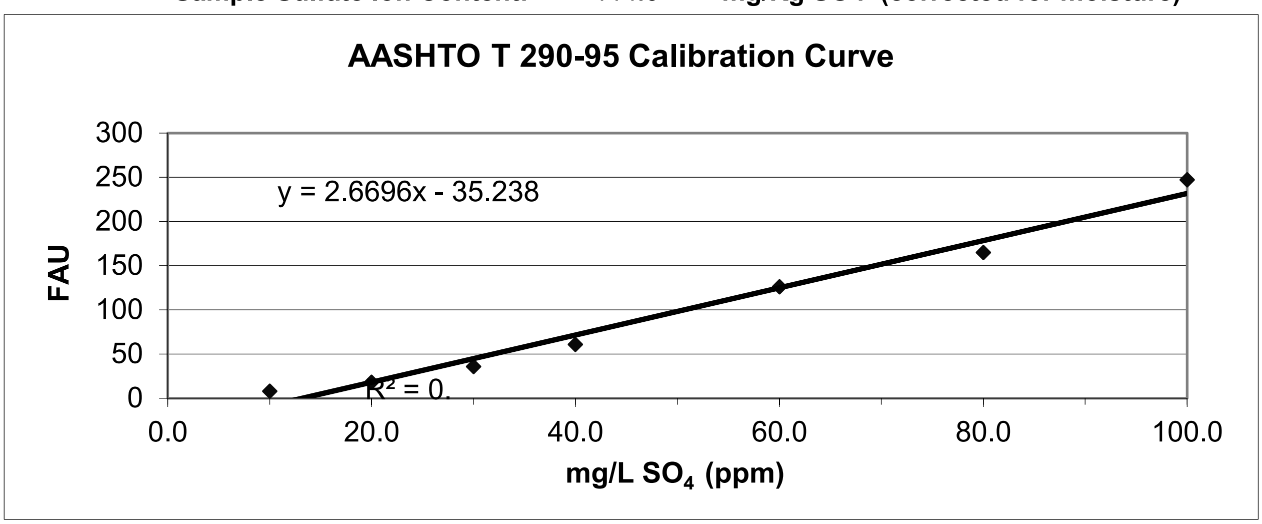
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	65
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	673
Weight of Tare & Wet Sample (g):	177.92
Weight of Tare & Dry Sample (g):	176.67
Weight of Tare (g):	72.33
Weight of Water (g):	1.25
Weight of Dry Sample (g):	104.34
Moisture Content (%):	1.20

Sample Sulfate Ion Concentration:	37.55	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	112.6	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	114.0	**mg/Kg SO4 (corrected for moisture)**



Tested by:	JAM	Date:	5/9/23	Checked by:	TWV	Date:	5/10/2023

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CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	CME Associates, Inc.	Boring No.:	B129
Client Reference:	28062	Depth (ft):	4.0-6.0'
Project No.:	2023-294-001	Sample No.:	B129
Lab ID:	2023-294-001-002	Description:	Brown Soil

(- # 10 Sieve material)

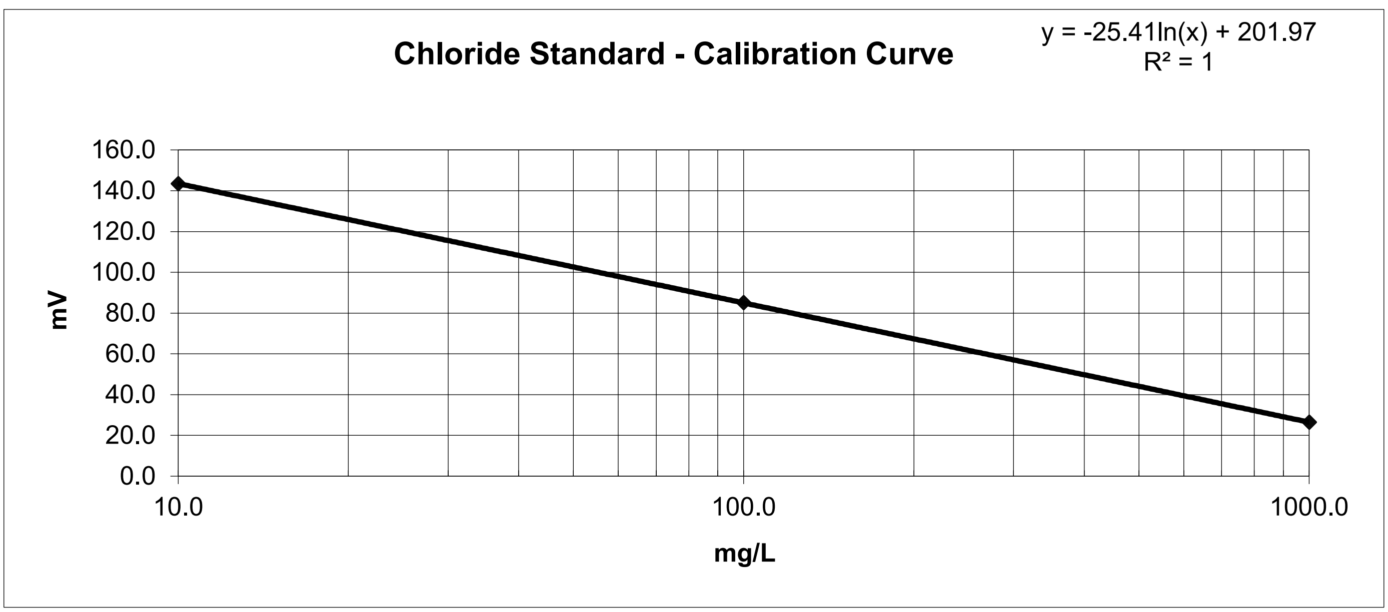
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD	MILLIVOLTS (mV)
10.0 mg/L	143.4
100.0 mg/L	85.1
1000.0 mg/L	26.4

MEASUREMENT OF CHLORIDES

Sample Weight (g):	100.0	CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	159.9	5.24	5.24

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	5/9/23	Checked By	TWV	Date	5/10/23

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Water-Soluble Sulfate Ion Content in Soil
AASHTO T 290-95 (2020)

Client:	CME Associates, Inc.	Boring No.:	B129
Client Reference:	28062	Depth (ft):	4.0-6.0'
Project No.:	2023-294-001	Sample No.:	B129
Lab ID:	2023-294-001-002	Soil Description:	Brown Soil

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)								
0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
Spectrophotometer Readings (FAU)								
Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

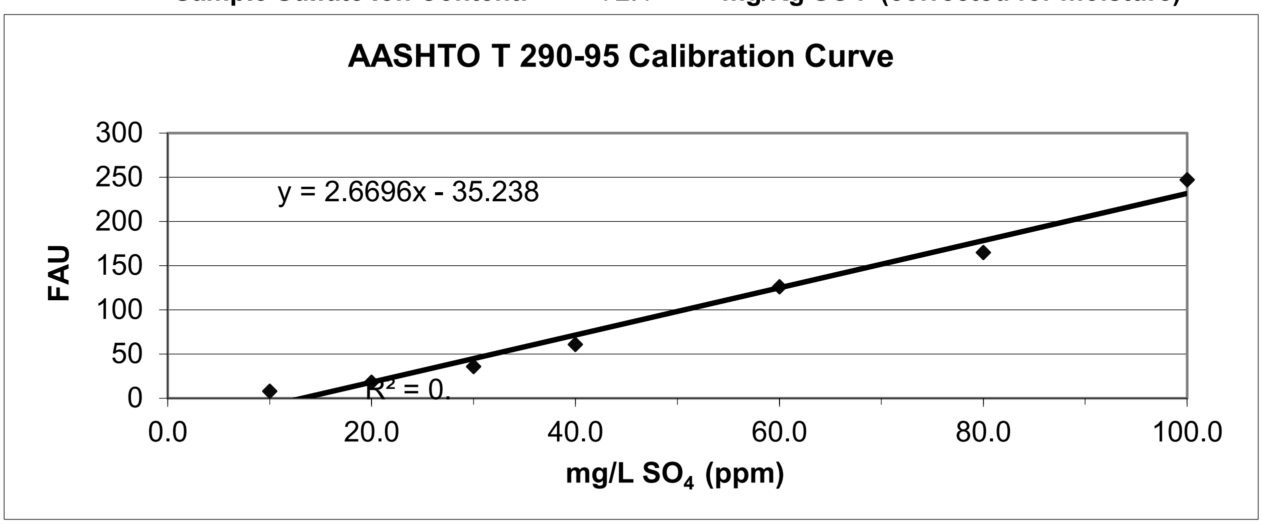
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	29
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	888
Weight of Tare & Wet Sample (g):	230.46
Weight of Tare & Dry Sample (g):	230.18
Weight of Tare (g):	110.05
Weight of Water (g):	0.28
Weight of Dry Sample (g):	120.13
Moisture Content (%):	0.23

Sample Sulfate Ion Concentration:	24.06	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	72.2	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	72.4	**mg/Kg SO4 (corrected for moisture)**



Tested by:	JAM	Date:	5/9/23	Checked by:	TWV	Date:	5/10/2023

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May 12, 2023

Project No. 2023-294-002

Ms. Hannah Kloiber
CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057

Transmittal
Laboratory Test Results
28062

Please find attached the laboratory test results for the above referenced project. The tests were outlined on the Project Verification Form that was transmitted to your firm prior to the testing. The testing was performed in general accordance with the methods listed on the enclosed data sheets. The test results are believed to be representative of the samples that were submitted for testing and are indicative only of the specimens that were evaluated. We have no direct knowledge of the origin of the samples and imply no position with regard to the nature of the test results, i.e. pass/fail and no claims as to the suitability of the material for its intended use.

The test data and all associated project information provided shall be held in strict confidence and disclosed to other parties only with authorization by our Client. The test data submitted herein is considered integral with this report and is not to be reproduced except in whole and only with the authorization of the Client and Geotechnics. The remaining sample materials for this project will be retained for a minimum of 90 days as directed by the Geotechnics' Quality Program.

We are pleased to provide these testing services. Should you have any questions or if we may be of further assistance, please contact our office.

Respectfully submitted,
Geotechnics, Inc.

Nathan Melaro
Director of Operations

We understand that you have a choice in your laboratory services and we thank you for choosing Geotechnics.

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CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	CME Associates, Inc.	Boring No.:	B-138
Client Reference:	28062	Depth (ft):	2.0-4.0'
Project No.:	2023-294-002	Sample No.:	B-138
Lab ID:	2023-294-002-001	Description:	Brow Soil

(- # 10 Sieve material)

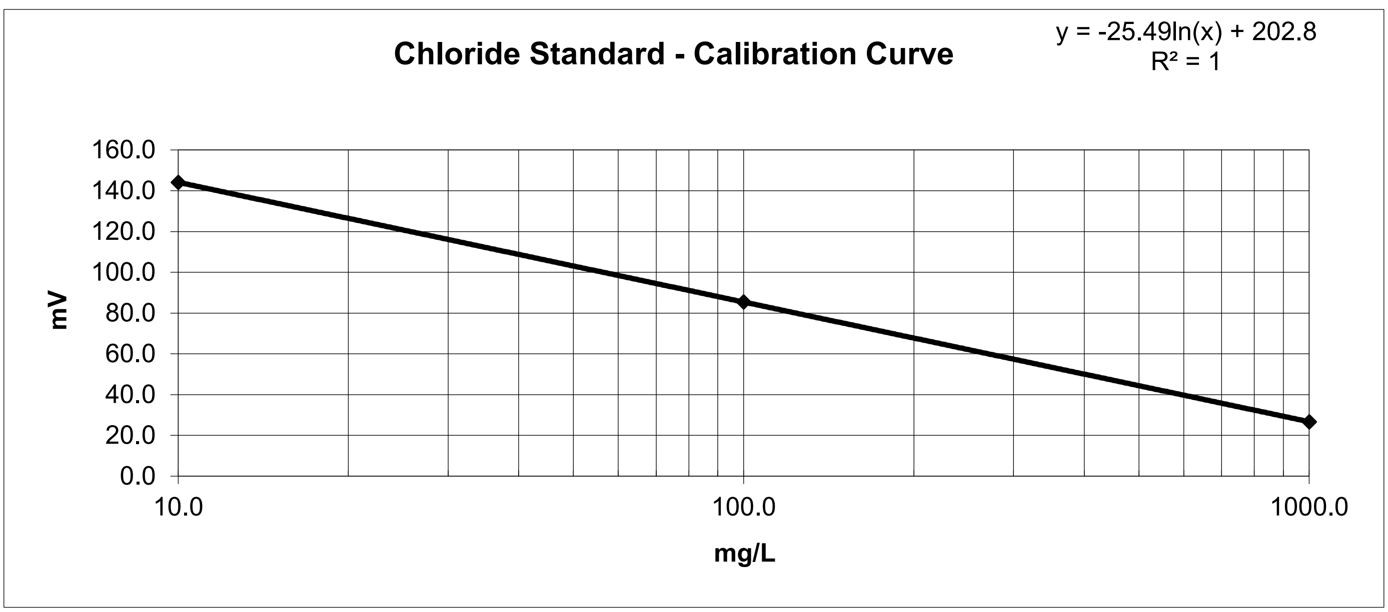
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD	MILLIVOLTS (mV)
10.0 mg/L	144.1
100.0 mg/L	85.4
1000.0 mg/L	26.7

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	161.5	5.05	5.05

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5^{o}C.



Notes:

Tested By	JAM	Date	5/10/23	Checked By	BRB	Date	5/12/23

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	CME Associates, Inc.	Boring No.:	B-138
Client Reference:	28062	Depth (ft):	2.0-4.0'
Project No.:	2023-294-002	Sample No.:	B-138
Lab ID:	2023-294-002-001	Soil Description:	Brown Soil

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)	0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
Spectrophotometer Readings (FAU)	Underrange	Underrange	7	22	39	65	112	173	225

Measurement of Barium Chloride Turbidity

(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

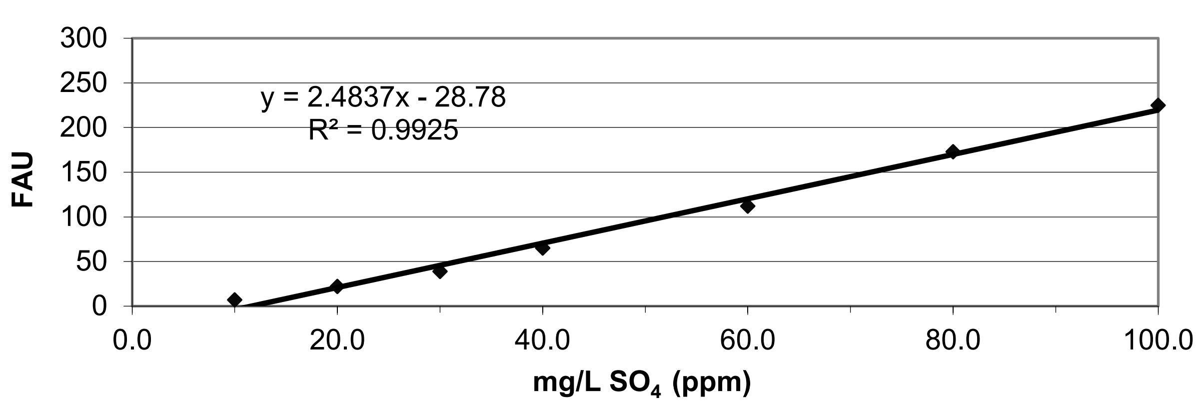
Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	15
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	578
Weight of Tare & Wet Sample (g):	222.23
Weight of Tare & Dry Sample (g):	219.95
Weight of Tare (g):	83.79
Weight of Water (g):	2.28
Weight of Dry Sample (g):	136.16
Moisture Content (%):	1.67

Sample Sulfate Ion Concentration:	17.63	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	52.9	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	53.8	**mg/Kg SO4 (corrected for moisture)**

AASHTO T 290-95 Calibration Curve



Tested by: JAM Date: 5/10/23 Checked by: BRB Date: 5/12/2023

page 1 of 1 DCN: CT-S87 DATE: 3/5/2020 REVISION: 1

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CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	CME Associates, Inc.	Boring No.:	B-138
Client Reference:	28062	Depth (ft):	4.0-6.0'
Project No.:	2023-294-002	Sample No.:	B-138
Lab ID:	2023-294-002-002	Description:	Brow Soil

(- # 10 Sieve material)

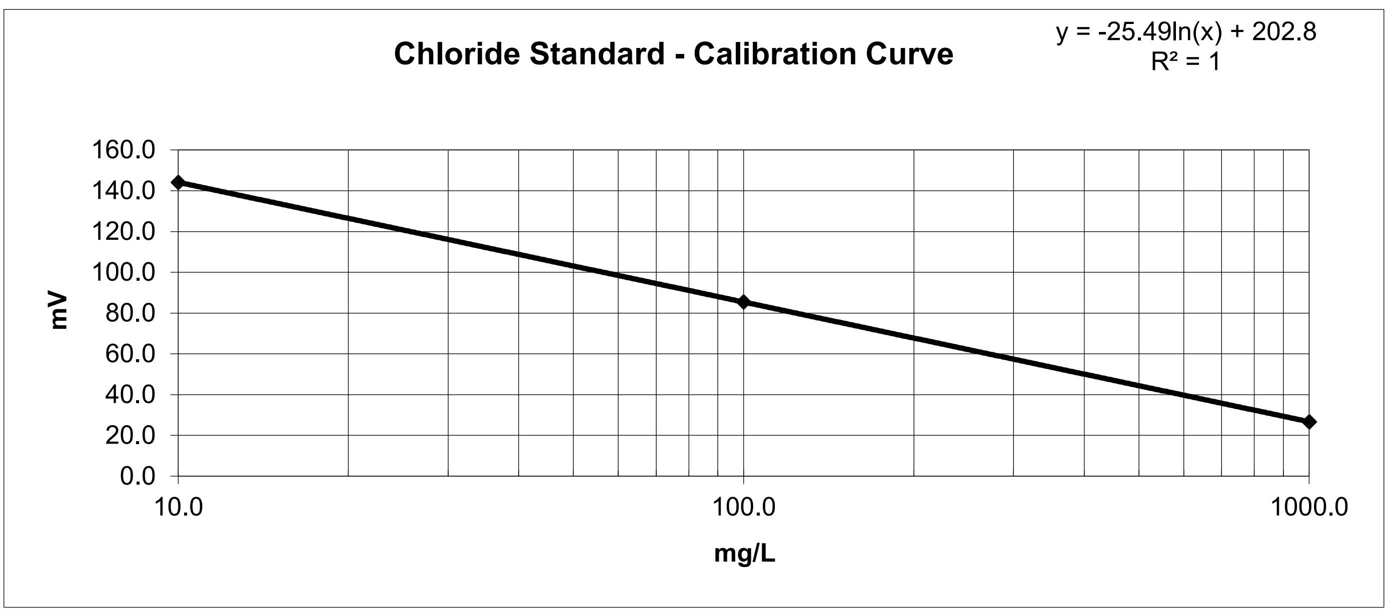
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	144.1
100.0	mg/L	85.4
1000.0	mg/L	26.7

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	152.5	7.19	7.19

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	5/10/23	Checked By	BRB	Date	5/12/23

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	CME Associates, Inc.	Boring No.:	B-138
Client Reference:	28062	Depth (ft):	4.0-6.0'
Project No.:	2023-294-002	Sample No.:	B-138
Lab ID:	2023-294-002-002	Soil Description:	Brown Soil

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)	0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
Spectrophotometer Readings (FAU)	Underrange	Underrange	7	22	39	65	112	173	225

Measurement of Barium Chloride Turbidity

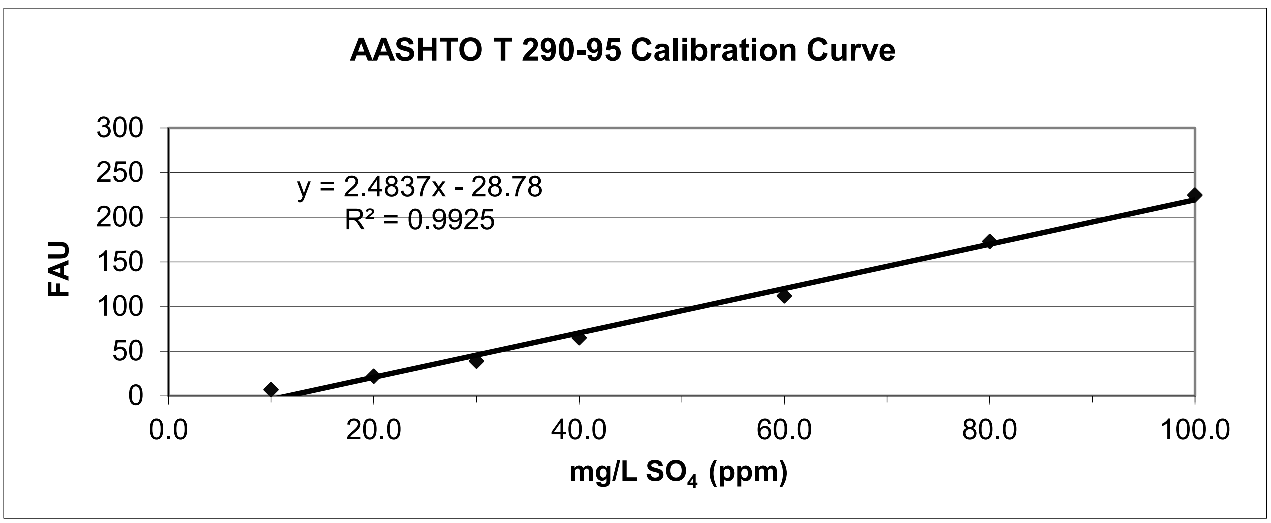
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	19
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	542
Weight of Tare & Wet Sample (g):	227.29
Weight of Tare & Dry Sample (g):	224.51
Weight of Tare (g):	81.62
Weight of Water (g):	2.78
Weight of Dry Sample (g):	142.89
Moisture Content (%):	1.95

Sample Sulfate Ion Concentration:	19.24	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	57.7	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	58.9	**mg/Kg SO4 (corrected for moisture)**



Tested by:	JAM	Date:	5/10/23	Checked by:	BRB	Date:	5/12/2023

page 1 of 1 DCN: CT-S87 DATE: 3/5/2020 REVISION: 1

Attachment to Laboratory Test Summary
CME Report No.: 28062L-01-0523
Page 1 of 2

B-227; R-1 Before Compression (24.3' – 24.7')

B-227; R-1 After Compression (24.3' – 24.7')

B-41; R-1A Before Compression (4.3' – 4.9')

B-41; R-1A After Compression (4.3' – 4.9')

B-41; R-1B Before Compression (7.0' – 7.6')

B-41; R-1B After Compression (7.0' – 7.6')

CME Associates, Inc.

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(315) 701-0526 (Fax)

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LABORATORY TEST SUMMARY
Micron Campus, Clay, NY
Ramboll
CME Report No.: 28062L-02-0623
June 2, 2023
Page 1 of 3

CME Representatives obtained soil samples from Test Borings advanced as part of the Subsurface Exploration Program conducted for the subject project. Selected samples were delivered to CME's East Syracuse facility, an AASHTO re:source[1] accredited laboratory for various laboratory testing. The results are presented below:

Sample ID Notations: B - Test Boring, S - Sample

I. Natural Moisture Content (ASTM D2216)

Sample ID	Natural Moisture (%)
B-299A; S-1A	42.5
B-299A; S-1B	24.6
B-299A; S-2	30.7
B-299A; S-3	24.9
B-299A; S-4	21.3
B-299A; S-5	22.5
B-299A; S-6	23.0
B-299A; S-7	27.0
B-299A; S-8	27.9
B-299A; S-9	11.7
B-299A; S-10	13.0
B-299A; S-11	1.4

II. Atterberg Limits Testing (ASTM D4318)

Sample ID	Liquid Limit	Plastic Limit	Plasticity Index	Natural Moisture (%)
B-299A; S-2	28	19	9	30.7
B-299A; S-7	20	15	5	27.0
B-299A; S-8	30	17	13	27.9

[1]**AASHTO re:source** – American Association of State Highway & Transportation Officials (AASHTO) Materials Reference Laboratory, a Federal Agency having jurisdiction to assess laboratory competency according to the Standards of the United States of America. CME East Syracuse accreditation includes testing of Portland Cement Concrete, Aggregate and Soil Materials. www.AASHTOresource.org.

CME Associates, Inc.

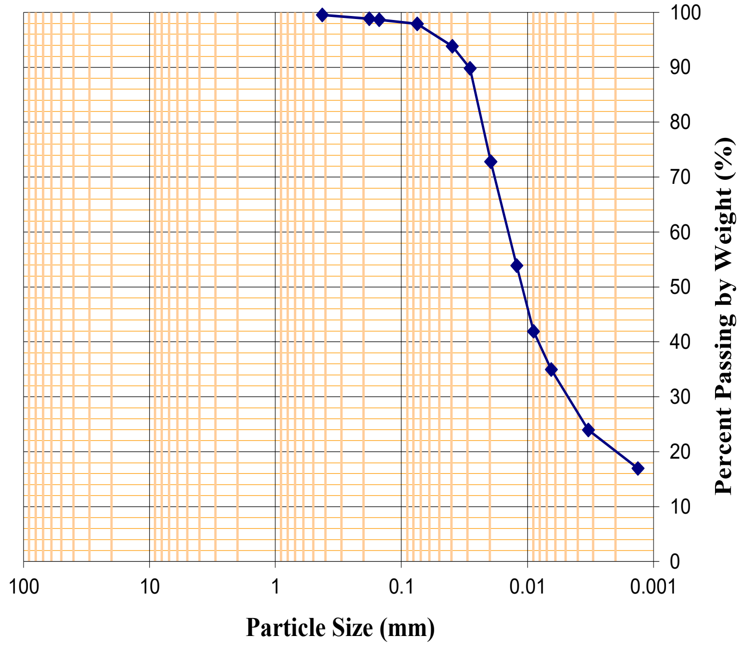
III. Particle Size Analysis (ASTM D422)

Sample #
B-299A; S-2

Classification
Brown SILT, some CLAY, trace fine SAND

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.40	0.425	100
No.80	0.180	99
No.100	0.150	99
No.200	0.075	98
Hydrometer	0.040	94
	0.029	90
	0.020	73
	0.012	54
	0.009	42
	0.006	35
	0.003	24
	0.001	17

Grain Size Distribution Curve

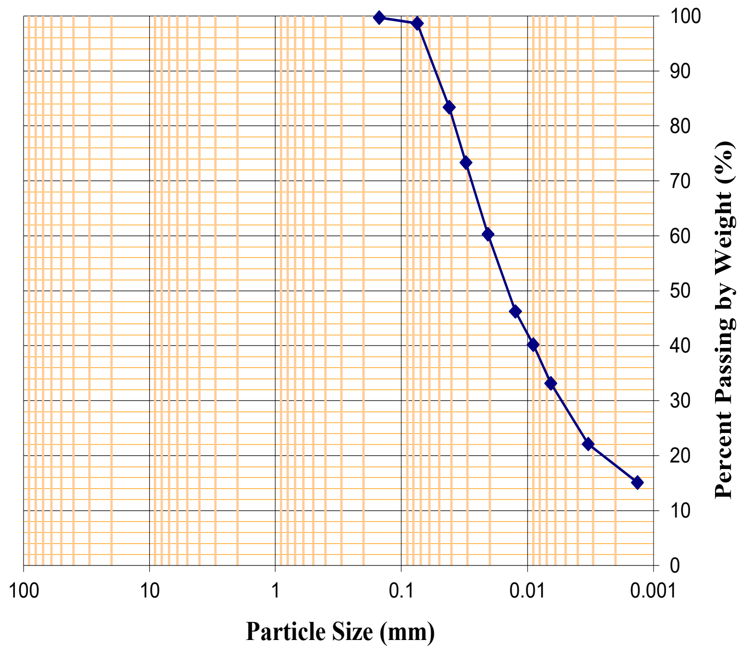


Sample #
B-299A; S-7

Classification
Grey SILT, some CLAY, trace fine SAND

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.100	0.150	100
No.200	0.075	99
Hydrometer	0.042	83
	0.031	73
	0.021	60
	0.012	46
	0.009	40
	0.007	33
	0.003	22
	0.001	15

Grain Size Distribution Curve



Laboratory Test Summary
CME Report No.: 28062L-02-0623
Page 3 of 3

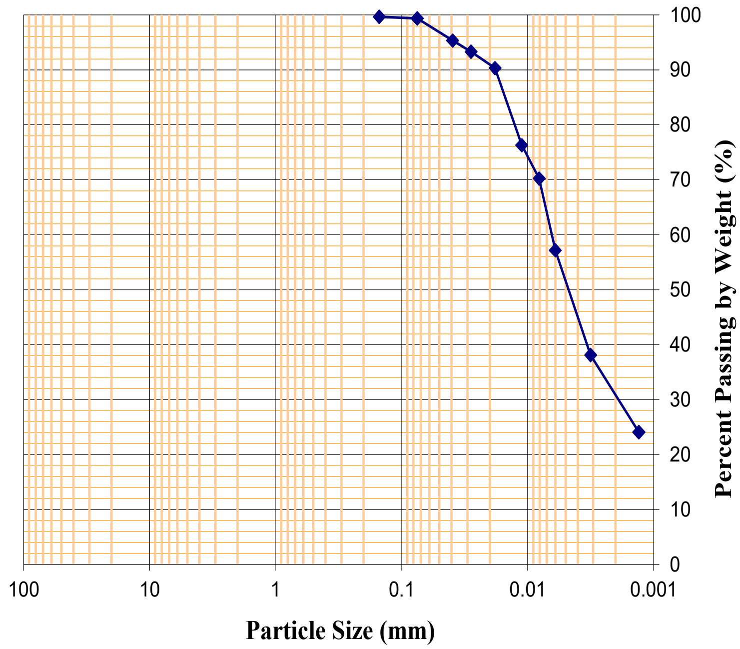
CME Associates, Inc.

Sample #
B-299A; S-8

Classification
Grey CLAY and SILT, trace fine SAND

Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.100	0.150	100
No.200	0.075	99
Hydrometer	0.039	95
	0.028	93
	0.018	90
	0.011	76
	0.008	70
	0.006	57
	0.003	38
	0.001	24

Grain Size Distribution Curve



If you have any questions regarding this report, please contact our office.

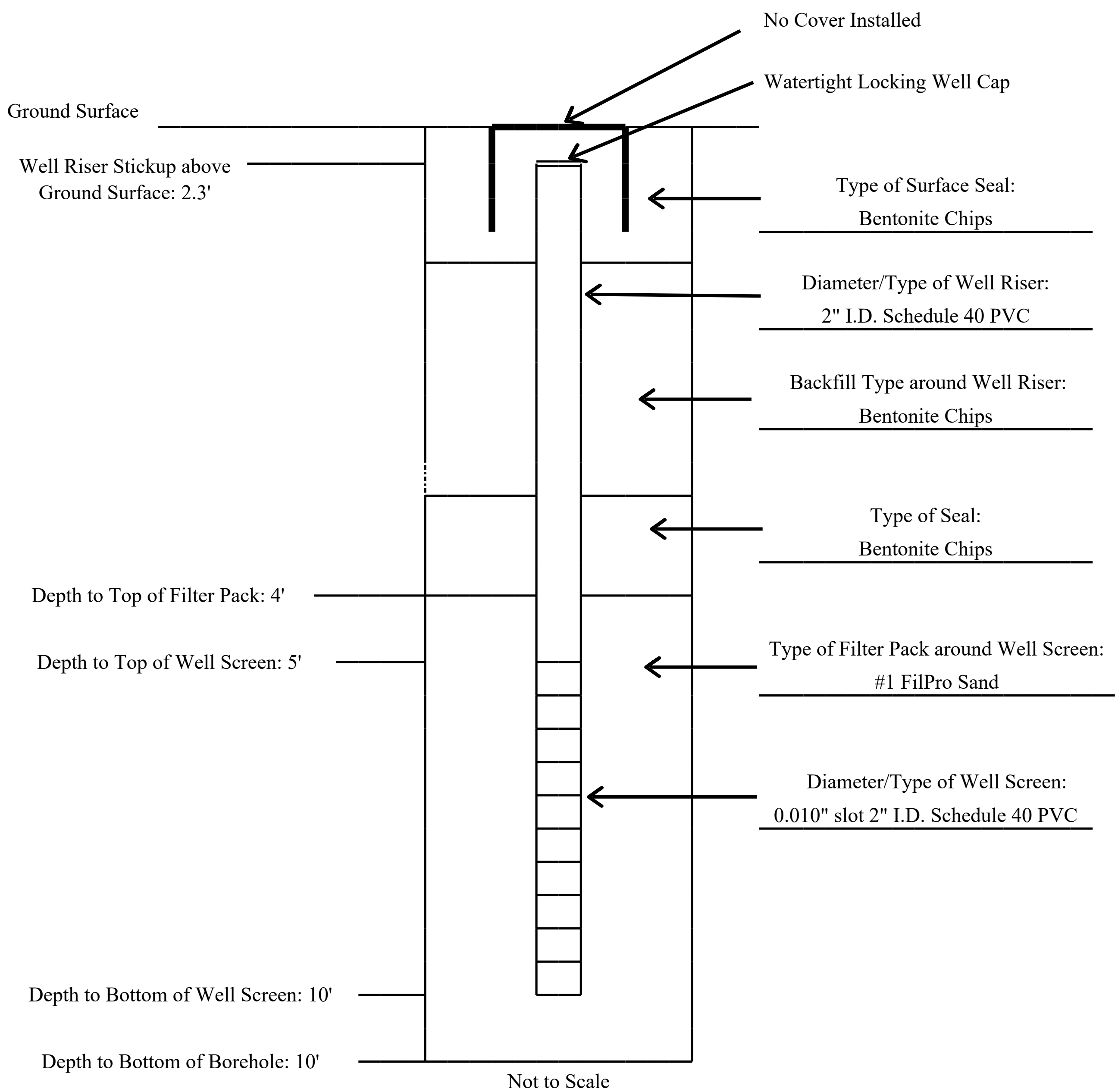
Anas N. Anasthas, P.E.for

Hannah Kloiber
Laboratory Supervisor

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

MONITORING WELL LOG

Well No.	**W-1**				
Boring No.	B-129				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-01-0523R1
Client:	Ramboll			**Installation Date**	4/17/2023
Location:	See Exploration Location Plan	**Surface Elevation**	418.8'	**Riser Elevation**	N/A
Driller:	Beau Fletcher	**Driller:**	Ryan Casatelli	**Inspector:**	N/A



Remarks:

1. See Test Boring Log B-129 for soil information.

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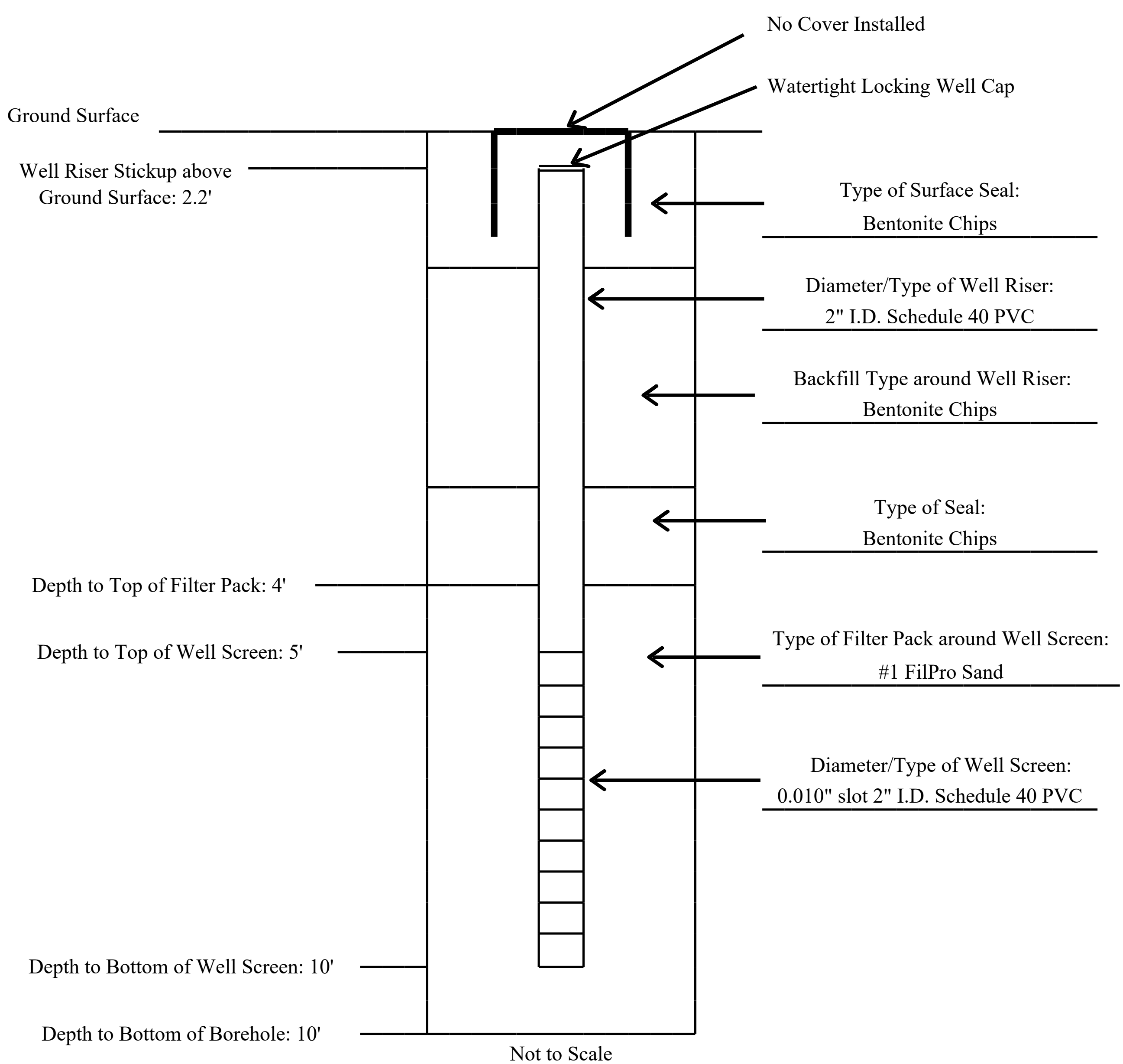
MONITORING WELL LOG

Well No.	**W-2**				
Boring No.	B-24				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-01-0523R1
Client:	Ramboll			**Installation Date**	4/17/2023
Location:	See Exploration Location Plan	**Surface Elevation**	394.6'	**Riser Elevation**	N/A
Driller: Beau Fletcher		**Driller:** Ryan Casatelli		**Inspector:** A. Anasthas, PE	



Remarks:

1. See Test Boring Log B-24 for soil information.

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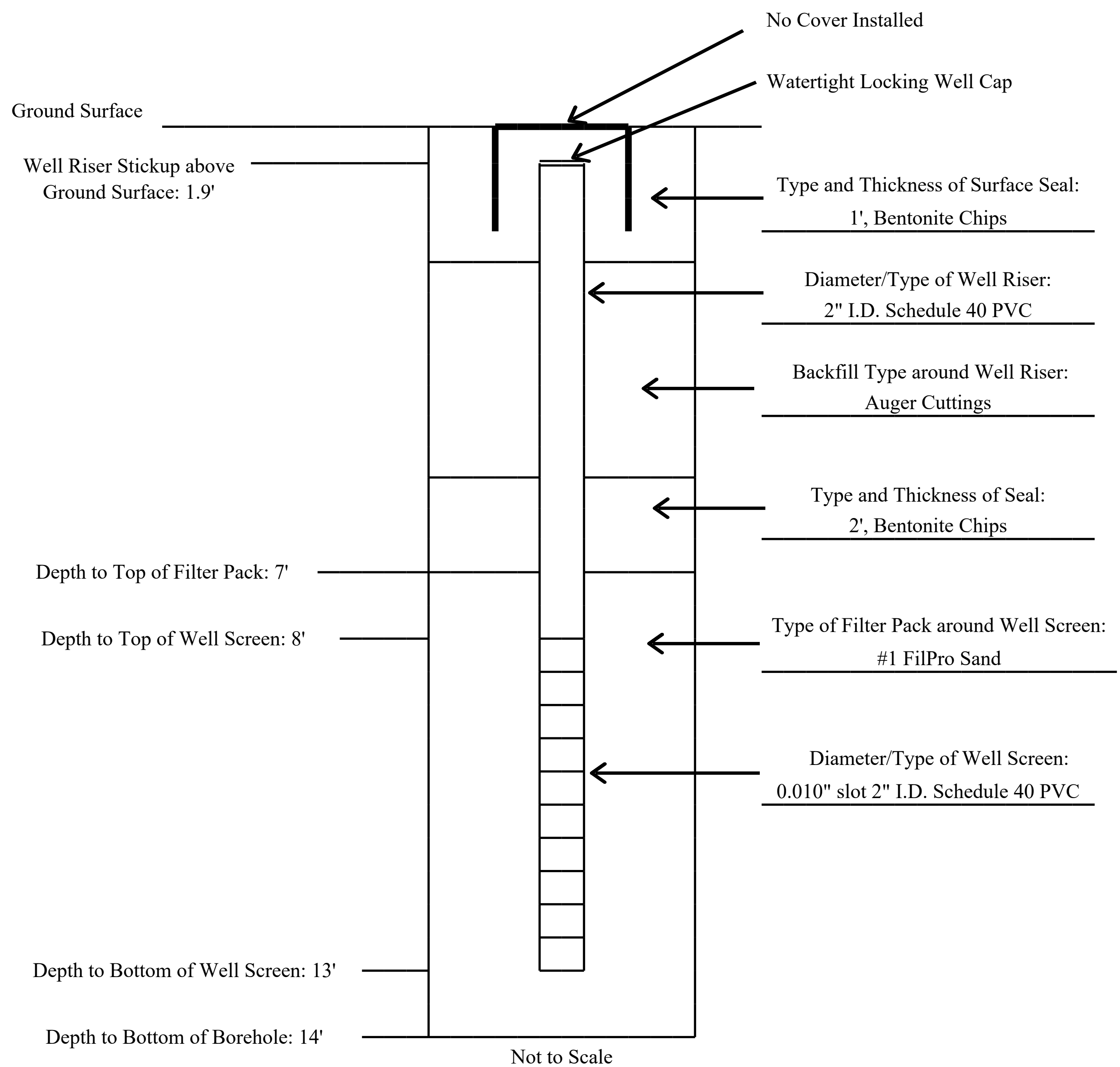
MONITORING WELL LOG

Well No.	**W-3**				
Boring No.	B-227				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-01-0523R1
Client:	Ramboll			**Installation Date**	4/17/2023
Location:	See Exploration Location Plan	**Surface Elevation**	389.3'	**Riser Elevation**	N/A
Driller: Beau Fletcher		**Driller:** Ryan Casatelli		**Inspector:** N/A	



Remarks:

1. See Test Boring Log B-227 for soil information.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-1
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	05/08/23
Date Finished	05/08/23
Surface Elev.	392.7'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/08/23	While Drilling	none noted	23.5
05/08/23	Before Casing Removed	8.9	23.5
05/08/23	After Casing Removed	1.4	out
05/08/23	After Casing Removed	caved @ 3.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/14	WH-1-3-2		Topsoil and Organic Matter (wet)	4
	1B	1.0	2.0				Light Brown/Grey SILT, trace CLAY, little fine SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/16	3-3-4-3		Light Brown/Grey SILT, little CLAY, trace fine SAND (wet, medium stiff)	7
3								
4	3	4.0	6.0	SS/22	2-2-2-4		Light Brown/Grey SILT, little cmf SAND, trace CLAY (wet, medium stiff)	4
5								
6	4	6.0	8.0	SS/18	5-7-7-10		Light Brown SILT, trace fine SAND (wet, stiff)	14
7								
8	5	8.0	10.0	SS/17	4-8-10-12		Light Brown SILT, trace fine SAND (wet, very stiff)	18
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	5-6-4		Light Brown SILT, trace fine SAND (wet, stiff)	10
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/14	WH-WH-WH		Grey SILT, little cmf SAND, trace fine GRAVEL (wet, very soft)	0
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-1
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23									
24	8	23.5	23.9	SS/4	100/4"		Grey SILT (wet) *Weathered ROCK fragments noted* *Auger refusal at 24.0'*		100+
25							Bottom of Boring at 24'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-3
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	05/08/23
Date Finished	05/08/23
Surface Elev.	393'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/08/23	While Drilling	none noted	26.0
05/08/23	Before Casing Removed	10.3	26
05/08/23	After Casing Removed	none noted	out
05/08/23	After Casing Removed	caved @ 4.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/20	WH-WH-4-4		Topsoil and Organic Matter (wet)	4
1	1B	1.0	2.0				Light Brown Grey SILT, little CLAY, trace fine SAND (wet, medium stiff)	
2	2	2.0	4.0	SS/16	4-4-3-3		Light Brown Grey SILT, trace CLAY, trace fine SAND (wet, medium stiff)	7
3								
4	3	4.0	6.0	SS/24	4-3-4-8		Light Brown SILT, trace fine SAND (wet, medium stiff)	7
5								
6	4	6.0	8.0	SS/18	5-6-6-9		Similar as above (wet, stiff)	12
7								
8	5	8.0	10.0	SS/20	5-7-8-8		Similar as above (wet, very stiff)	15
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/13	WH-2-1		Grey/Brown SILT, trace CLAY, trace fine SAND (wet, soft)	3
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/16	3-4-9		Grey SILT, some cmf SAND, trace mf GRAVEL (wet, stiff)	13
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-3
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23								
24	8	23.5	25.0	SS/8	8-10-2-3		Grey cmf GRAVEL/ROCK fragments, trace SILT (wet, medium compact) *ROCK fragments noted*	12
25								
26	9	26.0	26.0	SS/0	100/0"		No Recovery *Auger Refusal at 26.0*	100+
27							Bottom of Boring at 26.0'	
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-5
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	05/08/23
Date Finished	05/08/23
Surface Elev.	392.7'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/08/23	While Drilling	14.3	24.7
05/08/23	Before Casing Removed	2.2	24.7
05/08/23	After Casing Removed	none noted	out
05/08/23	After Casing Removed	caved @ 3.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/18	WH-2-4-4		Topsoil and Organic Matter (wet)	6
1	1B	1.0	2.0				Brown/Grey SILT, little CLAY, trace fine SAND, trace ROOTS (wet, medium stiff)	
2	2	2.0	4.0	SS/20	3-4-5-4		Light Brown SILT, trace fine SAND (wet, stiff)	9
3								
4	3	4.0	6.0	SS/24	4-4-6-8		Similar as above (wet, stiff)	10
5								
6	4	6.0	8.0	SS/17	6-7-8-7		Similar as above (wet, very stiff)	15
7								
8	5	8.0	10.0	SS/17	4-7-6-11		Similar as above (wet, stiff)	13
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/16	6-7-5		Grey SILT, trace fine SAND (wet, stiff)	12
15								
16								
17								
18								
19	7	18.5	20.0	SS/17	3-3-5		Similar as above (wet, stiff)	8
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-5
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21								
22								
23								
	8	23.5	24.7	SS/10	8-10-100/3"		Grey cmf GRAVEL, trace SILT (wet, very compact) *ROCK fragments noted*	100+
24								
25							*Auger Refusal at 24.7*	
							Bottom of Boring at 24.7'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-7
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	05/09/23
Date Finished	05/09/23
Surface Elev.	391.2'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/09/23	While Drilling	7.5	18.5
05/09/23	Before Casing Removed	6.0	20.6
05/09/23	After Casing Removed	none noted	out
05/09/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	WH-WH-1-4		Brown Grey SILT, trace CLAY, trace fine SAND, trace ROOTS Materials (moist, very soft)	1
1								
2	2	2.0	4.0	SS/20	4-4-3-3		Light Brown/Grey SILT, little fine SAND, trace CLAY (moist medium stiff)	7
3								
4	3	4.0	6.0	SS/23	3-3-3-3		Light Brown SILT, trace fine SAND (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/16	3-2-2-5		Similar as above (wet, medium stiff)	4
7								
8	5	8.0	10.0	SS/18	3-4-6-7		Similar as above (wet, stiff)	10
9								
10								
11								
12								
13								
14	6	13.5	13.7	SS/3	100/3"		Light Brown SILT, trace cmf SAND, trace fine GRAVEL (moist, hard)	100+
15								
16								
17								
18								
19	7	18.5	20.0	SS/12	19-14-10-13		Light Brown/Grey SILT, some cmf GRAVEL, some fine SAND (wet, very stiff) *ROCK fragments noted*	24
20	8	20.5	20.6	SS/1	100/1"		Grey Weathered ROCK fragments (wet)	100+

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							*Refusal at 20.6'*		
							Bottom of Boring at 20.6		
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-20
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/19/23
Date Finished	04/19/23
Surface Elev.	392.4'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/19/23	While Drilling	none noted	none noted
04/19/23	Before Casing Removed	10.1	26.6
04/19/23	After Casing Removed	9.0	out
04/19/23	After Casing Removed	caved @ 4.5'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.6	SS/22	WH-1-2-3		Topsoil and Organic Matter (wet)	
	1B	0.6	2.0				Brown Mottled SILT, trace CLAY, trace fine SAND (moist, soft)	3
1								
2	2	2.0	4.0	SS/18	3-3-6-6		Brown SILT, trace CLAY (moist, stiff) *PP=1.5, 1.5, 2.0*	9
3								
4	3A	4.0	5.0	SS/24	3-4-5-5		Dark Grey cmf SAND, some SILT, trace fine GRAVEL, trace ROOTS (wet, loose)	9
5	3B	5.0	6.0				Brown SILT, trace CLAY, trace mf SAND, trace fine GRAVEL (moist, stiff)	
6	4	6.0	8.0	SS/24	4-5-6-10		Brown SILT, trace CLAY (moist, stiff) *PP=2.5, 2.25, 2.25*	11
7								
8	5	8.0	10.0	SS/24	4-6-6-9		Similar as above (moist, stiff)	12
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	7-11-8		Similar as above (moist, very stiff)	19
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/14	3-3-4		Grey SILT, trace CLAY (wet, medium stiff)	7
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf

Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-20
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23								
24	8	23.5	25.0	SS/18	13-12-18		Dark Grey ROCK chips & fragments, trace SILT (wet)	30
25								
26								
27	9	26.5	26.7		100/1"		Grey ROCK chips & fragments (wet)	100+
							Bottom of Boring at 26.7'	
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-23
Page No.	1 of 2
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	Date Started	04/19/23
Client:	Ramboll	Date Finished	04/19/23
Location:	See Exploration Location Plan	Surface Elev.	387.3'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/19/23	While Drilling	4.6	18.5
04/19/23	Before Casing Removed	4.2	20.2
04/19/23	After Casing Removed	4.2	out
04/19/23	After Casing Removed	caved @ 9.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth From (Ft.)	Sample Depth To (Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/19	WH-1-2-3		Topsoil and Organic Material (wet)	3
	1B	0.5	2.0				Brown SILT, trace CLAY, trace ROOTS, trace WOOD (wet, soft)	
1								
2	2	2.0	4.0	SS/16	7-6-5-6		Brown SILT, trace CLAY (wet, stiff) *PP=1.5, 1.5, 1.75*	11
3								
4	3	4.0	6.0	SS/18	9-5-6-9		Dark Grey/Brown SILT and CLAY, trace Organic Materials (wet, stiff) *PP=0.75, 0.75, 1.0*	11
5								
6	4	6.0	8.0	SS/24	6-9-9-10		Brown SILT, trace CLAY (wet, very stiff) *PP=2.25, 2.5, 2.0*	18
7								
8	5	8.0	10.0	SS/20	6-5-4-6		Grey/Brown SILT, trace CLAY (wet, stiff)	9
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	1-1-3		Grey/Brown SILT, little mf SAND, trace CLAY (wet, medium stiff)	4
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/13	3-14-9		Dark Grey SILT and cmf GRAVEL, trace cmf SAND, trace CLAY (wet, very stiff) *Augered Harder at 20.3'*	23
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-23
Page No.	2 of 2
Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20	8	20.6	20.7	SS/1	100/1"		Dark Grey ROCK fragments (wet)	100+
21							Bottom of Boring at 20.7'	
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-24		
Page No.	1 of 2		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	**Date Started**	04/17/23
Client:	Ramboll	**Date Finished**	04/17/23
Location:	See Exploration Location Plan	**Surface Elev.**	394.6'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Anasthas, P.E.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/17/23	While Drilling	9.7	13.5
04/17/23	Before Casing Removed	8.2	22.7
04/19/23	After Casing Removed	2.4	out
04/19/23	After Casing Removed	caved @ 5.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/15	WH-WH-1-3		Topsoil and Organic Matter (wet)	1
	1B	0.5	2.0				Brown Mottled SILT and CLAY, trace mf SAND (moist, very soft)	
1								
2	2	2.0	4.0	SS/20	2-3-4-4		Brown Mottled SILT, some CLAY, trace mf SAND (moist, medium stiff)	7
3								
4	3	4.0	6.0	SS/22	2-2-2-2		Brown Mottled SILT, some CLAY, trace fine SAND (wet, medium stiff) *PP=1.25, 1.5, 1.75*	4
5								
6	4	6.0	8.0	SS/24	2-4-2-4		Brown SILT, trace CLAY (wet, medium stiff) *PP=1.25, 1.5, 1.75*	6
7								
8	5	8.0	10.0	SS/24	3-6-10-11		Similar as above (wet, very stiff) *PP=2.5, 2.0, 2.0*	16
9								
10								
11								
12								
13								
	6A	13.5	14.6	SS/18	5-6-6-11		Brown SILT, trace CLAY, trace mf SAND (wet, stiff) *PP=1.25, 1.5, 1.75*	12
14	6B	14.6	15.0				Brown SILT, little cmf SAND, trace mf GRAVEL (wet, stiff)	
15								
16								
17							*Started to drill gravelly at 17.4'*	
18							*Started to drill harder at 18'*	
	7	18.5	18.8	SS/3	100/3"		Grey ROCK chips, fragments & flour, some SILT (wet)	100+
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-24
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Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21							*Auger refusal at 22.7'*	
22	8	22.7	22.8	SS/1	100/1"		Grey ROCK chips, fragment & flour (wet) *Sampler refused at 22.8'*	100+
23							Bottom of Boring at 22.8'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-25		
Page No.	1 of 1		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	**Date Started**	04/18/23
Client:	Ramboll	**Date Finished**	04/18/23
Location:	See Exploration Location Plan	**Surface Elev.**	393'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	9.6	13.5
04/18/23	Before Casing Removed	6.1	18.5
04/18/23	After Casing Removed	5.2	out
04/18/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0		0.0	2.0	SS/15	WH-WH-2-3		Brown SILT, trace CLAY, trace ORGANIC Materials (moist, soft)	2
1								
2	2	2.0	4.0	SS/20	3-3-4-5		Brown mottled SILT, trace CLAY (moist, medium stiff) *PP=1.75, 2.0, 2.25*	7
3								
4	3	4.0	6.0	SS/24	4-3-3-5		Brown SILT, little CLAY, trace ROOTS (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/24	4-5-6-6		Brown SILT, trace CLAY (wet, stiff)	11
7								
8	5	8.0	10.0	SS/24	4-5-7-8		Brown SILT, trace CLAY (wet, stiff) *PP=1.75, 1.5, 2.0*	12
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/14	4-16-16		Grey cmf SAND, little mf GRAVEL, little SILT (wet, compact) *Augered slightly harder at 14.2'*	32
15								
16								
17							*Augered harder at 18.1'*	
18								
19	7	18.5	18.6	SS/1	100/1"		Grey ROCK chips, fragments & flour (wet)	100+
							Bottom of Boring at 18.6'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-26
Page No.	1 of 1
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	Date Started	04/18/23
Client:	Ramboll	Date Finished	04/18/23
Location:	See Exploration Location Plan	Surface Elev.	392.1'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	10.3	13.5
04/18/23	Before Casing Removed	6.9	18.0
04/18/23	After Casing Removed	0	out
04/18/23	After Casing Removed	caved @ 4.8'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0		0.0	2.0	SS/17	WH-WH-2-WH		Brown SILT, trace CLAY, trace ORGANIC Materials (moist, soft)	2
1								
2	2	2.0	4.0	SS/24	3-4-5-5		Brown Mottled SILT, trace CLAY (moist, stiff) *PP=2.5, 2.5, 3.0*	9
3								
4	3	4.0	6.0	SS/24	3-2-3-3		Brown SILT, trace CLAY, (moist, medium stiff) *PP=1.5, 1.25, 1.5*	5
5								
6	4	6.0	8.0	SS/24	WH-3-3-5		Brown SILT, trace CLAY (wet, medium stiff) *PP=1.5, 1.5, 2.0*	6
7								
8	5	8.0	10.0	SS/19	3-6-7-8		Same as above (wet, stiff)	13
9								
10								
11								
12								
13	6A	13.5	14.0	SS/6	5-7-7		Brown SILT, trace CLAY (moist, stiff)	14
14	6B	14.0	15.0				Grey cmf SAND, little mf GRAVEL, trace SILT (wet, medium compact)	
15							*Augered gravely from 15.6' to 16.2'*	
16								
17							*Augered harder at 17.7'*	
18	7	18.0	18.1	SS/1	100/1"		Grey ROCK chips, fragments & flour (wet)	100+
19							Bottom of Boring at 18.1'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-27
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/18/23
Date Finished	04/18/23
Surface Elev.	390'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	5.6	13.5
04/18/23	Before Casing Removed	6.9	16.7
04/18/23	After Casing Removed	4.4	out
04/18/23	After Casing Removed	caved @ 8.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	1-3-5-5		Topsoil and Organic Matter (wet)	8
	1B	0.5	2.0				Brown Mottled SILT, little CLAY, trace ROOTS (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/22	6-6-4-4		Brown Mottled SILT, trace CLAY (wet, stiff) *PP=1.5, 1.0, 1.0*	10
3								
4	3	4.0	6.0	SS/22	2-4-5-6		Brown SILT, trace CLAY (moist, stiff)	9
5								
6	4	6.0	8.0	SS/24	3-5-5-7		Brown SILT, trace CLAY (wet, stiff)	10
7								
8	5	8.0	10.0	SS/16	4-5-5-7		Same as above (moist, stiff) *PP=1.5, 1.5, 1.5*	10
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/16	8-9-9		Grey cmf SAND, little mf GRAVEL, trace SILT (wet, medium compact)	18
14								
15								
16							*Augured hard at 16.6'*	
	7	16.7	16.8	SS/1	100/1"		Grey ROCK chips & fragments (wet)	100+
17							Bottom of Boring at 16.8'	
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-28
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/18/23
Date Finished	04/18/23
Surface Elev.	390.5'

METHODS OF INVESTIGATION

Driller:	G. Richard	Casing:	3 ¼" ID H.S.A.
Driller:	C. O'Hara	Casing Hammer:	
Inspector:	A. Sharma, E.I.T.	Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling		
04/18/23	Before Casing Removed	7.8	18.5
04/18/23	After Casing Removed	5.3	out
04/18/23	After Casing Removed	caved @ 8.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/16	WH-1-3-4		Brown SILT, little CLAY, trace ROOTS (moist, medium stiff)	4
2	2	2.0	4.0	SS/18	4-4-5-4		Brown Mottled SILT, trace CLAY (moist, stiff) *PP=1.75, 2.0, 2.0*	9
4	3	4.0	6.0	SS/16	2-2-2-1		Brown SILT, trace CLAY (wet, medium stiff) *PP=1.25, 1.25, 1.0*	4
6	4	6.0	8.0	SS/16	3-4-5-5		Same as above (wet, stiff) *PP=1.25, 1.25, 1.0*	9
8	5	8.0	10.0	SS/20	2-6-7-5		Same as above (moist, stiff)	13
11							*Augered cobbly from 11' to 12.4'*	
13.5	6	13.5	15.0	SS/16	13-16-16		Brown/Grey SILT and mf GRAVEL, trace cmf SAND (moist, hard)	32
18.5	7	18.5	18.9	SS/4	100/5"		Dark Grey ROCK fragments (wet)	100+
							Bottom of Boring at 18.9'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-29		
Page No.	1 of 2		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	**Date Started**	04/19/23
Client:	Ramboll	**Date Finished**	04/19/23
Location:	See Exploration Location Plan	**Surface Elev.**	389.7'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/19/23	While Drilling	none noted	18.0
04/19/23	Before Casing Removed	none noted	18.5
04/19/23	After Casing Removed	none noted	out
04/19/23	After Casing Removed	caved @ 3.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.3				Topsoil and Organic Matter (wet)	
	1B	0.3	2.0	SS/18	1-1-2-4		Brown SILT, trace CLAY, trace ROOT Hairs (moist, soft)	3
1								
2	2	2.0	4.0	SS/14	5-4-5-3		Brown SILT, trace CLAY (moist, stiff)	9
3								
4	3	4.0	6.0	SS/11	5-5-4-4		Brown SILT, trace CLAY, trace fine GRAVEL (wet, stiff)	9
5								
6	4	6.0	8.0	SS/17	4-5-6-7		Brown SILT, trace CLAY (wet, stiff) *PP=1.5, 1.25, 1.5*	11
7								
8	5	8.0	10.0	SS/17	4-5-6-7		Similar as above (wet, stiff) *PP=1.5, 1.5, 1.5*	11
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/16	7-6-5		Similar as above (wet, stiff)	11
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/-	2-3-5		Grey SILT, trace CLAY, trace mf GRAVEL (wet, stiff)	8
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-29
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23							*Augers harder at 23.7'*		
	8	23.5	23.9	SS/3	100/5"		Dark Grey ROCK fragments (wet)		100+
24							*Auger Refusal at 24.2'*		
							Bottom of Boring at 24.2'		
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-41
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/18/23
Date Finished	04/18/23
Surface Elev.	398.8'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	none noted	4.0
04/18/23	Before Casing Removed	none noted	4.0
04/18/23	After Casing Removed	2.0 (Remark 1)	out
04/18/23	After Casing Removed	caved @ 9.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-2-3-4		Topsoil and Organic Matter (moist)	5
1								
2	2	2.0	2.7	SS/3	4-100/3"		Brown SILT, little cmf SAND, little cmf GRAVEL, trace ROCK fragments (moist)	100+
3							*Possible Reworked Material*	
4	3	4.0	4.2	SS/2	100/2"		Grey ROCK Chips & fragments; *Auger refusal at 4.3'*	
	4	4.3	8.5	C/60			Grey DOLOSTONE, slightly weathered, thinly to medium bedded, hard, thin layers (<1/4") of SHALE interbedded	92%
5							*Broken zone at 6.3' to 6.7'*	
6		8.5	9.3				Dark Grey SHALE, fresh, thinly bedded, medium hard	
							Recovery: 60"/60"=100%	
7							RQD: 55"/60"=92%	
							8 pieces, 0" Chips and Fragmenst	
8							1:25 min/ft, no waterloss, coring completed in 5th gear	
							25,000 RPM, 500 PSI down pressure	
9							Bottom of Boring at 9.3'	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remakrs: 1. Water added for coring

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-42
Page No.	1 of 1
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	**Date Started**	04/18/23
Client:	Ramboll	**Date Finished**	04/18/23
Location:	See Exploration Location Plan	**Surface Elev.**	398.8'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	none noted	4.8
04/18/23	Before Casing Removed	none noted	4.8
04/18/23	After Casing Removed	none noted	out
04/18/23	After Casing Removed	caved @ 3.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/18	1-2-3-3		Topsoil and Organic Matter (wet)	5
	1B	0.5	2.0				Light Brown SILT, trace mf SAND, trace fine GRAVEL (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/17	2-3-3-3		Light Brown SILT and cmf SAND, little mf GRAVEL (moist, medium stiff)	6
3								
4	3	4.0	4.7	SS/6	2-100/2"		Light Brown SILT, trace cmf SAND, trace ROCK fragments, trace CLAY (moist, hard)	100+
5							*Auger Refusal at 4.8'*	
							Bottom of Boring at 4.8'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-43
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	04/18/23
Date Finished	04/18/23
Surface Elev.	396.3'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	none noted	9.9
04/18/23	Before Casing Removed	none noted	9.9
04/18/23	After Casing Removed	none noted	out
04/18/23	After Casing Removed	caved @ 5.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/12	1-2-2-3		Topsoil and Organic Matter (wet)	4
	1B	0.5	2.0				Light Brown SILT, trace fine SAND, trace cmf GRAVEL, trace ROOT Hairs (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/15	3-3-3-4		Light Brown cmf SAND and SILT, trace fine GRAVEL, trace ROOT Hairs (moist, loose)	6
3								
4	3	4.0	6.0	SS/20	3-5-4-12		Light Brown SILT, trace cmf SAND, trace fine GRAVEL (moist, stiff)	9
5								
6	4	6.0	8.0	SS/18	9-7-12-16		Light Brown SILT, little mf GRAVEL, trace fine SAND trace ROCK fragments (moist, very stiff)	19
7								
8	5	8.0	9.7	SS/16	20-28-36-100/3		Light Brown/Grey SILT and cmf GRAVEL, little cmf SAND, little ROCK fragments (moist, hard)	64
9							*Auger Refusal at 9.9'*	
10							Bottom of Boring at 9.9'	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-44		
Page No.	1 of 1		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	**Date Started**	04/18/23
Client:	Ramboll	**Date Finished**	04/18/23
Location:	See Exploration Location Plan	**Surface Elev.**	397.9'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	9.0	12.0
04/18/23	Before Casing Removed	9.0	12.0
04/18/23	After Casing Removed	5.4	out
04/18/23	After Casing Removed	caved @ 5.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/19	WH-2-2-3		Topsoil and Organic Matter (wet)	4
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND, trace fine GRAVEL, trace ROOT Hairs (moist, medium stiff)	
2	2	2.0	4.0	SS/18	2-3-3-3		Light Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/20	2-3-10-14		Light Brown SILT, little mf GRAVEL, trace fine SAND (moist, stiff)	13
5								
6	4	6.0	8.0	SS/14	17-20-30-30		Grey SILT, little cmf GRAVEL, trace mf SAND, trace ROCK fragments (moist, hard)	50
7								
8	5	8.0	10.0	SS/22	13-14-15-28		Grey SILT, little cmf GRAVEL, trace mf SAND, trace ROCK fragments (wet, very stiff)	29
9								
10								
11								
12	6	12.0	12.0	SS/0	100/0"		*No Recovery, Auger Refusal at 12.0'*	100+
							Bottom of Boring 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-45
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/18/23
Date Finished	04/18/23
Surface Elev.	399.9'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	none noted	17.7
04/18/23	Before Casing Removed	none noted	17.7
04/18/23	After Casing Removed	none noted	out
04/18/23	After Casing Removed	caved @ 5.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.8	SS/19	WH-1-3-7		Topsoil and Organic Matter (wet)	4
	1B	1.8	2.0				Light Brown SILT, trace mf SAND (moist, medium, stiff)	
1								
2	2	2.0	4.0	SS/17	8-10-7-6		Light Brown SILT, trace mf GRAVEL, trace fine SAND (moist, very stiff)	17
3								
4	3	4.0	6.0	SS/16	8-6-7-7		Light Brown SILT, trace fine GRAVEL, trace mf SAND (moist, stiff)	13
5								
6	4	6.0	8.0	SS/22	6-5-8-10		Light Brown SILT, some cmf SAND, trace mf GRAVEL (moist, stiff)	13
7								
8	5	8.0	10.0	SS/20	13-16-18-34		Grey/Brown SILT, some cmf GRAVEL, little ROCK fragments, trace cmf SAND (moist, hard)	34
9								
10								
11								
12								
13								
	6	13.5	15.5	SS/18	11-15-17		Grey SILT, little cmf GRAVEL, little fine SAND (moist, hard)	32
14								
15								
16								
17								
	7	17.7	17.7	SS/0	100/0"		No Recovery	100+
18							Bottom of Boring at 17.7'	
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-50
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	04/18/23
Date Finished	04/18/23
Surface Elev.	396.6'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/18/23	While Drilling	none noted	14.5
04/18/23	Before Casing Removed	none noted	14.5
04/18/23	After Casing Removed	none noted	out
04/18/23	After Casing Removed	caved @ 7.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/17	1-1-2-3		Topsoil and Organic Matter (wet)	3
1	1B	1.0	2.0				Light Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, soft)	
2	2	2.0	4.0	SS/16	2-6-4-3		Light Brown SILT and cmf SAND, some mf GRAVEL (moist, stiff)	10
3								
4	3	4.0	6.0	SS/19	6-10-8-8		Light Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, very stiff)	18
5								
6	4	6.0	8.0	SS/15	10-12-14-20		Light Brown SILT, little mf GRAVEL, trace fine SAND (moist, very stiff)	26
7								
8	5	8.0	10.0	SS/16	13-10-10-10		Grey SILT, little cmf GRAVEL, trace ROCK fragments, trace cmf SAND (moist, very stiff)	20
9								
10								
11								
12								
13								
14	6	13.5	14.4	SS/12	38-100/15"		Grey SILT, little cmf GRAVEL, little ROCK fragments (moist, hard) *Auger Refusal at 14.5'*	100+
15							Bottom of Boring at 14.5'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-124	Page No.	1 of 1
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	Date Started	04/26/23
Client:	Ramboll	Date Finished	04/26/23
Location:	See Exploration Location Plan	Surface Elev.	420.8'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	Casing:	3 ¼" ID H.S.A.
Driller:	R. Casatelli	Casing Hammer:	
Inspector:		Other:	
Drill Rig:	CME 550X	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	none noted	13.5
04/26/23	Before Casing Removed	none noted	13.5
04/26/23	After Casing Removed	none noted	out
04/26/23	After Casing Removed	caved @ 6.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/20	WH-WH-1-2		Topsoil and Organic Matter (wet)	1
1	1B	1.0	2.0				Light Brown SILT, little cmf SAND (moist, very soft)	
2	2	2.0	4.0	SS/19	7-10-15-19		Light Brown SILT, some cmf SAND, trace mf GRAVEL (moist, very stiff)	25
3								
4	3	4.0	6.0	SS/20	13-17-20-27		Light Brown SILT, some cmf SAND, trace fine GRAVEL (moist, hard)	37
5								
6	4	6.0	7.6	SS/18	29-46-95-100/1"		Light Brown SILT, some cmf SAND, trace fine GRAVEL (moist, hard)	141
7								
8	5	8.0	8.4	SS/5	100/5"		Grey/Brown cmf SAND, some mf GRAVEL, trace SILT (moist, hard)	100+
9								
10								
11								
12								
13								
14	6	13.5	13.9	SS/5	100/5"		Grey SILT, some cmf SAND, trace fine GRAVEL (moist, hard)	100+
15							Bottom of Boring at 13.9'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	**B-125**
Client:	Ramboll	**Page No.**	1 of 1
Location:	See Exploration Location Plan	**Report No.**	28062B-01-0523-R1
		Date Started	04/25/23
		Date Finished	04/25/23
		Surface Elev.	422.1'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/25/23	While Drilling	11.2	13.5
04/25/23	Before Casing Removed	11.2	13.5
04/25/23	After Casing Removed	none noted	out
04/25/23	After Casing Removed	caved @ 9.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/16	WH-WH-2-1		Topsoil and Organic Matter (wet)	2
1	1B	1.0	2.0	SS/10			Light Brown SILT, little cmf SAND, trace fine GRAVEL, trace ORGANIC Materials (moist, soft)	
2	2	2.0	4.0	SS/15	1-2-3-6		Light Brown SILT, little mf SAND, trace fine GRAVEL (wet, medium stiff)	5
3								
4	3	4.0	6.0	SS/22	27-37-15-28		Light Brown SILT, little mf SAND, little cmf GRAVEL (moist, hard)	52
5								
6	4	6.0	8.0	SS/17	18-40-37-33		Light Brown SILT, little cmf GRAVEL, trace cmf SAND (moist hard)	77
7								
8	5	8.0	10.0	SS/23	11-17-42-28		Light Brown SILT, little cmf SAND, trace CLAY (moist, hard)	59
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/18	16-24-49		Grey SILT, little fine SAND, trace CLAY (moist, hard)	73
15							Bottom of Boring at 15'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-126
Page No.	1 of 1
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	**Date Started**	04/25/23
Client:	Ramboll	**Date Finished**	04/25/23
Location:	See Exploration Location Plan	**Surface Elev.**	421.6'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/25/23	While Drilling	2.7	4.6
04/25/23	Before Casing Removed	11.2	13.5
04/25/23	After Casing Removed	2.6	out
04/25/23	After Casing Removed	caved @ 3.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/6	WH-3-3-3		Topsoil and Organic Matter (moist)	6
1								
2	2	2.0	4.8	SS/6	2-2-2-1		Light Brown SILT, trace cmf SAND, trace fine GRAVEL (moist, medium stiff)	4
3							*No recovery on 1st attempt*	
4	3	4.0	6.0	SS/15	WH-WH-2-3		Light Brown SILT, some cmf SAND (wet, soft)	2
5								
6	4	6.0	8.0	SS/20	8-17-16-18		Light Brown SILT, litte cmf SAND, trace mf GRAVEL (wet, hard)	33
7								
8	5	8.0	10.0	SS/20	13-25-31-50		Light Brown SILT, little mf GRAVEL, little cmf SAND (moist, hard)	56
9								
10								
11								
12								
13								
14	6	13.5	14.8	SS/14	28-80-100/4"		Grey SILT, some cmf SAND (moist, hard)	100+
15							Bottom of Boring at 14.8'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-127
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	04/25/23
Date Finished	04/25/23
Surface Elev.	420.6'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	R. Casatelli	**Casing:**	3 ¼" ID H.S.A.
Driller:	B. Fletcher	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/25/23	While Drilling	none noted	13.5
04/25/23	Before Casing Removed	none noted	13.5
04/25/23	After Casing Removed	none noted	out
04/25/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/12	4-2-2-5		Light Brown SILT, little cmf SAND, trace fine GRAVEL, trace ORGANIC Materials (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/13	7-5-12-42		Light Brown SILT, some cmf SAND, trace mf GRAVEL (moist, very stiff)	17
3								
4	3	4.0	6.0	SS/19	17-21-25-43		Light Brown SILT, some cmf SAND, trace mf GRAVEL (moist, hard)	46
5								
6	4	6.0	7.7	SS/19	45-64-88-100/3"		Light Brown SILT, some cmf SAND, trace mf GRAVEL (moist, hard)	152
7								
8	5	8.0	8.9	SS/10	47-100/5"		Grey SILT, some cmf SAND, little mf GRAVEL (moist, hard)	100+
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/18	69-78-95		Grey SILT, some cmf SAND, little mf GRAVEL (moist, hard)	173
15							Bottom of Boring at 15.0'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-128**		
Page No.	1 of 1		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	**Date Started**	04/26/23
Client:	Ramboll	**Date Finished**	04/26/23
Location:	See Exploration Location Plan	**Surface Elev.**	419.5'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	1.8	13.5
04/26/23	Before Casing Removed	1.8	13.5
04/26/23	After Casing Removed	1.3	out
04/26/23	After Casing Removed	caved @ 7.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1A	0.0	1.0	SS/17	WH-WH-2-1		Topsoil and Organic Matter (wet)	2
1	1B	1.0	2.0				Light Brown SILT, little fine SAND, trace ORGANIC Materials (wet, stiff)	
2	2	2.0	4.0	SS/17	2-2-7-8		Light Brown SILT, some cmf SAND, some mf GRAVEL (moist, GRAVEL (moist, stiff)	9
3							*Looks Reworked*	
4	3	4.0	6.0	SS/15	4-28-59-24		Brown SILT and mf GRAVEL, little cmf SAND, trace CLAY (moist, hard)	87
5								
6	4	6.0	8.0	SS/24	8-20-27-42		Light Brown SILT, little cmf SAND, trace fine GRAVEL (moist, hard)	47
7								
8	5	8.0	8.7	SS/8	51-100/4"		Grey SILT, little cmf SAND, little mf GRAVEL (moist, hard)	100+
9								
10								
11								
12								
13								
	6	13.5	14.3	SS/7	66-100/4"		Grey SILT, little cmf SAND, trace mf GRAVEL (moist, hard)	100+
14								
							Bottom of Boring at 14.3'	
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-129
Page No.	1 of 2
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	Date Started	04/20/23
Client:	Ramboll	Date Finished	04/20/23
Location:	See Exploration Location Plan	Surface Elev.	418.8'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	Casing:	3 ¼" ID H.S.A.
Driller:	R. Casatelli	Casing Hammer:	
Inspector:		Other:	
Drill Rig:	CME 550X	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/20/23	While Drilling	3.0	4.0
04/20/23	Before Casing Removed	4.0	29.8
04/01/23	After Casing Removed	1.2	out
04/20/23	After Casing Removed	caved @ 24.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/8	WH-2-2-1		Topsoil and Organic Matter (moist)	4
1								
2	2	2.0	4.0	SS/5	2-2-2-3		Light Brown cmf SAND and SILT, some CLAY, trace fine GRAVEL (wet, loose)	4
3								
4	3	4.0	6.0	SS/14	5-5-4-7		Brown SILT and cmf SAND, some CLAY, trace fine GRAVEL, trace ROOTS (moist, stiff)	9
5								
6	4	6.0	8.0	SS/15	9-12-21-36		Light Brown/Grey SILT, trace fine SAND, trace fine GRAVEL (moist, hard)	33
7								
8	5	8.0	8.9	SS/8	22-100/5"		Grey SILT, little cmf SAND, trace fine GRAVEL (moist, hard)	100+
9								
10								
11								
12								
13								
14	6	13.5	14.3	SS/8	38-100/4"		Grey SILT, little cmf GRAVEL, little cmf SAND (moist, hard)	100+
15								
16								
17								
18								
19	7	18.5	20.0	SS/18	26-37-56		Grey SILT, little cmf SAND, trace mf GRAVEL (moist, hard)	93
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-129
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23									
24	8	23.5	25.0	SS/18	64-96-99		Grey SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)		195
25									
26									
27									
28									
29	9	28.5	29.3	SS/9	61-100/4"		Grey SILT, trace cmf GRAVEL, trace cmf SAND (moist, hard) *Auger Refusal at 29.8'*		100+
30	10	29.8	34.8	C/60			3.1' of a mixture of COBBLES and GLACIAL TILL. 1.9' of core not recovered *Recovered Core ended in Glacial Till.*		
31									
32									
33									
34									
35							Bottom of Boring at 34.8'		
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-130
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	04/27/23
Date Finished	04/27/23
Surface Elev.	418.8'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/27/23	While Drilling	4.5	8.0
04/27/23	Before Casing Removed	6.9	18.5
04/27/23	After Casing Removed	1.3	out
04/27/23	After Casing Removed	caved @ 5.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/10	1-2-3-2		Topsoil and Organic Matter (moist)	5
1								
2	2	2.0	4.0	SS/14	4-10-17-17		Brown SILT, little mf GRAVEL, little cmf SAND, trace CLAY (wet, very stiff)	27
3								
4	3	4.0	6.0	SS/12	18-95-26-16		Brown Grey/SILT, some mf GRAVEL, little cmf SAND, trace CLAY (moist, hard)	121
5								
6	4	6.0	8.0	SS/17	23-14-18-18		Light Brown SILT and mf GRAVEL, some cmf SAND (wet, hard)	32
7								
8	5	8.0	10.0	SS/11	47-81-37-21		Light Brown SILT, little cmf SAND, little fine GRAVEL (wet, hard)	118
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/12	31-28-16		Light Brown SILT, some mf GRAVEL, little cmf SAND (wet, hard)	44
15								
16								
17								
18								
19	7	18.5	20.0	SS/18	16-25-36		Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)	61
20							Bottom of Boring 20.0'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-132
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/20/23
Date Finished	04/20/23
Surface Elev.	410.3'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	Casing:	3 ¼" ID H.S.A.
Driller:	R. Casatelli	Casing Hammer:	
Inspector:		Other:	
Drill Rig:	CME 550X	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/20/23	While Drilling	none noted	23.5
04/20/23	Before Casing Removed	none noted	23.5
04/20/23	After Casing Removed	none noted	out
04/20/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.8	1.0	SS/19	WH-WH-4-4		Topsoil and Organic Matter (wet)	4
1	1B	1.0	2.0	SS/19			Light Brown/Grey SILT, trace CLAY, trace fine GRAVEL, trace cmf SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/18	8-4-8-6		Light Brown SILT, some cmf SAND, trace CLAY, trace fine GRAVEL (moist, stiff)	12
3								
4	3	4.0	6.0	SS/20	3-4-9-14		Light Brown SILT, little cmf SAND, trace CLAY, trace fine GRAVEL (moist, stiff)	13
5								
6	4	6.0	8.0	SS/15	12-30-33-38		Brown/Grey SILT, trace fine SAND (moist, hard)	63
7								
8	5	8.0	10.0	SS/24	11-19-24-42		Grey SILT, trace fine GRAVEL, trace fine SAND (moist, hard)	43
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/18	27-38-59		Grey SILT, trace fine SAND, trace fine GRAVEL (moist, hard)	97
15								
16								
17								
18								
19	7	18.5	19.1	SS/8	34-100/2"		Grey SILT, trace fine SAND, trace fine GRAVEL (moist, hard)	100+
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-132
Page No.	2 of 2
Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21								
22								
23	8	23.5	25.0	SS/16	34-44-100		Grey SILT, trace fine GRAVEL, trace fine SAND (moist, hard)	144
24								
25							Bottom of Boring at 25.0'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-133
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	04/25/23
Date Finished	04/25/23
Surface Elev.	410.3'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/25/23	While Drilling	8	13.5
04/25/23	Before Casing Removed	9.1	18.5
04/25/23	After Casing Removed	4	out
04/25/23	After Casing Removed	caved @ 1.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/14	WH-1-1-2		Topsoil and Organic Matter (wet)	2
	1B	0.5	2.0				Brown SILT, trace CLAY, trace fine SAND (moist, soft)	
1								
2	2	2.0	4.0	SS/24	2-2-2-2		Brown SILT, little cmf SAND, trace CLAY (moist, medium stiff)	4
3								
4	3	4.0	6.0	SS/24	1-4-8-11		Brown SILT, little fine GRAVEL, trace CLAY, trace mf SAND (moist, stiff)	12
5								
6	4	6.0	8.0	SS/23	9-12-21-27		Brown/Grey SILT, trace CLAY, trace cmf SAND, trace fine GRAVEL (moist, hard)	33
7								
8	5	8.0	10.0	SS/13	2-6-15-18		Grey SILT, trace CLAY, trace mf GRAVEL, trace cmf SAND (moist, very stiff)	21
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/8	10-17-27		Similar soil as above (moist, hard)	44
14								
15								
16								
17								
18								
	7	18.5	19.5	SS/12	38-100/6"		Grey cmf SAND and SILT, little mf GRAVEL, trace ROCK fragments (moist, very compact)	100+
19								
20							Bottom of Boring at 19.5'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	B-134
		Page No.	1 of 1
		Report No.	28062B-01-0523-R1
		Date Started	04/20/23
Client:	Ramboll	**Date Finished**	04/20/23
Location:	See Exploration Location Plan	**Surface Elev.**	411.5'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/20/23	While Drilling	1.4	13.5
04/20/23	Before Casing Removed	7.1	18.5
04/20/23	After Casing Removed	1.4	out
04/20/23	After Casing Removed	caved @ 10.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/6	WH-1-1-1		Topsoil, SILT and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace CLAY, trace mf GRAVEL, trace ROOTS (moist, soft)	
1								
2	2	2.0	4.0	SS/24	WH-1-4-6		Brown SILT, some cmf SAND, little mf GRAVEL (wet, medium stiff)	5
3								
4	3	4.0	6.0	SS/18	9-31-35-57		Brown mf GRAVEL, some cmf SAND, some SILT, trace CLAY (moist, very compact)	66
5								
6	4	6.0	7.9	SS/18	21-41-70-100/4"		Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)	111
7								
8	5	8.0	10.0	SS/18	21-28-32-27		Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)	60
9								
10								
11								
12								
13								
	6	13.5	14.3	SS/18	59-100 /4"		Grey SILT and GRAVEL, trace CLAY (moist, hard)	100+
14								
15								
16								
17								
18								
	7	18.5	18.9	SS/5	100/ 5"		Similar as above (moist, hard)	100+
19							Bottom of Boring at 18.9'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-135
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/20/23
Date Finished	04/20/23
Surface Elev.	412.5'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/20/23	While Drilling	6.4	13.5
04/20/23	Before Casing Removed	7.2	18.5
04/20/23	After Casing Removed	1.8	out
04/20/23	After Casing Removed	caved @ 9.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/18	WH-1-1-2		Topsoil & Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace CLAY, trace fine GRAVEL, trace ROOT Hairs (moist, soft)	
1								
2	2	2.0	4.0	SS/24	1-11-22-23		Brown SILT, little mf GRAVEL, trace cmf SAND (moist, hard)	33
3								
4	4	4.0	6.0	SS/24	5-11-21-25		Similar as above (moist, hard)	32
5								
6	4A	6.0	7.0	SS/24	20-35-37-74		Similar as above (wet, hard)	72
7	4B	7.0	8.0				Grey SILT, some cmf GRAVEL, trace cmf SAND (moist, hard)	
8	5	8.0	10.0	SS/24	22-38-62-72		Grey/Brown SILT, some cmf GRAVEL, some cmf SAND (moist, hard)	100
9								
10								
11								
12								
13								
	6A	13.5	14.5	SS/12	77-65-100/5"		Similar as above (moist, hard)	100+
14								
	6B	14.5	15.0				Brown SILT and cmf SAND, little cmf GRAVEL (moist, hard)	
15								
16								
17								
18	7	18.5	19.9	SS/12	28-95-100/4"		Grey SILT, some mf GRAVEL, little cmf SAND (moist, hard)	100+
							Bottom of Boring at 19.9'	
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-136
Page No.	1 of 1
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	**Date Started**	04/20/23
Client:	Ramboll	**Date Finished**	04/20/23
Location:	See Exploration Location Plan	**Surface Elev.**	413'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/20/23	While Drilling		
04/20/23	Before Casing Removed	4.5	18.5
04/20/23	After Casing Removed	1.3	out
04/20/23	After Casing Removed	caved @ 5.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/15	WH-WH-2-2		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace CLAY, trace ORGANIC Materials (moist, soft)	
1								
2	2	2.0	4.0	SS/10	WH-2-4-6		Brown SILT and cmf SAND, trace mf GRAVEL, trace CLAY (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/13	4-4-4-4		Brown SILT, some cmf SAND, trace fine GRAVEL (wet, medium stiff)	8
5								
6	4	6.0	8.0	SS/24	4-11-12-15		Brown SILT and mf SAND, trace cmf GRAVEL (wet, very stiff)	23
7								
8	5	8.0	10.0	SS/24	11-24-47-85		Brown/Grey SILT and cmf SAND, trace cmf GRAVEL (moist, hard)	71
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/16	36-61-81		Grey SILT and cmf SAND, trace cmf GRAVEL (moist, hard)	142
14								
15								
16								
17								
18								
	7	18.5	19.3	SS/-	37-87-100/4"	SS/-	Grey SILT, some cmf SAND, little cmf GRAVEL (moist, hard)	100+
19							Bottom of Boring at 19.3'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-137
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/26/23
Date Finished	04/26/23
Surface Elev.	413.5'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	none noted	13.5
04/26/23	Before Casing Removed	none noted	13.5
04/26/23	After Casing Removed	none noted	out
04/26/23	After Casing Removed	caved @ 8.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/7	WH-1-2-2		Brown SILT, little cmf GRAVEL, little cmf SAND, trace ORGANIC Materials (moist)	3
1								
2	2	2.0	4.0	SS/8	8-7-6-10		Light Brown SILT, little cmf SAND, little mf GRAVEL (wet, stiff)	13
3								
4	3	4.0	6.0	SS/17	7-9-11-8		Light Brown SILT, little cmf SAND, little mf GRAVEL (moist, very stiff)	20
5								
6	4	6.0	8.0	SS/20	7-10-16-21		Similar as above (moist, very stiff)	26
7								
8	5	8.0	10.0	SS/19	18-35-48-64		Grey SILT, little cmf SAND, trace fine GRAVEL (moist, hard)	83
9								
10								
11								
12								
13								
14								
15	6	13.5	15.0	SS/18	31-57-63		Grey SILT, trace mf GRAVEL, trace cmf SAND (moist, hard)	120
16								
17							Bottom of Boring at 15.0'	
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-138
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/26/23
Date Finished	04/26/23
Surface Elev.	412.4'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	11.3	13.5
04/26/23	Before Casing Removed	11.3	13.5
04/26/23	After Casing Removed	4.3	out
04/26/23	After Casing Removed	caved @ 9.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/19	WH-WH-1-2		Topsoil & Organic Matter	1
1	1B	1.0	2.0				Light Brown SILT, little cmf SAND, little fine GRAVEL (moist, very soft)	
2	2	2.0	4.0	SS/17	1-2-2-3		Light Brown SILT, little cmf SAND, trace fine GRAVEL (wet, medium stiff)	4
3								
4	3	4.0	6.0	SS/24	WH-1-5-10		Similar as above (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/16	21-29-47-88		Light Brown SILT, some cmf SAND, little mf GRAVEL (moist, hard)	76
7								
8	5	8.0	9.5	SS/14	42-85-95-100/0'		Grey SILT, little cmf SAND, little mf GRAVEL (moist, hard)	180
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/15	47-33-32		Grey SILT, little cmf SAND, trace mf GRAVEL (moist, hard)	65
15							Bottom of Boring at 15.0'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-226
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	04/19/23
Date Finished	04/19/23
Surface Elev.	390.1'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/19/23	While Drilling	none noted	23.0
04/19/23	Before Casing Removed	none noted	23.0
04/19/23	After Casing Removed	none noted	out
04/19/23	After Casing Removed	caved @ 9.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	WH-3-4		Brown/Grey Mottled SILT, little CLAY, trace fine SAND (moist, medium stiff) *PP=1.5, 1.5, 1.0*	7
1								
2	2	2.0	4.0	SS/20	3-5-5-5		Light Brown/Grey SILT and CLAY, trace mf SAND (moist, stiff) *PP=2.25, 2.0, 1.75*	10
3								
4	3	4.0	6.0	SS/20	3-4-3-3		Light Brown SILT, trace CLAY, trace fine SAND (wet, medium stiff)	7
5								
6	4	6.0	8.0	SS/21	3-4-5-5		Light Brown SILT, trace CLAY (wet, stiff)	9
7								
8	5	8.0	10.0	SS/21	3-4-4-5		Similar as above (wet, stiff)	8
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	2-2-3		Similar as above (wet, medium stiff)	5
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/15	6-3-3		Light Grey SILT, little fine SAND, trace fine GRAVEL (wet, medium stiff)	6
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. B-226
Page No. 2 of 2
Report No. 28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23	8	23.0	23.0	SS/0	100/0"		*Auger Refusal at 23.0'*		100+
							Bottom of Boring at 23.0'		
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-227
Page No.	1 of 2
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	**Date Started**	04/17/23
Client:	Ramboll	**Date Finished**	04/17/23
Location:	See Exploration Location Plan	**Surface Elev.**	389.3'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:	A. Anasthas, P.E.	**Other:**	NQ Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/17/23	While Drilling	8.5	24.0
04/17/23	Before Casing Removed	4.2 (Remark 1)	24.0
04/17/23	After Casing Removed	5.8 (Remark 1)	out
04/17/23	After Casing Removed	caved @ 15.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	1-1-3-4		Brown Mottled SILT, some CLAY, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/19	4-5-5-5		Light Brown/Grey SILT, little CLAY (moist, stiff) *PP=0.75, 1.25, 1.0*	10
3								
4	3	4.0	6.0	SS/14	3-3-3-3		Light Brown/Grey SILT, little CLAY, trace ROOT Hairs (wet, medium, stiff)	6
5								
6	4	6.0	8.0	SS/18	5-4-4-6		Light Brown/Grey SILT, trace fine SAND (wet, stiff) *PP=0.75, 0.75, 1.0*	8
7								
8	5	8.0	10.0	SS/23	4-4-4-4		Light Brown SILT, trace CLAY (wet, stiff) *PP=1.25, 1.0, 1.25*	8
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/18	1-2-3		Grey SILT, trace CLAY, trace fine SAND (wet, medium stiff) *Soil is dilatent*	5
15								
16								
17								
18								
19	7	18.5	20.0	SS/15	3-7-12		Grey SILT, little mf SAND, trace cmf GRAVEL (moist, very stiff)	19
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks: 1. Water Added for Coring

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-227
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Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23								
	8	23.5	23.5	SS/0	100/0"		*Sampler refusal at 23.5', Auger refusal at 24'*	100+
24	9	24.0	29.0	C/59			Grey DOLOSTONE, slightly weathered, medium to thickly bedded, hard, thin layers (<1/8") of SHALE interbedded throughout core run.	95%
25								
26							Recovery: 59"/60"=98%	
27							RQD: 57"/60"=95%	
							5 pieces, 0" Chips and Fragments	
28							*0.0-1.0', 1:45 min/ft., 1.0'-5.0', 1:00 to 1:15 min/ft., No water loss, Coring conduction in 5th gear, 2,500 RPM, 500 PSI down pressure*	
29							Bottom of Boring at 29'	
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-229
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/19/23
Date Finished	04/19/23
Surface Elev.	391.9'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/19/23	While Drilling	15.7	23.5
04/19/23	Before Casing Removed	12.7	27.4
04/19/23	After Casing Removed	5.8	out
04/19/23	After Casing Removed	caved @ 11.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	WH-WH-3-3		Light Brown/Grey SILT, little CLAY, trace fine SAND, trace ORGANIC Materials (moist, soft)	3
1								
2	2	2.0	4.0	SS/19	4-5-5-4		Light Brown/Grey SILT, some CLAY, trace cmf SAND (moist, stiff) *PP=0.75, 0.75, 1.0*	10
3								
4	3	4.0	6.0	SS/17	4-4-4-4		Light Brown Mottled SILT, little CLAY, trace fine SAND (wet, stiff) *PP=0.5, 0.75, 1.0*	8
5								
6	4	6.0	8.0	SS/19	3-4-5-7		Light Brown SILT, trace CLAY (wet, stiff) *PP=2.5, 2.0, 2.25*	9
7								
8	5	8.0	10.0	SS/20	5-7-7-7		Similar as above (moist, stiff)	14
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/18	3-3-3		Light Grey SILT, trace CLAY (wet, medium stiff)	6
15								
16								
17								
18								
19	7	18.5	20.0	SS/16	4-8-11		Light Grey SILT, little mf GRAVEL, trace fine SAND (moist very stiff)	19
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. B-229
Page No. 2 of 2
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LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23	8	23.5	25.0	SS/10	12-15-17		Light Grey SILT, little cmf GRAVEL, trace fine SAND, trace ROCK fragments (wet, hard)	32
24								
25								
26								
27	9	27.4	27.4	SS/0	100/1"		*Auger Refusal at 27.4'*	100+
28							Bottom of Boring at 27.4'	
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	B-230
		Page No.	1 of 1
		Report No.	28062B-01-0523-R1
Client:	Ramboll	**Date Started**	04/25/23
		Date Finished	04/25/23
Location:	See Exploration Location Plan	**Surface Elev.**	391'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/25/23	While Drilling		
04/25/23	Before Casing Removed	15.2	18.5
04/25/23	After Casing Removed	5.5	out
04/25/23	After Casing Removed	caved @ 7.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/14	WH-WH-1-2		Topsoil and Organic Matter (moist)	1
	1B	0.5	2.0				Brown SILT, little fine SAND, trace CLAY (moist, very soft)	
1								
2	2	2.0	4.0	SS/17	4-5-6-6		Brown SILT, trace fine SAND, trace CLAY (moist, stiff)	11
3								
4	3	4.0	6.0	SS/24	4-3-2-3		Brown SILT, trace CLAY (moist, medium stiff)	5
5								
6	4	6.0	8.0	SS/24	1-1-1-1		Same as above (wet, soft)	2
7								
8	5	8.0	10.0	SS/14	2-2-4-3		Brown cmf SAND and mf GRAVEL, little SILT, trace CLAY (wet, loose)	6
9								
10								
11								
12								
13	6A	13.5	14.0	SS/18	49-27-40		Brown SILT, little CLAY, trace cmf SAND (wet, hard)	67
14	6B	14.0	15.0				Brown/Grey ROCK fragments mixed with cmf SAND, mf GRAVEL (wet)	
15								
16								
17								
18	7	18.5	20.0	SS/18	15-25-41		Brown cmf SAND, little ROCK fragments, trace mf GRAVEL (wet, very compact)	66
19								
20							Bottom of Boring at 20'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	B-231
		Page No.	1 of 2
		Report No.	28062B-01-0523-R1
Client:	Ramboll	**Date Started**	04/25/23
		Date Finished	04/25/23
Location:	See Exploration Location Plan	**Surface Elev.**	388.2'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/25/23	While Drilling	5.9	13.5
04/25/23	Before Casing Removed	9.2	21.6
04/25/23	After Casing Removed	2.5	out
04/25/23	After Casing Removed	caved @ 9.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/12	WH-1-1-2		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, little cmf SAND, trace CLAY (soft, moist)	
1								
2	2	2.0	4.0	SS/24	3-3-3-3		Brown SILT, trace CLAY (medium stiff, moist)	6
3								
4	3	4.0	6.0	SS/20	2-2-1-3		Same as above (soft, wet)	3
5								
6	4	6.0	8.0	SS/24	3-4-3-4		Same as above (wet, medium stiff) *PP=0.5, 1.25, 1.25*	7
7								
8	5	8.0	10.0	SS/24	3-5-6-7		Brown SILT, trace cmf SAND, trace CLAY (moist, stiff)	11
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	2-4-10		Brown/Grey SILT, trace mf SAND, trace CLAY (wet, stiff)	14
14							*Augered Hard at 15'*	
15								
16								
17								
18								
	7	18.5	20.0	SS/15	7-5-3		Grey cmf SAND and mf GRAVEL, little SILT (wet, medium stiff)	8
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

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6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-231
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Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21	8	21.6	22.1	SS/6	100/6"		Grey cmf SAND and mf GRAVEL, trace ROCK fragments (wet, very compact)	100+
22								
23							Bottom of Boring at 22.1'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-232
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	04/25/23
Date Finished	04/25/23
Surface Elev.	387.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/25/23	While Drilling	4.5	13.5
04/25/23	Before Casing Removed	5.9	19.2
04/25/23	After Casing Removed	1.5	out
04/25/23	After Casing Removed	caved @ 8.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/18	WH-WH-2-2		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace CLAY, trace cmf SAND (moist, soft)	
1							*PP=0.75, 0.5, 1*	
2	2	2.0	4.0	SS/21	2-3-2-3		Similar as above (moist, medium stiff)	5
3								
4	3	4.0	6.0	SS/12	1-1-1-2		Similar as above (wet, soft)	2
5								
6	4	6.0	8.0	SS/24	2-3-4-5		Brown SILT, trace CLAY (moist, medium stiff)	7
7								
8	5	8.0	10.0	SS/24	5-5-4-5		Brown SILT, trace CLAY, trace fine GRAVEL (moist, stiff)	9
9								
10								
11								
12								
13	6	13.5	15.0	SS/18	1-2-2		Grey SILT, trace CLAY (wet, soft)	4
14								
15								
16								
17								
18	7	18.5	19.2	SS/8	4-100/2"		Dark Grey ROCK chips, fragments & flour (wet)	100+
19							*Auger refusal at 19.2'*	
20							Bottom of Boring at 19.2'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-233		
Page No.	1 of 1		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	**Date Started**	04/26/23
Client:	Ramboll	**Date Finished**	04/26/23
Location:	See Exploration Location Plan	**Surface Elev.**	389.9'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	7.8	13.5
04/26/23	Before Casing Removed	8.4	15.5
04/26/23	After Casing Removed	3.4	out
04/26/23	After Casing Removed	caved @ 4.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/12	WH-1-2-3		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/20	5-5-5-5		Brown SILT, trace CLAY (moist, stiff) *PP=1.5, 0.5, 1.8*	10
3								
4	3	4.0	6.0	SS/14	3-3-2-2		Similar as above (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/16	2-3-3-4		Brown SILT, little cmf SAND, trace CLAY, trace mf GRAVEL (moist, medium stiff)	6
7								
8	5	8.0	10.0	SS/16	3-2-3-2		Brown SILT, little CLAY (moist, medium stiff)	5
9							*Augered hard at 10'*	
10								
11								
12								
13								
	6	13.5	15.0	SS/18	19-31-42		Brown SILT and cmf SAND, trace fine GRAVEL (wet, hard)	73
14								
15							*Auger refusal at 15.5'*	
	7	15.5	17.0	SS/18	55-20-25		Grey ROCK chips, fragments & flour (moist)	45
16								
17							Bottom of Boring at 17.0'	
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

CME Associates, Inc.
6035 Corporate Drive
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-234		
Page No.	1 of 1		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	Date Started	04/26/23
Client:	Ramboll	Date Finished	04/26/23
Location:	See Exploration Location Plan	Surface Elev.	389.9'

METHODS OF INVESTIGATION

Driller:	G. Richard	Casing:	3 ¼" ID H.S.A.
Driller:	C. O'Hara	Casing Hammer:	
Inspector:	A. Sharma, E.I.T.	Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	none noted	none noted
04/26/23	Before Casing Removed	4.6	18.6
04/26/23	After Casing Removed	3.8	out
04/26/23	After Casing Removed	caved @ 13.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/12	WH-1-2-3		Topsoil and Organic Matter (moist)	3
	1B	0.0	2.0				Brown SILT, trace fine SAND, trace CLAY, trace ORGANIC Materials (moist, soft)	
1								
2	2	2.0	4.0	SS/24	3-3-3-4		Brown SILT, trace CLAY (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/16	3-2-3-2		Brown SILT, little mf GRAVEL, trace CLAY, trace ROOT Hairs (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/24	5-5-5-4		Brown SILT, trace CLAY (moist, stiff)	10
7								
8	5	8.0	10.0	SS/24	3-3-3-5		Same as above (wet, medium stiff)	6
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	3-3-3-3		Same as above (wet, medium stiff)	6
14								
15								
16								
17								
18								
	7	18.5	19.8	SS/14	11-9-100/4"		Grey SILT, some mf GRAVEL, with ROCK fragments & flour (wet, hard)	100+
19								
20							Auger refused at 20.1'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-235
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	04/26/23
Date Finished	04/26/23
Surface Elev.	390.4'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	10.3	13.5
04/26/23	Before Casing Removed	16.6	20.9
04/26/23	After Casing Removed	5.1	out
04/26/23	After Casing Removed	caved @ 7.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/14	1-3-5-6		Topsoil and Organic Matter (moist)	8
	1B	0.5	2.0				Brown SILT, trace CLAY, trace fine SAND (moist, stiff)	
1								
2	2	2.0	4.0	SS/15	4-4-4-3		Similar as above (wet, stiff)	8
3								
4	3	4.0	6.0	SS/24	2-2-2-2		Grey/Brown SILT, trace cmf SAND, trace fine GRAVEL, trace CLAY (wet, medium stiff)	4
5								
6	4	6.0	8.0	SS/20	2-3-3-3		Brown SILT, trace fine GRAVEL, trace CLAY (wet, medium stiff)	6
7								
8	5	8.0	10.0	SS/24	3-2-3-3		Brown SILT, trace cmf SAND, trace CLAY (wet, medium stiff)	5
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/15	6-21-42		Brown cmf SAND and mf GRAVEL, trace SILT (wet, very compact)	63
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/11	3-3-3		Grey/Brown cmf SAND and mf GRAVEL, trace SILT (wet, loose)	6
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

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Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							*Auger refusal at 20.7'*	
	8	20.9	21.0	SS/1	100/1"		Grey ROCK chips & flour (wet)	100+
21								
							Bottom of Boring at 21'	
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-236
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	04/26/23
Date Finished	04/26/23
Surface Elev.	394'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richards	Casing:	3 ¼" ID H.S.A.
Driller:	C. O'Hara	Casing Hammer:	
Inspector:	A. Sharma, E.I.T.	Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	5.5	8.0
04/26/23	Before Casing Removed	9.3	23.4
04/26/23	After Casing Removed	4.2	out
04/26/23	After Casing Removed	caved @ 6.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	WH-1-2-4		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/18	5-5-4-4		Brown SILT, trace CLAY (wet, stiff)	9
3								
4	3	4.0	6.0	SS/15	2-4-4-5		Brown SILT and cmf SAND, little fine GRAVEL (wet, stiff)	8
5								
6	4A	6.0	7.0	SS/18	9-12-69-12		Brown SILT, trace cmf SAND, trace fine GRAVEL (moist, hard)	81
7	4B	7.0	8.0				Grey mf GRAVEL and cmf SAND, trace SILT (wet)	
8	5	8.0	10.0	SS/18	18-27-20-21		Grey/Reddish mf GRAVEL and cmf SAND, trace SILT (wet, compact)	47
9							*Augered hard at 10.0'*	
10								
11								
12								
13								
	6	13.5	15.0	SS/14	16-10-12		Brown cmf SAND and mf GRAVEL, little SILT (wet, medium compact)	22
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/-	8-14-18		Grey cmf SAND, little fine GRAVEL, trace SILT (wet, compact)	32
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-236
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Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23							*Auger refusal at 23.3'*	
24	8	23.4	23.5		100/1"		Grey ROCK fragments & flour (wet)	100+
							Bottom of Boring at 23.5'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-239
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/26/23
Date Finished	04/26/23
Surface Elev.	393'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/26/23	While Drilling	none noted	18.5
04/26/23	Before Casing Removed	4.5	23.5
04/26/23	After Casing Removed	3.6	out
04/26/23	After Casing Removed	caved @ 3.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	WH-1-1-3		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/22	4-4-4-4		Same as above (wet, medium stiff)	8
3								
4	3	4.0	6.0	SS/24	2-3-2-2		Brown SILT, trace CLAY (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/24	2-2-2-3		Same as above (wet, medium stiff)	4
7								
8	5	8.0	10.0	SS/21	2-2-5-13		Brown SILT, trace cmf SAND, trace cmf GRAVEL, trace CLAY (moist, medium stiff)	7
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/6	11-11-8		Grey ROCK fragments and ROCK flour, little SILT, trace mf GRAVEL (moist, medium compact)	19
15								
16								
17								
18								
19	7	18.5	20.0	SS/5	3-6-9		Grey SILT and cmf SAND, little mf GRAVEL (wet, stiff)	15
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-239
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LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23							*Augered hard at 23.4' and refused at 23.5'*	
24	8	23.5	23.5	SS/0	100/0"		*Grey ROCK fragments at tip of spoon*	100+
							Bottom of Boring at 23.5'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-240
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Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	**Date Started**	04/27/23
Client:	Ramboll	**Date Finished**	04/27/23
Location:	See Exploration Location Plan	**Surface Elev.**	391.4'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/27/23	While Drilling	10.8	18.5
04/27/23	Before Casing Removed	5.1	23.5
04/27/23	After Casing Removed	3.8	out
04/27/23	After Casing Removed	caved @ 4.1	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	WH-2-3-5		Topsoil and Organic Matter (moist)	5
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/15	4-4-4-3		Brown SILT, trace CLAY (wet, stiff)	8
3								
4	3	4.0	6.0	SS/23	2-3-3-3		Similar as above (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/24	3-3-2-3		Similar as above (wet, medium stiff)	5
7								
8	5	8.0	10.0	SS/24	WH-2-3-3		Brown SILT, trace fine SAND, trace CLAY (wet, medium stiff)	5
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/14	8-8-10		Brown SILT, some cmf SAND, little mf GRAVEL (moist, very stiff)	18
14								
15							*Augered hard at 16.9' (possible cobbles)*	
16								
17								
18								
	7	18.5	20.0	SS/13	4-3-7		Grey cmf SAND and mf GRAVEL, some SILT (wet, medium compact)	10
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

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Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21								
22								
23								
24	8	23.5	24.8	SS/14	44-63-100/4"		Grey cmf SAND and mf GRAVEL, trace SILT, trace ROCK fragments & flour (moist, very compact)	100+
25							Bottom of Boring at 24.8'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-241
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/27/23
Date Finished	04/27/23
Surface Elev.	393.5'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/27/23	While Drilling	6.8	13.5
04/27/23	Before Casing Removed	13.0	25.5
04/27/23	After Casing Removed	3.9	out
04/27/23	After Casing Removed	caved @ 5.1	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/22	1-1-1-5		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, little fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/13	5-4-4-4		Brown SILT, trace cmf SAND, trace fine GRAVEL, trace CLAY (moist, medium stuff)	8
3								
4	3	4.0	6.0	SS/18	WH-WH-WH-1		Brown SILT and cmf SAND, trace mf GRAVEL (wet, very soft)	0
5								
6	4	6.0	8.0	SS/20	6-15-9-9		Brown cmf SAND, some mf GRAVEL, little SILT (wet, medium compact)	24
7								
8	5	8.0	10.0	SS/15	28-19-19-36		Brown cmf SAND and mf GRAVEL, trace SILT (moist, compact)	38
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/17	12-10-13		Similar as above (wet, medium compact)	23
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/-	48-73-53		Grey/Reddish mf GRAVEL and cmf SAND, trace SILT, trace ROCK fragments (wet, very compact)	126
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-241
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Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23									
	8	23.5	25.5	SS/13	WH-1-19-38		Grey cmf SAND and mf GRAVEL (wet, medium compact)		20
24									
25									
	9	25.5	26.7	SS/14	53-84-100/2"		Grey cmf SAND and mf GRAVEL, trace ROCK fragments & flour (wet, very compact) *Auger refusal at 26.7'*		100+
26									
27							Bottom of Boring at 26.7'		
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-299A
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	05/04/23
Date Finished	05/04/23
Surface Elev.	387.7'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	D. MacDoughall	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/04/23	While Drilling	none noted	12.0
05/05/23	Before Casing Removed	7.3	22.3
05/05/23	After Casing Removed	none noted	out
05/05/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/18	WH-1-2-3		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, some mf SAND, trace CLAY (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/24	2-3-2-2		Brown SILT, some CLAY, trace fine SAND (wet, medium stiff) *Shelby Tube sample obtained from 3 to 5 feet in a separate borehole at 5 feet offset* LL=28 P1=9 MC=30.7%	5
3								
4	3	4.0	6.0	SS/24	2-3-3-4		Brown SILT, trace fine SAND (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/24	3-4-4-5		Brown SILT, trace cmf SAND (wet, medium stiff)	8
7								
8	5	8.0	10.0	SS/16	4-8-9-5		Brown SILT, trace cmf SAND, trace CLAY (wet, very stiff)	17
9								
10	6	10.0	12.0	SS/24	3-4-2-3		Brown/Grey SILT, trace mf SAND, trace CLAY (wet, medium stiff)	6
11								
12	7	12.0	14.0	SS/24	WH-2-1-2		Grey SILT, some CLAY, trace fine SAND (wet, soft) LL=20 P1=5 MC=27%	3
13								
14	8	14.0	16.0	SS/24	1-1-1-5		Grey CLAY and SILT, trace fine SAND (wet, soft) *Shelby Tube sampling atempted from 14 to16 feet in a separate borehole at 5 feet offset - No Recovery* LL=30 P1=13 MC=27.9%	2
15								
16	9	16.0	18.0	SS/7	7-8-5-6		Grey cmf SAND, some SILT, trace fine GRAVEL (wet, medium compact)	13
17								
18								
	10	18.5	20.0	SS/10	WH-2-2		Grey mf SAND, trace SILT, trace fine GRAVEL, trace CLAY (wet, medium stiff)	4
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-299A
Page No.	2 of 2
Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21							*Augered hard at 21.5'*	
22								
	11	22.3	22.3	SS/1	100/0"		Grey ROCK fragments (wet)	100+
23								
24							Bottom of Boring at 22.3'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-305
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	05/04/23
Date Finished	05/04/23
Surface Elev.	388.1'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richards	Casing:	3 ¼" ID H.S.A.
Driller:	C. O'Hara	Casing Hammer:	
Inspector:	D. MacDoughall	Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/04/23	While Drilling	none noted	18.5
05/04/23	Before Casing Removed	4.9	23.5
05/04/23	After Casing Removed	none noted	out
05/04/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1A	0.0	0.5	SS/12	WH-WH-2-3		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace mf SAND, trace CLAY (moist, soft) *PP= 1.75, 2.5, 2.5*	
1								
2	2	2.0	4.0	SS/21	4-5-4-5		Brown SILT, trace CLAY, trace mf SAND (moist, stiff)	9
3								
4	3A	4.0	5.0	SS/24	4-6-6-7		Brown SILT, some mf SAND, trace CLAY (wet, stiff)	12
5	3B	5.0	6.0				Brown SILT, little mf SAND, trace CLAY (wet, stiff)	
6	4	6.0	8.0	SS/20	4-5-4-6		Brown SILT, trace mf SAND (wet, stiff)	9
7								
8	5	8.0	10.0	SS/18	4-5-6-5		Brown SILT, little cmf SAND, trace CLAY (wet, stiff)	11
9								
10	6	10.0	12.0	SS/22	5-4-4-4		Grey SILT, trace CLAY (wet, stiff)	8
11								
12	7	12.0	14.0	SS/20	1-4-7-5		Grey SILT, trace fine GRAVEL, trace cmf SAND (moist, stiff)	11
13								
14								
15								
16								
17								
18								
	8	18.5	20.0	SS/18	WH-2-11		Grey SILT, trace cmf SAND, trace CLAY, trace fine GRAVEL (wet, moist)	13
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-305
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23									
	9	23.5	24.8	SS/15	8-29-100/3"		Grey ROCK fragments, trace SILT(wet)		100+
24									
25							Bottom of Boring at 24.8'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-317
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/27/23
Date Finished	04/27/23
Surface Elev.	392.9'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/27/23	While Drilling	none noted	4.0
04/27/23	Before Casing Removed	2.9	11.6
04/27/23	After Casing Removed	3.3	out
04/27/23	After Casing Removed	caved @ 7.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/18	WH-1-2-3		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/19	3-4-4-3		Similar as above (wet, stiff)	8
3								
4	3	4.0	6.0	SS/24	3-4-3-2		Similar as above (wet, medium stiff)	7
5								
6	4	6.0	8.0	SS/23	2-2-1-2		Brown SILT, trace fine SAND, trace CLAY (wet, soft)	3
7								
8	5	8.0	10.0	SS/22	2-1-1-6		Greyish Pink SILT, some cmf SAND, trace mf GRAVEL, trace CLAY, (wet, soft)	2
9								
10								
11							*Auger refusal at 11.6'*	
	6	11.6	11.7	SS/1	100/1"		Grey ROCK chips, fragments & flour (wet)	100+
12							Bottom of Boring at 11.7'	
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-333
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	05/02/23
Date Finished	05/02/23
Surface Elev.	394.9'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richard	Casing:	3 ¼" ID H.S.A.
Driller:	C. O'Hara	Casing Hammer:	
Inspector:		Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/02/23	While Drilling	13.8	18.5
05/02/23	Before Casing Removed	none noted	18.5
05/02/23	After Casing Removed	none noted	out
05/02/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/10	WH-WH-1-4		Topsoil and Organic Matter (moist)	1
	1B	0.5	2.0				Brown SILT, trace mf SAND, trace ROOTS (moist, very soft)	
1								
2	2	2.0	4.0	SS/14	4-5-4-4		Similar soil as above (moist, stiff)	9
3								
4	3	4.0	6.0	SS/8	2-2-2-2		Brown SILT, trace mf SAND (wet, medium stiff)	4
5								
6	4	6.0	8.0	SS/17	1-1-5-3		Brown SILT, little mf SAND, trace mf GRAVEL (wet, medium stiff)	6
7								
8	5	8.0	10.0	SS/19	2-12-34-23		Brown cmf SAND, some mf GRAVEL, little SILT (wet, compact)	46
9								
10								
11								
12								
13	6A	13.5	15.0	SS/14	11-21-36		Dark Grey/Brown SILT and cmf SAND, trace mf GRAVEL, trace CLAY (wet, hard)	57
14	6B	18.5	20.0				Grey cmf SAND, little SILT, trace fine GRAVEL (wet, very compact)	
15							*Drilled through COBBLE from 15.9' to 16.4'*	
16								
17								
18								
	7	18.5	20.0	SS/18	7-24-41		Grey cmf SAND, trace fine GRAVEL (wet, very compact)	65
19								
20							Bottom of Boring at 20.0'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-334
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	05/02/23
Date Finished	05/02/23
Surface Elev.	397.8'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richard	Casing:	3 ¼" ID H.S.A.
Driller:	C. O'Hara	Casing Hammer:	
Inspector:		Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/02/23	While Drilling		
05/02/23	Before Casing Removed	1.0	23.5
05/02/23	After Casing Removed	none noted	out
05/02/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/15	WH-WH-3-3		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, trace mf SAND (moist, soft)	
1								
2	2	2.0	4.0	SS/21	3-4-4-5		Similar as above (moist, stiff)	8
3								
4	3	4.0	6.0	SS/13	3-2-2-4		Similar as above (wet, medium stiff)	4
5								
6	4	6.0	8.0	SS/24	2-3-3-3		Similar as above (wet, medium stiff)	6
7								
8	5	8.0	10.0	SS/24	1-2-1-3		Similar as above (wet, soft)	3
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	14-18-19		Brown SILT, some mf SAND, trace mf GRAVEL (wet, hard)	37
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/12	26-43-69		Dark Grey SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)	112
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-334
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse / m - medium / f - fine	and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23									
24	8	23.5	24.3	SS/10	41-100/2"		Similar as above (moist, hard)		100+
							Bottom of Boring at 24.3'		
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-336
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	05/02/23
Date Finished	05/02/23
Surface Elev.	403.9'

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/02/23	While Drilling	7.9	23.5
05/02/23	Before Casing Removed	6.1	28.8
05/02/23	After Casing Removed	none noted	out
05/02/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/10	WH-1-WH-1		Topsoil and Organic Matter (moist)	1
	1B	0.5	2.0				Brown SILT, trace CLAY, trace fine SAND (moist, soft)	
1								
2	2	2.0	4.0	SS/21	3-3-3-3		Similar as above (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/24	3-4-6-6		Similar as above (moist, stiff)	10
5								
6	4	6.0	8.0	SS/15	4-4-5-6		Similar as above (wet, stiff)	9
7								
8	5	8.0	10.0	SS/24	4-5-8-11		Similar as above (wet, stiff)	13
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/12	4-3-3		Grey/Brown SILT, trace mf SAND, trace CLAY (wet, medium stiff)	6
15								
16								
17								
18								
19	7	18.5	20.0	SS/6	7-10-12		Brown cmf SAND, little mf GRAVEL, trace SILT (wet, medium compact)	22
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-336
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23								
24	8	23.5	25.0	SS/10	17-13-17		Grey/Brown cmf SAND, some SILT, trace mf GRAVEL (moist, compact)	30
25								
26								
27								
28								
29	9	28.8	29.2	SS/5	100/5"		Grey cmf SAND, some mf GRAVEL, trace SILT (wet, very compact) *ROCK fragments, ROCK flour noted*	100+
							Bottom of Boring at 29.2'	
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-338
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	05/03/23
Date Finished	05/03/23
Surface Elev.	394.4'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	C. O'Hara	**Casing:**	3 ¼" ID H.S.A.
Driller:	G. Richard	**Casing Hammer:**	
Inspector:	D.MacDougall	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/03/23	While Drilling	none noted	18.5
05/03/23	Before Casing Removed	none noted	23.5
05/03/23	After Casing Removed	none noted	out
05/03/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1A	0.0	0.5	SS/15	WH-1-2-3		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, trace mf SAND, trace ROOTS (moist, soft)	
1								
2	2	2.0	4.0	SS/16	2-2-3-3		Brown SILT, trace CLAY, trace fine SAND, (moist, medium stiff)	5
3								
4	3	4.0	6.0	SS/22	4-4-5-6		Similar as above (moist, stiff)	9
5								
6	4	6.0	8.0	SS/16	4-3-3-4		Brown SILT, trace CLAY, trace fine SAND (wet, medium stiff)	6
7								
8	5	8.0	10.0	SS/24	5-5-4-3		Grey SILT, trace cmf SAND, trace CLAY (moist, stiff)	9
9								
10								
11								
12	6	12.0	15.0	SS/28	2-2-2		Grey SILT, some CLAY, trace mf SAND (wet, medium stiff)	4
13								
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/18	10-27-45		Grey SILT, trace cmf SAND, trace mf GRAVEL (moist, hard)	72
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-338**
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23									
24	8	23.5	23.9	SS/5	100/5"		Grey cmf SAND, little cmf GRAVEL, trace SILT (wet, very compact)		100+
							Bottom of Boring at 23.9'		
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-340
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Date Started	05/03/23
Date Finished	05/03/23
Surface Elev.	391.4'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	C. O'Hara	**Casing:**	3 ¼" ID H.S.A.
Driller:	G. Richards	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/03/23	While Drilling	none noted	18.5
05/03/23	Before Casing Removed	3.8	22.5
05/03/23	After Casing Removed		
05/03/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5		WH-1-3-3		Topsoil and Organic Matter (moist)	4
	1B	0.5	2.0				Brown SILT, trace CLAY, trace mf SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/14	2-3-2-2		Brown SILT, trace mf SAND, trace CLAY (moist, medium stiff)	5
3								
4	3	4.0	6.0	SS/24	3-4-5-7		Same as above (wet, stiff)	9
5								
6	4	6.0	8.0	SS/20	5-5-5-5		Same as above (wet, stiff)	10
7								
8	5	8.0	10.0	SS/21	4-5-6-5		Grey SILT, trace fine SAND (wet, stiff)	11
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/24	3-1-2		Grey CLAY, trace SILT (wet, soft)	3
15								
16								
17								
18								
19	7	18.5	20.0	SS/-	4-5-7		Grey mf GRAVEL, some cmf SAND, trace SILT (wet, medium compact)	12
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-340
Page No.	2 of 2
Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21								
22							*Augered Hard at 22.4'*	100+
23	8	22.5	22.9	SS/5	100/5"		Grey ROCK chips and fragments (wet)	
24							Bottom of Boring at 22.9'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-342
Page No.	1 of 1
Report No.	28062B-01-0523-R1
Date Started	05/04/23
Date Finished	05/04/23
Surface Elev.	391.5'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	D. MacDoughall	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/04/23	While Drilling	3.2	8.0
05/04/23	Before Casing Removed	2.5	18.5
05/04/23	After Casing Removed	2.8	out
05/04/23	After Casing Removed	caved @ 6.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	WH-1-2-2		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, trace CLAY, trace mf SAND (moist, soft)	
1								
2	2	2.0	4.0	SS/22	3-5-5-4		Brown SILT, trace mf SAND, trace CLAY (moist, stiff)	10
3								
4	3	4.0	6.0	SS/17	2-1-1-2		Brown SILT, trace CLAY, trace mf SAND (wet, soft)	2
5								
6	4	6.0	8.0	SS/24	3-4-4-5		Brown SILT, trace CLAY (wet, stiff)	8
7								
8	5	8.0	10.0	SS/18	2-4-7-6		Grey SILT, little cmf SAND, trace CLAY, trace fine GRAVEL (wet, stiff)	11
9								
10	6	10.0	12.0	SS/18	3-2-2-3		Grey SILT, trace CLAY (wet, medium stiff)	4
11								
12	7	12.0	14.0	SS/24	WH-WH-WH-4		Grey SILT, little cmf SAND, trace CLAY (wet, very soft)	0
13								
14	8	14.0	16.0	SS/8	5-10-8-7		Grey SILT and mf GRAVEL, little CLAY, trace cmf SAND (wet, very stiff)	18
15								
16								
17								
18	9	18.0	19.7	SS/14	5-63-100/2"		Black ROCK fragments, trace cmf SAND, trace SILT (wet)	100+
19							*Auger refusal at 19.8'*	
							Bottom of Boring at 19.8'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-344
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	05/03/23
Date Finished	05/03/23
Surface Elev.	395.8'

METHODS OF INVESTIGATION

Driller:	C. O'Hara	**Casing:**	3 ¼" ID H.S.A.
Driller:	G. Richard	**Casing Hammer:**	
Inspector:	D. MacDougall	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/03/23	While Drilling	none noteed	23.5
05/03/23	Before Casing Removed	12.7	25.8
05/03/23	After Casing Removed	25.8	25.9
05/03/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/18	WH-1-3-3		Topsoil and Organic Matter (moist)	4
	1B	0.5	2.0				Brown SILT, trace CLAY, trace mf SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/16	3-2-2-4		Brown SILT, trace CLAY (wet, medium stiff)	4
3								
4	3	4.0	6.0	SS/19	2-6-4-5		Same as above (wet, stiff)	10
5								
6	4	6.0	8.0	SS/24	2-6-5-4		Brown SILT, trace fine SAND, trace CLAY (moist, stiff)	11
7								
8	5	8.0	10.0	SS/16	4-1-4-8		Grey SILT, trace fine SAND (wet, medium stiff)	5
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/17	WH-2-4		Brown mf SAND, trace SILT, trace fine GRAVEL (wet, loose)	6
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/19	9-5-4		Same as above (wet, loose)	9
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-344
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Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21								
22								
23								
24	8	23.5	25.0	SS/14	23-28-50		Grey mf GRAVEL and cmf SAND, trace SILT (wet, very compact)	78
25								
26								
27								
28								
29	9	28.5	28.6	SS/1	100/1"		Grey ROCK chips and fragments (wet)	100+
							Bottom of Boring at 28.6'	
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-346
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Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	**Date Started**	04/28/23
Client:	Ramboll	**Date Finished**	04/28/23
Location:	See Exploration Location Plan	**Surface Elev.**	403.9'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/27/23	While Drilling	none noted	
04/28/23	Before Casing Removed	19.1	21.7
04/28/23	After Casing Removed	4.2	out
04/28/23	After Casing Removed	caved @ 4.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/15	WH-WH-2-2		Topsoil (moist)	2
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/18	3-3-3-3		Brown SILT, trace CLAY (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/24	3-2-3-4		Same as above (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/14	6-6-5-6		Same as above (wet, stiff)	11
7								
8	5	8.0	10.0	SS/24	5-7-6-6		Brown SILT, trace CLAY, trace fine SAND (wet, stiff)	13
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/15	8-7-5		Grey cmf SAND, some SILT, trace mf GRAVEL (wet, medium compact)	12
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/4	12-13-13		Grey SILT and mf GRAVEL, some cmf SAND (wet, very stiff)	26
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-346**
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Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							*Augered hard at 21.3'*	
21								
	8	21.7	21.7		100/0"		*ROCK chips and fragments in tip of spoon*	100+
22							Bottom of Boring at 21.7'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-347
Page No.	1 of 2
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	Date Started	04/28/23
Client:	Ramboll	Date Finished	04/28/23
Location:	See Exploration Location Plan	Surface Elev.	401.7'

METHODS OF INVESTIGATION

Driller:	G. Richard	Casing:	3 ¼" ID H.S.A.
Driller:	C. O'Hara	Casing Hammer:	
Inspector:	A. Sharma, E.I.T.	Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/28/23	While Drilling	none noted	
04/28/23	Before Casing Removed	7.4	28.5
04/28/23	After Casing Removed	2.0	out
04/28/23	After Casing Removed	caved @ 3.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/13	WH-1-2-4		Topsoil and Organic Matter (moist)	3
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/14	5-6-6-7		Similar as above (wet, stiff)	12
3								
4	3A	4.0	5.0	SS/24	2-8-11-12		Grey mf GRAVEL and ROCK fragments, trace cmf SAND (wet, medium compact)	19
5	3B	5.0	6.0				Brown SILT, trace CLAY (wet, very stiff)	
6	4	6.0	8.0	SS/17	5-11-14-14		Same as above (moist, very stiff)	25
7								
8	5	8.0	10.0	SS/14	4-8-4-5		Brown SILT, little CLAY, trace fine SAND (moist, stiff)	12
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/15	1-1-2		Grey SILT, trace CLAY (moist, soft)	3
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/14	5-8-6		Grey SILT, trace fine GRAVEL, trace CLAY (moist, stiff)	14
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-347
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23								
24	8	23.5	25.0	SS/8	WH-WH-1		Grey SILT, trace cmf SAND, trace fine GRAVEL (wet, very soft)	1
25								
26								
27								
28								
29	9	28.5	29.2		78-100/2"		Grey ROCK chips, fragments & flour (wet)	100+
							Auger refusal at 29.6'	
30							Bottom of Boring at 29.6'	
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-352		
Page No.	1 of 2		
Report No.	28062B-01-0523-R1		
Project Name:	Micron Campus, Clay, New York	**Date Started**	05/04/23
Client:	Ramboll	**Date Finished**	05/04/23
Location:	See Exploration Location Plan	**Surface Elev.**	388.7'

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	D. MacDoughall	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/04/23	While Drilling	none noted	18.5
05/04/23	Before Casing Removed	2.5	28.5
05/04/23	After Casing Removed	none noted	out
05/04/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	WH-WH-2-3		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace mf SAND, trace CLAY (moist, soft) *PP=1.5, 1.25, 1.25*	
1								
2	2	2.0	4.0	SS/22	3-5-6-4		Brown SILT, little mf SAND, trace CLAY (moist, stiff)	11
3								
4	3	4.0	6.0	SS/19	3-3-2-4		Brown SILT, little mf SAND, trace CLAY (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/19	4-3-3-4		Same as above (wet, medium stiff)	6
7								
8	5	8.0	10.0	SS/22	3-5-5-5		Brown SILT, trace mf SAND (wet, stiff)	10
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/20	2-2-2-2		Grey CLAY, some SILT (wet, medium stiff)	4
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/16	WH-WH-6		Grey SILT, little mf GRAVEL, little cmf SAND, trace CLAY (wet medium stiff)	6
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP=Pocket Penetrameter Results in tsf
Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-352
Page No.	2 of 2
Report No.	28062B-01-0523-R1

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20								
21								
22								
23								
24	8	23.5	24.4	SS/9	60-100/3"		Grey ROCK fragments, little cmf GRAVEL, trace cmf SAND *(wet)*	100+
25							*Auger refusal at 24.4'*	
							Bottom of Boring at 24.4'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-390
Page No.	1 of 2
Report No.	28062B-01-0523-R1
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	05/02/23
Date Finished	05/02/23
Surface Elev.	392.8'

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
05/02/23	While Drilling	8.9	13.5
05/02/23	Before Casing Removed	12.1	23.4
05/02/23	After Casing Removed	none noted	out
05/02/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/14	WH-1-1-2		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace mf SAND, trace ORGANIC Material (moist, soft)	
1								
2	2	2.0	4.0	SS/15	3-4-3-4		Brown SILT, trace mf SAND, trace CLAY (moist, medium stiff)	7
3								
4	3	4.0	6.0	SS/24	4-5-6-6		Brown SILT, trace mf SAND, trace CLAY, trace ROOTS (moist, stiff)	11
5								
6	4	6.0	8.0	SS/19	4-4-6-5		Brown SILT, trace mf SAND, trace CLAY (moist, stiff)	10
7								
8	5	8.0	10.0	SS/24	5-8-8-7		Similar as above (wet, very stiff)	16
9								
10								
11								
12								
13								
	6A	13.5	14.5	SS/18	3-1-3		Similar soil as above (wet, medium stiff)	4
14	6B	14.5	15.0				Grey cmf SAND and SILT, little mf GRAVEL, trace CLAY (wet, loose)	
15								
16								
17								
18								
	7	18.5	20.0	SS/10	6-10-6		Dark Grey cmf SAND, little SILT, little mf GRAVEL (wet, medium compact)	16
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-390
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20								
21								
22								
23								
	8	23.4	23.6	SS/1	100/2"		Grey ROCK chips & fragments (wet)	100+
24							Bottom of Boring at 23.6'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-392
Page No.	1 of 2
Report No.	28062B-01-0523-R1

Project Name:	Micron Campus, Clay, New York	**Date Started**	04/27/23
Client:	Ramboll	**Date Finished**	04/28/23
Location:	See Exploration Location Plan	**Surface Elev.**	393.5'

METHODS OF INVESTIGATION

Driller:	G. Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:	A. Sharma, E.I.T.	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/27/23	While Drilling	1.2	13.5
04/28/23	Before Casing Removed	5.4	23.5
04/28/23	After Casing Removed	3.6	out
04/28/23	After Casing Removed	caved @ 6.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/11	WH-WH-2-2		Topsoil and Organic Matter (moist)	2
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/20	4-4-3-4		Brown SILT, trace CLAY (wet, medium stiff)	7
3								
4	3	4.0	6.0	SS/24	2-2-11-10		Brown SILT, some cmf SAND, trace CLAY (wet, stiff)	13
5								
6	4	6.0	8.0	SS/24	4-4-4-4		Brown SILT, trace CLAY (wet, stiff)	8
7								
8	5	8.0	10.0	SS/24	2-2-2-2		Grey/Brown SILT and CLAY (wet, medium stiff)	4
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/13	11-11-9		Dark Grey cmf GRAVEL and cmf SAND, trace SILT, trace ROCK fragments (wet, medium compact)	20
15								
16								
17								
18								
19	7	18.5	20.0	SS/18	17-51-61		Dark Grey mf GRAVEL, little cmf SAND, trace SILT, trace ROCK fragments (wet, very compact) *Augered hard at 22.4'*	112
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-392
Page No.	2 of 2
Report No.	28062B-01-0523-R1

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20									
21									
22									
23									
24	8	23.5	24.0	SS/6	100/6"		Grey ROCK chips, fragments & flour (wet)		100+
25							Bottom of Boring at 24.0'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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GENERAL INFORMATION & KEY TO TEST BORING LOGS

The **Subsurface Exploration – Test Boring Logs** produced **by CME Associates, Inc.** (CME) present observations and mechanical data collected by the CME Drill Crew while at the site, supplemented, at times, by classification of the materials removed from the borings determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Exploration Logs together with the recovered samples will provide a basis for evaluating the character of the subsurface conditions relative to the proposed construction. The evaluation must consider all the recorded details and their significance relative to each other. Often, analyses of standard boring data indicate the need for additional testing and sampling procedures to more accurately evaluate the subsurface conditions. Any evaluations of the contents of CME's report and the recovered samples must be performed by Licensed Professionals having experience in Soil Mechanics, Geological Sciences and Geotechnical Engineering. The information presented in this Key defines some of the methods, procedures and terms used on the CME Exploration Logs to describe the conditions encountered. Refer to the Log on page 4 for key number.

Key No.	Description

1. The figures in the **DEPTH SCALE** column define the vertical scale of the Boring Log.

2. The **SAMPLE NO.** is used for identification on the sample containers and in the Laboratory Test Report or Summary.

3. The **SAMPLE DEPTH** column gives the depth range from which a sample was recovered.

4. The **TYPE / SAMPLE RECOVERY** column is used to signify the various types of samples. "SS is Split Spoon, "U" is Undisturbed Tube, and "C" is Rock Core. For soil and rock samples, the recovered length of the sample is recorded in inches.

5. **BLOWS ON SAMPLER** – This column shows the results of the "Standard Penetration Test (SPT) ASTM D1586", recording the number of blows required to drive a 2-inch outside diameter (O.D.) split spoon sampler into the ground beneath the casing. The number of blows required for each six inches of penetration is recorded. The total number of blows required for the 6-inch to 18-inch interval is summarized in the **SPT "N"** column and represents the "Standard Penetration Number". The outside diameter of the sampler, the hammer weight and the length of drop are noted in the **Methods of Investigation** portion of the log. A "WH" or "WR" in this column indicates that the sample spoon advanced a 6-inch interval under the **W**eight of **H**ammer + Rod or **W**eight of **R**od, respectively. If a rock core sample is taken, the core bit size designation is given here.

6. The **DEPTH OF CHANGE** column designates the depth (in feet) that the driller noted a compactness or stratum change. In soft materials or soil strata exhibiting a consistent relative density, it is difficult for the driller to determine the exact change from one stratum to the next. In addition, a grading or gradual change may exist. In such cases the depth noted is approximate or estimated only and may be represented by a dashed line. When continuous split spoon sampling is not employed, or an interval of several feet exists between samplings, the Depth of Change may not be indicated at all.

7. **VISUAL CLASSIFICATION OF MATERIAL** – Soil materials sampled and recovered are described by the Driller or Geotechnical Representative on the original field log. Notes of the Drillers observations are also placed in this column. Recovered samples may also be visually classified by a Geologist, Engineer, or Soil Technician. Visual soil classifications are made using a modified Burmister System as practiced by CME and as generally described in this Key and abbreviated on the Test Boring Log. This modified Burmister System is a type of visual-manual textural classification estimated by the Driller, Geologist, Engineer, or Technician on the basis of weight-fraction of the recovered material and estimated plasticity, among other characteristics. See Table 1 **"Classification of Materials"**. The description of the relative compactness or consistency is based upon the standard penetration number as defined in Table 2. The description of the recovered sample moisture condition is described as dry, moist, wet, or saturated. Water used to advance the boring may affect the moisture content of the recovered sample. Special terms may be used to describe recovered materials in greater detail, such terms are listed in ASTM D653. When sampling gravelly soils with a standard two-inch O.D. Split Spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders, cobbles, and large gravel is sometimes, but not necessarily, detected by observation of the casing advancement and sampler blows and/or through the "action" of the drill rig, sampler and/or casing as reported by the Driller.

The description of **Rock** is based upon the recovered rock core. Terms frequently used in the description are included in Tables 3, 4 and 5. The length of core run is defined as length of penetration between retrievals of the core barrel from the bore hole, expressed in inches. The core recovery expresses the length of core recovered from the core barrel per core run, in percent. The size core barrel used is noted in Column 5. An "N" size core, being larger in diameter than "A" size core, often produces better recovery, and is frequently utilized where accurate information regarding the geologic conditions and engineering properties is needed. An estimate of in-situ rock quality is provided by a modified core recovery ratio known as the **"Rock Quality Designation" (RQD)**. This ratio is determined by considering only pieces of core that are at least 4 inches long and are hard and sound. Breaks obviously caused by drilling are ignored. The percentage ratio between the total length of such core recovered and the length of core drilled on a given run is the RQD. Table 4 indicates in-situ rock quality as related to the **RQD**.

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8. The **SPT "N"** or **RQD** is given in this column as applicable to the specific sample taken. In Very Compact coarse-grained soils and in Hard fine-grained soils the N-value may be indicated as 50+ or 100+. This typically means that the blow count was achieved prior to driving the sampler the entire 6-inch interval or the sampler refused further penetration. For an "N"size rock core, the RQD is reported here, expressed in percent (%).

9. **GROUNDWATER OBSERVATIONS** and timing noted by the Drill Crew are shown in this section. It is important to realize that the reliability of the water level observations depend upon the soil type (e.g. water does not readily stabilize in a hole through fine grained soils), and that drill water used to advance the boring may have influenced the observations. Groundwater levels typically fluctuate seasonally so those noted on the log are only representative of that exhibited during the period of time noted on the log. One or more perched or trapped water levels may exist in the ground seasonally. All the available resources and data should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or through groundwater observation well installations.

10. **METHODS of INVESTIGATION** provides pertinent information regarding the identity of the Drill Crew members, inspector (if any), drill rig make and model, drill rig mount vehicle, casing and type of advancement, soil and rock sampling tools and appurtenances used in the installation of the Test Boring.

TABLE 1 - CLASSIFICATION OF MATERIALS	
GROUP	**COARSE GRAINED SOILS TEXTURAL SIZES**
BOULDERS	larger than 12" diameter
COBBLES	12" diameter to 3" sieve
GRAVEL	3" - coarse - 1" - medium - 1/2" - fine - #4 sieve
SAND	#4 - coarse - #10 - medium - #40 - fine - #200 sieve
GROUP	**FINE GRAINED SOILS SIZE (PLASTICITY*)**
SILT	#200 sieve (0.074mm) to 0.005mm size (see below *)
CLAY	0.005mm size to 0.001 mm size (see below *)
GROUP	**ORGANIC SOILS, PEAT, MUCK, MARL**
ORGANIC	Based on smell, visual-manual and laboratory testing

ABBREVIATIONS	TERM	ESTIMATED PERCENT OF TOTAL SAMPLE BY WEIGHT
f - fine	and	35 to 50%
m - medium	some	20 to 35%
c - coarse	little	10 to 20%
	trace	0 to 10%

***PLASTICITY DESCRIPTIONS and INDICATOR FIELD TESTS**			
		DRY STRENGTH TEST	
TERM	**PLASTICITY INDEX**	**INDICATION**	**FIELD TEST RESULT**
non-plastic	0 - 3	Very low	falls apart easily
slightly plastic	4 - 15	Slight	easily crushed by fingers
plastic	15 - 30	Medium	difficult to crush
highly plastic	31 or more	High	impossible to crush with fingers
Other Field Tests include: Dilatancy, Thread and Shine Testing			

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*TABLE 2 - DESCRIPTION OF SOIL COMPACTNESS OR CONSISTENCY based on SPT "N"**		
Primary Soil Type	**Descriptive Term of Compactness**	**Range of Standard Penetration Resistance (N)**
COARSE GRAINED SOILS	Very Loose	less than 4 blows per foot
(More than half of Material is larger than No. 200 sieve size)	Loose	4 to 10
	Medium Compact	10 to 30
	Compact	30 to 50
	Very Compact	Greater than 50
FINE GRAINED SOILS	**Descriptive Term of Consistency**	**Range of Standard Penetration Resistance (N)**
(More than half of material is smaller than No. 200 sieve size)	Very Soft	less than 2 blows per foot
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	Greater than 30

*The number of blows of 140-pound weight falling 30 inches to drive a 2-inch O.D., 1-3/8 inch I.D. sampler 12 inches is defined as the Standard Penetration Resistance, designated "N".

TABLE 3 - ROCK CLASSIFICATION TERMS		
Rock Classification Terms		**Field Test or Meaning of Term**
Hardness	Soft	Scratched by fingernail. Crumbles under firm blows with a geologic pick.
	Medium Soft	Shallow indentations (1 to 3 mm) can be made by firm blows of a geologic pick. Can be peeled with a pocketknife with difficulty.
	Medium Hard	Scratched distinctly by penknife or steel nail. Can't be peeled or scraped with knife.
	Hard	Scratched with difficulty by penknife or steel nail. Requires more than one blow with a geologic hammer to break it
	Very Hard	Cannot be scratched by penknife or steel nail. Breaks only by repeated heavy blows with a geologic hammer.
Bedding (Divisional planes and/or surfaces separating it from layers above and below)	Thinly Laminated	less than 1/8th inch
	Laminated	1/8th to 1 inch
	Thinly Bedded	1 inch to 4 inches
	Medium Bedded	4 inches to 12 inches
	Thickly Bedded	12 inches to 48 inches
	Massive	greater than 48 inches

TABLE 4 **Relation of Rock Quality Designation (RQD) and in-situ Rock Quality**	
RQD %	**Rock Quality Term Used**
90 to 100	Excellent
75 to 90	Good
50 to 75	Fair
25 to 50	Poor
0 to 25	Very Poor

CME Associates, Inc.

TABLE 5 – BEDROCK WEATHERING CLASSIFICATION	
Classification	**Diagnostic Features**
Fresh	No visible sign of decomposition or discoloration. Rings under hammer impact.
Slightly Weathered	Slight discoloration inwards from open fractures, otherwise similar to Fresh.
Moderately Weathered	Discoloration throughout. Strength somewhat less than fresh rock but cores cannot be broken by hand or scraped with knife. Texture observed.
Highly Weathered	Most minerals somewhat decomposed. Specimens can be broken by hand with effort or shaved with knife. Core stones present in rock mass. Texture becoming indistinct but fabric preserved.
Completely Weathered	Minerals decomposed to soil, but fabric and structure preserved (e.g. Saprolite). Specimens easily crumbled or penetrated.
Residual Soil	Advanced state of decomposition resulting in plastic soils. Rock fabric and structure completely destroyed. Large volume change.

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-2**
Page No.	1 of 1
Report No.	
Project Name:	
Client:	
Location:	
Date Started	
Date Finished	
Surface Elev.	

METHODS OF INVESTIGATION

Driller:	**10**	**Casing:**	**10**
Driller:		**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:		**Soil Sampler:**	
Type:		**Hammer Wt:**	
Rod Size:		**Hammer Fall:**	

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
	While Drilling	9	9
	Before Casing Removed		
	After Casing Removed		
	After Casing Removed		

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
1	2	3	3	4	5	6	7		8

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.

6035 Corporate Drive
East Syracuse, New York 13057
(315) 701-0522
(315) 701-0526 (Fax)

www.cmeassociates.com

December 08, 2023

Ramboll (Client)
94 New Karner Road
Albany, New York
Phone: 315.420.8439

Attn: Andy Philips, Sr. Project Manager
Andy.Philips@Ramboll.com

Re: Geotechnical Data Report - Second Phase
Micron Campus
Clay, New York
CME Report No. 28062B-03-1223
Page 1 of 4

1.0 INTRODUCTION

CME Associates, Inc. (CME) was retained by Ramboll (Client) to provide subsurface exploration and geotechnical services for the subject project. In September/October 2023, CME conducted a limited subsurface exploration at the subject project site as part of the second phase exploration program.

The Scope of Basic Services and this report have been provided pursuant to CME Proposal/Agreement No.: 05.7126, Addendum 3, dated 04/07/2023, and authorized by Client via a Purchase Order (Ramboll PO # 1950006347, dated 04/14/2023). This report provides a summary of the second phase exploration activities conducted at the subject project site.

Please note, the first phase exploration at this site was conducted by CME in May/June 2023 and CME's deliverables consisted of the previously issued *Geotechnical Data Report - Revision 1*, labeled CME Report Number: 28062B-01-0523R1, dated 06/20/2023.

2.0 EXPLORATION METHODOLOGY

2.1 Exploration Layout and Utility Clearance

The exploration locations were selected by the Client and staked by Thew Associates (Thew). Following the field stakeout, CME contacted UDig NY to clear public utilities at the exploration locations. Private utilities at the exploration locations were cleared by Thew. No utility conflicts were noted at the exploration locations.

The attached *CME Exploration Location Plan* depicts the approximate locations of the explorations. Please note, said plan shows explorations completed during the first and second phase explorations. Elevation at grade at the exploration locations, along with Northing and Easting coordinates, was provided by Thew. Please see the attached *Elevation and Coordinates Tables* prepared using the survey data provided by Thew.

2.2 Test Borings

A total of 119 Test Borings (in addition to the first phase 60 Test Borings[1]) were completed by CME and subcontractors to CME. The Test Borings were advanced using either a Central Mine Equipment Model 550X (ATV-mounted), Model 55 (track-mounted), Model 45 (track-mounted) or Model LC 55 (track-mounted) rotary exploration drill rig, equipped with 3-¼" I.D. hollow stem augers. Soil sampling was conducted using a 140-pound hammer dropping through 30 inches to drive a 2" O.D. split barrel sampler in general conformance with ASTM Standard Practice D1586. Rock coring was performed in general conformance with ASTM Standard Practice D2113. Undisturbed Shelby Tube sampling was conducted in general conformance with ASTM Standard Practice D1587.

All Borings were backfilled with auger cuttings to nearly match existing grades.

Soil samples were logged and visually classified in the field by the driller or an on-site Geotechnical Engineer, and a portion of each soil sample was placed and sealed in a glass jar. Bedrock cores were placed and secured in a wooden box. The soil and rock classifications were later reviewed by a CME Engineer in CME's East Syracuse AASHTO re:source[2] Accredited Laboratory. The visual soil classifications were made using a modified Burmister Classification System, as practiced by CME, and as generally described in the attached document entitled *General Information & Key to the Test Boring Logs*. The *Test Boring Logs* and *Bedrock Core Photographs* are also attached to this report.

Pocket Penetrometer Testing (which gives an idea of the unconfined compressive strength of the soil) was performed on selected split-spoon samples retrieved from the Test Borings. The test results are given on the applicable *Test Boring Logs*.

2.3 Cone Penetration Testing

A total of 70 Cone Penetration Tests were performed by a subcontractor to CME using a TC-7 track mounted rig. Seismic Cone Penetration Tests and Pore Pressure Dissipation Tests were performed at selected locations. Please refer to the attached *Cone-Tec – CPT Report* prepared by ConeTec for CPT Logs and test results.

2.4 Groundwater Monitoring Wells

A total of 6 Groundwater Monitoring Wells, labeled W-4, W-5, W-6, W-7, W-8, and W-9, were installed during the second phase of the exploration program. These wells were installed in or near Test Borings B-337, B-391, B-370, B-400, B-420 and B-422 respectively. Please refer to the attached *Groundwater Monitoring Well Logs*, labeled W-4 to W-9, for details of the well installation.

As part of the first phase exploration, 3 Groundwater Monitoring Wells, labeled W-1, W-2 and W-3, were installed in or near Test Borings B-129, B-24, and B-227, respectively.

Periodic monitoring of the groundwater level in the wells was performed by CME. Please refer to the attached *Groundwater Observation Summary Table* for groundwater levels observed, thus far.

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[1] Please note Boring Log for Test Boring B-346 was not included in the Geotechnical Data Report issued for that phase. This Boring Log is included in this report.

[2] **AASHTO re:source** – American Association of State Highway & Transportation Officials (AASHTO) Materials Reference Laboratory, a Federal Agency having jurisdiction to assess laboratory competency according to the Standards of the United States of America. CME East Syracuse accreditation includes testing of Portland Cement Concrete, Aggregate and Soil Materials. www.AASHTOresource.org.

2.5 Test Pits

A total of 5 Test Pits were excavated using a Link Belt Model LNK 27 excavator, equipped with a 24-inch-wide general-purpose bucket. The Test Pits were excavated and backfilled by a subcontractor to CME. The backfill consisted of excavated materials placed in 2 to 3 feet thick lifts, with each lift compacted using the excavator bucket making several hits. CME Engineer Astitwa Sharma, E.I.T. was on-site to observe the Test Pit excavation, take photographs, and prepare Test Pit Logs. *Test Pit Logs,* labeled TP-1 through TP-5, and *Test Pit Photographs* are attached to this Report.

Soil samples were logged and visually classified in the field by Sharma. The visual soil classifications were made using the modified Burmister Classification System.

In-situ Vane Shear Tests were performed at various depths in the Test Pits utilizing a Humbolt H-60 field testing apparatus. Pocket Penetrometer Testing was also performed in the Test Pits. Please refer to the attached *Vane Shear Test and Pocket Penetrometer Test Summary Tables* for test results.

2.6 Laboratory Testing

Laboratory testing was performed on selected soil samples, consisting of Natural Moisture Content, Atterberg Limits, Particle Size Analysis, Rock Core Compression, DIPRA, One-Dimensional Consolidation, Moisture-Density Relationship (Proctor Compaction), and California Bearing Ratio (CBR), in CME's East Syracuse Laboratory. Please refer to the attached *CME Laboratory Test Summary Report* for test methods and results.

Chloride and sulfate content testing on selected samples was performed by CME's subcontractor, Geotechnics. Please refer to the attached *Geotechnics Laboratory Test Summary Report* for test results.

Sulfur content testing and neutralization potential testing were performed on selected shale bedrock samples. This testing was performed by CME's subcontractor, CMT Laboratories, Inc. Please refer to the attached *CMT Laboratory Test Summary Report* for test results.

3.0 STANDARD OF CARE

CME endeavored to conduct services identified herein in a manner consistent with that level of care and skill ordinarily exercised by members of the industry currently practicing in the same locality and under similar conditions as this project. No warranty, either expressed or implied, is made or intended by CME's proposal, contract, and written or oral reports, all of which warranties are hereby expressly disclaimed. CME shall not be responsible for the acts or omissions of the Client, its contractors, agents, and consultants. CME may rely upon information supplied by Client, its contractors, agents, and consultants or information available from generally accepted reputable sources, without independent verification, and CME assumes no responsibility for the accuracy thereof.

4.0 CLOSING

CME's services have been provided according to the requirements of the referenced CME Proposal/Agreement. No other representations, expressed or implied, are intended or made with respect to the information provided herein, including but not limited to, its suitability for use by others.

Respectfully Submitted,
CME Associates, Inc.

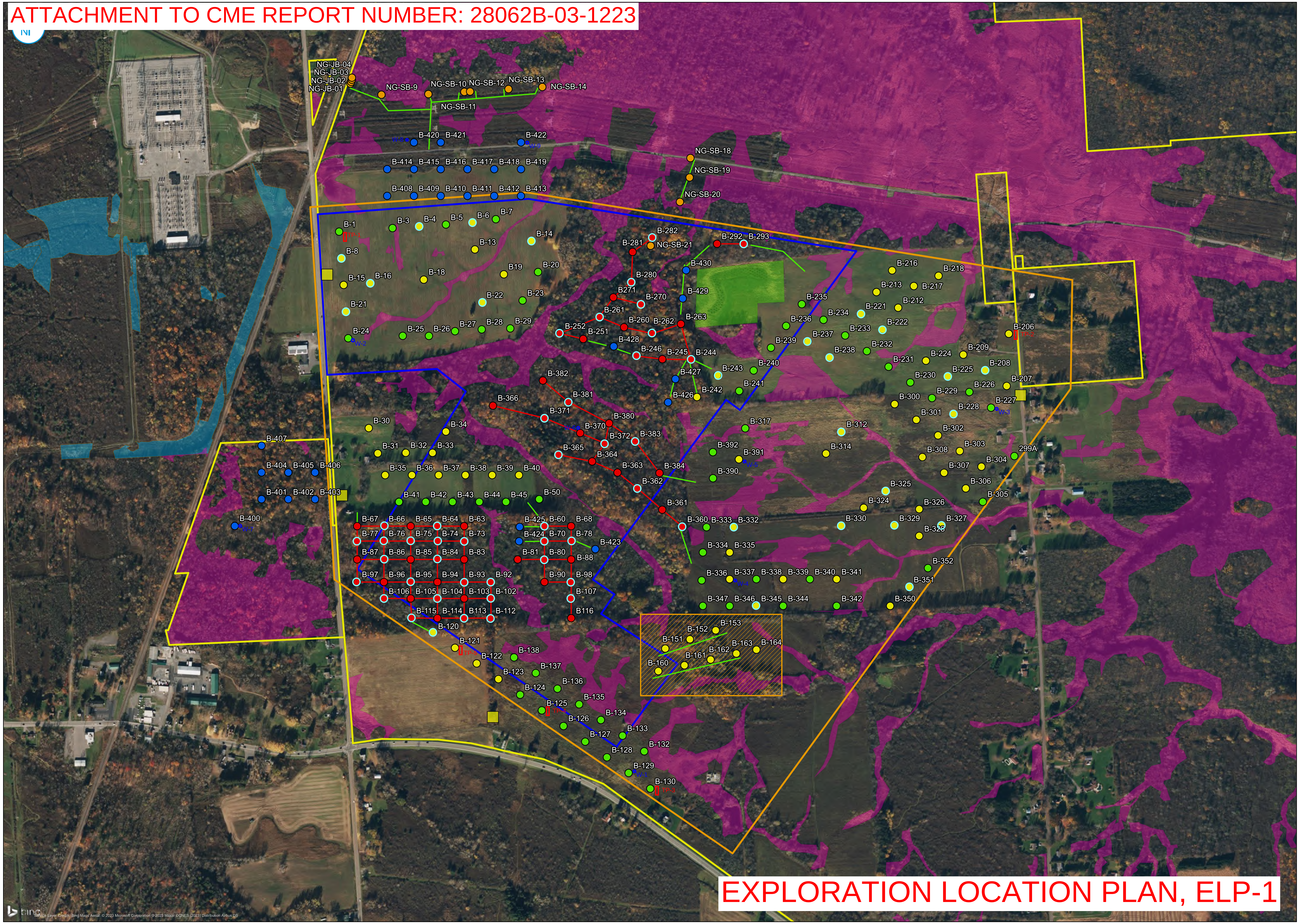
Anas N. Anasthas, P.E.
Senior Geotechnical Engineer

Reviewed by:
CME Associates, Inc.

Christopher R. Paolini, PE, MPS, EXW℠
Senior Vice President

Attachment Listing:

- Exploration Location Plan (1 of 1)
- Coordinates and Elevations Tables (6 of 6)
- Test Pit Logs (5 of 5)
- Test Pit Photographs (5 of 5)
- Vane Shear Test and Pocket Penetrometer Test Summary Tables (1 of 1)
- Groundwater Observation Summary Table (1 of 1)
- Groundwater Monitoring Well Logs (6 of 6)
- Bedrock Core Photographs (17 of 17)
- CME Laboratory Test Summary Report (22 of 22)
- CMT Laboratory Test Summary Report (3 of 3)
- Geotechnics Laboratory Test Summary Report (5 of 5)
- Test Boring Logs (193 of 193)
- ConeTec CPT Report (263 of 263)
- General Information & Key to Test Boring Logs (4 of 4)



Boring Locations

- Phase A (Completed Spring 2023)
- Phase B (Scheduled to be Completed in September-October 2023)
- Phase C (Scheduled to be Completed in October-December 2023)
- National Grid (Not part of the above referenced report)
- Additional Borings if Necessary
- Site Access Points
- Phase 1 Boundary
- Phase 2 Boundary
- Site Boundary
- Additional Paths for Brush Clearing
- National Grid Wetland Mitigation Area
- Ramboll-Delineated Wetlands
- Fisher-Delineated Wetlands
- Avoid All Activity Until October 15, 2023
- CPT Location
- Test Pit Location
- Ground Water Monitoring Wells

Notes

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

0 250 500 Feet

BORING PLAN LOCATIONS

Micron White Pine
Clay, NY

D-107

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 1950100716 | DATED: 9/26/2023 | DESIGNER: KBUSSARD

COORDINATES AND ELEVATION TABLE

Exploration ID	Latitude	Longitude	Northing (ft)	Easting (ft)	Elevation (ft)	Exploration Phase and Type
B 1	43.19603	-76.16652	1164795.7	931352.0	392.7	Test Boring - First Phase
B 3	43.19609	-76.16503	1164822.2	931751.1	393.0	Test Boring - First Phase
B 4	43.19613	-76.16428	1164835.3	931950.8	393.2	Cone Penetration Test
B 5	43.19616	-76.16353	1164848.5	932150.3	392.7	Test Boring - First Phase
B 6	43.19619	-76.16278	1164861.8	932349.9	391.2	Cone Penetration Test
B 7	43.19628	-76.16215	1164895.2	932518.1	391.2	Test Boring - First Phase
B 8	43.19548	-76.16646	1164596.4	931369.0	393.7	Cone Penetration Test
B 13	43.19565	-76.16272	1164662.6	932366.8	391.1	Test Boring - Second Phase
B 14	43.19581	-76.16113	1164725.7	932791.1	394.0	Cone Penetration Test
B 15	43.19493	-76.16640	1164397.0	931386.1	394.0	Test Boring - Second Phase
B 16	43.19497	-76.16566	1164410.4	931585.5	393.9	Cone Penetration Test
B 18	43.19497	-76.16427	1164412.9	931955.2	391.9	Test Boring - Second Phase
B 19	43.19513	-76.16191	1164476.5	932583.5	391.8	Test Boring - Second Phase
B 20	43.19518	-76.16095	1164493.7	932838.9	392.4	Test Boring - First Phase
B 21	43.19438	-76.16634	1164197.8	931403.1	393.7	Cone Penetration Test
B 22	43.19456	-76.16253	1164266.0	932420.1	391.8	Cone Penetration Test
B 23	43.19459	-76.16139	1164281.0	932723.3	387.3	Test Boring - First Phase
B 24	43.19384	-76.16628	1163998.5	931420.0	394.6	Test Boring - First Phase
B 25	43.19386	-76.16476	1164010.3	931827.8	393.0	Test Boring - First Phase
B 26	43.19386	-76.16401	1164010.4	932027.5	392.1	Test Boring - First Phase
B 27	43.19397	-76.16329	1164051.5	932218.3	390.0	Test Boring - First Phase
B 28	43.19403	-76.16255	1164075.3	932415.6	390.5	Test Boring - First Phase
B 29	43.19416	-76.16178	1164120.7	932620.7	389.7	Test Boring - First Phase
B 30	43.19199	-76.16572	1163326.8	931573.7	392.3	Test Boring - Second Phase
B 31	43.19147	-76.16547	1163138.4	931641.2	394.8	Test Boring - Second Phase
B 32	43.19148	-76.16469	1163142.2	931850.1	392.3	Test Boring - Second Phase
B 33	43.19148	-76.16394	1163142.1	932050.2	395.8	Test Boring - Second Phase
B 34	43.19191	-76.16356	1163300.7	932150.2	394.2	Test Boring - Second Phase
B 35	43.19103	-76.16527	1162975.3	931696.1	397.4	Test Boring - Second Phase
B 36	43.19102	-76.16452	1162975.4	931896.0	394.7	Test Boring - Second Phase
B 37	43.19102	-76.16377	1162975.3	932096.1	394.3	Test Boring - Second Phase
B 38	43.19102	-76.16302	1162975.4	932296.0	397.2	Test Boring - Second Phase
B 39	43.19102	-76.16227	1162975.3	932496.0	397.0	Test Boring - Second Phase
B 40	43.19101	-76.16152	1162975.3	932696.2	396.5	Test Boring - Second Phase
B 41	43.19048	-76.16488	1162775.4	931799.5	398.8	Test Boring - First Phase
B 42	43.19047	-76.16413	1162775.4	931999.6	398.8	Test Boring - First Phase
B 43	43.19047	-76.16338	1162775.3	932199.7	396.3	Test Boring - First Phase
B 44	43.19047	-76.16263	1162775.3	932399.7	397.9	Test Boring - First Phase
B 45	43.19047	-76.16188	1162775.4	932599.5	399.9	Test Boring - First Phase
B 50	43.19052	-76.16095	1162795.3	932847.7	396.6	Test Boring - First Phase
B 60	43.18996	-76.16081	1162593.5	932886.7	401.0	Cone Penetration Test
B 63	43.18997	-76.16306	1162593.5	932286.7	400.5	Test Boring - Second Phase
B 64	43.18997	-76.16381	1162593.7	932086.8	400.0	Cone Penetration Test
B 65	43.18998	-76.16456	1162593.8	931886.9	402.5	Test Boring - Second Phase
B 66	43.18998	-76.16531	1162593.8	931686.8	402.4	Cone Penetration Test
B 67	43.18998	-76.16606	1162593.6	931486.8	405.1	Test Boring - Second Phase

SURVEY DATA PROVIDED BY THEW ASSOCIATES ON 04/20/23, 05/03/23, 10/17/23, AND 10/20/23

Exploration ID	Latitude	Longitude	Northing (ft)	Easting (ft)	Elevation (ft)	Exploration Phase and Type
B 68	43.18996	-76.16008	1162593.3	933082.3	398.5	Test Boring - Second Phase
B 70	43.18966	-76.16081	1162482.3	932886.9	403.6	Cone Penetration Test
B 73	43.18967	-76.16306	1162482.3	932286.9	402.0	Cone Penetration Test
B 74	43.18967	-76.16381	1162482.3	932086.9	402.6	Cone Penetration Test
B 75	43.18967	-76.16456	1162482.3	931886.6	404.4	Cone Penetration Test
B 76	43.18967	-76.16531	1162482.2	931686.7	403.2	Cone Penetration Test
B 77	43.18968	-76.16606	1162482.2	931486.6	404.5	Cone Penetration Test
B 78	43.18965	-76.16006	1162482.2	933086.8	402.1	Cone Penetration Test
B 80	Survey Data Not Provided by Thew					Cone Penetration Test
B 81	43.18928	-76.16157	1162344.6	932686.6	404.4	Test Boring - Second Phase
B 83	43.18929	-76.16306	1162344.6	932286.8	404.8	Test Boring - Second Phase
B 84	43.18929	-76.16381	1162344.6	932086.8	403.7	Cone Penetration Test
B 85	43.18929	-76.16456	1162344.7	931886.8	404.7	Test Boring - Second Phase
B 86	43.18930	-76.16531	1162344.8	931687.0	404.0	Cone Penetration Test
B 87	43.18930	-76.16606	1162344.8	931486.9	403.8	Test Boring - Second Phase
B 88	43.18928	-76.16007	1162344.6	933086.7	404.6	Test Boring - Second Phase
B 90	43.18882	-76.16082	1162176.0	932887.0	406.0	Test Boring - Second Phase
B 92	43.18882	-76.16232	1162175.8	932486.8	406.2	Cone Penetration Test
B 93	43.18882	-76.16307	1162175.8	932286.8	407.4	Cone Penetration Test
B 94	43.18883	-76.16382	1162176.0	932086.8	406.8	Test Boring - Second Phase
B 95	43.18883	-76.16457	1162175.9	931886.8	406.1	Cone Penetration Test
B 96	43.18883	-76.16532	1162176.0	931686.8	407.8	Test Boring - Second Phase
B 97	43.18884	-76.16607	1162175.8	931486.7	406.0	Cone Penetration Test
B 98	43.18881	-76.16007	1162175.9	933086.6	405.6	Cone Penetration Test
B 102	43.18849	-76.16232	1162053.1	932486.9	408.6	Cone Penetration Test
B 103	43.18849	-76.16307	1162053.0	932286.7	408.5	Test Boring - Second Phase
B 104	43.18849	-76.16382	1162053.2	932086.9	407.0	Cone Penetration Test
B 105	43.18849	-76.16457	1162053.0	931886.6	406.4	Test Boring - Second Phase
B 106	43.18850	-76.16532	1162053.0	931686.7	407.1	Cone Penetration Test
B 107	43.18848	-76.16007	1162053.2	933086.9	406.1	Cone Penetration Test
B 112	43.18808	-76.16232	1161905.5	932486.9	410.3	Cone Penetration Test
B 113	43.18808	-76.16307	1161905.7	932286.6	410.1	Cone Penetration Test
B 114	43.18809	-76.16382	1161905.7	932087.0	409.8	Test Boring - Second Phase
B 115	43.18809	-76.16455	1161906.5	931893.8	407.0	Cone Penetration Test
B 116	43.18798	-76.16011	1161871.3	933077.3	406.3	Test Boring - Second Phase
B 120	Survey Data Not Provided by Thew					Cone Penetration Test
B 121	43.18748	-76.16334	1161684.2	932218.0	414.8	Test Boring - Second Phase
B 122	43.18715	-76.16273	1161567.2	932380.2	418.8	Test Boring - Second Phase
B 123	43.18683	-76.16212	1161450.3	932542.7	418.3	Test Boring - Second Phase
B 124	43.18651	-76.16152	1161333.5	932705.1	420.8	Test Boring - First Phase
B 125	43.18618	-76.16091	1161216.4	932867.1	422.1	Test Boring - First Phase
B 126	43.18586	-76.16030	1161099.4	933029.3	421.6	Test Boring - First Phase
B 127	43.18554	-76.15970	1160982.4	933191.5	420.6	Test Boring - First Phase
B 128	43.18521	-76.15909	1160865.4	933353.9	419.5	Test Boring - First Phase
B 129	43.18489	-76.15849	1160748.4	933516.1	418.8	Test Boring - First Phase
B 130	43.18457	-76.15788	1160631.4	933678.1	418.8	Test Boring - First Phase

SURVEY DATA PROVIDED BY THEW ASSOCIATES ON 04/20/23, 05/03/23, 10/17/23, AND 10/20/23

Exploration ID	Latitude	Longitude	Northing (ft)	Easting (ft)	Elevation (ft)	Exploration Phase and Type
B 132	43.18533	-76.15805	1160910.4	933632.8	410.3	Test Boring - First Phase
B 133	43.18566	-76.15865	1161027.2	933470.7	410.3	Test Boring - First Phase
B 134	43.18598	-76.15926	1161144.5	933308.4	411.5	Test Boring - First Phase
B 135	43.18630	-76.15986	1161261.4	933146.2	412.5	Test Boring - First Phase
B 136	43.18663	-76.16047	1161378.4	932984.0	413.0	Test Boring - First Phase
B 137	43.18695	-76.16107	1161495.3	932821.9	413.5	Test Boring - First Phase
B 138	43.18727	-76.16168	1161612.3	932659.7	412.4	Test Boring - First Phase
B 151	43.18744	-76.15744	1161678.5	933790.0	403.5	Test Boring - Second Phase
B 152	43.18763	-76.15675	1161747.9	933973.7	402.9	Test Boring - Second Phase
B 153	43.18781	-76.15603	1161815.1	934166.9	404.4	Test Boring - Second Phase
B 160	43.18698	-76.15764	1161509.9	933738.3	405.1	Test Boring - Second Phase
B 161	43.18710	-76.15691	1161553.6	933933.3	404.6	Test Boring - Second Phase
B 162	43.18721	-76.15617	1161596.0	934128.8	401.3	Test Boring - Second Phase
B 163	43.18733	-76.15545	1161641.3	934321.3	400.5	Test Boring - Second Phase
B 164	43.18739	-76.15491	1161664.6	934464.8	402.6	Test Boring - Second Phase
B 206	43.19386	-76.14777	1164031.9	936358.1	390.7	Test Boring - Second Phase
B 207	43.19279	-76.14783	1163641.8	936342.3	389.9	Test Boring - Second Phase
B 208	43.19311	-76.14844	1163758.9	936180.1	390.8	Cone Penetration Test
B 209	43.19344	-76.14905	1163875.8	936017.8	391.0	Test Boring - Second Phase
B 212	43.19441	-76.15086	1164226.7	935531.1	386.8	Test Boring - Second Phase
B 213	43.19473	-76.15147	1164343.8	935369.0	387.3	Test Boring - Second Phase
B 216	43.19517	-76.15103	1164506.0	935485.7	385.8	Test Boring - Second Phase
B 217	43.19485	-76.15042	1164388.9	935648.1	387.8	Test Boring - Second Phase
B 218	43.19506	-76.14973	1164465.4	935832.9	386.4	Test Boring - Second Phase
B 221	43.19429	-76.15191	1164181.4	935251.9	389.8	Cone Penetration Test
B 222	43.19396	-76.15131	1164064.5	935414.1	389.7	Cone Penetration Test
B 224	43.19332	-76.15009	1163830.7	935738.7	389.5	Test Boring - Second Phase
B 225	43.19299	-76.14949	1163713.5	935900.8	391.5	Cone Penetration Test
B 226	43.19267	-76.14888	1163596.6	936062.9	390.1	Test Boring - First Phase
B 227	43.19235	-76.14828	1163479.6	936225.2	389.3	Test Boring - First Phase
B 228	43.19223	-76.14932	1163434.4	935945.9	392.4	Cone Penetration Test
B 229	43.19255	-76.14993	1163551.3	935783.8	391.9	Test Boring - First Phase
B 230	43.19287	-76.15054	1163668.3	935621.5	391.0	Test Boring - First Phase
B 231	43.19320	-76.15114	1163785.3	935459.3	388.2	Test Boring - First Phase
B 232	43.19352	-76.15175	1163902.2	935297.1	387.8	Test Boring - First Phase
B 233	43.19384	-76.15235	1164019.2	935134.9	389.9	Test Boring - First Phase
B 234	43.19417	-76.15296	1164136.2	934972.7	389.9	Test Boring - First Phase
B 235	43.19449	-76.15357	1164253.2	934810.5	390.4	Test Boring - First Phase
B 236	43.19405	-76.15401	1164090.9	934693.5	394.0	Test Boring - First Phase
B 237	43.19372	-76.15340	1163974.0	934855.6	393.0	Cone Penetration Test
B 238	43.19340	-76.15280	1163857.0	935017.8	392.2	Cone Penetration Test
B 239	43.19361	-76.15436	1163929.8	934600.3	393.0	Test Boring - First Phase
B 240	43.19308	-76.15490	1163738.9	934457.1	392.8	Test Boring - First Phase
B 241	43.19272	-76.15533	1163604.4	934342.7	393.5	Test Boring - First Phase
B 242	43.19259	-76.15652	1163556.3	934024.9	392.7	Test Boring - Second Phase
B 243	43.19304	-76.15594	1163721.2	934180.3	393.3	Cone Penetration Test

SURVEY DATA PROVIDED BY THEW ASSOCIATES ON 04/20/23, 05/03/23, 10/17/23, AND 10/20/23

Exploration ID	Latitude	Longitude	Northing (ft)	Easting (ft)	Elevation (ft)	Exploration Phase and Type
B 244	43.19336	-76.15668	1163837.9	933981.6	392.9	Cone Penetration Test
B 245	43.19338	-76.15746	1163842.4	933773.8	392.4	Test Boring - Second Phase
B 246	43.19350	-76.15815	1163887.8	933589.4	392.0	Cone Penetration Test
B 251	43.19386	-76.15965	1164014.3	933189.3	392.5	Test Boring - Second Phase
B 252	43.19393	-76.16024	1164041.8	933030.9	388.5	Cone Penetration Test
B 260	43.19403	-76.15855	1164080.5	933482.1	392.6	Test Boring - Second Phase
B 261	43.19424	-76.15922	1164152.8	933303.9	392.0	Cone Penetration Test
B 262	43.19390	-76.15776	1164032.9	933694.2	394.9	Cone Penetration Test
B 263	43.19410	-76.15696	1164104.9	933905.2	392.2	Test Boring - Second Phase
B 270	43.19450	-76.15807	1164252.7	933610.1	392.4	Cone Penetration Test
B 271	43.19461	-76.15879	1164288.2	933416.2	393.1	Test Boring - Second Phase
B 280	43.19494	-76.15831	1164411.6	933545.0	385.2	Cone Penetration Test
B 281	43.19560	-76.15827	1164652.6	933554.5	383.7	Test Boring - Second Phase
B 282	43.19588	-76.15775	1164756.1	933691.5	386.2	Cone Penetration Test
B 292	43.19575	-76.15593	1164710.7	934178.5	385.5	Test Boring - Second Phase
B 293	43.19573	-76.15518	1164704.5	934377.6	384.4	Cone Penetration Test
B 299	43.19145	-76.14753	1163153.8	936425.5	387.7	Test Boring - First Phase
B 300	43.19243	-76.15098	1163506.1	935504.5	393.6	Test Boring - Second Phase
B 301	43.19211	-76.15037	1163389.1	935666.9	392.6	Test Boring - Second Phase
B 302	43.19178	-76.14976	1163272.1	935829.1	392.3	Test Boring - Second Phase
B 303	43.19146	-76.14916	1163155.1	935991.3	390.8	Test Boring - Second Phase
B 304	43.19114	-76.14855	1163038.1	936153.5	390.5	Test Boring - Second Phase
B 305	43.19042	-76.14852	1162775.9	936163.8	388.1	Test Boring - First Phase
B 306	43.19069	-76.14899	1162875.9	936036.6	388.3	Test Boring - Second Phase
B 307	43.19102	-76.14960	1162992.9	935874.3	388.7	Test Boring - Second Phase
B 308	43.19134	-76.15021	1163110.0	935712.2	389.5	Test Boring - Second Phase
B 312	43.19187	-76.15247	1163298.6	935108.4	390.9	Cone Penetration Test
B 314	43.19142	-76.15291	1163136.5	934991.6	392.0	Test Boring - Second Phase
B 317	43.19195	-76.15517	1163325.2	934387.9	392.9	Test Boring - First Phase
B 324	43.19031	-76.15186	1162730.9	935273.6	390.7	Test Boring - Second Phase
B 325	43.19065	-76.15124	1162857.2	935436.6	390.8	Cone Penetration Test
B 326	43.19027	-76.15030	1162720.7	935688.2	388.4	Test Boring - Second Phase
B 327	43.18993	-76.14968	1162597.3	935855.2	389.0	Cone Penetration Test
B 328	43.18976	-76.15030	1162533.7	935689.0	389.6	Test Boring - Second Phase
B 329	43.18994	-76.15100	1162597.4	935503.6	389.8	Cone Penetration Test
B 330	43.19000	-76.15249	1162618.6	935104.6	390.8	Cone Penetration Test
B 332	43.18992	-76.15552	1162585.9	934298.8	393.7	Cone Penetration Test
B 333	43.18993	-76.15627	1162586.0	934098.8	394.9	Test Boring - First Phase
B 334	43.18941	-76.15637	1162397.5	934071.1	397.8	Test Boring - First Phase
B 335	43.18941	-76.15562	1162397.4	934271.0	394.8	Test Boring - Second Phase
B 336	43.18884	-76.15641	1162188.6	934062.2	403.9	Test Boring - First Phase
B 337	43.18886	-76.15563	1162197.4	934270.9	403.5	Test Boring - Second Phase
B 338	43.18885	-76.15488	1162197.4	934470.9	394.4	Test Boring - First Phase
B 339	43.18885	-76.15413	1162197.4	934670.9	391.9	Test Boring - Second Phase
B 340	43.18878	-76.15333	1162172.1	934882.8	391.4	Test Boring - First Phase
B 341	43.18886	-76.15267	1162201.4	935059.4	391.0	Test Boring - Second Phase

SURVEY DATA PROVIDED BY THEW ASSOCIATES ON 04/20/23, 05/03/23, 10/17/23, AND 10/20/23

Exploration ID	Latitude	Longitude	Northing (ft)	Easting (ft)	Elevation (ft)	Exploration Phase and Type
B 342	43.18830	-76.15263	1161997.4	935071.0	391.5	Test Boring - First Phase
B 343	43.18830	-76.15338	1161997.4	934870.9	393.1	Cone Penetration Test
B 344	43.18830	-76.15413	1161997.4	934671.0	395.8	Test Boring - First Phase
B 345	43.18830	-76.15488	1161997.3	934471.0	406.6	Cone Penetration Test
B 346	43.18831	-76.15563	1161997.5	934271.1	403.9	Test Boring - First Phase
B 347	43.18831	-76.15638	1161997.5	934071.1	401.7	Test Boring - First Phase
B 350	43.18829	-76.15113	1161997.4	935470.9	391.4	Test Boring - Second Phase
B 351	43.18868	-76.15060	1162138.8	935612.5	390.1	Cone Penetration Test
B 352	43.18901	-76.15006	1162261.3	935756.5	388.7	Test Boring - First Phase
B 360	43.18994	-76.15694	1162589.9	933920.1	396.9	Cone Penetration Test
B 361	43.19028	-76.15750	1162714.3	933768.5	395.1	Test Boring - Second Phase
B 362	43.19072	-76.15820	1162872.2	933582.0	395.2	Cone Penetration Test
B 363	43.19106	-76.15874	1162995.9	933435.6	395.8	Test Boring - Second Phase
B 364	43.19129	-76.15948	1163078.8	933238.5	395.8	Test Boring - Second Phase
B 365	43.19138	-76.16042	1163111.1	932988.0	404.8	Cone Penetration Test
B 366	43.19244	-76.16223	1163495.2	932502.4	393.0	Test Boring - Second Phase
B 370	43.19187	-76.15980	1163290.1	933153.2	393.7	Test Boring - Second Phase
B 371	43.19217	-76.16079	1163398.9	932887.2	394.7	Cone Penetration Test
B 372	43.19165	-76.15911	1163212.1	933337.5	393.3	Cone Penetration Test
B 380	43.19199	-76.15900	1163333.5	933364.7	391.0	Test Boring - Second Phase
B 381	43.19252	-76.16013	1163527.8	933064.6	393.7	Cone Penetration Test
B 382	43.19294	-76.16073	1163678.8	932903.2	386.7	Test Boring - Second Phase
B 383	43.19170	-76.15824	1163229.5	933569.7	391.7	Cone Penetration Test
B 384	43.19104	-76.15758	1162991.0	933746.6	392.6	Test Boring - Second Phase
B 390	43.19093	-76.15608	1162951.9	934146.7	392.8	Test Boring - First Phase
B 391	43.19131	-76.15535	1163093.3	934340.4	393.0	Test Boring - Second Phase
B 392	43.19146	-76.15608	1163146.8	934146.1	393.5	Test Boring - First Phase
B 400	43.19004	-76.16946	1162609.1	930580.2	399.6	Test Boring - Second Phase
B 401	43.19040	-76.16883	1162743.2	930748.4	400.7	Test Boring - Second Phase
B 402	43.19054	-76.16799	1162795.1	930971.7	398.3	Test Boring - Second Phase
B 403	43.19052	-76.16724	1162788.3	931170.5	400.1	Test Boring - Second Phase
B 404	43.19105	-76.16873	1162979.7	930772.6	399.0	Test Boring - Second Phase
B 405	43.19111	-76.16795	1163003.0	930979.9	398.3	Test Boring - Second Phase
B 406	43.19109	-76.16723	1162995.3	931171.9	397.7	Test Boring - Second Phase
B 407	43.19151	-76.16870	1163148.1	930779.9	397.0	Test Boring - Second Phase
B 408	43.19675	-76.16517	1165063.0	931711.3	392.3	Test Boring - Second Phase
B 409	43.19675	-76.16442	1165062.9	931911.3	393.5	Test Boring - Second Phase
B 410	43.19675	-76.16367	1165062.9	932111.3	393.3	Test Boring - Second Phase
B 411	43.19675	-76.16292	1165062.9	932311.3	393.2	Test Boring - Second Phase
B 412	43.19674	-76.16217	1165062.9	932511.3	392.2	Test Boring - Second Phase
B 413	43.19674	-76.16142	1165063.0	932711.2	386.5	Test Boring - Second Phase
B 414	43.19720	-76.16517	1165225.2	931711.3	392.0	Test Boring - Second Phase
B 415	43.19719	-76.16442	1165224.3	931911.2	391.8	Test Boring - Second Phase
B 416	43.19730	-76.16367	1165262.9	932111.3	392.3	Test Boring - Second Phase
B 417	43.19729	-76.16292	1165262.9	932311.3	388.8	Test Boring - Second Phase
B 418	43.19729	-76.16217	1165263.0	932511.2	385.4	Test Boring - Second Phase

SURVEY DATA PROVIDED BY THEW ASSOCIATES ON 04/20/23, 05/03/23, 10/17/23, AND 10/20/23

Exploration ID	Latitude	Longitude	Northing (ft)	Easting (ft)	Elevation (ft)	Exploration Phase and Type
B 419	43.19729	-76.16142	1165263.0	932711.2	386.1	Test Boring - Second Phase
B 420	43.19785	-76.16441	1165462.9	931911.3	390.9	Test Boring - Second Phase
B 421	43.19785	-76.16366	1165462.8	932111.2	386.0	Test Boring - Second Phase
B 422	43.19784	-76.16142	1165463.0	932711.0	382.0	Test Boring - Second Phase
B 423	43.18951	-76.15945	1162430.6	933250.3	401.0	Test Boring - Second Phase
B 424	43.18966	-76.16152	1162480.8	932697.4	403.0	Test Boring - Second Phase
B 425	43.18995	-76.16151	1162587.9	932701.6	401.1	Test Boring - Second Phase
B 426	43.19221	-76.15776	1163415.5	933696.8	390.5	Test Boring - Second Phase
B 427	43.19275	-76.15712	1163615.4	933865.3	390.9	Test Boring - Second Phase
B 428	43.19371	-76.15888	1163961.8	933395.1	392.7	Test Boring - Second Phase
B 429	43.19460	-76.15706	1164289.2	933878.4	390.8	Test Boring - Second Phase
B 430	43.19503	-76.15707	1164447.2	933873.8	390.2	Test Boring - Second Phase

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST PIT LOG

Test Pit ID	TP-1
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	11/08/23
Date Finished	11/08/23
Surface Elev.	392.7'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHOD OF INVESTIGATION

Operator: Daryl Sherman
Inspector: Astitwa Sharma, EIT
Equipment: Link Belt Model LNK 27
Type: Toothed Bucket
Bucket Width: 24"

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Comment
11/8/2023	8:55	None Noted	See Remark 3

VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Depth of Change (Ft.)	Description
0					Topsoil and Organic Materials (moist, easy digging)
1					
2	S-1	2.0	4.0	2.0	Brown mottled SILT, little CLAY, trace mf GRAVEL, trace cmf SAND (moist, easy digging)
3					
4				4.0	Brown SILT, some CLAY, trace cmf SAND (moist, easy digging)
5					
6					
7				7.0	Grey/Brown SILT, some CLAY, trace cmf SAND (moist, easy digging)
8					Bottom of Test Pit @ 8'
9					
10					
11					
12					
13					
14					
15					
16					

Remarks:
1. See Test Pit Photographs attached.
2. Test Pit excavated and backfilled by a subcontractor to CME, utilizing a Link Belt Model LNK 27 excavator, equipped with a 24" wide bucket with teeth.
3. The Clayey Silt soils exhibit low permeability, and groundwater movement through this stratum is slow. Groundwater did not collect and accumulate in the test pit during the short time the test pit was left open. Wet and/or grey soils were noted, which may be indicative of soils present below groundwater.

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SUBSURFACE EXPLORATION TEST PIT LOG

Test Pit ID	TP- 2
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	11/08/23
Date Finished	11/08/23
Surface Elev.	390.7'

METHOD OF INVESTIGATION

Operator:	Daryl Sherman
Inspector:	Astitwa Sharma, EIT
Equipment:	Link Belt Model LNK 27
Type:	Toothed Bucket
Bucket Width:	24"

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Comment
11/8/2023	10:20	None Noted	Water Seeping at 2'. See Remark 3

VISUAL CLASSIFICATION OF MATERIAL

c - coarse / m - medium / f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Depth of Change (Ft.)	Description
0					Topsoil and Organic Materials (moist, easy digging)
1				1.5	
2	S-1	2.0	4.0		Brown mottled SILT, little CLAY, trace mf GRAVEL, trace mf SAND (wet, easy digging)
3				4.0	
4					Brown SILT, some CLAY, trace cmf SAND (moist, easy digging)
5					
6				7.0	
7					Grey/Brown mottled SILT, little CLAY, fine cmf SAND (moist, easy digging)
8				9.0	
9					Brown/Reddish SILT and CLAY, trace fine SAND (wet, easy digging)
10					
11					Bottom of Test Pit @10.5'
12					
13					
14					
15					
16					

Remarks:
1. See Test Pit Photographs attached.
2. Test Pit excavated and backfilled by a subcontractor to CME, utilizing a Link Belt Model LNK 27 excavator, equipped with a 24" wide bucket with teeth.
3. The Clayey Silt soils exhibit low permeability, and groundwater movement through this stratum is slow. Groundwater did not collect and accumulate in the test pit during the short time the test pit was left open. Wet and/or grey soils were noted, which may be indicative of soils present below groundwater.

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SUBSURFACE EXPLORATION TEST PIT LOG

Test Pit ID	TP- 3
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	11/08/23
Date Finished	11/08/23
Surface Elev.	418.8'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHOD OF INVESTIGATION

Operator:	Daryl Sherman
Inspector:	Astitwa Sharma, EIT
Equipment:	Link Belt Model LNK 27
Type:	Toothed Bucket
Bucket Width:	24"

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Comment
11/8/2023	11:30	6.5'	Water Seeping at 2'

VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Depth of Change (Ft.)	Description
0					Topsoil and Organic Materials, some COBBLES (moist, moderate digging)
1				1.5	
2					Black/Dark Grey cmf SAND and cmf GRAVEL, some COBBLES, some BOULDERS (wet, hard digging)
	S-1	2.0	4.0		Brown Grey SILT, some cmf SAND, some cmf GRAVEL, little COBBLES (wet, hard digging)
3					
				4.0	
4					Grey/Brown cmf SAND and cmf GRAVEL, some BOULDERS, some COBBLES, little SILT (wet, hard digging)
5					
6					
				7.0	
7					Grey cmf SAND and SILT, some cmf GRAVEL, some COBBLES (moist, hard digging) *Possible Till*
					Bottom of Test Pit @ 7.5'
8					
9					
10					
11					
12					
13					
14					
15					
16					

Remarks:
1. See Test Pit Photographs attached.
2. Test Pit excavated and backfilled by a subcontractor to CME, utilizing a Link Belt Model LNK 27 excavator, equipped with a 24" wide bucket with teeth.

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SUBSURFACE EXPLORATION TEST PIT LOG

Test Pit ID	TP-4
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	11/08/23
Date Finished	11/08/23
Surface Elev.	422.1'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHOD OF INVESTIGATION

Operator: Daryl Sherman
Inspector: Astitwa Sharma, EIT
Equipment: Link Belt Model LNK 27
Type: Toothed Bucket
Bucket Width: 24"

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Comment
11/8/2023	12:30	None Noted	See Remark 3

VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Depth of Change (Ft.)	Description
0					Topsoil and Organic Materials (moist, easy digging)
1				1.0	Brown SILT and cmf SAND, little cmf GRAVEL, trace COBBLES (moist, medium digging)
2	S-1	2.0	4.0		
3				3.0	Brown cmf SAND and cmf GRAVEL, some SILT, little COBBLES (moist, medium to hard digging)
4					
5					
6					
7				7.0	Grey SILT and cmf SAND, some cmf GRAVEL, little COBBLES (moist, hard digging) *Possible Till*
8					
9					Bottom of Test Pit 8.5'
10					
11					
12					
13					
14					
15					
16					

Remarks:
1. See Test Pit Photographs attached.
2. Test Pit excavated and backfilled by a subcontractor to CME, utilizing a Link Belt Model LNK 27 excavator, equipped with a 24" wide bucket with teeth.
3. Groundwater did not collect and accumulate in the test pit during the short time the test pit was left open.

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SUBSURFACE EXPLORATION TEST PIT LOG

Test Pit ID	TP- 5
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	11/08/23
Date Finished	11/08/23
Surface Elev.	414.8'

METHOD OF INVESTIGATION

Operator: Daryl Sherman
Inspector: Astitwa Sharma, EIT
Equipment: Link Belt Model LNK 27
Type: Toothed Bucket
Bucket Width: 24"

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Comment
11/8/2023	13:28	None Noted	See Remark 3

VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Depth of Change (Ft.)	Description
0					Topsoil and Organic Materials (moist, easy digging)
1				1.0	Brown cmf SAND and SILT, some cmf GRAVEL, little COBBLES (moist, medium digging)
2				2.5	
3	S-1	2.5	4.0		Brown SILT, some cmf SAND, little cmf GRAVEL, little COBBLES (moist, medium to hard digging)
4				4.0	Brown cmf SAND and cmf GRAVEL, some COBBLES, some SILT (moist, medium to hard digging)
5					
6					
7				7.0	Grey SILT and cmf SAND, some cmf GRAVEL, little COBBLES (moist, hard digging) *Possible Till*
8					
9					Bottom of Test Pit @ 9.0'
10					
11					
12					
13					
14					
15					
16					

Remarks:
1. See Test Pit Photographs, attached.
2. Test Pit excavated and backfilled by a subcontractor to CME, utilizing a Link Belt Model LNK 27 excavator, equipped with a 24" wide bucket with teeth.
3. Groundwater did not collect and accumulate in the test pit during the short time the test pit was left open.

Figure 1: Test Pit TP-1

Figure 2: Materials excavated from TP-1

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Figure 3: Test Pit TP-2

Figure 4: Materials excavated from TP-2

Figure 5: Test Pit TP-3

Figure 6: Materials excavated from TP-3

Figure 7: Test Pit TP-4

Figure 8: Materials excavated from TP-4

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Figure 9: Test Pit TP-5

Figure 10: Materials Excavated from TP-5

Attachement to CME Report No: 28062B-03-1223
Vane Shear Test and Pocket Penetrometer Test Summary Tables

In-situ Vane Shear Test Readings

TESP PIT ID	Depth (ft)	TEST 1		TEST 2		TEST 3	
		Peak (psf)	Residual (psf)	Peak (psf)	Residual (psf)	Peak (psf)	Residual (psf)
TP -1	2	3,675	1,420	2,589	1,336	3,341	1,754
	3	793	251	1,420	585	1,002	418
	4	167	84	501	84	418	251
TP -2	2	2,547	1,253	2,255	626	2,714	1,587
	3	1,462	585	1,670	585	1,295	418
	4	459	167	418	125	376	146
TP -4	2	1,023	459	1,044	418	835	397
TP -5	2.5	2,046	793	1,754	919	1,712	835

In-situ Pocket Penetrometer Readings

TEST PIT ID	Depth (ft)	TEST 1 (tsf)	TEST 2 (tsf)	TEST 3 (tsf)
TP-1	2	1.9	2.2	3.0
	3	1.3	1.3	1.5
	4	0.8	0.5	0.8
TP-2	2	3.8	3.5	2.8
	3	1.3	1.3	1.3
	4	0.8	0.5	0.5
TP-4	2	0.8	0.5	0.8
TP-5	2.5	0.5	0.8	0.5

Attachment to CME Report No: 28062B-03-1223

Groundwater Observation Summary Table

	Observed Groundwater Elevation (Feet)								
	W-1	**W-2**	**W-3**	**W-4**	**W-5**	**W-6**	**W-7**	**W-8**	**W-9**
Date	**B-129**	**B-24**	**B-227**	**B-337**	**B-391**	**B-370**	**B-400**	**B-420**	**B-422**
04/19/23	418.7		385.5						
04/21/23		393.8							
05/16/23	416.1	392.5	385.7						
05/17/23	416.0	391.8	386.4						
06/12/23	414.6	386.8	385.3						
10/05/23	415.2	389.2	386.4						
11/09/23	418.2	394.2	386.2	398.4	392.3	388.7	398.5	388.7	379.4
11/17/23	419.6	394.4	387.1	398.9	392.1	389.8	398.5	386.7	377.0

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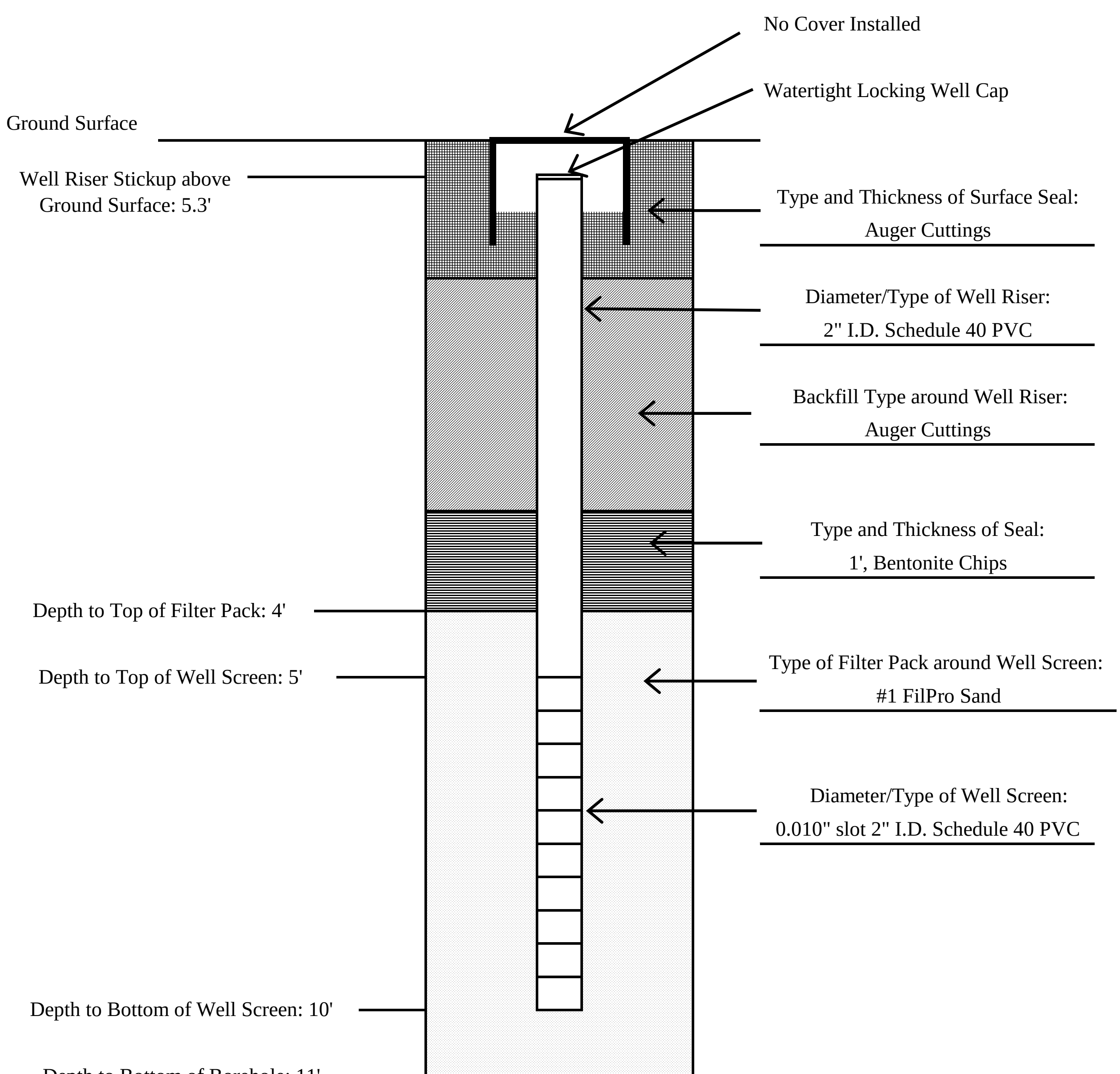
MONITORING WELL LOG

Well No.	**W-4**				
Boring No.	B-337				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-03-1223
Client:	Ramboll			**Installation Date**	10/30/2023
Location:	See Exploration Location Plan	**Surface Elevation**	403.5'	**Riser Elevation**	408.8'
Driller:	Beau Fletcher	**Driller:**	Ryan Casatelli	**Inspector:**	

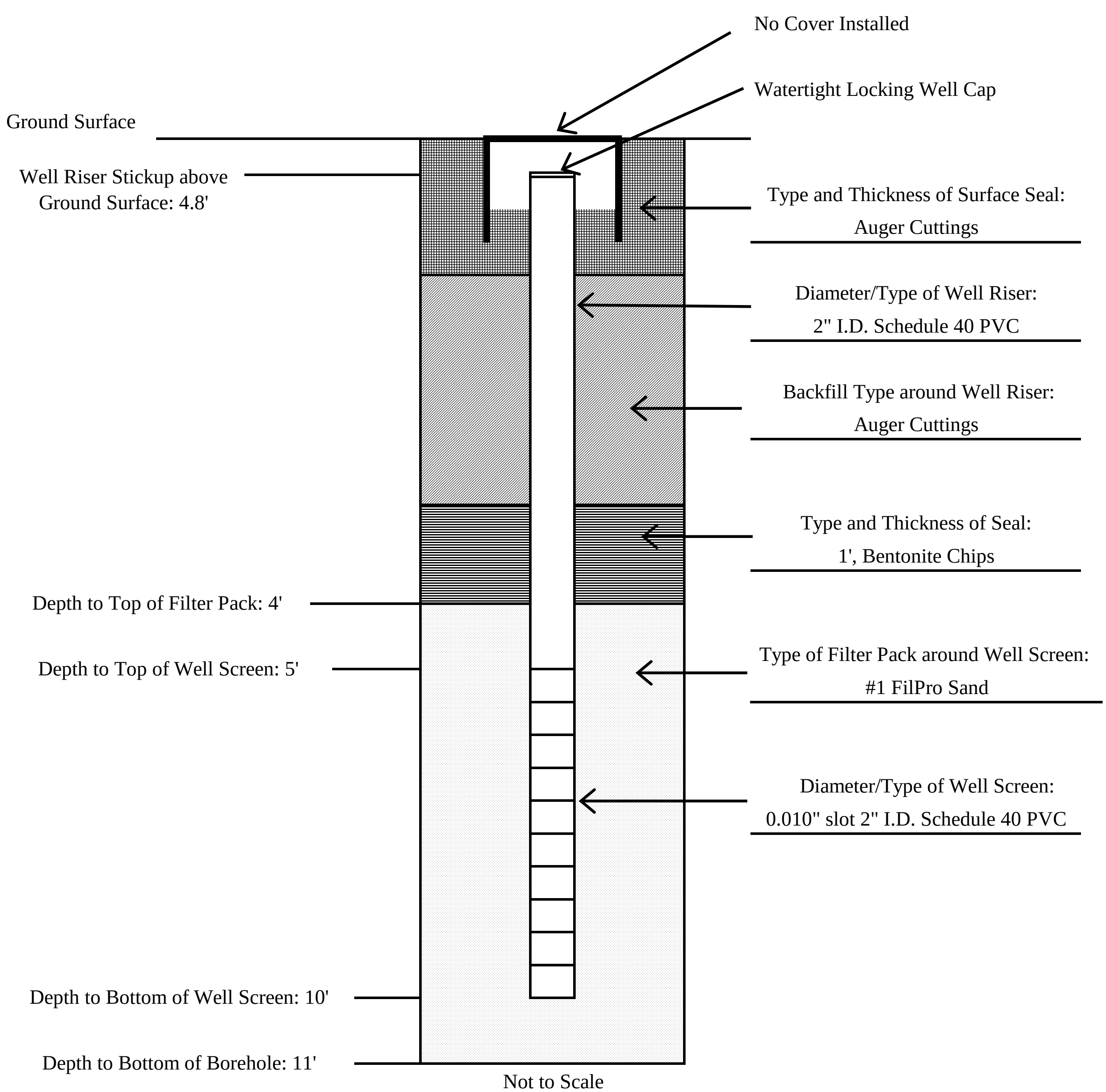


Not to Scale

Remarks:

1. See Test Boring Log B-337 for soil information.

CME Associates, Inc.	6035 Corporate Drive, East Syracuse, NY 13057, Phone: 315-701-0522	**MONITORING WELL LOG**		**Well No.**	**W-5**
				Boring No.	B-391
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-03-1223
Client:	Ramboll			**Installation Date**	11/1/2023
Location:	See Exploration Location Plan	**Surface Elevation**	393.0'	**Riser Elevation**	397.8'
Driller: Beau Fletcher		**Driller:** Ryan Casatelli		**Inspector:**	



Remarks:

1. See Test Boring Log B-391 for soil information.

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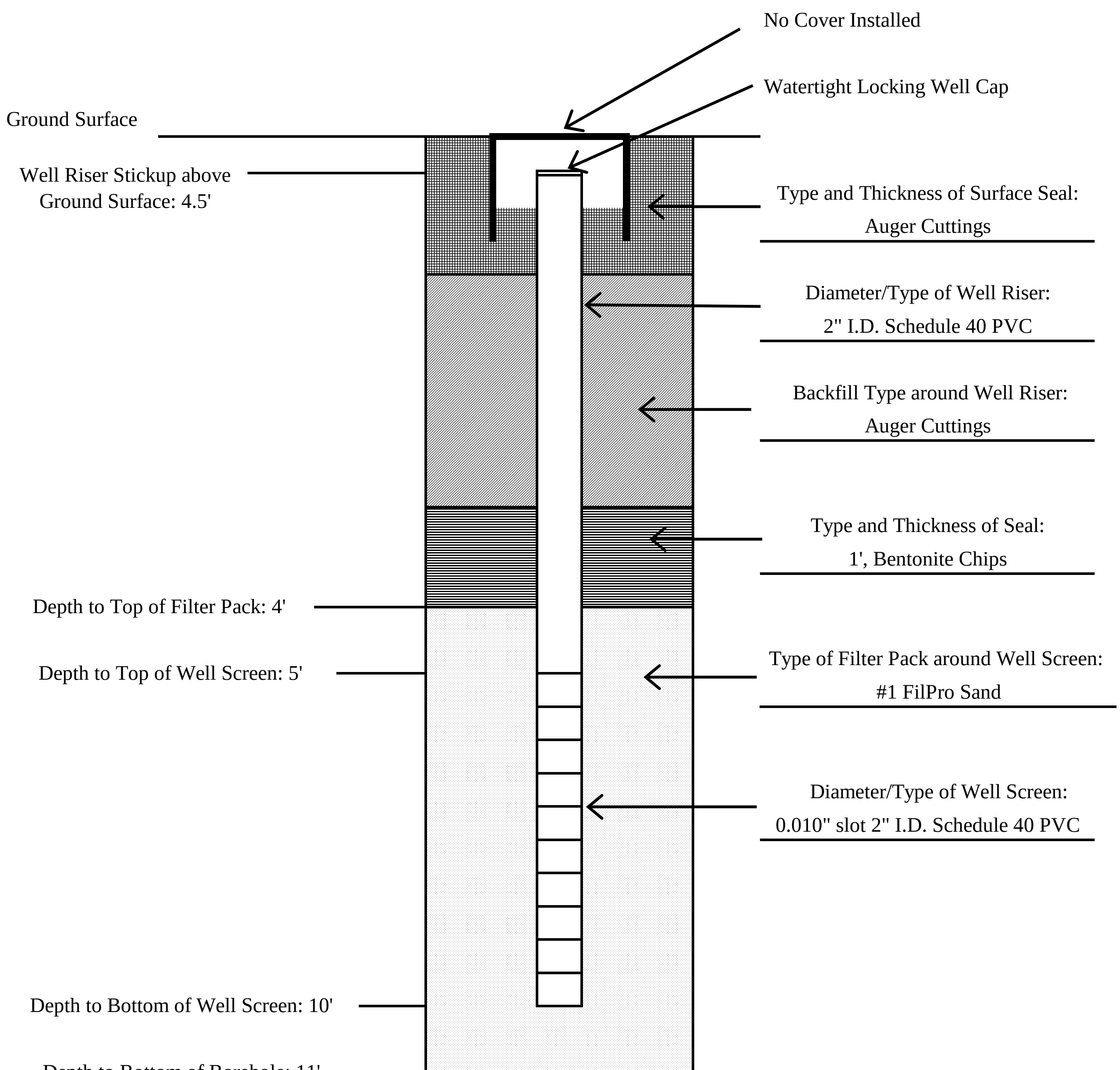
MONITORING WELL LOG

Well No.	**W-6**				
Boring No.	B-370				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-03-1223
Client:	Ramboll			**Installation Date**	11/1/2023
Location:	See Exploration Location Plan	**Surface Elevation**	393.7'	**Riser Elevation**	398.2'
Driller: Beau Fletcher		**Driller:** Ryan Casatelli		**Inspector:**	



Not to Scale

Remarks:

1. See Test Boring Log B-370 for soil information.

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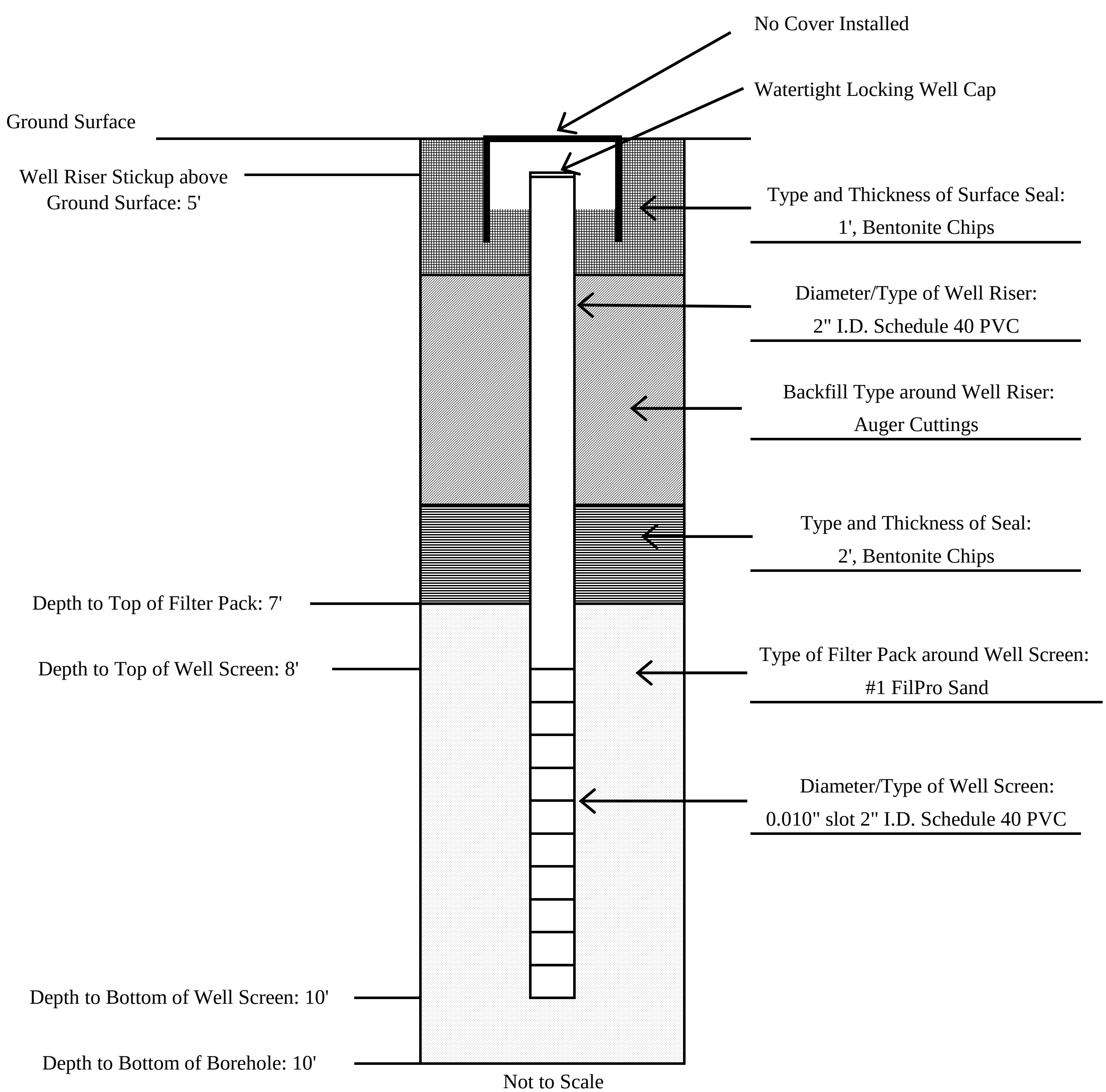
MONITORING WELL LOG

Well No.	**W-7**				
Boring No.	B-400				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-03-1223
Client:	Ramboll			**Installation Date**	11/2/2023
Location:	See Exploration Location Plan	**Surface Elevation**	399.6'	**Riser Elevation**	404.6'
Driller:	Beau Fletcher	**Driller:**	Ryan Casatelli	**Inspector:**	



Remarks:

1. See Test Boring Log B-400 for soil information.

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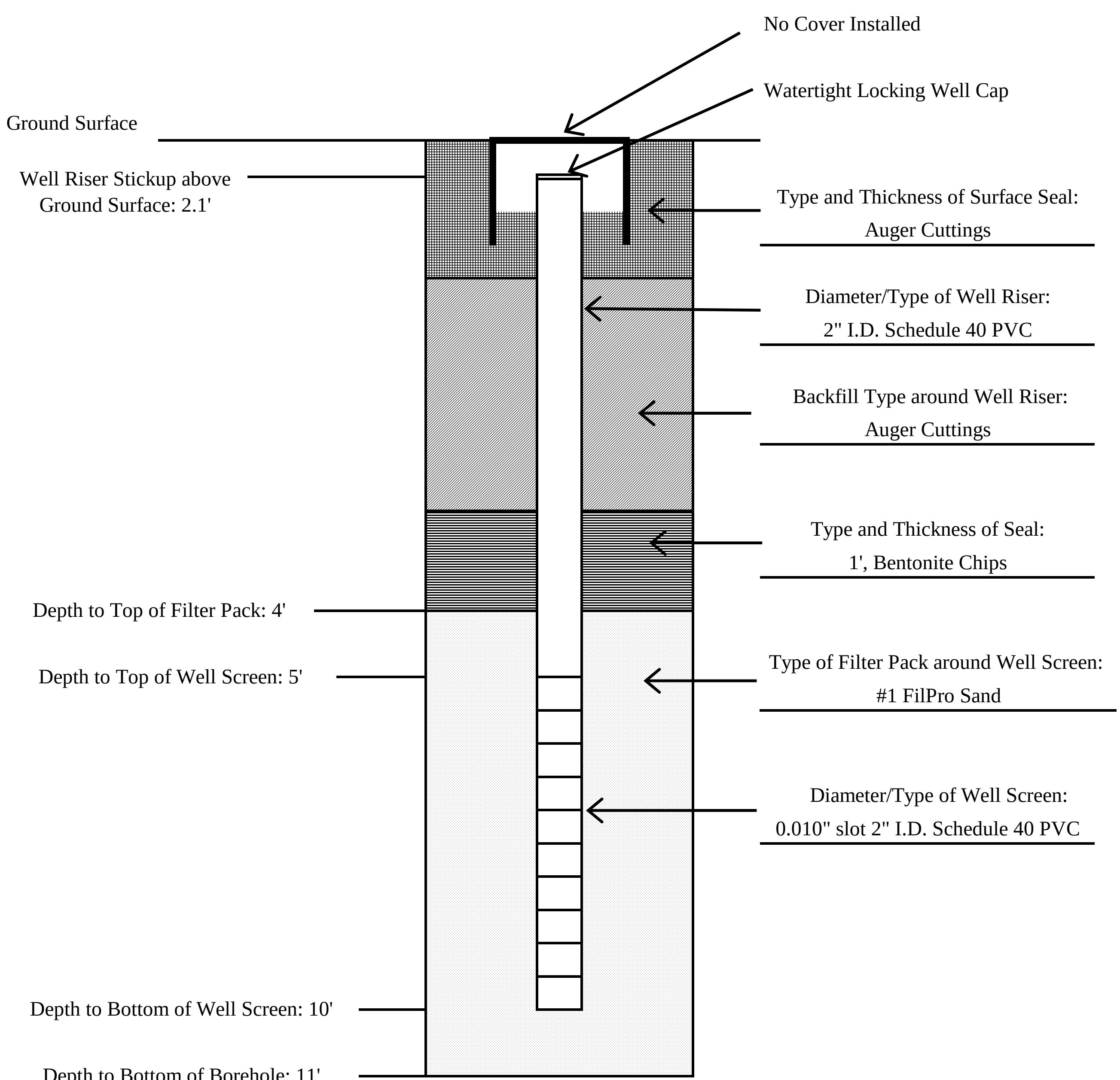
MONITORING WELL LOG

Well No.	**W-8**				
Boring No.	B-420				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-03-1223
Client:	Ramboll			**Installation Date**	11/2/2023
Location:	See Exploration Location Plan	**Surface Elevation**	390.9'	**Riser Elevation**	393'
Driller:	Beau Fletcher	**Driller:**	Ryan Casatelli	**Inspector:**	



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Remarks:

1. See Test Boring Log B-420 for soil information.

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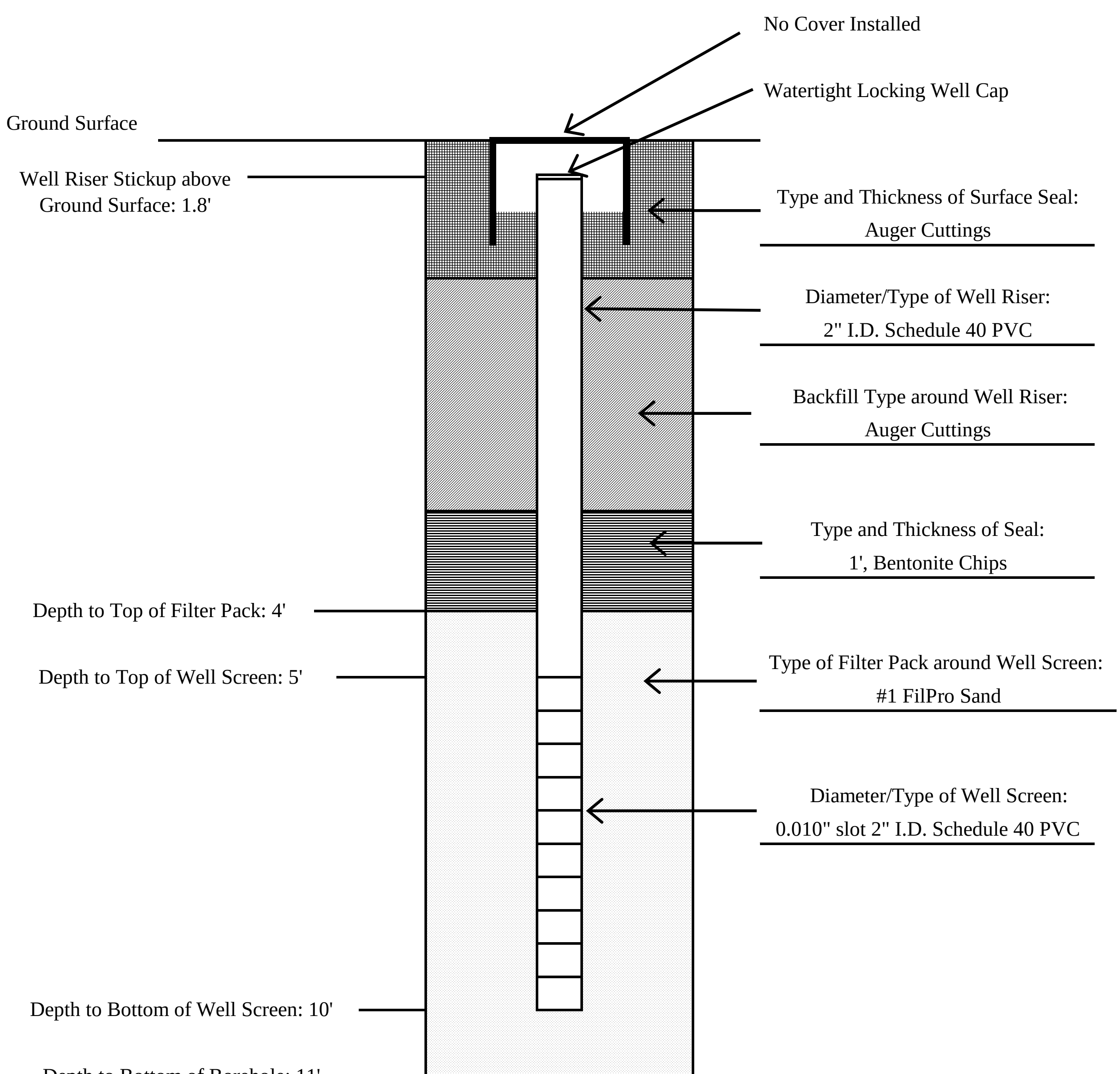
MONITORING WELL LOG

Well No.	**W-9**				
Boring No.	B-422				
Project Name:	Micron Campus, Clay, New York			**Report No.**	28062B-03-1223
Client:	Ramboll			**Installation Date**	11/3/2023
Location:	See Exploration Location Plan	**Surface Elevation**	382'	**Riser Elevation**	383.8'
Driller:	Beau Fletcher	**Driller:**	Ryan Casatelli	**Inspector:**	



Not to Scale

Remarks:

1. See Test Boring Log B-422 for soil information.

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 1 Boring: B-13 Run 1 Depth 23.8'-28.8' See Photographs Nos. 2 and 3 for detailed views.

Photograph 2 B-13 Run 1 Top Depth 23.8'-26.3'

Photograph 3 B-13 Run 1 Bottom Depth 26.3'-28.8'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 4 Boring: B-15 Run 1 Depth 23.8'-28.8' See Photographs Nos. 5 and 6 for detailed views.

Photograph 5 B-15 Run 1 Top Depth 23.8'-26.3'

Photograph 6 B-15 Run 1 Bottom Depth 26.3'-28.8'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 7 Boring: B-15 Run 2 Depth 28.8' - 33.8' See Photographs Nos. 8 and 9 for detailed views.

Photograph 8 B-15 Run 2 Top Depth 28.8' - 31.3'

Photograph 9 B-15 Run 2 Bottom Depth 31.3' - 33.8'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 10 Boring: B-30 Run 1 Depth 19.0'-24.0' See Photographs Nos. 11 and 12 for detailed views.

Photograph 11 B-30 Run 1 Top Depth 19.0'-21.5'

Photograph 12 B-30 Run 1 Bottom Depth 21.5'-24.0'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 13 Boring: B-35 Run 1 Depth 4.0'-9.0' See Photographs Nos. 14 and 15 for detailed views.

Photograph 14 B-35 Run 1 Bottom Depth 4.0' - 6.5'

Photograph 15 B-35 Run 1 Bottom Depth 6.5' - 9.0'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 16 B-39 Run 1 Bottom Depth 19.0' - 24.0' See Photographs Nos. 17 and 18 for detailed views.

Photograph 17 B-39 Run 1 Bottom Depth 19.0' - 21.5'

Photograph 18 B-39 Run 1 Bottom Depth 21.5' - 24.0'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 19 Boring: B-217 Run 1 Depth 21.9' - 26.9' See Photographs Nos. 20 and 21 for detailed views.

Photograph 20 B-217 Run 1 Top Depth 21.9' - 24.4'

Photograph 21 B-217 Run 1 Bottom Depth 24.4' - 26.9'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 22 Boring: B-217 Run 2 Depth 26.9' - 31.9' See Photographs Nos. 23 and 24 for detailed views.

Photograph 23 B-217 Run 2 Top Depth 26.9' - 29.4'

Photograph 24 B-217 Run 2 Bottom Depth 29.4' - 31.9'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 25 Boring: B-292 Run 1 Depth 18.5' - 23.5' See Photographs Nos. 26 and 27 for detailed views.

Photograph 26 B-292 Run 1 Top Depth 18.5' - 21.0'

Photograph 27 B-292 Run 1 Bottom Depth 21.0' - 23.5'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 28 Boring: B-292 Run 2 Depth 23.5' - 28.5' See Photographs Nos. 29 and 30 for detailed views.

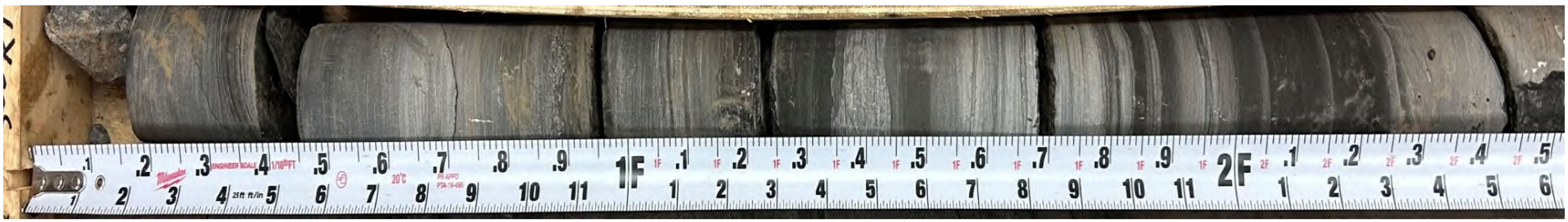
Photograph 29 B-292 Run 2 Top Depth 23.5' - 26.0'

Photograph 30 B-292 Run 2 Bottom Depth 26.0' - 28.5'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 31	Boring:	B-300	Run 1	Depth	28.0' 33.0'	See Photographs Nos. 32 and 33 for detailed views.



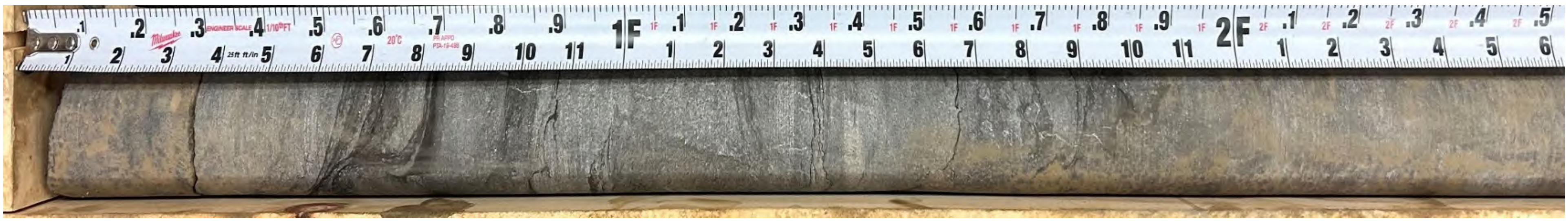
Photograph 32	B-300	Run 1	Top	Depth	28.0' - 30.5'

Photograph 33	B-300	Run 1	Bottom	Depth	30.5' - 33.0'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 34 Boring B-300 Run 2 Depth 33.0' -38.0' See Photographs Nos. 35 and 36 for detailed views.



Photograph 35 B-300 Run 2 Top Depth 33.0' - 35.5'

Photograph 36 B-300 Run 2 Bottom Depth 35.5' - 38.0'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 37 Boring B-366 Run 1 Depth 17.3' - 22.3' See Photographs Nos. 38 and 39 for detailed views.

Photograph 38 B-366 Run 1 Top Depth 17.3' - 19.8'

Photograph 39 B-366 Run 1 Bottom Depth 19.8' - 22.3'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 40	Boring	B-400	Run 1	Depth	8.8' - 13.8'	See Photographs Nos. 41 and 42 for detailed views.

Photograph 41	B-400	Run 1	Top	Depth	8.8' - 11.3'

Photograph 42	B-400	Run 1	Bottom	Depth	11.3' -13.8'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 43 Boring B-400 Run 2 Depth 13.8' - 18.8' See Photographs Nos. 44 and 45 for detailed views.

Photograph 44 B-400 Run 2 Top Depth 13.8' - 16.3'

Photograph 45 B-400 Run 2 Bottom Depth 16.3' - 18.8'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Top | Bottom

Photograph 46 Boring B-426 Run 1 Depth 22.5' - 27.5' See Photographs Nos. 47 and 48 for detailed views.

Photograph 47 B-426 Run 1 Top Depth 22.5' - 25.0'

Photograph 48 B-426 Run 1 Bottom Depth 25.0' - 27.5'

Bedrock Core Photographs

Attachment to CME Report No: 28062B-03-1223

Photograph 49 Boring B-426 Run 2 Depth 27.5' - 32.5' See Photographs Nos. 50 and 51 for detailed views.

Photograph 50 B-426 Run 2 Top Depth 27.5' - 30.0'

Photograph 51 B-426 Run 2 Bottom Depth 30.0' - 32.5'

CME Associates, Inc.

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LABORATORY TEST SUMMARY REPORT
Micron Campus, Clay, New York
CME Report No.: 28062L-03-1123
November 30, 2023
Page 1 of 19

CME Representatives obtained soil samples from Test Borings and Test Pits advanced as part of the Subsurface Exploration Program conducted for the subject project. Selected samples were delivered to CME's East Syracuse facility, an AASHTO re:source[1] accredited laboratory for various laboratory testing. The results are presented below:

Sample ID Notations:B- Test Boring, S- Sample, R- Rock Core Run, ST- Shelby Tube, TP- Test Pit

I. Natural Moisture Content (ASTM D2216)

Sample ID	Natural Moisture (%)	Sample ID	Natural Moisture (%)
B-217; S-1A	34.2	B-300; S-8	25.1
B-217; S-1B	23.6	B-300; S-9	2.7
B-217; S-2	26.7	B-15; S-7	15.1
B-217; S-3	26.8	B-206; S-6	19.2
B-217; S-4	24.6	B-216; S-6	19.8
B-217; S-5	23.2	B-218; S-6	23.3
B-217; S-6	23.5	B-308; S-7	15.0
B-217; S-7	7.6	B-326A; S-6	26.5
B-217; S-8	No Recovery	B-328; S-7	16.2
B-300; S-1	18.5	B-339; S-6	23.1
B-300; S-2	27.4	B-409; S-7	14.2
B-300; S-3	25.0	B-418; S-7	17.2
B-300; S-4	12.8	TP-1; S-1	29.5
B-300; S-5A	26.9	TP-2; S-1	27.0
B-300; S-5B	8.1	TP-3; S-1	11.6
B-300; S-6	6.9	TP-4; S-1	18.1
B-300; S-7	20.6	TP-5; S-1	19.1

[1]**AASHTO re:source** – American Association of State Highway & Transportation Officials (AASHTO) Materials Reference Laboratory, a Federal Agency having jurisdiction to assess laboratory competency according to the Standards of the United States of America. CME East Syracuse accreditation includes testing of Portland Cement Concrete, Aggregate and Soil Materials. www.AASHTOresource.org.

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II. Atterberg Limits Testing (ASTM D4318)

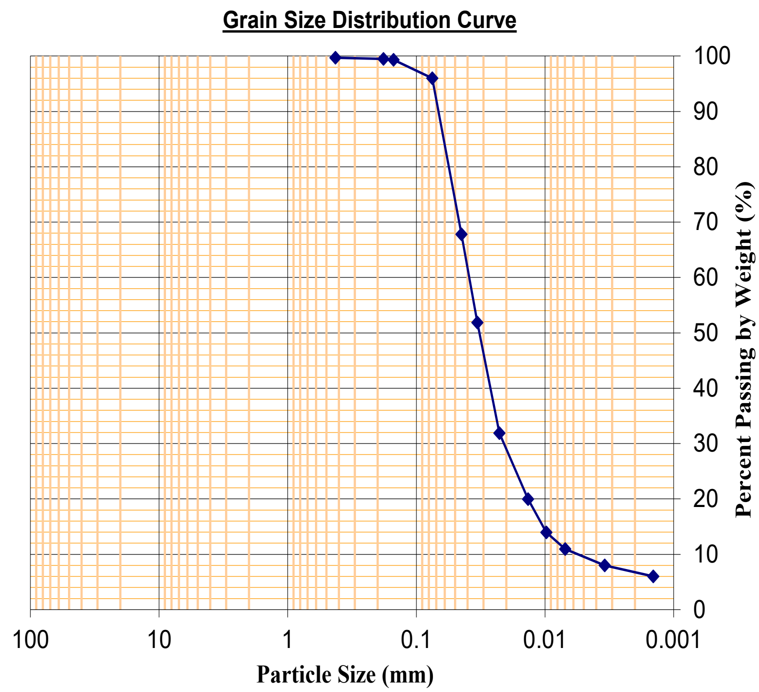
Sample ID	Liquid Limit	Plastic Limit	Plasticity Index	Natural Moisture (%)
B-15; S-7	18	13	5	15.1
B-206; S-6	23	14	9	19.2
B-216; S-6	19	13	6	19.8
B-218; S-6	Non-Plastic			23.3
B-308; S-7	19	12	7	15.0
B-326A; S-6	18	14	4	26.5
B-328; S-7	14	12	2	16.2
B-339; S-6	19	15	4	23.1
B-409; S-7	15	11	4	14.2
B-418; S-7	16	14	2	17.2

III. Particle Size Analysis (ASTM D422)

Sample #
B-13; S-6

Classification
Grey SILT, trace CLAY, trace fine SAND

Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.40	0.425	100
No.80	0.180	99
No.100	0.150	99
No.200	0.075	96
Hydrometer	0.045	68
	0.033	52
	0.023	32
	0.014	20
	0.010	14
	0.007	11
	0.003	8.0
	0.001	6.0



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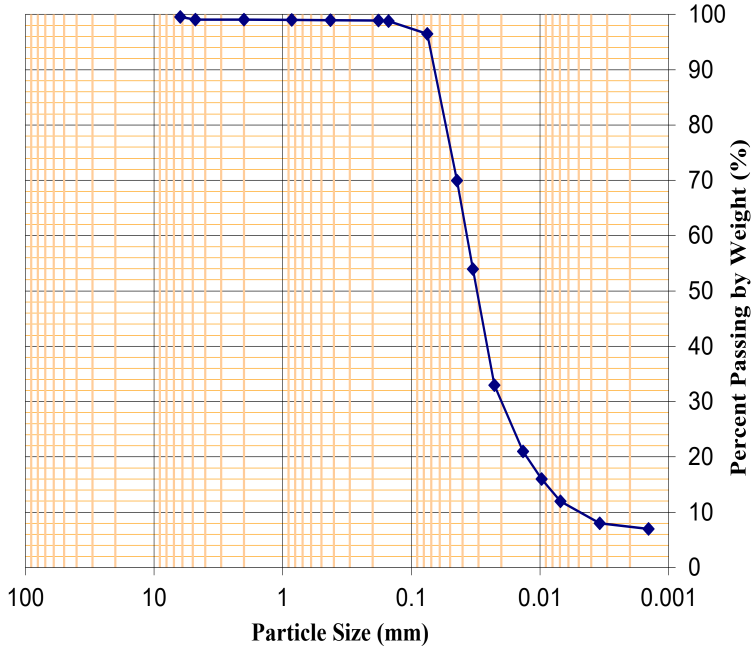
Sample #
B-88; S-3

Classification
Brown SILT, little CLAY, trace cmf SAND, trace fine GRAVEL

Sieve Designation	Size (mm)	Percent Passing by Weight (%)
1/4"	6.25	100
No.4	4.75	99
No.10	2.00	99
No.20	0.850	99
No.40	0.425	99
No.80	0.180	99
No.100	0.150	99
No.200	0.075	96
Hydrometer	0.044	70
	0.033	54
	0.023	33
	0.014	21
	0.010	16
	0.007	12
	0.003	8.0
	0.001	7.0

Grain Size Distribution Curve

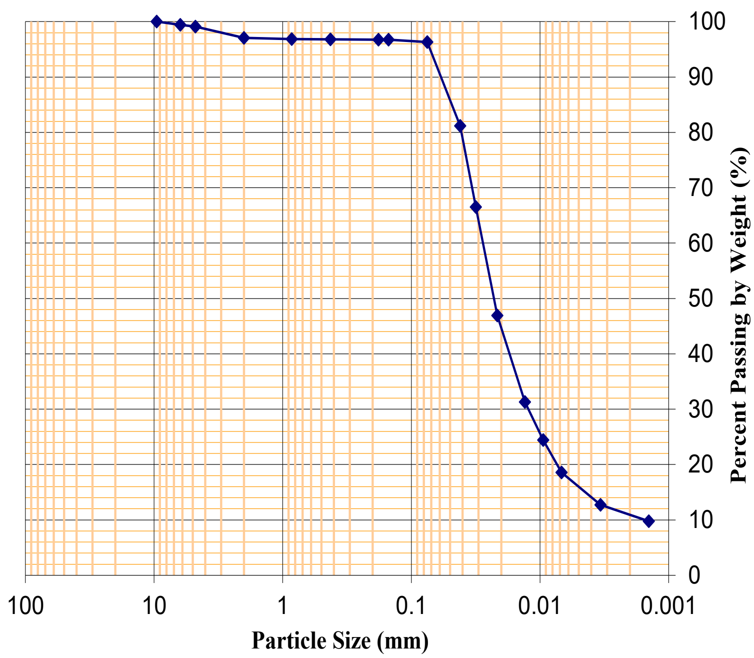


Sample #
B-207; S-6

Classification
Grey SILT, little CLAY, trace cmf SAND, trace fine GRAVEL

Sieve Designation	Size (mm)	Percent Passing by Weight (%)
3/8"	9.5	100
1/4"	6.25	99
No.4	4.75	99
No.10	2.00	97
No.20	0.850	97
No.40	0.425	97
No.80	0.180	97
No.100	0.150	97
No.200	0.075	96
Hydrometer	0.042	81
	0.031	66
	0.021	47
	0.013	31
	0.009	24
	0.007	19
	0.003	13
	0.001	10

Grain Size Distribution Curve

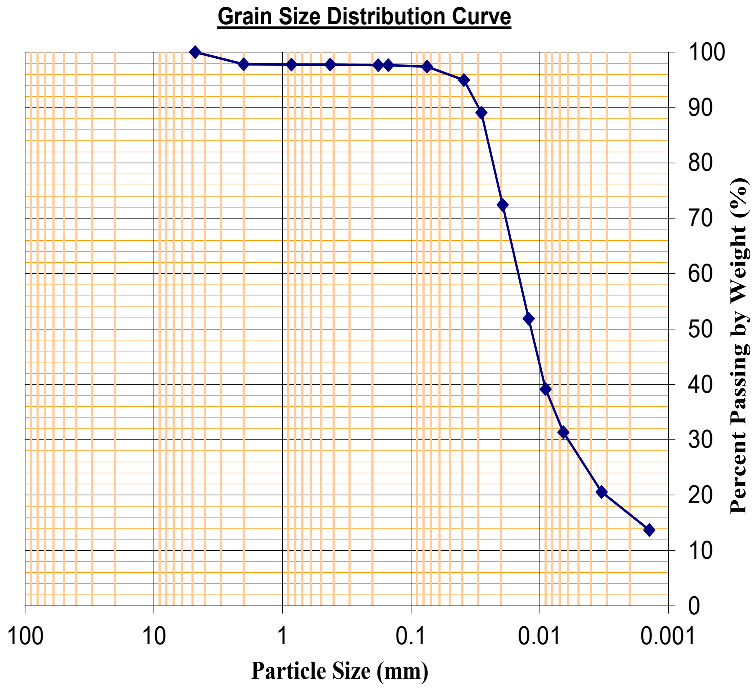


CME Associates, Inc.

Sample #
B-212; S-3

Classification
Brown SILT, some CLAY, trace cmf SAND

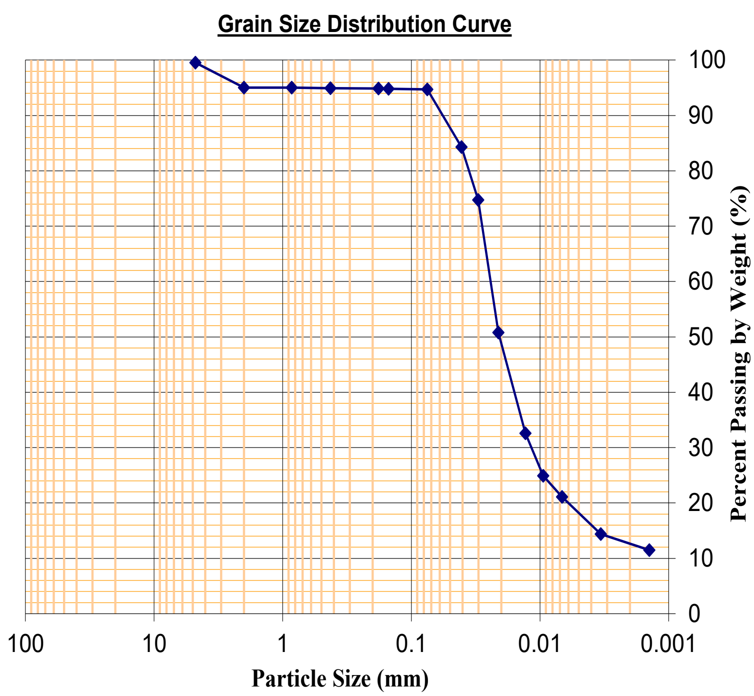
Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.4	4.75	100
No.10	2.00	98
No.20	0.850	98
No.40	0.425	98
No.80	0.180	98
No.100	0.150	98
No.200	0.075	97
Hydrometer	0.039	95
	0.028	89
	0.019	72
	0.012	52
	0.009	39
	0.007	31
	0.003	21
	0.001	14



Sample #
B-303; S-3

Classification
Brown SILT, little CLAY, trace cmf SAND

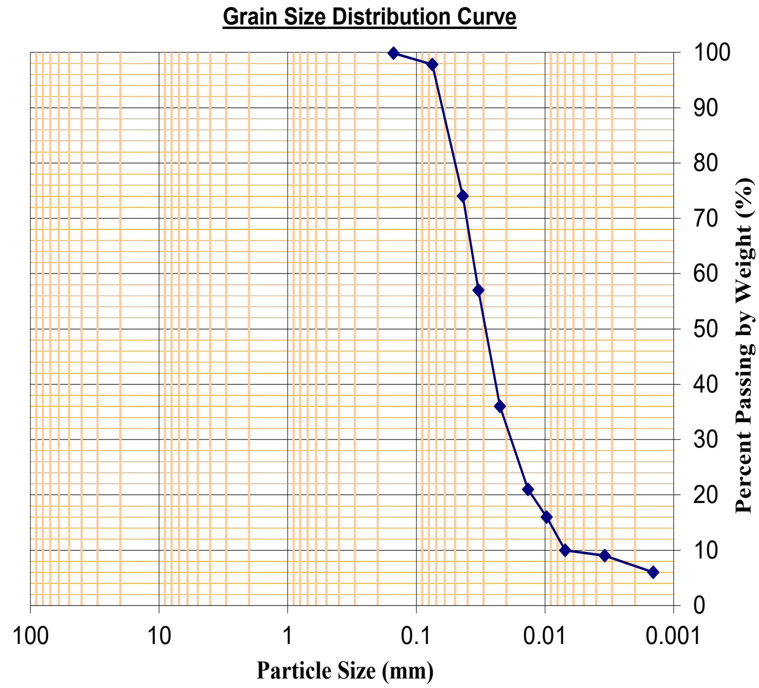
Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.4	4.75	100
No.10	2.00	95
No.20	0.850	95
No.40	0.425	95
No.80	0.180	95
No.100	0.150	95
No.200	0.075	95
Hydrometer	0.041	84
	0.030	75
	0.021	51
	0.013	33
	0.009	25
	0.007	21
	0.003	14
	0.001	11



Sample #
B-412; S-4

Classification
Brown SILT, trace CLAY, trace fine SAND

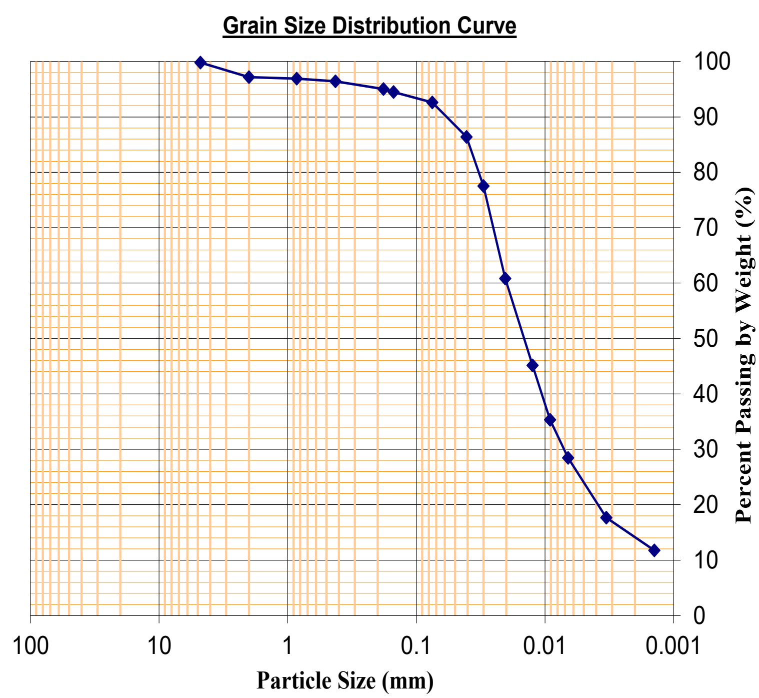
Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.100	0.150	100
No.200	0.075	98
Hydrometer	0.043	74
	0.033	57
	0.022	36
	0.014	21
	0.010	16
	0.007	10
	0.003	9.0
	0.001	6.0



Sample #
B-421; S-6

Classification
Light Grey SILT, some CLAY, trace cmf SAND

Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.4	4.75	100
No.10	2.00	97
No.20	0.850	97
No.40	0.425	96
No.80	0.180	95
No.100	0.150	94
No.200	0.075	93
Hydrometer	0.041	86
	0.030	78
	0.020	61
	0.012	45
	0.009	35
	0.007	28
	0.003	18
	0.001	12



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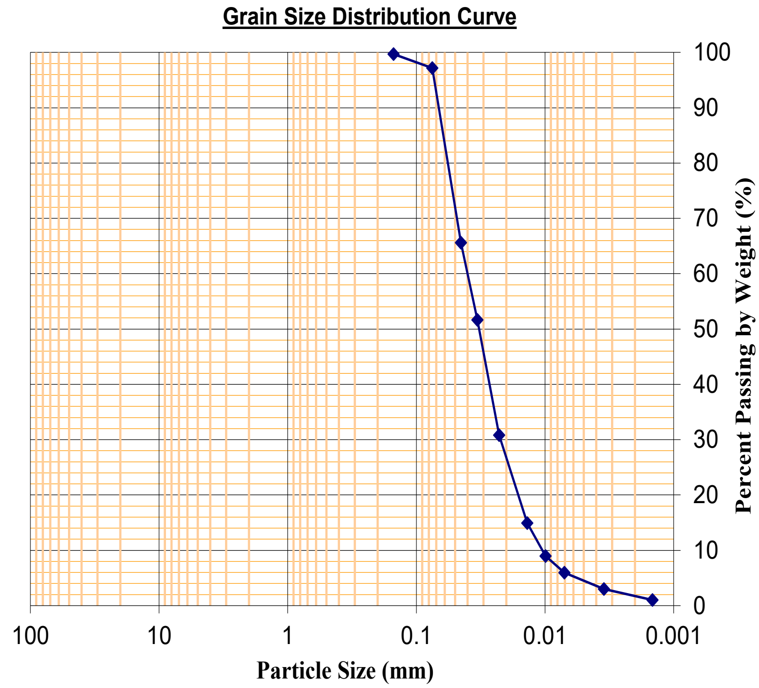
Sample #
B-428; S-6

Classification
Light Brown SILT, trace CLAY, trace fine SAND

Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.100	0.150	100
No.200	0.075	97
Hydrometer	0.045	66
	0.033	52
	0.023	31
	0.014	15
	0.010	8.9
	0.007	6.0
	0.003	3.0
	0.001	1.0



IV. Rock Core Compression (ASTM D7012 Method C)

A) Testing Conditions:

Tested by:	H.K.	Moisture Condition:	Laboratory air-dry	Equipment:	Forney QC-400-DR
Date of Test:	11/16/23	Load Direction:	Generally perpendicular to laminations		

B) Core Identification and Location:

Core ID	Depth	Description
B-292; R-1	18.6' – 19.1'	Dark Grey/Black DOLOSTONE with interbedded SHALE layers (<1/8" thick) throughout, slightly to moderately weathered, thinly to thickly bedded, medium hard to hard.
B-300; R-1	29.3' – 29.7'	Grey SHALE Bedrock, sound, bedded, medium soft.
B-400; R-1	9.3' – 9.7'	Dark Grey/Black DOLOSTONE with interbedded SHALE layers (<1/8" to 1" thick) throughout, moderately weathered, laminated to medium bedded, medium hard to hard.

C) Core Measurements:

Core ID	Core Diameter (inch)	Length (in.)	Length to Diameter	Mass (g)	Density (lb./ft^3)
B-292; R-1	1.97	3.85	1.95	533.43	173
B-300; R-1	2.00	4.03	2.01	553.36	167
B-400; R-1	1.97	3.93	1.99	552.31	176

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D) Compression Test Results:

Core ID	Specimen Area (inch^2)	Total Load (lbs.)	Compressive Strength (psi)	Temperature (°C)	Time to Failure (seconds)	Rate of Loading (psi/sec)
B-292; R-1	3.05	62,000	20,330	22	103.58	196
B-300; R-1	3.14	34,000	10,830	22	89.75	121
B-400; R-1	3.05	43,500	14,260	22	168.22	85

V. DIPRA Test (Appendix A of ANSI/AWWA C105/A21.5)

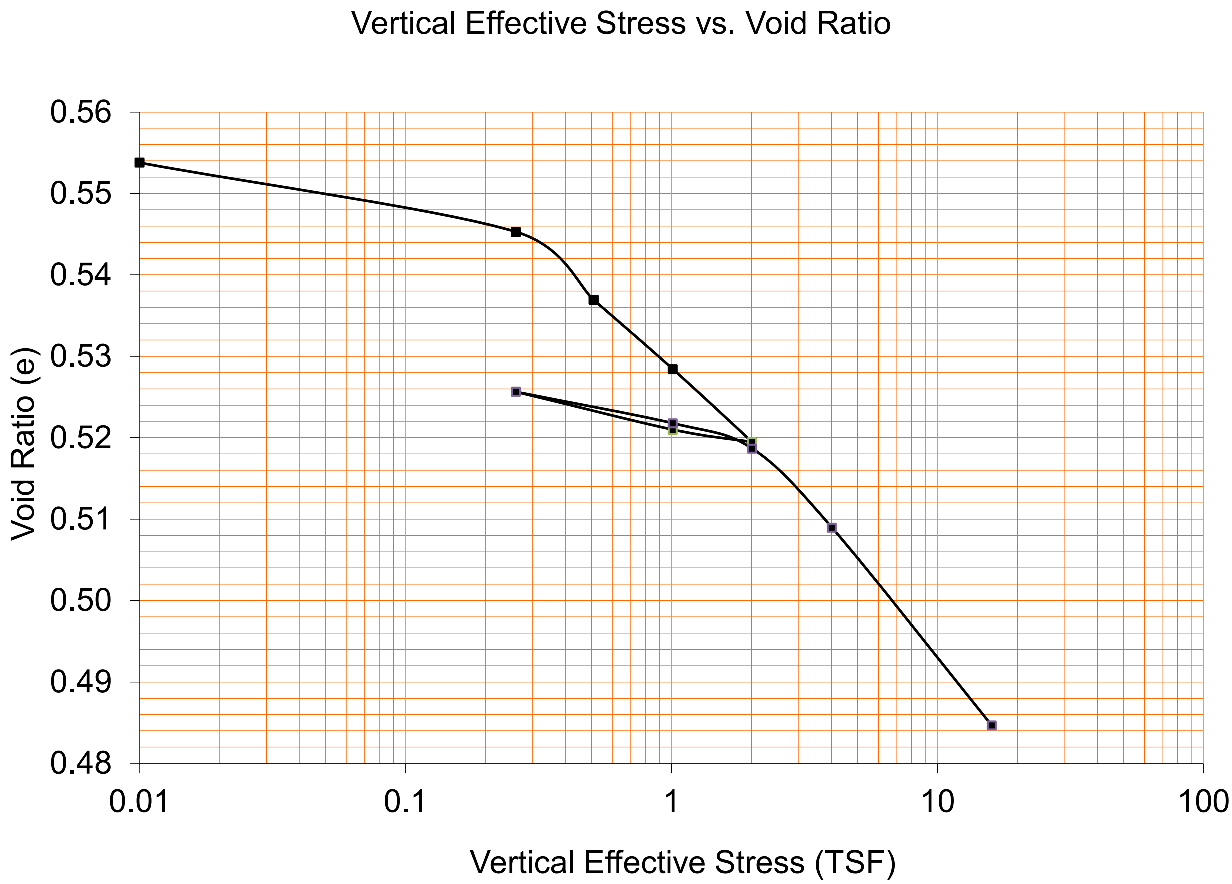
Table 1- Sample Information		
Sample ID	**Sample Depth (ft.)**	**Sample Description**
B-39; S-3	4.0'-6.0'	Brown cmf SAND and SILT, trace fine GRAVEL (wet, stiff)
B-162; S-3	4.0'-6.0'	Light Brown SILT, trace fine SAND (moist, stiff)
B-281; S-3	4.0'-6.0'	Grey/Light Brown cmf GRAVEL, little SILT, trace fine SAND
B-306; S-3	4.0'-6.0'	Brown/Grey SILT, little CLAY, trace fine SAND (wet, stiff)
B-401; S-3	4.0'-6.0'	Brown SILT, some cmf SAND, trace mf GRAVEL, trace CLAY (wet, soft)

Table 2- DIPRA Test Results						
Sample ID	**Resistivity ohm-cm.**	**Redox Potential (mv)**	**pH**	**Sulfides**	**Moisture**	**DIPRA Points**
B-39; S-3	14,000	127	7.86	Negative	Poor	2
B-162; S-3	14,340	126	8.15	Negative	Poor	2
B-281; S-3	13,940	146	7.21	Negative	Fair	1
B-306; S-3	4,970	175	7.53	Negative	Poor	2
B-401; S-3	18,970	165	8.45	Negative	Poor	2

For a given soil sample, each parameter is evaluated and assigned points as outlined in the form in the Attachment: *Soil Test Evaluation for Ductile Iron Pipe; 10-Point System*. A total of 10 points or more indicates that the soil is potentially corrosive to iron pipe and warrants taking protective measures.

VI. One-Dimensional Consolidation Test (ASTM D2435)

1) Boring: B-206A Sample: ST-1; S-1 (Depth = 14.3')



Pre-consolidation Pressure (P') = N/A (Normally Consolidated)
Compression Index (Cc) = 0.04
Re-compression Index (Cr) = 0.01
Initial Void Ratio (eo) = 0.55
Initial Water Content (Wn) = 21.6%
Dry Unit Weight Before Testing (γ_d) = 108.3 pcf
Specific Gravity = 2.70
Classification: = Grey SILT and CLAY
Coefficient of Consolidation (Cv):

Vertical Effective Stress (tsf)	Coefficient of Consolidation (Cv, ft^2/month)		
	Log of Time Method	Square Root of Time Method	Average
0.26	4.01	6.86	5.44
0.51	28.09	36.27	32.18
1.01	21.07	16.12	18.60

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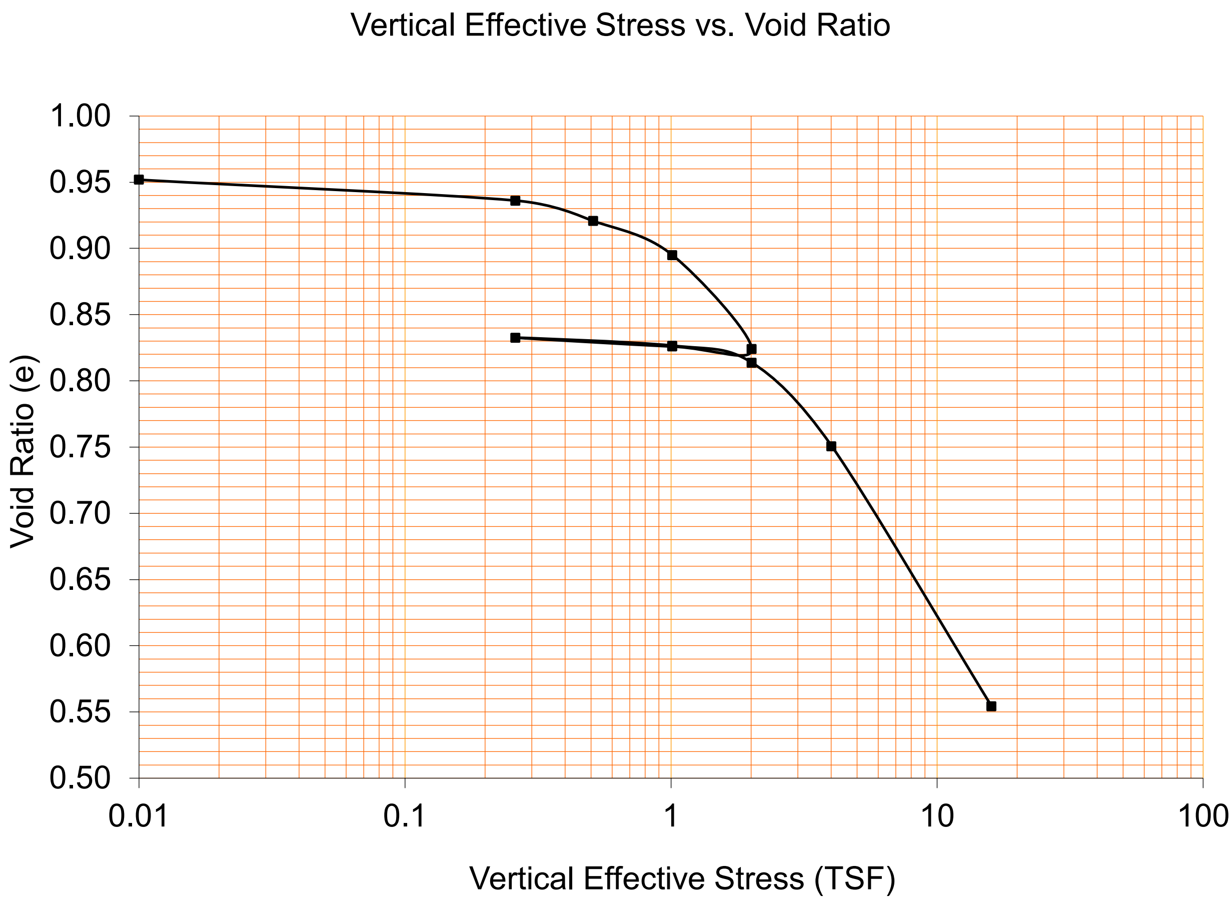
1) Boring: B-206A Sample: ST-1; S-2 (Depth = 15.7')



Pre-consolidation Pressure (P') = N/A (Normally Consolidated)
Compression Index (Cc) = 0.33
Re-compression Index (Cr) = 0.01
Initial Void Ratio (eo) = 0.95
Initial Water Content (Wn) = 32.8%
Dry Unit Weight Before Testing (γ_d) = 88.3 pcf
Specific Gravity = 2.76
Classification: = Grey CLAY and SILT
Coefficient of Consolidation (Cv):

Vertical Effective Stress (tsf)	Coefficient of Consolidation (Cv, ft^2/month)		
	Log of Time Method	Square Root of Time Method	Average
0.26	14.04	21.46	17.75
0.51	21.07	29.98	25.53
1.01	2.72	4.80	3.76

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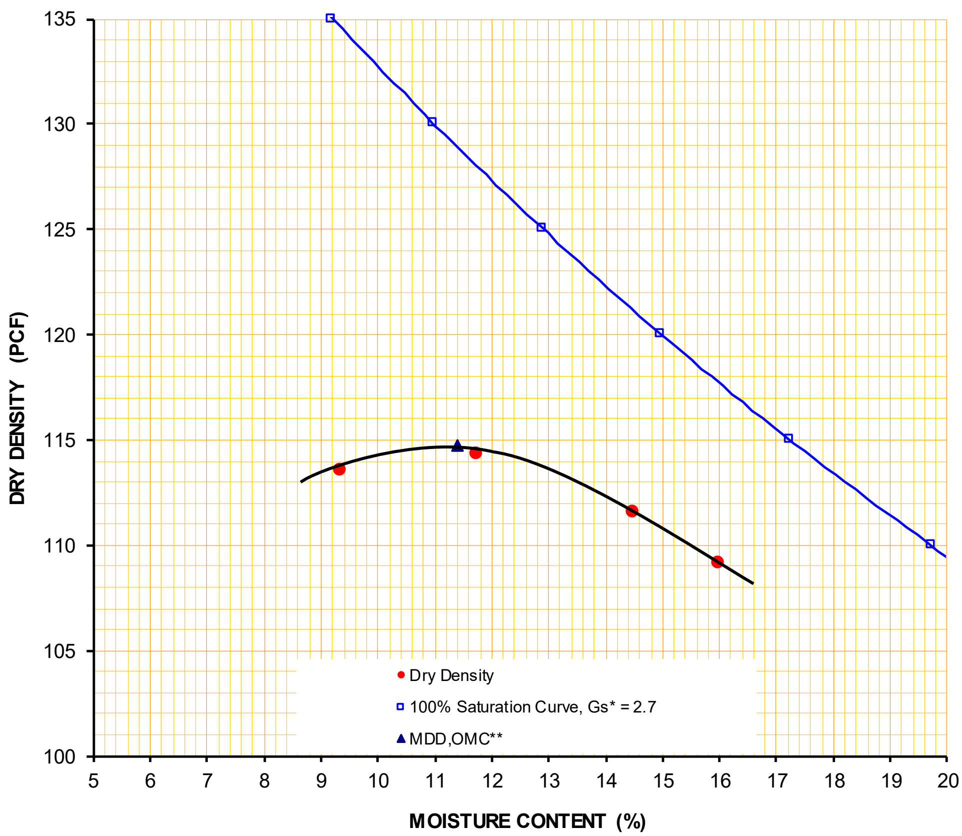
VII. Moisture-Density Relationship (ASTM D1557: Modified Proctor)

SAMPLE LOCATION:	**Test Pit TP-1**	DATE SAMPLED:	**11/8/23**
SOIL CLASSIFICATION:	**Brown Mottled SILT, little CLAY, trace mf GRAVEL, trace cmf SAND**	SAMPLE NO.:	**S-1**

Moisture - Density Relationship Curve



Particle Size Analysis ASTM D422

Sieve Size	% Passing
2"	100
1-1/2"	100
1"	100
3/4"	100
1/2"	99
3/8"	97
1/4"	90
No.4	90
No.10	90
No.20	89
No.40	88
No.80	87
No.100	87
No.200	86

Test Procedure Information

Test Method	☑ ASTM D-1557 (Modified)	☐ ASTM D-698 (Standard)	
Procedure Used	☐ A	☐ B	☑ C
Preparation Method	☐ Dry	☑ Moist	
Description of Rammer	☐ Manual	☑ Mechanical	

Test Results

MDD (PCF) = **114.7**
OMC (%) = **11.4**

Oversize Fraction by Dry Weight
0 % Retained on ☐ No.4 Sieve ☐ 3/8" Sieve ☑ 3/4" Sieve

* Specific Gravity, estimated
** MDD = Maximum Dry Density, OMC = Optimum Moisture Content

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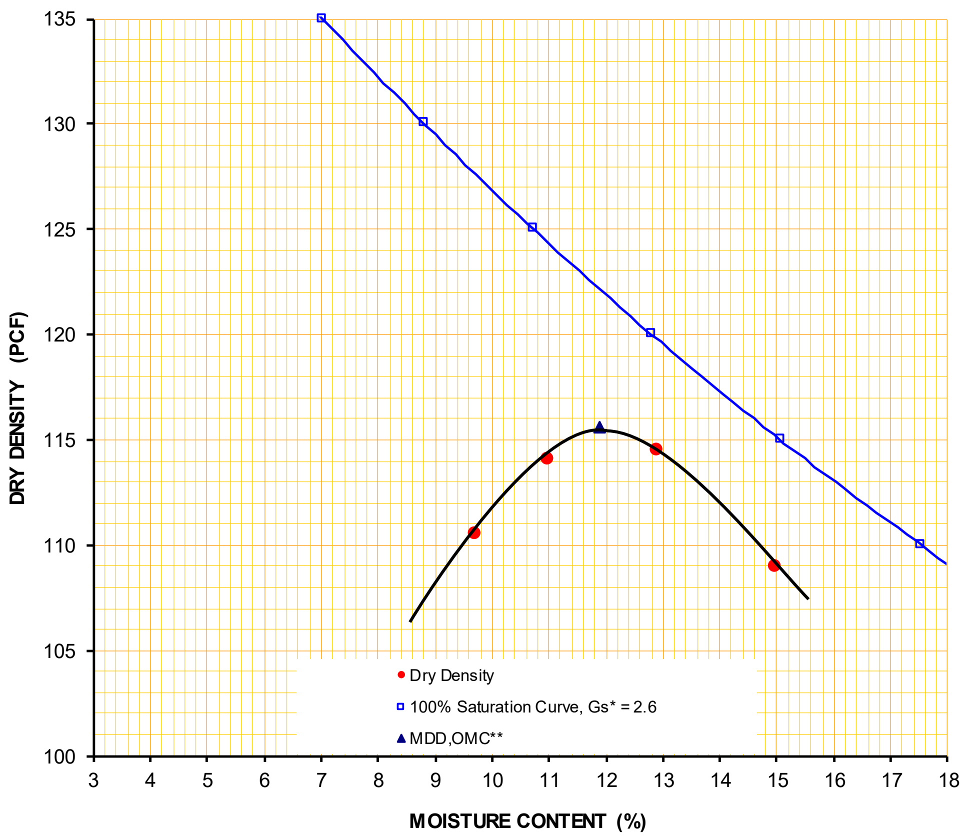
SAMPLE LOCATION:	**Test Pit TP-2**	DATE SAMPLED:	**11/8/23**
SOIL CLASSIFICATION:	**Brown Mottled SILT, little CLAY, trace mf GRAVEL, trace mf SAND**	SAMPLE NO.:	**S-1**

Moisture - Density Relationship Curve



Particle Size Analysis ASTM D422

Sieve Size	% Passing
2"	**100**
1-1/2"	**100**
1"	**100**
3/4"	**100**
1/2"	**99**
3/8"	**97**
1/4"	**92**
No.4	**92**
No.10	**92**
No.20	**92**
No.40	**92**
No.80	**92**
No.100	**92**
No.200	**91**

Test Procedure Information

Test Method	☑ ASTM D-1557 (Modified)	☐ ASTM D-698 (Standard)	
Procedure Used	☐ A	☐ B	☑ C
Preparation Method	☐ Dry	☑ Moist	
Description of Rammer	☐ Manual	☑ Mechanical	

Oversize Fraction by Dry Weight
0 % Retained on ☐ No.4 Sieve ☐ 3/8" Sieve ☑ 3/4" Sieve

Test Results

MDD (PCF) = **115.6**
OMC (%) = **11.9**

* Specific Gravity, estimated
** MDD = Maximum Dry Density, OMC = Optimum Moisture Content

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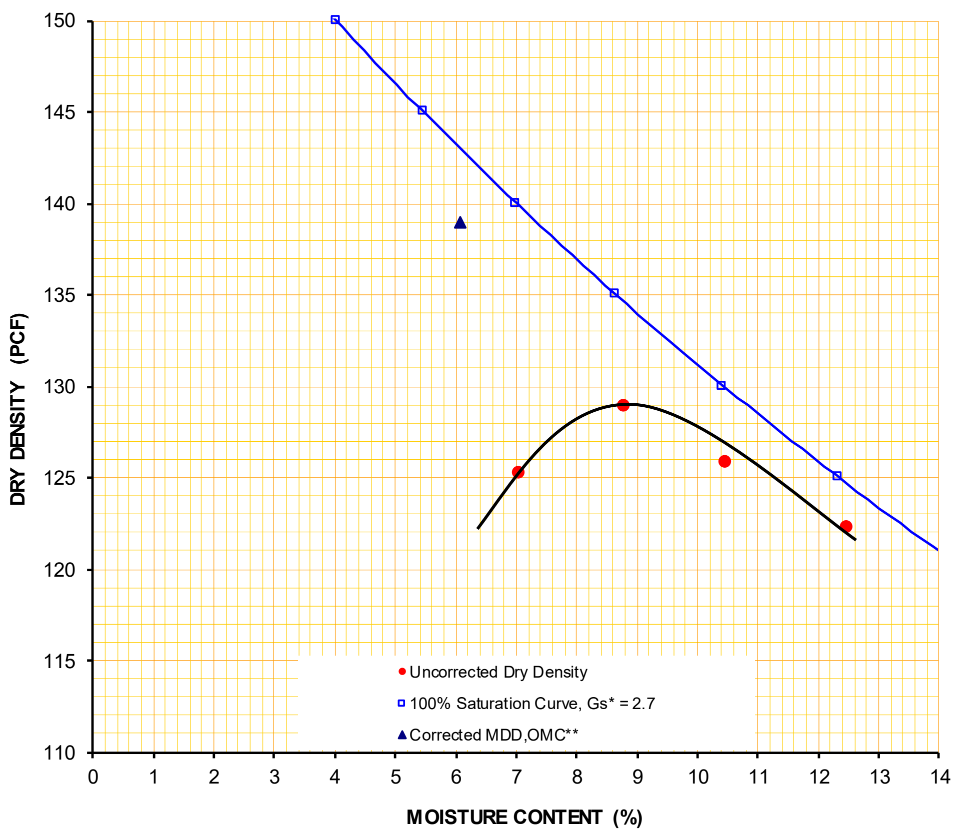
SAMPLE LOCATION:	**Test Pit TP-3**	DATE SAMPLED:	**11/8/23**
SOIL CLASSIFICATION:	**Brown/Grey SILT, some cmf SAND, some cmf GRAVEL, little COBBLES**	SAMPLE NO.:	**S-1**

Moisture - Density Relationship Curve



Particle Size Analysis ASTM D422

Sieve Size	% Passing
6"	**100**
5"	**100**
4"	**90**
3"	**82**
2"	**77**
1-1/2"	**73**
1"	**71**
3/4"	**68**
1/2"	**65**
3/8"	**63**
1/4"	**61**
No.4	**59**
No.10	**56**
No.20	**52**
No.40	**50**
No.80	**42**
No.100	**40**
No.200	**32**

Test Procedure Information

Test Method	☑ ASTM D-1557 (Modified)	☐ ASTM D-698 (Standard)	
Procedure Used	☐ A	☐ B	☑ C
Preparation Method	☐ Dry	☑ Moist	
Description of Rammer	☐ Manual	☑ Mechanical	

Test Results

Corrected MDD (PCF) = **138.9**
Corrected OMC (%) = **6.1**

Oversize Fraction by Dry Weight
32 % Retained on ☐ No.4 Sieve ☐ 3/8" Sieve ☑ 3/4" Sieve

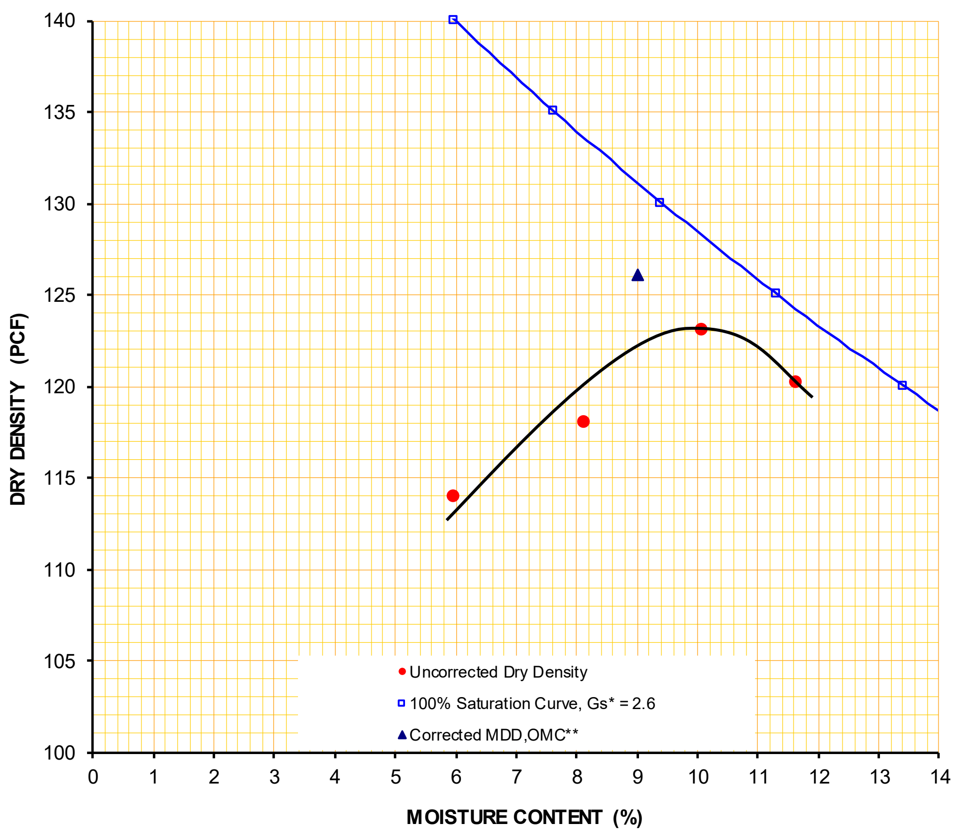
* Specific Gravity, estimated
** MDD = Maximum Dry Density, OMC = Optimum Moisture Content

Laboratory Test Summary Report
CME Report No.: 28062L-03-1123

CME Associates, Inc.

SAMPLE LOCATION:	**Test Pit TP-4**	DATE SAMPLED:	**11/8/23**
SOIL CLASSIFICATION:	**Brown SILT and cmf SAND, little cmf GRAVEL, trace COBBLES**	SAMPLE NO.:	**S-1**

Moisture - Density Relationship Curve



Particle Size Analysis ASTM D422

Sieve Size	% Passing
6"	100
5"	100
4"	100
3"	98
2"	94
1-1/2"	94
1"	92
3/4"	91
1/2"	88
3/8"	87
1/4"	85
No.4	83
No.10	80
No.20	78
No.40	75
No.80	65
No.100	61
No.200	48

Test Procedure Information

Test Method	☑ ASTM D-1557 (Modified)	☐ ASTM D-698 (Standard)	
Procedure Used	☐ A	☐ B	☑ C
Preparation Method	☐ Dry	☑ Moist	
Description of Rammer	☐ Manual	☑ Mechanical	

Oversize Fraction by Dry Weight
9 % Retained on ☐ No.4 Sieve ☐ 3/8" Sieve ☑ 3/4" Sieve

Test Results

Corrected MDD (PCF) = **126.1**
Corrected OMC (%) = **9.0**

* Specific Gravity, estimated
** MDD = Maximum Dry Density, OMC = Optimum Moisture Content

Laboratory Test Summary Report
CME Report No.: 28062L-03-1123
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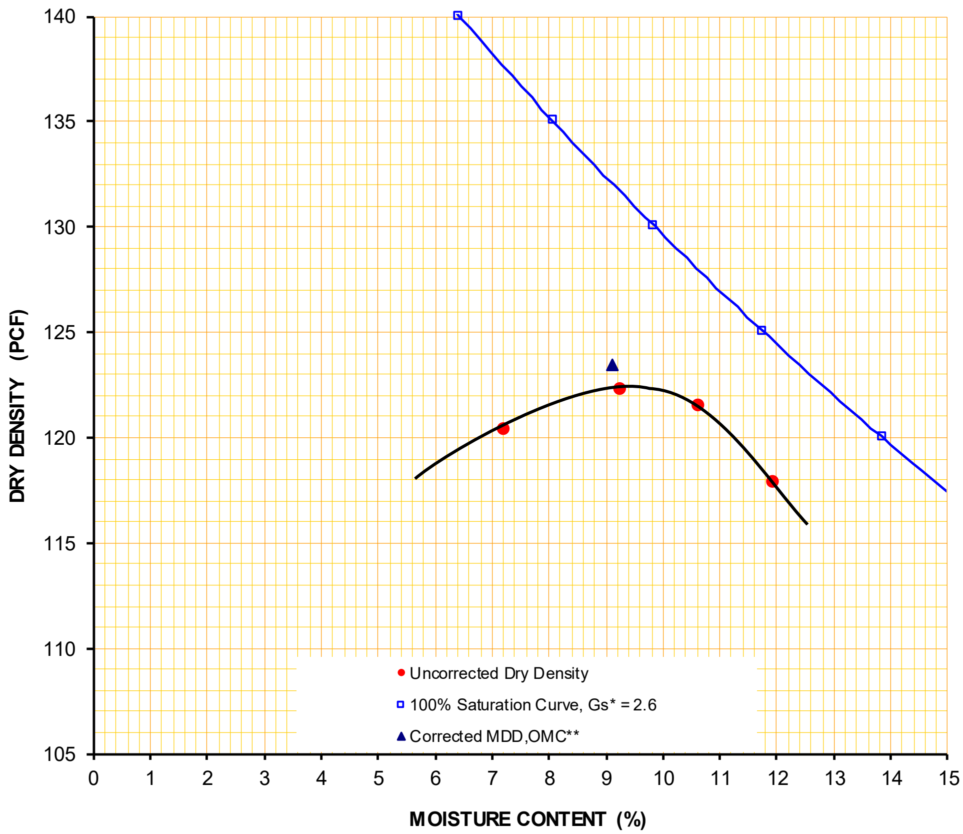
CME Associates, Inc.

SAMPLE LOCATION:	**Test Pit TP-5**	DATE SAMPLED:	**11/8/23**
SOIL CLASSIFICATION:	**Brown SILT, some cmf SAND, little cmf GRAVEL**	SAMPLE NO.:	**S-1**

Moisture - Density Relationship Curve



Particle Size Analysis ASTM D422

Sieve Size	% Passing
2"	100
1-1/2"	99
1"	98
3/4"	97
1/2"	93
3/8"	89
1/4"	83
No.4	81
No.10	78
No.20	76
No.40	73
No.80	64
No.100	61
No.200	52

Test Procedure Information

Test Method	☑ ASTM D-1557 (Modified)	☐ ASTM D-698 (Standard)	
Procedure Used	☐ A	☐ B	☑ C
Preparation Method	☐ Dry	☑ Moist	
Description of Rammer	☐ Manual	☑ Mechanical	

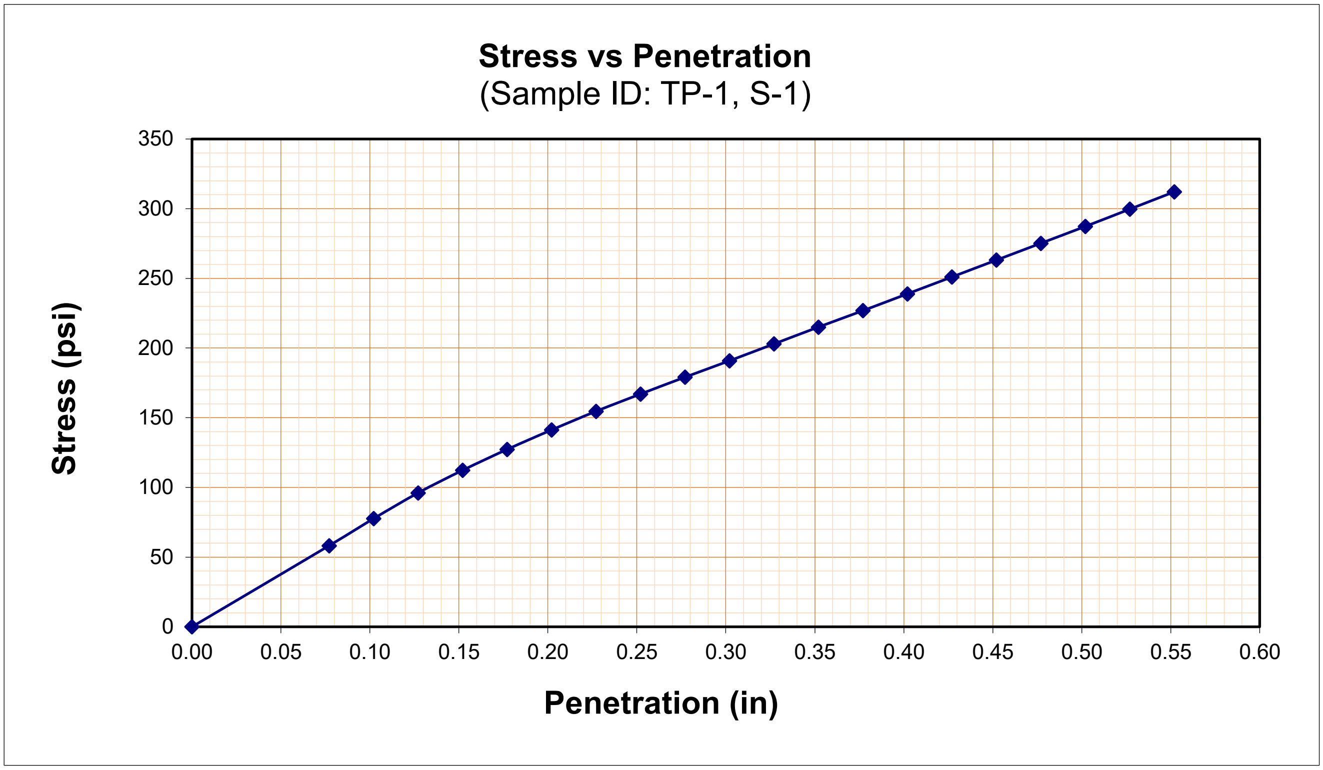
Oversize Fraction by Dry Weight
3 % Retained on ☐ No.4 Sieve ☐ 3/8" Sieve ☑ 3/4" Sieve

Test Results

Corrected MDD (PCF) = **123.5**
Corrected OMC (%) = **9.1**

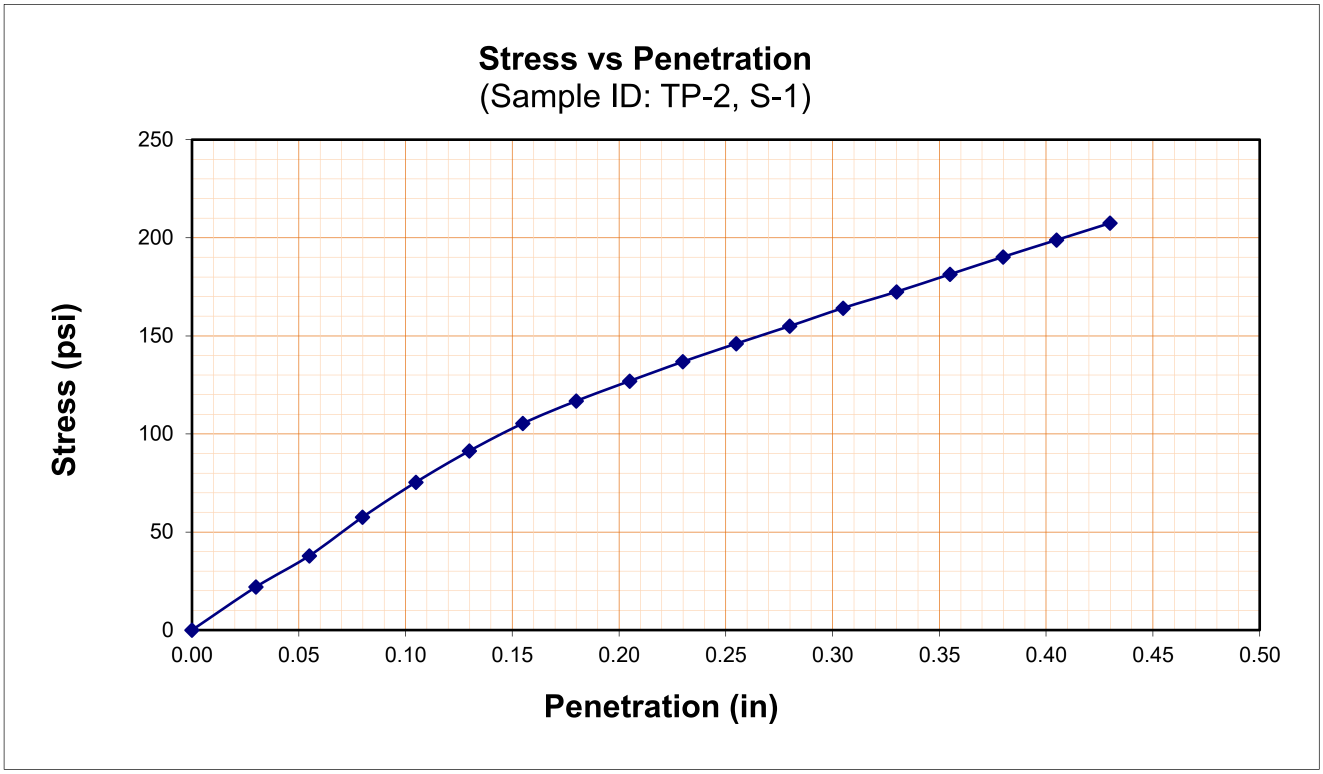
* Specific Gravity, estimated
** MDD = Maximum Dry Density, OMC = Optimum Moisture Content

VIII. CBR (California Bearing Ratio) of Laboratory-Compacted Soils (ASTM D1883)



Burmister Classification: Brown Mottled SILT, little CLAY, trace mf GRAVEL, trace cmf SAND
Sample Depth: 2' – 4'

As-Molded Moisture Content (%)	14.4
As-Molded Dry Density (pcf)	108.4
No. of Blows	38
Percent Compaction, ASTM D1557	94.5
Time Soaked (hrs)	96
Swell (%)	2.5
Moisture Content After Soaking (%)	
Top 1"	22.5
Center	17.4
Ring Capacity (lbs.)	6000
Soaked CBR @ 0.1	7.5
Soaked CBR @ 0.2	9.3
Surcharge Weight (lbs.)	10



Burmister Classification: Brown Mottled SILT, little CLAY, trace mf GRAVEL, trace mf SAND
Sample Depth: 2' – 4'

As-Molded Moisture Content (%)	14.2
As-Molded Dry Density (pcf)	106.9
No. of Blows	35
Percent Compaction, ASTM D1557	92.5
Time Soaked (hrs)	96
Swell (%)	2.8
Moisture Content After Soaking (%)	
Top 1"	22.4
Center	18.6
Ring Capacity (lbs.)	6000
Soaked CBR @ 0.1	7.2
Soaked CBR @ 0.2	8.3
Surcharge Weight (lbs.)	10

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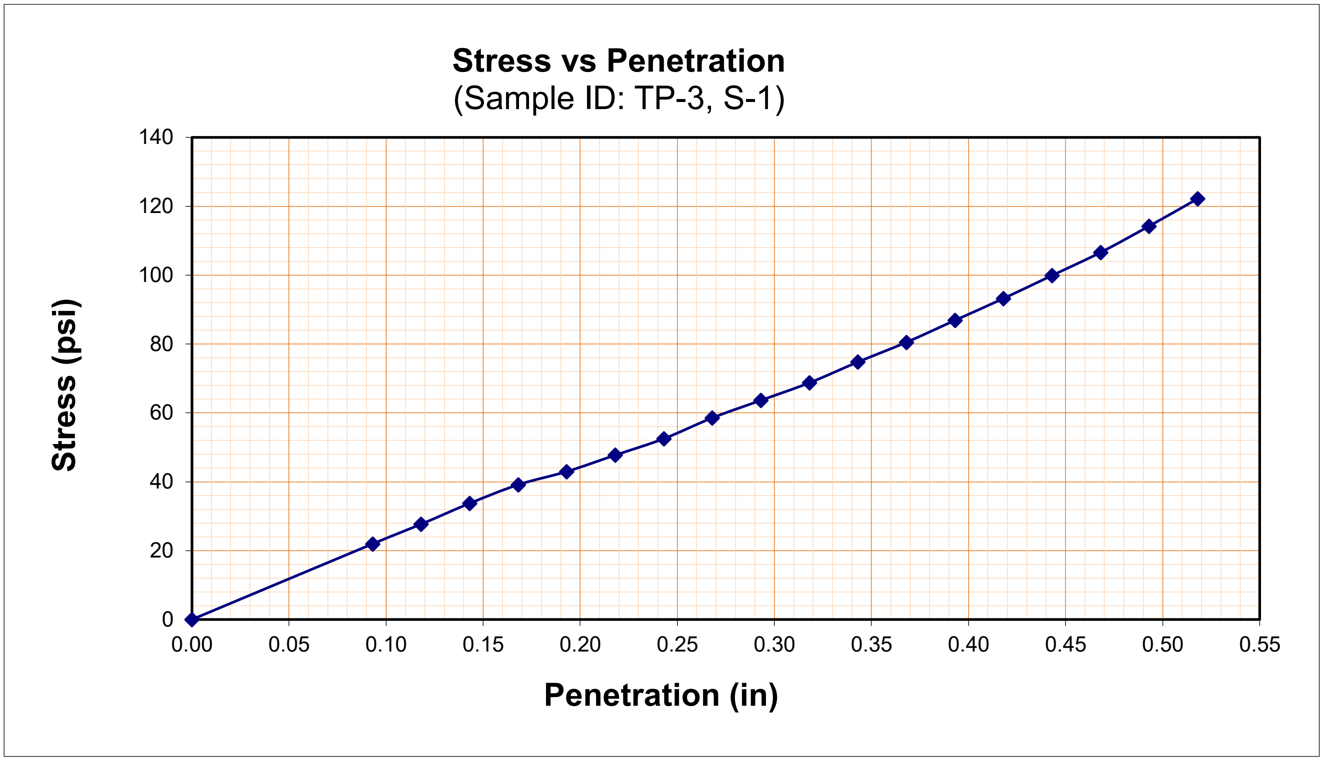

Burmister Classification: Brown/Grey SILT, some cmf SAND, some cmf GRAVEL, little COBBLES
Sample Depth: 2' – 4'

As-Molded Moisture Content (%)	6.9
As-Molded Dry Density (pcf)	123.9
No. of Blows	37
Percent Compaction, ASTM D1557	89.2
Time Soaked (hrs)	96
Swell (%)	2.6
Moisture Content After Soaking (%)	
Top 1"	15.1
Center	11.4
Ring Capacity (lbs.)	6000
Soaked CBR @ 0.1	2.4
Soaked CBR @ 0.2	2.9
Surcharge Weight (lbs.)	10

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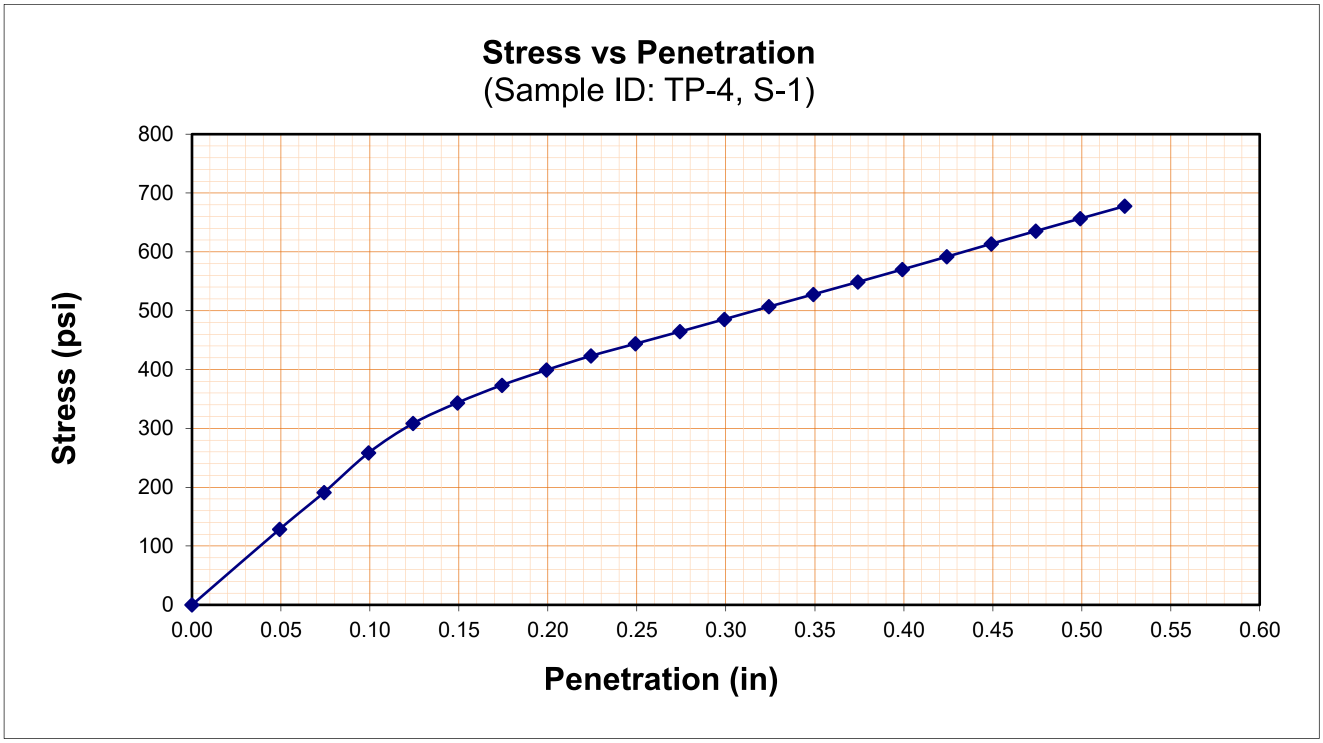

Burmister Classification: Brown SILT and cmf SAND, little cmf GRAVEL, trace COBBLES
Sample Depth: 2' – 4'

As-Molded Moisture Content (%)	10.3
As-Molded Dry Density (pcf)	118.1
No. of Blows	35
Percent Compaction, ASTM D1557	93.7
Time Soaked (hrs)	96
Swell (%)	1.0
Moisture Content After Soaking (%)	
Top 1"	15.5
Center	12.7
Ring Capacity (lbs.)	6000
Soaked CBR @ 0.1	25.8
Soaked CBR @ 0.2	26.6
Surcharge Weight (lbs.)	10

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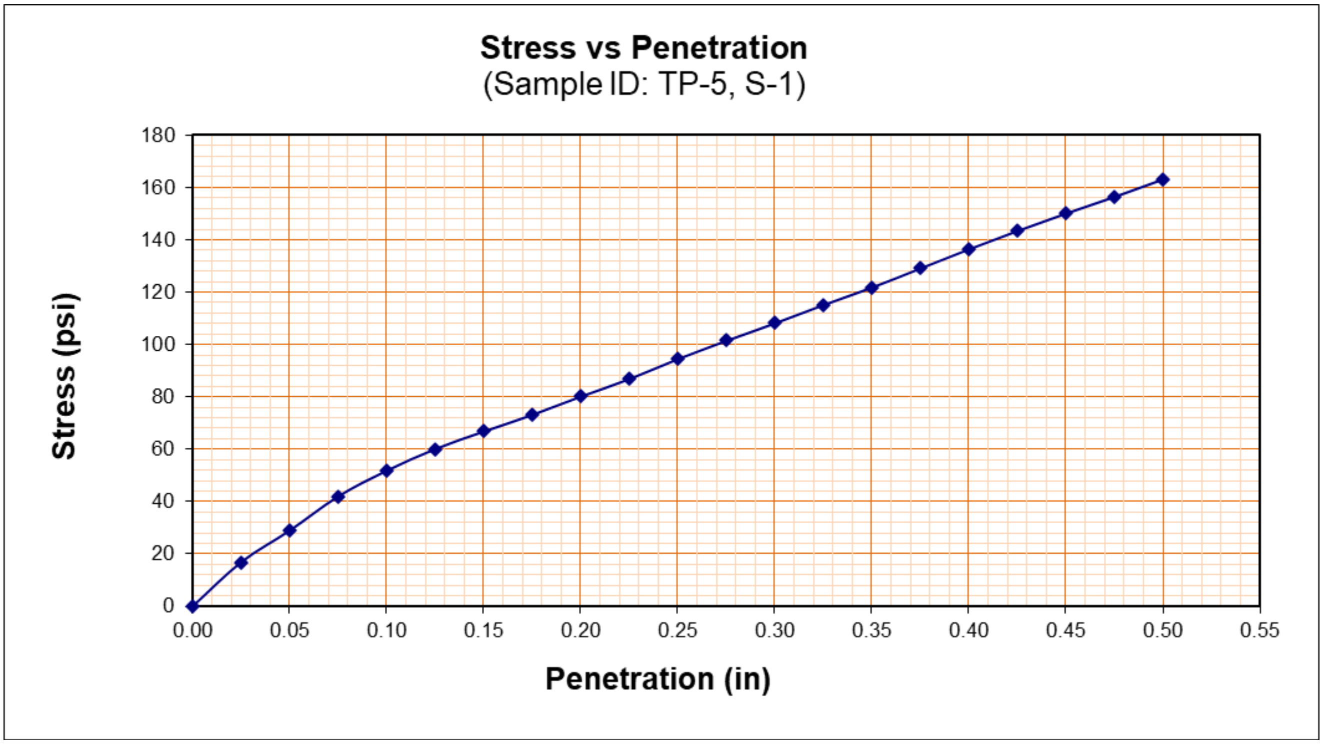

Burmister Classification:	Brown SILT, some cmf SAND, little cmf GRAVEL
Sample Depth:	2.5' – 4'

As-Molded Moisture Content (%)	10.3
As-Molded Dry Density (pcf)	116.4
No. of Blows	35
Percent Compaction, ASTM D1557	94.2
Time Soaked (hrs)	96
Swell (%)	3.1
Moisture Content After Soaking (%)	
Top 1"	19.4
Center	14.3
Ring Capacity (lbs.)	6000
Soaked CBR @ 0.1	5.2
Soaked CBR @ 0.2	5.3
Surcharge Weight (lbs.)	10

If you have any questions regarding this report please contact our office.

Anas N. Anasthas
for
Hannah Kloiber
Laboratory Supervisor

Attachments:
Rock Core Photographs (2 of 2)
Soil Test Evaluation for Ductile Iron Pipe; 10-Point System (1 of 1)

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B-292; R-1 Before Compression (18.6’-19.1’)

B-292; R-1 After Compression (18.6’-19.1’)

B-300; R-1 Before Compression (29.3’-29.7’)

B-300; R-1 After Compression (29.3’-29.7’)

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Rock Core Photographs
Page 2 of 2

B-400; R-1 Before Compression (9.3’-9.7’)

B-400; R-1 After Compression (9.3’-9.7’)

Soil Test Evaluation for Ductile Iron Pipe

(10-Point System)*

Soil Characteristics	*Points*
Resistivity (ohm-cm)**	
<1,500	10
≥1,500-1,800	8
>1,800-2,100	5
>2,100-2,500	2
>2,500-3,000	1
>3,000	0
pH	
0-2	5
2-4	3
4-6.5	0
6.5-7.5	0***
7.5-8.5	0
>8.5	3
Redox potential	
>+100mv	0
+50 to +100mv	3.5
0 to +50mv	4
Negative	5
Sulfides	
Positive	3.5
Trace	2
Negative	0

Moisture	
Poor drainage, continuously wet	2
Fair drainage, generally moist	1
Good drainage, generally dry	0

*Ten points-corrosive to Ductile Iron Pipe. Protection is indicated.

**Based on water-saturated soil box. This method is designed to obtain the lowest- and most accurate-resistivity reading.

***If sulfides are present; and low (<100mv) or negative redox-potential results are obtained, 3 points should be given for this range.

Note: DIPRA recommends that the soils sample used in the 10-point evaluation to be taken at pipe depth rather than at the surface. Soil corrosivity readings can vary substantially from the surface to pipe depth.

GEOTECHNICAL ENGINEERING
CONSTRUCTION MATERIALS TESTING
SOIL SCIENCE
SPECIALTY FOUNDATION DESIGN

The groundwork for success.

Project:	Micron Campus	File Number:	2328700
Location:	Clay, NY	Date:	7-Dec-23
Client:	CME Associates, Inc.	CMT I. D. No.:	18436

Summary of Test Results - Potentially Expansive Rock Testing

Date Received: 30-Nov-23 Date Tested: 5-Dec-23

Sample Location: B-30, R-1, 7.0'-7.5'

Test	Test Method	Result
Neutralization Potential (% $CaCO_3$)	DEP OB Man	83.50%
Total Sulfur	PA DEP OM p54	0.56%
Sulfate Sulfur	PA DEP OM p54	0.02%
Pyritic Sulfur	PA DEP OM p54	0.50%
Organic Sulfur	PA DEP OM p54	0.04%

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The groundwork for success.

Project:	Micron Campus	File Number:	2328700
Location:	Clay, NY	Date:	7-Dec-23
Client:	CME Associates, Inc.	CMT I. D. No.:	18437

Summary of Test Results - Potentially Expansive Rock Testing

Date Received: 30-Nov-23

Sample Location: B-35, R-1, 4.0'-4.5'

Date Tested: 5-Dec-23

Test	Test Method	Result
Neutralization Potential (% $CaCO_3$)	DEP OB Man	97.60%
Total Sulfur	PA DEP OM p54	0.02%
Sulfate Sulfur	PA DEP OM p54	0.01%
Pyritic Sulfur	PA DEP OM p54	<0.01%
Organic Sulfur	PA DEP OM p54	0.01%

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The groundwork for success.

Project:	Micron Campus	File Number:	2328700
Location:	Clay, NY	Date:	7-Dec-23
Client:	CME Associates, Inc.	CMT I. D. No.:	18438

Summary of Test Results - Potentially Expansive Rock Testing

Date Received: 30-Nov-23 Date Tested: 5-Dec-23

Sample Location: B-400, R-1, 8.8'-9.2'

Test	Test Method	Result
Neutralization Potential (%$CaCO_3$)	DEP OB Man	98.70%
Total Sulfur	PA DEP OM p54	0.09%
Sulfate Sulfur	PA DEP OM p54	0.01%
Pyritic Sulfur	PA DEP OM p54	0.06%
Organic Sulfur	PA DEP OM p54	0.02%

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November 20, 2023

Project No. 2023-294-003

Ms. Hannah Kloiber
CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057

Transmittal
Laboratory Test Results
Micron 28062

Please find attached the laboratory test results for the above referenced project. The tests were outlined on the Project Verification Form that was transmitted to your firm prior to the testing. The testing was performed in general accordance with the methods listed on the enclosed data sheets. The test results are believed to be representative of the samples that were submitted for testing and are indicative only of the specimens that were evaluated. We have no direct knowledge of the origin of the samples and imply no position with regard to the nature of the test results, i.e. pass/fail and no claims as to the suitability of the material for its intended use.

The test data and all associated project information provided shall be held in strict confidence and disclosed to other parties only with authorization by our Client. The test data submitted herein is considered integral with this report and is not to be reproduced except in whole and only with the authorization of the Client and Geotechnics. The remaining sample materials for this project will be retained for a minimum of 90 days as directed by the Geotechnics' Quality Program.

We are pleased to provide these testing services. Should you have any questions or if we may be of further assistance, please contact our office.

Respectfully submitted,
Geotechnics, Inc.

Nathan Melaro
Director of Operations

We understand that you have a choice in your laboratory services
and we thank you for choosing Geotechnics.

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CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	CME Associates, Inc.	Boring No.:	Ramboll
Client Reference:	Micron 28062	Depth (ft):	NA
Project No.:	2023-294-003	Sample No.:	TP-1
Lab ID:	2023-294-003-001	Description:	Brown Soil

(- # 10 Sieve material)

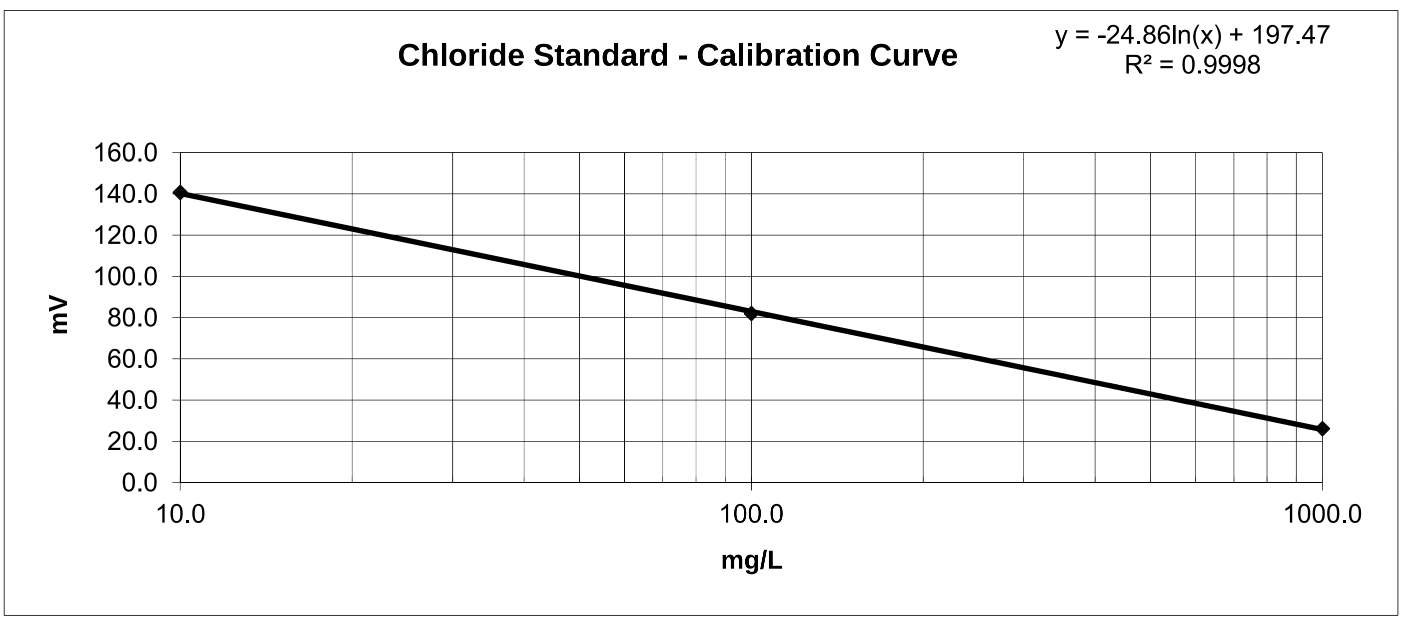
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	140.7
100.0	mg/L	82.0
1000.0	mg/L	26.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	150.1	6.72	6.72

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	11/17/23	Checked By	NJM	Date	11/17/23

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Water-Soluble Sulfate Ion Content in Soil
AASHTO T 290-95 (2020)

Client:	CME Associates, Inc.	Boring No.:	Ramboll
Client Reference:	Micron 28062	Depth (ft):	NA
Project No.:	2023-294-003	Sample No.:	TP-1
Lab ID:	2023-294-003-001	Soil Description:	Brown Soil

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)	0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
Spectrophotometer Readings (FAU)	Underrange	Underrange	6	17	35	58	107	166	229

Measurement of Barium Chloride Turbidity

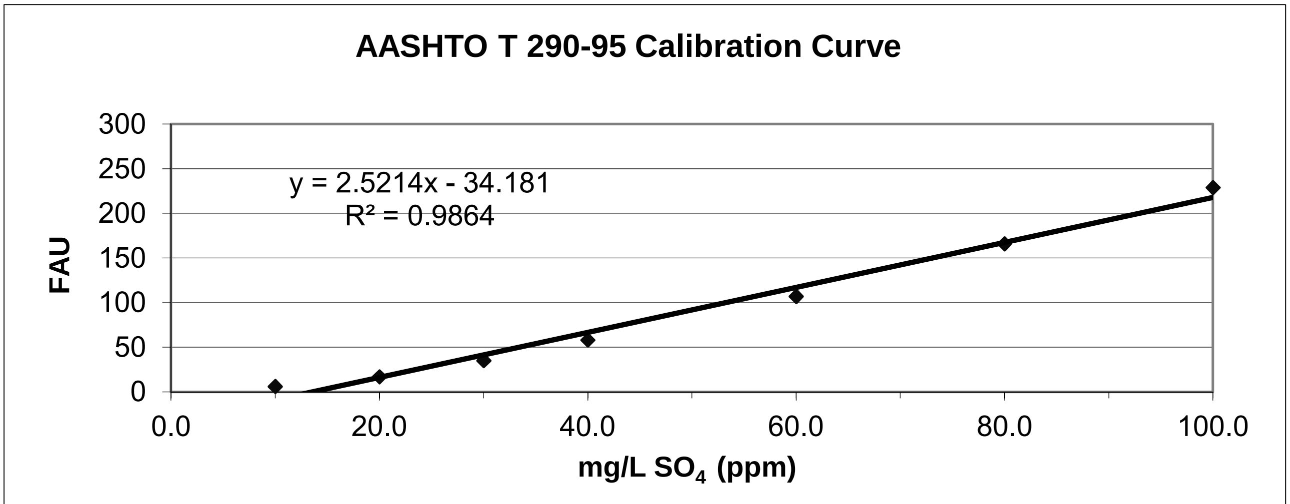
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	47
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	872
Weight of Tare & Wet Sample (g):	270.09
Weight of Tare & Dry Sample (g):	261.19
Weight of Tare (g):	109.88
Weight of Water (g):	8.90
Weight of Dry Sample (g):	151.31
Moisture Content (%):	5.88

Sample Sulfate Ion Concentration:	32.20	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	96.6	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	102.6	**mg/Kg SO4 (corrected for moisture)**



Tested by: JAM Date: 11/17/23 Checked by: NJM Date: 11/17/23

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CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	CME Associates, Inc.	Boring No.:	Ramboll
Client Reference:	Micron 28062	Depth (ft):	NA
Project No.:	2023-294-003	Sample No.:	TP-2
Lab ID:	2023-294-003-002	Description:	Brown Soil

(- # 10 Sieve material)

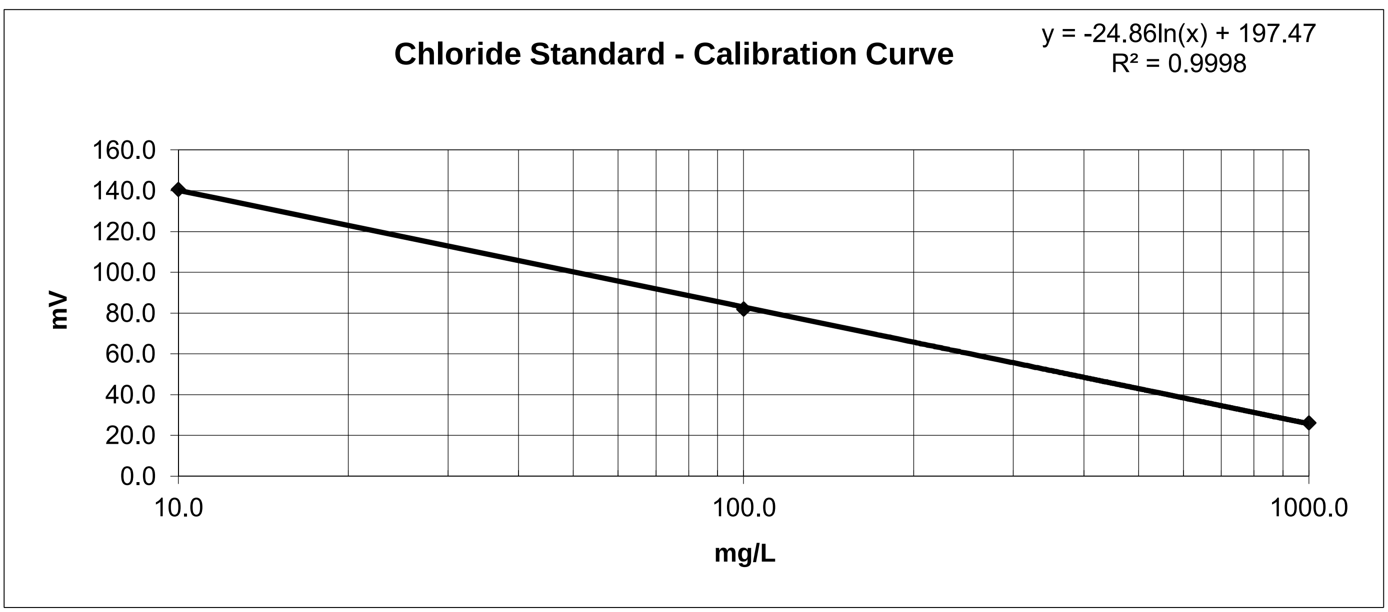
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD	MILLIVOLTS (mV)
10.0 mg/L	140.7
100.0 mg/L	82.0
1000.0 mg/L	26.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	162.3	4.11	4.11

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	11/17/23	Checked By	NJM	Date	11/17/23

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	CME Associates, Inc.	Boring No.:	Ramboll
Client Reference:	Micron 28062	Depth (ft):	NA
Project No.:	2023-294-003	Sample No.:	TP-2
Lab ID:	2023-294-003-002	Soil Description:	Brown Soil

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)	0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
Spectrophotometer Readings (FAU)	Underrange	Underrange	6	17	35	58	107	166	229

Measurement of Barium Chloride Turbidity

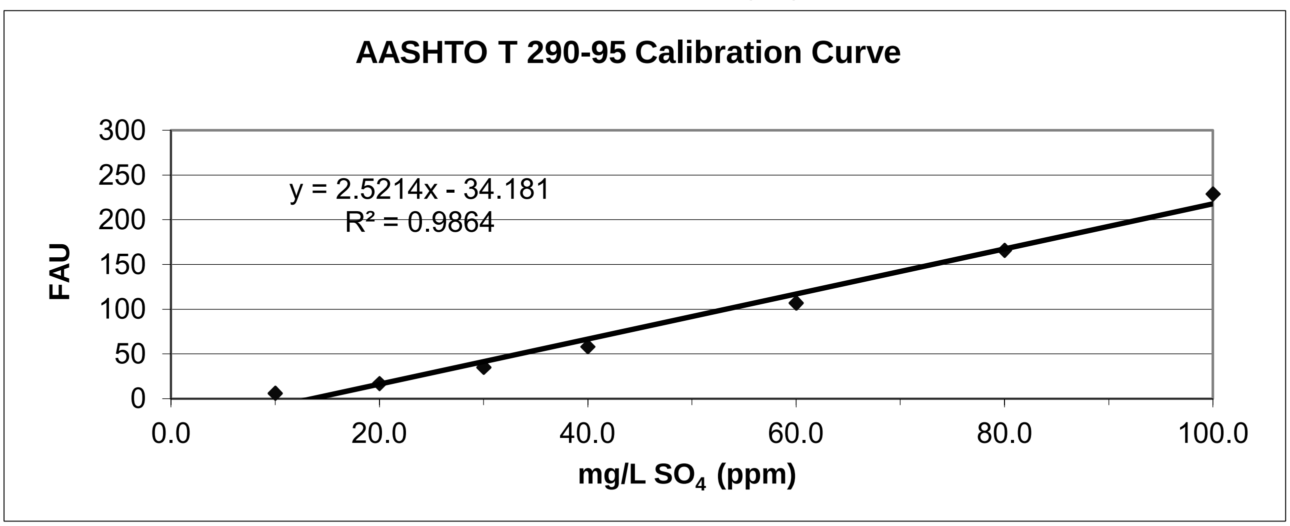
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	8
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	1717
Weight of Tare & Wet Sample (g):	227.88
Weight of Tare & Dry Sample (g):	222.91
Weight of Tare (g):	82.60
Weight of Water (g):	4.97
Weight of Dry Sample (g):	140.31
Moisture Content (%):	3.54

Sample Sulfate Ion Concentration:	16.73	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	50.2	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	52.0	**mg/Kg SO4 (corrected for moisture)**



Tested by:	JAM	Date:	11/17/23	Checked by:	NJM	Date:	11/17/23

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CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-13
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/06/23
Date Finished	09/06/23
Surface Elev.	391.1'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/06/23	While Drilling	8.2	18.5
09/06/23	Before Casing Removed	9.0	23.8
09/06/23	After Casing Removed	5.1 *	out
09/06/23	After Casing Removed	caved @ 5.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1	0.0	2.0	SS/20	1-2-3-5		Brown mottled SILT, trace fine SAND, trace CLAY, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/19	5-5-4-3		Brown mottled SILT, trace fine SAND, trace CLAY (wet, stiff)	9
3								
4	3	4.0	6.0	SS/16	2-3-5-6		Similar as above (wet, stiff)	8
5								
6	4	6.0	8.0	SS/15	6-7-6-7		Similar as above (wet, stiff)	13
7								
8	5	8.0	10.0	SS/12	4-5-7-6		Brown SILT, trace fine SAND, trace fine GRAVEL, trace CLAY (wet, stiff)	12
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/12	3-2-4		Grey SILT, trace CLAY, trace fine SAND (wet, medium stiff)	6
15								
16								
17								
18							*Augered hard from 18.0'*	
19	7	18.5	20.0	SS/10	13-5-6		Grey mf GRAVEL and cmf SAND, little SILT, little CLAY (wet, medium compact)	11
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: *Water added to borehole during coring process.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-13
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse / m - medium / f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.5	23.6	SS/1	100@1"		Grey ROCK chips and fragments (wet) *Auger refusal @ 23.8'*	100+
24	R-1	23.8	28.8	C/60	NQ-Core		23.8' to 26.0': Dark Grey interbedded SHALE and DOLOSTONE, slightly weathered, laminated to medium bedded, medium hard.	67%
25							26.0' to 28.8': Dark Grey DOLOSTONE with interbedded SHALE (1/8" to 1/4" layers), slightly weathered, thinly to medium bedded,	
26							hard. *Horizontal fractures at 26.0', 27.1' and 28.3'.*	
27							Recovery: 60"/60" = 100% | RQD = 40"/60" = 67% 12 pieces, 2" Chips and fragments	
28							*1:30 min/ft, no water loss* *Coring conducted in 5th gear, 2000 rpm, 500 psi down pressure.*	
29							Bottom of Boring @ 28.8'	
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-15
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/05/23
Date Finished	09/05/23
Surface Elev.	394.0'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/05/23	While Drilling	None Noted	18.5
09/05/23	Before Casing Removed	2.7 *	23.8
09/05/23	After Casing Removed	5.0 *	out
09/05/23	After Casing Removed	caved @ 27.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/24	1-2-3-4		Grey/Brown SILT, little mf SAND, little CLAY, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/15	4-4-5-5		Brown mottled SILT, trace fine SAND, trace CLAY (wet, stiff)	9
3								
4	3	4.0	6.0	SS/17	5-5-7-9		Brown SILT, little CLAY, trace fine SAND (wet, stiff)	12
5								
6	4	6.0	8.0	SS/14	5-9-8-9		Brown SILT, little CLAY, trace fine SAND, trace fine GRAVEL (wet, very stiff)	17
7								
8	5	8.0	10.0	SS/15	6-8-11-14		Brown SILT, little cmf SAND, trace fine GRAVEL (wet, very stiff)	19
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/9	2-3-2		Grey SILT, some CLAY, little fine SAND (wet, medium stiff)	5
15								
16								
17								
18								
19	7	18.5	20.0	SS/18	1-1-1		Grey/Brown CLAY, some SILT, little fine GRAVEL, trace cmf SAND (wet, soft)	2
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: * Water added for coring.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-15
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.5	23.5	SS/0	100@0"		*No Recovery. See Remark 1* *Auger refusal @ 23.8'*	100+
24	R-1	23.8	28.8	C/60	NQ-Core		Dark Grey/Black SHALE with interbedded DOLOSTONE, slightly weathered, thinly bedded, medium hard.	87%
25							Broken zone @ 24.1' to 24.5'.	
							Recovery: 60"/60" = 100% | RQD = 52"/60" = 87%	
26							15 pieces, 2" Chips and fragments	
							1:45 min/ft, no water loss	
27							*Coring conducted in 5th grear, 2000 rpm, 500 psi down pressure.*	
28								
	R-2	28.8	33.8	C/60	NQ-Core		Dark Grey/Black DOLOSTONE with interbedded SHALE, slightly weathered, thinly to medium bedded, medium hard.	95%
29							Recovery: 60"/60" = 100%	
30							RQD = 57"/60" = 95%	
31							13 pieces, 1" Chips and fragments *1:32 min/ft, no water loss*	
32							*Coring conducted in 5th gear, 2000 rpm, 500 psi down pressure.*	
33								
34							Bottom of Boring @ 33.8'	
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Grey ROCK chips and fragments on spoon top

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-18		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	09/05/23
Client:	Ramboll	**Date Finished**	09/05/23
Location:	See Exploration Location Plan	**Surface Elev.**	391.9'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/05/23	While Drilling	12.7	18.5
09/05/23	Before Casing Removed	5.7	22
09/05/23	After Casing Removed	4.6	out
09/05/23	After Casing Removed	caved @ 4.8'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/20	1-2-4-4		Brown SILT, trace fine SAND, trace CLAY, trace ROOTS (moist, medium stiff)	6
1								
2	2	2.0	4.0	SS/17	5-6-6-8		Brown mottled SILT, trace fine SAND, trace CLAY (moist, stiff)	12
3								
4	3	4.0	6.0	SS/18	5-5-5-5		Similar as above (wet, stiff)	10
5								
6	4	6.0	8.0	SS/15	6-5-7-9		Similar as above (wet, stiff)	12
7								
8	5	8.0	10.0	SS/20	5-6-7-7		Similar as above (wet, stiff)	13
9								
10								
11								
12								
13								
13.5–14	6	13.5	15.0	SS/11	2-3-4		Grey SILT, little CLAY, trace fine SAND, (wet, medium stiff)	7
15								
16							*Augered gravelly @ 16.5'*	
17								
18								
18.5–19	7	18.5	20.0	SS/10	5-7-8		Grey cmf SAND, some fine GRAVEL, little SILT (wet, medium compact)	15
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-18
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22	8	22.0	22.0	SS/0	100@0"		*Auger refusal @ 22.0'* *No Recovery. See Remark 1*		100+
23							Bottom of Boring @ 22.0'		
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Grey ROCK chips and fragments on spoon top

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-19
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/06/23
Date Finished	09/06/23
Surface Elev.	391.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/06/23	While Drilling	None Noted	4.0
09/06/23	Before Casing Removed	8.5	23.5
09/06/23	After Casing Removed	10.3	out
09/06/23	After Casing Removed	caved @ 22.1	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/13	1-4-4-6		Brown SILT, trace mf SAND, trace CLAY, trace ROOTS (moist, stiff)	8
1								
2	2	2.0	4.0	SS/21	4-5-5-5		Brown mottled SILT, trace mf SAND, trace CLAY (moist, stiff)	10
3								
4	3	4.0	6.0	SS/20	4-3-4-3		Brown SILT, trace fine SAND, trace CLAY (wet, medium stiff)	7
5								
6	4	6.0	8.0	SS/15	3-4-4-5		Similar as above (wet, stiff)	8
7								
8	5	8.0	10.0	SS/22	4-5-6-7		Similar as above (wet, stiff)	11
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/16	7-10-12		Similar as above (wet, very stiff)	22
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/5	3-4-2		Grey cmf SAND and mf GRAVEL, little SILT, trace CLAY (wet, loose)	6
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. B-19
Page No. 2 of 2
Report No. 28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21							*Augered gravelly @ 21.0'*		
22									
23	8	23.5	24.8	SS/5	13-23-100@3"		Dark Grey ROCK fragments, trace SILT (moist)		100+
24							*Auger refusal @ 24.8'*		
25							Bottom of Boring @ 24.8'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	B-30
Client:	Ramboll	**Page No.**	1 of 1
Location:	See Exploration Location Plan	**Report No.**	28062B-03-1223
		Date Started	09/07/23
		Date Finished	09/07/23
		Surface Elev.	392.3'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/07/23	While Drilling	2.8	4.0
09/07/23	Before Casing Removed	3.9 *	7
09/07/23	After Casing Removed	3.0 *	out
09/07/23	After Casing Removed	caved @ 7.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/24	1-1-4-6		Topsoil and Organic Matter (moist)	5
1	1B	1.0	2.0				Brown SILT, trace fine SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/14	5-3-3-4		Brown SILT, some cmf SAND, little fine GRAVEL (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/13	3-5-7-10		Similar as above (wet, stiff)	12
5								
6	4	6.0	6.9	SS/11	34-100@5"		Dark Grey cmf SAND and cmf GRAVEL, trace SILT, some ROCK fragments (wet, very compact) Auger refusal @ 7.0'	100+
7	R1	7.0	12.0	C/60	NQ-Core		Dark Grey/Black SHALE with interbedded DOLOSTONE (1/4" to 2" layers), moderately weathered, laminated to thinly bedded, medium soft to medium hard. Weathered and broken zones throughout core run. Recovery: 60"/60" = 100% | RQD = 12"/60" = 20% 21 pieces, 7 " Chips and fragments *1:45 min/ft, no water loss* *Coring conducted in 5th gear, 2000 rpm, 500 psi down pressure.*	20%
8								
9								
10								
11								
12							Bottom of Boring @ 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: * Water added for coring.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-31
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	09/08/23
Date Finished	09/08/23
Surface Elev.	394.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/08/23	While Drilling	None Noted	4.0
09/08/23	Before Casing Removed	None Noted	5.8
09/08/23	After Casing Removed	None Noted	out
09/08/23	After Casing Removed	caved @ 2.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-1-3-4		Brown SILT, little cmf SAND, trace mf GRAVEL, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/20	4-3-3-4		Brown mottled SILT, little cmf SAND, trace fine GRAVEL (wet, medium stiff)	6
3								
4	3	4.0	5.8	SS/16	3-3-3-100@4"		Brown SILT, some cmf SAND, some mf GRAVEL, some ROCK fragments (wet, medium stiff) *Auger refusal @ 5.8'*	6
5							Bottom of Boring @ 5.8'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-32
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/07/23
Date Finished	09/07/23
Surface Elev.	392.3'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/07/23	While Drilling	3.6	4.0
09/07/23	Before Casing Removed	3.7	5.7
09/07/23	After Casing Removed	4.2	out
09/07/23	After Casing Removed	caved @ 4.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-2-3-3		Brown mottled SILT, trace cmf SAND, trace fine GRAVEL, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/13	1-4-7-7		Grey/Brown SILT and cmf SAND, little cmf GRAVEL (wet, stiff)	11
3								
4	3	4.0	5.6	SS/11	17-21-10-100@1"		Dark Grey ROCK fragments, trace SILT, trace cmf SAND (wet)	31
5							*Auger refusal @ 5.7'*	
							Bottom of Boring @ 5.7'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-33
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	09/08/23
Date Finished	09/08/23
Surface Elev.	395.8'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/08/23	While Drilling	None Noted	4.0
09/08/23	Before Casing Removed	11.0	11.8
09/08/23	After Casing Removed	7	out
09/08/23	After Casing Removed	caved @ 8.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/20	1-1-1-2		Brown SILT, little cmf SAND, trace ROOTS (moist, soft)	2
1								
2	2	2.0	4.0	SS/18	2-4-5-7		Brown SILT, trace fine SAND, trace CLAY (wet, stiff)	9
3								
4	3	4.0	6.0	SS/13	5-6-5-4		Similar as above (wet, stiff)	11
5								
6	4	6.0	8.0	SS/12	2-3-4-3		Grey/Brown SILT, trace fine SAND, trace mf GRAVEL (wet, medium stiff)	7
7								
8	5	8.0	10.0	SS/10	2-2-1-2		Grey/Brown SILT, some cmf SAND, some fine GRAVEL, trace CLAY (wet, soft)	3
9								
10								
11							*Auger refusal @ 11.8'*	
	6	11.8	11.8	SS/0	100@0"		Grey ROCK chips and fragments	100+
12							Bottom of Boring @ 11.8'	
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-34
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	09/07/23
Date Finished	09/07/23
Surface Elev.	394.2'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/07/23	While Drilling	None Noted	4.0
09/07/23	Before Casing Removed	6.5	9.3
09/07/23	After Casing Removed	6.7	out
09/07/23	After Casing Removed	caved @ 9.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	1-2-2-3		Brown SILT, trace fine SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/19	3-2-2-2		Dark Grey/Brown SILT, little cmf SAND, trace CLAY (moist, medium stiff)	4
3								
4	3	4.0	6.0	SS/13	3-2-2-2		Dark Grey/Brown SILT, little cmf SAND, trace CLAY, trace fine GRAVEL (wet, medium stiff)	4
5								
6	4	6.0	8.0	SS/9	3-2-1-1		Dark Grey SILT, some cmf SAND, little mf GRAVEL, trace CLAY (wet, soft)	3
7								
8	5	8.0	8.8	SS/8	5-100@3"		Dark Grey SILT and ROCK fragments, trace mf GRAVEL, trace cmf SAND (wet, hard)	100+
9							*Auger refusal @ 9.3'*	
10							Bottom of Boring @ 9.3'	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-35
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	09/07/23
Date Finished	09/07/23
Surface Elev.	397.4'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/07/23	While Drilling	None Noted	4.0
09/07/23	Before Casing Removed	2.4 *	4.0
09/07/23	After Casing Removed	2.8 *	out
09/07/23	After Casing Removed	caved @ 4.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/6	1-3-3-9		Brown SILT, trace fine SAND, trace fine GRAVEL, trace ROOTS (moist, medium stiff)	6
1								
2	2	2.0	3.7	SS/13	6-5-12-100@2"		Brown mottled SILT, little cmf GRAVEL, little ROCK fragments, trace cmf SAND (wet, very stiff)	17
3							*Auger refusal @ 4.0'*	
4	R1	4.0	9.0	C60	NQ-Core		Dark Grey DOLOSTONE with interbedded SHALE (1/8" to 1 1/4"), weathered, thinly to medium bedded, medium hard. Weathered SHALE and SILT layers @ 4.4' to 4.5', 5.1' to 5.2', 6.8' to 6.9' and 8.1' to 8.3'. Recovery: 60"/60" = 100% | RQD = 39"/50" = 65% 17 pieces, 5" Chips and fragments *1:05 min/ft, no water loss* *Coring conducted in 5th gear, 2200 rpm, 600 psi down pressure.*	65%
5								
6								
7								
8								
9							Bottom of Boring @ 9.0'	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: *Water added for coring.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-36
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/08/23
Date Finished	09/08/23
Surface Elev.	394.7'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/08/23	While Drilling	None Noted	2.0
09/08/23	Before Casing Removed	None Noted	4.2
09/08/23	After Casing Removed	None Noted	out
09/08/23	After Casing Removed	caved @ 3.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1	0.0	2.0	SS/12	1-1-2-3		Brown SILT, some cmf SAND, trace fine GRAVEL, trace ROOTS (moist, soft)	3
1								
2	2A	2.0	3.7	SS/12	4-4-4-100@5"		Grey/Brown mottled SILT, some cmf SAND, some mf GRAVEL (moist, stiff)	8
3								
	2B	3.7	3.9				Grey ROCK chips and fragments (moist)	
4	3	4.0	4.2	SS/0	100@2"		*No Recovery. Auger refusal @ 4.2'*	100+
							Bottom of Boring @ 4.2'	
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-37
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/07/23
Date Finished	09/07/23
Surface Elev.	394.3'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/07/23	While Drilling	None Noted	0.0
09/07/23	Before Casing Removed	None Noted	8.0
09/07/23	After Casing Removed	7.4	out
09/07/23	After Casing Removed	caved @ 7.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-2-2-3		Brown SILT, trace fine SAND, trace ROOTS (moist, soft)	4
1								
2	2	2.0	4.0	SS/18	4-7-7-7		Brown mottled SILT, trace fine SAND (moist, stiff)	14
3								
4	3	4.0	6.0	SS/20	4-5-2-2		Brown SILT, trace fine SAND (wet, medium stiff)	7
5								
6	4	6.0	8.0	SS/5	4-WH-WH-2		Brown SILT, little mf SAND, little CLAY (wet, very soft)	0
7								
8	5	8.0	8.8	SS/7	3-100@4"		Grey/Brown SILT, little CLAY, little ROCK fragments, trace mf SAND (wet, hard)	100+
9							*Auger refusal @ 9.1'*	
10							Bottom of Boring @ 9.1'	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-38
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	09/08/23
Date Finished	09/08/23
Surface Elev.	397.2'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/08/23	While Drilling	None Noted	4.0
09/08/23	Before Casing Removed	None Noted	17.4
09/08/23	After Casing Removed	None Noted	out
09/08/23	After Casing Removed	caved @ 12.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/20	1-1-1-2		FILL; Brown silt, fine sand, roots (moist)	2
1								
2	2	2.0	4.0	SS/21	5-5-5-5		FILL; Brown silt, fine sand (moist)	10
3								
4	3	4.0	5.2	SS/14	4-5-100@2"		Miscellaneous FILL; Brown mottled silt, fine sand, rock fragments, roots, metal (wet)	100+
5						- - -		
6	4	6.0	8.0	SS/10	6-8-11-12		Brown SILT and cmf SAND, some cmf GRAVEL (wet, very stiff)	19
7								
8	5	8.0	10.0	SS/15	10-10-11-13		Brown SILT and ROCK fragments, some cmf SAND, little mf GRAVEL (wet, very stiff)	21
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/13	38-37-100		Grey SILT and ROCK fragments, some cmf SAND, little mf GRAVEL (wet, hard)	137
15								
16								
17							*Augered hard @ 17.2'. Auger refusal @ 17.4'.*	
18	7	17.4	17.4	SS/0	100@0"		*No Recovery.*	100+
							Bottom of Boring @ 17.4'	
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-39
Page No.	1 of 2
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	Date Started	09/07/23
Client:	Ramboll	Date Finished	09/07/23
Location:	See Exploration Location Plan	Surface Elev.	397.0'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/07/23	While Drilling	16.1	19.0
09/07/23	Before Casing Removed	2.9 *	19
09/07/23	After Casing Removed	4.5 *	out
09/07/23	After Casing Removed	caved @ 14.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/24	1-1-4-6		Brown SILT, little mf SAND, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/16	4-5-3-2		Brown mottled SILT, little cmf SAND, trace fine GRAVEL (wet, stiff)	8
3								
4	3	4.0	6.0	SS/14	2-4-7-12		Brown cmf SAND and SILT, trace fine GRAVEL (wet, stiff)	11
5								
6	4	6.0	8.0	SS/15	10-8-10-12		Brown cmf SAND, some SILT, trace fine GRAVEL (wet, medium compact)	18
7								
8	5	8.0	10.0	SS/12	13-12-13-8		Brown/Grey cmf SAND, some SILT, trace fine GRAVEL (wet, very stiff)	25
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/11	8-17-24		Dark Grey cmf SAND, trace cmf GRAVEL, trace SILT (wet, compact)	41
15								
16								
17							*Augered hard @ 17.5'*	
18	7	18.5	18.7	SS/2	100@2"		Dark Grey ROCK chips and fragments (wet) *Auger refusal @ 19.0'*	100+
19	R1	19.0	24.0	C/60	NQ-Core		Dark Grey SHALE, slightly weathered, laminated to thinly bedded, medium hard.	83%
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: * Water added for coring.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-39
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Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
							Horizontal fractures with weathering at 20.3', 21.2' and 23.2'.		
21							Recovery: 60"/60" = 100%		
							RQD = 50"/60" = 83%		
22							8 pieces, 2" Chips and fragments		
							1:50 min/ft, no water loss		
23							*Coring conducted in 5th gear, 2000 rpm, 500 psi down pressure.*		
24							Bottom of Boring @ 24.0'		
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-40
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/08/23
Date Finished	09/08/23
Surface Elev.	396.5'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O'Hara	**Casing Hammer:**	
Inspector:	Asitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/08/23	While Drilling	18.3	18.5
09/08/23	Before Casing Removed	17.6	19.9
09/08/23	After Casing Removed	None Noted	out
09/08/23	After Casing Removed	caved @ 8.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	1-2-3-7		Brown SILT, little cmf SAND, trace fine GRAVEL, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/19	5-4-4-4		Brown SILT, some cmf SAND, trace mf GRAVEL (wet, stiff)	8
3								
4	3	4.0	6.0	SS/19	3-5-9-11		Brown mottled SILT, little cmf SAND, trace CLAY, trace fine GRAVEL (wet, stiff)	14
5								
6	4	6.0	8.0	SS/14	11-13-17-18		Similar as above (wet, very stiff)	30
7								
8	5	8.0	10.0	SS/24	11-19-19-52		Grey/Brown SILT and cmf SAND, little fine GRAVEL (wet, very stiff)	38
9								
10								
11								
12								
13								
	6	13.5	14.8	SS/16	30-71-100@4"		Grey SILT, some cmf SAND, little mf GRAVEL, trace CLAY (wet, hard)	100+
14								
15								
16								
17								
18								
	7	18.5	19.3	SS/10	30-100@4"		Grey SILT and ROCK fragments, trace mf GRAVEL (wet, hard) *Auger refusal @ 19.9'*	100+
19								
20							Bottom of Boring @ 19.9'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-63
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/23/23
Date Finished	10/23/23
Surface Elev.	400.5'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/23/23	While Drilling	None Noted	-
10/23/23	Before Casing Removed	None Noted	-
10/23/23	After Casing Removed	8.9	out
10/23/23	After Casing Removed	caved @ 9.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.7	SS/12	1-2-5-7		Dark Brown Topsoil and Organic Material (moist)	7
	1B	0.7	2.0				Brown cmf SAND, little SILT, little fine GRAVEL (moist, loose)	
1								
2	2	2.0	4.0	SS/15	7-14-9-14		Brown SILT and cmf SAND, little mf GRAVEL (wet, very stiff)	23
3								
4	3	4.0	6.0	SS/22	7-8-9-7		Grey/Brown SILT and cmf SAND, some mf GRAVEL (wet, very stiff)	17
5								
6	4	6.0	8.0	SS/15	11-12-14-16		Similar as above (moist, very stiff)	26
7								
8	5	8.0	8.7	SS/8	9-50@2"		Dark Brown/Grey SILT and mf GRAVEL, some cmf SAND (moist, hard)	50+
9								
10							*Auger refusal @ 10.6'*	
	6	10.6	10.6	SS/0	50@0"		*No Recovery*	50+
11							*See Remark 1*	
							Bottom of Boring @ 11.5'	
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Boring was offset by 3.0' west of original location and augered. Auger started getting harder beginning @ 10.6' and refusal was achieved @ 11.5'.

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East Syracuse, NY 13057
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-65
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/24/23
Date Finished	10/24/23
Surface Elev.	402.5'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/24/23	Before Casing Removed	None Noted	-
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @ 4.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.4	SS/8	2-5-6-14		Dark Brown Topsoil and Organic Material (moist)	11
	1B	0.4	2.0				Grey/Brown mf GRAVEL and cmf SAND, some SILT (moist, medium compact)	
1								
2	2	2.0	4.0	SS/9	3-2-2-5		Brown SILT and cmf SAND, some mf GRAVEL (moist, medium stiff)	4
3								
4	3	4.0	5.1	SS/14	5-30-50@1"		Grey/Black SILT and cmf SAND, some mf GRAVEL (moist, hard)	50+
5							*Auger refusal @ 5.0'*	
							Bottom of Boring @ 5.0'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

Boring B-65 was offset west from the originally staked location by about 7 feet.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-67
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/24/23
Date Finished	10/24/23
Surface Elev.	405.1'

METHODS OF INVESTIGATION

Driller:	H. Lyon	Casing:	3 ¼" ID H.S.A.
Driller:	K. Crandall	Casing Hammer:	
Inspector:	A. Sharma, EIT	Other:	
Drill Rig:	CME 45	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	AW	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/24/23	Before Casing Removed	None Noted	-
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @ 6.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/9	1-1-3-4		Brown SILT, some cmf SAND, little mf GRAVEL, trace ROOTS (moist, soft)	4
1								
2	2	2.0	4.0	SS/16	5-7-9-12		Brown SILT and cmf SAND, little mf GRAVEL (moist, very stiff)	16
3								
4	3	4.0	6.0	SS/19	5-3-3-9		Brown mottled SILT, some cmf SAND, some mf GRAVEL (moist, medium stiff)	6
5								
6	4	6.0	7.7	SS/7	18-8-10-50@2"		Grey/Brown cmf GRAVEL and mf SAND, trace SILT (moist, medium compact)	18
7							*Auger refusal @ 7.9'*	
8							Bottom of Boring @ 7.9'	
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-68
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/20/23
Date Finished	10/20/23
Surface Elev.	398.5'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/20/23	While Drilling	None Noted	-
10/20/23	Before Casing Removed	None Noted	-
10/20/23	After Casing Removed	11.6	out
10/20/23	After Casing Removed	caved @ 15.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.6	SS/13	1-2-3-4		Dark Grey Topsoil and Organic Matter (moist)	5
	1B	0.6	2.0				Brown mottled SILT, little fine SAND, trace mf GRAVEL (moist, medium stiff)	
1								
2	2	2.0	2.9	SS/7	3-50@5"		Grey/Brown mottled SILT, some cmf SAND (moist, hard) *Possible Obstruction*	50+
3							*Augered gravelly beginning @ 3.0'*	
4	3	4.0	6.0	SS/13	21-6-5-6		Brown SILT, some cmf SAND, trace mf GRAVEL (wet, stiff)	11
5								
6	4	6.0	8.0	SS/17	7-9-7-7		Brown SILT and cmf SAND, some mf GRAVEL (wet, very stiff)	16
7								
8	5	8.0	10.0	SS/17	4-9-14-16		Grey SILT, some CLAY, trace cmf SAND (moist, very stiff)	23
9								
10								
11								
12								
13	6	13.0	14.4	SS/12	34-35-50@5"		Dark Grey/Black SILT, some cmf GRAVEL, some cmf SAND (moist, hard)	50+
14								
15								
16								
17							*Augered hard beginning @ 17.3'*	
18	7	18.0	19.2	SS/7	24-44-50@2"		Dark Grey/Black highly weathered ROCK fragments, trace cmf SAND, trace mf GRAVEL (moist)	50+
19							*Auger refusal @ 18.8'*	
							Bottom of Boring @ 19.2'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Boring B-68 was offset southwest from the originally staked location by about 7 feet.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-81
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/19/23
Date Finished	10/19/23
Surface Elev.	404.4'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/19/23	While Drilling	8.4	7.5
10/19/23	Before Casing Removed	None Noted	21.7
10/19/23	After Casing Removed	19.6	out
10/19/23	After Casing Removed	caved @ 20.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1A	0.0	0.7	SS/13	1-1-4-7		Topsoil and Organic Material (moist)	5
	1B	0.7	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/16	4-6-6-7		Brown cmf SAND and SILT, little mf GRAVEL (moist, medium compact)	12
3							*Augered gravelly beginning @ 4.0'*	
4	3	4.0	6.0	SS/5	20-10-15-9		Grey/Brown mf GRAVEL, little SILT, trace fine SAND (moist, medium compact)	25
5								
6	4	6.0	8.0	SS/8	4-4-7-9		Brown mottled SILT, some CLAY, little cmf SAND, trace mf GRAVEL (wet, stiff)	11
7								
8	5	8.0	10.0	SS/20	3-6-8-10		Grey/Brown SILT and cmf SAND, some mf GRAVEL, trace CLAY (wet, stiff)	14
9							*PP=2.75, 2, 2*	
10								
11								
12								
13	6	13.0	15.0	SS/12	6-12-12-18		Grey CLAY and SILT, little cmf SAND (wet, very stiff) *PP=1, 1.5, 1.25*	24
14								
15								
16							*Augered hard beginning @ 16.8'*	
17								
18	7	18.0	19.4	SS/16	21-40-50@5"		Grey SILT and cmf SAND, some fine GRAVEL, little CLAY (wet, hard)	50+
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP - Pocket Penetrometer Results in tsf
Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-81
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22	8	21.7	21.7	SS/0	50@0"		*Auger refusal @ 21.7'* *No Recovery. See Remark 1*	50+
23							Bottom of Boring @ 21.7'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Grey ROCK chips and fragments on spoon top

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-83
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/24/23
Date Finished	10/24/23
Surface Elev.	404.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/24/23	Before Casing Removed	None Noted	-
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @ 8.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	1-1-3-3		Brown SILT, little cmf SAND, trace fine GRAVEL, trace CLAY, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/14	3-3-4-3		Brown mottled SILT, little cmf SAND, trace mf GRAVEL, trace CLAY (wet, medium stiff)	7
3								
4	3	4.0	6.0	SS/13	3-6-10-8		Brown mottled SILT and cmf SAND, some cmf GRAVEL (wet, very stiff)	16
5								
6	4	6.0	8.0	SS/17	7-9-16-24		Brown SILT, some cmf SAND, some mf GRAVEL (wet, very stiff)	25
7								
8	5	8.0	10.0	SS/12	12-22-24-33		Brown SILT, some mf GRAVEL, little cmf SAND (wet, hard)	46
9								
10							*Augered harder beginning @ 10.8'. Auger refusal @ 11.3'.*	
11	6	11.3	11.3	SS/0	50@0"		*No Recovery*	50+
							Bottom of Boring @ 11.3'	
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-83
Page No.	1 of 1
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	**Date Started**	10/24/23
Client:	Ramboll	**Date Finished**	10/24/23
Location:	See Exploration Location Plan	**Surface Elev.**	404.7'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/24/23	Before Casing Removed	None Noted	-
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @ 6.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/20	1-1-2-3		Topsoil and Organic Material (moist)	3
	1B	0.5	2.0				Brown SILT, little cmf SAND, trace mf GRAVEL (moist, soft)	
1								
2	2	2.0	4.0	SS/14	2-4-5-5		Brown SILT, little cmf SAND, trace mf GRAVEL (moist, stiff)	9
3								
4	3	4.0	6.0	SS/18	4-4-10-14		Light Brown mottled SILT, some mf GRAVEL, trace cmf SAND (moist, stiff)	14
5							*Augered gravelly beginning @ 5.5'*	
6	4	6.0	7.4	SS/12	12-20-50@5"		Brown SILT and cmf GRAVEL, little cmf SAND (wet, hard)	50+
7							*Auger refusal @ 7.4'*	
							Bottom of Boring @ 7.4'	
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-87
Page No.	1 of 1
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	**Date Started**	10/24/23
Client:	Ramboll	**Date Finished**	10/24/23
Location:	See Exploration Location Plan	**Surface Elev.**	403.8'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/24/23	Before Casing Removed	None Noted	-
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @ 8.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.7	SS/15	1-2-4-10		Dark Brown Topsoil and Organic Material (moist)	6
	1B	0.7	2.0				Brown mottled SILT, little cmf SAND, trace mf GRAVEL (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/14	5-7-4-3		Brown mottled cmf SILT and SAND, little mf GRAVEL (moist, stiff)	11
3							*Augered gravelly beginning @ 3.5'*	
4	3	4.0	6.0	SS/18	1-3-5-6		Brown mottled SILT, some cmf SAND, little mf GRAVEL, trace CLAY (wet, stiff)	8
5								
6	4	6.0	8.0	SS/15	6-7-1-2		Brown mottled SILT and cmf SAND, little mf GRAVEL (wet, stiff)	8
7								
8	5	8.0	9.9	SS/12	5-7-10-50@5"		Grey weathered ROCK chips and fragments, little mf GRAVEL, trace SILT (wet)	17
9							*Auger refusal @ 9.9'*	
10							Bottom of Boring @ 9.9'	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-88
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/20/23
Date Finished	10/20/23
Surface Elev.	404.6'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/20/23	While Drilling	12.5	13.0
10/20/23	Before Casing Removed	16.5	33
10/20/23	After Casing Removed	11.5	out
10/20/23	After Casing Removed	caved @ 25.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	1-2-4-6		Topsoil and Organic Material (moist)	6
	1B	0.5	2.0				Brown mottled SILT, little fine SAND, trace CLAY, trace ROOTS (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/19	8-7-5-4		Brown mottled SILT, little fine SAND, trace CLAY (wet, stiff)	12
3								
4	3	4.0	6.0	SS/18	1-2-1-4		Brown SILT, little CLAY, trace cmf SAND, trace fine GRAVEL (wet, soft)	3
5								
6	4	6.0	8.0	SS/19	4-6-6-8		Brown SILT, some CLAY, trace fine SAND (wet, stiff)	12
7								
8	5	8.0	10.0	SS/20	5-8-9-11		Similar as above (wet, very stiff)	17
9								
10								
11								
12							*Augered gravelly beginning @ 12.0'*	
13	6	13.0	15.0	SS/8	32-5-3-8		Grey SILT and cmf SAND, some CLAY, some fine GRAVEL (wet, stiff)	8
14								
15								
16								
17							*Augered gravelly beginning @ 16.5'*	
18	7	18.0	18.8	SS/4	23-50@3"		Grey/Red cmf GRAVEL, little cmf SAND, trace SILT (moist, very compact)	50+
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION
TEST BORING LOG

Boring No.	B-88
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	24.5	SS/10	19-25-35		Grey SILT, some CLAY, trace mf SAND (moist, hard)	60
24								
25								
26								
27								
28	9	28.0	29.5	SS/10	18-26-50		Grey SILT and CLAY, little fine SAND, trace mf GRAVEL (wet, hard)	76
29								
30								
31								
32							*Augered gravelly beginning @ 31.7'*	
33	10	33.0	33.7	SS/5	53-50@2"		Similar as above (wet, hard) *Augered to 34.2'*	50+
34							Bottom of Boring @ 34.2'	
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	**B-90**
Client:	Ramboll	**Page No.**	1 of 1
Location:	See Exploration Location Plan	**Report No.**	28062B-03-1223
		Date Started	10/23/23
		Date Finished	10/23/23
		Surface Elev.	406.0'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/23/23	While Drilling	8.0	8.0
10/23/23	Before Casing Removed	None Noted	18.5
10/23/23	After Casing Removed	9.5	out
10/23/23	After Casing Removed	caved @ 14.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	2-2-3-4		Grey/Brown Topsoil and Organic Material (moist)	5
	1B	0.5	2.0				Grey/Brown mottled SILT, trace fine SAND, trace CLAY (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/15	5-5-5-4		Brown SILT, little CLAY, trace fine SAND (wet, stiff)	10
3								
4	3	4.0	6.0	SS/17	8-17-29-33		Brown/Grey SILT, trace cmf SAND, trace CLAY (wet, hard)	46
5								
6	4	6.0	8.0	SS/21	5-6-9-11		Brown SILT, some cmf SAND (wet, very stiff)	15
7								
8	5	8.0	10.0	SS/14	5-10-40-40		Grey/Reddish Brown cmf GRAVEL and cmf SAND, some SILT (moist, very compact)	50
9								
10							*Augered hard beginning @ 10.5'*	
11								
12							*Augered very hard beginning @ 12.6'*	
	6	12.6	12.9	SS/2	50@3"		Grey cmf SAND and SILT, little mf GRAVEL (moist, very compact)	50+
13								
14	7	14.0	14.2	SS/2	50@2"		Grey cmf SILT and SAND, trace fine GRAVEL (moist, hard)	50+
15								
16								
17								
18	8	18.0	18.4	SS/4	50@5"		Grey SILT and cmf SAND, little fine GRAVEL (wet, hard)	50+
							Auger refusal @ 18.5'	
19							Bottom of Boring @ 18.5'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-94
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/24/23
Date Finished	10/24/23
Surface Elev.	406.8'

METHODS OF INVESTIGATION

Driller:	H. Lyon	Casing:	3 ¼" ID H.S.A.
Driller:	K. Crandall	Casing Hammer:	
Inspector:	A. Sharma, EIT	Other:	
Drill Rig:	CME 45	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	AW	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/24/23	Before Casing Removed	None Noted	-
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @ 7.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-2-2-2		Dark Brown SILT, little fine SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/15	2-2-3-4		Brown mottled SILT, little mf SAND, trace CLAY (moist, medium stiff)	5
3								
4	3	4.0	6.0	SS/14	3-9-11-14		Brown mottled SILT, some cmf SAND, little mf GRAVEL, trace CLAY (wet, very stiff)	20
5							*Augered gravelly beginning @ 6.0'*	
6	4	6.0	8.0	SS/9	12-11-7-14		Brown cmf SAND and SILT, some mf GRAVEL (wet, medium compact)	18
7								
8	5	8.0	8.9	SS/7	18-50@5"		Dark Brown cmf SAND and mf GRAVEL, trace SILT (moist, very compact) *Auger refusal @ 8.9'*	50+
9							Bottom of Boring @ 8.9'	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-96
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/24/23
Date Finished	10/24/23
Surface Elev.	407.8'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/24/23	Before Casing Removed	None Noted	-
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @ 9.1	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	1-WH-1-1		Topsoil and Organic Material (moist)	1
	1B	0.5	2.0				Brown SILT, trace cmf SAND, trace CLAY, trace fine GRAVEL (moist, very soft)	
1								
2	2	2.0	4.0	SS/13	2-2-3-5		Brown mottled SILT, little cmf SAND, trace mf GRAVEL (wet, medium stiff)	5
3								
4	3	4.0	6.0	SS/19	2-2-4-6		Brown mottled SILT and cmf SAND, little mf GRAVEL (wet, medium stiff)	6
5							*Augered gravelly beginning @ 6.0'*	
6	4	6.0	8.0	SS/15	12-12-12-14		Brown mottled SILT, some mf GRAVEL, some cmf SAND (wet, very stiff)	24
7								
8	5	8.0	10.0	SS/10	14-28-35-35		Grey ROCK chips and fragments, some cmf GRAVEL, little cmf SAND, trace SILT (moist)	63
9								
10	6	10.0	10.6	SS/4	20-50@1"		Similar as above (moist) *Auger refusal @ 10.6'*	50+
11							Bottom of Boring @ 10.6'	
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-103
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/24/23
Date Finished	10/25/23
Surface Elev.	408.5'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	None Noted	-
10/25/23	Before Casing Removed	None Noted	-
10/25/23	After Casing Removed	None Noted	out
10/25/23	After Casing Removed	caved @ 8.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/8	1-3-3-5		Dark Brown SILT, little fine SAND, trace CLAY, trace ROOTS (moist, medium stiff)	6
1								
2	2	2.0	4.0	SS/6	5-5-6-9		Brown cmf GRAVEL, some SILT, little cmf SAND (moist, medium compact)	11
3								
4	3	4.0	6.0	SS/18	2-3-4-5		Brown SILT and cmf SAND, some mf GRAVEL (moist, medium stiff)	7
5								
6	4	6.0	8.0	SS/21	7-19-15-23		Grey/Brown SILT and mf GRAVEL, some cmf SAND (moist, hard)	34
7								
8	5	8.0	9.8	SS/12	25-25-34-39		Grey/Brown cmf GRAVEL and SILT, some cmf SAND (moist, very compact)	59
9							*Auger refusal @ 9.8'*	
10							Bottom of Boring @ 9.8'	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Offset by 5.0' south due to proximity with a tree.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-105		
Page No.	1 of 1		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	10/25/23
Client:	Ramboll	Date Finished	10/25/23
Location:	See Exploration Location Plan	Surface Elev.	406.4'

METHODS OF INVESTIGATION

Driller:	H. Lyon	Casing:	3 ¼" ID H.S.A.
Driller:	K. Crandall	Casing Hammer:	
Inspector:	A. Sharma, EIT	Other:	
Drill Rig:	CME 45	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	AW	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/25/23	While Drilling	None Noted	-
10/25/23	Before Casing Removed	None Noted	-
10/25/23	After Casing Removed	None Noted	out
10/25/23	After Casing Removed	caved @ 5.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-1-1-2		Grey/Brown SILT, little fine SAND, trace CLAY, trace ROOTS (wet, soft)	2
1								
2	2	2.0	4.0	SS/16	2-2-6-12		Brown mottled SILT, some cmf SAND, little mf GRAVEL (wet, stiff)	8
3								
4	3	4.0	6.0	SS/10	4-7-4-5		Brown/Grey SILT and cmf SAND, little mf GRAVEL (wet, stiff)	11
5								
6	4	6.0	6.4	SS/5	50@5"		Dark Brown/Grey cmf SAND and mf GRAVEL, some SILT (moist, very compact) *Augered gravelly beginning @ 6.3'*	50+
7							Bottom of Boring @ 6.4'	
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-114
Page No.	1 of 1
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	Date Started	10/25/23
Client:	Ramboll	Date Finished	10/25/23
Location:	See Exploration Location Plan	Surface Elev.	409.8'

METHODS OF INVESTIGATION

Driller:	H. Lyon	Casing:	3 ¼" ID H.S.A.
Driller:	K. Crandall	Casing Hammer:	
Inspector:	A. Sharma, EIT	Other:	
Drill Rig:	CME 45	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	AW	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/25/23	While Drilling	None Noted	-
10/25/23	Before Casing Removed	None Noted	-
10/25/23	After Casing Removed	None Noted	out
10/25/23	After Casing Removed	caved @ 7.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/14	1-2-2-3		Topsoil and Organic Material (moist)	4
	1B	0.5	2.0				Brown SILT, little fine SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/16	2-3-2-8		Brown SILT, little cmf SAND, trace CLAY, trace mf GRAVEL (moist, medium stiff)	5
3								
4	3	4.0	6.0	SS/14	4-8-14-20		Grey SILT, some cmf SAND, some mf GRAVEL, little CLAY (moist, very stiff)	22
5								
6	4	6.0	8.0	SS/15	14-20-21-25		Similar as above (moist, hard)	41
7								
8	5	8.0	8.6	SS/5	40-50@1"		Grey/Brown cmf GRAVEL and SILT, little cmf SAND (moist, very compact)	50+
9							*Auger refusal @ 9.5'*	
10							Bottom of Boring @ 9.5'	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

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SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	B-116
		Page No.	1 of 2
		Report No.	28062B-03-1223
		Date Started	10/19/23
Client:	Ramboll	**Date Finished**	10/20/23
Location:	See Exploration Location Plan	**Surface Elev.**	406.3'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/20/23	While Drilling	23.1	23.0
10/20/23	Before Casing Removed	32.6	33.5
10/20/23	After Casing Removed	None Noted	out
10/20/23	After Casing Removed	caved @ 32.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	2-6-7-7		Topsoil and Organic Material (moist)	13
	1B	0.5	2.0				Brown/Grey mottled SILT, little fine SAND, trace ROOTS (moist, stiff)	
1								
2	2	2.0	4.0	SS/12	5-7-8-8		Brown SILT, little fine SAND, trace CLAY (wet, very stiff)	15
3								
4	3	4.0	6.0	SS/13	10-22-33-40		Grey/Brown SILT, little fine SAND, trace CLAY (wet, hard) *Augered gravelly @ 4.0'*	55
5								
6	4	6.0	8.0	SS/17	17-30-35-32		Similar as above (moist, hard)	65
7								
8	5	8.0	10.0	SS/14	8-4-4-7		Grey SILT, some cmf SAND, some CLAY, trace fine GRAVEL (wet, stiff)	8
9								
10							*Augered gravelly beginning @ 10.0' to 11.0'*	
11								
12								
13	6	13.0	14.8	SS/18	4-17-47-50@3"		Grey SILT, some cmf SAND, little CLAY, trace fine GRAVEL (moist, hard) *Augered hard beginning @ 13.7'*	64
14								
15								
16								
17								
18	7	18.0	18.3	SS/3	50@3"		Grey cmf GRAVEL, some cmf SAND (moist, very compact)	50+
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-116
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	25.0	SS/12	12-29-25-27		Grey SILT, some cmf SAND, some mf GRAVEL, some CLAY (moist, hard)	54
24								
25								
26								
27								
28								
29	9	28.5	30.0	SS/16	33-75-41		Grey cmf SAND and SILT, little mf GRAVEL (wet, very compact)	116
30								
31								
32								
33							*Auger refusal @ 33.5'*	
34	10	33.5	33.5	SS/0	50@0"		*No Recovery*	50+
35							Bottom of Boring @ 33.5'	
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-121
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/11/23
Date Finished	09/11/23
Surface Elev.	414.8'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/11/23	While Drilling	None Noted	0.0
09/11/23	Before Casing Removed	None Noted	14.6
09/11/23	After Casing Removed	None Noted	out
09/11/23	After Casing Removed	caved @ 7.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	WH-1-2-3		Brown SILT, little cmf SAND, trace fine GRAVEL, trace ROOTS (moist, soft)	3
1								
2	2	2.0	4.0	SS/12	4-6-6-7		Brown mottled SILT, some cmf SAND, little mf GRAVEL (moist, stiff)	12
3								
4	3	4.0	6.0	SS/14	3-3-3-8		Similar as above (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/13	11-20-18-26		Grey/Brown cmf SAND and SILT, little mf GRAVEL (moist, compact)	38
7								
8	5	8.0	9.7	SS/13	21-39-79-100@2"		Dark Grey cmf SAND and mf GRAVEL, little SILT (moist, very compact)	118
9								
10								
11								
12								
13	6	13.0	13.8	SS/7	37-100@3"		Grey cmf SAND and mf GRAVEL, little SILT, little ROCK fragmen (moist, very compact)	100+
14							*Auger refusal @ 14.6'*	
15							Bottom of Boring @ 14.6'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-122		
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Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	09/11/23
Client:	Ramboll	Date Finished	09/11/23
Location:	See Exploration Location Plan	Surface Elev.	418.8'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/11/23	While Drilling	None Noted	8.0
09/11/23	Before Casing Removed	None Noted	13
09/11/23	After Casing Removed	None Noted	out
09/11/23	After Casing Removed	caved @ 7.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth From (Ft.)	Sample Depth To (Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	WH-1-2-3		Brown mottled SILT, little cmf SAND, trace fine GRAVEL, trace ROOTS (moist, soft)	3
1								
2	2	2.0	4.0	SS/14	10-12-23-36		Brown mottled SILT, little cmf SAND, trace fine GRAVEL (moist, hard)	35
3								
4	3	4.0	6.0	SS/18	20-25-36-33		Brown SILT, some cmf SAND, little mf GRAVEL (moist, hard)	61
5								
6	4	6.0	8.0	SS/15	36-38-43-40		Brown/Red cmf SAND, some mf GRAVEL, little SILT (moist, very compact)	81
7								
8	5	8.0	10.0	SS/16	39-50-57-59		Grey/Brown cmf SAND, some SILT, some mf GRAVEL, little ROCK fragments (moist, very compact)	107
9								
10								
11								
12								
13	6	13.0	13.3	SS/2	100@3"		Grey cmf SAND and mf GRAVEL, little SILT, little ROCK fragments (moist, very compact)	100+
14							*Auger refusal @ 13.6'*	
							Bottom of Boring @ 13.6'	
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-123
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/11/23
Date Finished	09/11/23
Surface Elev.	418.3'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/11/23	While Drilling	3.8	4.0
09/11/23	Before Casing Removed	None Noted	20.2
09/11/23	After Casing Removed	4	out
09/11/23	After Casing Removed	cave @ 6.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/6	WH-WH-1-4		Brown SILT, little mf SAND, trace ROOTS (moist, very soft)	1
1								
2	2	2.0	4.0	SS/14	7-11-13-16		Brown SILT, some mf SAND (wet, very stiff)	24
3								
4	3	4.0	6.0	SS/15	6-17-23-27		Brown SILT, some fine SAND (wet, hard)	40
5								
6	4	6.0	8.0	SS/24	34-32-41-44		Brown SILT, some fine SAND (wet, hard)	73
7								
8	5	8.0	10.0	SS/19	19-31-38-43		Grey/Brown SILT and cmf SAND, little fine GRAVEL (wet, hard)	69
9								
10								
11								
12								
13								
14	6	13.0	13.8	SS/9	41-100@3"		Grey/Red cmf SAND, some SILT, little cmf GRAVEL (wet, very compact)	100+
15								
16								
17								
18	7	18.0	19.4	SS/11	31-61-100@5"		Dark Grey cmf SAND, some mf GRAVEL, little SILT (wet, very compact)	100+
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-123
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Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1 *Auger refusal @ 20.2'*	
21							Bottom of Boring @ 20.2'	
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-151		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	10/26/23
Client:	Ramboll	**Date Finished**	10/26/23
Location:	See Exploration Location Plan	**Surface Elev.**	403.5'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	None Noted	23.9
10/26/23	Before Casing Removed	None Noted	23.9
10/26/23	After Casing Removed	None Noted	out
10/26/23	After Casing Removed	caved @ 13.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/7	1-3-6-8		Light Brown/Grey SILT, trace fine SAND, trace ROOTS (moist, stiff)	9
1								
2	2	2.0	4.0	SS/15	9-8-8-7		Light Brown SILT, trace fine SAND (moist, very stiff)	16
3								
4	3	4.0	6.0	SS/19	5-8-12-12		Light Brown SILT, trace fine SAND (moist, very stiff)	20
5								
6	4	6.0	8.0	SS/18	10-11-9-10		Light Brown SILT, trace fine SAND, trace cmf GRAVEL (moist, very stiff)	20
7								
8	5	8.0	10.0	SS/20	5-10-8-11		Light Grey SILT, trace fine SAND (moist, very stiff)	18
9								
10								
11								
12								
13								
13.5–14	6	13.5	15.0	SS/18	12-12-6		Similar as above (moist, very stiff)	18
14								
15								
16								
17								
18								
18.5–19	7	18.5	20.0	SS/18	5-12-14		Grey SILT, little cmf GRAVEL, trace fine SAND (moist, very stiff)	26
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-151
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
	8	23.5	23.9	SS/5	100@5"		Grey SILT, trace mf GRAVEL, trace fine SAND (moist, hard)	100+
24							Bottom of Boring @ 23.9'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-152
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/24/23
Date Finished	10/24/23
Surface Elev.	402.9'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	23.2	23.5
10/24/23	Before Casing Removed	30.0	30.8
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1A	0.0	1.0	SS/17	1-4-8-8		Topsoil and Organic Material (moist)	4
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/18	7-8-7-7		Light Brown SILT, trace fine SAND (moist, very stiff)	15
3								
4	3	4.0	6.0	SS/20	4-7-10-13		Light Brown SILT, trace fine SAND (moist, very stiff)	17
5								
6	4	6.0	8.0	SS/19	13-12-12-8		Similar as above (moist, very stiff)	24
7								
8	5	8.0	10.0	SS/23	3-6-6-8		Light Brown/Light Grey SILT, trace fine SAND (moist, stiff)	12
9								
10								
11								
12								
13								
13-14	6	13.5	15.0	SS/18	4-7-16		Light Grey SILT, trace fine SAND (wet, very stiff)	23
15								
16								
17								
18-19	7	18.5	20.0	SS/15	6-4-5		Light Grey SILT, little cmf GRAVEL, little fine SAND (moist, stiff)	9
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-152
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	25.0	SS/7	15-15-18		Light Grey SILT and cmf GRAVEL/COBBLE pieces, little fine SAND (moist, hard)	33
25								
26								
27								
28								
29	9	28.5	30.0	SS/10	31-45-58		Dark Grey SILT, some highly weathered ROCK fragments, trace fine SAND (moist, hard)	103
30							*Auger refusal @ 30.8'*	
31							Bottom of Boring @ 30.8'	
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-153
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/26/23
Date Finished	10/26/23
Surface Elev.	404.4'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	10.6	23.5
10/26/23	Before Casing Removed	10.6	23.5
10/26/23	After Casing Removed	6.5	out
10/26/23	After Casing Removed	caved @ 6.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth From (Ft.)	Sample Depth To (Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	2-4-5-6		Light Brown SILT, trace fine SAND, trace ROOTS (moist, stiff)	9
1								
2	2	2.0	4.0	SS/15	5-5-5-5		Light Brown SILT, trace fine SAND (moist, stiff)	10
3								
4	3	4.0	6.0	SS/22	4-9-11-11		Light Brown SILT, trace fine SAND (moist, very stiff)	20
5								
6	4	6.0	8.0	SS/24	8-10-7-8		Similar as above (moist, very stiff)	17
7								
8	5	8.0	10.0	SS/22	4-7-6-6		Similar as above (moist, stiff)	13
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/16	3-5-4		Light Grey SILT, trace fine SAND (moist, stiff)	9
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/14	4-15-4		Grey SILT, little cmf GRAVEL, little fine SAND (moist, very stiff)	19
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-153
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	24.8	SS/12	7-43-100@3"		Dark Grey weathered ROCK fragments, little SILT (wet)	100+
25							Bottom of Boring @ 24.8'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-160
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/30/23
Date Finished	10/30/23
Surface Elev.	405.1'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/30/23	While Drilling	21.7	28.5
10/30/23	Before Casing Removed	21.7	28.5
10/30/23	After Casing Removed	None Noted	out
10/30/23	After Casing Removed	caved @ 6.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth From (Ft.)	Sample Depth To (Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	WH-1-2-3		Light Brown SILT, trace fine SAND, trace ROOTS (moist, soft)	3
1								
2	2	2.0	4.0	SS/17	5-5-5-5		Light Brown SILT, trace fine SAND (moist, stiff)	10
3								
4	3	4.0	6.0	SS/24	5-6-7-10		Light Brown SILT, trace fine SAND (moist, stiff)	13
5								
6	4	6.0	8.0	SS/20	7-8-8-12		Similar as above (moist, very stiff)	16
7								
8	5	8.0	10.0	SS/16	10-11-10-11		Light Brown/Light Grey SILT, trace fine SAND (moist, very stiff)	21
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/12	10-11-14		Grey SILT, little cmf GRAVEL, trace fine SAND (moist, very stiff)	25
15								
16								
17								
18								
19	7	18.5	20.0	SS/17	27-28-34		Similar as above (moist, hard)	62
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-160
Page No.	2 of 2
Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	25.0	SS/18	20-30-44		Similar as above (wet, hard)	74
25								
26								
27								
28								
29	9	28.5	30.0	SS/15	20-40-100@5"		Similar as above (moist, hard)	100+
30							Bottom of Boring @ 30.0'	
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-161
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/25/23
Date Finished	10/25/23
Surface Elev.	404.6'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/25/23	While Drilling	None Noted	33.8
10/25/23	Before Casing Removed	None Noted	-
10/25/23	After Casing Removed	None Noted	out
10/25/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/11	2-4-6-8		Light Brown SILT, trace fine SAND, trace ROOTS (moist, stiff)	10
1								
2	2	2.0	4.0	SS/20	7-7-8-8		Light Brown SILT, trace fine SAND (moist, very stiff)	15
3								
4	3	4.0	6.0	SS/24	4-6-9-12		Light Brown SILT, trace fine SAND (moist, very stiff)	15
5								
6	4	6.0	8.0	SS/23	12-12-13-10		Similar as above (moist, very stiff)	25
7								
8	5	8.0	10.0	SS/23	5-7-8-7		Similar as above (moist, very stiff)	15
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/16	5-4-7		Light Grey SILT, trace fine SAND (moist, stiff)	11
15								
16								
17								
18								
19	7	18.5	20.0	SS/7	15-4-8		Light Grey/Light Brown SILT, little cmf GRAVEL, little fine SAND (moist, stiff)	12
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-161
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES / **VISUAL CLASSIFICATION OF MATERIAL**

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	25.0	SS/14	1-2-9		Light Grey SILT, little cmf GRAVEL, little fine SAND (moist, stiff)	11
25								
26								
27								
28							*Augers harder beginning @ 28.5'*	
29	9	28.5	29.8	SS/15	95-72-100@4"		Light Grey SILT, little cmf GRAVEL, trace fine SAND (moist, hard)	100+
30								
31								
32								
33								
34	10	33.5	33.8	SS/9	100@3"		Similar as above (moist, hard)	100+
							Bottom of Boring @ 33.8'	
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-162
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/26/23
Date Finished	10/26/23
Surface Elev.	401.3'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	22.1	23.5
10/26/23	Before Casing Removed	22.1	23.5
10/26/23	After Casing Removed	None Noted	out
10/26/23	After Casing Removed	caved @ 9.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1A	0.0	1.0	SS/16	1-2-4-7		Topsoil and Organic Material (moist)	6
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/24	8-7-8-7		Light Brown SILT, trace fine SAND (moist, very stiff)	15
3								
4	3	4.0	6.0	SS/20	4-6-8-9		Light Brown SILT, trace fine SAND (moist, stiff)	14
5								
6	4	6.0	8.0	SS/20	8-9-8-16		Light Brown/Light Grey SILT, trace fine SAND (moist, very stiff)	17
7								
8	5	8.0	10.0	SS/17	3-3-3-6		Light Grey SILT, trace fine SAND (moist, medium stiff)	6
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/15	6-6-5		Similar as above (moist, stiff)	11
15								
16								
17								
18								
19	7	18.5	20.0	SS/7	3-3-3		Light Grey SILT, trace fine GRAVEL, trace fine SAND (moist, medium stiff)	6
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-162
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22									
23									
24	8	23.5	25.0	SS/12	17-52-65		Dark Grey weathered ROCK fragments, little SILT (moist)		117
25							Bottom of Boring @ 25.0'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-163
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/25/23
Date Finished	10/25/23
Surface Elev.	400.5'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/25/23	While Drilling	5.6	18.5
10/25/23	Before Casing Removed	None Noted	-
10/25/23	After Casing Removed	None Noted	out
10/25/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/16	WH-WH-2-4		Topsoil and Organic Matter (moist)	2
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND (moist, soft)	
2	2	2.0	4.0	SS/18	4-6-5-5		Light Brown SILT, trace fine SAND (moist, stiff)	11
3								
4	3	4.0	6.0	SS/17	3-4-5-7		Light Brown SILT, trace fine SAND (moist, stiff)	9
5								
6	4	6.0	8.0	SS/19	4-5-12-12		Light Grey SILT, trace fine SAND (moist, very stiff)	17
7								
8	5	8.0	10.0	SS/17	2-1-4-4		Light Grey SILT, trace fine SAND (moist, medium stiff)	5
9								
10								
11								
12								
13								
13.5–14	6	13.5	15.0	SS/13	5-3-3		Light Grey SILT, trace fine SAND (moist, medium stiff)	6
15								
16								
17								
18								
18.5–19	7	18.5	20.0	SS/16	8-15-20		Dark Grey weathered ROCK fragments, little SILT (wet)	35
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-163
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22							*Auger refusal @ 22.0'*		
							Bottom of Boring @ 22.0'		
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-164
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/26/23
Date Finished	10/26/23
Surface Elev.	402.6'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	13.9	23.5
10/26/23	Before Casing Removed	13.9	23.5
10/26/23	After Casing Removed	None Noted	out
10/26/23	After Casing Removed	caved @ 5.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Material Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/16	1-2-2-4		Light Brown SILT, trace fine SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/17	4-4-4-3		Light Brown SILT, trace fine SAND (moist, stiff)	8
3								
4	3	4.0	6.0	SS/15	1-2-4-6		Light Brown SILT, trace fine SAND (moist, medium stiff)	6
5								
6	4	6.0	8.0	SS/23	6-6-7-9		Light Brown SILT, trace fine SAND, trace cm GRAVEL (moist, very stiff)	13
7								
8	5	8.0	10.0	SS/24	4-6-13-16		Light Brown SILT, trace fine SAND, trace mf GRAVEL (moist, very stiff)	19
9								
10								
11								
12								
13								
13-14	6	13.5	15.0	SS/18	3-2-2		Light Grey SILT, trace fine SAND (moist, medium stiff)	4
14								
15								
16								
17								
18								
18-19	7	18.5	20.0	SS/7	4-11-13		Dark Grey weathered ROCK fragments, little SILT (wet)	24
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-164
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES							VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22									
23									
24	8	23.5	24.3	SS/7	18-100@3"		Dark Grey weathered ROCK fragments, little SILT (moist)		100+
25							Bottom of Boring @ 24.3'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-206
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/14/23
Date Finished	09/14/23
Surface Elev.	390.7'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/14/23	While Drilling	None Noted	
09/14/23	Before Casing Removed	11.9	24.3
09/14/23	After Casing Removed	6.9	out
09/14/23	After Casing Removed	caved @ 8.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse / m - medium / f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/10	WH-1-3-5		Brown mottled SILT, little fine SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/19	5-5-5-4		Brown mottled SILT, little CLAY, trace fine SAND (wet, stiff)	10
3								
4	3	4.0	6.0	SS/15	1-1-3-4		Similar as above (wet, medium stiff)	4
5								
6	4	6.0	8.0	SS/18	4-3-5-7		Similar as above (wet, stiff)	8
7								
8	5	8.0	10.0	SS/21	2-3-3-10		Brown SILT, little CLAY (wet, medium stiff)	6
9								
10								
11								
12								
13	6	13.0	15.0	SS/24	WH-WH-WH-2		Grey CLAY and SILT (wet, very soft)	0
14								
15								
16								
17								
18	7	18.0	20.0	SS/17	10-11-10-13		Grey cmf SAND, some fine GRAVEL, trace SILT, trace CLAY (wet, medium compact)	21
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-206
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Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22	8	22.0	23.8	SS/16	63-65-72-100@4"		Grey ROCK chips and fragments, little SILT (wet)	137
23								
24							*Auger refusal @ 24.3'*	
25							Bottom of Boring @ 24.3'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-206A
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/11/23
Date Finished	10/11/23
Surface Elev.	390.7'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	J. Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/11/23	While Drilling		
10/11/23	Before Casing Removed		
10/11/23	After Casing Removed		out
10/11/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	1	12.0	14.0	SS/12			*No Recovery* *See Remark 1*	
13								
14	2	14.0	16.0	U/23			Shelby Tube Sample	
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. No recovery with a 2" spoon; therefore a 3" spoon was utilized

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-207
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/13/23
Date Finished	09/13/23
Surface Elev.	389.9'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/13/23	While Drilling	13.0	18.0
09/13/23	Before Casing Removed	1.0	23.1
09/13/23	After Casing Removed	7.7	out
09/13/23	After Casing Removed	caved @ 20.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	WH-WH-2-3		Brown mottled SILT, little CLAY, trace fine SAND, trace ROOTS (wet, soft)	2
1								
2	2	2.0	4.0	SS/24	5-5-5-6		Brown mottled SILT, trace CLAY, trace cmf SAND, trace fine GRAVEL (moist, stiff)	10
3								
4	3	4.0	6.0	SS/23	1-1-3-3		Brown mottled SILT, little CLAY, trace fine SAND (moist, medium stiff)	4
5								
6	4	6.0	8.0	SS/14	5-8-7-8		Similar as above (wet, stiff) *PP =1,0.75,0.75*	15
7								
8	5	8.0	10.0	SS/10	1-4-4-5		Brown SILT, little CLAY, trace fine SAND, trace fine GRAVEL (wet, stiff)	8
9								
10								
11								
12								
13	6	13.0	15.0	SS/9	1-1-2-3		Grey SILT, little CLAY, trace cmf SAND, trace fine GRAVEL (wet, soft)	3
14								
15								
16								
17								
18	7	18.0	20.0	SS/6	27-69-14-3		Grey CLAY and SILT, some cmf SAND, some mf GRAVEL (wet, hard)	83
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod
PP - Pocket Penetrometer Results in tsf
Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-207
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	23.1	SS/1	100@1"		Grey ROCK chips and fragments, little SILT (wet) *Auger refusal @ 23.1'*	100+
24							Bottom of Boring @ 23.1'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-209
Page No.	1 of 1
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	**Date Started**	09/13/23
Client:	Ramboll	**Date Finished**	09/13/23
Location:	See Exploration Location Plan	**Surface Elev.**	391.0'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/13/23	While Drilling	None Noted	4.0
09/13/23	Before Casing Removed	None Noted	17.1
09/13/23	After Casing Removed	None Noted	out
09/13/23	After Casing Removed	caved @ 12.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/19	WH-2-3-5		Brown SILT, trace CLAY, trace fine SAND, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/15	4-3-3-3		Brown SILT, trace cmf SAND, trace CLAY, trace fine GRAVEL (wet, medium stiff)	6
3								
4	3	4.0	6.0	SS/14	2-2-6-12		Grey/Brown mottled SILT, some cmf SAND, little mf GRAVEL (wet, stiff)	8
5								
6	4	6.0	8.0	SS/9	11-22-27-23		Grey/Brown cmf SAND and mf GRAVEL, some SILT, little CLAY (wet, compact)	49
7								
8	5	8.0	10.0	SS/10	16-20-21-22		Grey/Brown cmf GRAVEL, some cmf SAND, little SILT (moist, compact)	41
9								
10								
11								
12								
13	6	13.0	15.0	SS/13	39-29-51-61		Grey cmf SAND and mf GRAVEL, little SILT, little CLAY (wet, very compact)	80
14								
15								
16								
17	7	17.0	17.1	SS/1	100@1"		Grey ROCK chips and fragments	100+
							Bottom of Boring @ 17.1'	
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-212
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/13/23
Date Finished	09/13/23
Surface Elev.	386.8'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/13/23	While Drilling	17.5	23.0
09/13/23	Before Casing Removed	12.8	25
09/13/23	After Casing Removed	8.5	out
09/13/23	After Casing Removed	caved @ 23.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	WH-1-2-3		Brown SILT, little CLAY, trace fine SAND, trace ROOTS (wet, soft)	3
1								
2	2	2.0	4.0	SS/24	2-3-3-4		Brown mottled SILT, little CLAY, trace fine SAND (wet, medium stiff)	6
3								
4	3	4.0	6.0	SS/20	WH-1-1-3		Brown SILT, some CLAY, trace cmf SAND (wet, soft)	2
5								
6	4	6.0	8.0	SS/15	4-5-6-6		Brown mottled SILT, little CLAY (wet, stiff)	11
7								
8	5	8.0	10.0	SS/17	1-2-3-4		Brown mottled SILT and CLAY (wet, medium stiff)	5
9								
10								
11								
12								
13	6	13.0	15.0	SS/11	1-2-2-3		Grey CLAY and SILT (wet, medium stiff)	4
14								
15								
16								
17								
18	7	18.0	20.0	SS/12	1-2-3-5		Similar as above (wet, medium stiff)	5
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-212
Page No.	2 of 2
Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	24.6		19-11-51-100@1"		Dark Grey weathered ROCK fragments, little SILT, little cmf SAND, trace mf GRAVEL (wet)	62
24								
25							*Auger refusal @ 25.0'*	
							Bottom of Boring @ 25.0'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-213
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/04/23
Date Finished	10/04/23
Surface Elev.	387.3'

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	D. MacDougal	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/04/23	While Drilling	15.8	18.5
10/04/23	Before Casing Removed	23.4	24.4
10/04/23	After Casing Removed	None Noted	out
10/04/23	After Casing Removed	caved @ 9.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/16	1-3-6-7		Grey/Brown SILT, trace fine SAND, trace ROOTS (moist, stiff)	9
1								
2	2	2.0	4.0	SS/15	4-6-5-5		Brown SILT, trace fine SAND, trace CLAY (wet, stiff)	11
3								
4	3	4.0	6.0	SS/24	4-3-3-3		Similar as above (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/22	4-3-4-4		Brown SILT, trace fine SAND (wet, medium stiff)	7
7								
8	5	8.0	10.0	SS/19	3-4-4-6		Brown SILT, trace mf SAND (wet, stiff)	8
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/16	2-2-3		Grey CLAY and SILT (wet, medium stiff)	5
15								
16							*Augered gravelly between 16' to 17'*	
17								
18								
19	7	18.5	20.0	SS/5	5-3-4		Grey cmf SAND, some SILT, some mf GRAVEL, trace CLAY (wet, loose)	7
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-213
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	24.3	SS/6	23-100@4"		Grey cmf SAND, some SILT, some mf GRAVEL (wet, very compact). *Auger refusal @ 24.4'*	100+
							Bottom of Boring @ 24.4'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-216
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/12/23
Date Finished	09/12/23
Surface Elev.	385.8'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/07/23	While Drilling	None Noted	6.0
09/07/23	Before Casing Removed	12.0	20.8
09/07/23	After Casing Removed	6.8	out
09/07/23	After Casing Removed	caved @ 17.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/19	WH-1-2-3		Brown mottled SILT, little mf SAND, trace ROOTS (moist, soft)	3
1								
2	2	2.0	4.0	SS/22	6-4-5-5		Brown SILT, little CLAY, trace fine SAND (wet, stiff)	9
3								
4	3	4.0	6.0	SS/20	1-2-3-4		Brown SILT, little CLAY, trace fine SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/14	3-4-4-6		Brown mottled SILT, trace CLAY, trace fine SAND (wet, stiff)	8
7								
8	5	8.0	10.0	SS/16	2-4-5-4		Brown mottled SILT, trace fine SAND, trace mf GRAVEL (wet, stiff)	9
9								
10								
11								
12								
13	6	13.0	15.0	SS/21	WH-1-1-1		Grey CLAY and SILT (wet, soft)	2
14								
15								
16								
17								
18	7	18.0	20.0	SS/8	5-4-17-11		Grey cmf SAND and mf GRAVEL, trace SILT, trace CLAY (wet, medium compact)	21
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-216
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1 *Auger refusal @ 20.8'*		
	8	20.8	21.0	SS/3	100@3"		Grey ROCK chips and fragments, trace SILT, trace cmf SAND, trace fine GRAVEL (wet)		100+
21							Bottom of Boring @ 21.0'		
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-217		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	10/04/23
Client:	Ramboll	**Date Finished**	10/04/23
Location:	See Exploration Location Plan	**Surface Elev.**	387.8'

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	D. MacDougal	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	NQ-Core
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/04/23	While Drilling	11.3	18.5
10/04/23	Before Casing Removed	8.7	21.9
10/04/23	After Casing Removed	8.0	out
10/04/23	After Casing Removed	caved @ 12.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.6	SS/16	1-1-4-5		Topsoil and Organic Matter (moist, medium stiff)	5
	1B	0.6	2.0				Brown mottled SILT, trace fine SAND, trace ROOTS (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/19	3-4-5-4		Brown mottled SILT, little CLAY, trace fine SAND (wet, stiff)	9
3								
4	3	4.0	6.0	SS/24	1-2-3-3		Brown mottled SILT, trace CLAY, trace fine SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/24	4-5-4-6		Brown mottled SILT, trace fine SAND (wet, stiff)	9
7								
8	5	8.0	10.0	SS/24	2-3-5-6		Brown SILT, some CLAY, trace fine SAND (wet, stiff)	8
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	2-2-2		Grey CLAY and SILT (wet, medium stiff)	4
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/18	7-13-10		Grey mf GRAVEL, some CLAY, trace cmf SAND, trace SILT (wet, medium compact)	23
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. B-217
Page No. 2 of 2
Report No. 28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse / m - medium / f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21							*Auger refusal @ 21.9'*	
	8	21.9	21.9	SS/0	100@0"		*No Recovery*	100+
22	R1	21.9	26.9	C/59	NQ-Core		Dark Grey/Black DOLOSTONE with interbedded Shale layers throughout (<1/8" to 1/2" thick), moderately weathered, laminated to thinly bedded. Broken zones @ 21.9' to 22.8', 24.5' to 25.1' and 26.1' to 26.9'. Recovery: 59"/60" = 98% RQD: 22"/60" = 37% 12 Pieces, 10" Chips and Fragments *3 min/ft, water loss - no return water* *Coring conducted in 5th gear, 2100 rpm, 600 psi down pressure.*	37%
23								
24								
25								
26								
	R2	26.9	31.9	C/60	NQ-Core		26.9' to 29.4'; Dark Grey/Black SHALE, slightly weathered, laminated to thinly bedded, medium hard. Recovery: 60"/60" = 100% | RQD: 30"/60" = 50% *3 min/ft, water loss - no return water* *Coring conducted in 5th gear, 2100 rpm, 650 psi down pressure.* 29.4' to 31.9'; Dark Grey/Black DOLOSTONE with interbedded SHALE layers (<1/8' to 1 1/2" thick). Slightly weathered, thinly bedded, hard. Vertical break from 30.4' to 31.9'.	50%
27								
28								
29								
30								
31								
32							Bottom of Boring @ 31.9'	
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-218
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/12/23
Date Finished	09/12/23
Surface Elev.	386.4'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/12/23	While Drilling	None Noted	6.0
09/12/23	Before Casing Removed	8.0	25.5
09/12/23	After Casing Removed	7.0	out
09/12/23	After Casing Removed	caved @ 16.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/24	WH-1-3-5		Brown SILT, little CLAY, trace mf SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/24	1-5-6-7		Brown mottled SILT and CLAY, trace fine SAND (wet, stiff)	11
3								
4	3	4.0	6.0	SS/21	1-2-2-2		Similar as above (wet, medium stiff)	4
5								
6	4	6.0	8.0	SS/17	4-4-4-3		Brown SILT, little CLAY, trace cmf SAND (wet, stiff)	8
7								
8	5	8.0	10.0	SS/15	2-3-4-5		Brown SILT, little fine SAND (wet, medium stiff)	7
9								
10								
11								
12								
13	6	13.0	15.0	SS/14	1-1-1-1		Grey CLAY and SILT, trace fine SAND (wet, soft)	2
14								
15								
16								
17								
18	7	18.0	20.0	SS/6	5-5-5-6		Grey cmf SAND, some mf GRAVEL, little SILT, trace CLAY (wet, medium compact)	10
19							*See Remark 1*	
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Sampling not feasible between 23.0' and 25.0' due to blowing sand conditions.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-218**
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22									
23									
24							*Auger refusal @ 25.5'*		
25							Bottom of Boring at 25.5'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-224
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/03/23
Date Finished	10/03/23
Surface Elev.	389.5'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	D. MacDougal	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/03/23	While Drilling	12.5	13.5
10/03/23	Before Casing Removed	8.1	22.9
10/03/23	After Casing Removed	6.3	out
10/03/23	After Casing Removed	caved @ 7.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	1-2-5-6		Topsoil and Organic Matter, trace Roots (moist)	7
	1B	0.5	2.0				Brown mottled SILT, trace fine SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/21	4-5-6-6		Similar as above (moist, stiff)	11
3								
4	3	4.0	6.0	SS/17	7-4-4-4		Brown mottled SILT, little mf GRAVEL, trace cmf SAND (wet, stiff)	8
5								
6	4	6.0	8.0	S/11	2-4-5-6		Brown mottled SILT, some cmf SAND, little mf GRAVEL (wet, stiff)	9
7								
8	5	8.0	10.0	SS/17	3-14-23-14		Brown mottled SILT and cmf SAND, little mf GRAVEL (moist, hard)	37
9								
10								
11								
12								
13								
	6A	13.5	14.5	SS/18	10-17-18		Brown mottled SILT and cmf SAND, little mf GRAVEL (moist, hard)	35
14	6B	14.5	15.0				Grey SILT and cmf SAND, little fine GRAVEL (moist, hard)	
15								
16								
17								
18	7	18.5	20.0	SS/18	34-40-47		Similar as above (moist, hard)	87
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-224
Page No.	2 of 2
Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Auger refusal @ 22.9*	
	8	22.9	22.9	SS/0	100@0"		*No Recovery*	100+
23							Bottom of Boring @ 22.9'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-242		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	11/15/23
Client:	Ramboll	**Date Finished**	11/15/23
Location:	See Exploration Location Plan	**Surface Elev.**	392.7'

METHODS OF INVESTIGATION

Driller:	G.. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	C. O'Hara	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/15/23	While Drilling	4.7	19.0
11/15/23	Before Casing Removed	8.0	24.7
11/15/23	After Casing Removed	4.5	out
11/15/23	After Casing Removed	caved @ 7.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	WH-1-2-4		Brown/Grey SILT, little CLAY, trace mf SAND, trace ROOTS (moist, soft)	3
1								
2	2	2.0	4.0	SS/18	4-3-4-3		Brown/Grey SILT, little CLAY (moist, medium stiff)	7
3								
4	3	4.0	6.0	SS/15	3-3-4-4		Brown SILT, trace CLAY (wet, medium stiff)	7
5								
6	4	6.0	8.0	SS/13	3-4-4-7		Similar as above (wet, stiff)	8
7								
8	5	8.0	10.0	SS/14	3-3-5-5		Similar as above (wet, stiff)	8
9								
10								
11								
12								
13								
14	6	14.0	16.0	SS/10	4-7-5-3		Brown/Grey SILT, little CLAY, little cmf SAND, trace fine GRAVEL (wet, stiff)	12
15								
16								
17								
18							- - - - - - - - - -	
19	7	19.0	21.0	SS/10	4-8-3-7		Dark Brown mf GRAVEL, some cmf SAND, trace SILT (wet, medium compact)	11
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-242
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	24.7	24.9	SS/1	50@1"		Grey ROCK fragements	50+
25							*Auger refusal @ 24.9'*	
							Bottom of Boring @ 24.9'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-245
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/23/23
Date Finished	10/23/23
Surface Elev.	392.4'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/23/23	While Drilling	23.0	23.5
10/23/23	Before Casing Removed	23.0	24.1
10/23/23	After Casing Removed	None Noted	out
10/23/23	After Casing Removed	caved @ 2.0'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	11-2-3-4		Topsoil and Organic Material (moist)	5
	1B	0.5	2.0				Light Brown SILT, some CLAY (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/17	4-5-6-5		Light Brown SILT, trace CLAY, trace fine SAND (moist, stiff)	11
3								
4	3	4.0	6.0	SS/24	3-6-7-7		Light Brown SILT, trace fine SAND (moist, stiff)	13
5								
6	4	6.0	8.0	SS/19	5-7-6-6		Light Brown SILT, trace fine SAND (moist, stiff)	13
7								
8	5	8.0	10.0	SS/20	4-4-5-7		Similar as above (moist, stiff)	9
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/16	1-2-2		Light Grey SILT, trace fine SAND (wet, medium stiff)	4
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/10	3-6-9		Grey SILT, little mf GRAVEL, little fine SAND (wet, very stiff)	15
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-245
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22									
23									
24	8	23.5	24.1	SS/6	14-100@1"		Grey SILT and weathered ROCK fragments, little cmf GRAVEL, trace fine SAND (wet, hard) *Auger refusal @ 24.1'*		100+
25							Bottom of Boring @ 24.1'		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-251
Page No.	1 of 2
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	**Date Started**	10/19/23
Client:	Ramboll	**Date Finished**	10/19/23
Location:	See Exploration Location Plan	**Surface Elev.**	392.5'

METHODS OF INVESTIGATION

Driller:	J. Winks	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/19/23	While Drilling	11.3	13.5
10/19/23	Before Casing Removed	17.9	23
10/19/23	After Casing Removed	10.0	out
10/19/23	After Casing Removed	caved @ 13.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	2-3-5-8		Light Brown/Grey SILT, trace fine SAND, trace ROOTS (moist, stiff)	8
1								
2	2	2.0	4.0	SS/19	7-8-11-12		Light Brown/Grey SILT, trace fine SAND (moist, very stiff)	19
3								
4	3	4.0	6.0	SS/16	5-4-3-3		Light Brown SILT, trace fine SAND (moist, medium stiff)	7
5								
6	4	6.0	8.0	SS/20	2-3-4-4		Light Brown SILT, trace fine SAND (moist, medium stiff)	7
7								
8	5	8.0	10.0	SS/19	4-5-10-8		Similar as above (moist, very stiff)	15
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/15	4-3-3		Light Brown SILT, trace fine GRAVEL, trace fine SAND (wet, medium stiff)	6
15							*Augered gravelly beginning @ 15.0'*	
16								
17								
18								
19	7	18.5	20.0	SS/14	7-5-7		Grey SILT, little mf GRAVEL, little mf SAND (moist, stiff)	12
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-251
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	23.0	SS/0	100@0"		*Auger refusal @ 23.0'* *No Recovery*	100+
							Bottom of Boring @ 23.0'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-260
Page No.	1 of 2
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	Date Started	10/19/23
Client:	Ramboll	Date Finished	10/19/23
Location:	See Exploration Location Plan	Surface Elev.	392.6'

METHODS OF INVESTIGATION

Driller:	J. Winks	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/19/23	While Drilling	19.2	24.1
10/19/23	Before Casing Removed	19.2	24.1
10/19/23	After Casing Removed	12.2	out
10/19/23	After Casing Removed	caved @ 12.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1A	0.0	0.5	SS/19	1-4-5-8	0.5	Topsoil and Organic Matter (moist)	9
	1B	0.5	2.0				Light Brown/Light Grey SILT, trace CLAY, trace fine SAND (moist, stiff)	
1								
2	2	2.0	4.0	SS/17	7-8-8-6		Light Brown/Light Grey SILT, trace CLAY, trace fine SAND (moist, very stiff)	16
3								
4	3	4.0	6.0	SS/18	5-5-4-4		Light Brown/Light Grey SILT, trace fine SAND, trace CLAY (moist, stiff)	9
5								
6	4	6.0	8.0	SS/19	4-4-4-4		Light Brown SILT, trace fine SAND (moist, stiff)	8
7								
8	5	8.0	10.0	SS/17	3-6-6-7		Light Brown SILT, trace fine SAND (moist, stiff)	12
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/19	2-3-3		Light Brown SILT, trace fine SAND (moist, medium stiff)	6
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/12	WH-4-10		Light Grey SILT, little cmf SAND, little weathered ROCK fragments (wet, stiff)	14
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-260
Page No.	2 of 2
Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	24.1	SS/6	6-100@1"		Dark Grey highly weathered ROCK fragments, little SILT (wet) *Auger refusal @ 24.1'*	100+
25							Bottom of Boring @ 24.1'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-263
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/18/23
Date Finished	10/18/23
Surface Elev.	392.2'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/18/23	While Drilling	None Noted	24.8
10/18/23	Before Casing Removed	10.6	24.8
10/18/23	After Casing Removed	12.2	out
10/18/23	After Casing Removed	caved @ 17.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/16	1-2-7-7		Light Brown SILT, trace fine SAND, trace ROOTS (moist, stiff)	9
1								
2	2	2.0	4.0	SS/18	6-6-6-6		Light Brown SILT, trace fine SAND (moist, stiff)	12
3								
4	3	4.0	6.0	SS/17	3-4-5-5		Similar as above (moist, stiff)	9
5								
6	4	6.0	8.0	SS/16	5-4-3-4		Similar as above (moist, medium stiff)	7
7								
8	5	8.0	10.0	SS/19	1-2-2-4		Similar as above (moist, medium stiff)	4
9								
10								
11								
12								
13								
14	6	14.0	16.0	SS/12	7-9-12-9		Light Brown/Light Grey SILT, little cmf GRAVEL, trace fine SAND (moist, very stiff)	21
15								
16								
17								
18								
19	7	19.0	21.0	SS/14	12-11-9-9		Light Brown/Light Grey SILT, little cmf GRAVEL, trace fine SAND (moist, very stiff)	20
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-263
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22									
23									
24	8	24.0	24.8	SS/7	45-100@3"		Grey weathered ROCK fragments, little SILT (wet)		100+
25						24.8'	*Auger refusal @ 24.8'*		
26							Bottom of Boring @ 24.8'		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-271
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/23/23
Date Finished	10/23/23
Surface Elev.	393.1'

METHODS OF INVESTIGATION

Driller:	J. Winks	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/20/23	While Drilling	22.0	23.5
10/23/23	Before Casing Removed	22.0	23.5
10/23/23	After Casing Removed	None Noted	out
10/23/23	After Casing Removed	caved @ 5.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/16	1-2-4-7		Topsoil and Organic Material (moist)	6
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND, trace CLAY (moist, medium stiff)	
2	2	2.0	4.0	SS/20	6-7-7-7		Light Brown SILT, trace fine SAND, trace CLAY (moist, stiff)	14
3								
4	3	4.0	6.0	SS/15	4-5-6-5		Light Brown SILT, trace fine SAND, trace CLAY (moist, stiff)	11
5								
6	4	6.0	8.0	SS/21	5-5-5-3		Light Brown SILT, trace fine SAND (moist, stiff)	10
7								
8	5	8.0	10.0	SS/20	1-1-2-1		Light Brown SILT, trace fine SAND (wet, soft)	3
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/14	8-12-11		Light Brown SILT, little cmf GRAVEL, trace fine SAND (moist, very stiff)	23
15								
16								
17								
18								
19	7	18.5	20.0	SS/12	3-8-12		Light Grey SILT, little cmf GRAVEL, little fine SAND (wet, very stiff)	20
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-271
Page No.	2 of 2
Report No.	28062B-03-1123

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.5	24.3	SS/8	33-100@4"		Grey weathered ROCK fragments, some SILT (moist)	100+
24							*Auger refusal @ 24.1'*	
25							Bottom of Boring @ 24.3'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-281
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/20/23
Date Finished	10/23/23
Surface Elev.	383.7'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	J. Winks	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/20/23	While Drilling	6.4	18.0
10/23/23	Before Casing Removed	5.6	19.0
10/23/23	After Casing Removed	6.0	21.0
10/23/23	After Casing Removed	caved @ 8.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/12	1-1-2-6		Light Brown SILT, trace ORGANIC MATERIAL, trace fine SAND (moist, stiff)	3
1								
2	2	2.0	4.0	SS/19	3-4-5-5		Light Brown SILT, trace fine SAND, trace cmf GRAVEL (moist, stiff)	9
3								
4	3	4.0	6.0	SS/13	7-20-12-7		Grey/Light Brown cmf GRAVEL, little SILT, trace fine SAND	32
5								
6	4	6.0	7.3	SS/11	33-19-100@4"		Grey/Brown cmf GRAVEL, little SILT, trace fine SAND (wet, very compact)	100+
7								
8	5	8.0	10.0	SS/18	12-17-28-18		Grey/Brown SILT, some cmf GRAVEL, trace fine SAND (wet, hard)	45
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/15	17-16-27		Grey/Brown SILT, little cmf GRAVEL, little fine SAND (moist, hard)	43
15								
16								
17								
18								
19	7	18.5	19.9	SS/16	25-48-100@5"		Grey SILT, little cmf GRAVEL, trace fine SAND (moist, hard)	100+
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-281
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21							*Auger refusal @ 21.7'*	
22							Bottom of Boring @ 21.7'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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East Syracuse, NY 13057
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-292
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/24/23
Date Finished	10/24/23
Surface Elev.	385.5'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/24/23	While Drilling	7.0	18.0
10/24/23	Before Casing Removed	None Noted	18.5
10/24/23	After Casing Removed	None Noted	out
10/24/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	2-1-3-4		Light Brown/Light Grey SILT, trace CLAY, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/20	3-6-4-6		Light Brown/Light Grey SILT, trace CLAY, trace ROOTS (moist, stiff)	10
3								
4	3	4.0	6.0	SS/18	2-2-2-2		Light Brown SILT, trace fine SAND (moist, medium stiff)	4
5								
6	4	6.0	8.0	SS/16	2-4-4-5		Light Brown SILT, trace fine SAND (moist, stiff)	8
7								
8	5	8.0	10.0	SS/17	3-3-3-4		Light Brown SILT, trace fine SAND (moist, medium stiff)	6
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/19	3-2-3-2		Light Grey SILT, trace fine SAND (wet, medium stiff)	5
15								
16								
17							*Augered harder beginning @ 18.0'*	
18	7	18.0	18.5	SS/6	100@6"		Dark Grey weathered ROCK fragments, trace SILT (wet) *Auger refusal @ 18.5. Set up to core.*	100+
19	R1	18.5	23.5	C/60	NQ-Core		Dark Grey/Black DOLOSTONE with interbedded Shale layers (<1/8" thick) throughout.	83%
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-292
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1 *Horizontal fractures with iron staining @ 19.1' and 19.3'.* Recovery: 60"/60" = 100% RQD: 50"/60" = 83% 8 Pieces, 1" Chips and fragments *1:30 min/ft, water loss @ 19.5'* *Coring conducted in 5th gear, 2400 rpm, 400 psi down pressure.*	
21								
22								
23								
24	R2	23.5	28.5	C/60	NQ-Core		Dark Grey/Black DOLOSTONE with interbedded Shale layers (<1/8" to 1/2" thick) throughout, moderately weathered, thickly bedded, hard. SILT seams @ 24.8' to 25.1', 26.3' to 26.5' and 28.0'. Weathered and broken zone from 27.0' to 28.5' with breaks along Shale seams. Recovery: 60"/60" = 100% | RQD: 28"/60" = 47% 14 Pieces, 6" Chips and fragments *1.0' to 3.0', 1:30 min/ft, 3.0' to 5.0', 2:20 min/ft, water loss - no return.* *Coring conducted in 5th gear, 2400 rpm, 400 psi down pressure.*	47%
25								
26								
27								
28								
29							Bottom of Boring @ 28.5'	
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-300
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/06/23
Date Finished	10/06/23
Surface Elev.	393.6'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	D. MacDougal	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	NQ-Core
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/06/23	While Drilling	15.1	18.5
10/06/23	Before Casing Removed	12.7	28.0
10/06/23	After Casing Removed	11	out
10/06/23	After Casing Removed	caved @ 18.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-2-3-5		Brown mottled SILT, little fine SAND, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/21	4-3-3-3		Brown SILT, trace fine SAND, trace CLAY (wet, medium stiff)	6
3								
4	3	4.0	6.0	SS/24	2-2-1-2		Brown SILT, some CLAY, trace fine SAND (wet, soft)	3
5								
6	4	6.0	8.0	SS/22	3-3-10-15		Brown SILT, some cmf SAND, little fine GRAVEL (wet, stiff)	13
7								
8	5A	8.0	9.5	SS/20	10-15-12-24		Brown SILT, some CLAY, trace fine SAND (wet, very stiff)	27
9	5B	9.5	10.0				Grey SILT and cmf SAND, some mf GRAVEL (wet)	
10								
11								
12								
13	6	13.5	15.0	SS/2	10-12-23		Grey cmf SAND and SILT, some mf GRAVEL (wet, compact) *See Remark 1*	35
14								
15								
16								
17								
18	7	18.5	20.5	SS/12	WR-WR-2-7		Brown fine SAND, trace SILT, trace fine GRAVEL (wet, very loose)	2
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. 2" recovery with 2" spoon, therefore a 3" spoon was utilized.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-300
Page No.	2 of 2
Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
	8	23.5	25.0	SS/13	9-10-13		Grey cmf SAND, trace fine GRAVEL (wet, medium compact)	23
24								
25								
26							*Augered gravelly beginning @ 26.5'*	
27							*Auger refusal @ 28.0'*	
28	9	28.0	28.0	SS/0	100@0"		*No Recovery. See Remark 1*	100+
	R1	28.0	33.0	C/60	NQ-Core		28.0' to 29.3'; Dark Grey/Black SHALE, slightly weathered, laminated to thinly bedded, medium hard. 29.3' to 33.0'; Dark Grey/Black DOLOSTONE with interbedded SHALE layers (<1/8" to 3" thick) throughout, slightly weathered, laminated to thinly bedded, medium hard to hard. Weathered zone in Shale @ 35.7' to 35.9'. Recovery: 60"/60" = 100% | RQD: 520"/60" = 87% 15 Pieces, 3" Chips and fragments *3:45 min/ft, no water loss* *Coring conducted in 5th gear, 2500 rpm, 650 psi down pressure.*	87%
29								
30								
31								
32								
33	R2	33.0	38.0	C/60	NQ-Core		Dark Grey/Black DOLOSTONE with interbedded Shale layers (<1/8" to 2" thick) throughout, sound, laminated to thickly bedded, hard. Recovery: 60"/60" = 100% RQD: 60"/60" = 100% 6 Pieces, 0" Chips and fragments 3 min/ft, no water loss *Coring conducted in 5th gear, 2500 rpm, 650 psi down pressure.*	100%
34								
35								
36								
37								
38							Bottom of Boring @ 38.0'	
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Grey ROCK chips and fragments on spoon top

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-301
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/20/23
Date Finished	09/20/23
Surface Elev.	392.6'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/20/23	While Drilling	None Noted	
09/20/23	Before Casing Removed	None Noted	9.4
09/20/23	After Casing Removed	7.2	out
09/20/23	After Casing Removed	Caved @ 7.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	WH-2-5-6		Brown SILT, trace fine SAND, trace ORGANIC MATTER (moist, medium stiff)	7
1								
2	2	2.0	4.0	SS/20	7-5-4-5		Brown mottled SILT, trace fine SAND, trace CLAY (wet, stiff)	9
3								
4	3	4.0	6.0	SS/21	1-1-1-2		Brown SILT, little CLAY, trace fine SAND (wet, soft)	2
5								
6	4	6.0	7.4	SS/10	3-17-100@5"		Brown SILT and cmf SAND, some mf GRAVEL (wet, hard)	100+
7								
8	5	8.0	8.3	SS/4	100@4"		Grey/Brown mf GRAVEL and cmf SAND, little SILT (wet, very compact)	100+
9							*Auger refusal @ 9.4'*	
10							Bottom of Boring @ 9.4'	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-302
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	09/21/23
Date Finished	09/21/23
Surface Elev.	392.3'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Michael Mitrano	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/21/23	While Drilling	9.3	10.3
09/21/23	Before Casing Removed	12.3	13.2
09/21/23	After Casing Removed	11.2	out
09/21/23	After Casing Removed	Caved @ 12.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/20	WH-2-3-5		Brown mottled SILT, trace fine SAND, trace ORGANIC MATTER (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/16	6-6-4-4		Brown mottled SILT, trace fine SAND (wet, stiff)	10
3								
4	3	4.0	6.0	SS/13	1-1-3-3		Brown SILT, trace fine SAND, trace CLAY (wet, soft)	4
5								
6	4	6.0	8.0	SS/15	4-7-8-9		Brown SILT, little cmf SAND, trace fine GRAVEL (wet, stiff)	15
7								
8	5A	8.0	9.5	SS/16	15-12-18-35		Similar as above (moist, very stiff)	30
9								
	5B	9.5	10.0				Grey mf GRAVEL, some SILT, some cmf SAND (moist, medium compact) *Augered hard beginning @ 10.3'.*	
10								
	6	10.3	12.3	SS/10	36-31-36-54		Grey cmf SAND and mf GRAVEL, little SILT (moist, very compact)	67
11							*Augered hard beginning @ 11.8'.*	
12	7	12.3	14.3	SS/6	13-60-43-30		Grey/Blackish weathered ROCK chips and fragments, some SILT (moist)	103
13							*Auger refusal @ 13.2'*	
14							Bottom of Boring @14.3'	
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-303		
Page No.	1 of 1		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	09/21/23
Client:	Ramboll	**Date Finished**	09/21/23
Location:	See Exploration Location Plan	**Surface Elev.**	390.8'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Michael Mitrano	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/21/23	While Drilling	10.0	18.0
09/21/23	Before Casing Removed	14.4	19.8
09/21/23	After Casing Removed	11.6	out
09/21/23	After Casing Removed	Caved @ 16.1	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	WH-1-4-5		Brown SILT, trace fine SAND, trace ORGANIC MATTER (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/20	5-6-6-5		Brown mottled SILT, trace CLAY, trace fine SAND (wet, stiff)	12
3								
4	3	4.0	6.0	SS/17	WH-1-1-1		Brown SILT, little CLAY, trace cmf SAND (wet, soft)	2
5								
6	4	6.0	8.0	SS/16	1-1-2-3		Brown SILT, some CLAY (wet, soft)	3
7								
8	5	8.0	10.0	SS/11	10-13-11-10		Brown/Grey cmf SAND and mf GRAVEL, some SILT (wet, medium compact)	24
9								
10								
11								
12								
13	6	13.0	15.0	SS/17	16-16-16-21		Grey SILT, some cmf SAND, little mf GRAVEL (moist, hard)	32
14								
15								
16								
17								
18	7	18.0	19.8	SS/13	18-16-30-100@3"		Similar as above (wet, hard)	46
19							*Auger refusal @ 19.8'*	
20							Bottom of Boring @ 19.8'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-304
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	09/21/23
Date Finished	09/21/23
Surface Elev.	390.5'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/21/23	While Drilling	6.3	8.0
09/21/23	Before Casing Removed	3.0	9
09/21/23	After Casing Removed	4.2	out
09/21/23	After Casing Removed	Caved @ 7.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.8	SS/21	WH-2-3-4		Topsoil and Organic Matter (moist)	5
	1B	0.8	2.0				Brown SILT, trace mf SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/20	4-4-7-7		Brown SILT, trace fine SAND (wet, stiff)	11
3								
4	3	4.0	6.0	SS/15	2-5-4-3		Brown SILT, trace CLAY, trace fine SAND (wet, stiff)	9
5								
6	4	6.0	8.0	SS/20	3-4-5-4		Brown SILT, little mf SAND, trace CLAY, trace fine GRAVEL (wet, stiff)	9
7								
8	5	8.0	9.1	SS/7	36-61-100@1"		Brown/Grey mf GRAVEL, some SILT, little cmf SANDT (wet, very compact)	100+
9							*Auger refusal @ 9.0'*	
							Bottom of Boring @ 9.1'	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	B-304A
		Page No.	1 of 2
		Report No.	28062B-03-1223
		Date Started	10/06/23
Client:	Ramboll	**Date Finished**	10/06/23
Location:	See Exploration Location Plan	**Surface Elev.**	390.5'

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	J. Winks	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/06/23	While Drilling	8.5	13.5
10/06/23	Before Casing Removed	8.7	28.6
10/06/23	After Casing Removed	6.0	out
10/06/23	After Casing Removed	caved @ 11.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0							*See Remarks*	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
	1A	13.5	14.1	SS/17	3-6-6		Brown cmf SAND, trace fine GRAVEL, trace SILT (wet, medium compact)	12
14								
	1B	14.1	15.0				Grey mf SAND and SILT (wet)	
15								
16								
17								
18								
	2	18.5	19.2	SS/6	14-100@2"		Grey cmf SAND and cmf GRAVEL, little SILT (wet, very compact)	100+
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Boring B304A was offset about 5' from original location and augered to 13.5' below existing grade. Sampling was commenced from 13.5' below grade.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	304A
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Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
	3	23.5	24.8	SS/10	18-47-100@3"		Grey cmf SAND, some cmf GRAVEL, little SILT, little ROCK fragments (moist, very compact)	100+
24								
25	4	25.2	25.2	SS/0			*Auger refusal @ 25.2'*	
	R1	25.2	28.0		NQ-Core		*Cored 8" COBBLE, then into SOIL. Stopped @ 28.0'.*	
26								
27								
28	5	28.0	28.6	SS/6	34-100@1"		Black ROCK fragments, trace SILT (moist)	100+
							Bottom of Boring @ 28.6'	
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-306	Page No.	1 of 2
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	10/03/23
Client:	Ramboll	Date Finished	10/03/23
Location:	See Exploration Location Plan	Surface Elev.	388.3'

METHODS OF INVESTIGATION

Driller:	A. Linstruth	Casing:	3 ¼" ID H.S.A.
Driller:	D. MacDoughall	Casing Hammer:	
Inspector:	Astitwa Sharma, EIT	Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/03/23	While Drilling	9.7	23.5
10/03/23	Before Casing Removed	9.8	23.5
10/03/23	After Casing Removed	11.5	out
10/03/23	After Casing Removed	caved @ 15.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/10	5-7-7-7		Grey/Brown SILT, trace fine SAND, trace ROOTS (moist, stiff)	14
1								
2	2	2.0	4.0	SS/20	4-4-7-7		Brown mottled SILT, trace fine SAND (wet, stiff)	11
3								
4	3	4.0	6.0	SS/17	4-5-7-4		Brown/Grey SILT, little CLAY, trace fine SAND (wet, stiff)	12
5								
6	4	6.0	8.0	SS/19	4-4-6-6		Brown mottled SILT, trace CLAY, trace fine SAND (wet, stiff)	10
7								
8	5	8.0	10.0	SS/20	3-4-4-5		Similar as above (wet, stiff)	8
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/12	3-2-2		Grey CLAY and SILT (wet, medium stiff)	4
15								
16								
17								
18							*Augered gravelly beginning @ 18.0'*	
19	7	18.5	20.0	SS/12	2-2-2		Grey/Brown CLAY, some SILT, little cmf SAND, little fine GRAVEL (wet, medium stiff)	4
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-306
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LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	24.7	SS/9	13-37-100@2"		Grey ROCK chips and fragments, little mf GRAVEL, trace SILT (wet) *Auger refusal @ 25.3'*	100+
25							Bottom of Boring @ 25.3'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-307
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/21/23
Date Finished	09/21/23
Surface Elev.	388.7'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	Casing:	4 ¼" ID H.S.A.
Driller:	Jason Ersing	Casing Hammer:	
Inspector:	Astitwa Sharma, EIT	Other:	
Drill Rig:	CME LC 55	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	NWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/21/23	While Drilling	3.4	23.0
09/21/23	Before Casing Removed	5.5	23.5
09/21/23	After Casing Removed	9.0	out
09/21/23	After Casing Removed	Caved @ 12.3	

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	1-3-5-7		Brown SILT, trace fine SAND, trace ORGANIC MATTER (moist, medium stiff)	8
1								
2	2	2.0	4.0	SS/22	3-6-5-6		Brown mottled SILT, trace fine SAND, trace CLAY (moist, stiff)	11
3								
4	3	4.0	6.0	SS/17	2-5-5-6		Similar as above (wet, stiff)	10
5								
6	4	6.0	8.0	SS/18	4-5-4-6		Similar as above (wet, stiff)	9
7								
8	5	8.0	10.0	SS/12	2-4-3-4		Grey SILT and CLAY (wet, medium stiff)	7
9								
10								
11								
12								
13	6	13.0	15.0	SS/13	1-3-2-2		Grey CLAY and SILT (wet, medium stiff)	5
14								
15								
16								
17								
18	7	18.0	20.0	SS/12	WH-WH-4-6		Grey CLAY and SILT, some cmf SAND, little mf GRAVEL (wet, medium stiff)	4
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-307
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LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22									
23	8	23.0	23.0	SS/0	100@0"		*No Recovery. See Remark 1* *Auger refusal @ 23.5'*		100+
24							Bottom of Boring @ 23.5'		
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Grey weathered ROCK chips and fragments on spoon top

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-308
Page No.	1 of 2
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	**Date Started**	09/20/23
Client:	Ramboll	**Date Finished**	09/20/23
Location:	See Exploration Location Plan	**Surface Elev.**	389.5'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/20/23	While Drilling	14.0	23.0
09/20/23	Before Casing Removed	6.0	25.2
09/20/23	After Casing Removed	5.9	out
09/20/23	After Casing Removed	Caved @ 13.6	

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1	0.0	2.0	SS/9	1-3-4-5		Dark Brown SILT, trace fine SAND, trace ORGANIC MATTER (moist, medium stiff)	7
1								
2	2	2.0	4.0	SS/5	5-4-5-5		Dark Brown SILT, trace fine SAND, trace CLAY (moist, stiff)	9
3								
4	3	4.0	6.0	SS/17	WH-3-3-3		Brown SILT, trace fine SAND, trace CLAY (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/15	3-4-4-5		Brown SILT, little CLAY, trace fine SAND (wet, stiff)	8
7								
8	5	8.0	10.0	SS/14	2-3-4-4		Grey/Brown SILT and CLAY (wet, medium stiff)	7
9								
10								
11								
12								
13	6	13.0	15.0	SS/11	2-5-4-4		Grey CLAY and SILT (wet, stiff)	9
14								
15								
16								
17								
18	7	18.0	20.0	SS/22	WH-WH-WH-1		Grey CLAY and SILT, trace cmf SAND, trace fine GRAVEL (wet, very soft)	0
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-308
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LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	25.0	SS/13	WH-WH-10-20		Grey cmf SAND and mf GRAVEL, little SILT (wet, loose)	10
24								
25							*Auger refusal @ 25.2'*	
	9	25.2	25.4	SS/2	100@3"		ROCK chips and fragments, little cmf SAND, trace SILT (wet)	100+
26							Bottom of Boring @ 25.4'	
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-314
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/20/23
Date Finished	09/20/23
Surface Elev.	392.0'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/20/23	While Drilling	None Noted	
09/20/23	Before Casing Removed	21.8	22
09/20/23	After Casing Removed	6.5	out
09/20/23	After Casing Removed	Caved @ 13.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/16	1-3-5-6		Brown SILT, trace fine SAND, trace ORGANIC MATTER (moist, stiff)	8
1								
2	2	2.0	4.0	SS/24	4-5-6-7		Brown mottled SILT, little CLAY, trace fine SAND (moist, stiff)	11
3								
4	3	4.0	6.0	SS/18	1-3-5-5		Brown mottled SILT, trace CLAY, trace fine SAND (wet, stiff)	8
5								
6	4	6.0	8.0	SS/13	8-8-7-8		Brown SILT, trace CLAY (wet, very stiff)	15
7								
8	5	8.0	10.0	SS/15	2-2-2-3		Grey CLAY and SILT (wet, medium stiff)	4
9								
10								
11								
12								
13								
14	6	13.0	15.0	SS/6	5-7-10-9		Grey cmf SAND and mf GRAVEL, little CLAY, trace SILT (wet, medium compact)	17
15								
16								
17								
18							*See Remark 1*	
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Sampling not feasible between 18.0' to 20.0' due to flowing sand conditions.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-314
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LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Auger refusal @ 22.0'*	
23							Bottom of Boring @ 22.0'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-324
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/19/23
Date Finished	09/19/23
Surface Elev.	390.7'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/19/23	While Drilling	None Noted	
09/19/23	Before Casing Removed	20.9	25.9
09/19/23	After Casing Removed	8.3	out
09/19/23	After Casing Removed	Caved @ 20.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/19	WH-2-3-3		Brown SILT, trace fine SAND, trace ORGANIC MATTER (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/24	7-5-5-5		Brown/Pinkish SILT, trace CLAY, trace fine SAND (moist, stiff)	10
3								
4	3	4.0	6.0	SS/15	WH-3-3-4		Similar as above (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/13	5-4-6-8		Similar as above (wet, stiff)	10
7								
8	5	8.0	10.0	SS/15	1-3-5-5		Brown SILT, trace fine SAND (wet, stiff)	8
9								
10								
11								
12								
13								
14	6	13.0	15.0	SS/16	WH-4-5-11		Grey SILT and CLAY, some cmf SAND, little mf GRAVEL (wet, stiff)	9
15								
16							*See Remark 1*	
17								
18								
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Sampling not feasible due to flowing sand conditions encountered at bottom of 15.0'

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-324
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Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24								
25							*Auger refusal @ 25.9'*	
26							Bottom of Boring @ 25.9'	
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-326
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	09/19/23
Date Finished	09/19/23
Surface Elev.	388.4'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/19/23	While Drilling	None Noted	
09/19/23	Before Casing Removed	19.7	22.7
09/19/23	After Casing Removed	6.2	out
09/19/23	After Casing Removed	Caved @ 12.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	2-2-2-5		Topsoil and Organic Matter (moist)	4
	1B	0.5	2.0				Brown mottled SILT, trace fine SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/24	6-7-7-7		Brown mottled SILT, little CLAY, trace fine SAND (moist, stiff)	14
3								
4	3	4.0	6.0	SS/17	2-3-5-4		Similar as above (wet, stiff)	8
5								
6	4	6.0	8.0	SS/16	4-6-5-7		Similar as above (wet, stiff)	11
7								
8	5	8.0	10.0	SS/10	WH-3-3-6		Brown SILT, trace mf GRAVEL, trace CLAY (wet, medium stiff)	6
9								
10								
11								
12								
13								
	6	13.0	15.0	SS/19	WH-1-1-2		Grey CLAY and SILT (wet, soft)	2
14								
15								
16								
17								
18	7	18.0	20.0	SS/7	WH-3-3-6		Grey SILT and CLAY, some cmf SAND, little fine GRAVEL (wet, medium stiff)	6
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Boring was offset about 20' North of staked location

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-326
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Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Auger refusal @ 22.7'*	
23							*See Remark 2*	
							Bottom of Boring @ 22.7'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 2. Sampling not feasible due to flowing sand condition.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-328
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/19/23
Date Finished	09/19/23
Surface Elev.	389.6'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/19/23	While Drilling	None Noted	
09/19/23	Before Casing Removed	Groundwater reading not taken due to flowing sand conditions.	
09/19/23	After Casing Removed		
09/19/23	After Casing Removed		

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/22	WH-3-4-5		Brown mottled SILT, trace fine SAND, trace CLAY, trace ROOTS (moist, medium stiff)	7
1								
2	2	2.0	4.0	SS/19	4-3-4-4		Pinkish Brown mottled SILT, little CLAY, trace fine SAND (moist, medium stiff)	7
3								
4	3	4.0	6.0	SS/18	1-2-3-4		Pinkish Brown SILT, some CLAY, trace fine SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/17	2-3-4-7		Brown mottled SILT, trace CLAY, trace fine SAND (wet, medium stiff)	7
7								
8	5	8.0	10.0	SS/10	1-3-3-4		Grey CLAY and SILT (wet, medium stiff)	6
9								
10								
11								
12								
13								
14	6	13.0	15.0	SS/15	WH-WH-1-2		Similar as above (wet, very soft)	1
15								
16								
17								
18	7	18.0	20.0	SS/20	WR-WH-1-1		Similar as above (wet, very soft)	1
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-328
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LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1 *See Remark 1*	
21								
22								
23								
24							*Auger refusal @ 25.0'*	
25							Bottom of Boring @ 25.0'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Sampling not feasible due to flowing sand conditions between 23.0' to 25.0'. Grey cmf SAND noted in the split-spoon.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-328A
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/12/23
Date Finished	10/12/23
Surface Elev.	389.6'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	J. Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/12/23	While Drilling	11.6	14.0
10/12/23	Before Casing Removed	11.6	14
10/12/23	After Casing Removed	None Noted	out
10/12/23	After Casing Removed	caved @ 5.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14	1	14.0	16.0		Shelby Tube		*No Recovery. See Remark 1* Grey SILT and fine SAND (wet)	
15								
16	2	16.0	18.0		Shelby Tube		*No Recovery. See Remark 1* Grey fine SAND and SILT (wet)	
17								
18							Bottom of Boring @ 18.0'	
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. No recovery with a 2" spoon; therefore a 3" spoon was utilized.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-335
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/18/23
Date Finished	09/18/23
Surface Elev.	394.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/18/23	While Drilling	16.5	18.0
09/18/23	Before Casing Removed	21.3	23.4
09/18/23	After Casing Removed	5.8	out
09/18/23	After Casing Removed	caved @ 13.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1A	0.0	0.4	SS/20	WH-2-3-5		Grey Topsoil and Organic Matter (moist)	5
	1B	0.4	2.0				Brown mottled SILT, trace fine SAND (wet, medium stiff)	
1								
2	2	2.0	4.0	SS/18	2-3-3-5		Brown SILT, little CLAY, trace fine SAND (wet, medium stiff)	6
3								
4	3	4.0	6.0	SS/19	2-3-2-5		Brown SILT, trace CLAY (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/18	5-8-6-6		Brown mottled SILT, trace CLAY (wet, stiff)	14
7								
8	5	8.0	10.0	SS/10	1-2-3-5		Grey CLAY and SILT (wet, medium stiff)	5
9								
10								
11								
12								
13	6	13.0	15.0	SS/17	WH-WH-WH-WH		Grey cmf SAND, some mf GRAVEL, little CLAY, trace SILT (wet, very loose)	0
14								
15								
16								
17								
18	7	18.0	20.0		21-27-24-30		Grey SILT, some cmf SAND, some mf GRAVEL, trace CLAY (wet, hard)	51
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

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LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	24.1		12-33-100@1"		Dark Grey decomposed SHALE, trace mf GRAVEL (wet) *Auger refusal @ 23.4'*	100+
24							Bottom of Boring @ 24.1'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-337
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/30/23
Date Finished	10/30/23
Surface Elev.	403.5'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/30/23	While Drilling	15.0	18.5
10/30/23	Before Casing Removed	20.0	27.3
10/30/23	After Casing Removed	7.7	out
10/30/23	After Casing Removed	caved @ 8.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/12	1-1-2-2		Light Brown SILT, trace fine SAND, trace ROOTS (moist, soft)	3
1								
2	2	2.0	4.0	SS/16	4-4-2-2		Light Brown SILT, little fine GRAVEL, trace fine SAND (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/12	2-8-7-8		Light Brown SILT, little cmf GRAVEL, little fine SAND (moist, very stiff)	15
5								
6	4	6.0	8.0	SS/10	8-7-6-6		Similar as above (moist, stiff)	13
7								
8	5	8.0	10.0	SS/17	5-6-10-14		Light Brown SILT, little mf GRAVEL, little mf SAND (moist, very stiff)	16
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/12	23-28-30		Light Brown/Grey SILT, little cmf GRAVEL, little fine SAND (moist, hard)	58
15								
16								
17								
18								
19	7	18.5	20.0	SS/17	21-41-36		Grey SILT, little mf GRAVEL, little mf SAND (moist, hard)	77
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-337
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	25.0	SS/14	45-35-46		Similar as above (moist, hard)	81
25								
26	9	26.0	27.3	SS/0	77-74-100@3"		*Auger refusal @ 26.0'* *No Recovery*	100+
27							Bottom of Boring @ 27.3'	
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-339
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/18/23
Date Finished	09/18/23
Surface Elev.	391.9'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/18/23	While Drilling	12.0	18.0
09/18/23	Before Casing Removed	24.1	28.5
09/18/23	After Casing Removed	6.4	out
09/18/23	After Casing Removed	caved @ 10.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.4	SS/17	WH-WH-2-2		Grey Topsoil and Organic Matter (moist)	2
	1B	0.4	2.0				Brown mottled SILT, trace fine SAND (moist, soft)	
1								
2	2	2.0	4.0	SS/24	2-4-4-4		Brown mottled SILT, trace fine SAND, trace CLAY (wet, medium stiff)	8
3								
4	3	4.0	6.0	SS/17	1-3-5-7		Brown SILT, trace fine SAND (wet, medium stiff)	8
5								
6	4	6.0	8.0	SS/15	6-5-3-4		Grey/Brown SILT and CLAY, trace fine SAND (wet, medium stiff)	8
7								
8	5	8.0	10.0	SS/15	2-3-4-5		Similar as above (wet, medium stiff)	7
9								
10								
11								
12								
13	6	13.0	15.0	SS/16	1-1-1-1		Grey CLAY and SILT (wet, soft)	2
14								
15								
16								
17								
18	7	18.0	20.0	SS/12	8-9-10-9		Grey SILT, some cmf SAND, trace fine GRAVEL, trace CLAY (wet, very stiff)	19
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-339
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Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	25.0	SS/16	14-18-30-40		Dark Grey SILT, some cmf SAND, trace fine GRAVEL, trace CLAY (wet, hard)	48
24								
25								
26								
27								
28	9	28.0	28.1	SS/1	100@1"		ROCK chips and fragments, trace SILT (wet) *Auger refusal @ 28.5'*	100+
29							Bottom of Boring @ 28.5'	
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-341
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	09/18/23
Date Finished	09/18/23
Surface Elev.	391.0'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	Brian Swartz	**Casing:**	4 ¼" ID H.S.A.
Driller:	Jason Ersing	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME LC 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	NWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/18/23	While Drilling	2.9	18.0
09/18/23	Before Casing Removed	2.9	22.5
09/18/23	After Casing Removed	5.0	out
09/18/23	After Casing Removed	caved @ 19.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/20	WH-1-3-5		Topsoil and Organic Matter (moist)	4
	1B	0.5	2.0				Brown mottled SILT, trace fine SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/24	4-5-5-4		Similar as above (wet, stiff)	10
3								
4	3	4.0	6.0	SS/15	WH-3-5-5		Brown SILT, trace fine SAND, trace CLAY (wet, stiff)	8
5								
6	4	6.0	8.0	SS/18	3-4-5-7		Brown/Grey SILT, some CLAY, trace fine SAND (wet, stiff)	9
7								
8	5	8.0	10.0	SS/12	WH-2-3-5		Grey CLAY and SILT (wet, medium stiff)	5
9								
10								
11								
12								
13	6	13.0	15.0	SS/16	1-2-2-3		Similar as above (wet, medium stiff)	4
14								
15								
16								
17								
18	7	18.0	20.0	SS/9	12-8-7-10		Dark Grey cmf GRAVEL and cmf SAND, trace SILT, trace CLAY (wet, medium compact)	15
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-341
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Auger refusal @ 22.5'*	
	8	22.5	22.5	SS/0	100@0"		No Recovery. *See Remark 1*	100+
23							Bottom of Boring @ 22.5'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Grey ROCK chips and fragments noted on spoon top

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-346
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	04/28/23
Date Finished	04/28/23
Surface Elev.	403.9'

METHODS OF INVESTIGATION

Driller:	Gary Richard	**Casing:**	3 ¼" ID H.S.A.
Driller:	Chris O' Hara	**Casing Hammer:**	
Inspector:	Astitwa Sharma, EIT	**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
04/28/23	While Drilling	None Noted	
04/28/23	Before Casing Removed	19.1	21.7
04/28/23	After Casing Removed	4.2	out
04/28/23	After Casing Removed	caved @ 4.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Material Description	SPT "N" or RQD %
0	1A	0.0	0.5	SS/15	WH-WH-2-2		Topsoil and Organic Material (moist)	2
	1B	0.5	2.0				Brown SILT, trace fine SAND, trace CLAY (moist, soft)	
1								
2	2	2.0	4.0	SS/18	3-3-3-3		Brown SILT, trace CLAY (moist, medium stiff)	6
3								
4	3	4.0	6.0	SS/24	3-2-3-4		Same as above (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/14	6-6-5-6		Same as above (wet, medium stiff)	11
7								
8	5	8.0	10.0	SS/24	5-7-6-6		Brown SILT, trace CLAY, trace fine SAND, (moist, stiff)	13
9								
10								
11								
12								
13	6	13.5	15.0	SS/13	8-7-5		Grey cmf SAND, some SILT, trace mf GRAVEL (wet, medium compact)	12
14								
15								
16								
17								
18								
19	7	18.5	20.0	SS/4	12-13-13		Gray SILT and mf GRAVEL, some cmf SAND (moist, very stiff)	26
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-346
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21							*Augered hard @ 21.3'*		
	8	21.7	21.7	SS/0	100@ 0"		*No Recovery. See Remark 1*		100+
22							Bottom of Boring @ 21.7'		
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Grey ROCK chips and fragments noted on spoon tip

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-350		
Page No.	1 of 1		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	09/14/23
Client:	Ramboll	Date Finished	09/14/23
Location:	See Exploration Location Plan	Surface Elev.	391.4'

METHODS OF INVESTIGATION

Driller:	Brian Swartz	Casing:	4 ¼" ID H.S.A.
Driller:	Jason Ersing	Casing Hammer:	
Inspector:	Astitwa Sharma, EIT	Other:	
Drill Rig:	CME LC 55	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	NWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
09/14/23	While Drilling	12	18
09/14/23	Before Casing Removed	9.5	18.3
09/14/23	After Casing Removed	5.1	out
09/14/23	After Casing Removed	caved @ 16.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1	0.0	2.0	SS/12	WH-1-3-4		Brown SILT, trace fine SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/16	8-5-5-4		Brown SILT, trace CLAY, trace fine SAND (wet, stiff)	10
3								
4	3	4.0	6.0	SS/15	2-2-3-4		Brown SILT, little CLAY, trace cmf SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/13	3-4-6-4		Brown SILT, some CLAY, trace mf SAND (wet, stiff)	10
7								
8	5	8.0	10.0	SS/15	2-3-4-3		Brown mottled SILT, some CLAY, trace fine SAND (wet, medium stiff)	7
9								
10								
11								
12								
13	6	13.0	15.0	SS/9	WH-3-2-3		Grey CLAY, some SILT, little cmf SAND, trace fine GRAVEL (wet, medium stiff)	5
14								
15								
16								
17								
18	7	18.0	18.3	SS/3	100@3"		Grey ROCK chips and fragments, little SILT, trace cmf SAND, trace mf GRAVEL (wet)	100+
19							*Auger refusal @ 18.5'*	
							Bottom of Boring @ 18.5'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-361
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/12/23
Date Finished	10/12/23
Surface Elev.	395.1'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	J. Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/12/23	While Drilling	14.2	13.5
10/12/23	Before Casing Removed	19.2	26.5
10/12/23	After Casing Removed	10.5	out
10/12/23	After Casing Removed	caved @ 11.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	5-5-7-7		Brown mf SAND, little SILT (moist, medium compact)	12
1								
2	2	2.0	4.0	SS/17	4-5-5-7		Brown SILT, some fine SAND, trace CLAY (moist, stiff)	10
3								
4	3	4.0	6.0	SS/20	4-5-5-5		Brown fine SAND, some SILT (wet, stiff)	10
5								
6	4	6.0	8.0	SS/19	5-5-7-4		Brown SILT, little fine SAND, trace CLAY (wet, stiff)	12
7								
8	5A	8.0	9.5		3-4-3-7		Brown cmf SAND, little mf GRAVEL, little SILT (wet, medium compact)	7
9							*Augers gravelly beginning @ 9.5'*	
	5B	9.5	10.0				Brown cmf SAND, little mf GRAVEL, little SILT (wet)	
10								
11								
12								
13								
	6	13.5	15.0	SS/10	7-7-7		Brown cmf SAND, some mf GRAVEL, trace SILT (wet, medium compact)	14
14								
15								
16								
17							*Augers more dense beginning @ 17.0'*	
18								
	7	18.5	20.0	SS/11	23-33-36		Brown/Grey SILT, some mf SAND (wet, hard)	69
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-361
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
	8	23.5	24.3	SS/5	33-100@3"		Grey SILT and ROCK fragments, little cmf GRAVEL (moist, hard)	100+
24								
25								
26							*Auger refusal @ 26.5'*	
	9	26.5	26.5	SS/0	100@0"	26.5'	*No Recovery*	100+
27							Bottom of Boring @ 26.5'	
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-363
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	11/01/23
Date Finished	11/01/23
Surface Elev.	395.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/01/23	While Drilling	21.0	22.5
11/01/23	Before Casing Removed	21.0	22.5
11/01/23	After Casing Removed	10.3	out
11/01/23	After Casing Removed	caved @ 13.5	

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/16	1-1-5-7		Topsoil and Organic Material (moist)	6
1	1B	1.0	2.0				Light Brown/Grey SILT, trace fine SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/20	6-7-8-8		Light Brown/Grey SILT, trace fine SAND (moist, very stiff)	15
3								
4	3	4.0	6.0	SS/18	3-2-3-2		Light Brown SILT, trace fine SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/18	3-3-4-4		Similar as above (moist, medium stiff)	7
7								
8	5	8.0	10.0	SS/16	4-5-5-7		Light Brown/Grey SILT, little cmf GRAVEL, little cmf SAND (moist, stiff)	10
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/15	5-2-5		Grey SILT, little mf GRAVEL, little fine SAND (moist, medium stiff)	7
15								
16								
17								
18								
19	7	18.5	20.0	SS/16	24-21-36		Dark Grey SILT and highly weathered ROCK fragments (moist, hard)	57
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-363
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22							*Auger refusal @ 22.5'*		
23							Bottom of Boring @ 22.5'		
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-364
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/12/23
Date Finished	10/12/23
Surface Elev.	395.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	J. Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/12/23	While Drilling	20.0	22.8
10/12/23	Before Casing Removed	20.0	22.8
10/12/23	After Casing Removed	None Noted	out
10/12/23	After Casing Removed	caved @ 9.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth From (Ft.)	Sample Depth To (Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	1-2-7-9		Brown SILT, little fine SAND (moist, stiff)	9
1								
2	2	2.0	4.0	SS/21	5-6-5-5		Brown SILT, some fine SAND, trace CLAY (wet, stiff)	11
3								
4	3	4.0	6.0	SS/12	4-4-6-6		Brown SILT, some mf SAND (wet, stiff)	10
5								
6	4	6.0	8.0	SS/19	4-7-8-8		Brown fine SAND, little SILT (wet, medium compact)	15
7								
8	5	8.0	10.0	SS/17	2-2-3-4		Brown cmf SAND, little fine GRAVEL, little SILT (wet, loose)	5
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/11	3-3-8		Black/Grey SILT, some cmf SAND, trace mf GRAVEL (moist, stiff) *ROCK fragments noted*	11
15								
16								
17								
18								
19	7	18.5	20.0	SS/11	7-28-43		Grey SILT, some ROCK fragments, little mf SAND (moist, hard)	71
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-364
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse / m - medium / f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22	8	22.0	22.8	SS/7	77-100@4"		Grey SILT and ROCK fragments, little cmf SAND (wet, hard) *Auger refusal @ 22.8'*	100+
23							Bottom of Boring @ 22.8'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Project Name:	Micron Campus, Clay, New York	**Boring No.**	B-366
		Page No.	1 of 2
		Report No.	28062B-03-1223
		Date Started	10/16/23
Client:	Ramboll	**Date Finished**	10/16/23
Location:	See Exploration Location Plan	**Surface Elev.**	393.0'

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/16/23	While Drilling	None Noted	17.3
10/16/23	Before Casing Removed	None Noted	17.3
10/16/23	After Casing Removed	None Noted	out
10/16/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/14	2-2-4-3		Topsoil and Organic Material (moist)	6
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND, trace Organic Material (moist, medium stiff)	
2	2	2.0	4.0	SS/16	3-7-6-8		Brown SILT, trace fine SAND, trace mf GRAVEL, trace Organic Material (moist, stiff)	13
3								
4	3	4.0	6.0	SS/13	2-2-3-2		Brown SILT, little CLAY, little cmf GRAVEL, trace fine SAND (moist, medium stiff)	5
5								
6	4	6.0	8.0	SS/18	3-3-6-11		Brown SILT, little cmf GRAVEL, trace fine SAND, trace CLAY (moist, stiff)	9
7								
8	5	8.0	10.0	SS/24	8-16-31-40		Brown/Grey SILT, little cmf GRAVEL, little weathered ROCK fragments, trace fine SAND (moist, hard)	47
9								
10								
11							*Augered hard beginning @ 11.7'*	
12								
13								
14	6	14.0	16.0	SS/3	30-60-66-45		Grey weathered ROCK chips and fragments (moist)	126
15								
16								
17	7	17.2	17.3	SS/1	100@1"		Grey weathered SHALE fragments, some SILT (moist) *Spoon and Auger refusal @ 17.3'. Set up to core.*	100+
18	R1	17.3	22.3	C/43			Dark Grey/Black SHALE with interbedded DOLOSTONE layers (<1/8" to 1/2" thick), highly weathered, laminated to thinly bedded, medium hard. Weathered and highly broken zones @ 17.3' to 18.9' and 19.8' to 20.4'.	30%
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-366**
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1 Recovery: 43"/60" = 72% | RQD: 18"/60" = 30%	
21							3 Pieces, 24" Chips and fragments *2 min/ft, no water loss*	
22							*Coring conducted in 4th gear, 1700 rpm, 500 psi down pressure.* Bottom of Boring @ 22.3'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-370		
Page No.	1 of 1		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	11/01/23
Client:	Ramboll	**Date Finished**	11/01/23
Location:	See Exploration Location Plan	**Surface Elev.**	393.7'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/01/23	While Drilling	None Noted	15.4
11/01/23	Before Casing Removed	None Noted	15.4
11/01/23	After Casing Removed	None Noted	out
11/01/23	After Casing Removed	caved @ 12.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/14	1-2-4-9		Topsoil and Organic Material (moist)	6
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/20	6-7-6-7		Light Brown SILT, trace fine SAND (moist, stiff)	13
3								
4	3	4.0	6.0	SS/18	2-2-3-3		Similar as above (moist, medium stiff)	5
5								
6	4	6.0	8.0	SS/19	2-3-5-7		Brown/Grey SILT, little cmf GRAVEL, little fine SAND (moist, stiff)	8
7								
8	5	8.0	10.0	SS/18	6-9-9-9		Brown/Grey SILT, some cmf GRAVEL, little fine SAND (moist, very stiff)	18
9								
10							*See Remark 1*	
11								
12								
13								
14	6	13.5	15.0	SS/12	9-7-38		Dark Grey/Brown cmf GRAVEL and weathered ROCK fragments, little SILT (moist, compact) *Auger refusal @ 15.4'*	45
15							Bottom of Boring @ 15.4'	
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Installed well at depth of 10.0' with 5.0' screen and 5.0' riser.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-380	Page No.	1 of 1
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	10/13/23
Client:	Ramboll	Date Finished	10/13/23
Location:	See Exploration Location Plan	Surface Elev.	391.0'

METHODS OF INVESTIGATION

Driller:	A. Linstruth	Casing:	3 ¼" ID H.S.A.
Driller:	J. Winks	Casing Hammer:	
Inspector:		Other:	
Drill Rig:	CME 55	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/13/23	While Drilling	16.5	19.0
10/13/23	Before Casing Removed	16.5	19.0
10/13/23	After Casing Removed	None Noted	out
10/13/23	After Casing Removed	caved @ 9.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	1-2-2-4		Brown SILT, little mf SAND (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/19	5-7-8-9		Brown SILT, little fine SAND (moist, very stiff)	15
3								
4	3	4.0	6.0	SS/1	4-5-7-7		Brown cmf GRAVEL, trace cmf SAND, trace SILT (moist, medium compact)	12
5								
6	4	6.0	8.0	SS/19	5-4-4-5		Brown SILT and fine SAND (wet, stiff)	8
7								
8	5	8.0	10.0	SS/17	3-9-5-5		Brown fine SAND and SILT (wet, medium compact)	14
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/8	1-3-5		Grey/Brown cmf SAND, some SILT, little mf GRAVEL (wet, loose) *Augers gravelly beginning @ 14.0'*	8
15								
16								
17								
18								
19	7	18.5	19.0	SS/5	44-100@0"	*19.0'*	Grey SILT and ROCK fragments (moist, hard) *Auger refusal @ 19.0'*	100+
20							Bottom of Boring @ 19.0'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-382
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/13/23
Date Finished	10/13/23
Surface Elev.	386.7'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	A. Linstruth	**Casing:**	3 ¼" ID H.S.A.
Driller:	J. Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 55	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/13/23	While Drilling	13.5	13.5
10/13/23	Before Casing Removed	15.9	18.4
10/13/23	After Casing Removed	6.2	out
10/13/23	After Casing Removed	caved @ 7.1	

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/16	1-1-5-3		Brown SILT, some fine SAND (wet, medium stiff)	6
1								
2	2	2.0	4.0	SS/19	3-4-4-3		Similar as above (wet, stiff)	8
3								
4	3	4.0	6.0	SS/11	3-3-3-2		Similar as above (wet, medium stiff)	6
5								
6	4A	6.0	7.5	SS/15	3-2-3-13		Similar as above (wet, medium stiff)	5
7								
	4B	7.5	8.0				Brown cmf SAND, some SILT, little mf GRAVEL (moist)	
8	5A	8.0	9.5	SS/15	10-12-13-8		Brown cmf SAND, little mf GRAVEL, trace SILT (moist, medium compact)	25
9								
	5B	9.5	10.0				Grey cmf SAND and mf GRAVEL, trace SILT (moist)	
10								
11								
12								
13								
	6A	13.5	14.5	SS/11	18-23-93		Grey cmf SAND, some SILT, little mf GRAVEL (wet, very compact	116
14								
	6B	14.5	15.0				Grey SILT and ROCK fragments (wet) *Hard drilling from 15.0' to 18.4'*	
15								
16								
17								
18							*Auger refusal @ 18.4'*	
	7	18.4	18.4	SS/0	100@0"		*No Recovery*	100+
19							Bottom of Boring @ 18.4'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-384		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	10/19/23
Client:	Ramboll	**Date Finished**	10/19/23
Location:	See Exploration Location Plan	**Surface Elev.**	392.6'

METHODS OF INVESTIGATION

Driller:	J. Winks	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/19/23	While Drilling	7.0	18.5
10/19/23	Before Casing Removed	7.4	21.3
10/19/23	After Casing Removed	8.0	out
10/19/23	After Casing Removed	caved @ 12.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/14	1-1-4-5		Topsoil and Organic Material (moist)	5
1	1B	1.0	2.0				Light Brown SILT, trace fine SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/16	9-7-8-7		Light Brown SILT, trace fine SAND (moist, very stiff)	15
3								
4	3	4.0	6.0	SS/12	4-4-4-6		Similar as above (moist, stiff)	8
5								
6	4	6.0	8.0	SS/19	5-5-4-3		Similar as above (moist, stiff)	9
7								
8	5	8.0	10.0	SS/15	3-4-5-7		Similar as above (moist, stiff)	9
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/16	1-3-4		Light Grey SILT, trace fine SAND (moist, medium stiff)	7
15								
16								
17								
18								
19	7	18.5	20.0	SS/14	1-20-32		Dark Grey weathered ROCK fragments, little SILT (wet)	52
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-384
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21							*Auger refusal @ 21.3'*	
	8	21.3	21.3	SS/0	100@0"		*No Recovery*	100+
22							Bottom of Boring @ 21.3'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-391
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/31/23
Date Finished	11/01/23
Surface Elev.	393.0'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/31/23	While Drilling	4.2	13.5
11/01/23	Before Casing Removed	3.0	18.5
11/01/23	After Casing Removed	Well Installed	out
11/01/23	After Casing Removed	N/A	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	WH-2-3-4		Topsoil and Organic Material (moist)	5
	1B	0.5	2.0				Light Brown/Grey SILT, trace fine SAND, trace CLAY (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/16	3-5-5-5		Light Brown/Grey SILT, trace fine SAND, trace CLAY (moist, stiff)	10
3								
4	3	4.0	6.0	SS/24	4-4-5-5		Light Brown SILT, trace fine SAND (moist, stiff)	9
5								
6	4	6.0	8.0	SS/24	4-3-4-3		Similar as above (moist, medium stiff)	7
7								
8	5	8.0	10.0	SS/20	2-3-3-4		Similar as above (wet, medium stiff)	6
9								
10							*See Remark 1*	
11								
12								
13								
	6	13.5	15.0	SS/6	4-3-2		Grey SILT, little cmf GRAVEL, trace fine SAND (moist, medium stiff)	5
14							*Low Recovery*	
15								
16								
17								
18								
	7	18.5	19.8	SS/12	44-68-100@3"		Dark Grey weathered ROCK fragments, little SILT (moist)	100+
19								
20							Bottom of Boring @ 19.8'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Installed well in hole; 5.0' screen at depth of 10.0'

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-400
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	11/02/23
Date Finished	11/02/23
Surface Elev.	399.6'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/02/23	While Drilling	None Noted	18.8
11/02/23	Before Casing Removed	None Noted	18.8
11/02/23	After Casing Removed	Cored	out
11/02/23	After Casing Removed	N/A	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/15	1-1-4-5		Topsoil and Organic Material (moist)	5
1	1B	1.0	2.0				Light Brown/Grey SILT, trace fine SAND, trace ROOTS (moist, medium stiff)	
2	2	2.0	4.0	SS/17	5-5-5-10		Light Brown SILT, trace fine SAND (moist, stiff)	10
3								
4	3	4.0	6.0	SS/22	5-6-4-4		Light Brown SILT, little cmf GRAVEL, little cmf SAND (moist, stiff)	10
5								
6	4	6.0	8.0	SS/17	5-11-15-16		Light Brown SILT, little cmf SAND, trace cmf GRAVEL (moist, very stiff)	26
7								
8	5	8.0	8.7	SS/6	20-100@2"		Dark Grey weathered ROCK fragments, little SILT, little cmf SAND (wet) *Auger refusal @ 8.8'. Set up to core.*	100+
9	R1	8.8	13.8	C/59	NQ-Core		Dark Grey/Black DOLOSTONE with interbedded Shale layers (<1/8" to 1" thick) throughout, moderately weathered, laminated to medium bedded, medium hard to hard. *Horizontal breaks with weathered Shale layers @ 10.1', 10.4', 12.4' and 12.6'.* Recovery: 59"/60" = 98% | RQD: 38"/60" = 63% 16 Pieces, 2" Chips and fragments *2.0 min/ft, no water loss* *Coring conducted in 5th gear, 2400 rpm, 400 psi down pressure.*	63%
10								
11								
12								
13								
14	R2	13.8	18.8	C/59	NQ-Core		Dark Grey/Black DOLOSTONE with interbedded Shale layers (<1/8" to 1" thick) throughout, slightly weathered, laminated to thinly bedded, medium soft to hard. Weathered and broken zone @ 17.8' to 18.8'. Recovery: 59"/60" = 98% | RQD: 45"/60" = 75% 8 Pieces, 6" Chips and fragments *1.30 min/ft, no water loss* *Coring conducted in 5th gear, 2400 rpm, 400 psi down pressure.* *See Remark 1*	75%
15								
16								
17								
18								
19							Bottom of Boring @ 18.8'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Installed well at depth of 10.0' with 5.0' screen and 5.0' riser.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-401		
Page No.	1 of 1		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	10/26/23
Client:	Ramboll	Date Finished	10/26/23
Location:	See Exploration Location Plan	Surface Elev.	400.7'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	4.9	3.5
10/26/23	Before Casing Removed	5.5	8.5
10/26/23	After Casing Removed	4.8	out
10/26/23	After Casing Removed	caved @ 8.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	1-1-3-7		Topsoil and Organic Material (moist)	4
	1B	0.5	2.0				Brown mottled SILT, trace fine SAND, trace CLAY (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/16	5-6-6-5		Brown mottled SILT, little CLAY, trace fine SAND (wet, stiff)	12
3								
4	3	4.0	6.0	SS/12	3-1-1-10		Brown SILT, some cmf SAND, trace mf GRAVEL, trace CLAY (wet, soft)	2
5								
6	4	6.0	8.0	SS/11	10-17-17-14		Brown SILT, some mf GRAVEL, some cmf SAND (moist, hard) *Augered gravelly beginning @ 6.5'*	34
7								
8	5	8.0	9.2	SS/8	40-12-50@2"		Grey weathered ROCK chips and fragments, little mf GRAVEL, trace SILT, trace SAND (wet) *Auger refusal @ 9.2'*	50+
9								
							Bottom of Boring @ 9.2'	
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-402
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/26/23
Date Finished	10/26/23
Surface Elev.	398.3

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	None Noted	-
10/26/23	Before Casing Removed	None Noted	-
10/26/23	After Casing Removed	None Noted	out
10/26/23	After Casing Removed	caved @ 5.1	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.8	SS/10	1-1-2-2		Topsoil and Organic Material (moist)	3
	1B	0.8	2.0				Brown SILT, little cmf SAND (moist, soft)	
1								
2	2	2.0	4.0	SS/19	2-3-4-5		Brown mottled SILT, some cmf SAND, little CLAY, trace mf GRAVEL (moist, medium stiff)	7
3								
4	3	4.0	5.3	SS/9	2-4-50@3"		Brown mottled SILT and cmf SAND, little mf GRAVEL, little CLAY (moist, hard) *Auger refusal @ 5.2'*	50+
5							Bottom of Boring @ 5.2'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-403
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/25/23
Date Finished	10/25/23
Surface Elev.	400.1'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/25/23	While Drilling	None Noted	-
10/25/23	Before Casing Removed	None Noted	-
10/25/23	After Casing Removed	None Noted	out
10/25/23	After Casing Removed	caved @ 5.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	1-1-1-5		Light Brown SILT, little cmf SAND, trace ROOTS (moist, soft)	2
1								
2	2	2.0	4.0	SS/16	7-5-4-6		Brown SILT, some cmf SAND, trace mf GRAVEL (moist, stiff)	9
3								
4	3	4.0	6.0	SS/10	3-2-1-2		Brown mottled SILT, some cmf SAND, little fine GRAVEL, trace CLAY (wet, soft)	3
5								
6	4	6.0	6.2	SS/2	50@2"		Brown/Grey mf GRAVEL, some SILT, trace cmf SAND (wet, very compact)	50+
7							Bottom of Boring @ 6.2'	
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-404		
Page No.	1 of 1		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	10/26/23
Client:	Ramboll	Date Finished	10/26/23
Location:	See Exploration Location Plan	Surface Elev.	399.0'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	2.7	3.5
10/26/23	Before Casing Removed	2.8	4.5
10/26/23	After Casing Removed	3.0	out
10/26/23	After Casing Removed	caved @ 5.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/15	1-2-4-3		Topsoil and Organic Material (moist)	6
	1B	0.5	2.0				Brown/Reddish SILT, little cmf SAND, little mf GRAVEL (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/17	4-3-3-3		Brown SILT, some cmf SAND, little mf GRAVEL, trace CLAY (wet, medium stiff)	6
3								
4	3	4.0	5.6	SS/9	5-12-30-50@1"		Dark Grey weathered ROCK fragments, little mf GRAVEL, little SILT (wet)	42
5							*Auger refusal @ 5.5'*	
6							Bottom of Boring @ 5.6'	
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-405
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/26/23
Date Finished	10/26/23
Surface Elev.	398.3'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	None Noted	-
10/26/23	Before Casing Removed	None Noted	-
10/26/23	After Casing Removed	None Noted	out
10/26/23	After Casing Removed	caved @ 4.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/13	1-1-1-3		Topsoil and Organic Material (moist)	2
	1B	0.5	2.0				Brown SILT, some cmf SAND, trace fine GRAVEL (moist, soft)	
1								
2	2	2.0	3.8	SS/5	2-6-8-50@3"		Brown mottled SILT, some cmf SAND, some mf GRAVEL (moist, stiff)	14
3								
4	3	4.0	4.8	SS/4	4-50@3"		Grey cmf GRAVEL, some cmf SAND, little SILT (moist, very compact)	50+
5							*Auger refusal @ 4.8'*	
							Bottom of Boring @ 4.8'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-406
Page No.	1 of 1
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/26/23
Date Finished	10/26/23
Surface Elev.	397.7'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	None Noted	-
10/26/23	Before Casing Removed	None Noted	-
10/26/23	After Casing Removed	None Noted	out
10/26/23	After Casing Removed	caved @ 4.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Material Description	SPT "N" or RQD %
0	1A	0.0	0.5	SS/10	1-3-3-5		Topsoil and Organic Material (moist)	6
	1B	0.5	2.0				Brown SILT, some mf GRAVEL, little cmf SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/15	3-4-5-11		Brown mottled SILT, some cmf SAND, little mf GRAVEL (wet, stiff)	9
3								
4	3	4.0	4.1	SS/1	50@1"		Brown/Grey SILT and cmf SAND, trace mf GRAVEL (wet, hard) *Auger refusal @ 4.2'*	50+
5							Bottom of Boring @ 4.2'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-407
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/26/23
Date Finished	10/26/23
Surface Elev.	397.0'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/26/23	While Drilling	None Noted	-
10/26/23	Before Casing Removed	None Noted	-
10/26/23	After Casing Removed	None Noted	out
10/26/23	After Casing Removed	caved @ 4.2	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/10	1-1-8-4		Topsoil and Organic Material (moist)	9
	1B	0.5	2.0				Brown cmf SAND and mf GRAVEL, some SILT (moist, loose)	
1								
2	2	2.0	4.0	SS/16	2-3-6-15		Brown mottled SILT, some cmf SAND, little mf GRAVEL, little CLAY (moist, stiff)	9
3								
4	3	4.0	5.0	SS/9	1-6-50@0"		Dark Grey weathered ROCK fragments and SILT (moist)	50+
5							*Auger refusal @ 5.5'*	
							Bottom of Boring @ 5.5'	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-408		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	11/02/23
Client:	Ramboll	Date Finished	11/02/23
Location:	See Exploration Location Plan	Surface Elev.	392.3'

METHODS OF INVESTIGATION

Driller:	H. Lyon	Casing:	3 ¼" ID H.S.A.
Driller:	K. Crandall	Casing Hammer:	
Inspector:	A. Sharma, EIT	Other:	
Drill Rig:	CME 45	Soil Sampler:	2" OD Split Barrel
Type:	Track	Hammer Wt:	140 lbs.
Rod Size:	AW	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/02/23	While Drilling	6.8	22.5
11/02/23	Before Casing Removed	8.2	24.1
11/02/23	After Casing Removed	None Noted	out
11/02/23	After Casing Removed	caved @ 6.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/22	1-1-3-4		Brown mottled SILT, trace mf SAND, trace CLAY, trace ROOTS (wet, medium stiff)	4
1								
2	2	2.0	4.0	SS/17	4-3-4-4		Brown SILT, little CLAY, trace fine SAND (wet, medium stiff)	7
3								
4	3	4.0	6.0	SS/18	5-6-7-8		Brown SILT, trace fine SAND, trace CLAY (wet, stiff)	13
5								
6	4	6.0	8.0	SS/16	9-10-11-12		Brown SILT, trace fine SAND (wet, very stiff)	21
7								
8	5	8.0	10.0	SS/18	7-9-8-10		Similar as above (wet, very stiff)	17
9								
10								
11								
12								
13	6	13.0	15.0	SS/16	5-6-4-6		Grey SILT, little CLAY (wet, stiff)	10
14								
15								
16								
17								
18	7	18.0	20.0	SS/9	3-4-6-6		Grey SILT, some CLAY, little cmf SAND (wet, stiff)	10
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-408
Page No.	2 of 2
Report No.	28062B-03-1123

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Augered gravelly beginning @ 22.5'*	
23	8	23.0	23.9	SS/4	12-50@5"		Grey ROCK fragments, trace cmf SAND (wet)	50+
24							*Auger refusal @ 24.1'*	
25							Bottom of Boring @ 24.1'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.

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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-409		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	11/02/23
Client:	Ramboll	**Date Finished**	11/02/23
Location:	See Exploration Location Plan	**Surface Elev.**	393.5'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/02/23	While Drilling	7.7	8.0
11/02/23	Before Casing Removed	4.3	23
11/02/23	After Casing Removed	4.9	out
11/02/23	After Casing Removed	caved @ 5.9	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	1.0	SS/12	1-2-3-3		Brown SILT, trace CLAY, trace fine SAND, trace ROOTS (moist, medium stiff)	5
1								
2	2	2.0	4.0	SS/15	3-4-4-5		Brown mottled SILT, some CLAY, trace fine SAND (wet, stiff)	8
3								
4	3	4.0	6.0	SS/16	3-4-4-5		Brown mottled SILT, little CLAY, trace fine SAND (wet, stiff)	8
5								
6	4	6.0	8.0	SS/14	4-5-5-5		Brown SILT, trace fine SAND, trace CLAY (wet, stiff)	10
7								
8	5	8.0	10.0	SS/20	4-7-6-8		Brown SILT, trace mf SAND, trace CLAY (wet, stiff)	13
9								
10								
11							*Augered hard beginning @ 11.5'*	
12								
13	6	13.0	15.0	SS/12	3-4-5-4		Grey SILT, little CLAY, trace fine SAND (wet, stiff)	9
14								
15								
16								
17								
18	7	18.0	20.0	SS/16	WH-1-2-3		Grey CLAY and SILT, little cmf SAND, little mf GRAVEL (wet, soft)	3
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-409
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1 *Augered gravelly beginning @ 20.5'*	
21								
22								
23	8	23.0	23.2	SS/0	50@2"		*No Recovery. Auger refusal @ 23.4'*	50+
24							Bottom of Boring @ 23.4'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-410
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/30/23
Date Finished	10/30/23
Surface Elev.	393.3'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/30/23	While Drilling	4.6	7.5
10/30/23	Before Casing Removed	22.4	23
10/30/23	After Casing Removed	11.5	out
10/30/23	After Casing Removed	caved @ 12.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-1-4-5		Grey/Brown SILT, little mf SAND, trace CLAY (wet, medium stiff)	5
1								
2	2	2.0	4.0	SS/15	5-6-6-5		Brown mottled SILT, little CLAY, trace fine SAND (wet, stiff)	12
3								
4	3	4.0	6.0	SS/19	2-3-3-6		Brown SILT, trace fine SAND (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/17	7-6-7-6		Similar as above (wet, stiff)	13
7								
8	5	8.0	10.0	SS/21	4-6-6-8		Brown mottled SILT, trace CLAY, trace fine SAND (wet, stiff)	12
9								
10								
11								
12								
13	6	13.0	15.0	SS/20	12-12-8-8		Grey/Brown SILT, little cmf SAND, trace fine GRAVEL (wet, very stiff)	20
14								
15								
16								
17								
18	7	18.0	20.0	SS/16	2-5-9-5		Grey SILT, some CLAY, trace cmf SAND (wet, stiff)	14
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. B-410
Page No. 2 of 2
Report No. 28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1 *Augered gravelling beginning @ 20.5'*	
21								
22							*Augered hard beginning @ 22.4'*	
23	8	23.0	24.8	SS/8	5-8-8-50@4"		Grey cmf SAND and mf GRAVEL, trace SILT (wet, medium compact)	16
24							*Auger refusal @ 25.0'*	
25							Bottom of Boring @ 25.0'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-411
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/30/23
Date Finished	10/30/23
Surface Elev.	393.2'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/30/23	While Drilling	9.3	13.0
10/30/23	Before Casing Removed	14.4	22.7
10/30/23	After Casing Removed	9.8	out
10/30/23	After Casing Removed	caved @ 12.1	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	1-1-3-6		Brown mottled SILT, little cmf SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/15	7-8-9-9		Brown mottled SILT, little CLAY, little fine SAND (moist, very stiff)	17
3								
4	3	4.0	6.0	SS/22	2-3-2-4		Brown SILT, some CLAY, trace fine SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/20	5-4-5-6		Brown SILT, little CLAY, trace mf SAND (wet, stiff)	9
7								
8	5	8.0	10.0	SS/17	3-5-11-14		Similar as above (wet, very stiff)	16
9								
10								
11								
12								
13	6	13.0	15.0	SS/14	WH-21-42-46		Brown cmf SAND and mf GRAVEL, little SILT (wet, very compact)	63
14								
15								
16								
17								
18	7	18.0	20.0	SS/13	17-28-25-32		Grey cmf SAND and mf GRAVEL, trace SILT (wet, very compact)	53
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-411
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22							*Auger refusal @ 22.7'*		
23							Bottom of Boring @ 22.7'		
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-412
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/30/23
Date Finished	10/30/23
Surface Elev.	392.2'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/30/23	While Drilling	14.0	18.0
10/30/23	Before Casing Removed	26.5	23.0
10/30/23	After Casing Removed	11.8	out
10/30/23	After Casing Removed	caved @ 13.7	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/2	1-1-1-4		Brown mottled SILT, little mf SAND, trace CLAY, trace ROOTS (moist, soft)	2
1								
2	2	2.0	4.0	SS/18	6-8-8-7		Brown mottled SILT, little fine SAND, trace CLAY (wet, very stiff)	16
3								
4	3	4.0	6.0	SS/16	4-4-3-4		Similar as above (wet, medium stiff)	7
5								
6	4	6.0	8.0	SS/18	2-2-1-2		Brown SILT, trace CLAY, trace fine SAND (wet, soft)	3
7								
8	5	8.0	10.0	SS/14	1-7-5-10		Brown/Reddish cmf SAND and SILT, some mf GRAVEL (wet, medium compact)	12
9								
10								
11								
12								
13	6	13.0	15.0	SS/18	11-12-18-32		Brown cmf SAND, some SILT, little mf GRAVEL, trace CLAY (wet, compact)	30
14								
15							*Augered hard beginning @ 15.2'*	
16								
17								
18	7	18.0	19.3	SS/21	25-40-50@4"		Grey cmf SAND and mf GRAVEL, some SILT (wet, very compact)	50+
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. B-412
Page No. 2 of 2
Report No. 28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	24.9	SS/19	30-42-48-50@5"		Grey cmf SAND, some fine GRAVEL, some SILT (wet, very compact)	90
24								
25								
26							*Auger refusal @ 27.0'*	
27							Bottom of Boring @ 27.0'	
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-413		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	10/31/23
Client:	Ramboll	**Date Finished**	10/31/23
Location:	See Exploration Location Plan	**Surface Elev.**	386.5'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/31/23	While Drilling	7.8	8.0
10/31/23	Before Casing Removed	11.4	23.5
10/31/23	After Casing Removed	None Noted	out
10/31/23	After Casing Removed	caved @ 6.8	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/16	1-1-3-4		Grey/Brown mottled SILT, trace mf SAND, trace CLAY, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/16	4-8-6-7		Grey/Brown mottled SILT, little CLAY, trace fine SAND (moist, stiff)	14
3								
4	3	4.0	6.0	SS/19	3-2-2-4		Brown mottled SILT, some CLAY, trace fine SAND (moist, medium stiff)	4
5								
6	4	6.0	8.0	SS/24	4-6-6-6		Brown SILT, little CLAY, trace fine SAND (wet, stiff)	12
7								
8	5	8.0	10.0	SS/17	3-6-7-9		Similar as above (wet, stiff)	13
9								
10								
11								
12								
13	6	13.0	15.0	SS/18	WH-2-2-1		Grey CLAY, some cmf SAND, little SILT, trace fine GRAVEL (wet, medium stiff)	4
14								
15								
16								
17							*Augered gravelly beginning @ 17.5'*	
18	7	18.0	20.0	SS/15	6-8-8-12		Grey cmf SAND and mf GRAVEL, little SILT, trace CLAY (wet, medium compact)	16
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-413
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Augered gravelly beginning @ 22.7'*	
23	8	23.0	24.2	SS/7	27-40-50@2"		Grey cmf SAND, some mf GRAVEL, some SILT (moist, very compact)	50+
24							*Auger refusal @ 24.3'*	
25							Bottom of Boring @ 24.3'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-414
Page No.	1 of 2
Report No.	28062B-03-1223

Project Name:	Micron Campus, Clay, New York	**Date Started**	11/02/23
Client:	Ramboll	**Date Finished**	11/02/23
Location:	See Exploration Location Plan	**Surface Elev.**	392.0'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/02/23	While Drilling	8.8	13.0
11/02/23	Before Casing Removed	12.0	23.0
11/02/23	After Casing Removed	4.9	out
11/02/23	After Casing Removed	caved @ 7.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/17	1-1-2-3		Dark Brown SILT, trace CLAY, trace fine SAND, trace ROOTS (wet, soft)	3
1								
2	2	2.0	4.0	SS/15	4-7-7-7		Brown SILT, little CLAY, trace fine SAND (wet, stiff)	14
3								
4	3	4.0	6.0	SS/24	2-4-5-6		Brown SILT, some CLAY, trace fine SAND (wet, stiff)	9
5								
6	4	6.0	8.0	SS/16	8-9-7-7		Brown SILT, trace CLAY, trace fine SAND (wet, very stiff)	16
7								
8	5	8.0	10.0	SS/21	5-7-9-10		Similar as above (wet, very stiff)	16
9								
10								
11								
12								
13	6	13.0	15.0	SS/19	6-7-11-9		Brown SILT, trace CLAY, trace cmf SAND (wet, very stiff)	18
14								
15								
16								
17								
18	7	18.0	20.0	SS/15	WR-2-3-7		Grey SILT, some CLAY, little cmf SAND, little mf GRAVEL (wet, medium stiff)	5
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-414
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22							*Augered hard beginning @ 22.5*		
23	8	23.0	23.0	SS/0	50@0"		*No recovery. Auger refusal @ 23.0'*		50+
							Bottom of Boring @ 23.0'		
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-415
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	11/01/23
Date Finished	11/01/23
Surface Elev.	391.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/01/23	While Drilling	7.1	17.5
11/01/23	Before Casing Removed	10.6	22.4
11/01/23	After Casing Removed	None Noted	out
11/01/23	After Casing Removed	caved @ 5.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-1-3-5		Brown mottled SILT, trace CLAY, trace fine SAND, trace ROOTS (wet, medium stiff)	4
1								
2	2	2.0	4.0	SS/15	5-5-5-5		Brown mottled SILT, little CLAY, trace mf SAND (wet, stiff)	10
3								
4	3	4.0	6.0	SS/24	2-3-3-5		Brown mottled SILT, some CLAY (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/18	7-7-7-7		Similar as above (wet, stiff)	14
7								
8	5	8.0	10.0	SS/18	6-8-10-14		Brown SILT, little CLAY, trace fine SAND (wet, very stiff)	18
9								
10								
11								
12								
13	6	13.0	15.0	SS/17	6-5-6-5		Brown/Grey SILT, little CLAY (wet, stiff)	11
14								
15								
16								
17							*Augered gravelly beginning @ 17.9'*	
18	7	18.0	20.0	SS/8	6-7-7-9		Grey cmf GRAVEL, little cmf SAND, little SILT (wet, medium compact)	14
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-415
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1		
21									
22							*Augered refusal @ 22.4'*		
	8	22.4	22.4	SS/0	50@0'		*No Recovery*		50+
23							Bottom of Boring @ 22.4'		
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-416		
Page No.	1 of 1		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	**Date Started**	11/01/23
Client:	Ramboll	**Date Finished**	11/01/23
Location:	See Exploration Location Plan	**Surface Elev.**	392.3'

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/01/23	While Drilling	8.5	17.5
11/01/23	Before Casing Removed	9.7	17.5
11/01/23	After Casing Removed	6.4	out
11/01/23	After Casing Removed	caved @ 10.5	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	1-1-3-4		Brown SILT, trace CLAY, trace fine SAND, trace ROOTS (wet, medium stiff)	4
1								
2	2	2.0	4.0	SS/16	4-5-6-6		Brown mottled SILT, little CLAY, trace fine SAND (wet, stiff)	11
3								
4	3	4.0	6.0	SS/21	3-3-2-4		Brown SILT, some CLAY, trace fine SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/18	4-5-6-7		Brown SILT, trace CLAY, trace fine SAND (wet, stiff)	11
7								
8	5	8.0	10.0	SS/17	6-11-12-12		Brown SILT, trace cmf SAND, trace fine GRAVEL (wet, very stiff)	23
9								
10							*Augered gravelly beginning @ 10.5'*	
11								
12								
13	6	13.0	15.0	SS/20	32-48-45-47		Grey/Brown cmf SAND and mf GRAVEL, some SILT (moist, very compact)	93
14								
15								
16								
17								
18	7	18.0	19.2	SS/14	22-40-50@2"		Grey/Brown mf GRAVEL and cmf SAND, little SILT (wet, very compact)	50+
19							*Augered gravelly beginning @ 19.7'. Auger refusal @ 19.9'*	
20							Bottom of Boring @ 19.9'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-417
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	11/01/23
Date Finished	11/01/23
Surface Elev.	388.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/01/23	While Drilling	6.7	8.0
11/01/23	Before Casing Removed	24.1	23.5
11/01/23	After Casing Removed	None Noted	out
11/01/23	After Casing Removed	caved @ 5.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine
and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	1-1-3-5		Brown SILT, trace fine SAND, trace CLAY, trace ROOTS (wet, medium stiff)	4
1								
2	2	2.0	4.0	SS/17	4-6-5-5		Brown SILT, trace CLAY, trace mf SAND (wet, stiff)	11
3								
4	3	4.0	6.0	SS/20	1-3-5-5		Brown SILT, some CLAY, trace fine SAND (wet, stiff)	8
5								
6	4	6.0	8.0	SS/19	4-5-5-6		Similar as above (wet, stiff)	10
7								
8	5	8.0	10.0	SS/20	3-5-6-5		Brown SILT, some CLAY, trace fine SAND (wet, stiff)	11
9								
10								
11								
12								
13	6	13.0	15.0	SS/15	3-3-5-8		Brown/Reddish SILT, some cmf SAND, little mf GRAVEL (wet, stiff)	8
14								
15								
16								
17							*Augered gravelly @ 16.5'*	
18	7	18.0	20.0	SS/8	11-15-9-7		Grey cmf SAND and SILT, little mf GRAVEL (wet, medium compact)	24
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-417
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23	8	23.0	25.0	SS/19	35-42-42-42		Grey cmf SAND, some SILT, little mf GRAVEL (moist, very compact)	84
24								
25							*Auger refusal @ 26.4'*	
26							Bottom of Boring @ 26.4'	
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-418
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/31/23
Date Finished	10/31/23
Surface Elev.	385.4'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/31/23	While Drilling	11.0	12.5
10/31/23	Before Casing Removed	13.0	27.5
10/31/23	After Casing Removed	5.3	out
10/31/23	After Casing Removed	caved @ 11.4	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/18	1-1-3-5		Brown SILT, little CLAY, trace fine SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/17	3-5-5-5		Brown mottled SILT, trace CLAY, trace fine SAND (moist, stiff)	10
3								
4	3	4.0	6.0	SS/22	2-2-3-4		Brown mottled SILT, little CLAY, trace fine SAND (wet, medium stiff)	5
5								
6	4	6.0	8.0	SS/24	5-7-7-6		Brown SILT, trace CLAY, trace fine SAND (wet, stiff)	14
7								
8	5	8.0	10.0	SS/12	4-6-6-6		Brown/Grey mottled SILT, little CLAY, trace fine SAND (wet, stiff)	12
9								
10								
11								
12								
13	6	13.0	15.0	SS/16	8-9-7-4		Grey SILT and CLAY (wet, very stiff)	16
14								
15								
16								
17								
18	7	18.0	20.0	SS/20	2-2-1-2		Grey CLAY and SILT, little cmf SAND, trace fine GRAVEL (wet, soft)	3
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-418
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21							*Augered gravelly beginning @ 21.0'*	
22								
23	8	23.0	25.0	SS/12	12-9-10-10		Grey cmf SAND and mf GRAVEL, little SILT (wet, medium compact)	19
24								
25								
26							*Augered hard beginning @ 25.9'*	
27							*Auger refusal @ 27.5'*	
	9	27.5	27.8	SS/2	50@3"		Grey weathered ROCK chips and fragments (wet)	50+
28							Bottom of Boring @ 27.8'	
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-419
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/31/23
Date Finished	10/31/23
Surface Elev.	386.1'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/31/23	While Drilling	9.7	8.0
10/31/23	Before Casing Removed	13.9	23.2
10/31/23	After Casing Removed	None Noted	out
10/31/23	After Casing Removed	caved @ 9.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	1-2-5-6		Brown mottled SILT, little mf SAND, trace CLAY, trace ROOTS (moist, medium stiff)	7
1								
2	2	2.0	4.0	SS/16	7-8-8-8		Brown mottled SILT, little CLAY, trace fine SAND (moist, very stiff)	16
3								
4	3	4.0	6.0	SS/10	5-5-5-4		Brown/Grey SILT, little CLAY, little cmf SAND, trace fine GRAVEL (wet, stiff)	10
5								
6	4	6.0	8.0	SS/21	3-5-8-8		Brown mottled SILT, trace fine SAND, trace CLAY (wet, stiff)	13
7								
8	5	8.0	10.0	SS/20	3-5-6-7		Brown SILT, trace fine SAND, trace CLAY (wet, stiff)	11
9								
10								
11								
12								
13	6	13.0	15.0	SS/18	1-3-3-3		Grey/Brown SILT, some CLAY, little cmf SAND, trace mf GRAVEL (wet, medium stiff)	6
14								
15								
16								
17							*Augered gravelly beginning @ 17.0'*	
18	7	18.0	20.0	SS/15	11-12-10-10		Grey cmf SAND and mf GRAVEL, little SILT (wet, medium compact)	22
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-419
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Augered hard beginning @ 22.5'*	
23	8	23.0	23.3	SS/3	50@4"		Dark Grey ROCK fragments, trace SILT (wet) *Auger refusal @ 23.2'*	50+
24							Bottom of Boring @ 23.2'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-420
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	11/02/23
Date Finished	11/02/23
Surface Elev.	390.9'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	Casing:	3 ¼" ID H.S.A.
Driller:	R. Casatelli	Casing Hammer:	
Inspector:		Other:	NQ-Core
Drill Rig:	CME 550X	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/02/23	While Drilling	18.1	23.5
11/02/23	Before Casing Removed	18.1	23.5
11/02/23	After Casing Removed	None Noted	out
11/02/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	1-2-4-6		Light Brown/Grey SILT, trace fine SAND, trace ORGANIC MATERIAL (moist, medium stiff)	6
1								
2	2	2.0	4.0	SS/20	4-4-5-6		Light Brown/Grey SILT, trace fine SAND (moist, stiff)	9
3								
4	3	4.0	6.0	SS/16	4-3-3-3		Light Brown SILT, trace fine SAND (wet, medium stiff)	6
5								
6	4	6.0	8.0	SS/17	6-7-10-10		Similar as above (moist, very stiff)	17
7								
8	5A	8.0	9.5	SS/19	4-3-4-9		Similar as above (moist, medium stiff)	7
9	5B	9.5	10.0				Red/Brown SILT, little mf SAND, little mf GRAVEL (moist)	
10								
11								
12								
13	6	13.5	15.0	SS/17	10-11-61		Light Brown SILT, little mf SAND, little cmf GRAVEL (moist, hard)	72
14								
15								
16								
17								
18	7	18.5	20.0	SS/15	3-14-30		Grey SILT, some cmf SAND, little mf GRAVEL (moist, hard)	44
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-420
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	25.0	SS/18	64-67-82		Grey SILT, little mf SAND, little mf GRAVEL (moist, hard)	149
25							Bottom of Boring @ 25.0'	
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-421
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	11/02/23
Date Finished	11/02/23
Surface Elev.	386.0'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/02/23	While Drilling	None Noted	22.2
11/02/23	Before Casing Removed	None Noted	22.2
11/02/23	After Casing Removed	None Noted	out
11/02/23	After Casing Removed	caved @ 12.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	1.0	SS/10	WH-2-3-5		Topsoil and Organic Matter (moist)	5
1	1B	1.0	2.0				Light Brown/Grey SILT, trace fine SAND (moist, medium stiff)	
2	2	2.0	4.0	SS/20	5-6-6-5		Light Brown SILT, trace fine SAND (moist, stiff)	12
3								
4	3	4.0	6.0	SS/20	3-4-4-5		Light Brown SILT, trace fine SAND (moist, stiff)	8
5								
6	4	6.0	8.0	SS/18	7-6-7-6		Similar as above (moist, stiff)	13
7								
8	5	8.0	10.0	SS/20	3-4-4-8		Similar as above (moist, stiff)	8
9								
10								
11								
12								
13								
14	6	13.5	15.0	SS/18	WH-WH-1		Light Grey SILT, some CLAY, trace cmf SAND (wet, very soft)	1
15								
16								
17								
18								
19	7	18.5	20.0	SS/18	4-4-6		Light Grey SILT, little cmf SAND, little cmf GRAVEL (wet, stiff)	10
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-421
Page No.	2 of 2
Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	VISUAL CLASSIFICATION OF MATERIAL (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
							Auger refusal @ 22.1'	
22	8	22.1	22.2	SS/1	100@1"		Grey weathered ROCK chips (moist)	100+
							Bottom of Boring @ 22.2'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-422
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	11/03/23
Date Finished	11/03/23
Surface Elev.	382.0'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	B. Fletcher	Casing:	3 ¼" ID H.S.A.
Driller:	R. Casatelli	Casing Hammer:	
Inspector:		Other:	NQ-Core
Drill Rig:	CME 550X	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/03/23	While Drilling	6.4	18.5
11/03/23	Before Casing Removed	N/A	22.4
11/03/23	After Casing Removed	N/A	out
11/03/23	After Casing Removed	N/A	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1	0.0	2.0	SS/14	2-1-2-2		***Reworked Material ;*** Brown silt, cmf gravel, cmf sand (moist)	3
1								
2	2	2.0	4.0	SS/18	3-3-4-4		Light Brown SILT, trace fine SAND (moist, medium stiff)	7
3								
4	3	4.0	6.0	SS/17	4-3-3-4		Light Brown SILT, trace fine SAND (moist, medium stiff)	6
5								
6	4	6.0	8.0	SS/19	4-4-5-4		Similar as above (wet, stiff)	9
7								
8	5	8.0	10.0	SS/14	4-4-3-5		Similar as above (wet, medium stiff)	7
9								
10							*See Remark 1*	
11								
12								
13								
14	6	13.5	15.0	SS/14	2-2-2		Light Grey SILT, trace fine SAND (wet, medium stiff)	4
15								
16								
17								
18								
19	7	18.5	20.0	SS/10	4-9-8		Light Grey SILT and cmf GRAVEL, little cmf SAND (wet, very stiff)	17
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Installed well at depth of 10.0' with 5.0' screen.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-422
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Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1	
21								
22	8	22.4	22.4	SS/0	100@0"		*No Recovery - Auger refusal @ 22.4'*	100+
							Bottom of Boring @ 22.4'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-423
Page No.	1 of 1
Report No.	28062B-03-1223
Date Started	10/23/23
Date Finished	10/23/23
Surface Elev.	401.0'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/23/23	While Drilling	7.3	8.0
10/23/23	Before Casing Removed	17.9	18
10/23/23	After Casing Removed	5.0	out
10/23/23	After Casing Removed	caved @ 7.6	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.7	SS/17	1-1-3-3		Dark Brown Topsoil and Organic Material (moist)	4
	1B	0.7	2.0				Brown SILT, little CLAY, trace fine SAND (moist, medium stiff)	
1								
2	2	2.0	4.0	SS/15	4-3-5-7		Brown mottled SILT, little CLAY, trace fine SAND (wet, stiff)	8
3								
4	3	4.0	6.0	SS/20	6-8-6-9		Brown SILT, little CLAY, trace fine SAND (wet, stiff)	14
5								
6	4	6.0	8.0	SS/24	7-11-15-22		Brown SILT, little CLAY, trace fine SAND, trace mf GRAVEL (wet, very stiff)	26
7								
8	5	8.0	10.0	SS/19	9-15-10-10		Grey/Brown cmf SAND and mf GRAVEL, some SILT (wet, medium compact)	25
9							*Augered gravelly beginning @ 8.5'*	
10								
11								
12								
13	6	13.0	13.8	SS/10	23-50@4"		Grey weathered ROCK fragments, little SILT, little cmf GRAVEL (moist)	50+
14								
15								
16							*Augered hard beginning @ 16.8'*	
17								
18	7	18.0	18.4	SS/5	50@5"		Grey weathered ROCK fragments, some mf GRAVEL, trace SILT (moist)	50+
19							*Auger refusal @ 18.6'*	
							Bottom of Boring @ 18.6'	
20								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-424
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/19/23
Date Finished	10/19/23
Surface Elev.	403.0'

Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/19/23	While Drilling	12.6	12.5
10/19/23	Before Casing Removed	None Noted	20.3
10/19/23	After Casing Removed	14.1	out
10/19/23	After Casing Removed	caved @ 16.0	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	1-3-5-5		Topsoil and Organic Material (moist)	8
	1B	0.5	2.0				Brown SILT and fine SAND, trace CLAY (moist, stiff)	
1								
2	2	2.0	3.6	SS/16	5-5-5-50@1"		Brown cmf SAND, some SILT, little mf GRAVEL (wet, medium compact)	10
3								
4	3A	4.0	4.0	SS/0	50@0"		*No Recovery - See Remark 1*	50+
	3B	4.0	6.0	SS/19	3-6-7-7		Brown cmf SAND and SILT, little mf GRAVEL (wet, medium compact)	13
5							*Augered gravelly beginning @ 4.0'*	
6	4	6.0	8.0	SS/14	4-5-12-10		Grey/Brown cmf SAND and SILT, little mf GRAVEL (wet, medium compact)	17
7								
8	5	8.0	10.0	SS/21	7-8-9-11		Light Brown SILT, some cmf SAND, little mf GRAVEL (wet, very stiff)	17
9								
10								
11								
12								
13	6	13.0	15.0	SS/18	19-29-33-32		Grey cmf SAND, some SILT, some mf GRAVEL, trace CLAY (wet, very compact)	62
14								
15								
16								
17							*Augered hard beginning @ 16.5'*	
18	7	18.0	18.8	SS/10	23-50@4"		Dark Grey/Black weathered ROCK fragments, some SILT, little CLAY (wet)	50+
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Auger Refusal @ 4.0', boring was offset about 3.0' north and sampled starting from depth of 4.0'

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-424
Page No.	2 of 2
Report No.	28062B-03-1223

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
20							Continued from Page 1 *Auger refusal @ 20.3'*	
21	8	20.3	21.0	SS/6	23-50@2"		Dark Grey weathered ROCK fragments, some cmf SAND, some mf GRAVEL (moist)	50+
22							Bottom of Boring @ 21.0'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-425
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/19/23
Date Finished	10/19/23
Surface Elev.	401.1'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	H. Lyon	**Casing:**	3 ¼" ID H.S.A.
Driller:	K. Crandall	**Casing Hammer:**	
Inspector:	A. Sharma, EIT	**Other:**	
Drill Rig:	CME 45	**Soil Sampler:**	2" OD Split Barrel
Type:	Track	**Hammer Wt:**	140 lbs.
Rod Size:	AW	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/19/23	While Drilling	13.7	13.0
10/19/23	Before Casing Removed	None Noted	19.1
10/19/23	After Casing Removed	17.1	out
10/19/23	After Casing Removed	caved @ 19.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description (c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%)	SPT "N" or RQD %
0	1A	0.0	0.5	SS/16	1-3-5-9		Topsoil and Organic Material (moist)	8
	1B	0.5	2.0				Brown mottled SILT, little fine SAND (moist, stiff)	
1								
2	2	2.0	4.0	SS/18	7-11-17-17		Brown SILT, some fine SAND (moist, very stiff)	28
3								
4	3	4.0	6.0	SS/15	7-6-10-10		Brown/Reddish cmf SAND, some SILT, some mf GRAVEL (wet, medium compact)	16
5							*Augered gravelly beginning @ 6.0'*	
6	4	6.0	8.0	SS/17	14-14-14-32		Brown cmf SAND and mf GRAVEL, little SILT (wet, medium compact)	28
7								
8	5	8.0	10.0	SS/17	6-10-7-9		Grey SILT and cmf SAND, little mf GRAVEL (wet, very stiff)	17
9								
10								
11								
12								
13	6	13.0	14.4	SS/13	23-49-50@5"		Dark Grey SILT and cmf SAND, some CLAY, some mf GRAVEL (moist, hard)	50+
14								
15								
16								
17							*Augered hard beginning @ 17.7'*	
18	7	18.0	19.9	SS/22	25-40-38-50@5"		Grey cmf SAND and mf GRAVEL, some weathered ROCK fragments, some SILT (wet, very compact)	78
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-425**
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL			
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine	and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1 *Auger refusal @ 20.1'*		
21							Bottom of Boring @ 20.1'		
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-426
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/16/23
Date Finished	10/17/23
Surface Elev.	390.5'

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/16/23	While Drilling	9.2	19.0
10/17/23	Before Casing Removed	8.3	19
10/17/23	After Casing Removed		out
10/17/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/19	1-4-5-5		Topsoil and Organic Material (moist)	9
	1B	0.5	2.0				Light Brown SILT, trace fine SAND, trace ORGANIC MATERIAL	
1							(moist, stiff)	
2	2	2.0	4.0	SS/20	4-4-4-5		Light Brown SILT, trace fine SAND (moist, stiff)	8
3								
4	3	4.0	6.0	SS/19	3-6-5-5		Light Brown SILT, trace fine SAND (wet, stiff)	11
5								
6	4	6.0	8.0	SS/16	5-4-3-6		Light Brown SILT, trace fine SAND (wet, medium stiff)	7
7								
8	5	8.0	10.0	SS/17	4-5-6-5		Light Grey SILT, trace fine SAND (wet, stiff)	11
9								
10								
11								
12								
13								
14	6	14.0	16.0	SS/22	2-1-2-1		Light Grey SILT, trace fine SAND (wet, soft)	3
15								
16	7	16.0	18.0	SS/8	1-4-4-13		Light Grey SILT, little weathered ROCK fragments, little cmf GRAVEL (wet, stiff)	8
17							*Augered gravelly beginning @ 17.0'*	
18								
19	8	19.0	21.0	SS/12	2-2-6-11		Grey/Black SILT, some cmf GRAVEL, little weathered ROCK fragments (wet, stiff)	8
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-426
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Auger refusal @ 22.5'. Set up to core.*	
23	R1	22.5	27.5	C/60	NQ-Core		Dark Grey/Black SHALE with interbedded Dolostone layers (<1/8" to 1 1/2" thick) throughout, highly weathered, laminated to thinly bedded, medium hard. Recovery: 60"/60" = 100% RQD: 12"/60" = 20% 6 Pieces, 36" Chips and fragments *0.0' to 2.0', 2:45 min/ft, 2.0' to 4.0', 2:07 min/ft, and 4.0' to 5.0', 3:38 min/ft, no water loss* *Coring conducted in 4th gear, 1800 rpm, 500 psi down pressure.*	20%
24								
25								
26								
27	R2	27.5	32.5	C/60	NQ-Core		Dark Grey/Black DOLOSTONG with interbedded Shale layers (<1/8" to 2") throughout, slightly weathered, laminated to thinly bedded, medium hard to hard. Recovery: 60"/60" = 100% RQD: 50"/60" = 83% 18 Pieces, 1" Chips and fragments *1:50 min/ft, no water loss* *Coring conducted in 4th gear, 1800 rpm, 500 psi down pressure.*	83%
28								
29								
30								
31								
32								
33							Bottom of Boring @ 32.5'	
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-427		
Page No.	1 of 2		
Report No.	28062B-03-1223		
Project Name:	Micron Campus, Clay, New York	Date Started	10/16/23
Client:	Ramboll	Date Finished	10/17/23
Location:	See Exploration Location Plan	Surface Elev.	390.9'

METHODS OF INVESTIGATION

Driller:	G. Richards	Casing:	3 ¼" ID H.S.A.
Driller:	R. Casatelli	Casing Hammer:	
Inspector:		Other:	NQ-Core
Drill Rig:	CME 550X	Soil Sampler:	2" OD Split Barrel
Type:	ATV	Hammer Wt:	140 lbs.
Rod Size:	AWJ	Hammer Fall:	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/16/23	While Drilling	14.8	14.0
10/17/23	Before Casing Removed	9.3	23.9
10/17/23	After Casing Removed	-	out
10/17/23	After Casing Removed	caved @	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1A	0.0	0.5	SS/19	1-3-5-6		Topsoil and Organic Material (moist)	8
	1B	0.5	2.0				Light Brown SILT, trace fine SAND (moist, stiff)	
1								
2	2	2.0	4.0	SS/19	4-6-6-5		Light Brown SILT, trace fine SAND, trace CLAY (moist, stiff)	12
3								
4	3	4.0	6.0	SS/18	1-4-5-6		Light Brown SILT, trace fine SAND (moist, stiff)	9
5								
6	4	6.0	8.0	SS/20	6-5-5-5		Light Brown SILT, trace fine SAND (moist, stiff)	10
7								
8	5	8.0	10.0	SS/20	2-3-4-5		Light Brown SILT, trace fine SAND, trace mf GRAVEL (moist, medium stiff)	7
9								
10								
11								
12								
13								
14	6	14.0	16.0	SS/19	1-2-2-1		Light Grey SILT, trace fine SAND (wet, medium stiff)	4
15								
16								
17								
18								
19	7	19.0	21.0	SS/12	5-9-10-23		Dark Grey SILT and weathered ROCK fragments (wet, very stiff) stiff)	19
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-427
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23							*Auger refusal @ 23.9'*	
	8	23.9	23.9	SS/0	100@0"		*No Recovery*	100+
24							Bottom of Boring @ 23.9'	
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-428
Page No.	1 of 2
Report No.	28062B-03-1223
Project Name:	Micron Campus, Clay, New York
Client:	Ramboll
Location:	See Exploration Location Plan
Date Started	10/23/23
Date Finished	10/23/23
Surface Elev.	392.7'

METHODS OF INVESTIGATION

Driller:	B. Fletcher	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	NQ-Core
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/23/23	While Drilling	10.5	15.0
10/23/23	Before Casing Removed	13.7	22.2
10/23/23	After Casing Removed	None Noted	out
10/23/23	After Casing Removed	caved @ 3.0'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%; little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/17	7-3-6-7		Topsoil and Organic Material (moist)	9
	1B	0.5	2.0				Light Brown SILT, trace fine SAND (moist, stiff)	
1								
2	2	2.0	4.0	SS/17	7-8-8-8		Light Brown SILT, trace fine SAND, trace CLAY (moist, very stiff)	16
3								
4	3	4.0	6.0	SS/18	3-3-5-5		Light Brown SILT, trace fine SAND (moist, stiff)	8
5								
6	4	6.0	8.0	SS/19	4-4-4-4		Similar as above (moist, stiff)	8
7								
8	5	8.0	10.0	SS/19	4-4-4-6		Similar as above (moist, stiff)	8
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/18	1-1-1		Light Brown SILT, trace CLAY, trace fine SAND (wet, soft)	2
14								
15	7	15.0	17.0	SS/20	WH-2-3-8		Light Brown/Grey SILT, some CLAY, little mf GRAVEL (wet, medium stiff)	5
16								
17								
18								
	8	18.5	20.0	SS/9	13-7-18		Grey cmf GRAVEL, some SILT, little weathered ROCK fragments (wet, medium compact)	25
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-428
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22							*Auger refusal @ 22.2'*	
	9	22.2	22.2	SS/0	100@0"		*No Recovery*	100+
23							Bottom of Boring @ 22.2'	
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-429
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/18/23
Date Finished	10/18/23
Surface Elev.	390.8'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	G. Richards	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/18/23	While Drilling	18.2	19.0
10/18/23	Before Casing Removed	13.8	21.7
10/18/23	After Casing Removed	13.7	out
10/18/23	After Casing Removed	caved @ 15.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Description	SPT "N" or RQD %
0	1	0.0	2.0	SS/15	1-2-2-5		Light Brown SILT, trace fine SAND, trace ROOTS (moist, medium stiff)	4
1								
2	2	2.0	4.0	SS/18	5-4-5-5		Light Brown SILT, trace fine SAND (moist, stiff)	9
3								
4	3	4.0	6.0	SS/17	2-2-2-3		Light Brown SILT, trace fine SAND (moist, medium stiff)	4
5								
6	4	6.0	8.0	SS/18	3-5-4-4		Similar as above (moist, stiff)	9
7								
8	5	8.0	10.0	SS/20	2-4-4-6		Similar as above (moist, stiff)	8
9								
10								
11								
12								
13								
14	6	14.0	16.0	SS/18	2-5-6-6		Light Brown SILT, little mf GRAVEL, trace fine SAND (moist, stiff)	11
15								
16								
17								
18								
19	7	19.0	21.0	SS/13	7-7-11-18		Dark Grey weathered ROCK fragments, little SILT (wet)	18
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-429
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES / **VISUAL CLASSIFICATION OF MATERIAL**

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21							*Auger refusal @ 21.7'*	
	8	21.7	21.7	SS/0	100@0"		*No Recovery. See Remark 1*	100+
22							Bottom of Boring @ 21.7'	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. ROCK chips on spoon top

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-430
Page No.	1 of 2
Report No.	28062B-03-1223
Date Started	10/19/23
Date Finished	10/19/23
Surface Elev.	390.2'

Project Name: Micron Campus, Clay, New York
Client: Ramboll
Location: See Exploration Location Plan

METHODS OF INVESTIGATION

Driller:	J. Winks	**Casing:**	3 ¼" ID H.S.A.
Driller:	R. Casatelli	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
10/19/23	While Drilling	18.2	19.0
10/19/23	Before Casing Removed	13.8	21.7
10/19/23	After Casing Removed	13.7	out
10/19/23	After Casing Removed	caved @ 15.3	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	Visual Classification of Material	SPT "N" or RQD %
0	1A	0.0	0.5	SS/14	2-7-6-7		Topsoil and Organic Material (moist)	13
	1B	0.5	2.0				Light Brown/Light Grey SILT, trace fine SAND, trace CLAY (moist, stiff)	
1								
2	2	2.0	4.0	SS/19	2-4-6-7		Light Brown/Light Grey SILT, trace fine SAND, trace CLAY (moist, stiff)	10
3								
4	3	4.0	6.0	SS/20	7-3-3-2		Light Brown SILT, trace fine SAND (moist, medium stiff)	6
5								
6	4	6.0	8.0	SS/17	4-4-4-4		Light Brown SILT, trace fine SAND (moist, stiff)	8
7								
8	5	8.0	10.0	SS/20	4-4-6-7		Similar as above (moist, stiff)	10
9								
10								
11								
12								
13								
	6	13.5	15.0	SS/15	1-3-2		Light Grey SILT, trace fine GRAVEL, trace fine SAND (moist, medium stiff)	5
14								
15								
16								
17								
18								
	7	18.5	20.0	SS/12	13-22-15		Dark Grey weathered ROCK fragments, little SILT (wet)	37
19								
20							Continued on Page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
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Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-430
Page No.	2 of 2
Report No.	28062B-03-1223

LOG OF BORING SAMPLES						VISUAL CLASSIFICATION OF MATERIAL		
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1	
21								
22								
23								
24	8	23.5	25.0	SS/13	18-12-19		Dark Grey weathered ROCK fragments, little SILT (wet)	31
25								
26								
27	9	27.3	27.3	SS/0	100@0"		*No Recovery - Auger refusal @ 27.3'*	100+
28							Bottom of Boring @ 27.3'	
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

PRESENTATION OF SITE INVESTIGATION RESULTS

Proposed Micron Plant
Clay, New York

Prepared for:

CME Associates, Inc.

ConeTec Job No: 23-53-26729

Project Start Date: 23-Oct-2023
Project End Date: 28-Oct-2023
Report Date: 23-Nov-2023

Prepared by:

ConeTec Inc.

436 Commerce Lane, Unit C, West Berlin, NJ 08091
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ConeTecNJ@conetec.com
www.conetec.com
www.conetecdataservices.com

INTRODUCTION

The enclosed report presents the results of the site investigation program conducted by ConeTec, Inc. for CME Associates, Inc. The program consisted of cone penetration tests, seismic cone penetration tests, and pore pressure dissipation tests carried out for Proposed Micron Plant located in Clay, New York The program was completed under supervision of CME Associates, Inc. personnel (Mark Schumacher). Please note that this report, which also includes all accompanying data, are subject to the 3rd Party Disclaimer and Client Disclaimer that follows in the 'Limitations' section of this report.

PROJECT INFORMATION

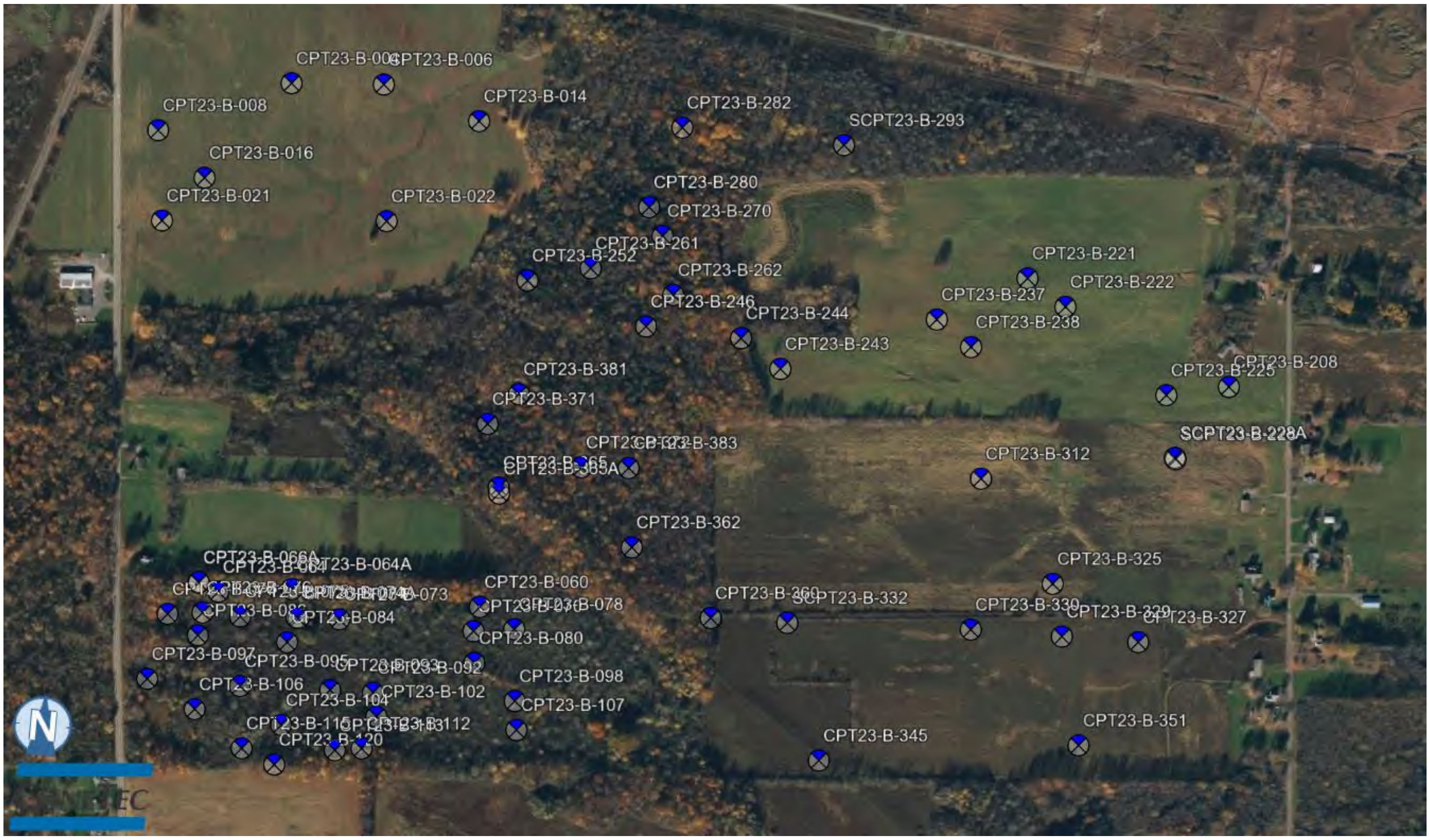
Project	
Client	CME Associates, Inc.
Project	Proposed Micron Plant, Clay, NY
ConeTec Project Number	23-53-26729
Rig Description	20-ton Track CPT Rig
Test Types	CPTu, SCPTu, PPD
Additional Comments	None

Coordinates	
Collection Method	Handheld GPS
EPSG Number	32618 (WGS 84 / UTM Zone 18 North)
Additional Comments	None

Cone Penetration Test (CPTu)	
Depth reference	Depths are referenced to the existing ground surface at the time of each test.
Tip and sleeve data offset	0.1 Meters. This has been accounted for in the CPT data files.
Seismic calculations	Poisson's ratio (ν) was calculated from the shear wave (V_s) and compression wave (V_p) velocities using the following equation: $$\nu = \frac{(V_p/V_s)^2 - 2}{2\left((V_p/V_s)^2 - 1\right)}$$
Additional Comments	None

Calculated Geotechnical Parameters	
Additional information	The Normalized Soil Behavior Type Chart based on Q_{tn} (SBT Q_{tn}) (Robertson, 2009) was used to classify the soil for this project. A detailed set of calculated CPTu parameters have been generated and are provided in Excel format files in the release folder. The CPTu parameter calculations are based on values of corrected tip resistance (q_t) sleeve friction (f_s) and pore pressure (u_2). Effective stresses are calculated based on unit weights that have been assigned to the individual soil behavior type zones and the assumed equilibrium pore pressure profile. Soils were classified as either drained or undrained based on the Q_{tn} Normalized Soil Behavior Type Chart (Robertson, 2009). Calculations for both drained and undrained parameters were included for materials that classified as silt mixtures (zone 4). For calculating undrained shear strength based on pore pressure ($S_u(N_{\Delta u})$) and undrained shear strength based on cone tip resistance ($S_u(N_{kt})$), an $N_{\Delta u}$ value of 6 and an N_{kt} value of 15 were selected.

SITE MAP


CPT23-B-008
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CPT23-B-014
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CPT23-B-022
CPT23-B-280
CPT23-B-270
CPT23-B-261
CPT23-B-252
CPT23-B-262
CPT23-B-221
CPT23-B-237
CPT23-B-222
CPT23-B-246
CPT23-B-244
CPT23-B-238
CPT23-B-243
CPT23-B-208
CPT23-B-381
CPT23-B-371
SCPT23-B-228A
CPT23-B-383
CPT23-B-312
CPT23-B-362
CPT23-B-064A
CPT23-B-325
CPT23-B-060
CPT23-B-073
CPT23-B-078
SCPT23-B-332
CPT23-B-084
CPT23-B-080
CPT23-B-327
CPT23-B-092
CPT23-B-098
CPT23-B-106
CPT23-B-104
CPT23-B-102
CPT23-B-107
CPT23-B-351
CPT23-B-345
N

LIMITATIONS

3rd Party Disclaimer

- The “Report” refers to this report titled Proposed Micron Plant, Clay, NY
- The Report was prepared by ConeTec for CME Associates, Inc.

The Report is confidential and may not be distributed to or relied upon by any third parties without the expressed written consent of ConeTec. Any third parties gaining access to the Report do not acquire any rights as a result of such access. Any use which a third party makes of the Report, or any reliance on or decisions made based on it, are the responsibility of such third parties. ConeTec accepts no responsibility for loss, damage and/or expense, if any, suffered by any third parties as a result of decisions made, or actions taken or not taken, which are in any way based on, or related to, the Report or any portion(s) thereof.

Client Disclaimer

- ConeTec was retained by CME Associates, Inc.
- The “Report” refers to this report titled Proposed Micron Plant, Clay, NY
- ConeTec was retained to collect and provide the factual data (“Data”) which is included in the Report.

ConeTec has collected and reported the Data in accordance with current industry standards. No other warranty, expressed or implied, with respect to the Data is made by ConeTec. In order to properly understand the Data included in the Report, reference must be made to the documents accompanying and other sources referenced in the Report in their entirety. Other than the Data, the contents of the Report (including any interpretations), should not be relied upon in any fashion without independent verification. ConeTec is in no way responsible for any loss, damage or expense resulting from the use of, and/or reliance on, such material by any party.

METHODOLOGY STATEMENTS

CONE PENETRATION TEST (CPTu) - eSeries

Cone penetration tests (CPTu) are conducted using an integrated electronic piezocone penetrometer and data acquisition system manufactured by Adara Systems Ltd., a subsidiary of ConeTec.

ConeTec's piezocone penetrometers are compression type designs in which the tip and friction sleeve load cells are independent and have separate load capacities. The piezocones use strain gauged load cells for tip and sleeve friction and a strain gauged diaphragm type transducer for recording pore pressure. The piezocones also have a platinum resistive temperature device (RTD) for monitoring the temperature of the sensors, an accelerometer type dual axis inclinometer and two geophone sensors for recording seismic signals. All signals are amplified and measured with minimum sixteen-bit resolution down hole within the cone body, and the signals are sent to the surface using a high bandwidth, error corrected digital interface through a shielded cable.

ConeTec penetrometers are manufactured with various tip, friction and pore pressure capacities in both 10 cm^2 and 15 cm^2 tip base area configurations in order to maximize signal resolution for various soil conditions. The specific piezocone used for each test is described in the CPT summary table. The 15 cm^2 penetrometers do not require friction reducers as they have a diameter larger than the deployment rods. The 10 cm^2 piezocones use a friction reducer consisting of a rod adapter extension behind the main cone body with an enlarged cross sectional area (typically 44 millimeters diameter over a length of 32 millimeters with tapered leading and trailing edges) located at a distance of 585 millimeters above the cone tip.

The penetrometers are designed with equal end area friction sleeves, a net end area ratio of 0.8 and cone tips with a 60 degree apex angle.

All ConeTec piezocones can record pore pressure at various locations. Unless otherwise noted, the pore pressure filter is located directly behind the cone tip in the "u_2" position (ASTM Type 2). The filter is six millimeters thick, made of porous plastic (polyethylene) having an average pore size of 125 microns (90-160 microns). The function of the filter is to allow rapid movements of extremely small volumes of water needed to activate the pressure transducer while preventing soil ingress or blockage.

The piezocone penetrometers are manufactured with dimensions, tolerances and sensor characteristics that are in general accordance with the current ASTM D5778 standard. ConeTec's calibration criteria also meets or exceeds those of the current ASTM D5778 standard. An illustration of the piezocone penetrometer is presented in Figure CPTu.

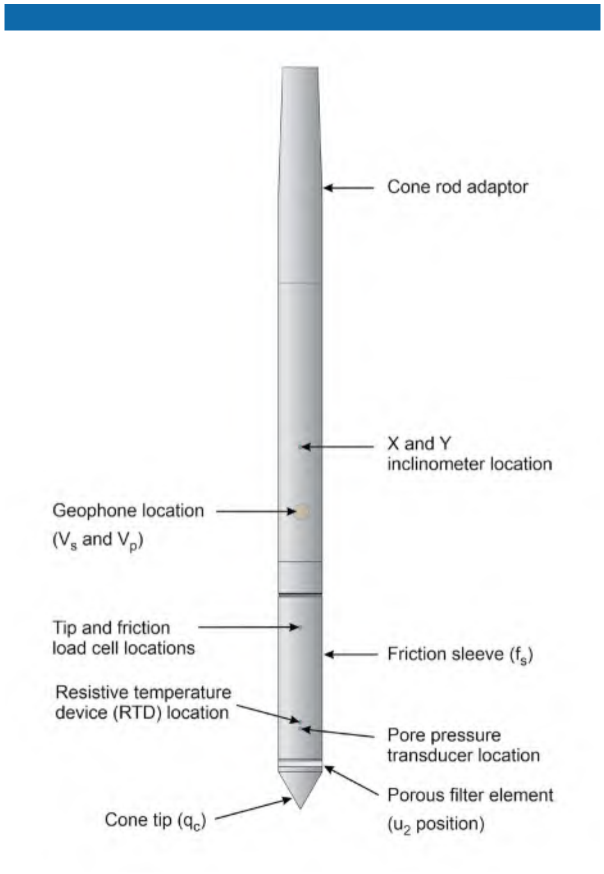

Figure CPTu. Piezocone Penetrometer (15 cm^2)

The ConeTec data acquisition system consists of a Windows based computer, signal interface box, and power supply. The signal interface combines depth increment signals, seismic trigger signals and the downhole digital data. This combined data is then sent to the Windows based computer for collection and presentation. The data is recorded at fixed depth increments using a depth encoder that is either portable or integrated into the rig. The typical recording interval is 2.5 centimeters; custom recording intervals are possible.

The system displays the CPTu data in real time and records the following parameters to a storage media during penetration:

- Depth
- Uncorrected tip resistance (q_c)
- Sleeve friction (f_s)
- Dynamic pore pressure (u)
- Additional sensors such as resistivity, passive gamma, ultra violet induced fluorescence, if applicable

All testing is performed in accordance to ConeTec's CPTu operating procedures which are in general accordance with the current ASTM D5778 standard.

Prior to the start of a CPTu sounding a suitable cone is selected, the cone and data acquisition system are powered on, the pore pressure system is saturated with silicone oil and the baseline readings are recorded with the cone hanging freely in a vertical position.

The CPTu is conducted at a steady rate of two centimeters per second, within acceptable tolerances. Typically one meter length rods with an outer diameter of 1.5 inches are added to advance the cone to the sounding termination depth. After cone retraction final baselines are recorded.

Additional information pertaining to ConeTec's cone penetration testing procedures:

- Each filter is saturated in silicone oil under vacuum pressure prior to use
- Baseline readings are compared to previous readings
- Soundings are terminated at the client's target depth or at a depth where an obstruction is encountered, excessive rod flex occurs, excessive inclination occurs, equipment damage is likely to take place, or a dangerous working environment arises
- Differences between initial and final baselines are calculated to ensure zero load offsets have not occurred and to ensure compliance with ASTM standards

The interpretation of piezocone data for this report is based on the corrected tip resistance (q_t), sleeve friction (f_s) and pore water pressure (u). The interpretation of soil type is based on the correlations developed by Robertson, P.K., 2010. The Soil Behavior Type (SBT) classification chart developed by Robertson, P.K., 2010 is presented in Figure SBT. It should be noted that it is not always possible to accurately identify a soil behavior type based on these parameters. In these situations, experience, judgment and an assessment of other parameters may be used to infer soil behavior type.

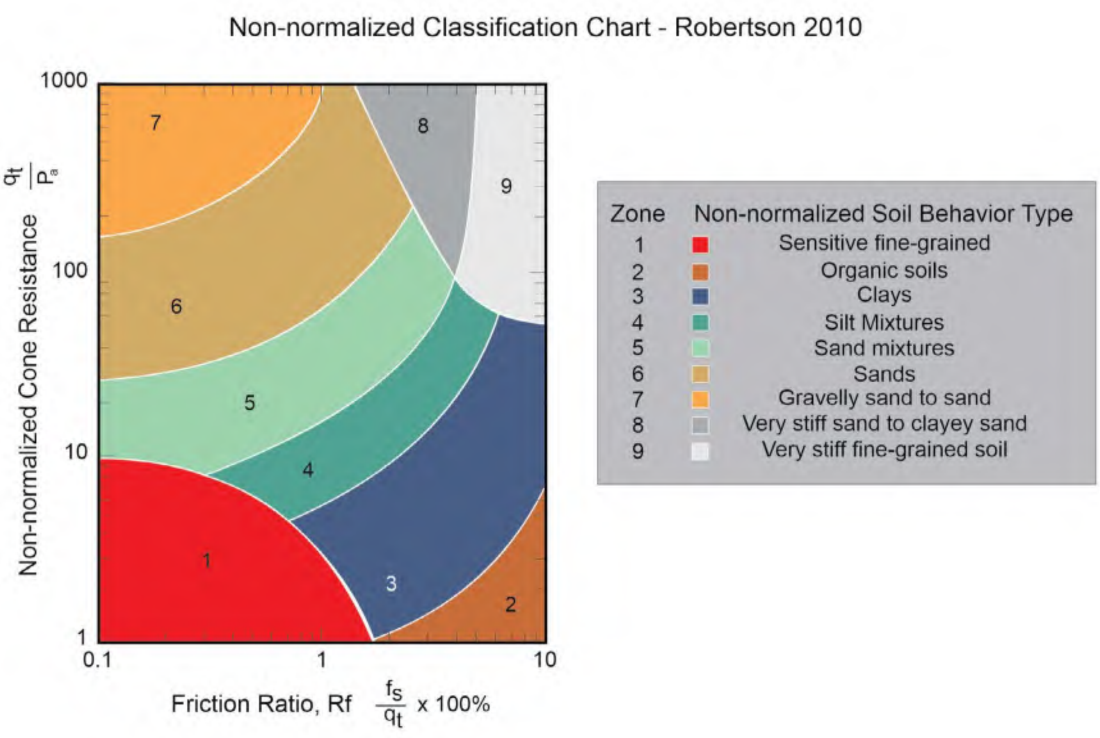

Figure SBT. Non-Normalized Soil Behavior Type Classification Chart (SBT)

The recorded tip resistance (q_c) is the total force acting on the piezocone tip divided by its base area. The tip resistance is corrected for pore pressure effects and termed corrected tip resistance (q_t) according to the following expression presented in Robertson et al. (1986):

$$q_t = q_c + (1\text{-}a) \cdot u_2$$

where: q_t is the corrected tip resistance
q_c is the recorded tip resistance
u_2 is the recorded dynamic pore pressure behind the tip (u_2 position)
a is the Net Area Ratio for the piezocone (0.8 for ConeTec probes)

The sleeve friction (f_s) is the frictional force on the sleeve divided by its surface area. As all ConeTec piezocones have equal end area friction sleeves, pore pressure corrections to the sleeve data are not required.

The dynamic pore pressure (u) is a measure of the pore pressures generated during cone penetration. To record equilibrium pore pressure, the penetration must be stopped to allow the dynamic pore pressures to stabilize. The rate at which this occurs is predominantly a function of the permeability of the soil and the diameter of the cone.

The friction ratio (Rf) is a calculated parameter. It is defined as the ratio of sleeve friction to the tip resistance expressed as a percentage. Generally, saturated cohesive soils have low tip resistance, high friction ratios and generate large excess pore water pressures. Cohesionless soils have higher tip resistances, lower friction ratios and do not generate significant excess pore water pressure.

For additional information on CPTu interpretations and calculated geotechnical parameters, refer to Robertson et al. (1986), Lunne et al. (1997), Robertson (2009), Mayne (2013, 2014) and Mayne and Peuchen (2012).

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PORE PRESSURE DISSIPATION TEST

The cone penetration test is halted at specific depths to carry out pore pressure dissipation (PPD) tests, shown in Figure PPD-1. For each dissipation test the cone and rods are decoupled from the rig and the data acquisition system measures and records the variation of the pore pressure (u) with time (t).

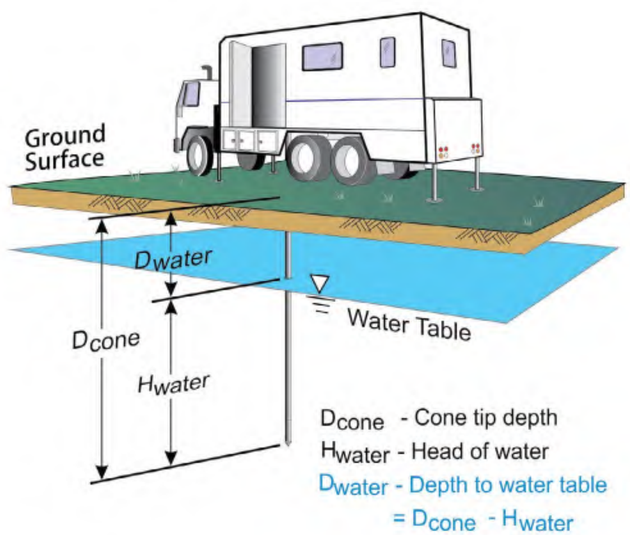

Figure PPD-1. Pore pressure dissipation test setup

Pore pressure dissipation data can be interpreted to provide estimates of ground water conditions, permeability, consolidation characteristics and soil behavior.

The typical shapes of dissipation curves shown in Figure PPD-2 are very useful in assessing soil type, drainage, in situ pore pressure and soil properties. A flat curve that stabilizes quickly is typical of a freely draining sand. Undrained soils such as clays will typically show positive excess pore pressure and have long dissipation times. Dilative soils will often exhibit dynamic pore pressures below equilibrium that then rise over time. Overconsolidated fine-grained soils will often exhibit an initial dilatory response where there is an initial rise in pore pressure before reaching a peak and dissipating.

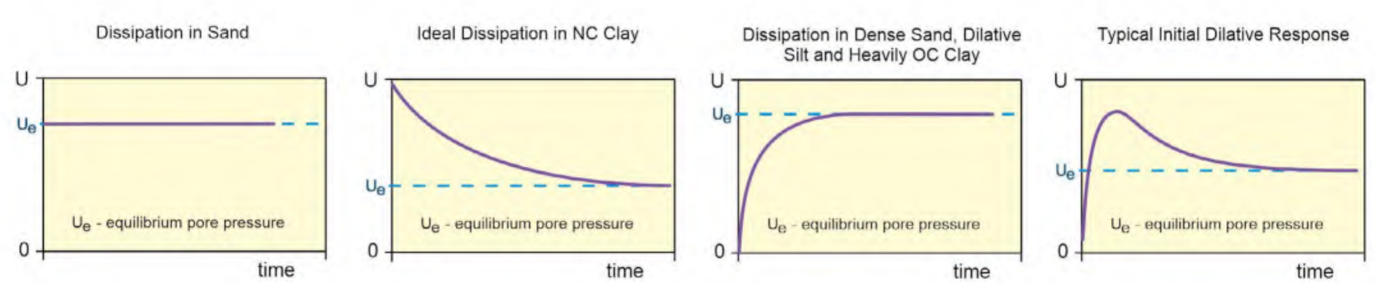

Figure PPD-2. Pore pressure dissipation curve examples

In order to interpret the equilibrium pore pressure (u_{eq}) and the apparent phreatic surface, the pore pressure should be monitored until such time as there is no variation in pore pressure with time as shown for each curve in Figure PPD-2.

SEISMIC CONE PENETRATION TEST (SCPTu) - eSeries

Shear wave velocity (Vs) testing is performed in conjunction with the piezocone penetration test (SCPTu) in order to collect interval velocities. For some projects seismic compression wave velocity (Vp) testing is also performed.

ConeTec's piezocone penetrometers are manufactured with one horizontally active geophone (28 hertz) and one vertically active geophone (28 hertz). Both geophones are rigidly mounted in the body of the cone penetrometer, 0.2 meters behind the cone tip. The vertically mounted geophone is more sensitive to compression waves.

Shear waves are typically generated by using an impact hammer horizontally striking a beam that is held in place by a normal load. In some instances, an auger source or an imbedded impulsive source may be used for both shear waves and compression waves. The hammer and beam act as a contact trigger that initiates the recording of the seismic wave traces. For impulsive devices an accelerometer trigger may be used. The traces are recorded in the memory of the cone using a fast analog to digital converter. The seismic trace is then transmitted digitally uphole to a Windows based computer through a signal interface box for recording and analysis. An illustration of the shear wave testing configuration is presented in Figure SCPTu-1.

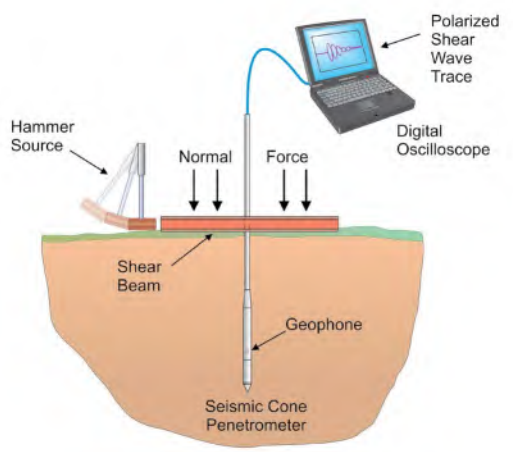

Figure SCPTu-1. Illustration of the SCPTu system

All testing is performed in accordance to ConeTec's SCPTu operating procedures which are in general accordance with the current ASTM D5778 and ASTM D7400 standards.

Prior to the start of a SCPTu sounding, the procedures described in the Cone Penetration Test section are followed. In addition, the active axis of the geophone is aligned parallel to the beam (or source) and the horizontal offset between the cone and the source is measured and recorded.

Prior to recording seismic waves at each test depth, cone penetration is stopped and the rods are decoupled from the rig to avoid transmission of rig energy down the rods. Typically, five wave traces for each orientation are recorded for quality control and uncertainty analysis purposes. After reviewing wave traces for consistency the cone is pushed to the next test depth (typically one meter intervals or as requested by the client). Figure SCPTu-2 presents an illustration of a SCPTu test.

For additional information on seismic cone penetration testing refer to Robertson et al. (1986).

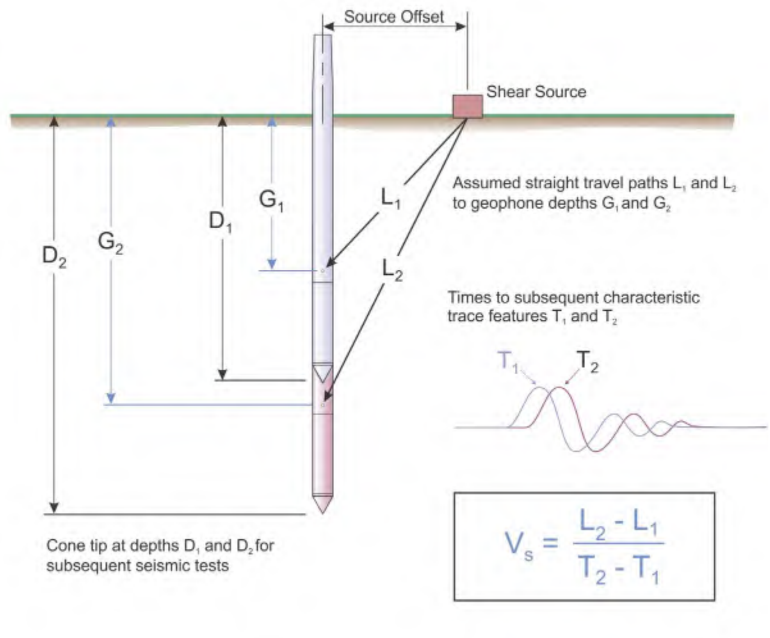

Figure SCPTu-2. Illustration of a seismic cone penetration test

For the determination of interval travel times the wave traces from all depths are displayed in analysis software. The results of the interval picks are supplied in the relevant appendix of this report. Standard practice for ConeTec is to record five wave traces for each source direction at each test depth. Outlier impacts are identified in the field and the impacts are repeated. For the final wave trace profile, the traces are stacked in the time domain to display a single average trace.

Calculation of the interval velocities are performed by visually picking a common feature (e.g. the first characteristic peak, trough, or crossover) on all of the recorded wave sets and taking the difference in ray path divided by the time difference between subsequent features. Ray path is defined as the straight line distance from the seismic source to the geophone, accounting for beam offset, source depth and geophone offset from the cone tip.

In some cases, usually for shear wave velocity testing, more than one characteristic marker may be used. If there is an overlap between different sets of characteristic markers, then the average time value for those sets of interval times is applied to the determination of velocity.

Ideally, all depths are used for the determination of the velocity profile. However, an interval may be skipped if there is some ambiguity or quality concern with a particular depth, resulting in a larger interval.

Tabular velocity results and SCPTu plots are presented in the relevant appendix.

For all SCPTu soundings that have achieved a depth of at least 100 feet (30 meters), the average shear wave velocity to a depth of 100 feet ($\overline{v}_S$) has been calculated and provided for all applicable soundings using the following equation presented in ASCE (2010).

$$\bar{v}_s = \frac{\sum_{i=1} d_i}{\sum_{i=1}^{n} \frac{d_i}{v_{si}}}$$

where: $\bar{v}_s$ = average shear wave velocity ft/s (m/s)
d_i = the thickness of any layer between 0 and 100 ft (30 m)
v_{si} = the shear wave velocity in ft/s (m/s)
$\sum_{i=1}^{n} d_i$ = the total thickness of all layers between 0 and 100 ft (30 m)

Average shear wave velocity, $\bar{v}_s$ is also referenced to $V_{S}100$ or $V_{S}30$.

The layer travel times refers to the travel times propagating in the vertical direction, not the measured travel times from an offset source.

REFERENCES

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CONE PENETRATION DIGITAL FILE FORMATS - eSeries

CPT Data Files (COR Extension)

ConeTec CPT data files are stored in ASCII text files that are readable by almost any text editor. ConeTec file names start with the job number (which includes the two digit year number) an underscore as a separating character, followed by two letters based on the type of test and the sounding ID. The last character position is reserved for an identifier letter (such as b, c, d etc) used to uniquely distinguish multiple soundings at the same location. The CPT sounding file has the extension COR. As an example, for job number 21-02-00001 the first CPT sounding will have file name 21-02-00001_CP01.COR

The sounding (COR) file consists of the following components:

1. Two lines of header information
2. Data records
3. End of data marker
4. Units information

Header Lines

Line 1: Columns 1-6 may be blank or may indicate the version number of the recording software
Columns 7-21 contain the sounding Date and Time (Date is MM:DD:YY)
Columns 23-38 contain the sounding Operator
Columns 51-100 contain extended Job Location information

Line 2: Columns 1-16 contain the Job Location
Columns 17-32 contain the Cone ID
Columns 33-47 contain the sounding number
Columns 51-100 may contain extended sounding ID information

Data Records

The data records contain 4 or more columns of data in floating point format. A comma and spaces separate each data item:

Column 1: Sounding Depth (meters)
Column 2: Tip (q_c), recorded in units selected by the operator
Column 3: Sleeve (f_s), recorded in units selected by the operator
Column 4: Dynamic pore pressure (u), recorded in units selected by the operator
Column 5: Empty or may contain other requested data such as Gamma, Resistivity or UVIF data

End of Data Marker

After the last line of data there is a line containing an ASCII 26 (CTL-Z) character (small rectangular shaped character) followed by a newline (carriage return / line feed). This is used to mark the end of data.

Units Information

The last section of the file contains information about the units that were selected for the sounding. A separator bar makes up the first line. The second line contains the type of units used for depth, q_c, f_s and u. The third line contains the conversion values required for ConeTec's software to convert the recorded data to an internal set of base units (bar for q_c, bar for f_s and meters for u). Additional lines intended for internal ConeTec use may appear following the conversion values.

CPT Data Files (XLS Extension)

Excel format files of ConeTec CPT data are also generated from corresponding COR files. The XLS files have the same base file name as the COR file with a -BSC suffix. The information in the file is presented in table format and contains additional information about the sounding such as coordinate information, and tip net area ratio.

The BSCI suffix is given to XLS files which are enhanced versions of the BSC files and include the same data records in addition to inclination data collected for each sounding.

CPT Dissipation Files (XLS Extension)

Pore pressure dissipation files are provided in Excel format and contain each dissipation trace that exceeds a minimum duration (selected during post-processing) formatted column wise within the spreadsheet. The first column (Column A) contains the time in seconds and the second column (Column B) contains the time in minutes. Subsequent columns contain the dissipation trace data. The columns extend to the longest trace of the data set.

Detailed header information is provided at the top of the worksheet. The test depth in meters and feet, the number of points in the trace and the particular units are all presented at the top of each trace column.

CPT Dissipation files have the same naming convention as the CPT sounding files with a "–PPD" suffix.

Data Records

Each file will contain dissipation traces that exceed a minimum duration (selected during post-processing) in a particular column. The dissipation pore pressure values are typically recorded at varying time intervals throughout the trace; rapidly to start and increasing as the duration of the test lengthens. The test depth in meters and feet, the number of points in the trace and the trace number are identified at the top of each trace column.

Cone Type Designations

Cone ID	Cone Description	Tip Cross Sect. Area (cm^2)	Tip Capacity (bar)	Sleeve Area (cm^2)**	Sleeve Capacity (bar)	Pore Pressure Capacity (bar)
EC###	A15T1500F15U35	15	1500	225	15	35
EC###	A15T375F10U35	15	375	225	10	35
EC###	A10T1000F10U35	10	1000	150	10	35

refers to the Cone ID number
**Outer Cylindrical Area

APPENDICES

The appendices listed below are included in the Report:

- Cone Penetration Test Summary and Standard Cone Penetration Test Plots
- Advanced Cone Penetration Test Plots
- Seismic Cone Penetration Test Plots
- Seismic Cone Penetration Test Shear Wave (Vs) Traces
- Seismic Cone Penetration Test Shear Wave (Vs) Results
- Seismic Cone Penetration Test Compression Wave (Vp) Traces
- Seismic Cone Penetration Test Compression Wave (Vp) Results
- Seismic Cone Penetration Test Poisson's Ratio Results
- Soil Behavior Type (SBT) Scatter Plots
- Pore Pressure Dissipation Summary and Pore Pressure Dissipation Plots

Cone Penetration Test Summary and Standard Cone Penetration Test Plots

CONETEC

Job No: 23-53-26729
Client: CME Associates
Project: Proposed Micron Plant, Clay, NY
Start Date: 23-Oct-2023
End Date: 28-Oct-2023

CONE PENETRATION TEST SUMMARY

Sounding ID	File Name	Date	Rig	Cone	Cone Area (cm^2)	Assumed Phreatic Surface[1] (ft)	Final Depth (ft)	Shear Wave Velocity Tests	Compression Wave Velocity Tests	Northing[2] (m)	Easting[2] (m)	Refer to Notation Number
CPT23-B-004	23-53-26729_CPB-004	25-Oct-2023	TC-7	604:T1500F15U35	15	7.7	24.03			4783255	405402	3
CPT23-B-006	23-53-26729_CPB-006	25-Oct-2023	TC-7	604:T1500F15U35	15	7.1	23.38			4783259	405526	3
CPT23-B-008	23-53-26729_CPB-008	25-Oct-2023	TC-7	604:T1500F15U35	15	7.3	23.87			4783184	405225	3
CPT23-B-014	23-53-26729_CPB-014	25-Oct-2023	TC-7	604:T1500F15U35	15	7.1	21.90			4783216	405656	3
CPT23-B-016	23-53-26729_CPB-016	25-Oct-2023	TC-7	604:T1500F15U35	15	6.6	21.49			4783123	405290	3
CPT23-B-021	23-53-26729_CPB-021	25-Oct-2023	TC-7	604:T1500F15U35	15	5.2	21.57			4783063	405235	3
CPT23-B-022	23-53-26729_CPB-022	25-Oct-2023	TC-7	604:T1500F15U35	15	6.5	19.03			4783076	405537	3
CPT23-B-060	23-53-26729_CPB-060	24-Oct-2023	TC-7	604:T1500F15U35	15		15.91			4782561	405685	5
CPT23-B-064	23-53-26729_CPB-064	23-Oct-2023	TC-7	604:T1500F15U35	15		5.66			4782566	405331	5
CPT23-B-064A	23-53-26729_CPB-064A	23-Oct-2023	TC-7	604:T1500F15U35	15		5.66			4782574	405430	5
CPT23-B-066	23-53-26729_CPB-066	23-Oct-2023	TC-7	604:T1500F15U35	15		5.25			4782577	405304	5
CPT23-B-066A	23-53-26729_CPB-066A	23-Oct-2023	TC-7	604:T1500F15U35	15		5.41			4782578	405304	5
CPT23-B-070	23-53-26729_CPB-070	24-Oct-2023	TC-7	604:T1500F15U35	15	5.7	11.07			4782528	405678	3
CPT23-B-073	23-53-26729_CPB-073	23-Oct-2023	TC-7	604:T1500F15U35	15		9.10			4782536	405496	5
CPT23-B-074	23-53-26729_CPB-074	23-Oct-2023	TC-7	604:T1500F15U35	15		1.64			4782535	405441	5
CPT23-B-074A	23-53-26729_CPB-074A	23-Oct-2023	TC-7	604:T1500F15U35	15		5.09			4782536	405438	5
CPT23-B-075	23-53-26729_CPB-075	23-Oct-2023	TC-7	604:T1500F15U35	15		6.15			4782534	405362	5
CPT23-B-076	23-53-26729_CPB-076	23-Oct-2023	TC-7	604:T1500F15U35	15		5.91			4782537	405311	5
CPT23-B-077	23-53-26729_CPB-077	23-Oct-2023	TC-7	604:T1500F15U35	15		8.37			4782533	405264	5
CPT23-B-078	23-53-26729_CPB-078	25-Oct-2023	TC-7	604:T1500F15U35	15		8.37			4782533	405733	5
CPT23-B-080	23-53-26729_CPB-080	24-Oct-2023	TC-7	604:T1500F15U35	15	9.4	15.34			4782485	405681	3
CPT23-B-084	23-53-26729_CPB-084	23-Oct-2023	TC-7	604:T1500F15U35	15		6.23			4782502	405427	5
CPT23-B-086	23-53-26729_CPB-086	23-Oct-2023	TC-7	604:T1500F15U35	15		6.56			4782506	405306	5
CPT23-B-092	23-53-26729_CPB-092	23-Oct-2023	TC-7	604:T1500F15U35	15		12.06			4782439	405546	5
CPT23-B-093	23-53-26729_CPB-093	23-Oct-2023	TC-7	604:T1500F15U35	15		8.53			4782440	405488	5
CPT23-B-095	23-53-26729_CPB-095	24-Oct-2023	TC-7	604:T1500F15U35	15		6.07			4782440	405366	5
CPT23-B-097	23-53-26729_CPB-097	23-Oct-2023	TC-7	604:T1500F15U35	15		10.01			4782444	405240	5
CPT23-B-098	23-53-26729_CPB-098	25-Oct-2023	TC-7	604:T1500F15U35	15		11.32			4782436	405738	5
CPT23-B-102	23-53-26729_CPB-102	24-Oct-2023	TC-7	604:T1500F15U35	15		9.68			4782407	405552	5
CPT23-B-104	23-53-26729_CPB-104	24-Oct-2023	TC-7	604:T1500F15U35	15		4.43			4782390	405424	5
CPT23-B-106	23-53-26729_CPB-106	24-Oct-2023	TC-7	604:T1500F15U35	15		7.38			4782406	405306	5

Job No: 23-53-26729
Client: CME Associates
Project: Proposed Micron Plant, Clay, NY
Start Date: 23-Oct-2023
End Date: 28-Oct-2023

CONE PENETRATION TEST SUMMARY

Sounding ID	File Name	Date	Rig	Cone	Cone Area (cm^2)	Assumed Phreatic Surface[1] (ft)	Final Depth (ft)	Shear Wave Velocity Tests	Compression Wave Velocity Tests	Northing[2] (m)	Easting[2] (m)	Refer to Notation Number
CPT23-B-107	23-53-26729_CPB-107	25-Oct-2023	TC-7	604:T1500F15U35	15	9.8	17.72			4782397	405742	3
CPT23-B-112	23-53-26729_CPB-112	24-Oct-2023	TC-7	604:T1500F15U35	15	8.4	9.35			4782363	405534	3
CPT23-B-113	23-53-26729_CPB-113	24-Oct-2023	TC-7	604:T1500F15U35	15	8.4	10.01			4782359	405498	4
CPT23-B-115	23-53-26729_CPB-115	24-Oct-2023	TC-7	604:T1500F15U35	15		6.64			4782356	405372	5
CPT23-B-120	23-53-26729_CPB-120	24-Oct-2023	TC-7	604:T1500F15U35	15		8.45			4782336	405417	5
CPT23-B-208	23-53-26729_CPB-208	27-Oct-2023	TC-7	606:T1500F15U35	15		21.90			4782904	406684	5
CPT23-B-221	23-53-26729_CPB-221	27-Oct-2023	TC-7	606:T1500F15U35	15		15.17			4783038	406405	5
CPT23-B-222	23-53-26729_CPB-222	27-Oct-2023	TC-7	606:T1500F15U35	15		17.55			4783002	406458	5
CPT23-B-225	23-53-26729_CPB-225	27-Oct-2023	TC-7	606:T1500F15U35	15		23.95			4782889	406600	5
SCPT23-B-228	23-53-26729_SPB-228	27-Oct-2023	TC-7	606:T1500F15U35	15	5.2	5.00			4782803	406617	3
SCPT23-B-228A	23-53-26729_SPB-228A	27-Oct-2023	TC-7	606:T1500F15U35	15	5.2	23.62	3	3	4782805	406616	3
CPT23-B-237	23-53-26729_CPB-237	27-Oct-2023	TC-7	606:T1500F15U35	15	9.4	16.57			4782977	406285	3
CPT23-B-238	23-53-26729_CPB-238	27-Oct-2023	TC-7	606:T1500F15U35	15	10.2	18.70			4782942	406333	3
CPT23-B-243	23-53-26729_CPB-243	26-Oct-2023	TC-7	604:T1500F15U35	15	7.6	11.89			4782901	406077	3
CPT23-B-244	23-53-26729_CPB-244	26-Oct-2023	TC-7	604:T1500F15U35	15		21.24			4782940	406022	5
CPT23-B-246	23-53-26729_CPB-246	26-Oct-2023	TC-7	606:T1500F15U35	15		12.71			4782950	405893	5
CPT23-B-252	23-53-26729_CPB-252	26-Oct-2023	TC-7	606:T1500F15U35	15	4.7	23.87			4783005	405730	3
CPT23-B-261	23-53-26729_CPB-261	26-Oct-2023	TC-7	606:T1500F15U35	15		22.72			4783025	405815	5
CPT23-B-262	23-53-26729_CPB-262	26-Oct-2023	TC-7	606:T1500F15U35	15	8.9	21.98			4782994	405928	3
CPT23-B-270	23-53-26729_CPB-270	26-Oct-2023	TC-7	606:T1500F15U35	15		17.72			4783073	405910	5
CPT23-B-280	23-53-26729_CPB-280	26-Oct-2023	TC-7	606:T1500F15U35	15		18.29			4783111	405890	5
CPT23-B-282	23-53-26729_CPB-282	26-Oct-2023	TC-7	606:T1500F15U35	15		20.59			4783220	405930	5
SCPT23-B-293	23-53-26729_SPB-293	27-Oct-2023	TC-7	606:T1500F15U35	15	3.4	15.99	3	3	4783206	406149	3
CPT23-B-312	23-53-26729_CPB-312	26-Oct-2023	TC-7	604:T1500F15U35	15	5.9	26.82			4782765	406355	3
CPT23-B-325	23-53-26729_CPB-325	28-Oct-2023	TC-7	606:T1500F15U35	15		20.67			4782627	406459	5
CPT23-B-327	23-53-26729_CPB-327	28-Oct-2023	TC-7	606:T1500F15U35	15	2.8	22.39			4782553	406579	3
CPT23-B-329	23-53-26729_CPB-329	28-Oct-2023	TC-7	606:T1500F15U35	15	8.4	24.77			4782556	406475	3
CPT23-B-330	23-53-26729_CPB-330	28-Oct-2023	TC-7	606:T1500F15U35	15	8.2	23.62			4782560	406351	3
SCPT23-B-332	23-53-26729_SPB-332	28-Oct-2023	TC-7	606:T1500F15U35	15	5.2	15.91	3	3	4782558	406102	3
CPT23-B-345	23-53-26729_CPB-345	27-Oct-2023	TC-7	606:T1500F15U35	15		14.76			4782374	406153	5
CPT23-B-351	23-53-26729_CPB-351	27-Oct-2023	TC-7	606:T1500F15U35	15	9.5	21.41			4782409	406505	3

Job No: 23-53-26729
Client: CME Associates
Project: Proposed Micron Plant, Clay, NY
Start Date: 23-Oct-2023
End Date: 28-Oct-2023

CONE PENETRATION TEST SUMMARY

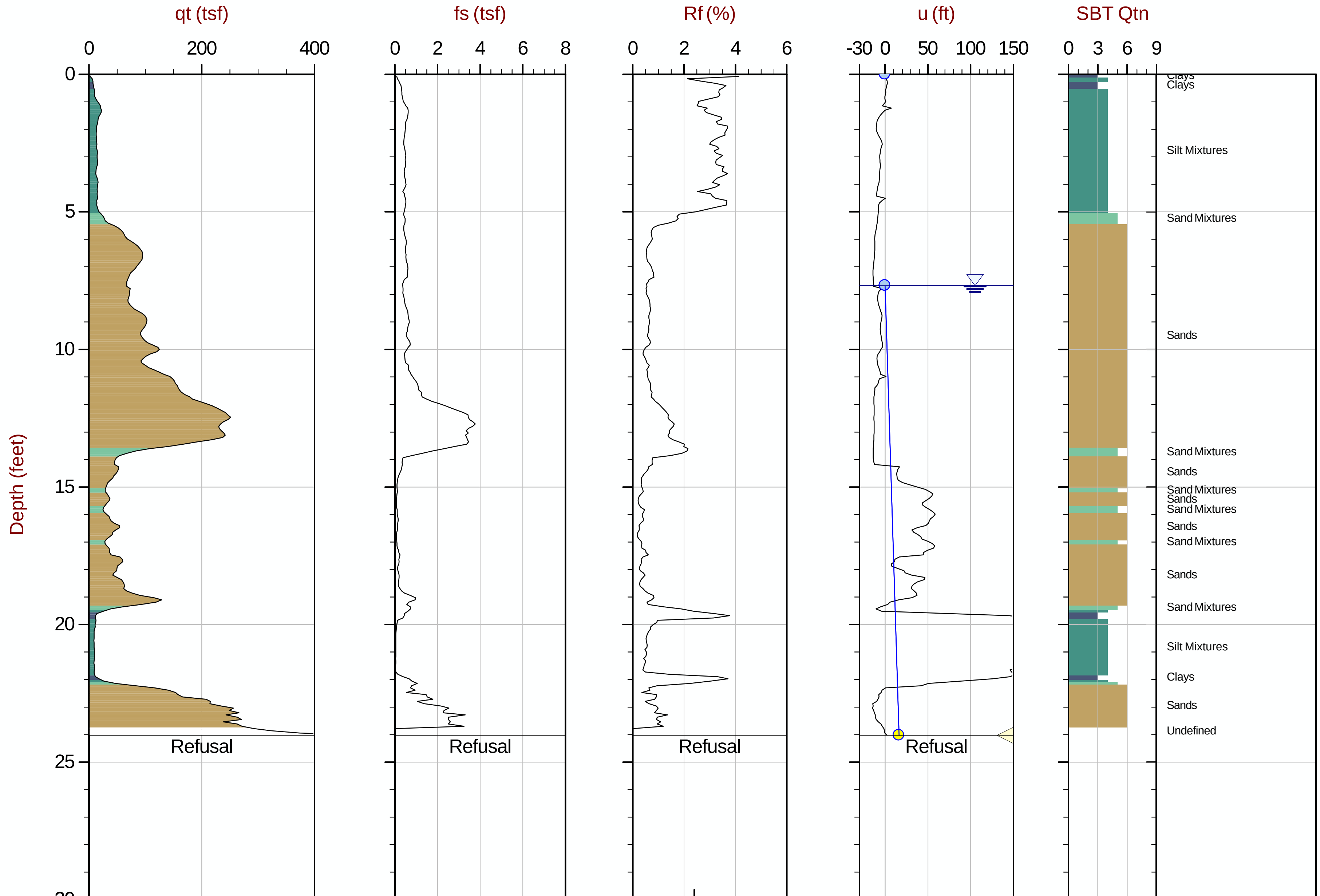
Sounding ID	File Name	Date	Rig	Cone	Cone Area (cm^2)	Assumed Phreatic Surface[1] (ft)	Final Depth (ft)	Shear Wave Velocity Tests	Compression Wave Velocity Tests	Northing[2] (m)	Easting[2] (m)	Refer to Notation Number
CPT23-B-360	23-53-26729_CPB-360	28-Oct-2023	TC-7	606:T1500F15U35	15		16.57			4782560	405998	5
CPT23-B-362	23-53-26729_CPB-362	28-Oct-2023	TC-7	606:T1500F15U35	15		18.21			4782651	405887	5
CPT23-B-365	23-53-26729_CPB-365	28-Oct-2023	TC-7	606:T1500F15U35	15		2.63			4782724	405704	5
CPT23-B-365A	23-53-26729_CPB-365A	28-Oct-2023	TC-7	606:T1500F15U35	15		6.32			4782716	405705	5
CPT23-B-371	23-53-26729_CPB-371	28-Oct-2023	TC-7	606:T1500F15U35	15	3.2	16.49			4782809	405685	3
CPT23-B-372	23-53-26729_CPB-372	28-Oct-2023	TC-7	606:T1500F15U35	15	4.4	17.39			4782756	405814	3
CPT23-B-381	23-53-26729_CPB-381	28-Oct-2023	TC-7	606:T1500F15U35	15	8.4	20.26			4782851	405725	3
CPT23-B-383	23-53-26729_CPB-383	28-Oct-2023	TC-7	606:T1500F15U35	15	8.6	22.88			4782758	405878	3
Totals	70 Soundings						1019.18 ft	9 Tests				

1. The assumed phreatic surface was based off the shallowest pore pressure dissipation test performed within the sounding. Hydrostatic conditions were assumed for the calculated parameters.
2. The coordinates were collected using a handheld Garmin GPS MAP 64s receiver. EPSG number: 32618 (WGS84 / UTM Zone 18 North).
3. The assumed phreatic surface was based off the dynamic pore pressure data.
4. The assumed phreatic surface was based off an adjacent CPT sounding.
5. No phreatic surface detected.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 12:03
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-004
Cone: 604:T1500F15U35



Max Depth: 7.325 m / 24.03 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point
File: 23-53-26729_CPB-004.COR
Unit Wt: SBTQtn (PKR2009)
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783255m E: 405402m

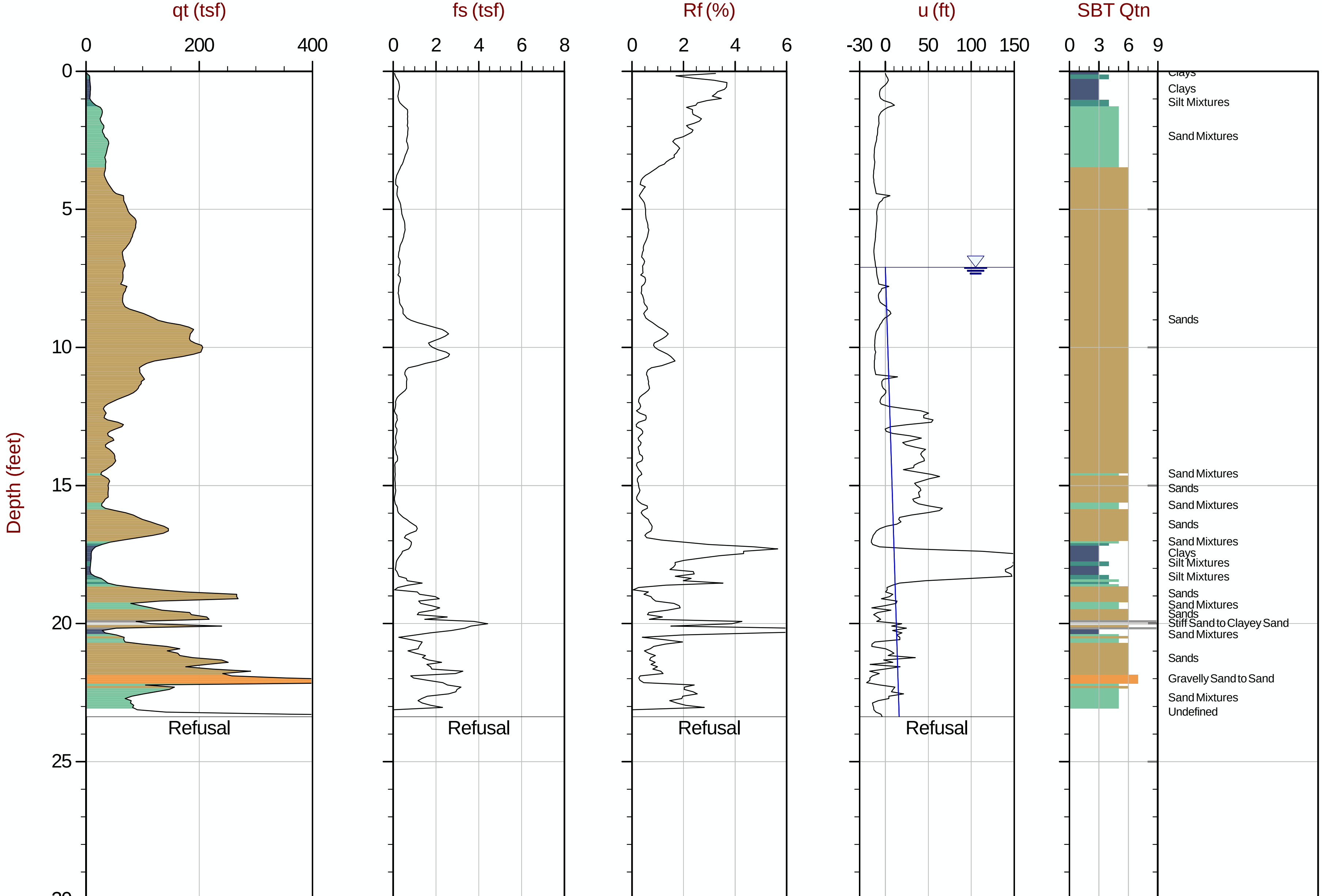
Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 12:43
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-006
Cone: 604:T1500F15U35



Max Depth: 7.125 m / 23.38 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-006.COR
Unit Wt: SBTQtn (PKR2009)

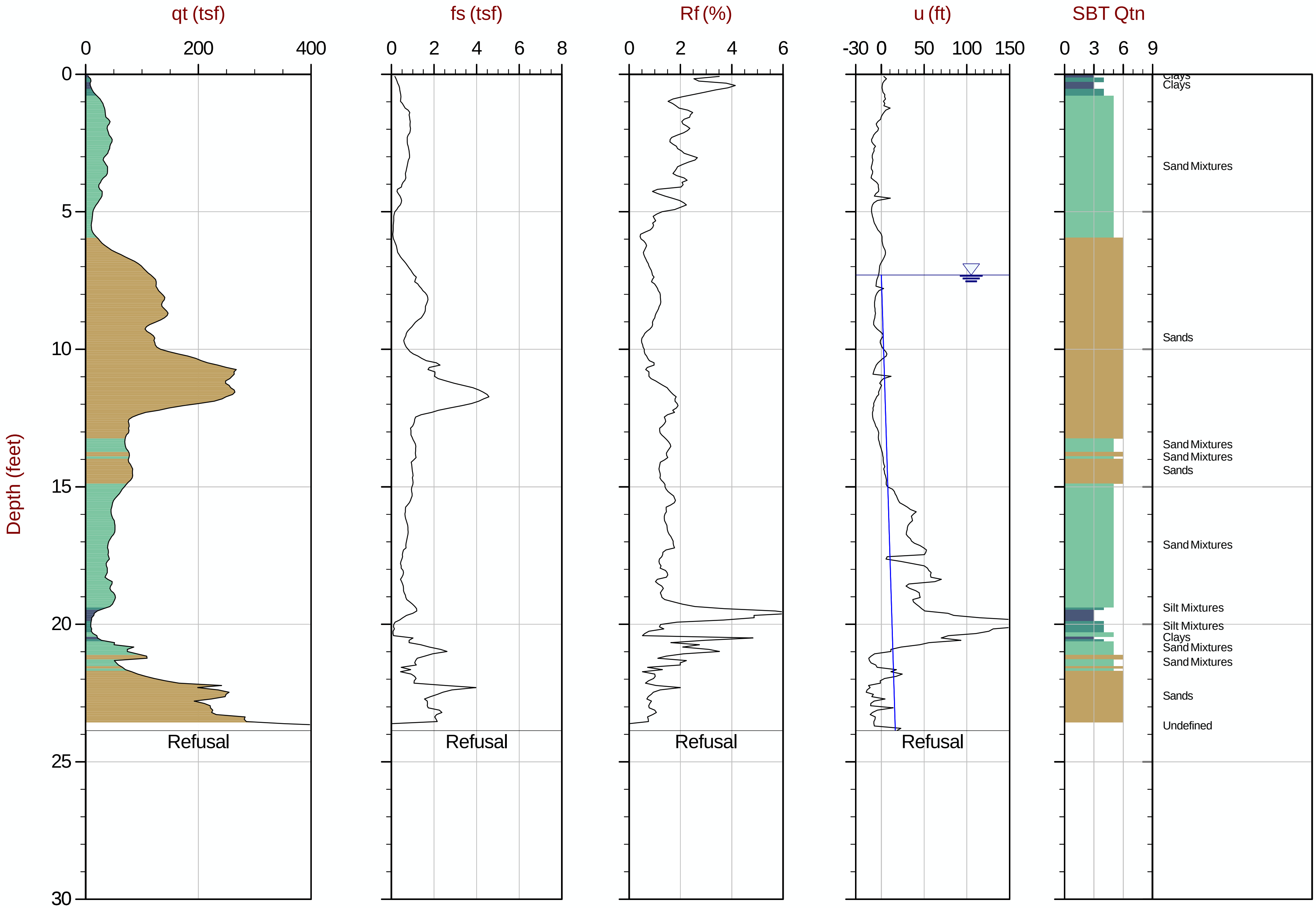
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783259m E: 405526m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 10:45
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-008
Cone: 604:T1500F15U35



Max Depth: 7.275 m / 23.87 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-008.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783184m E: 405225m

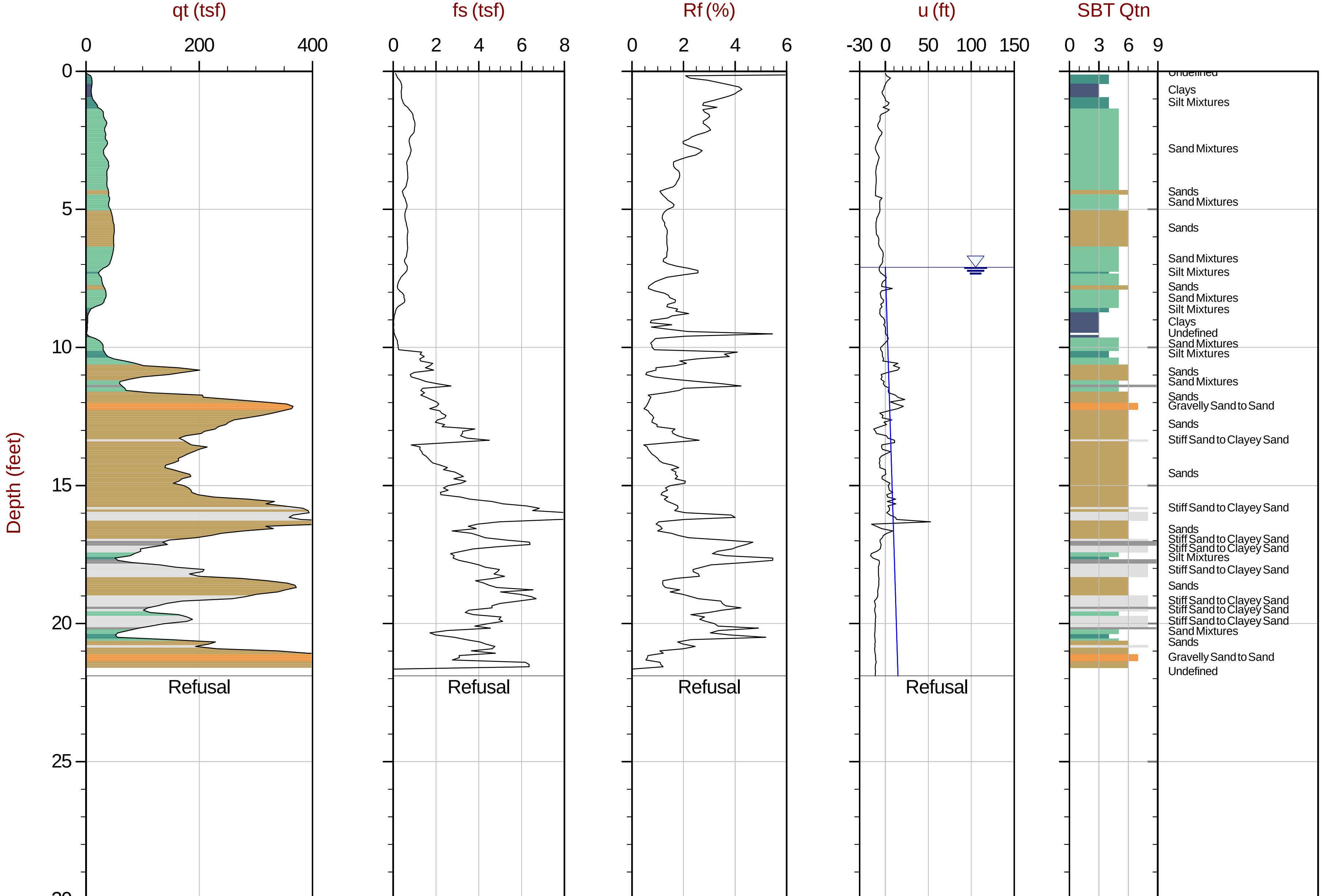
Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 15:20
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-014
Cone: 604:T1500F15U35



Max Depth: 6.675 m / 21.90 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-014.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783216m E: 405656m

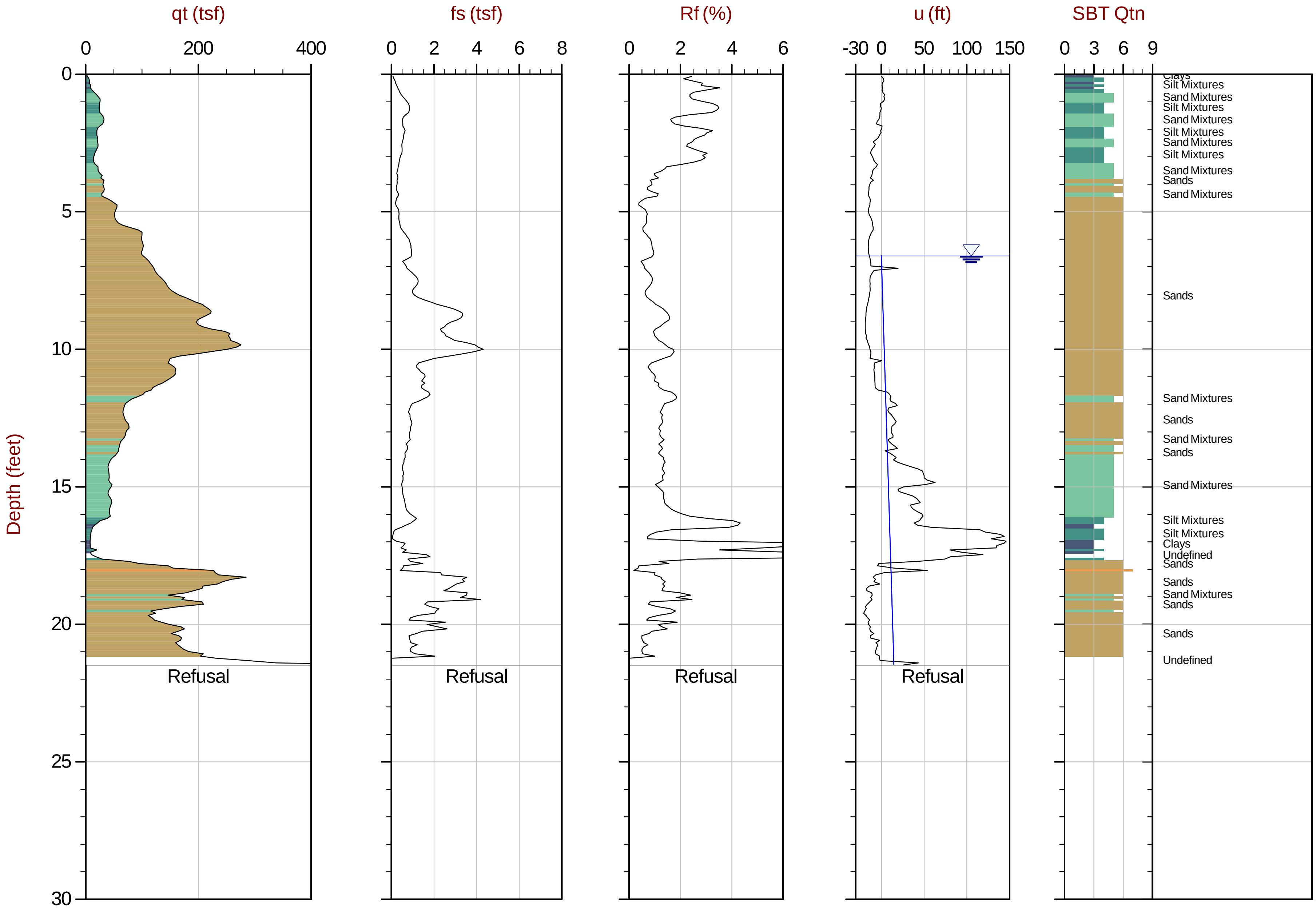
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 11:24
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-016
Cone: 604:T1500F15U35



Max Depth: 6.550 m / 21.49 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-016.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783123m E: 405290m

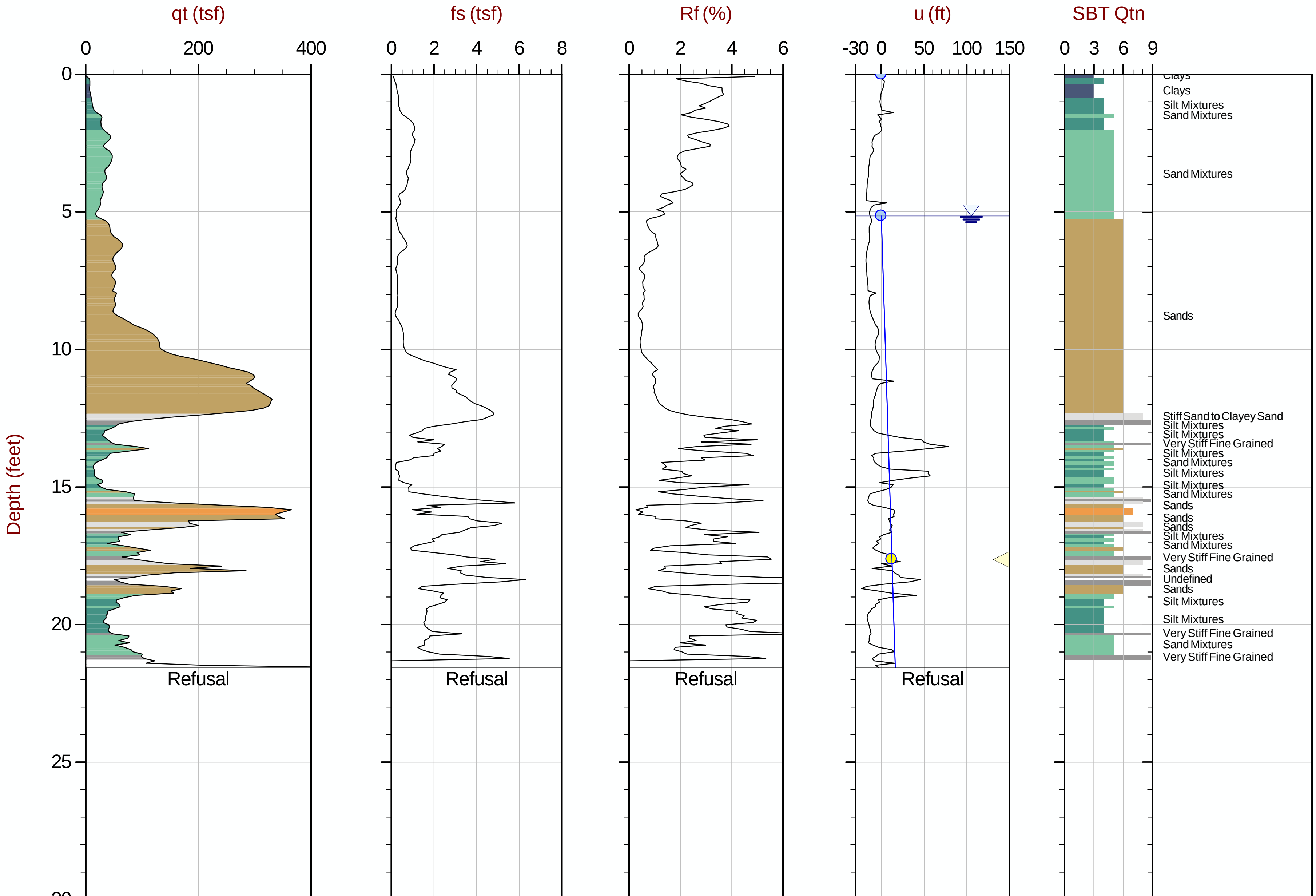
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 09:58
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-021
Cone: 604:T1500F15U35



Max Depth: 6.575 m / 21.57 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-021.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783063m E: 405235m

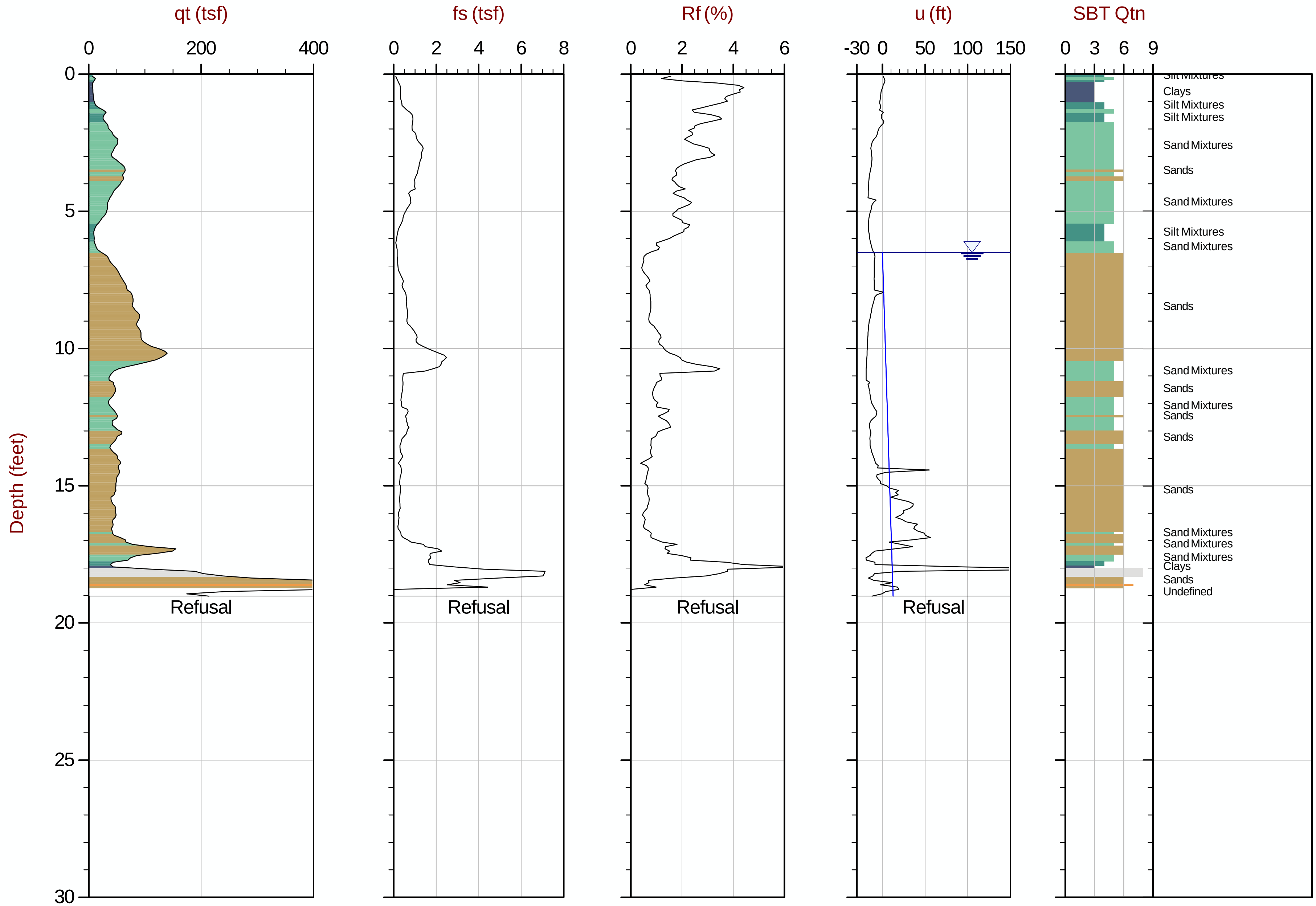
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 14:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-022
Cone: 604:T1500F15U35



Max Depth: 5.800 m / 19.03 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-022.COR
Unit Wt: SBTQtn (PKR2009)

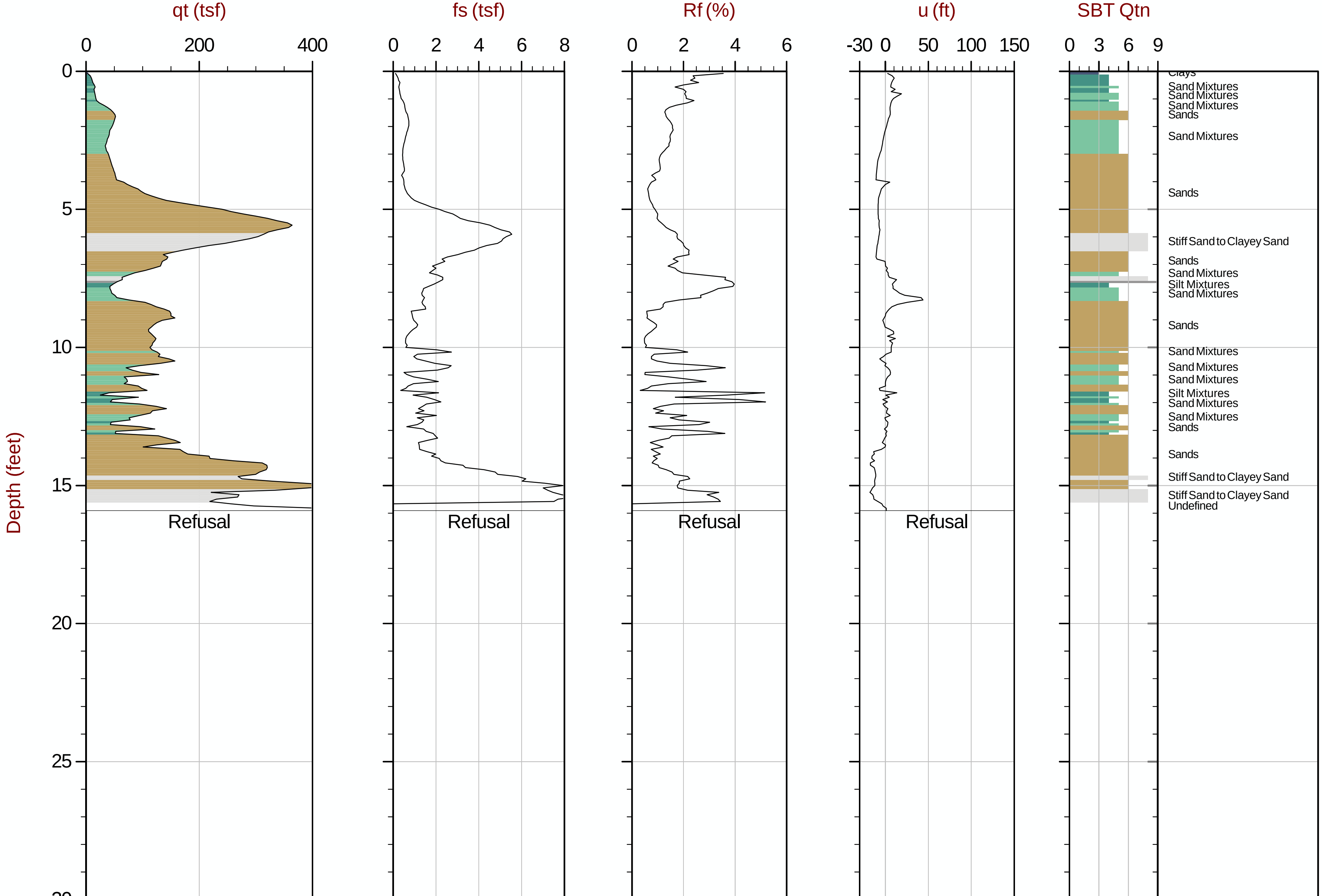
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783076m E: 405537m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 13:10
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-060
Cone: 604:T1500F15U35



Max Depth: 4.850 m / 15.91 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-060.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782561m E: 405685m

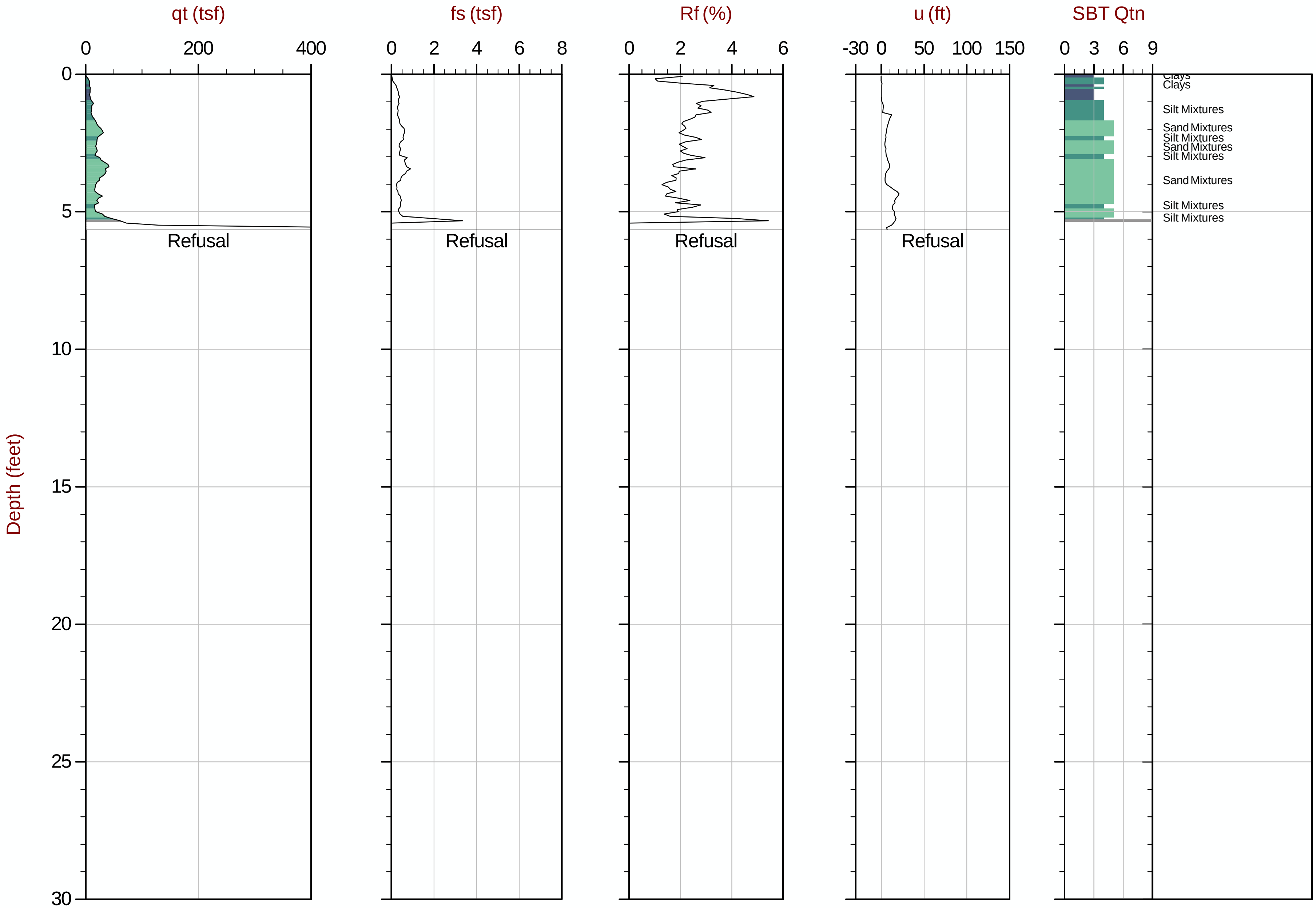
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:05
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-064
Cone: 604:T1500F15U35



Max Depth: 1.725 m / 5.66 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-064.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782566m E: 405331m

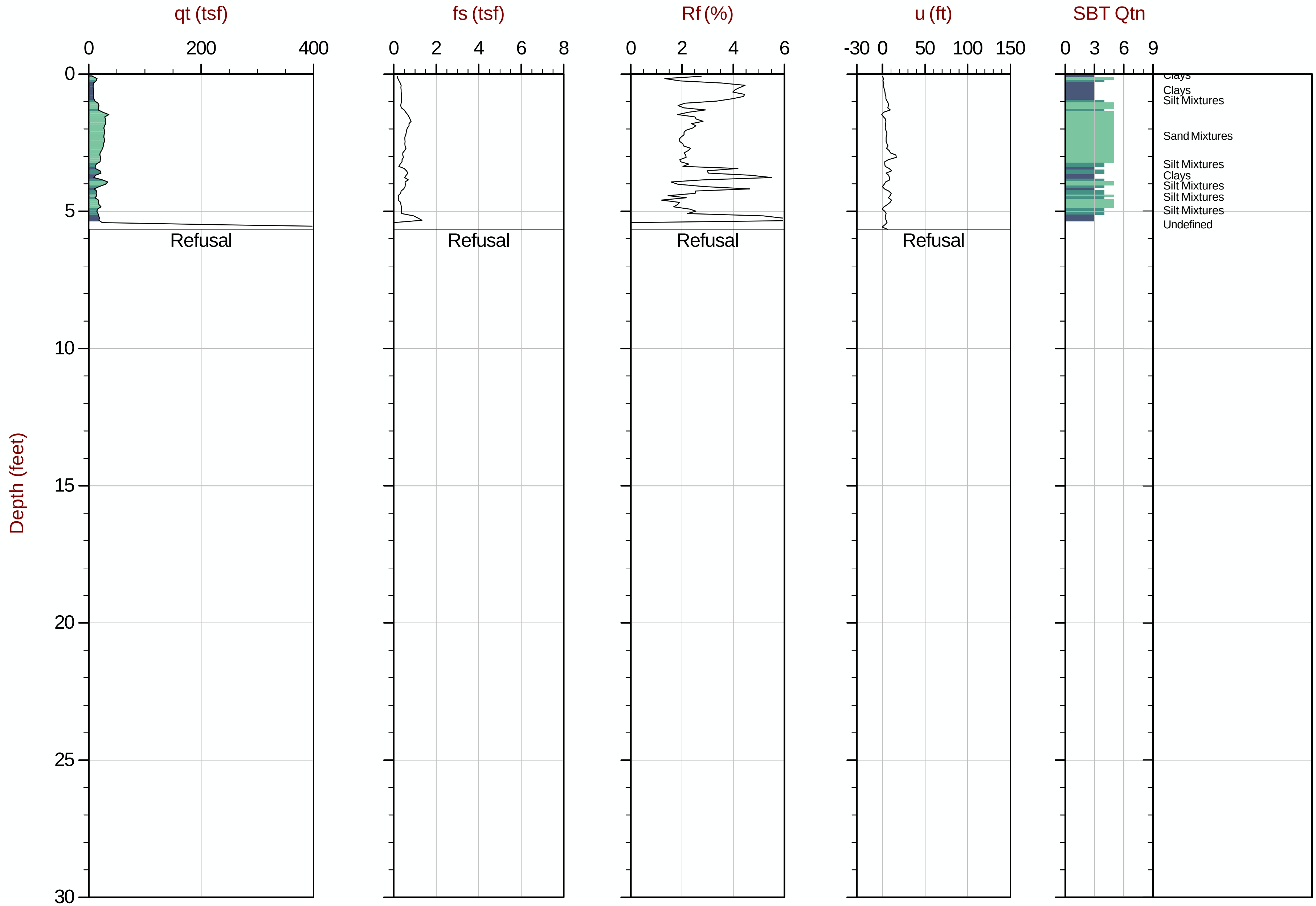
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:29
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-064A
Cone: 604:T1500F15U35



Max Depth: 1.725 m / 5.66 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-064A.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782574m E: 405430m

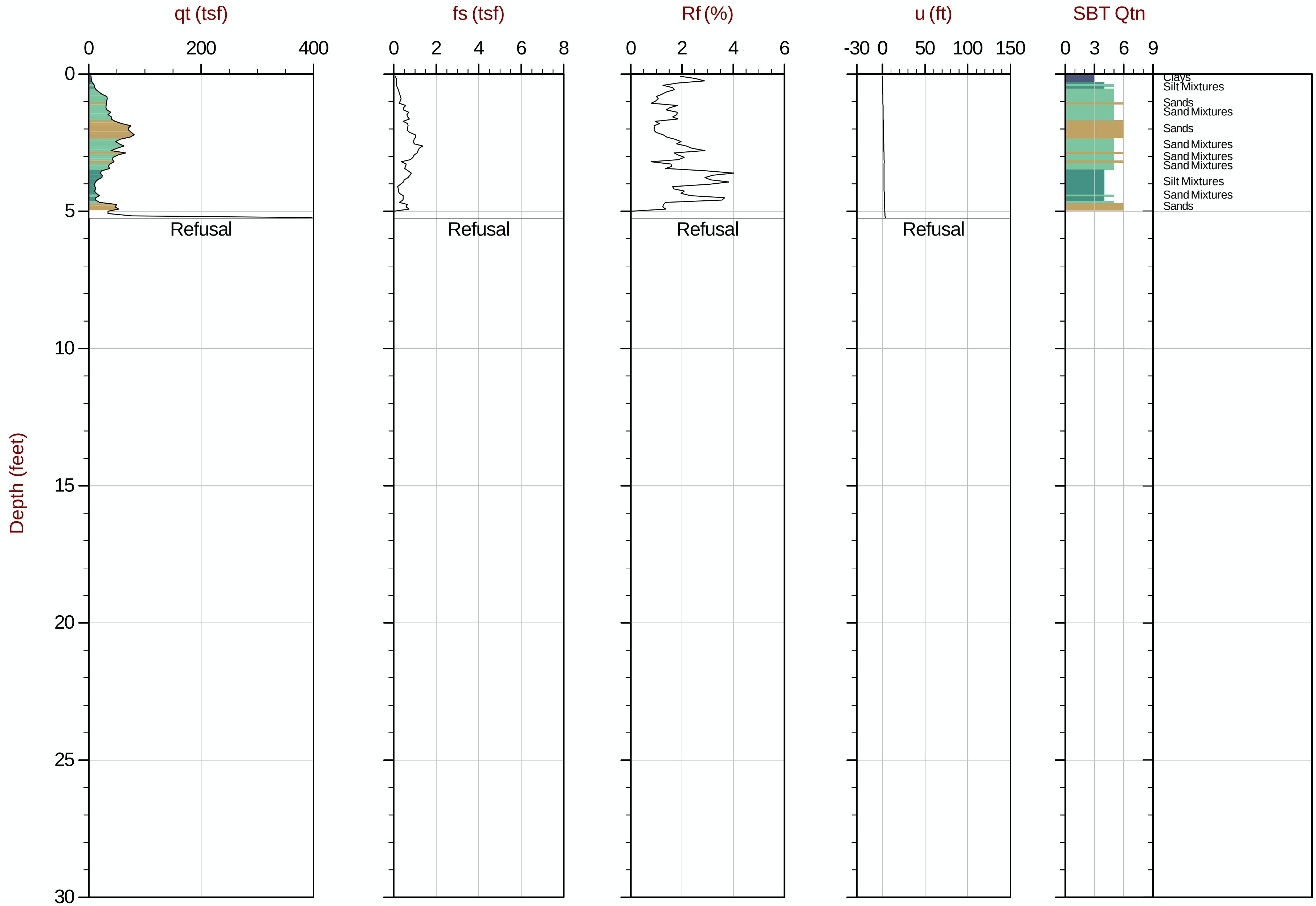
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 07:02
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-066
Cone: 604:T1500F15U35



Max Depth: 1.600 m / 5.25 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-066.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782577m E: 405304m

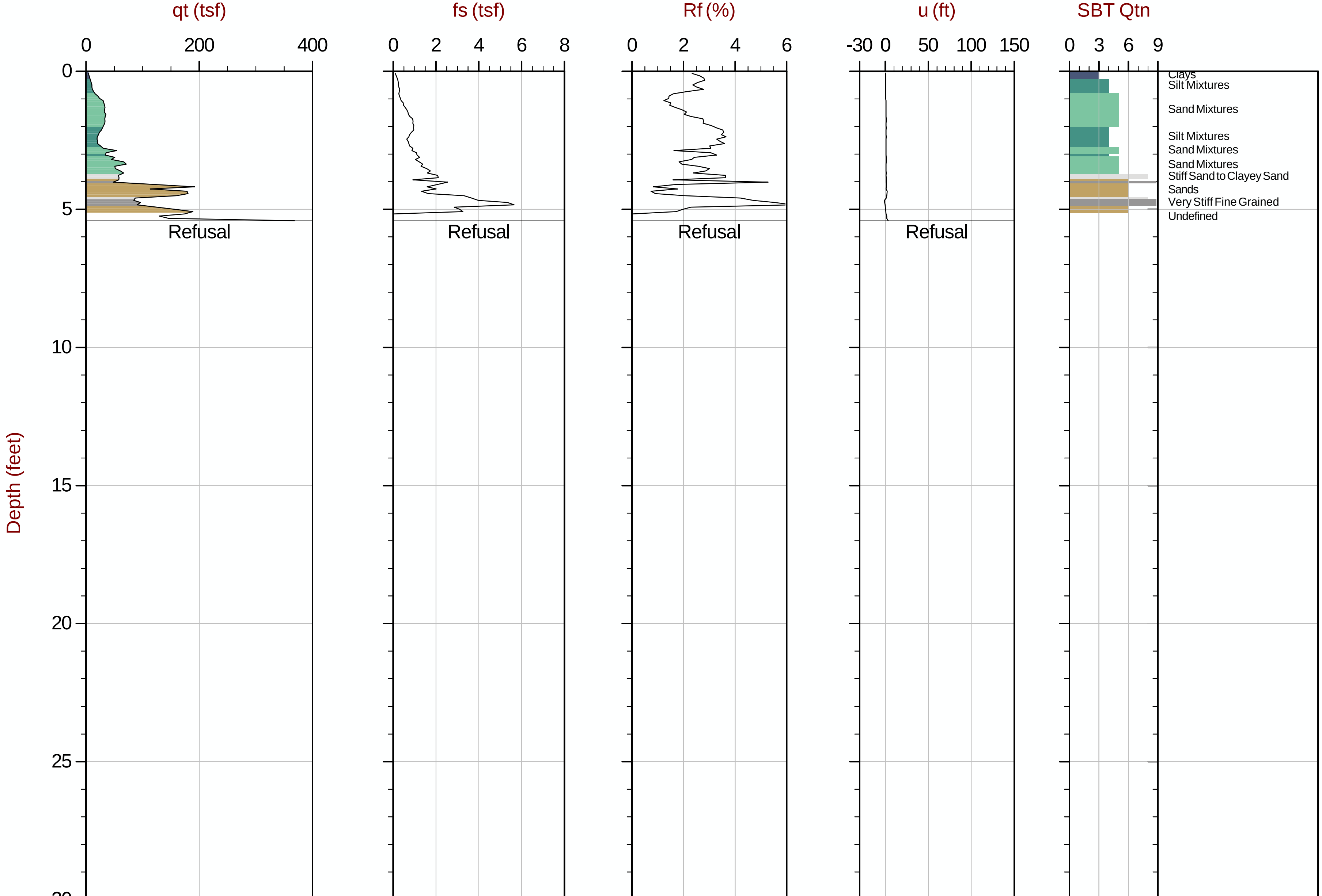
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 08:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-066A
Cone: 604:T1500F15U35



Max Depth: 1.650 m / 5.41 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-066A.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782578m E: 405304m

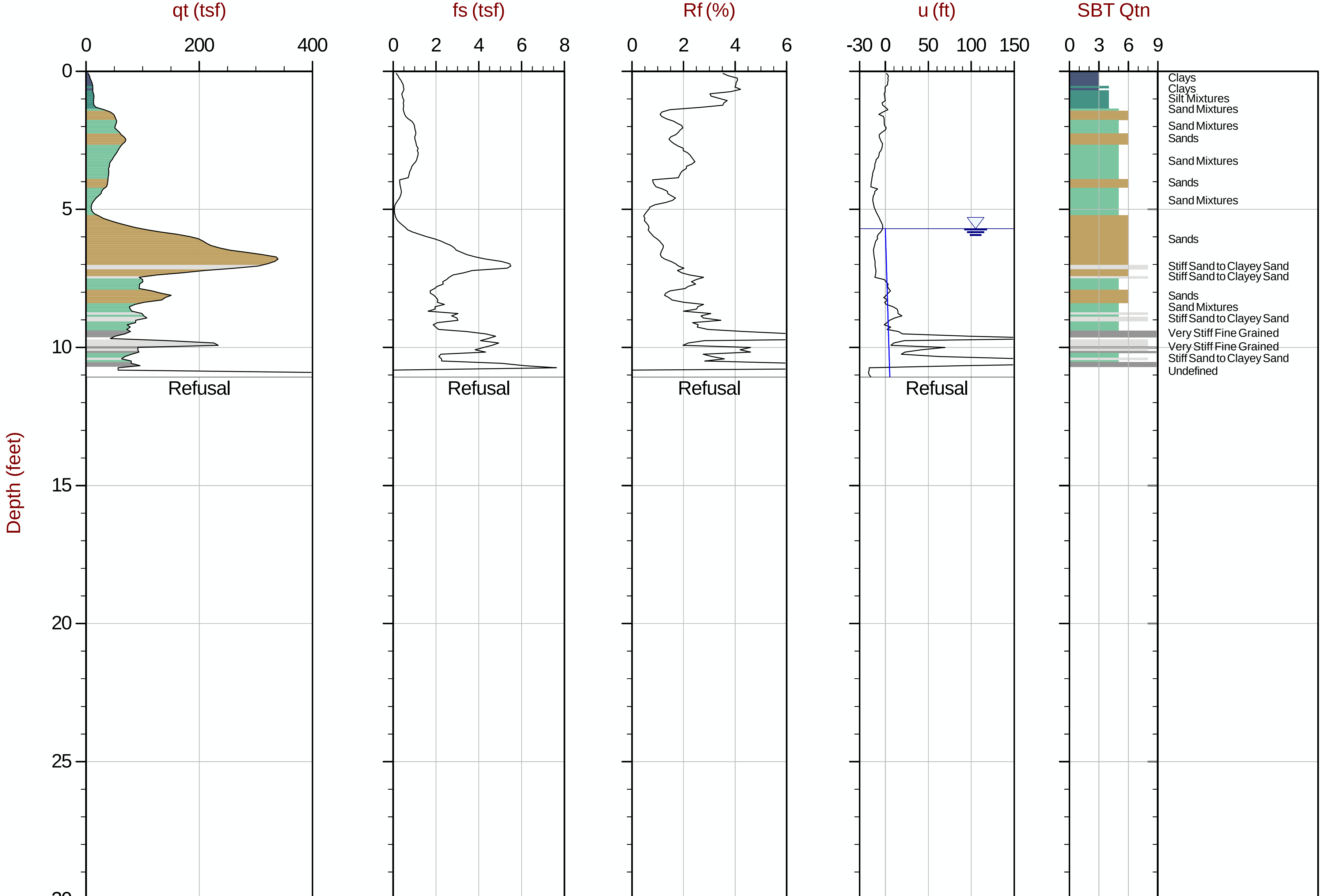
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 13:47
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-070
Cone: 604:T1500F15U35



Max Depth: 3.375 m / 11.07 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-070.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782528m E: 405678m

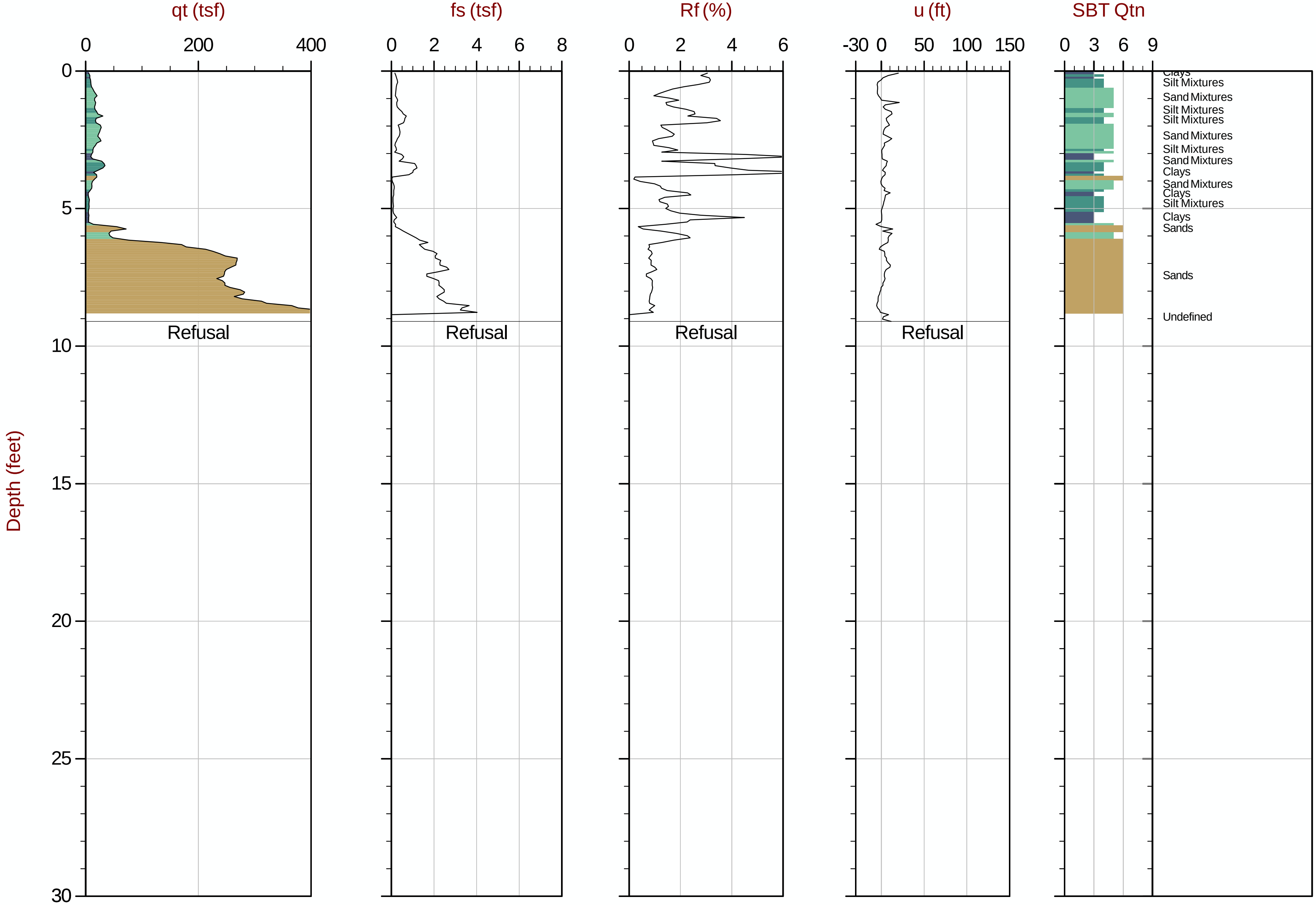
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 10:47
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-073
Cone: 604:T1500F15U35



Max Depth: 2.775 m / 9.10 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-073.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782536m E: 405496m

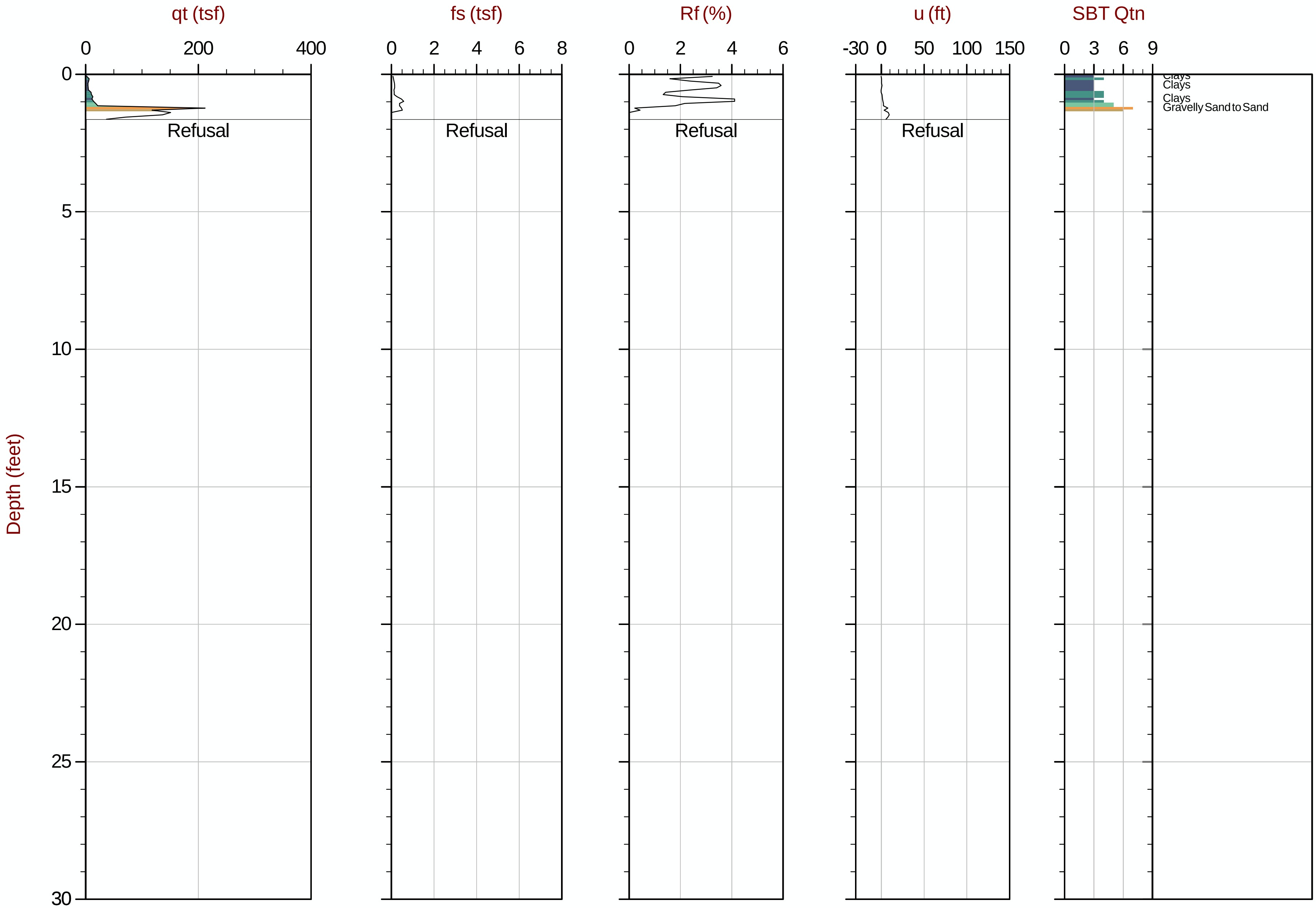
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:58
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-074
Cone: 604:T1500F15U35



Max Depth: 0.500 m / 1.64 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-074.COR
Unit Wt: SBTQtn (PKR2009)

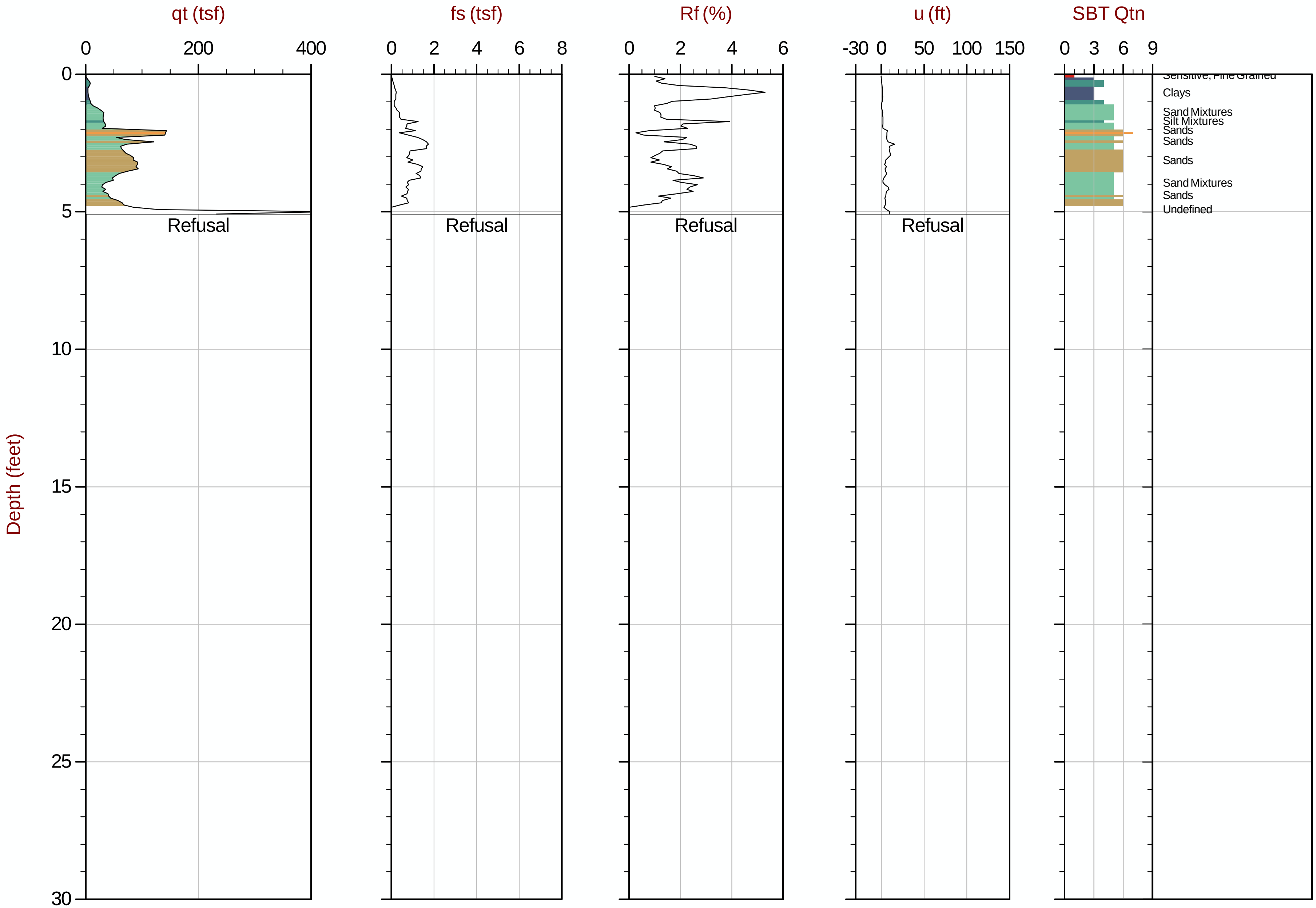
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782535m E: 405441m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 10:17
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-074A
Cone: 604:T1500F15U35



Max Depth: 1.550 m / 5.09 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-074A.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782536m E: 405438m

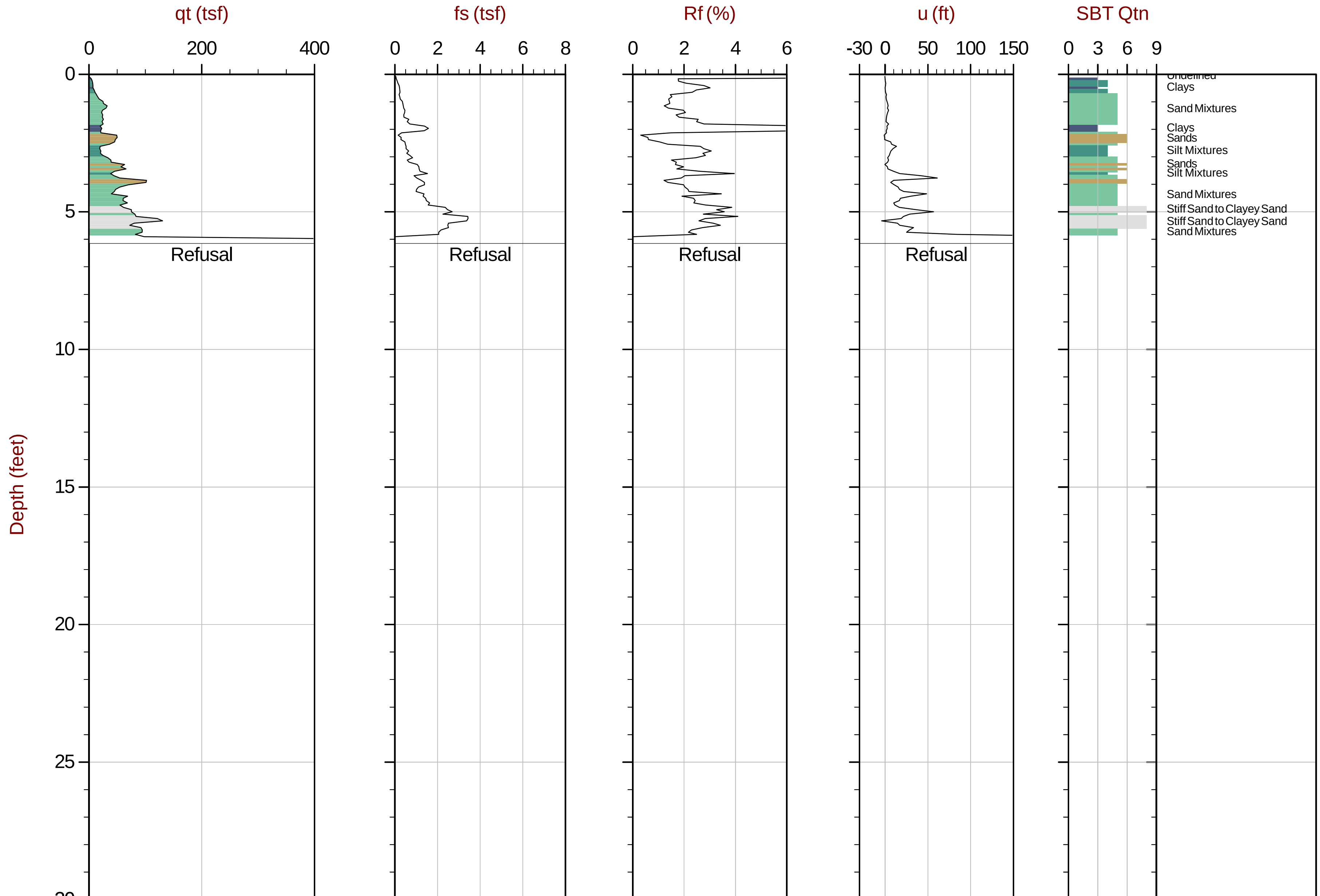
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 11:10
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-075
Cone: 604:T1500F15U35



Max Depth: 1.875 m / 6.15 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-075.COR
Unit Wt: SBTQtn (PKR2009)

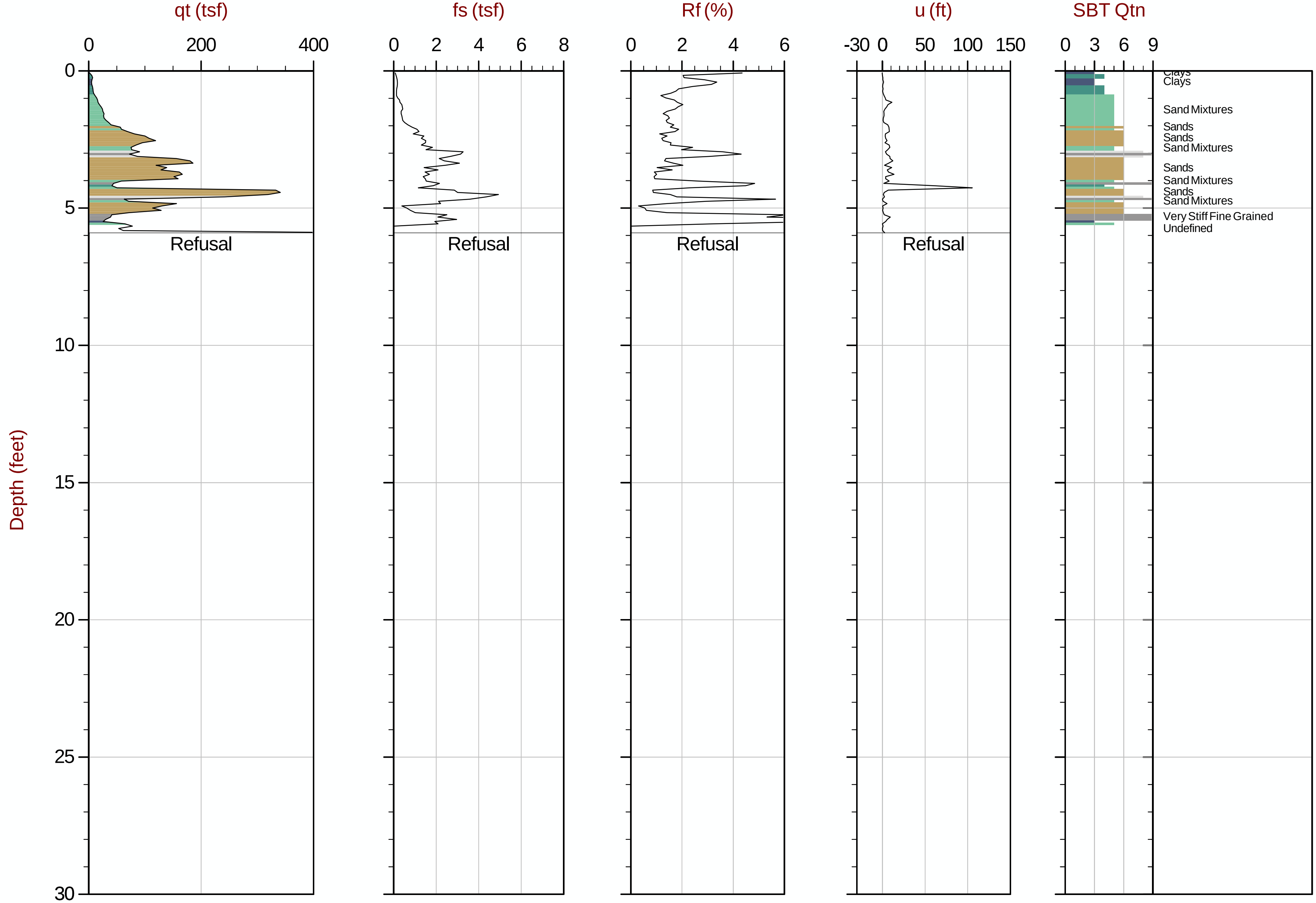
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782534m E: 405362m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 11:37
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-076
Cone: 604:T1500F15U35



Max Depth: 1.800 m / 5.91 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-076.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782537m E: 405311m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

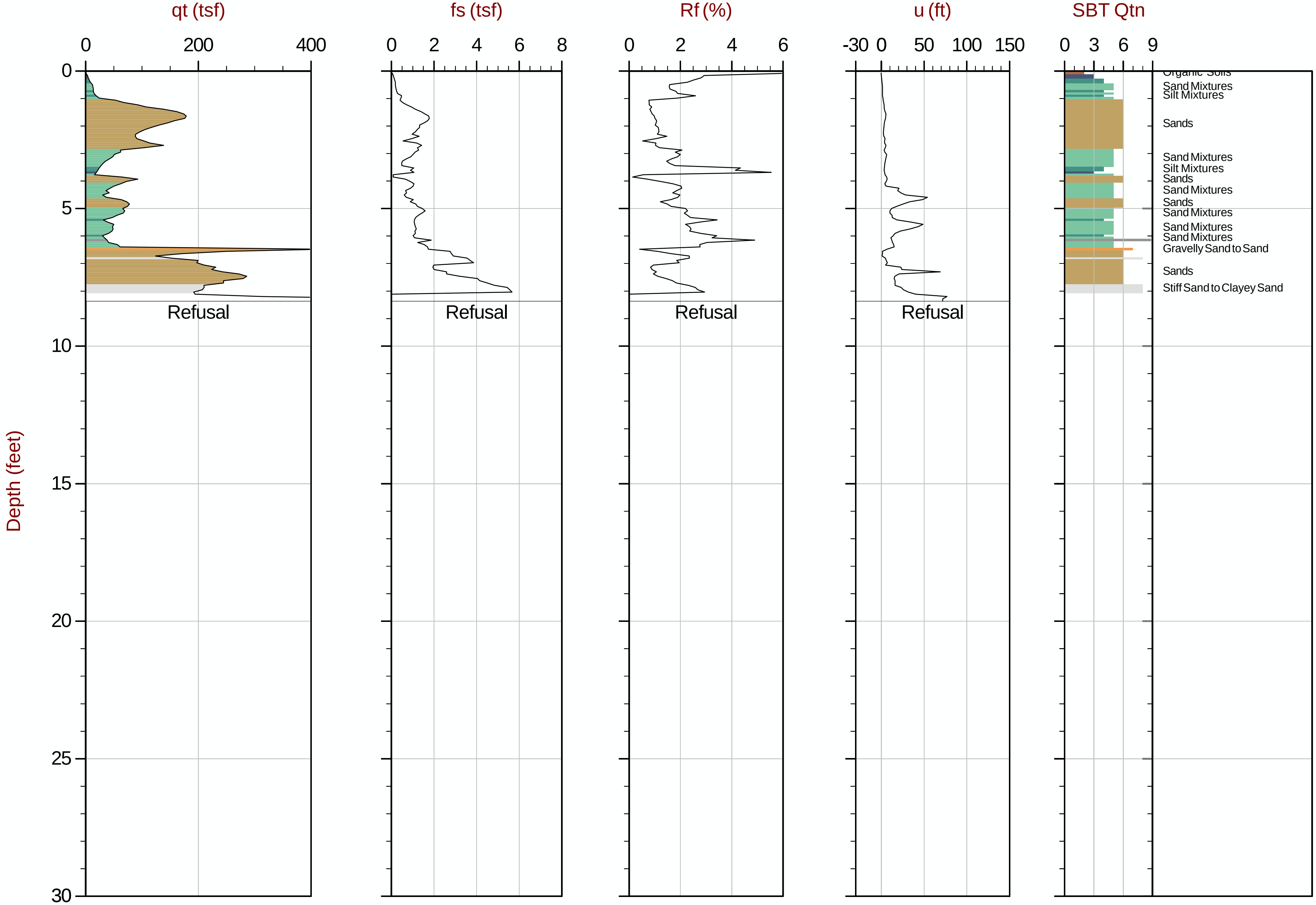
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:06
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-077
Cone: 604:T1500F15U35



Max Depth: 2.550 m / 8.37 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-077.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782533m E: 405264m

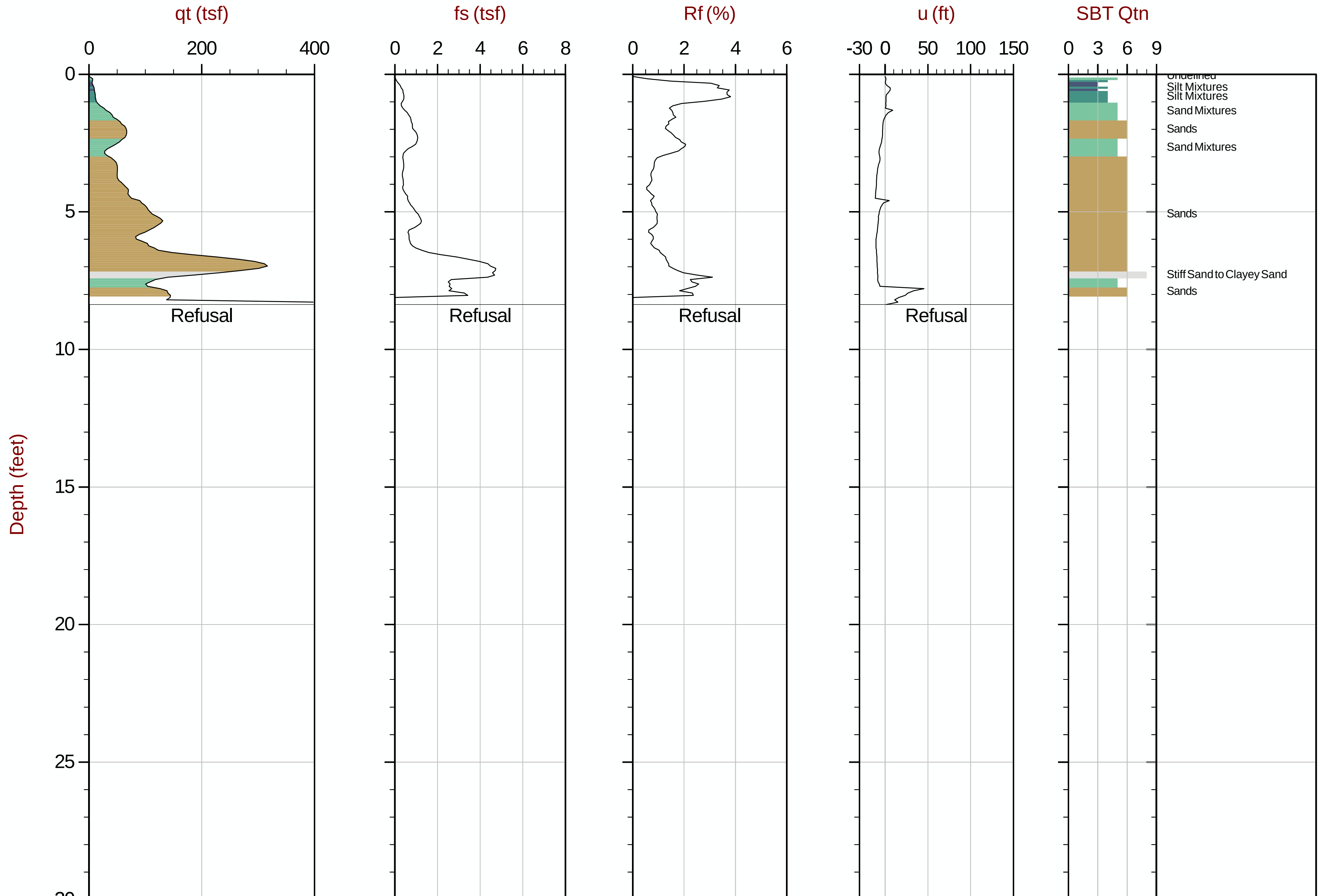
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 07:29
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-078
Cone: 604:T1500F15U35



Max Depth: 2.550 m / 8.37 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-078.COR
Unit Wt: SBTQtn (PKR2009)

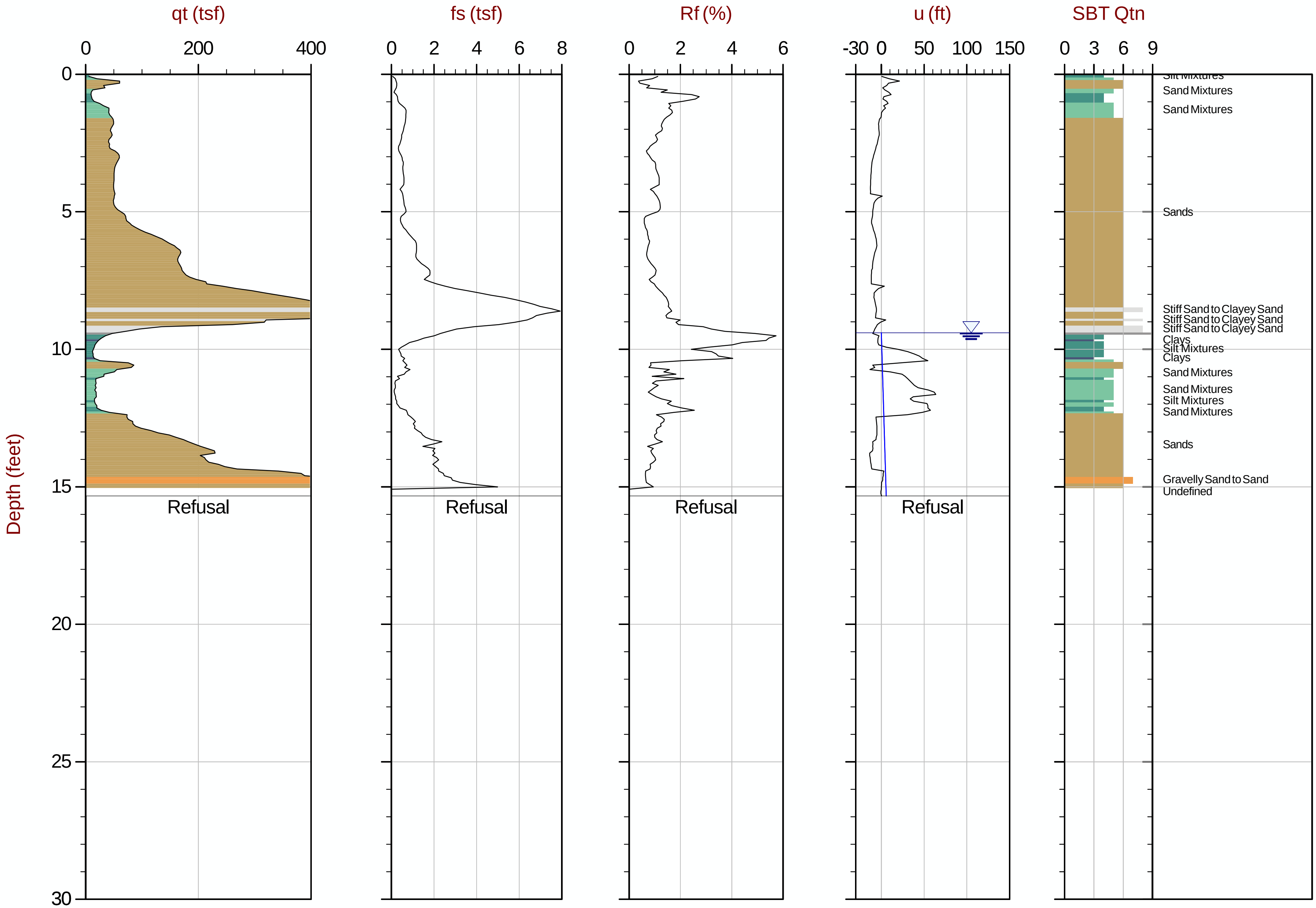
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782533m E: 405733m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-080
Cone: 604:T1500F15U35



Max Depth: 4.675 m / 15.34 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-080.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782485m E: 405681m

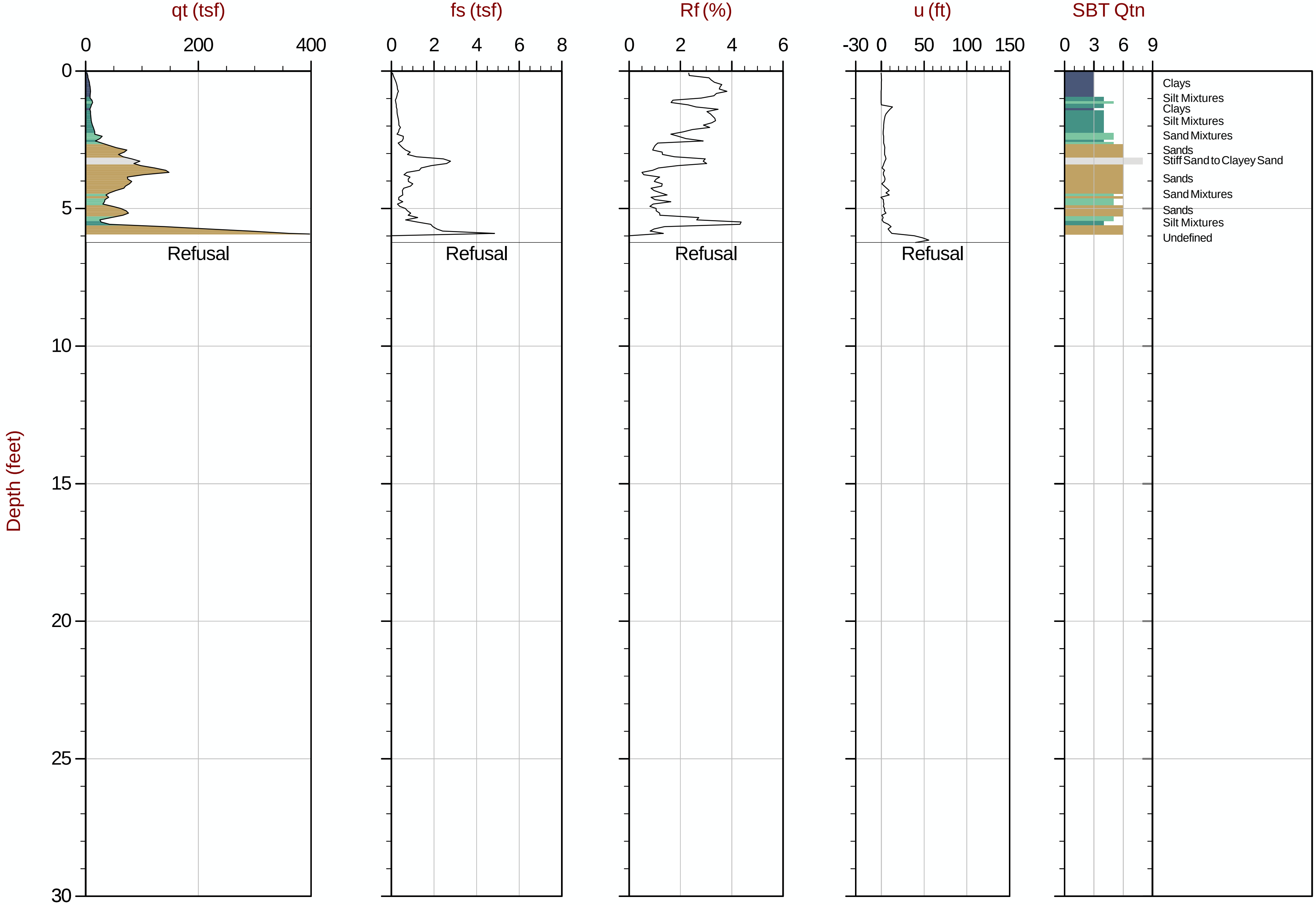
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 13:38
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-084
Cone: 604:T1500F15U35



Max Depth: 1.900 m / 6.23 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-084.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782502m E: 405427m

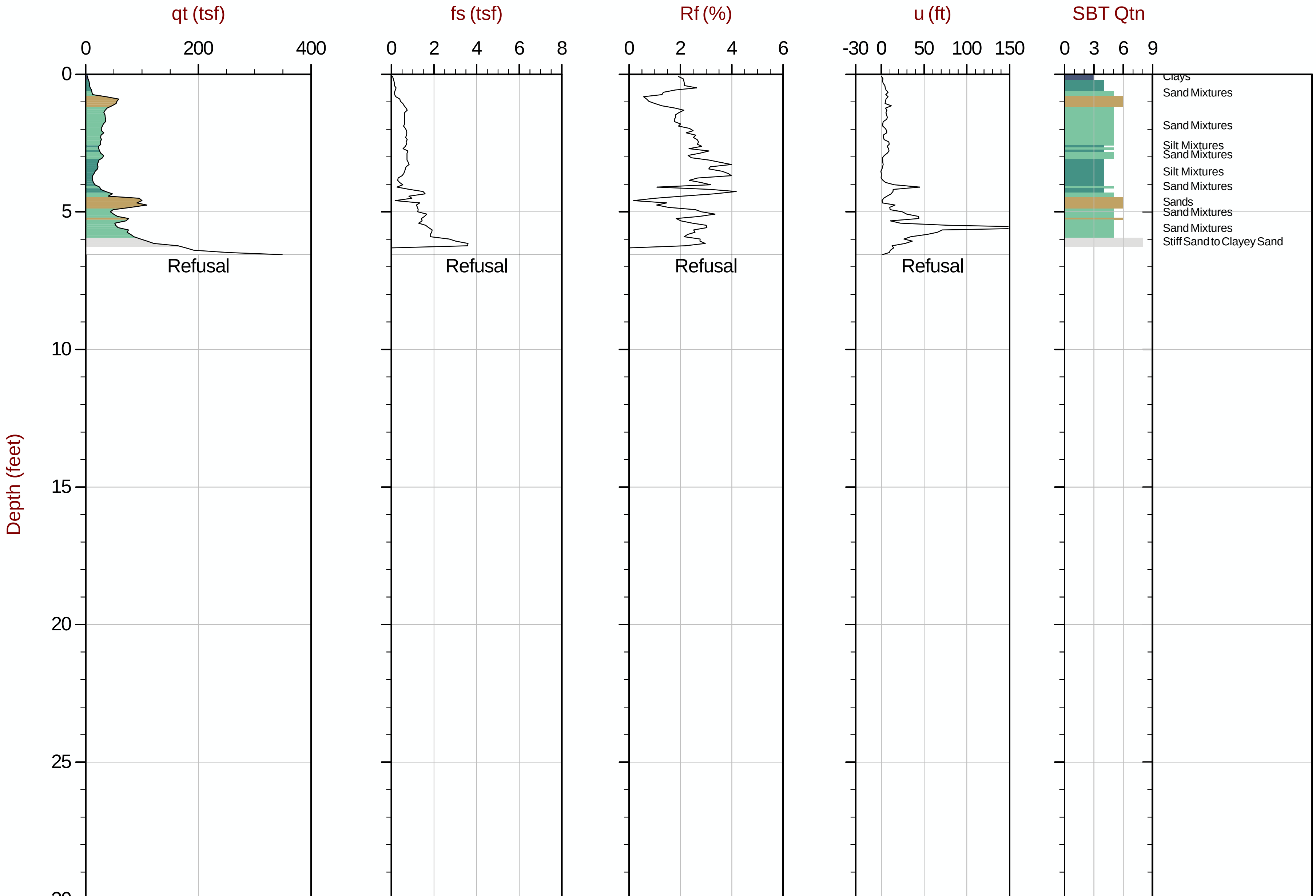
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:54
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-086
Cone: 604:T1500F15U35



Max Depth: 2.000 m / 6.56 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-086.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782506m E: 405306m

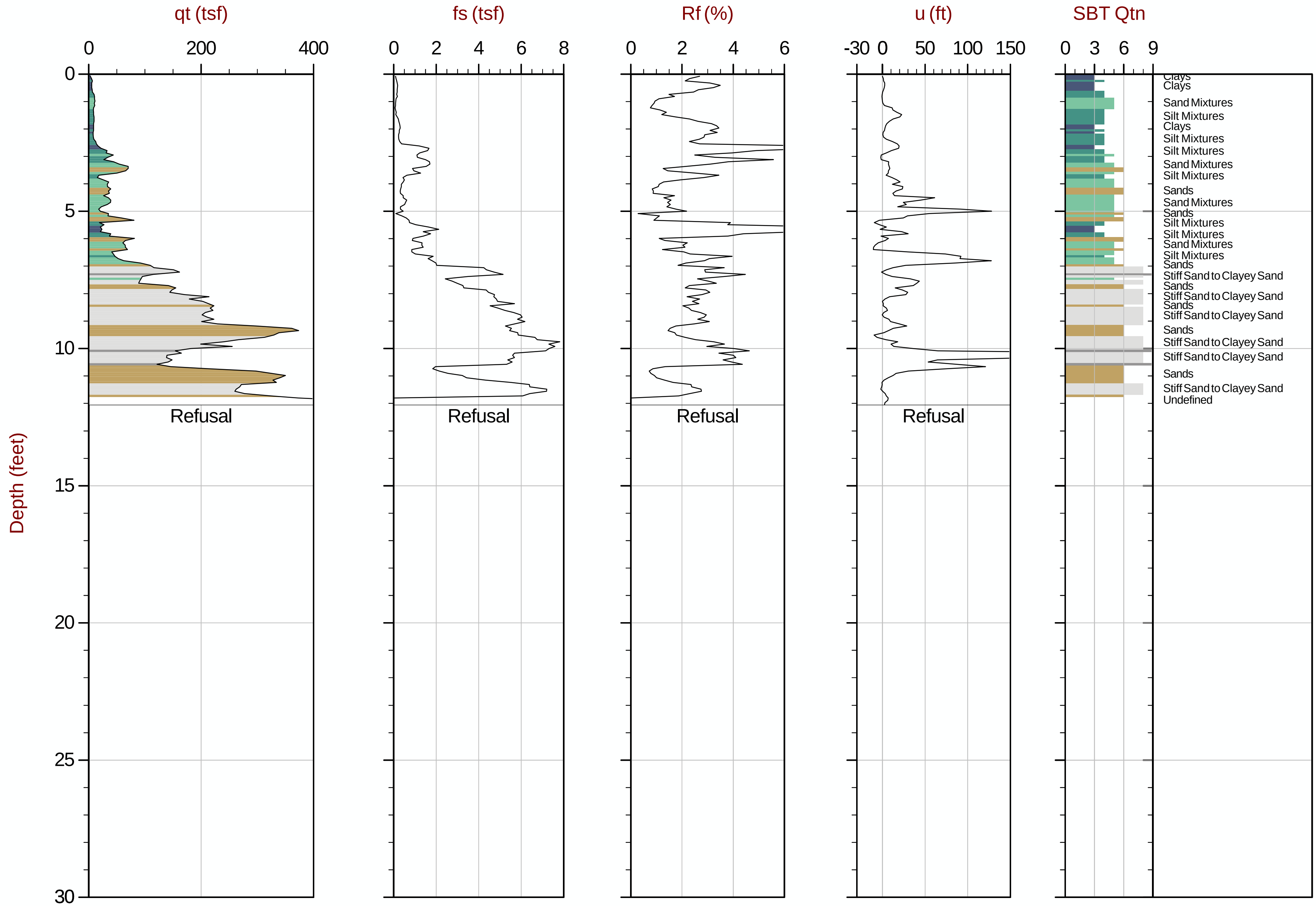
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 14:25
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-092
Cone: 604:T1500F15U35



Max Depth: 3.675 m / 12.06 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-092.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782439m E: 405546m

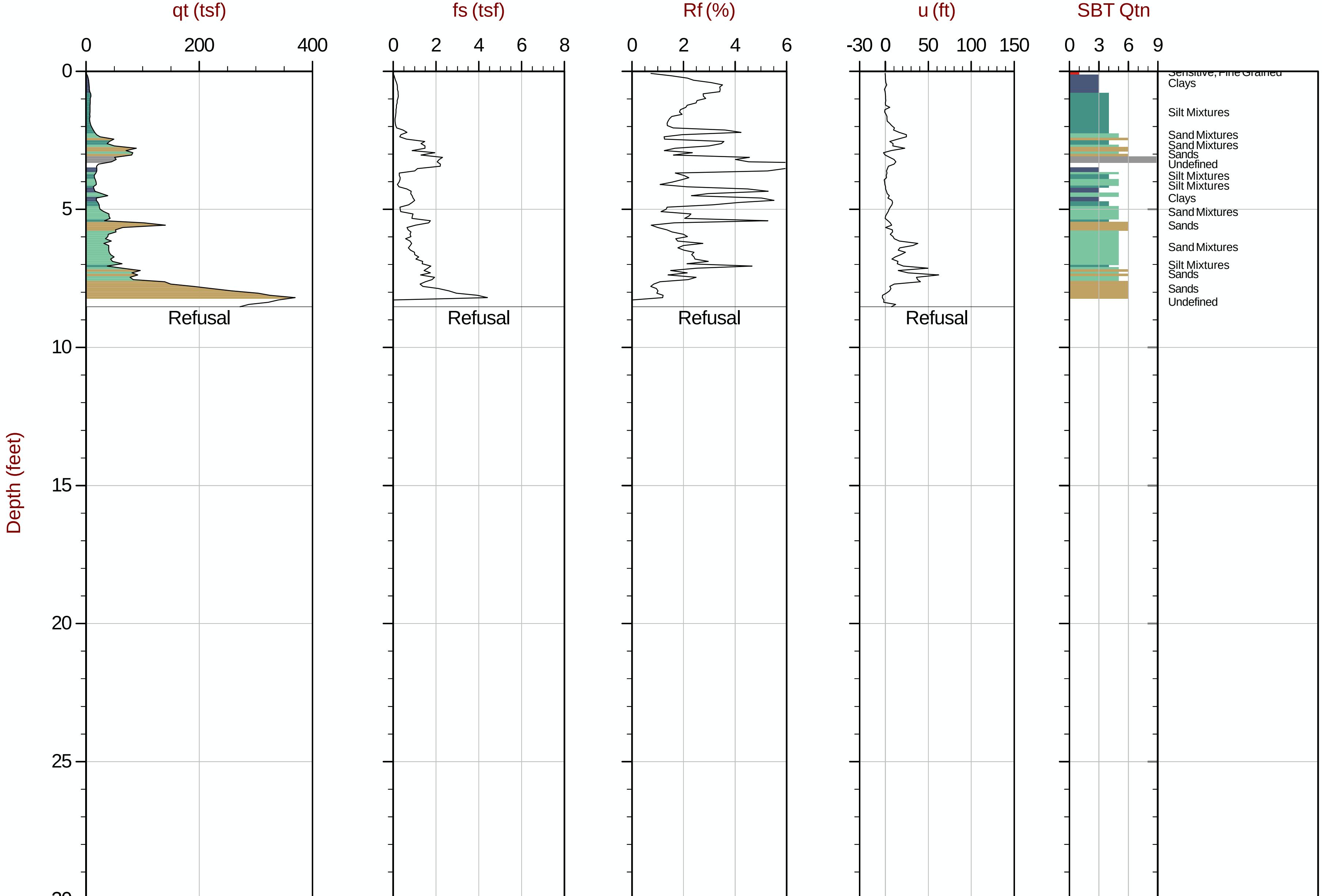
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 14:11
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-093
Cone: 604:T1500F15U35



Max Depth: 2.600 m / 8.53 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-093.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782440m E: 405488m

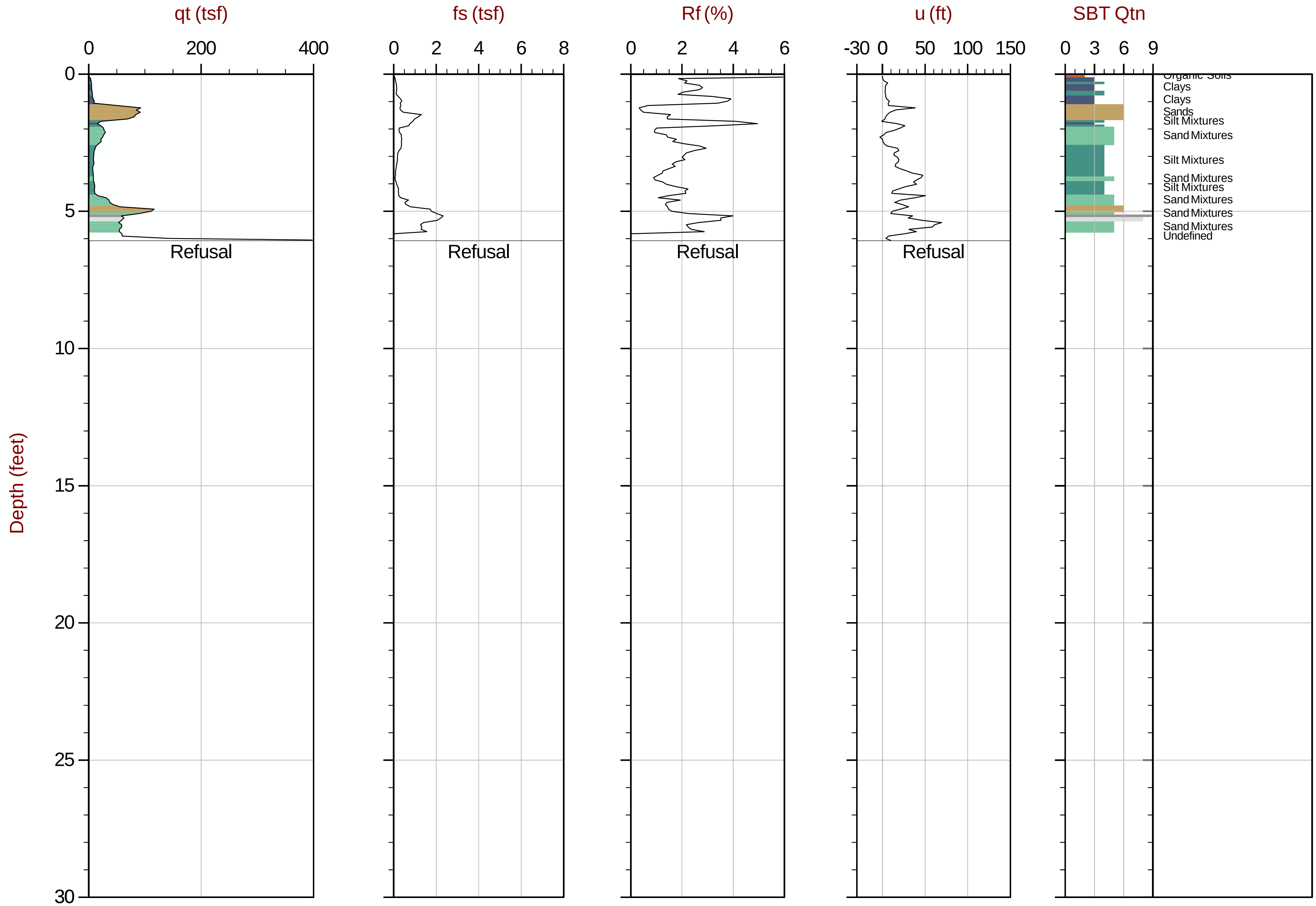
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 07:28
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-095
Cone: 604:T1500F15U35



Max Depth: 1.850 m / 6.07 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-095.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782440m E: 405366m

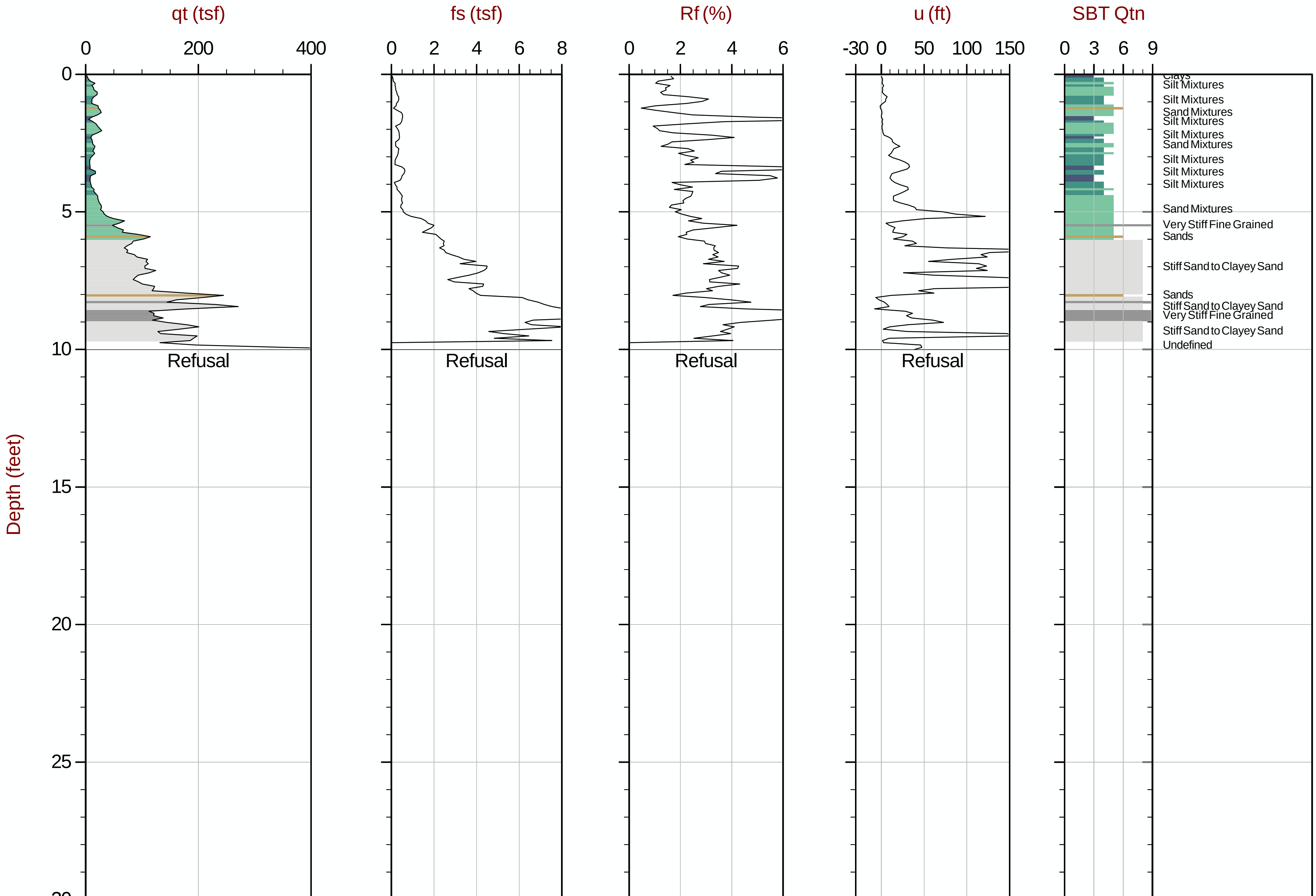
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:45
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-097
Cone: 604:T1500F15U35



Max Depth: 3.050 m / 10.01 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-097.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782444m E: 405240m

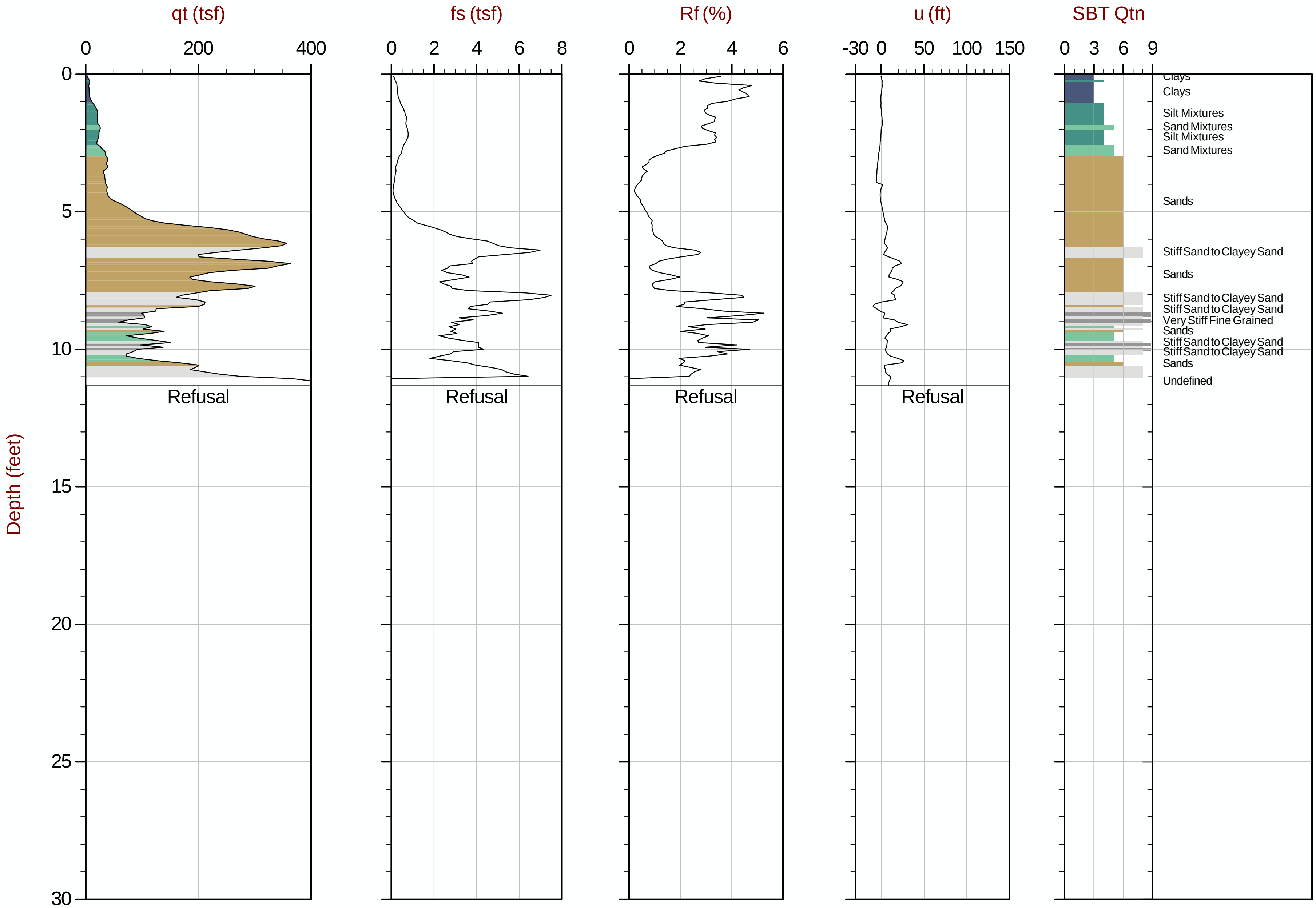
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 08:00
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-098
Cone: 604:T1500F15U35



Max Depth: 3.450 m / 11.32 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-098.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782436m E: 405738m

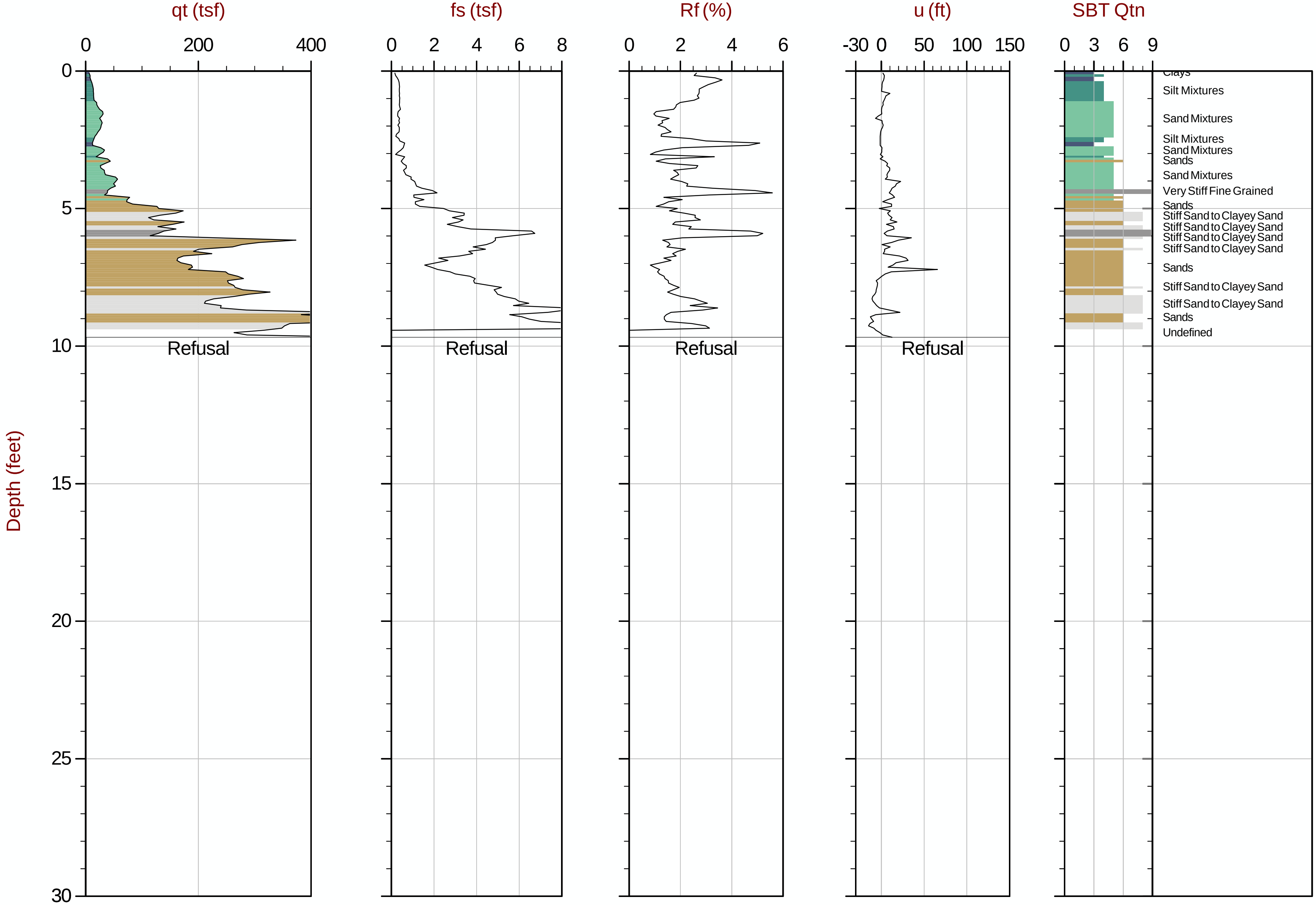
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 11:28
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-102
Cone: 604:T1500F15U35



Max Depth: 2.950 m / 9.68 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-102.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782407m E: 405552m

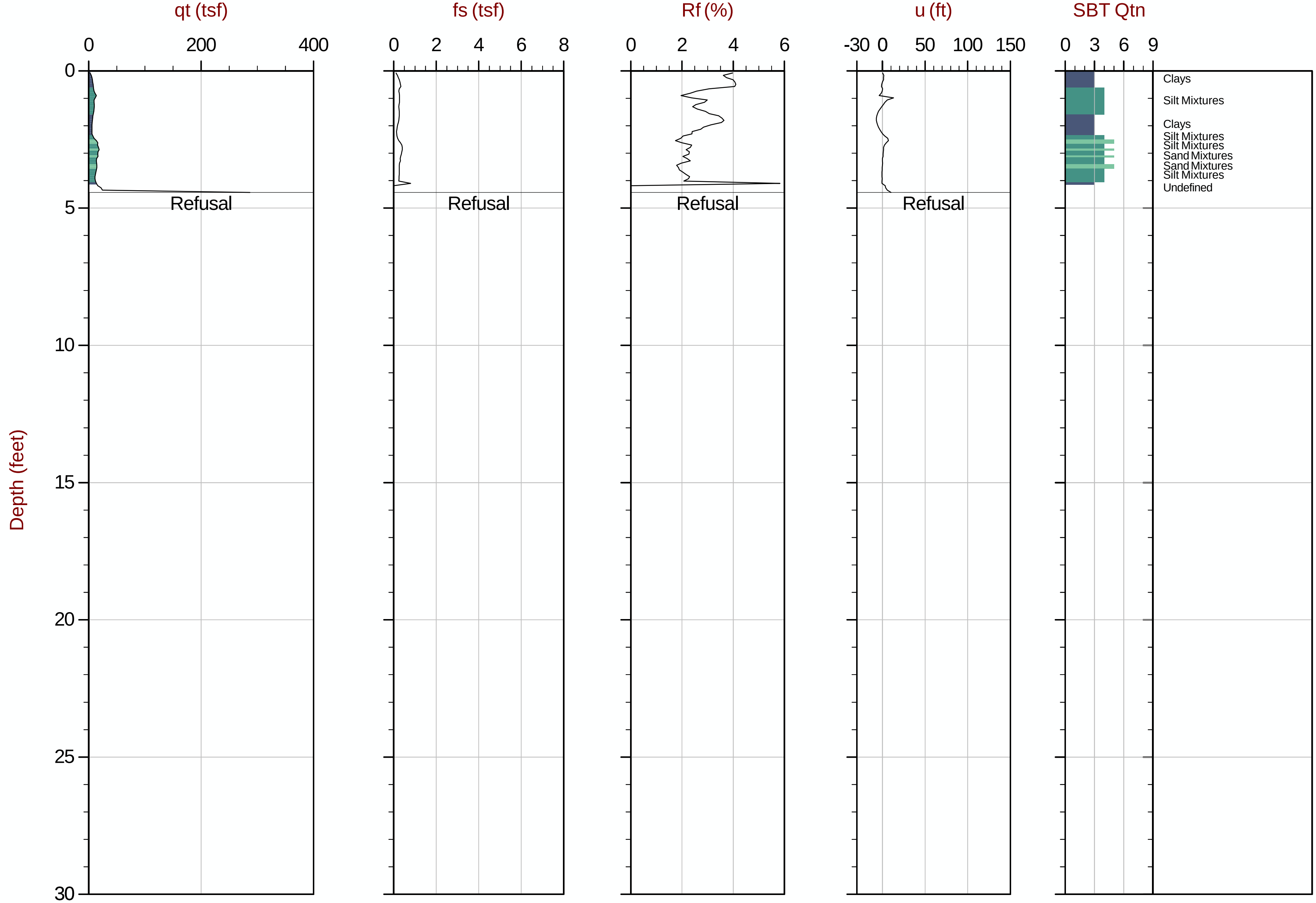
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 12:09
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-104
Cone: 604:T1500F15U35



Max Depth: 1.350 m / 4.43 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-104.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782390m E: 405424m

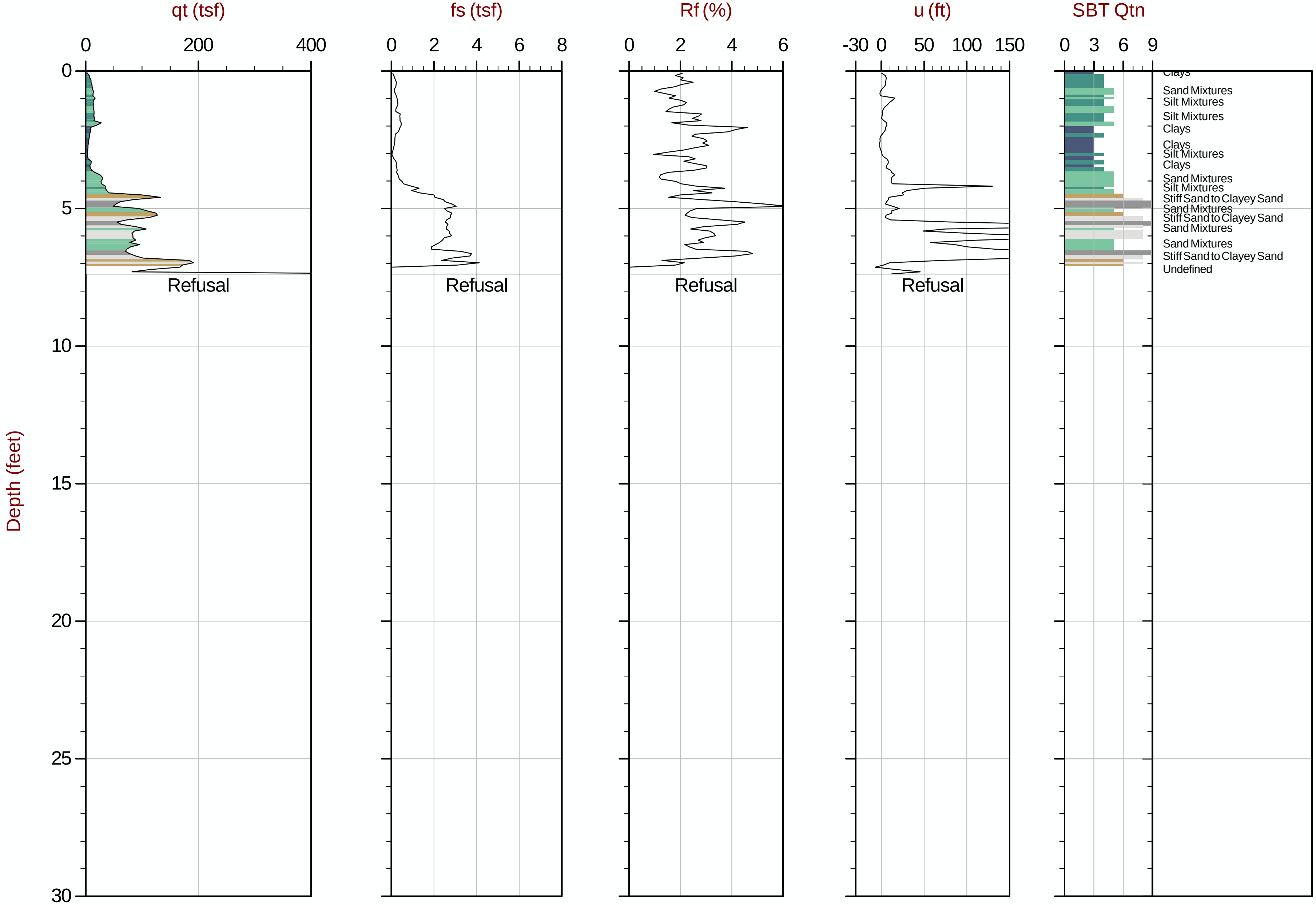
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 08:37
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-106
Cone: 604:T1500F15U35



Max Depth: 2.250 m / 7.38 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-106.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782406m E: 405306m

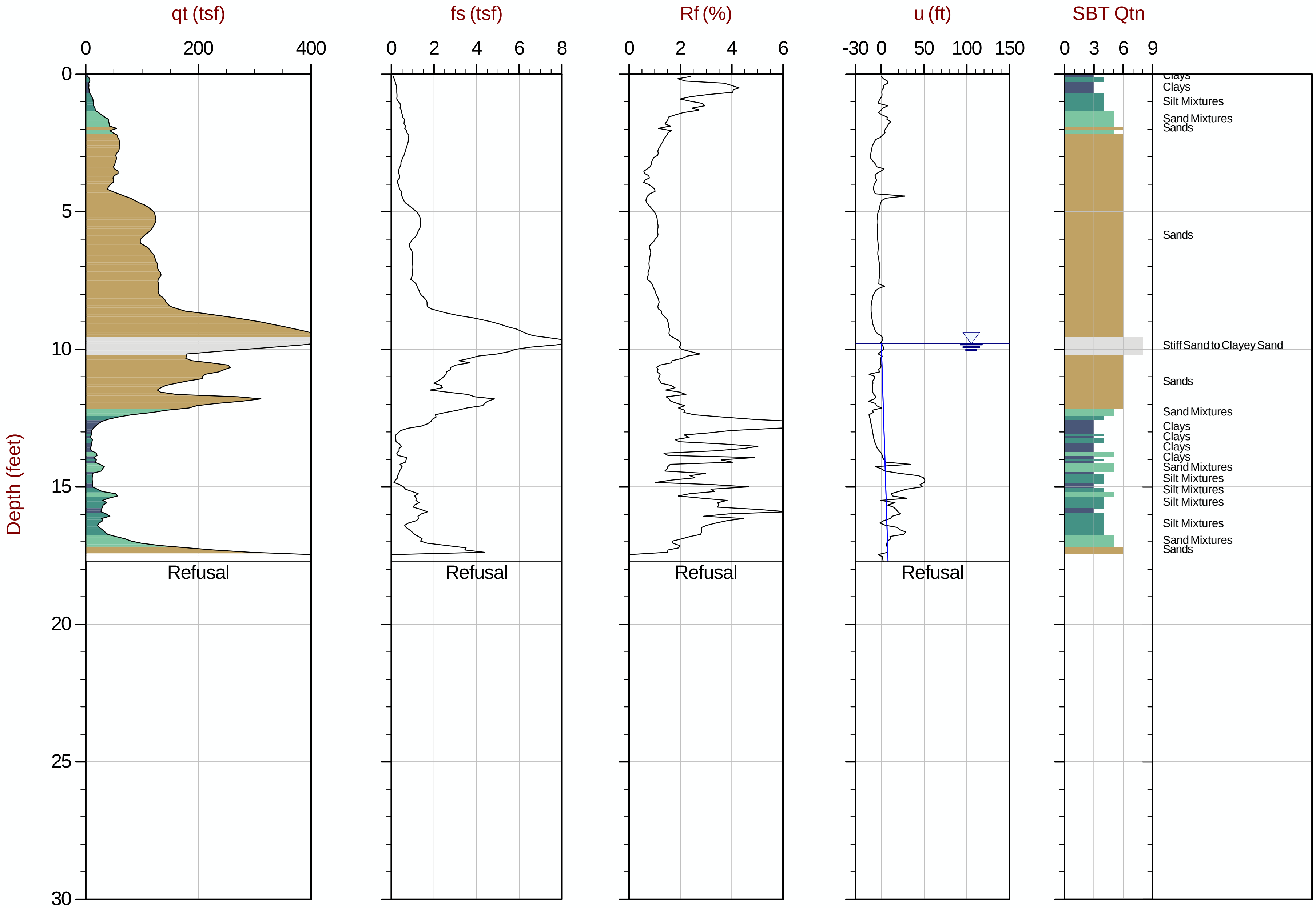
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 08:35
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-107
Cone: 604:T1500F15U35



Max Depth: 5.400 m / 17.72 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-107.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782397m E: 405742m

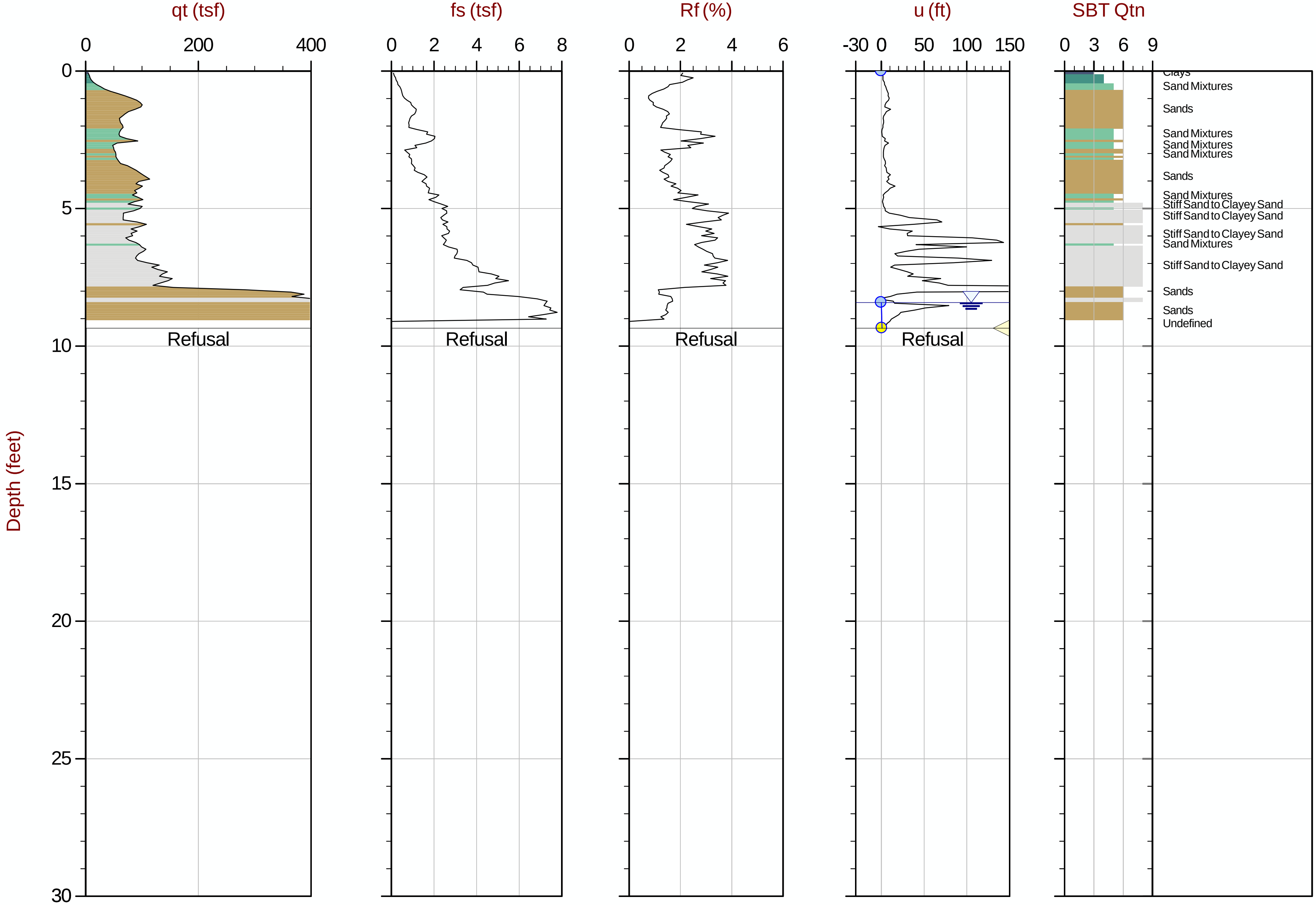
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 10:50
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-112
Cone: 604:T1500F15U35



Max Depth: 2.850 m / 9.35 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-112.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782363m E: 405534m

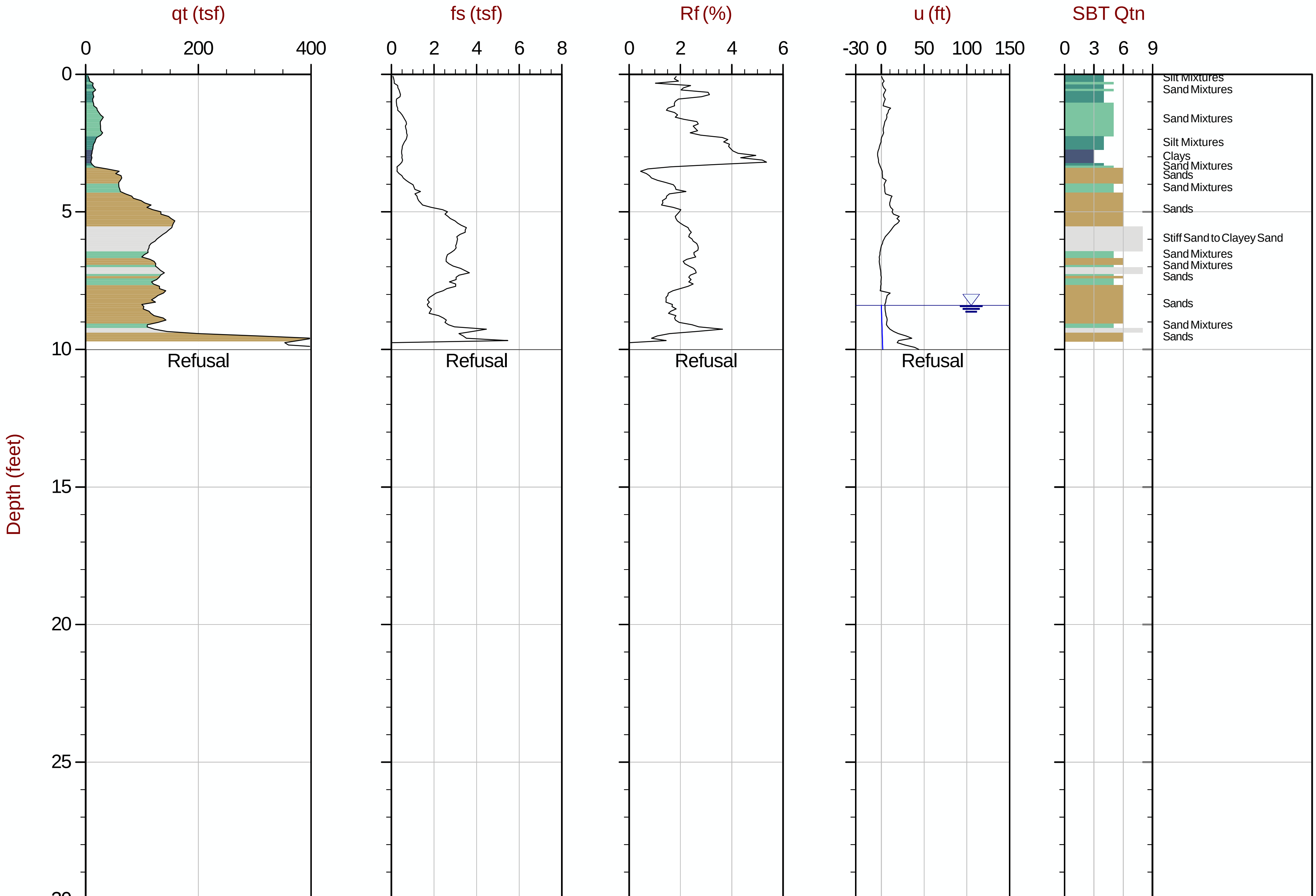
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 09:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-113
Cone: 604:T1500F15U35



Max Depth: 3.050 m / 10.01 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-113.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782359m E: 405498m

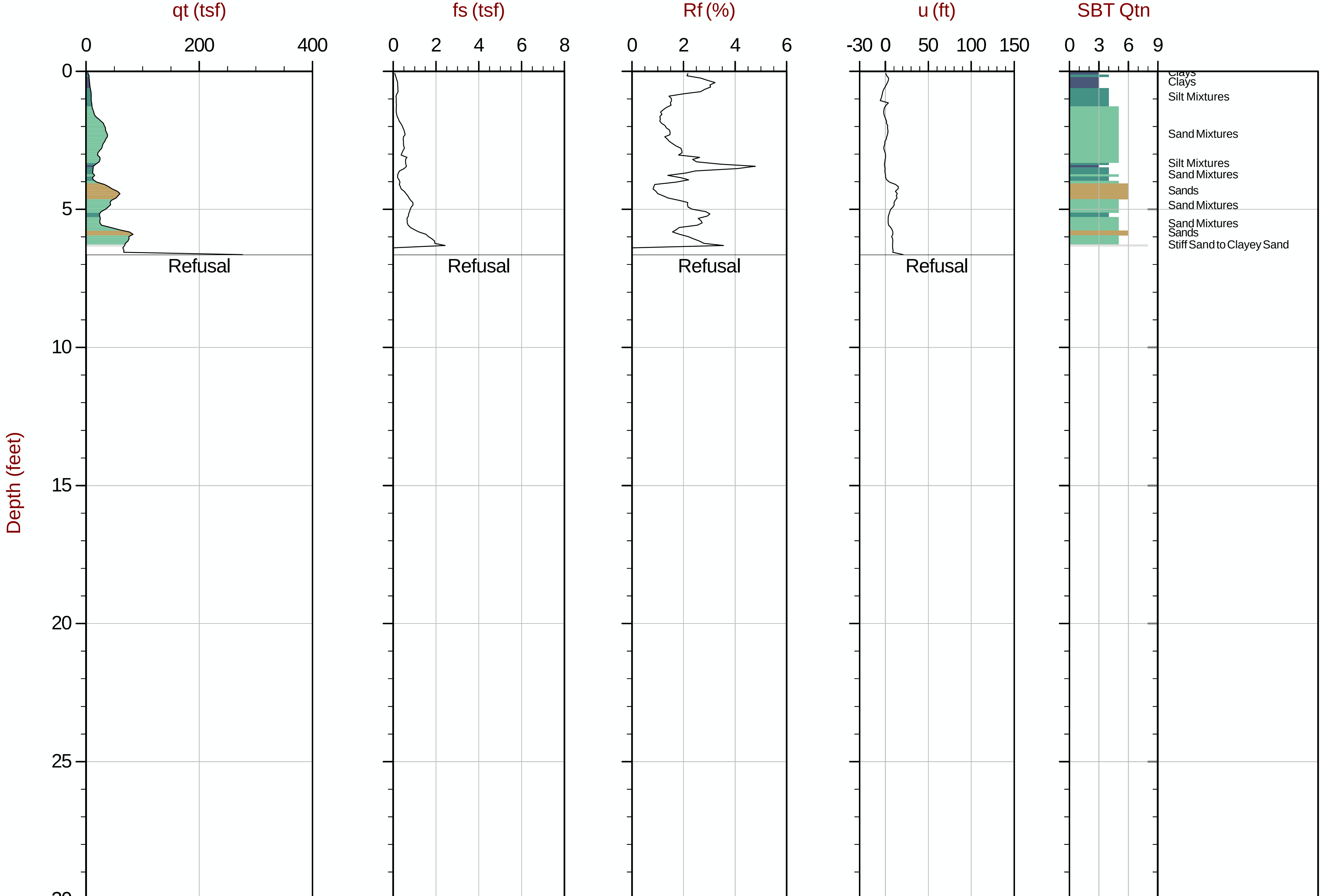
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 09:03
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-115
Cone: 604:T1500F15U35



Max Depth: 2.025 m / 6.64 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-115.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782356m E: 405372m

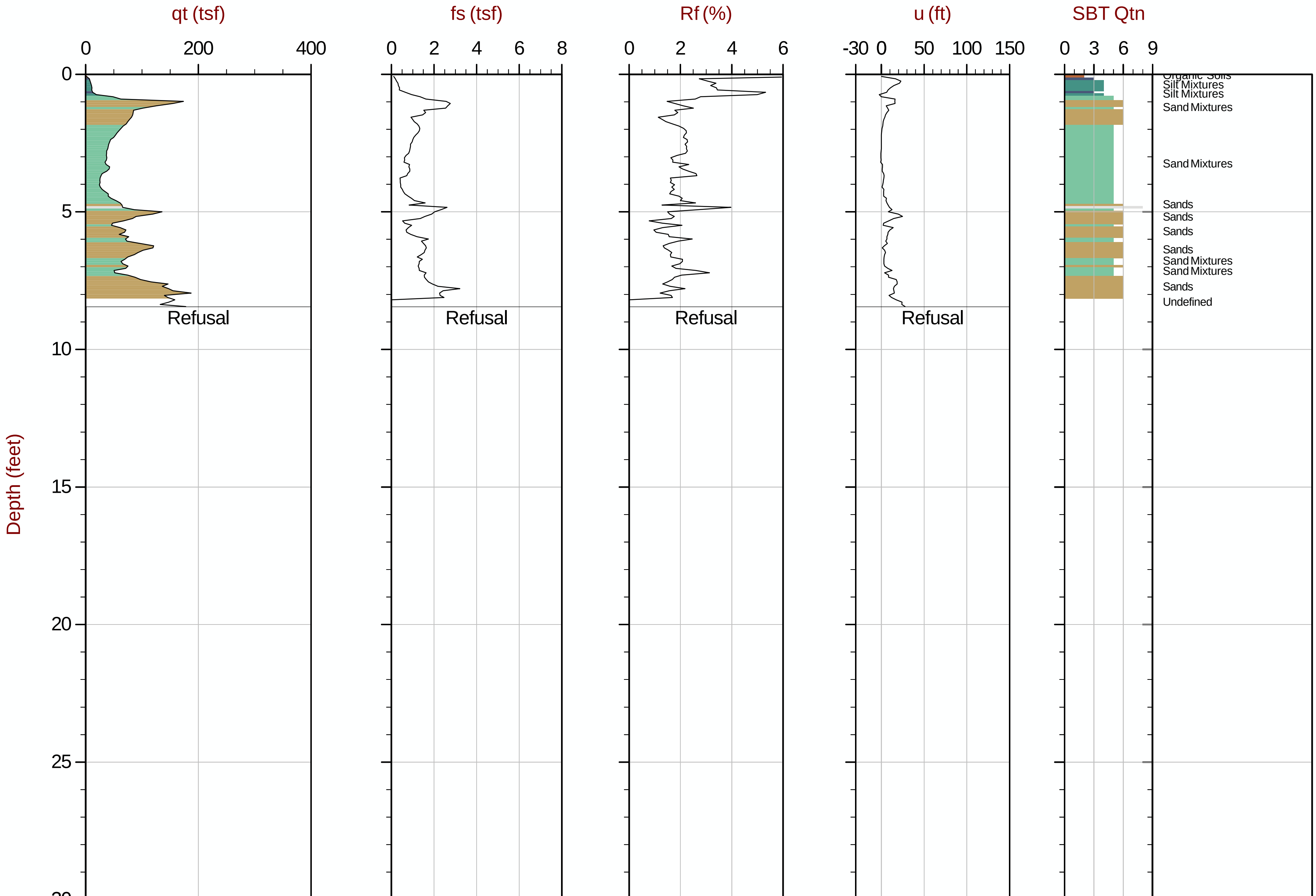
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 10:14
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-120
Cone: 604:T1500F15U35



Max Depth: 2.575 m / 8.45 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-120.COR
Unit Wt: SBTQtn (PKR2009)

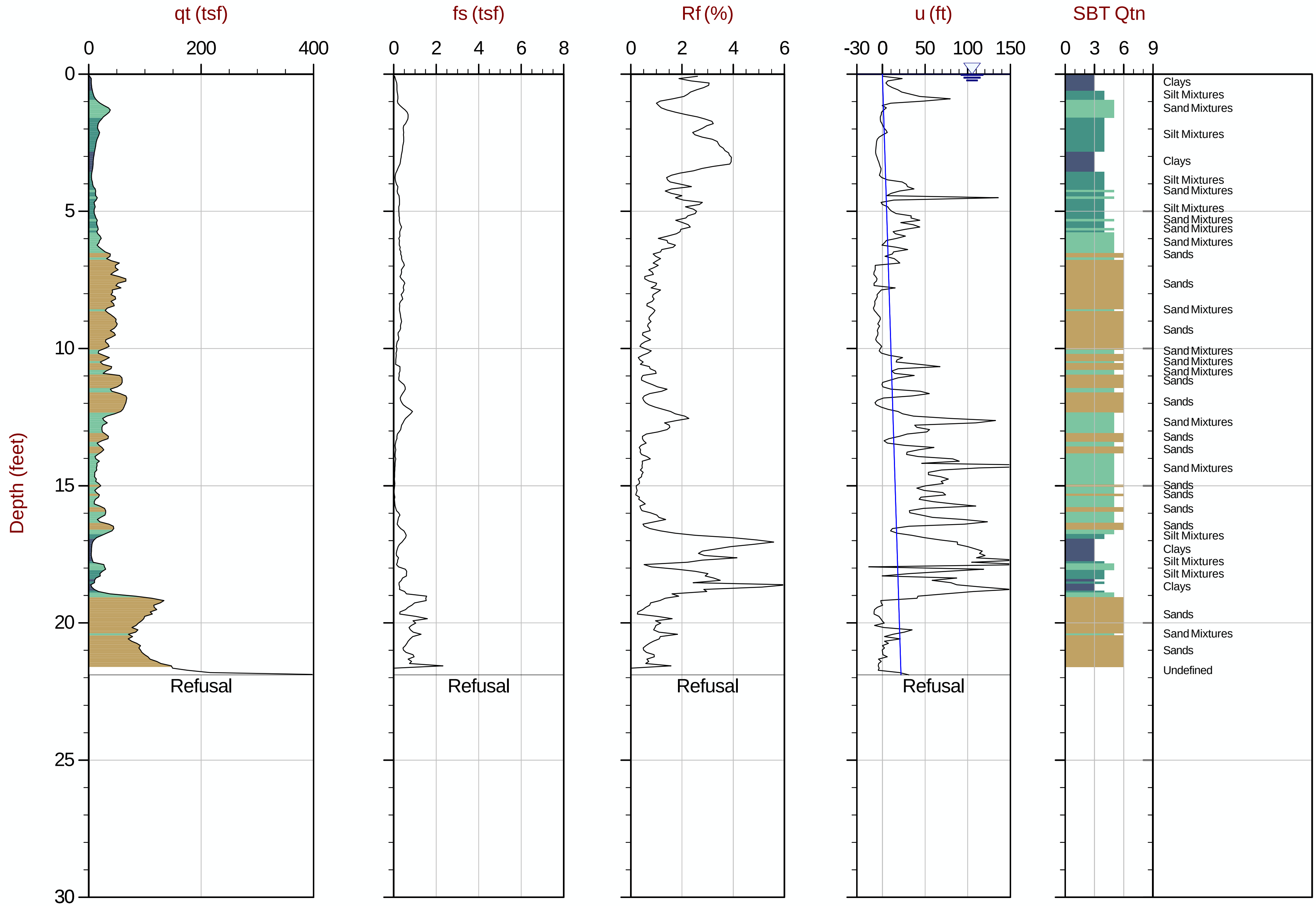
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782336m E: 405417m

Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 14:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-208
Cone: 606:T1500F15U35



Max Depth: 6.675 m / 21.90 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-208.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782904m E: 406684m

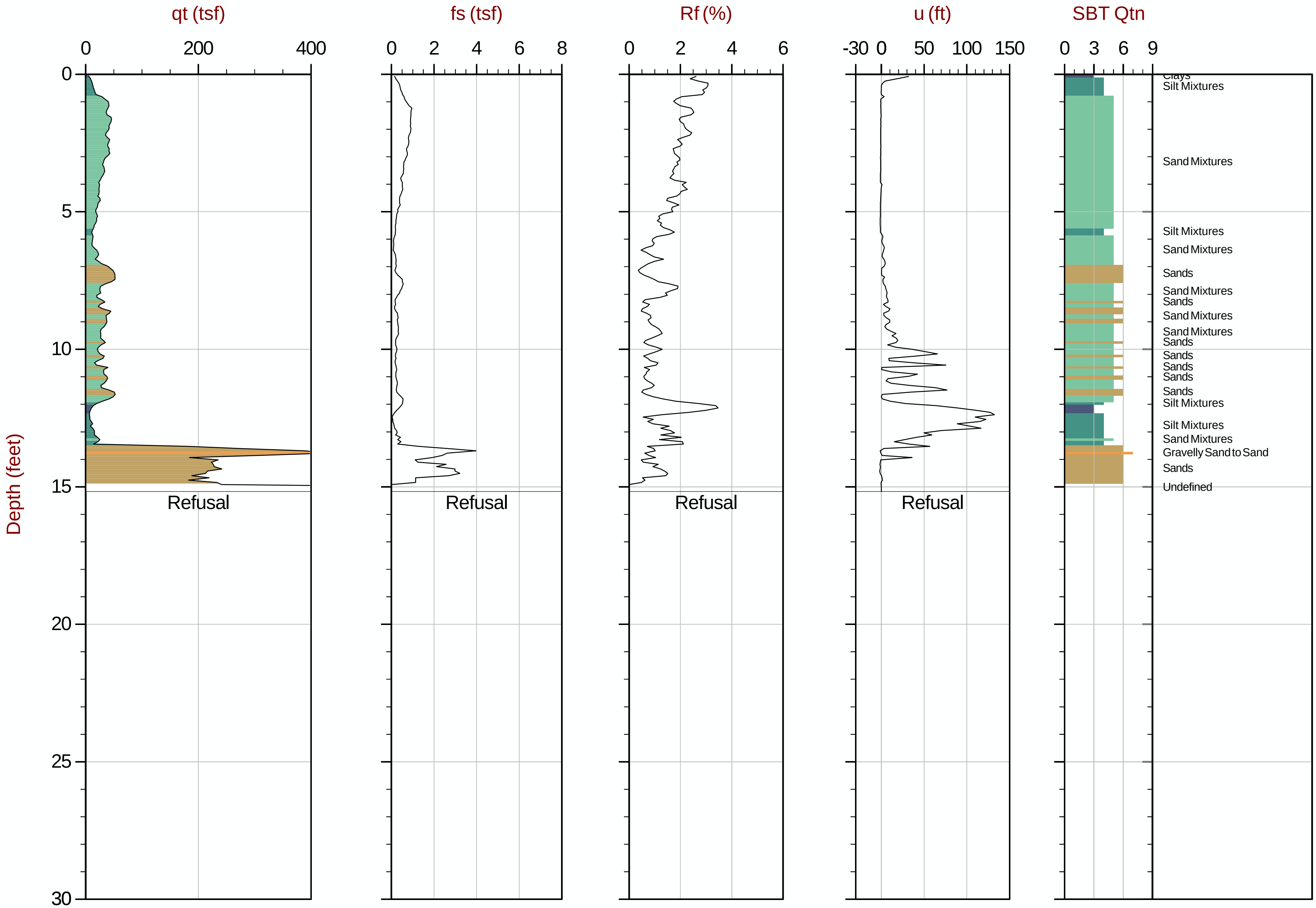
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 10:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-221
Cone: 606:T1500F15U35



Max Depth: 4.625 m / 15.17 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-221.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783038m E: 406405m

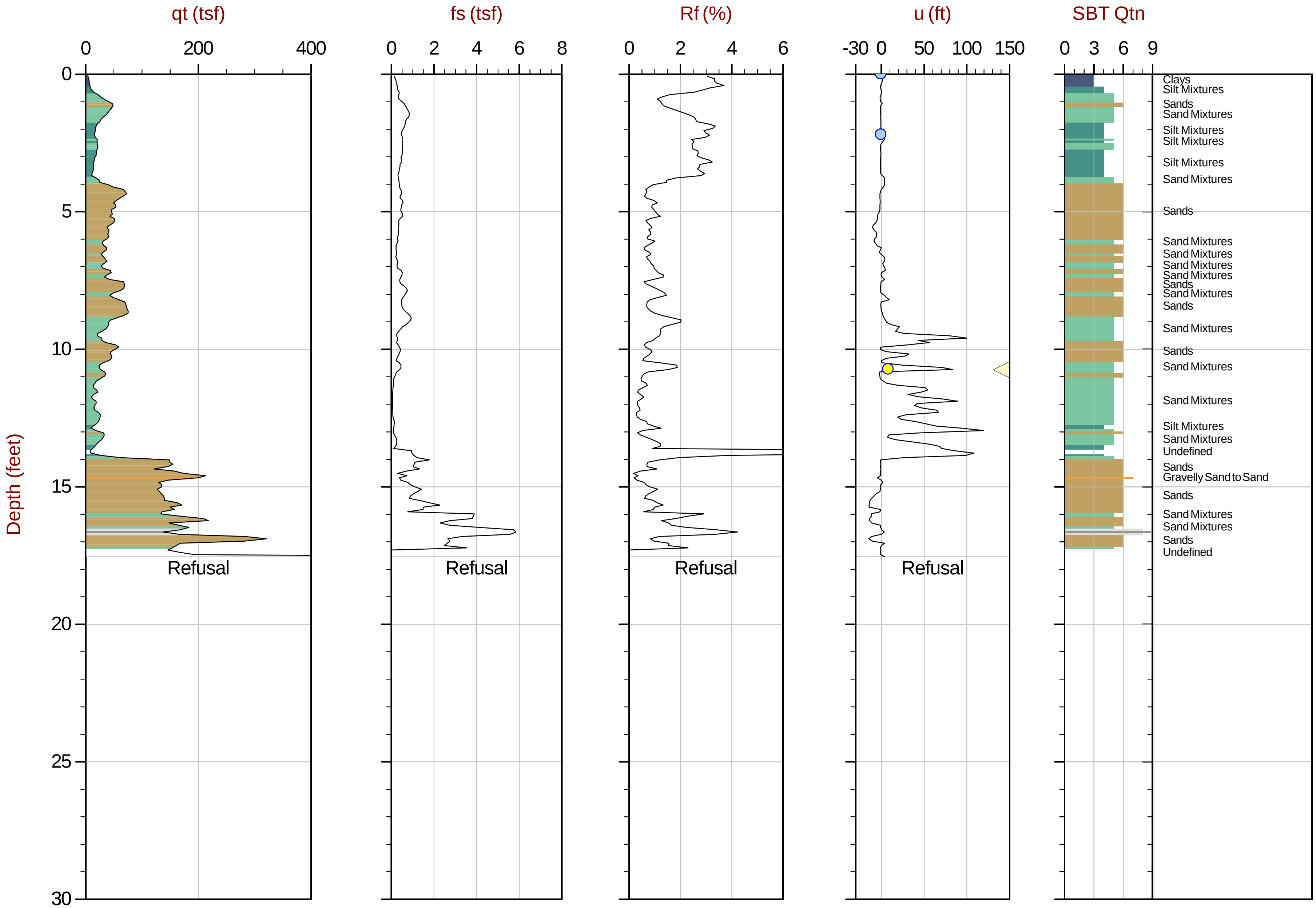
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 11:16
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-222
Cone: 606:T1500F15U35



Max Depth: 5.350 m / 17.55 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-222.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783002m E: 406458m

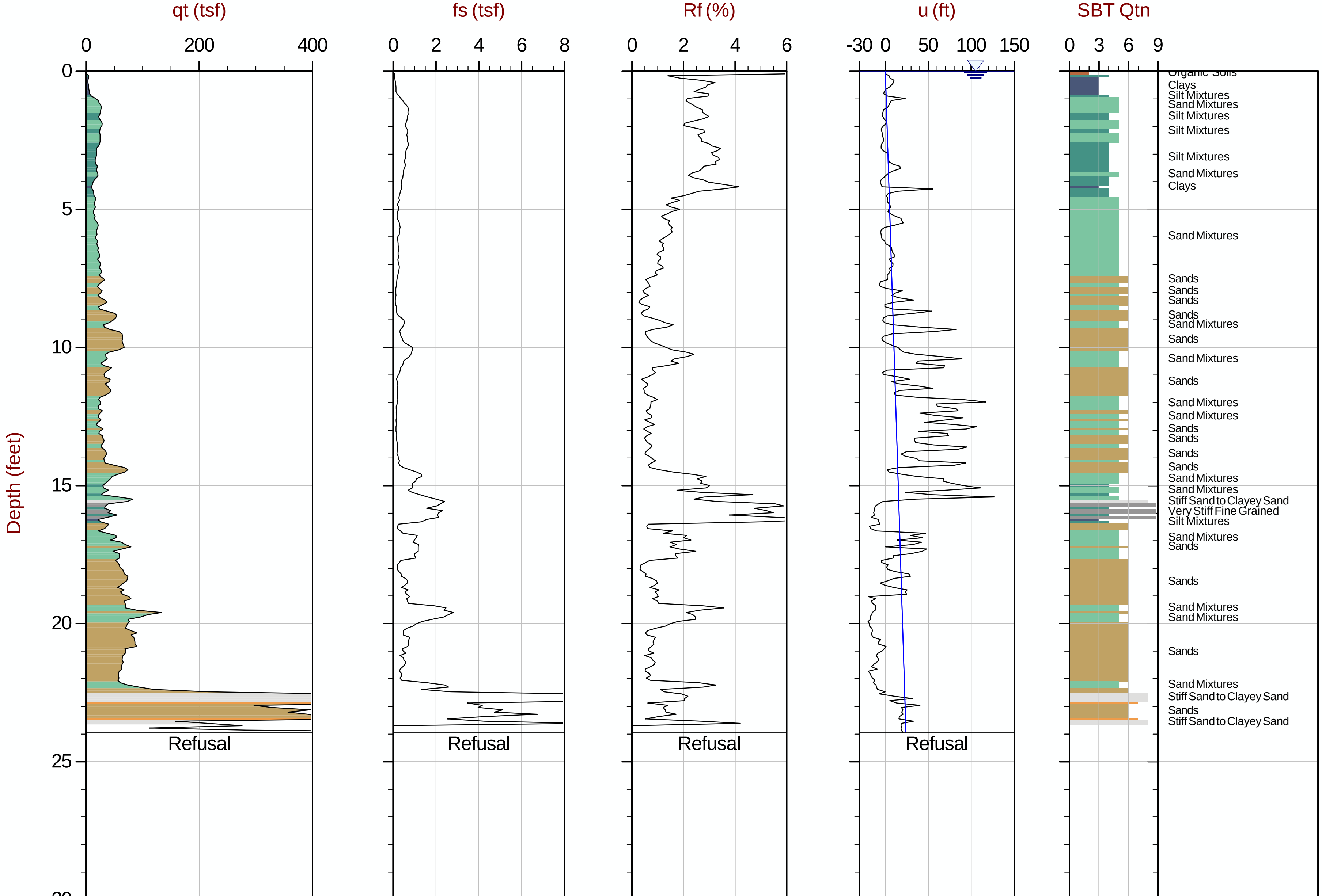
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-225
Cone: 606:T1500F15U35



Max Depth: 7.300 m / 23.95 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-225.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782889m E: 406600m

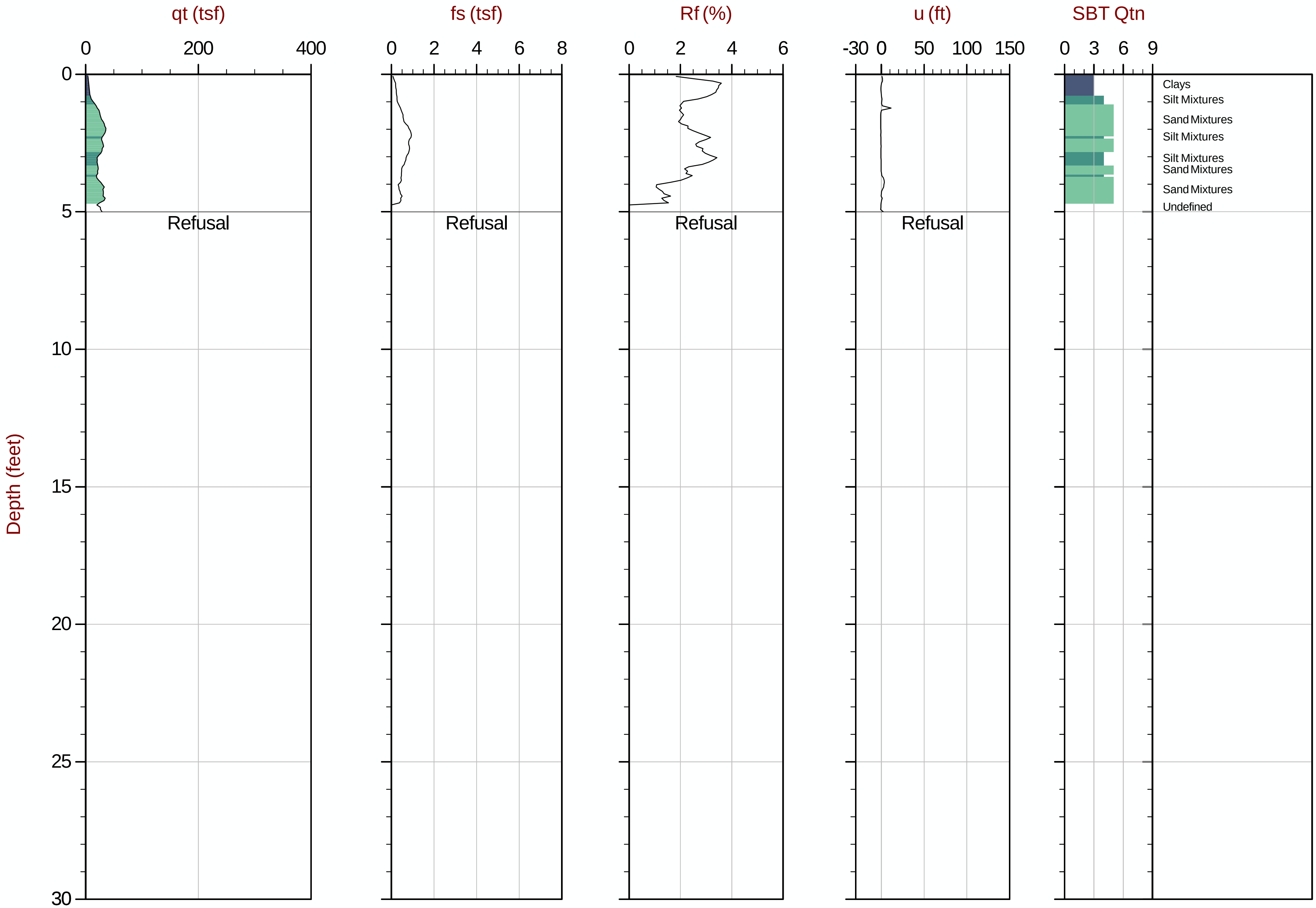
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 12:08
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228
Cone: 606:T1500F15U35



Max Depth: 1.525 m / 5.00 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-228.COR
Unit Wt: SBTQtn (PKR2009)

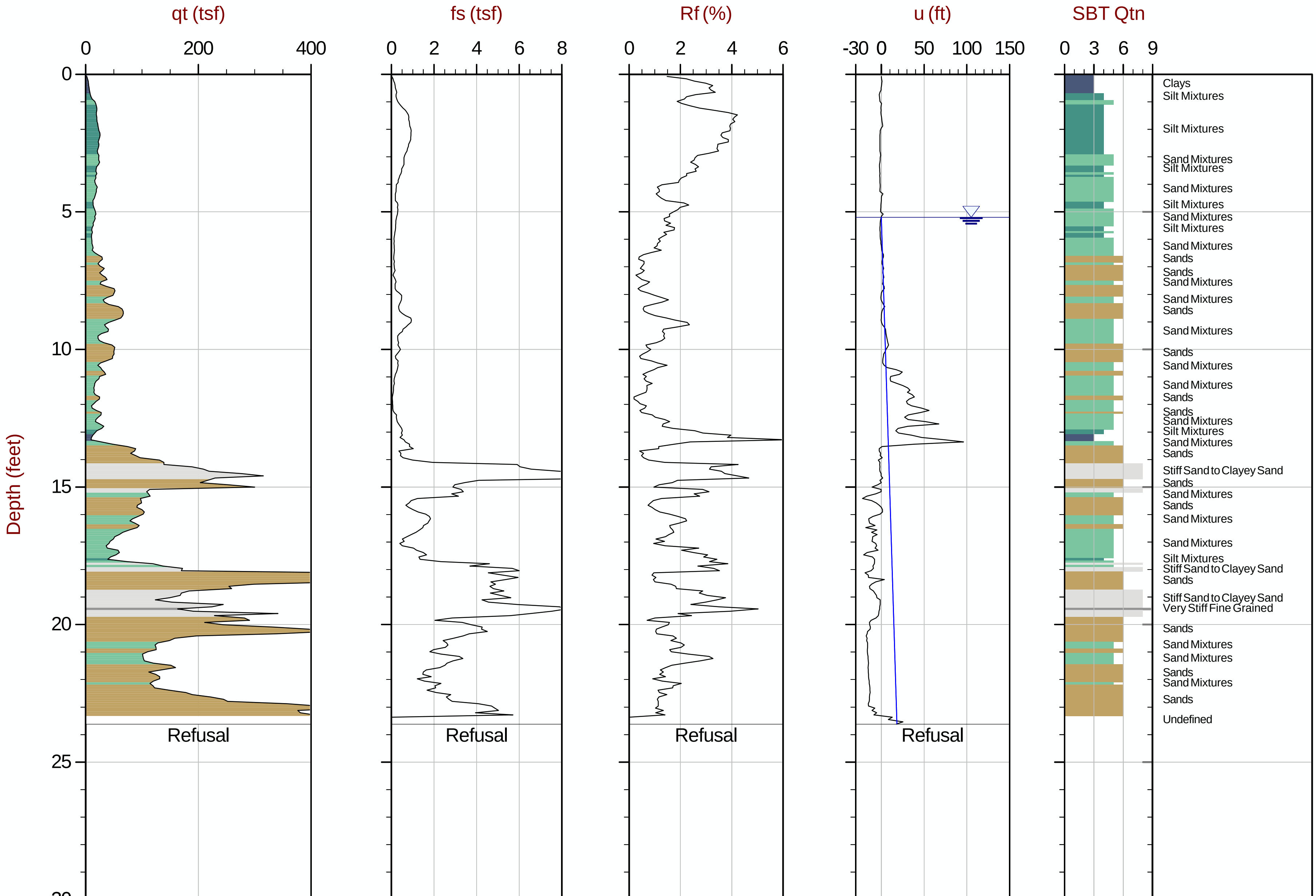
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782803m E: 406617m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 13:08
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228A
Cone: 606:T1500F15U35



Max Depth: 7.200 m / 23.62 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-228A.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782805m E: 406616m

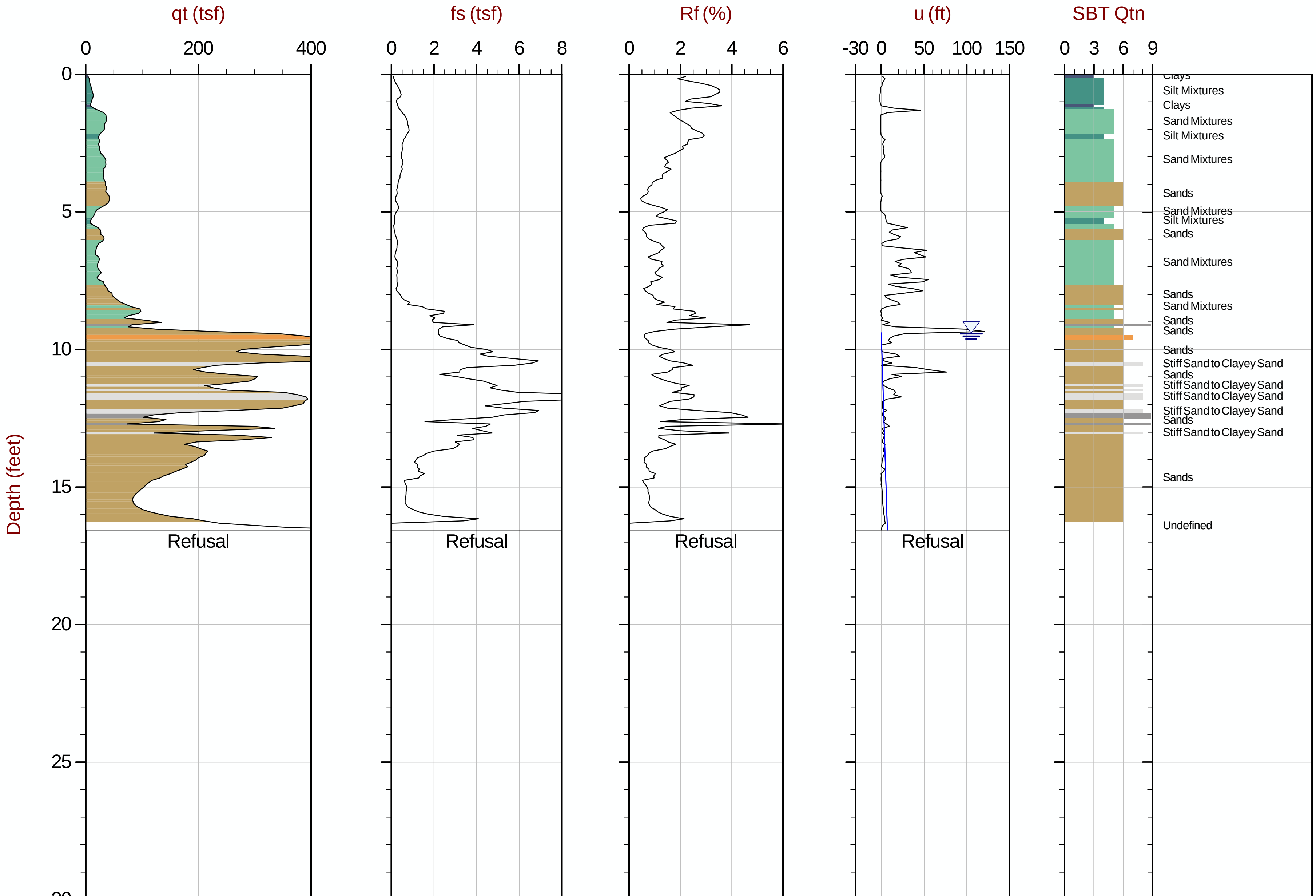
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 09:53
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-237
Cone: 606:T1500F15U35



Max Depth: 5.050 m / 16.57 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-237.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782977m E: 406285m

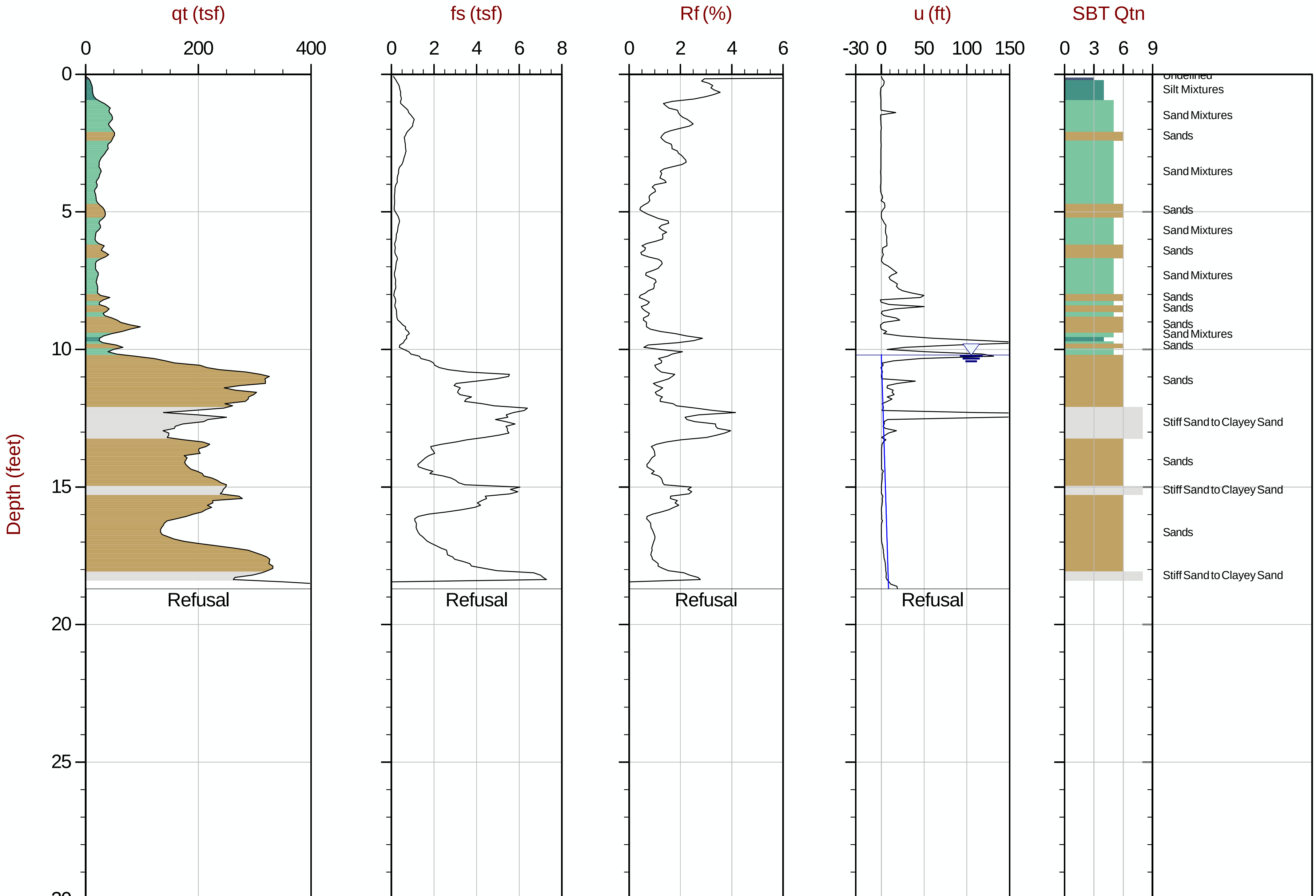
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 10:16
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-238
Cone: 606:T1500F15U35



Max Depth: 5.700 m / 18.70 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-238.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782942m E: 406333m

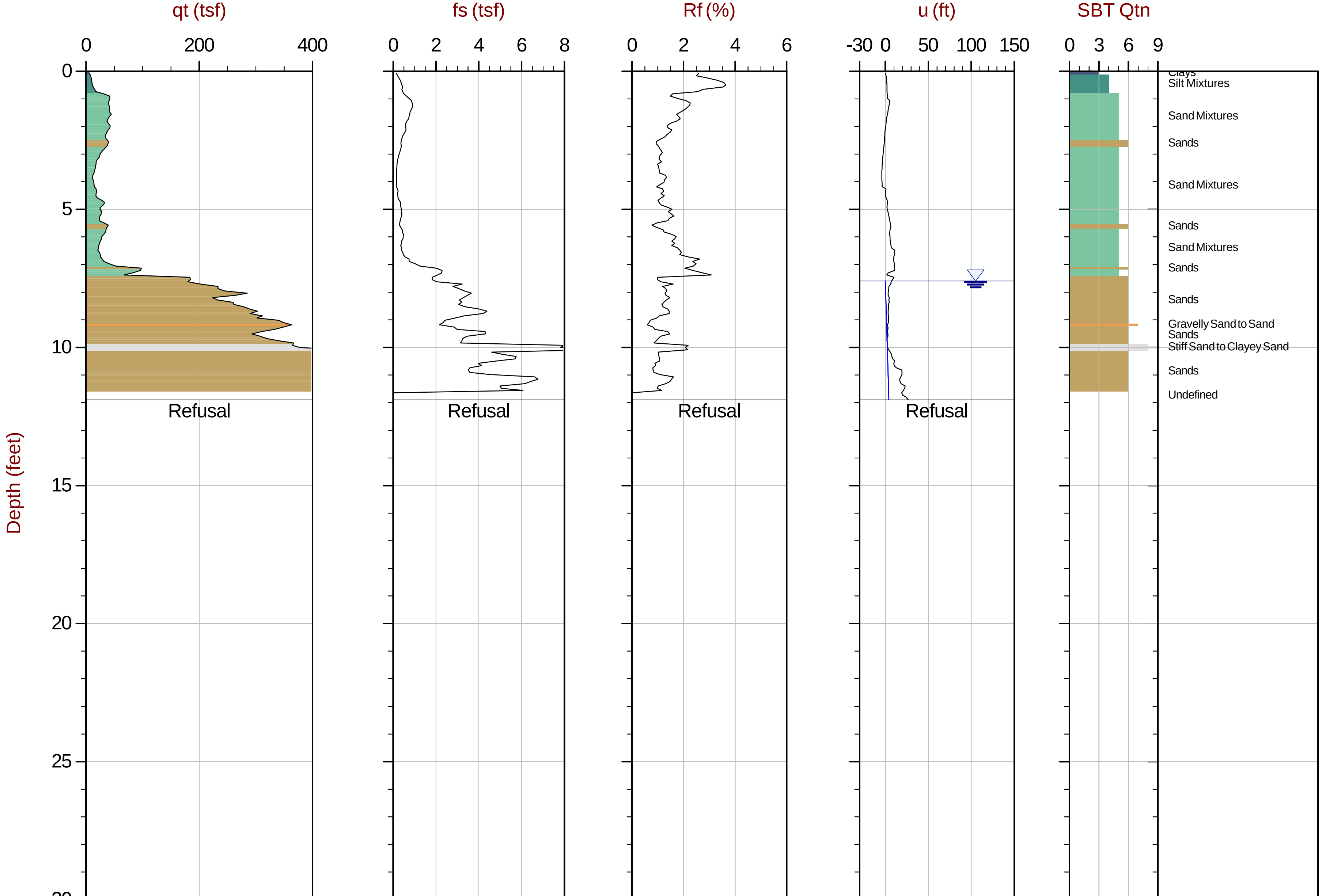
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 07:33
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-243
Cone: 604:T1500F15U35



Max Depth: 3.625 m / 11.89 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-243.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782901m E: 406077m

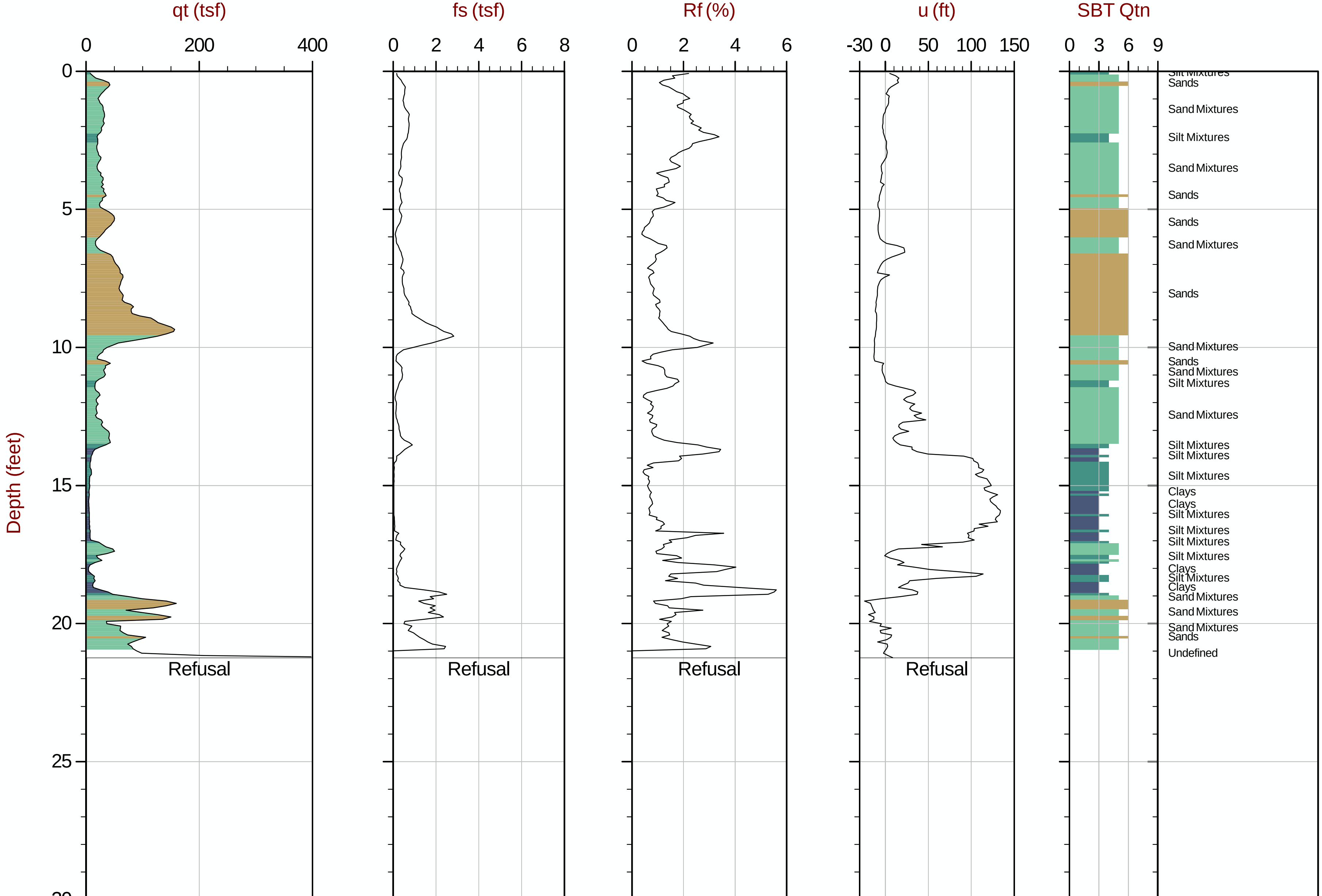
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 09:50
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-244
Cone: 604:T1500F15U35



Max Depth: 6.475 m / 21.24 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-244.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782940m E: 406022m

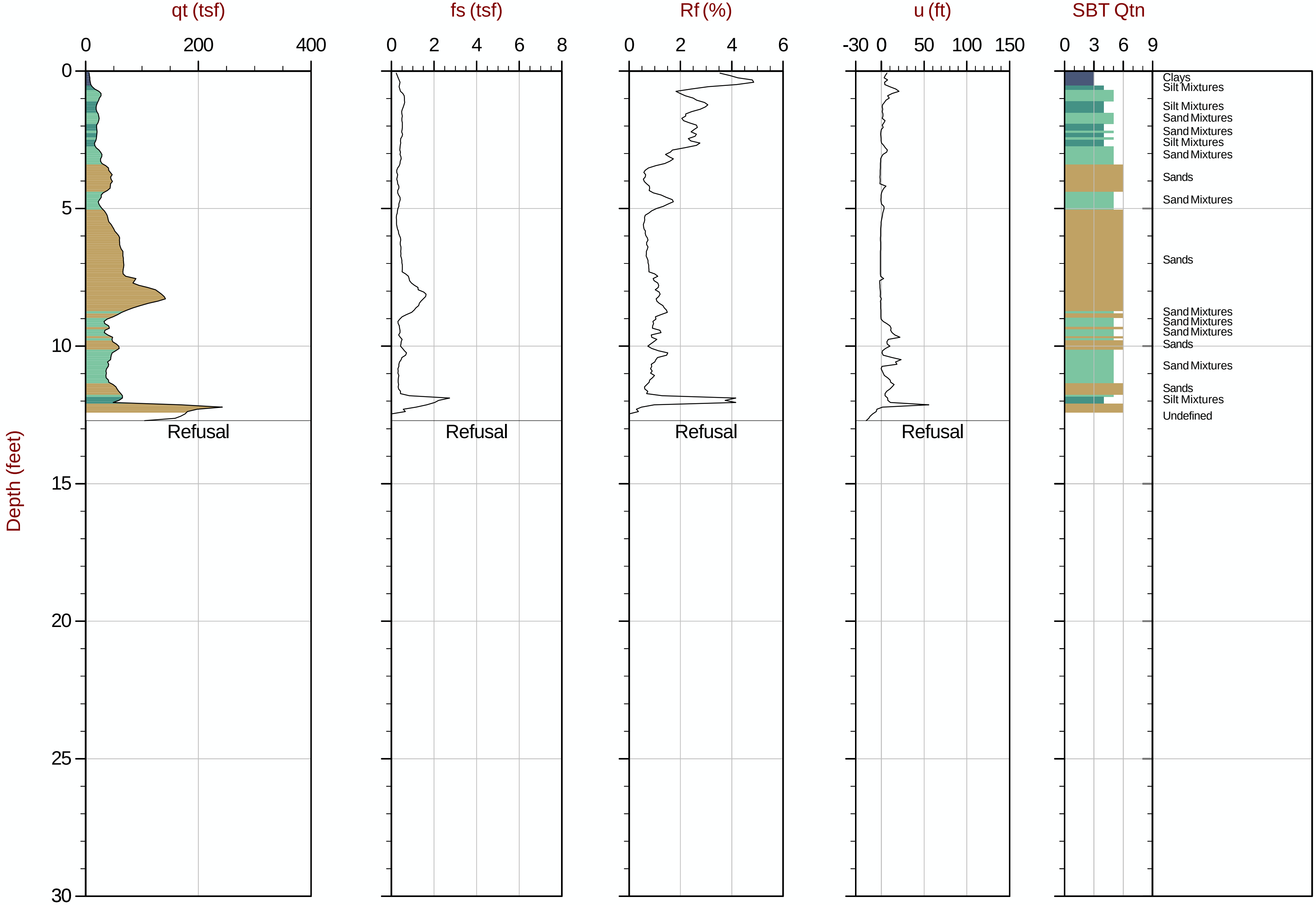
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 11:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-246
Cone: 606:T1500F15U35



Max Depth: 3.875 m / 12.71 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-246.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782950m E: 405893m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

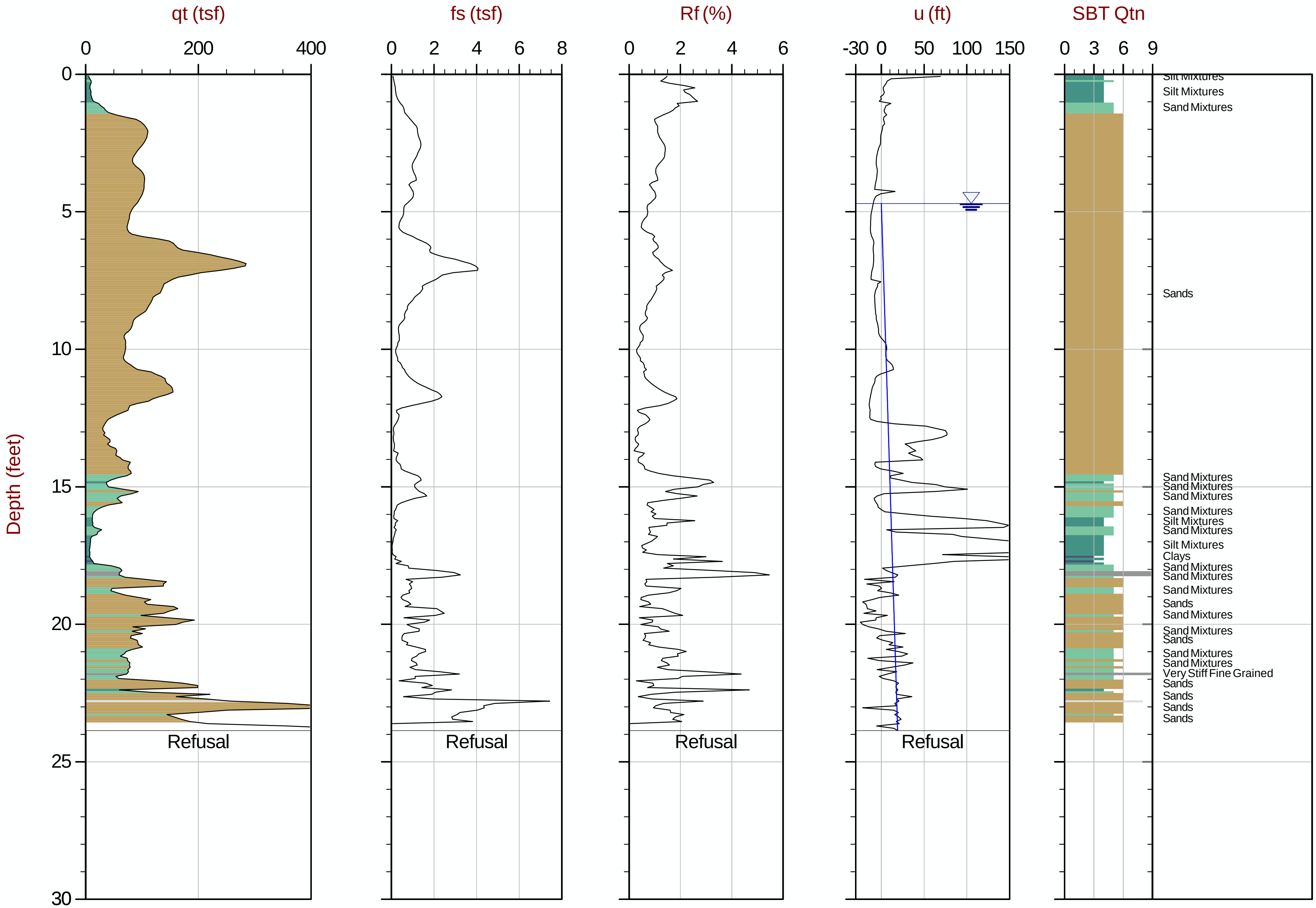
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 12:00
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-252
Cone: 606:T1500F15U35



Max Depth: 7.275 m / 23.87 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-252.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783005m E: 405730m

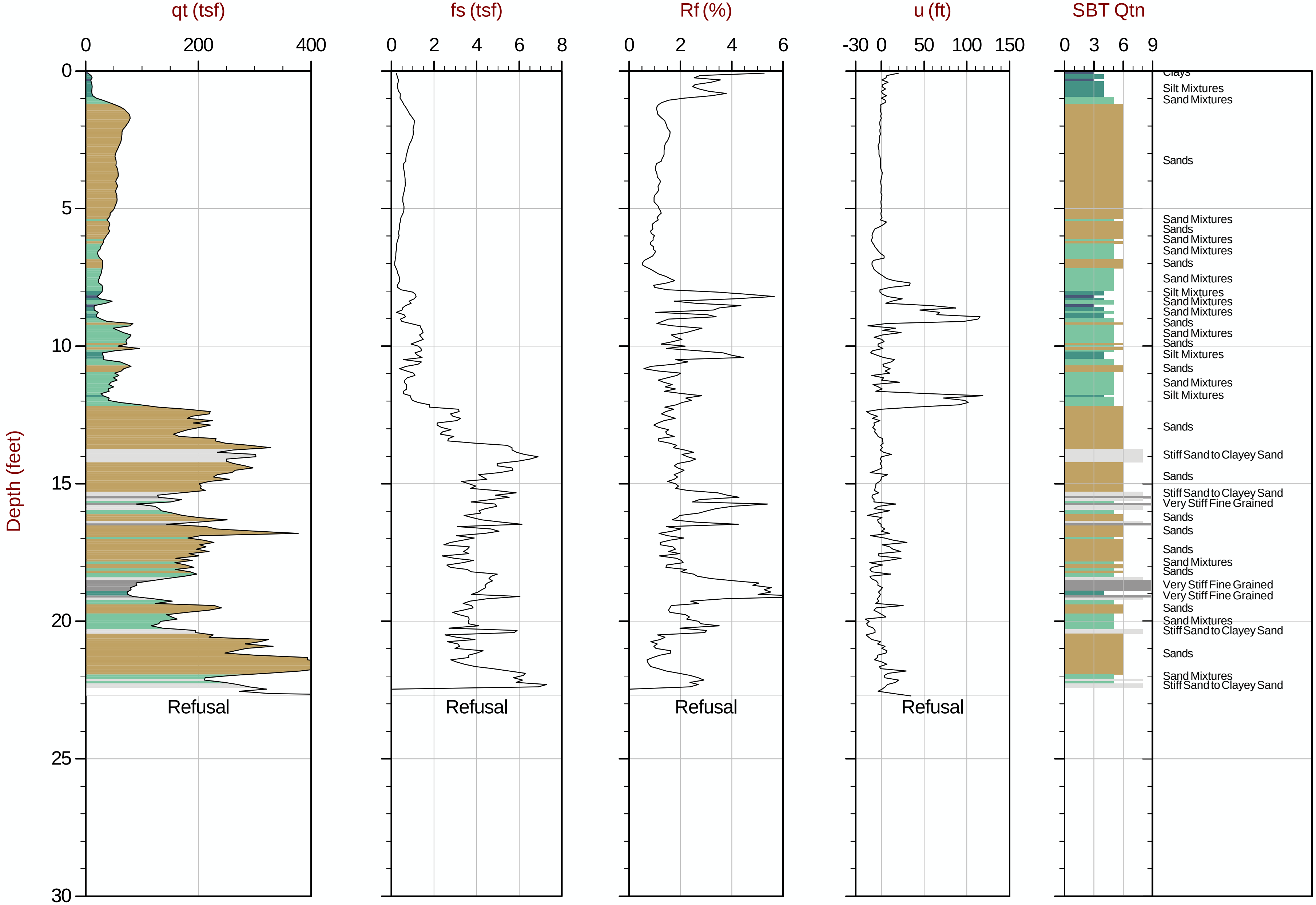
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 12:47
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-261
Cone: 606:T1500F15U35



Max Depth: 6.925 m / 22.72 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-261.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783025m E: 405815m

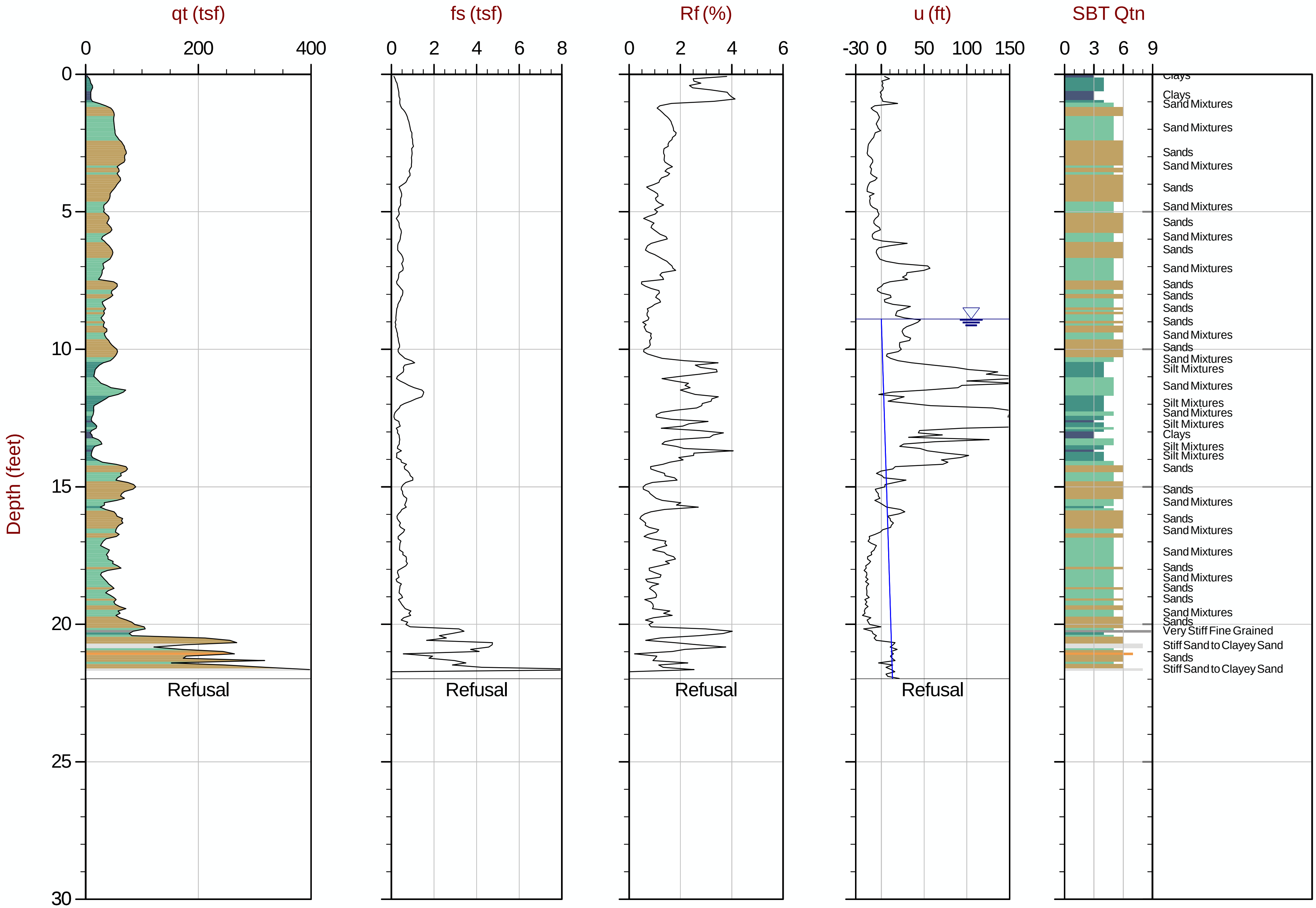
Hydrostatic Line | Ueq | Assumed Ueq | PPD, Ueq achieved | PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 15:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-262
Cone: 606:T1500F15U35



Max Depth: 6.700 m / 21.98 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-262.COR
Unit Wt: SBTQtn (PKR2009)

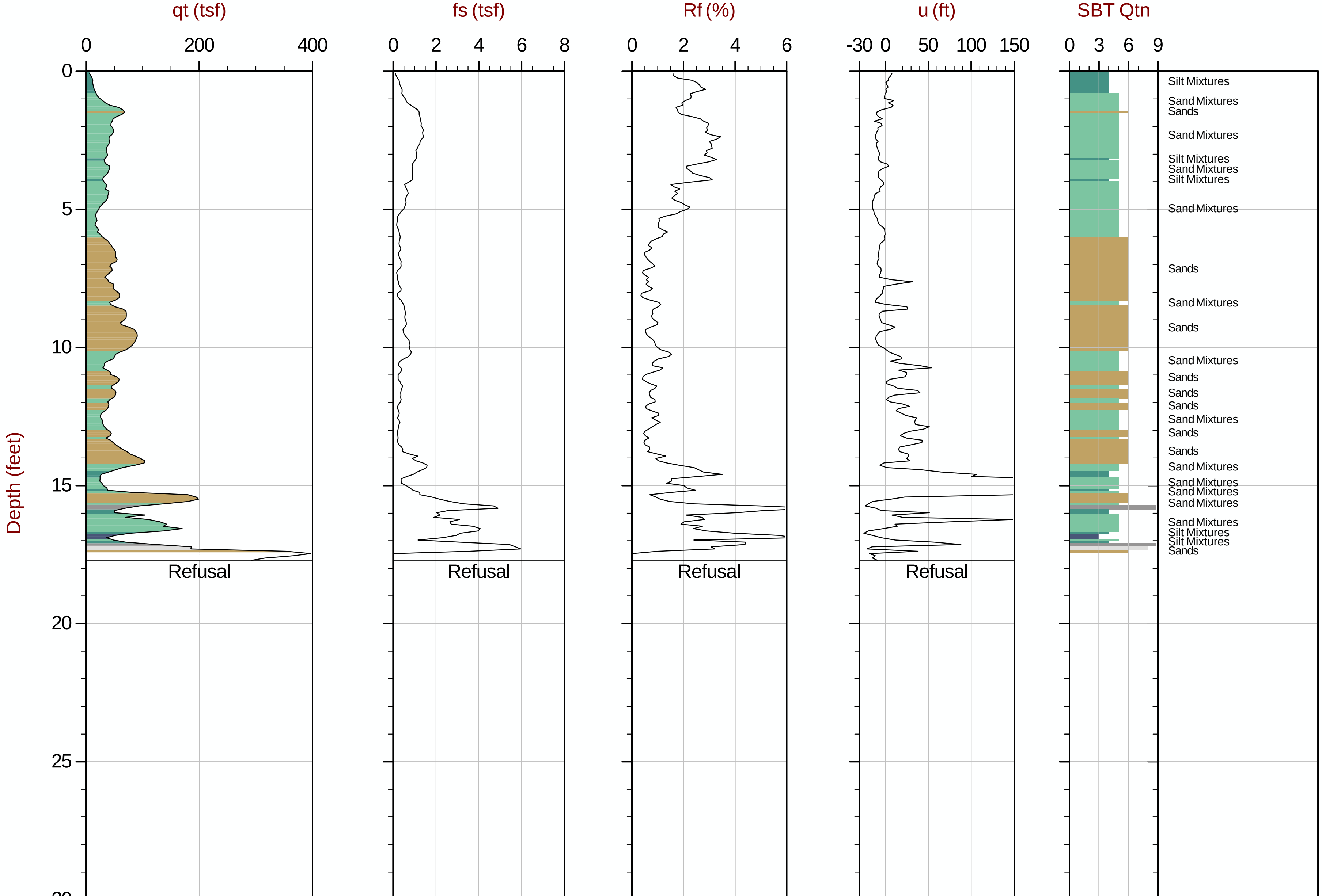
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782994m E: 405928m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 13:48
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-270
Cone: 606:T1500F15U35



Max Depth: 5.400 m / 17.72 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-270.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783073m E: 405910m

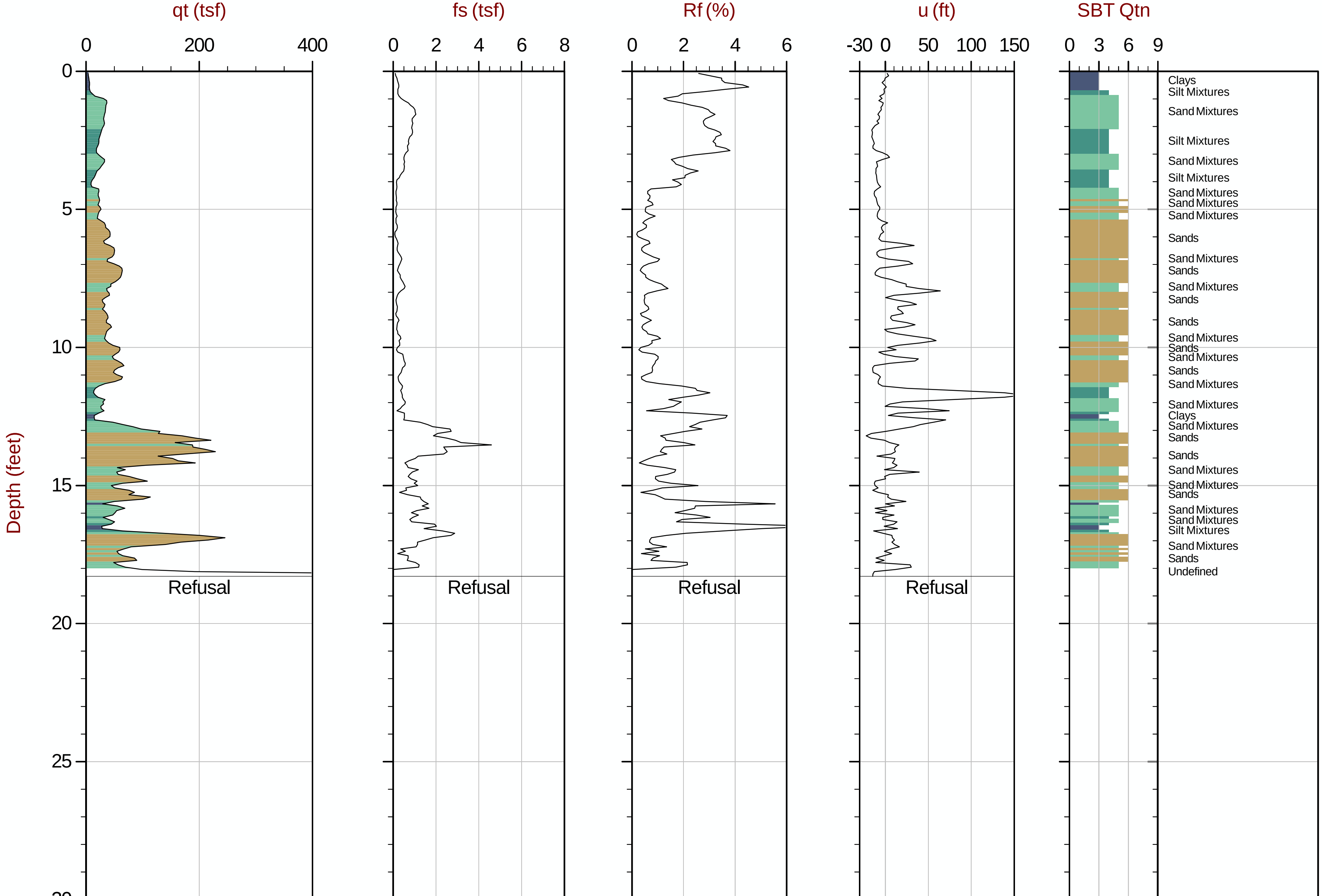
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-280
Cone: 606:T1500F15U35



Max Depth: 5.575 m / 18.29 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-280.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783111m E: 405890m

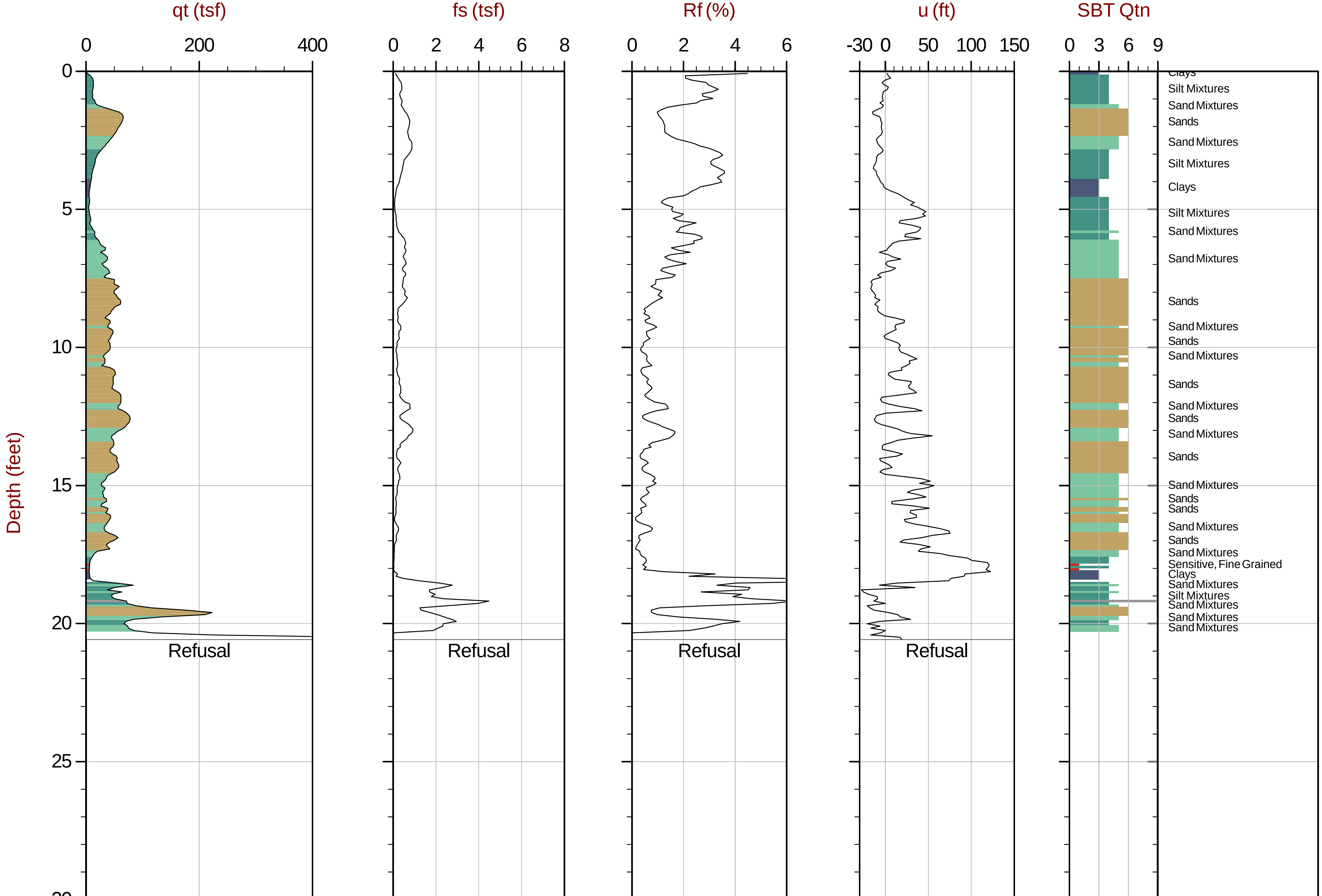
Hydrostatic Line ○ Ueq ○ Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 15:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-282
Cone: 606:T1500F15U35



Max Depth: 6.275 m / 20.59 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-282.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783220m E: 405930m

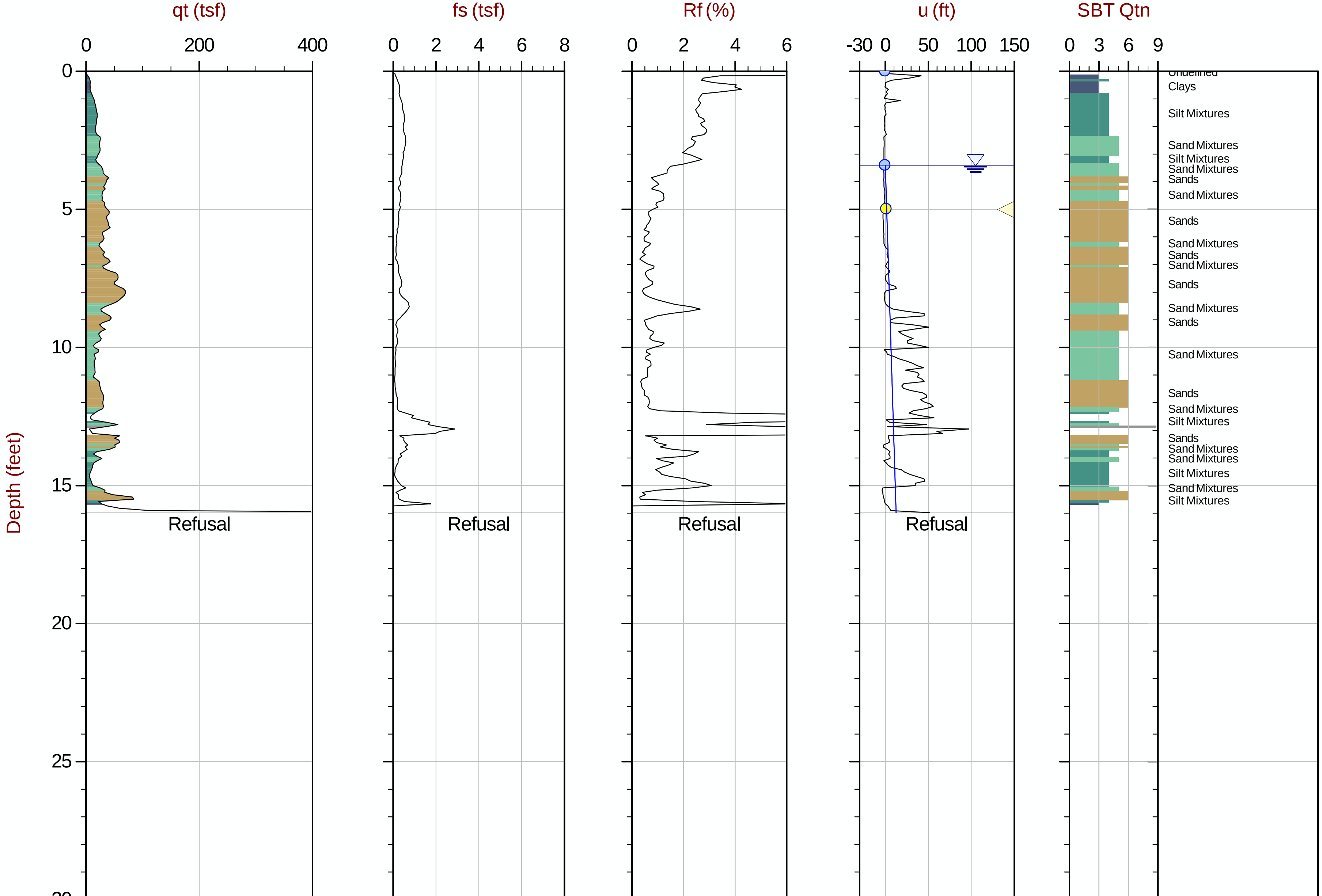
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 08:32
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-293
Cone: 606:T1500F15U35



Max Depth: 4.875 m / 15.99 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-293.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783206m E: 406149m

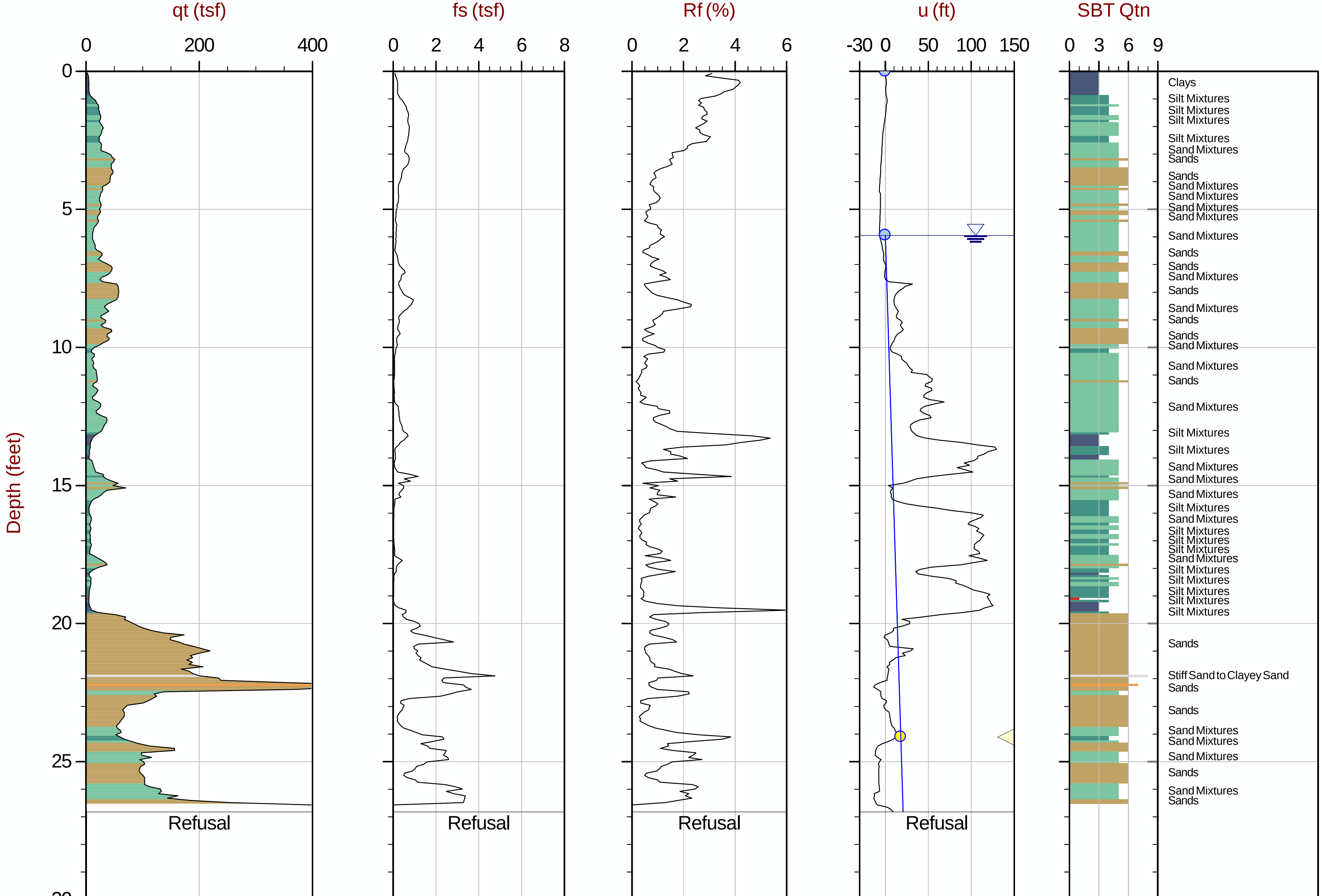
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 08:32
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-312
Cone: 604:T1500F15U35



Max Depth: 8.175 m / 26.82 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-312.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782765m E: 406355m

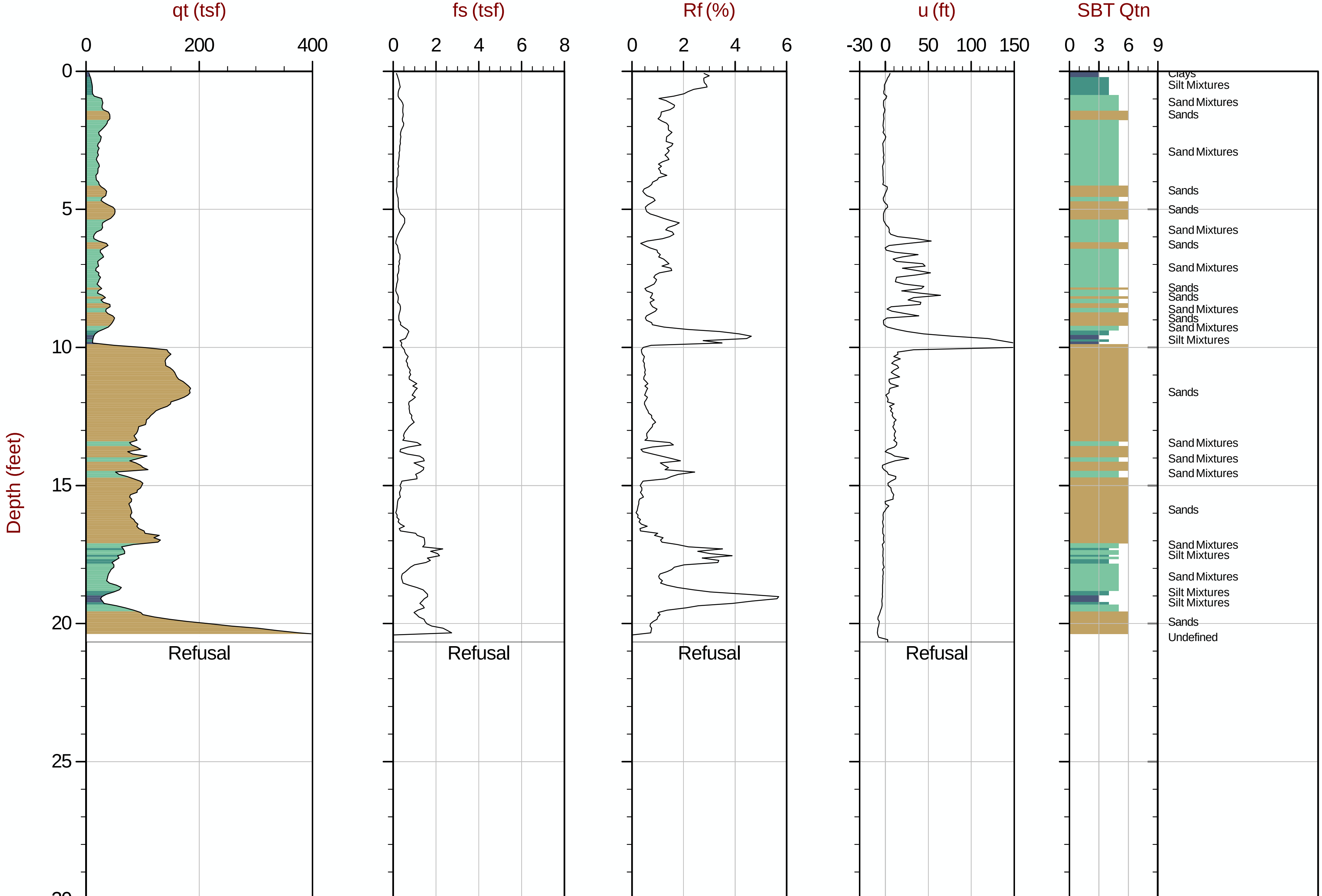
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 11:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-325
Cone: 606:T1500F15U35



Max Depth: 6.300 m / 20.67 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-325.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782627m E: 406459m

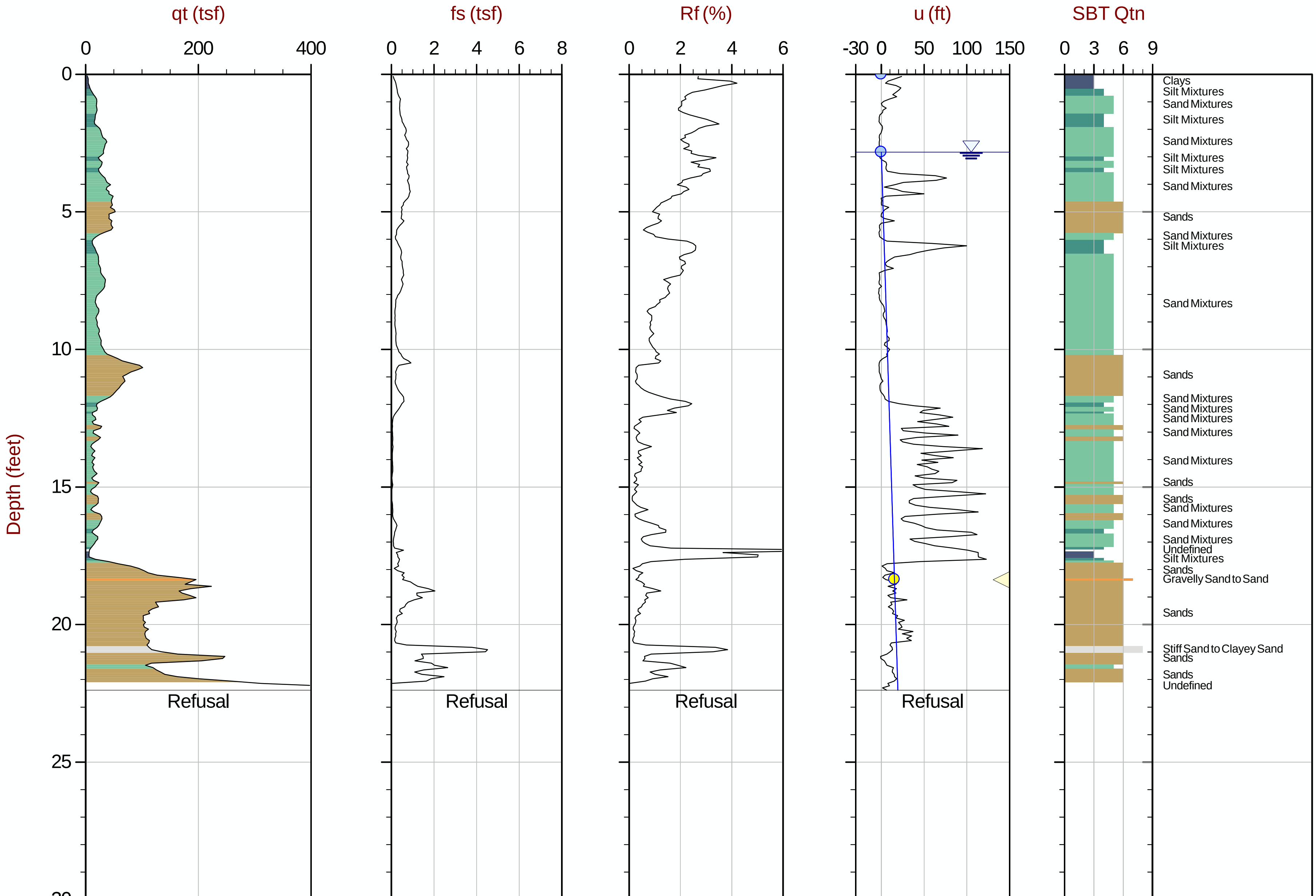
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 10:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-327
Cone: 606:T1500F15U35



Max Depth: 6.825 m / 22.39 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-327.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782553m E: 406579m

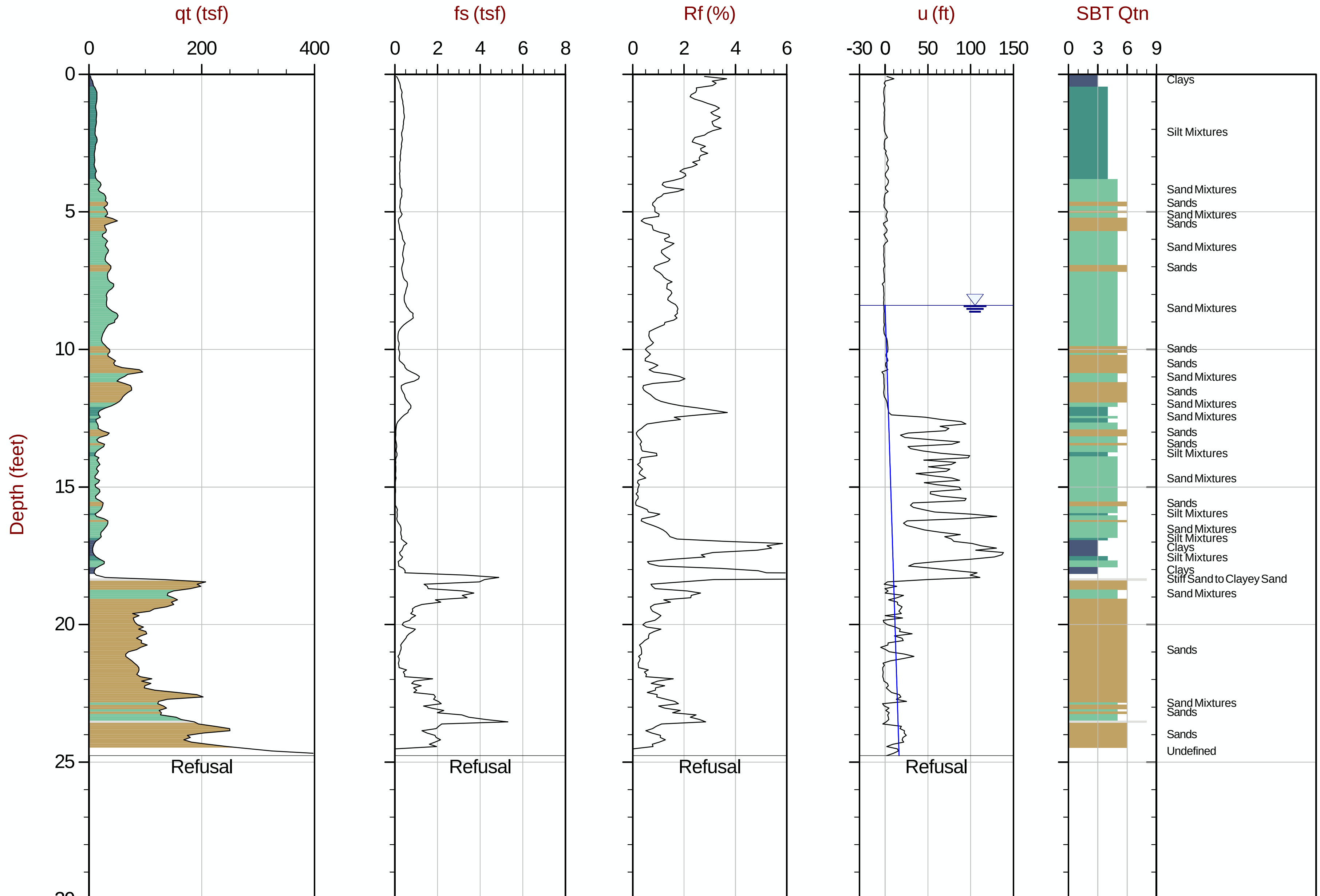
Hydrostatic Line ● Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 09:35
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-329
Cone: 606:T1500F15U35



Max Depth: 7.550 m / 24.77 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-329.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782556m E: 406475m

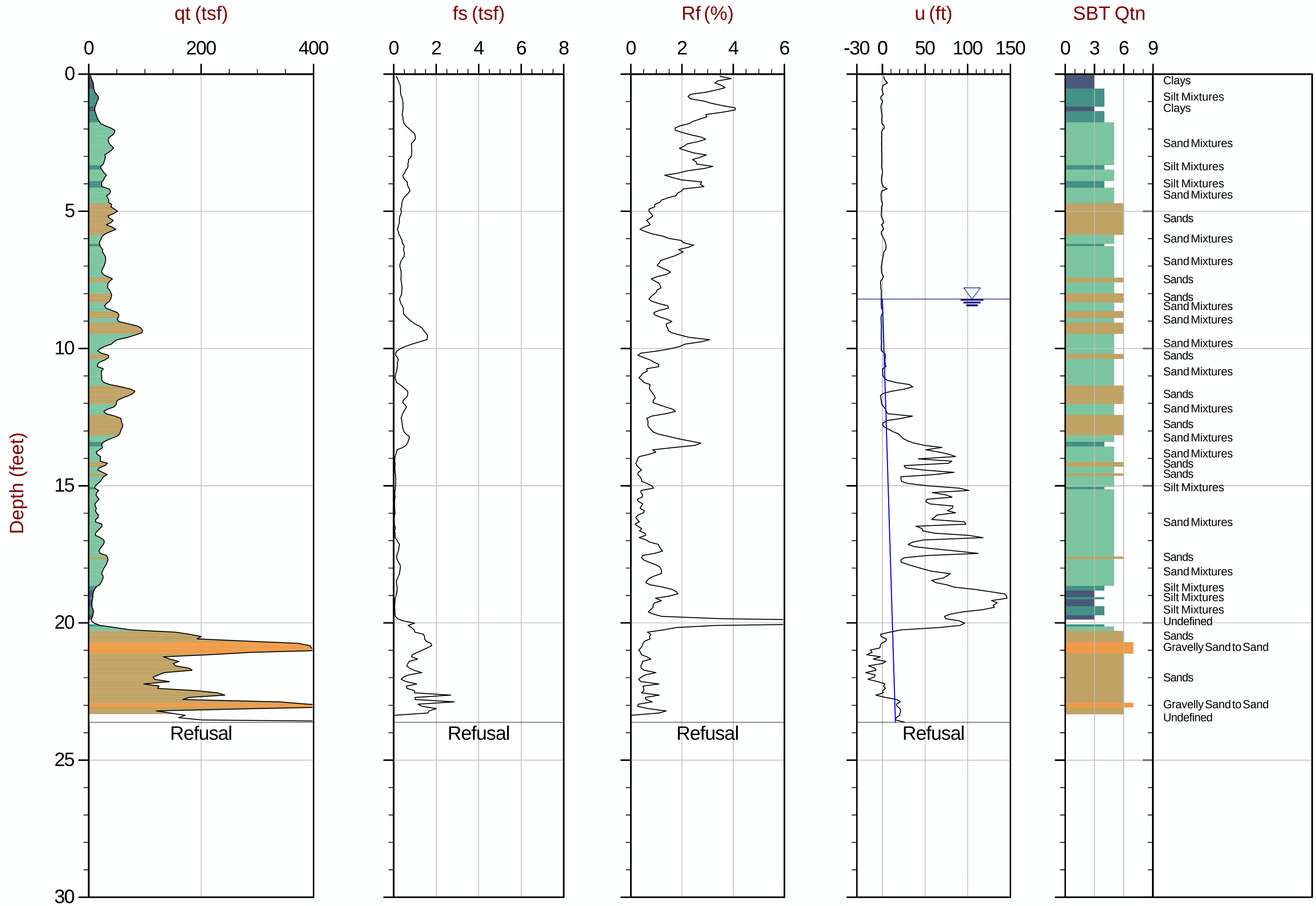
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 08:46
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-330
Cone: 606:T1500F15U35



Max Depth: 7.200 m / 23.62 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-330.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782560m E: 406351m

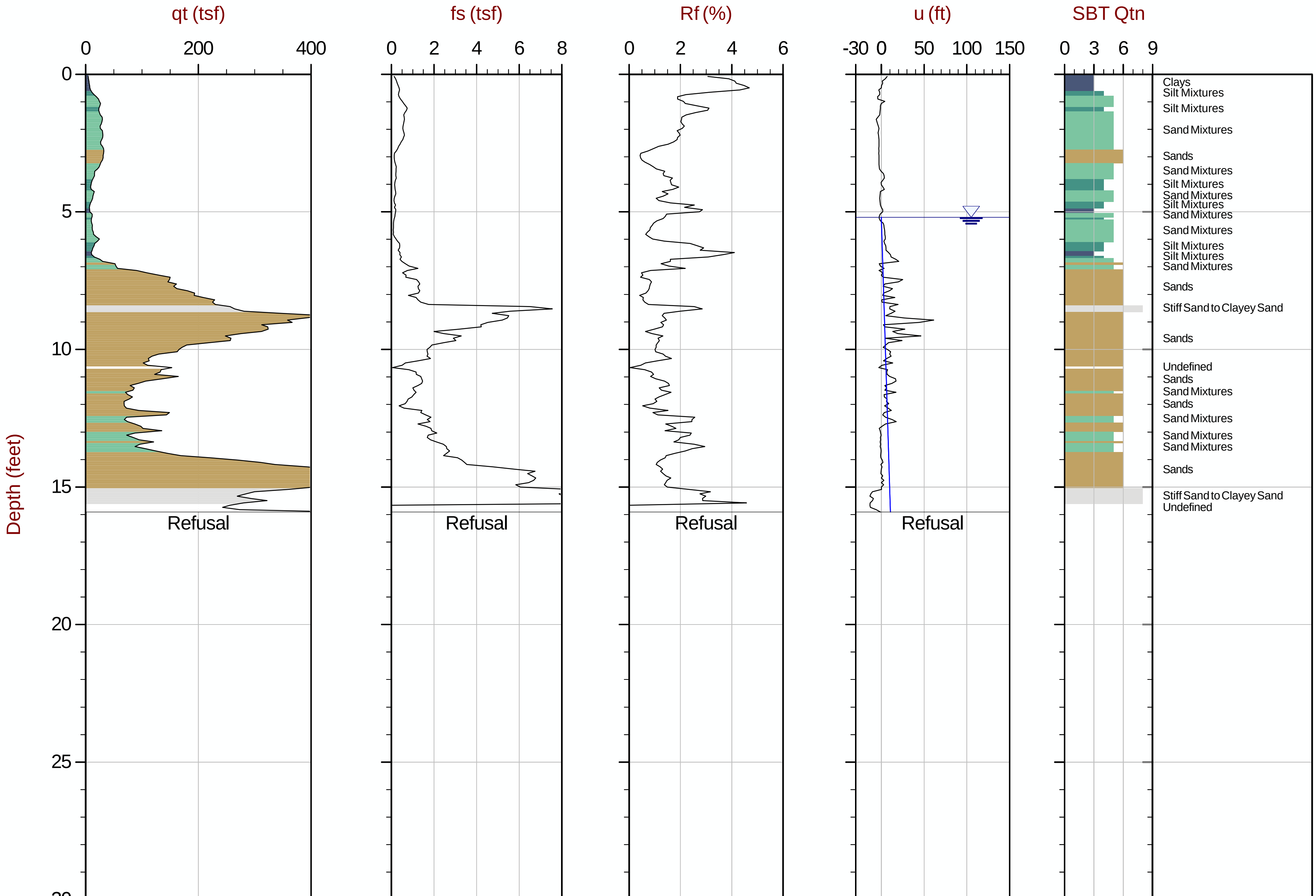
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 07:24
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-332
Cone: 606:T1500F15U35



Max Depth: 4.850 m / 15.91 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-332.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782558m E: 406102m

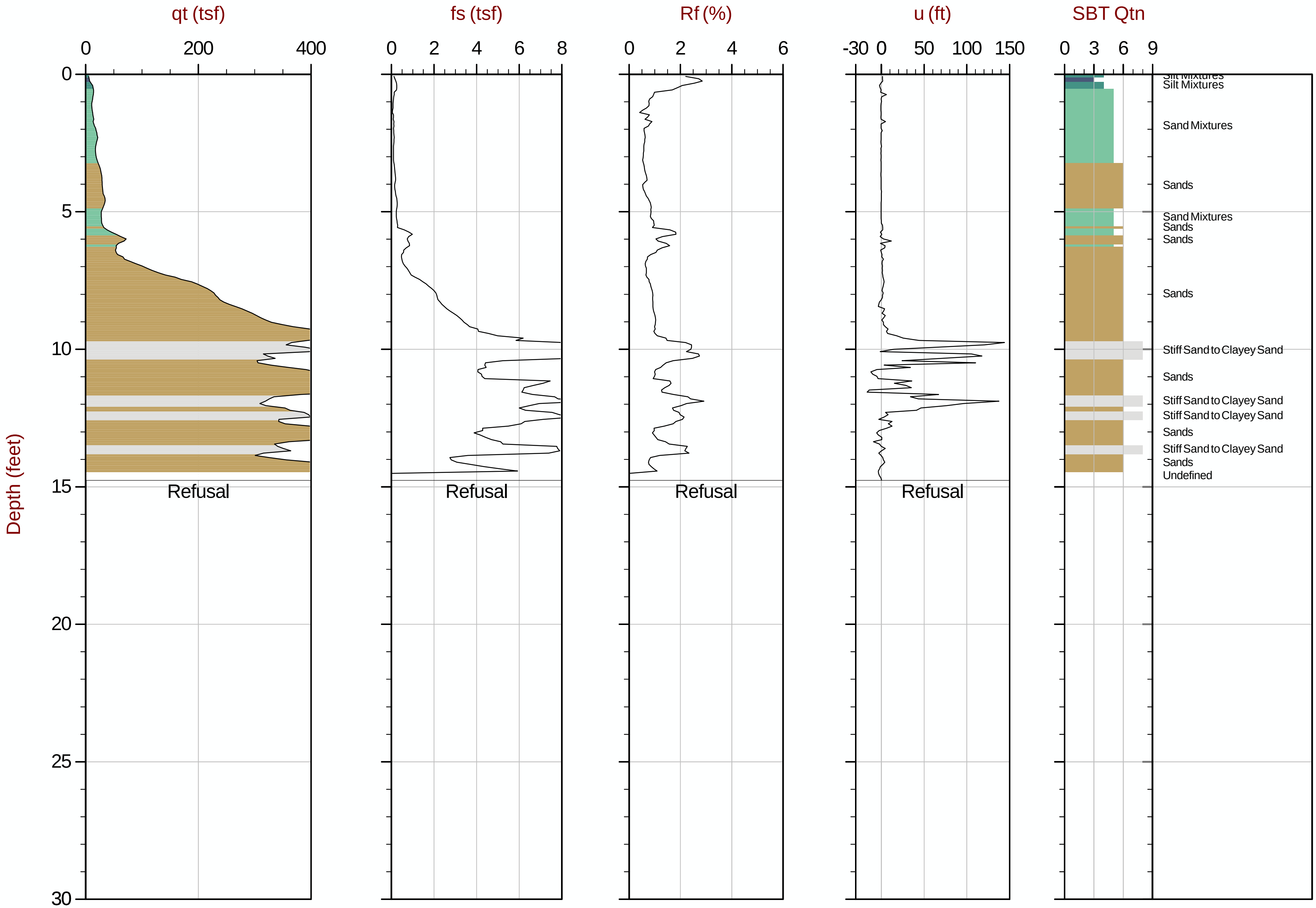
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 16:22
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-345
Cone: 606:T1500F15U35



Max Depth: 4.500 m / 14.76 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-345.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782374m E: 406153m

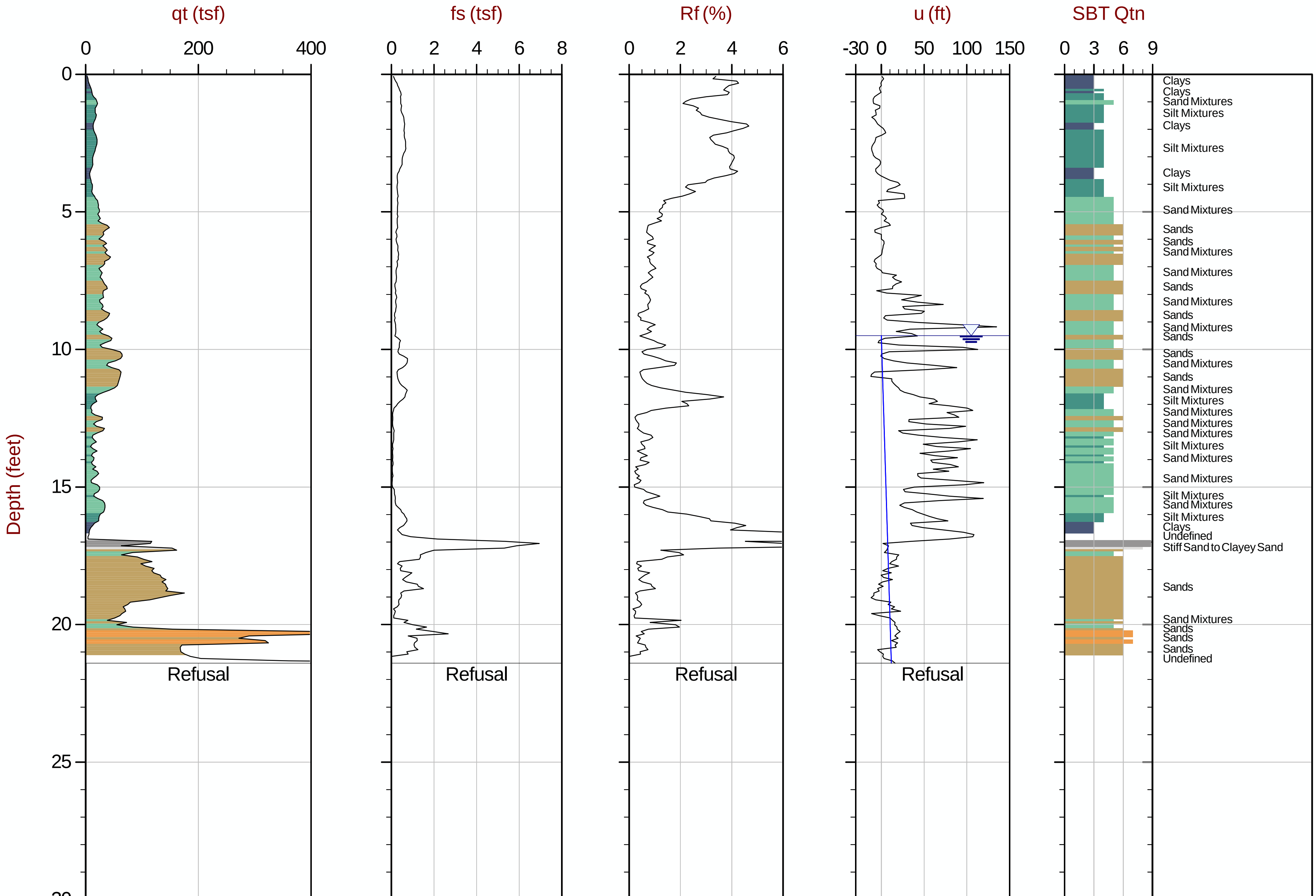
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 15:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-351
Cone: 606:T1500F15U35



Max Depth: 6.525 m / 21.41 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-351.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782409m E: 406505m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

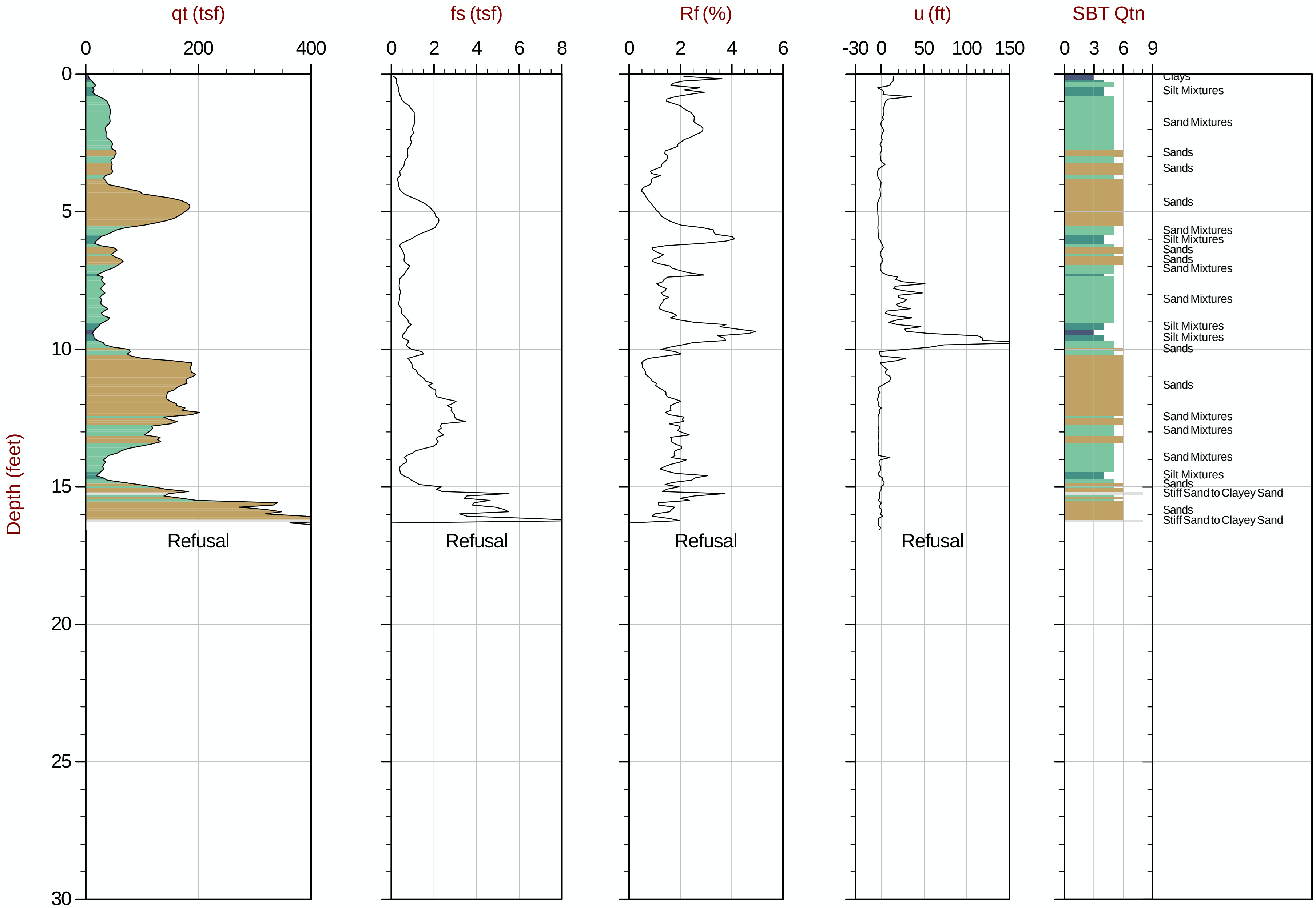
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 15:41
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-360
Cone: 606:T1500F15U35



Max Depth: 5.050 m / 16.57 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-360.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782560m E: 405998m

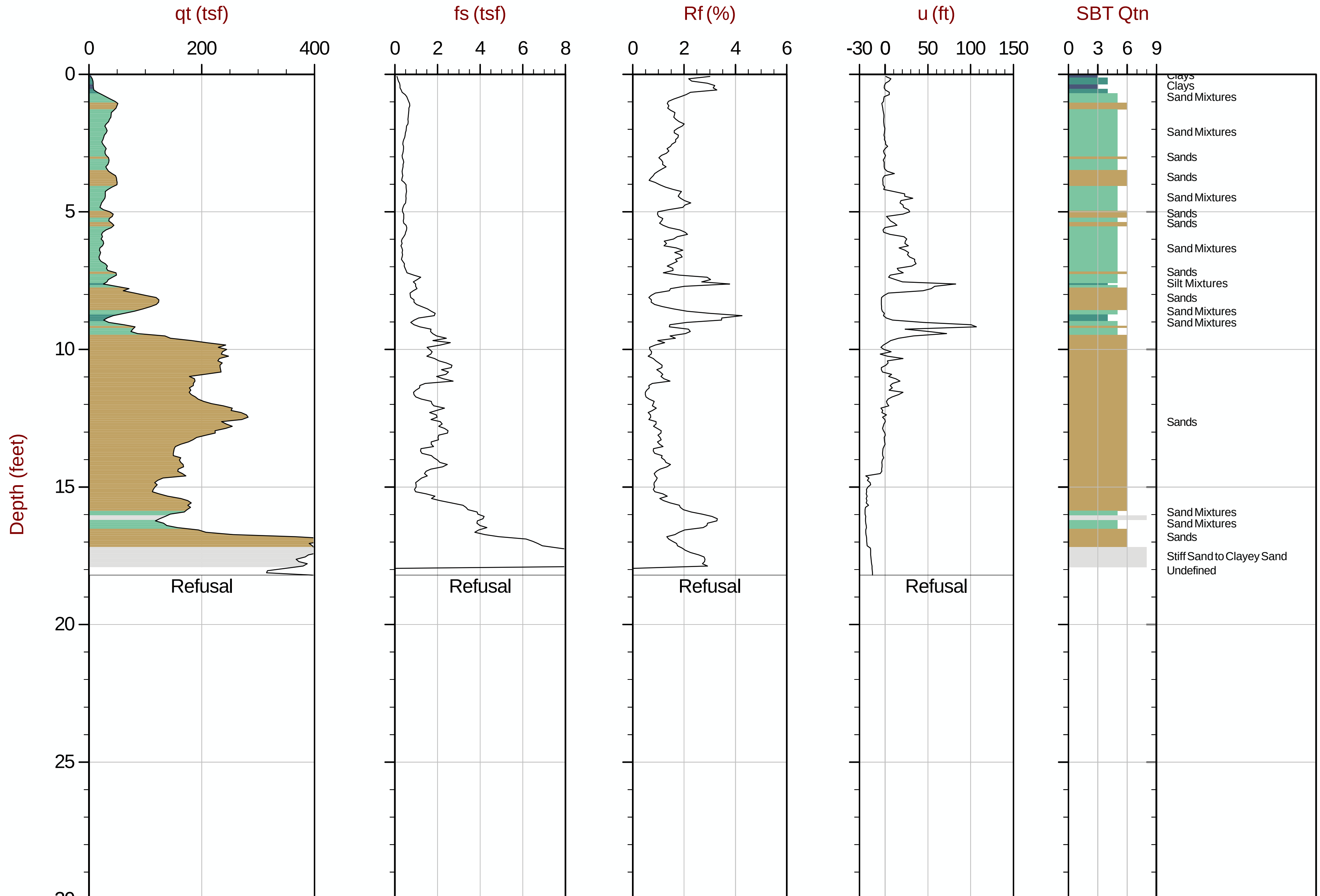
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 15:11
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-362
Cone: 606:T1500F15U35



Max Depth: 5.550 m / 18.21 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-362.COR
Unit Wt: SBTQtn (PKR2009)

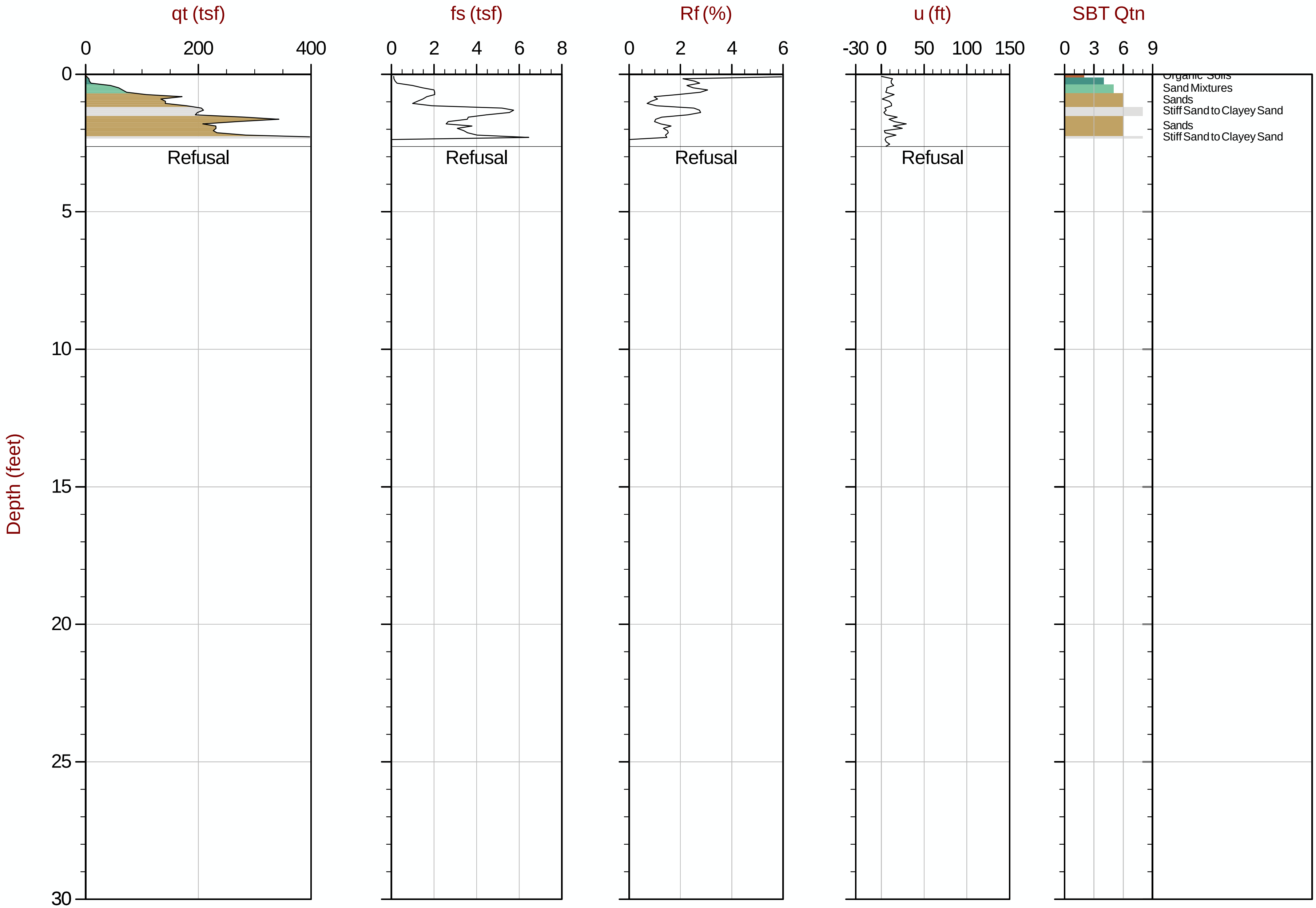
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782651m E: 405887m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 14:34
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-365
Cone: 606:T1500F15U35



Max Depth: 0.800 m / 2.62 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-365.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782724m E: 405704m

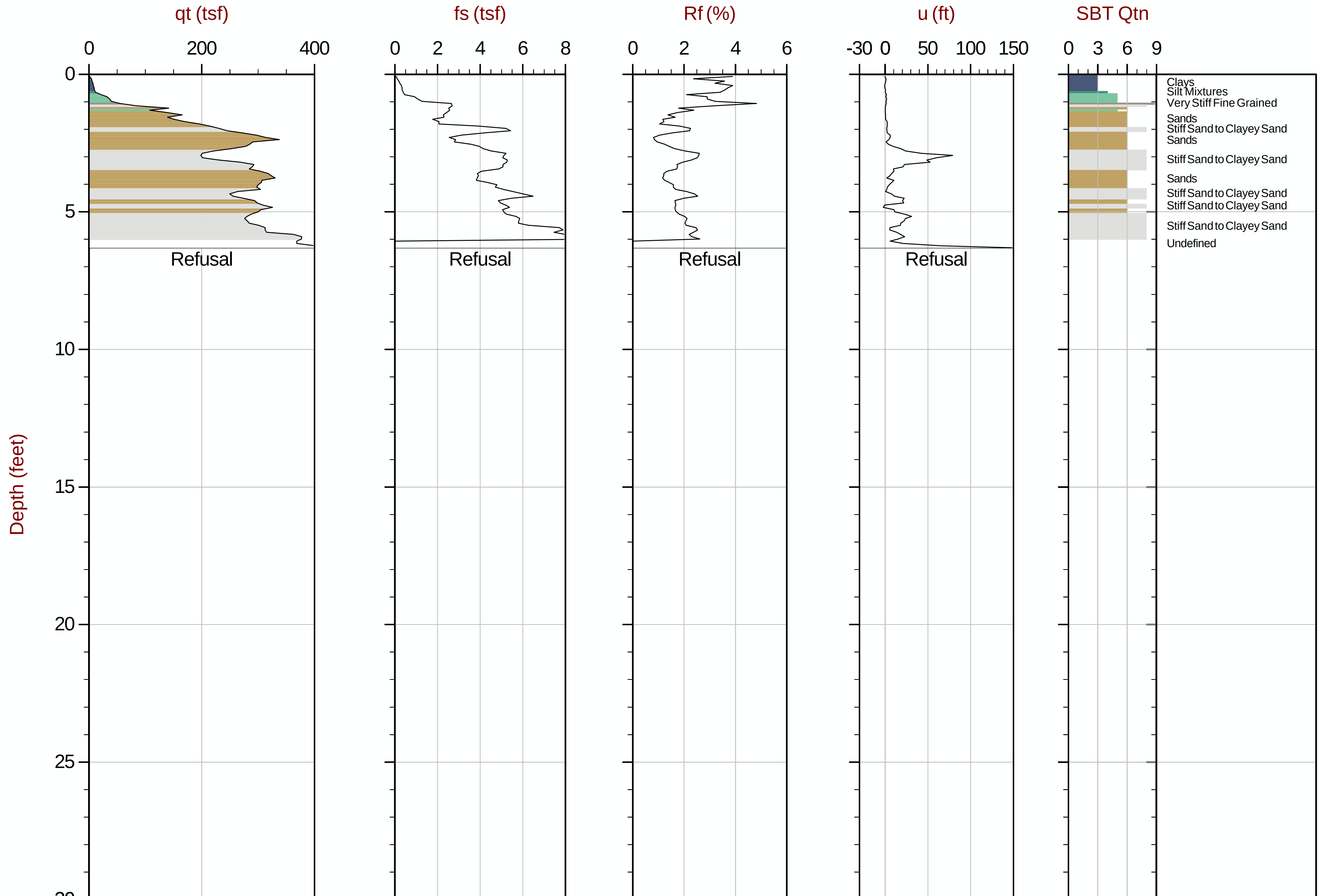
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 14:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-365A
Cone: 606:T1500F15U35



Max Depth: 1.925 m / 6.32 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-365A.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782716m E: 405705m

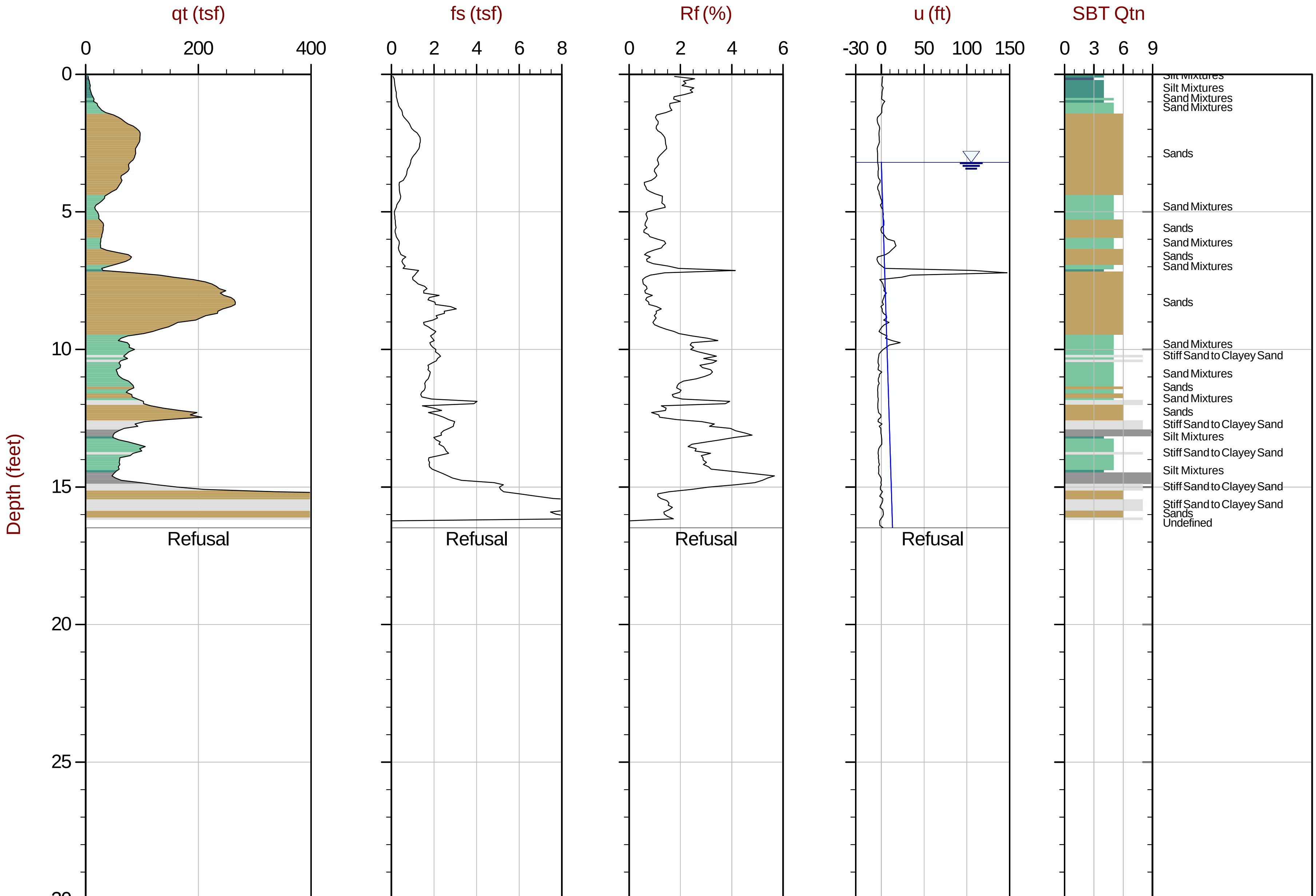
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 12:53
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-371
Cone: 606:T1500F15U35



Max Depth: 5.025 m / 16.49 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-371.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782809m E: 405685m

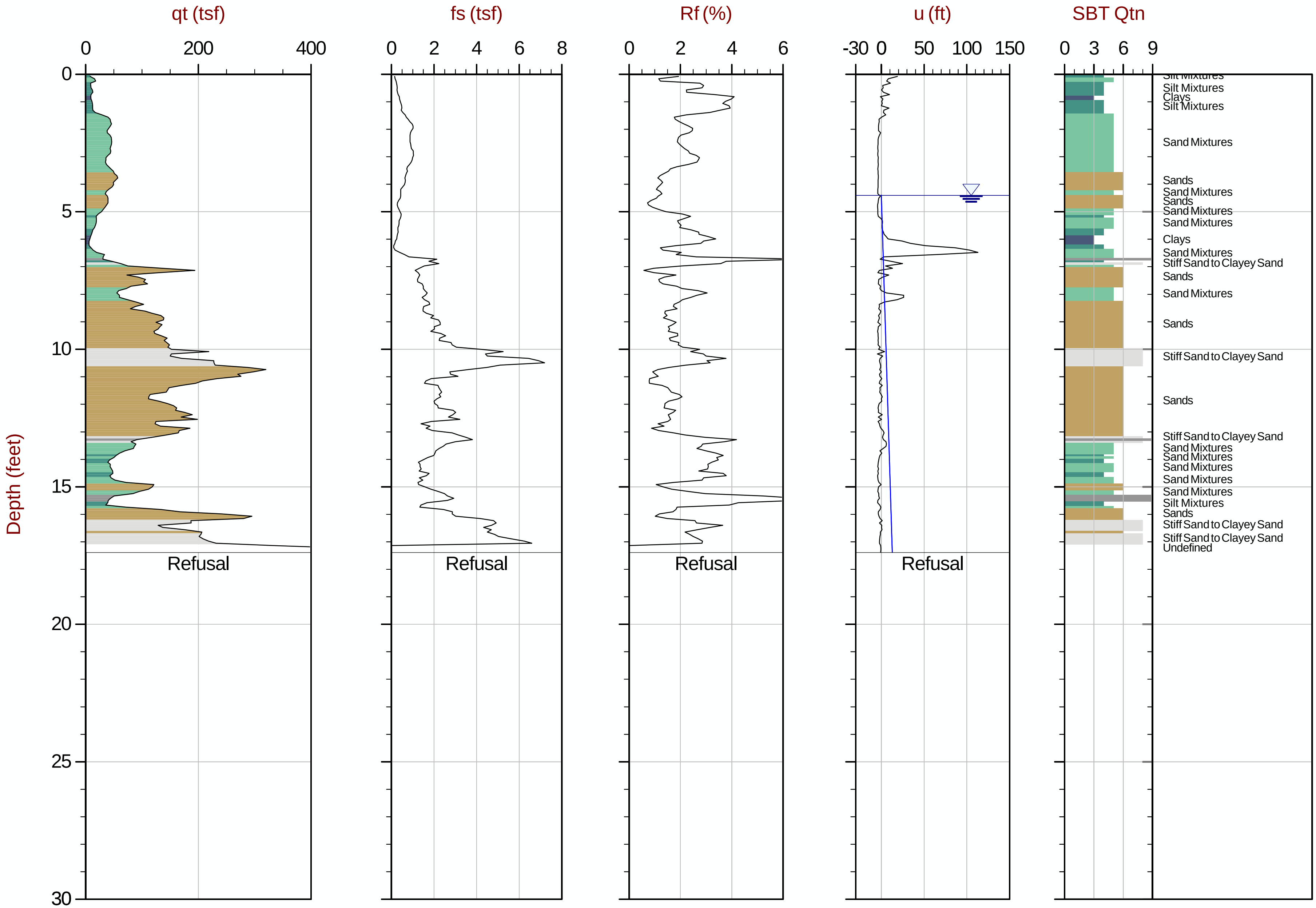
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 13:25
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-372
Cone: 606:T1500F15U35



Max Depth: 5.300 m / 17.39 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-372.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782756m E: 405814m

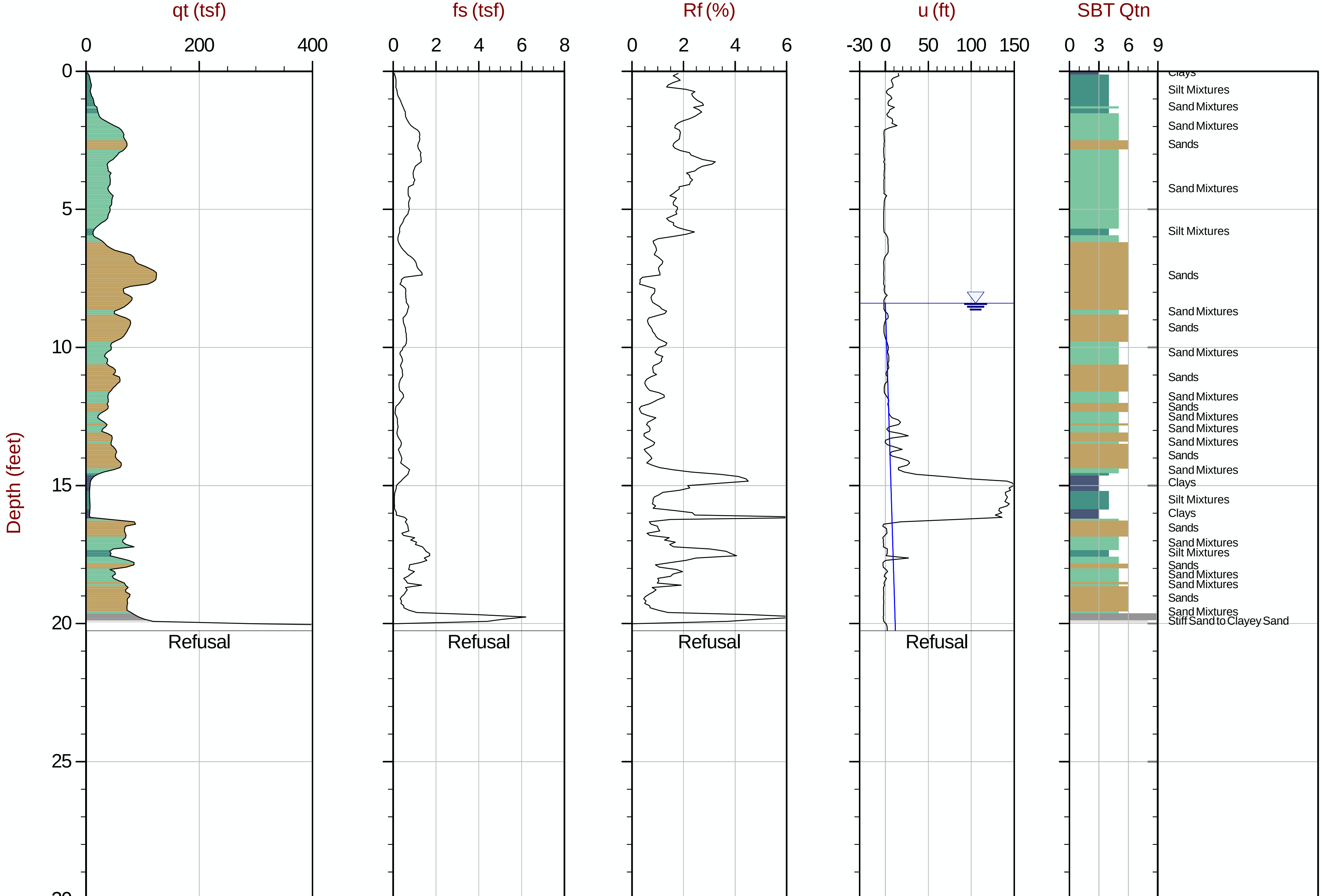
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 12:15
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-381
Cone: 606:T1500F15U35



Max Depth: 6.175 m / 20.26 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-381.COR
Unit Wt: SBTQtn (PKR2009)

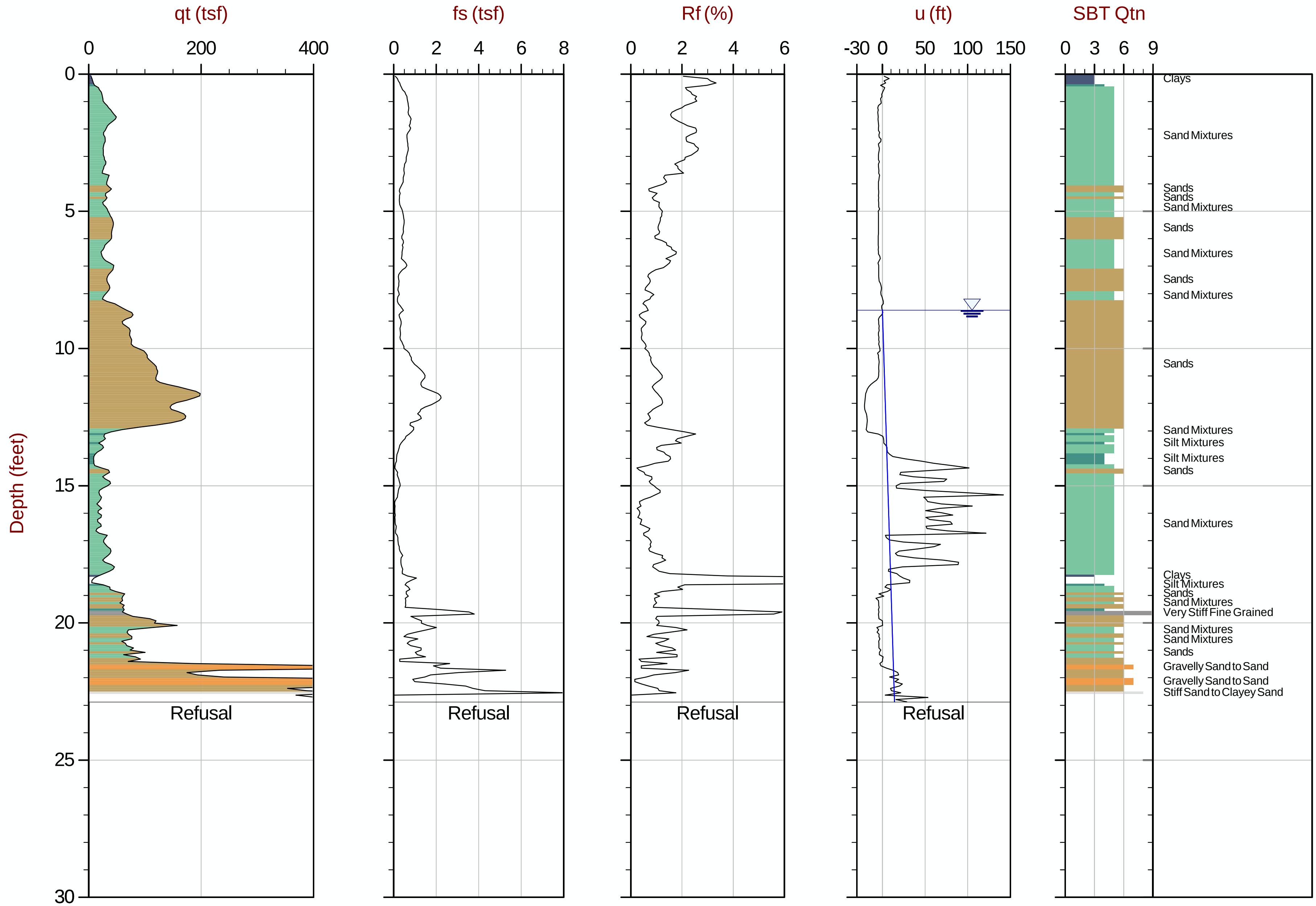
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782851m E: 405725m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 13:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-383
Cone: 606:T1500F15U35



Max Depth: 6.975 m / 22.88 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-383.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782758m E: 405878m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

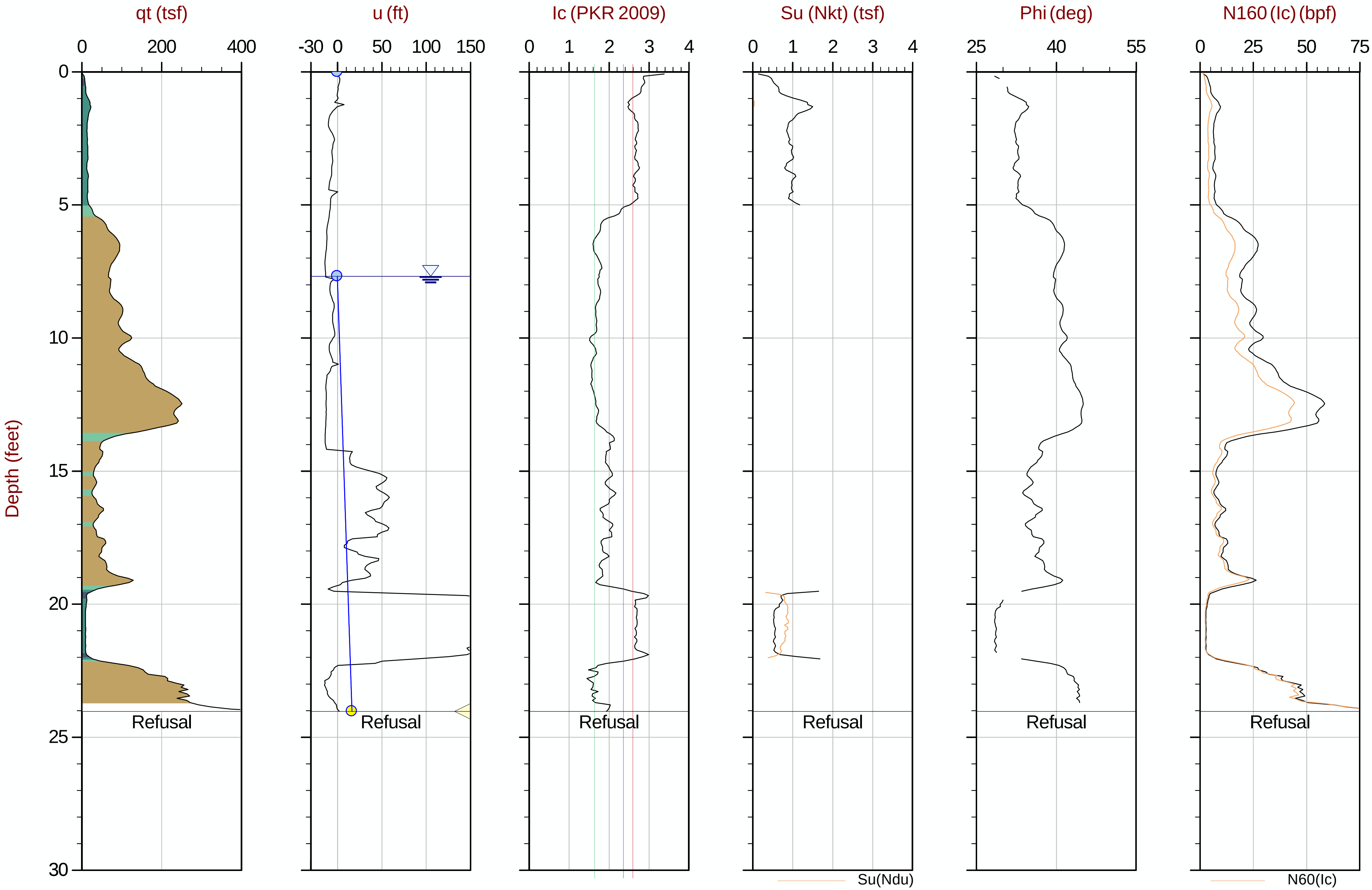
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Advanced Cone Penetration Test Plots

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 12:03
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-004
Cone: 604:T1500F15U35



Max Depth: 7.325 m / 24.03 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-004.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783255m E: 405402m

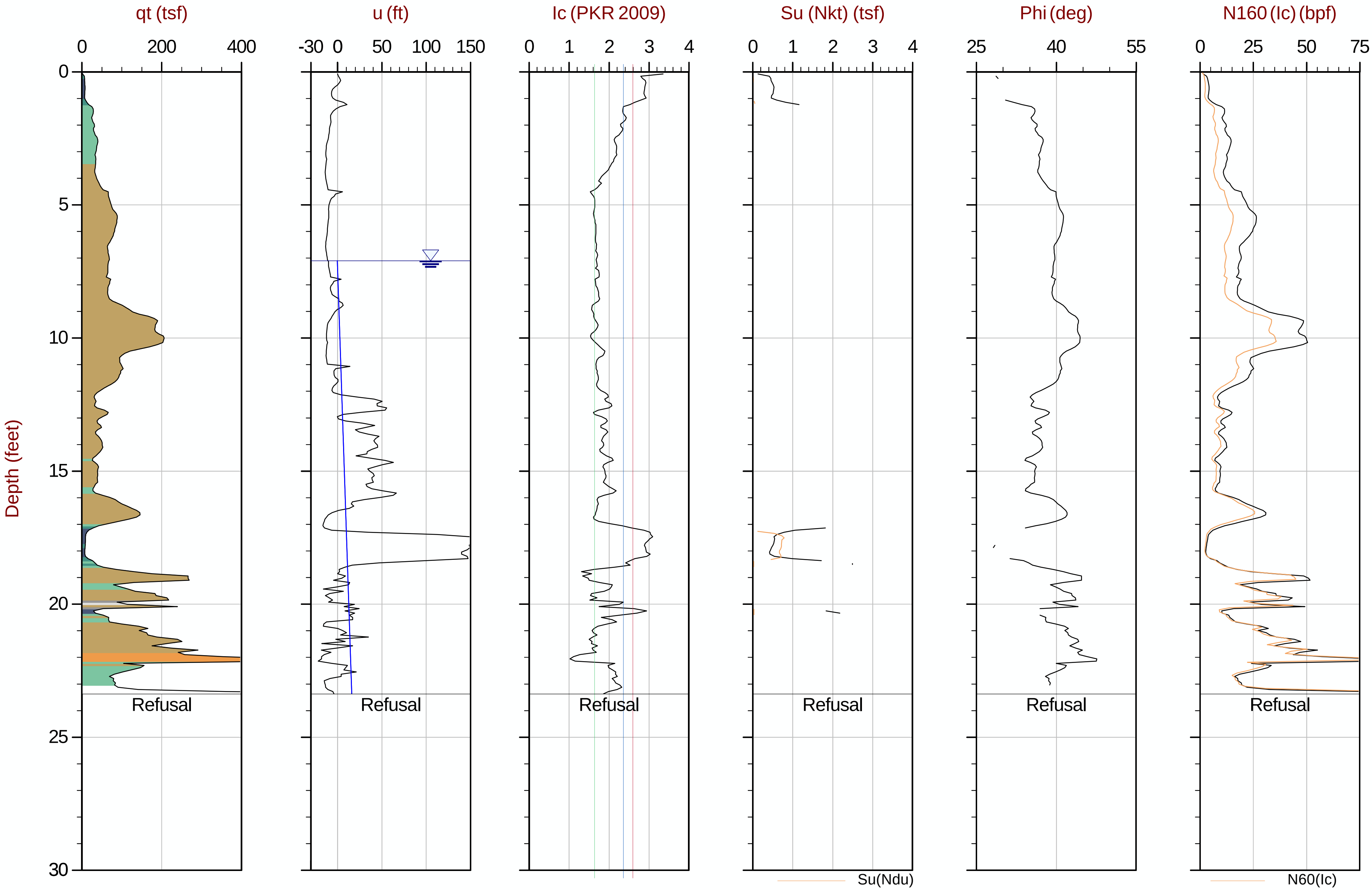
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 12:43
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-006
Cone: 604:T1500F15U35



Max Depth: 7.125 m / 23.38 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-006.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783259m E: 405526m

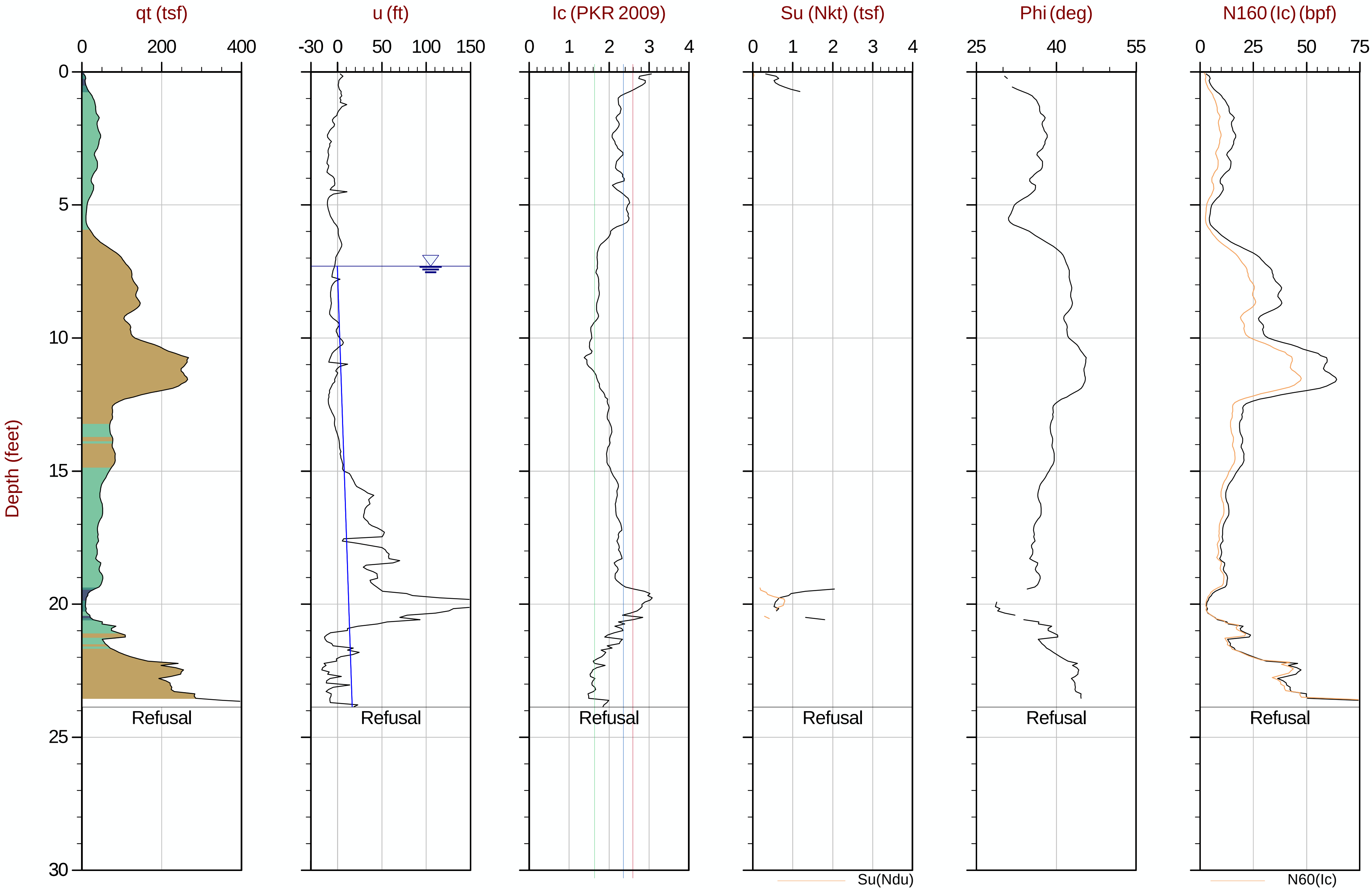
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 10:45
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-008
Cone: 604:T1500F15U35



Max Depth: 7.275 m / 23.87 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-008.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783184m E: 405225m

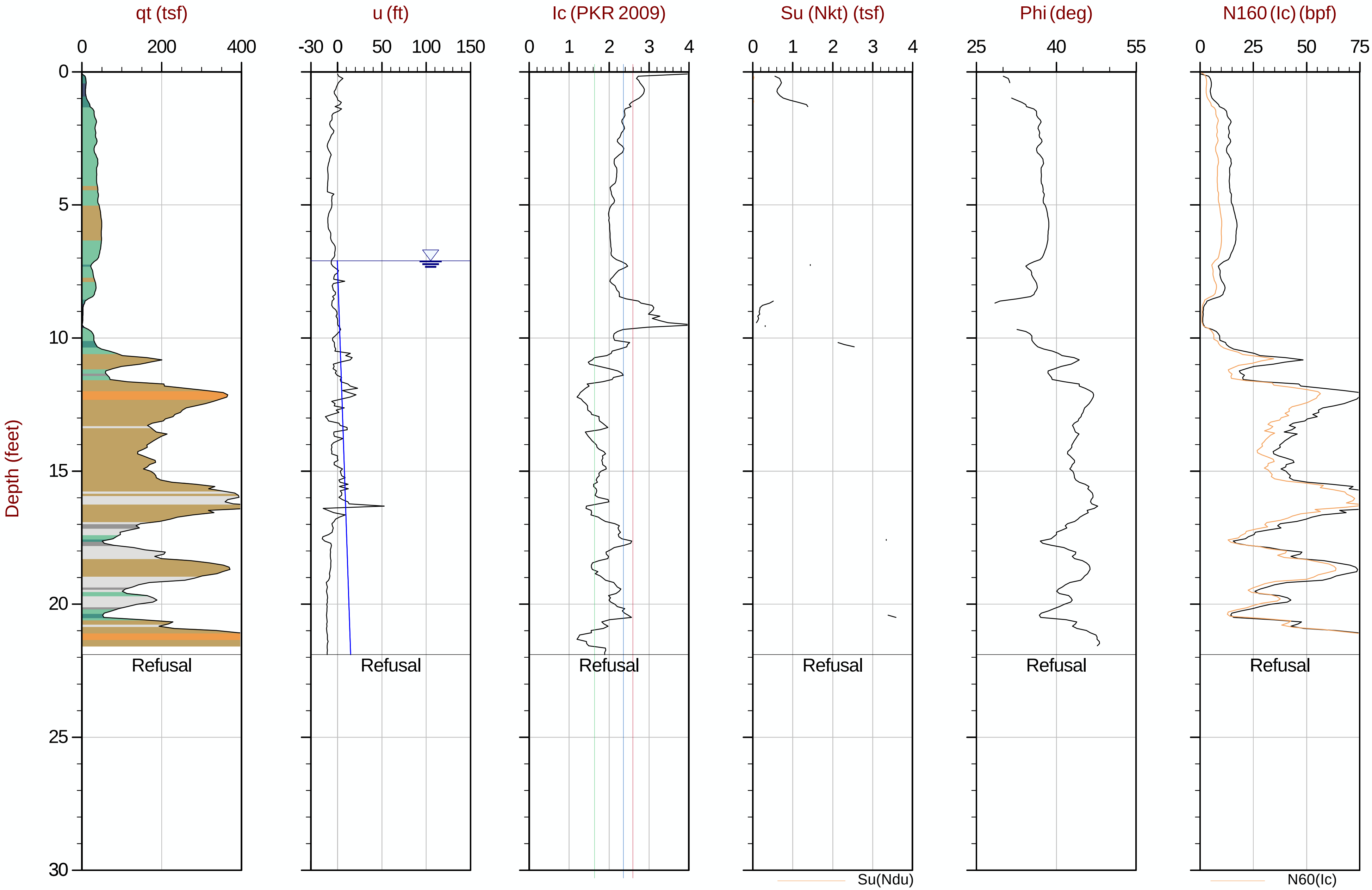
Hydrostatic Line, Ueq, Assumed Ueq, PPD, Ueq achieved, PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 15:20
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-014
Cone: 604:T1500F15U35



Max Depth: 6.675 m / 21.90 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-014.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

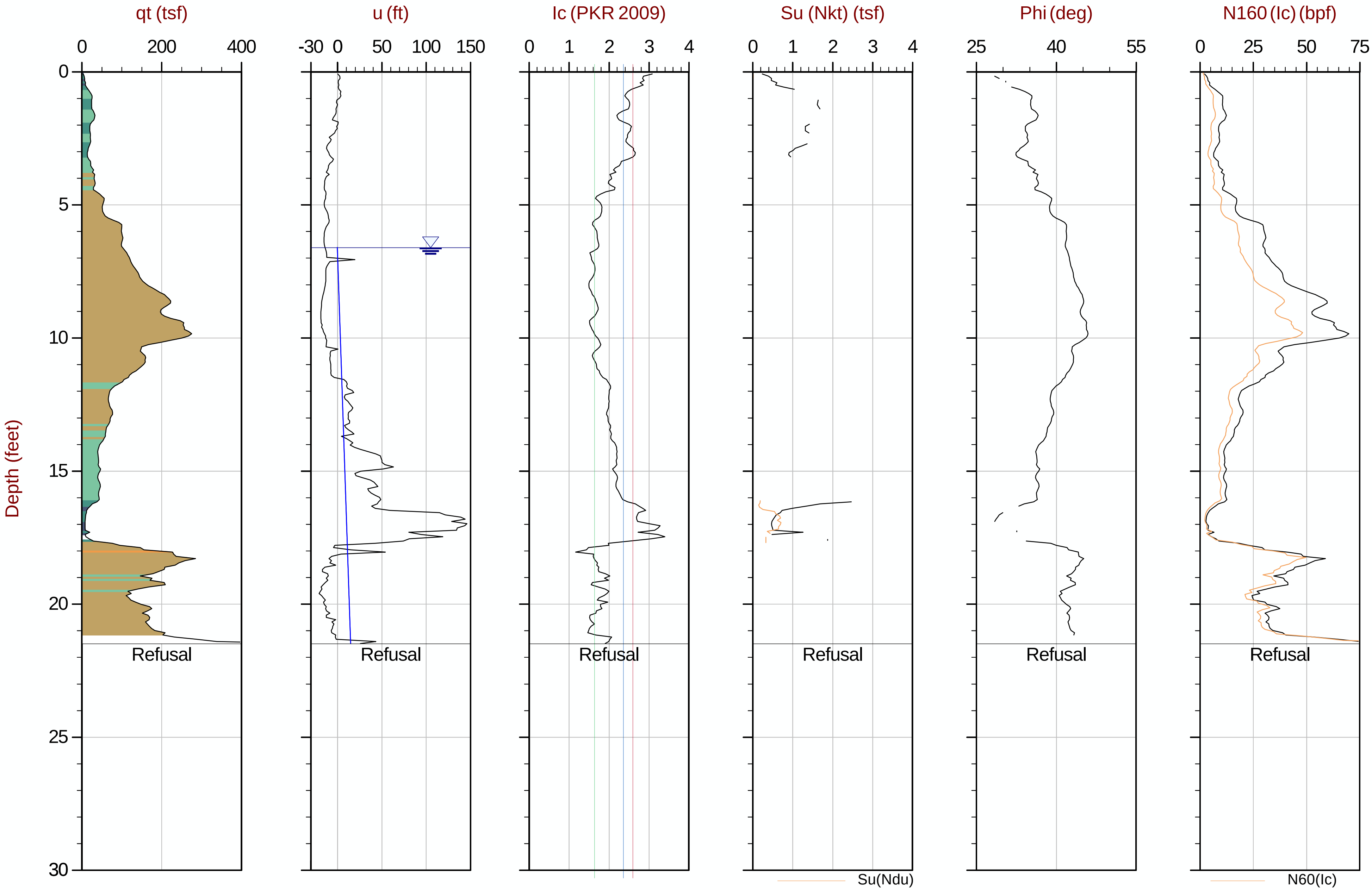
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783216m E: 405656m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 11:24
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-016
Cone: 604:T1500F15U35



Max Depth: 6.550 m / 21.49 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-016.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783123m E: 405290m

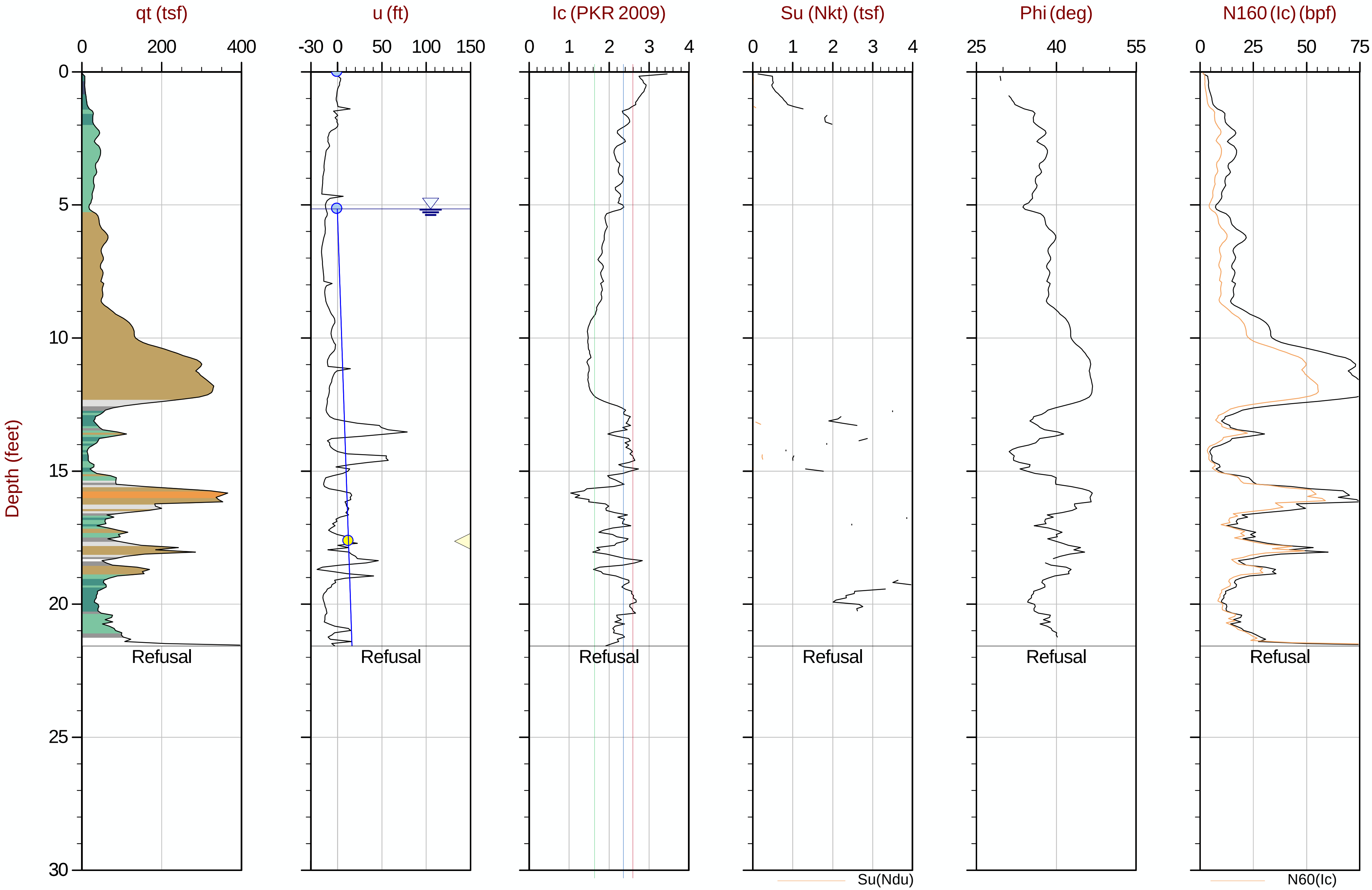
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 09:58
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-021
Cone: 604:T1500F15U35



Max Depth: 6.575 m / 21.57 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-021.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

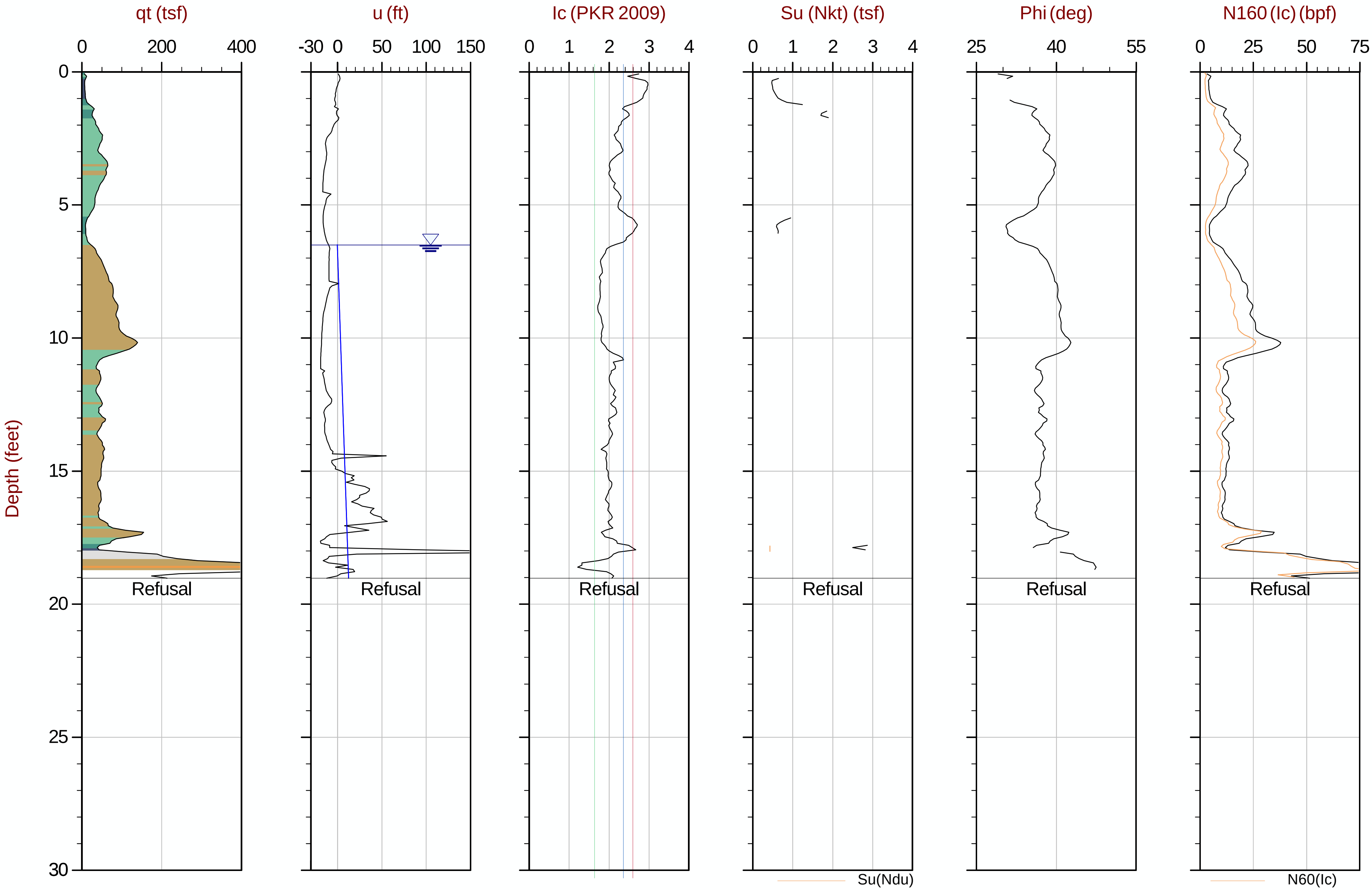
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783063m E: 405235m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 14:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-022
Cone: 604:T1500F15U35



Max Depth: 5.800 m / 19.03 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-022.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783076m E: 405537m

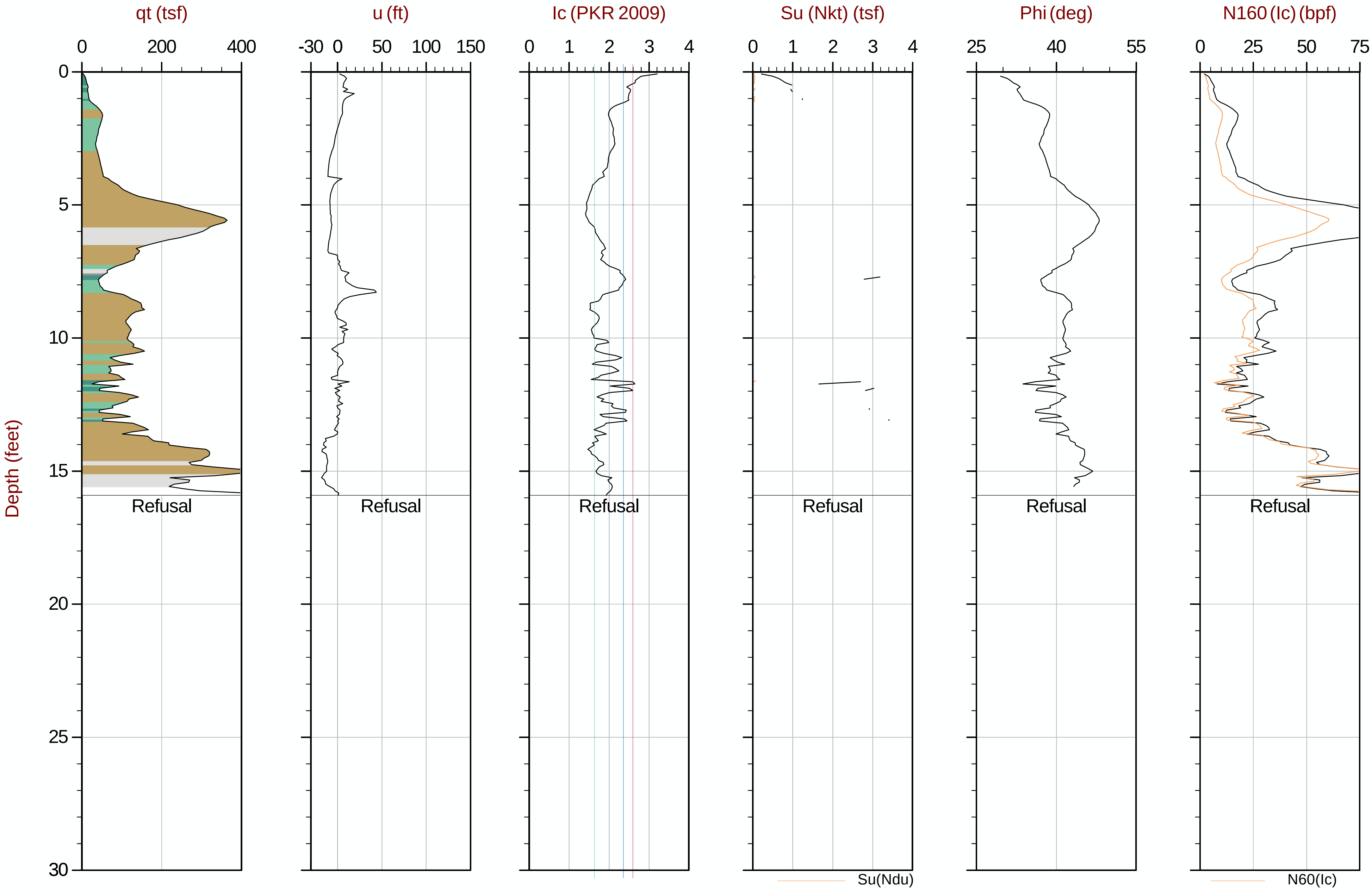
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 13:10
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-060
Cone: 604:T1500F15U35



Max Depth: 4.850 m / 15.91 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-060.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

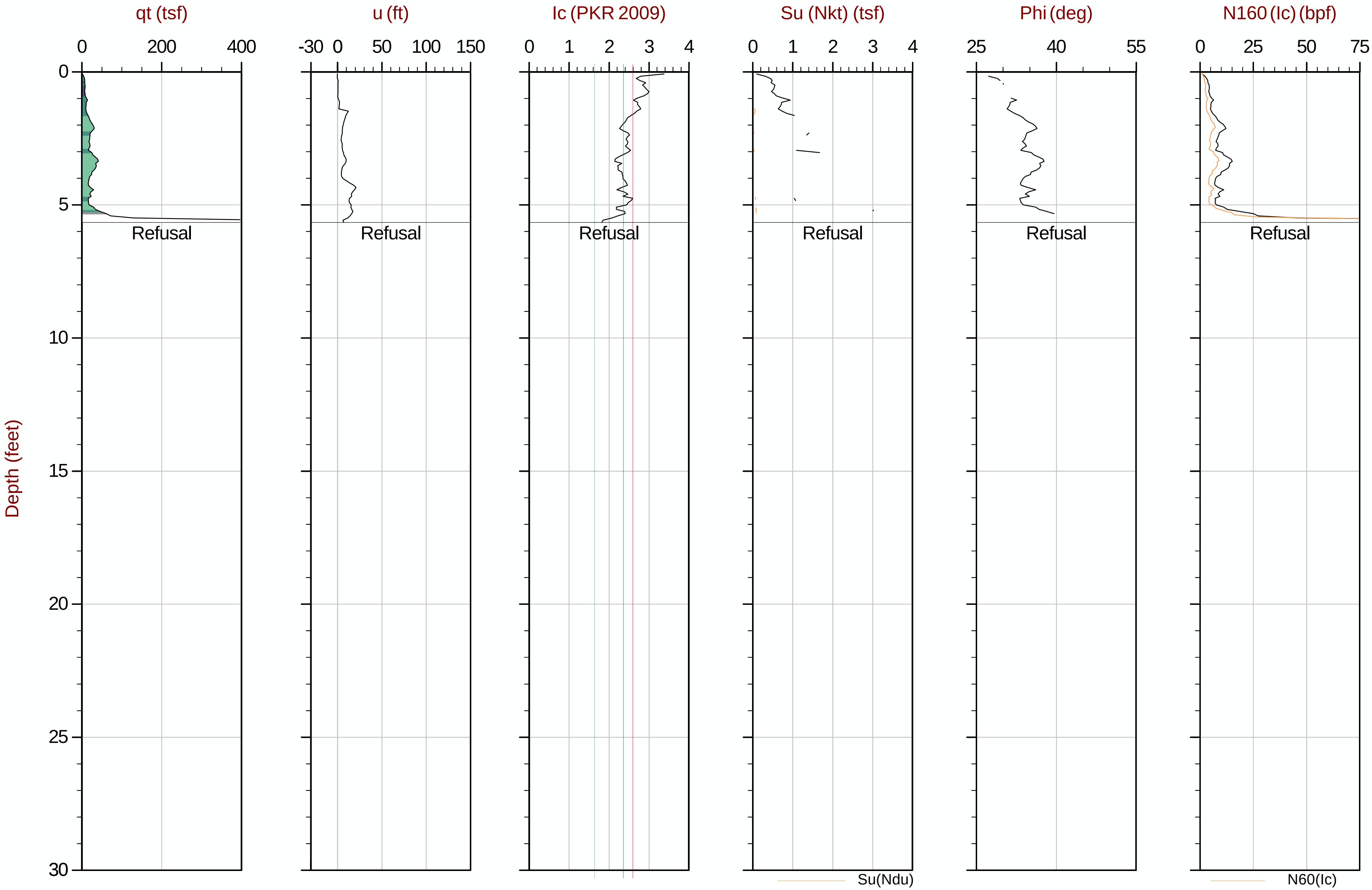
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782561m E: 405685m

Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:05
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-064
Cone: 604:T1500F15U35



Max Depth: 1.725 m / 5.66 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-064.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

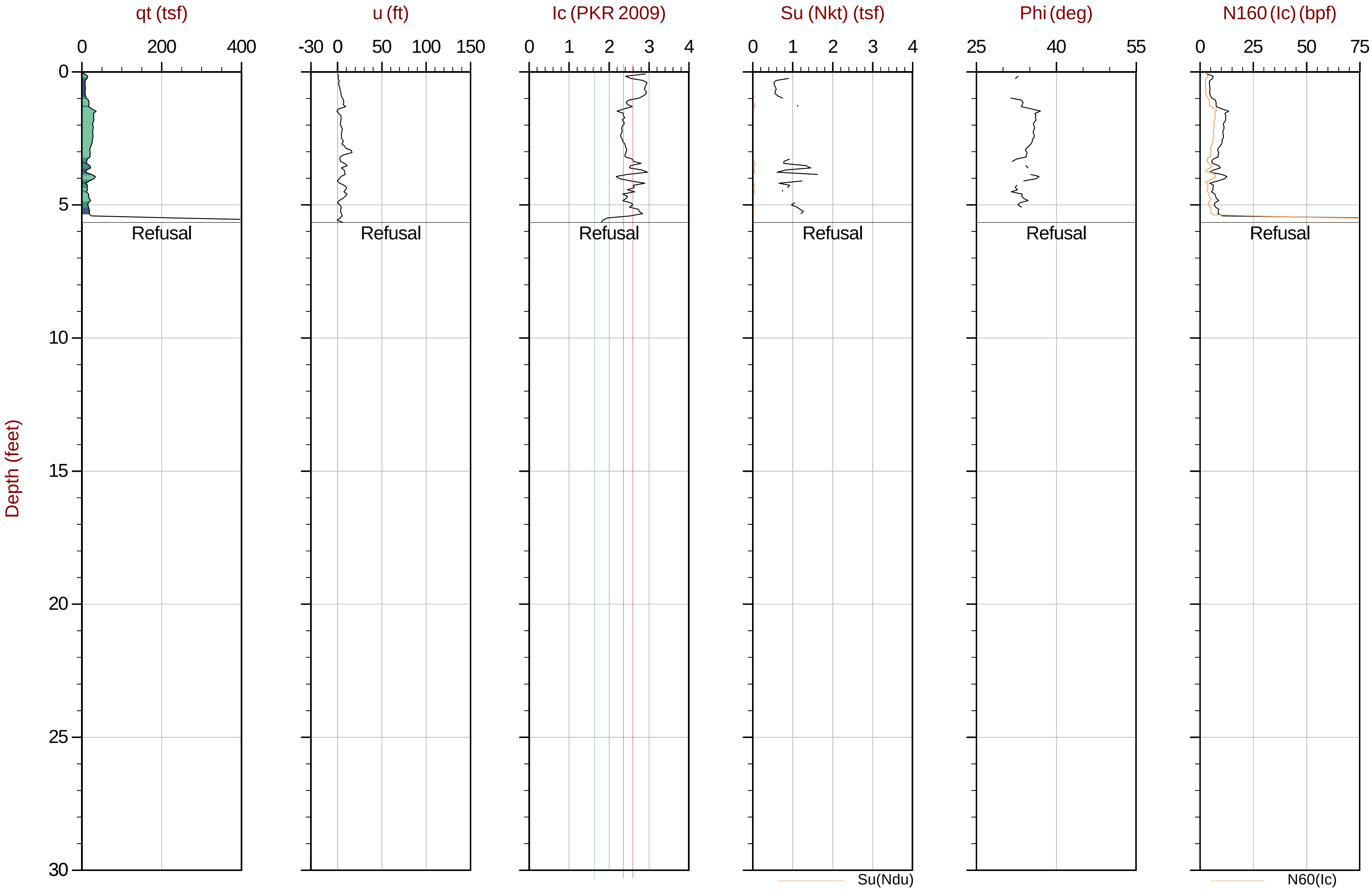
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782566m E: 405331m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:29
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-064A
Cone: 604:T1500F15U35



Max Depth: 1.725 m / 5.66 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-064A.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782574m E: 405430m

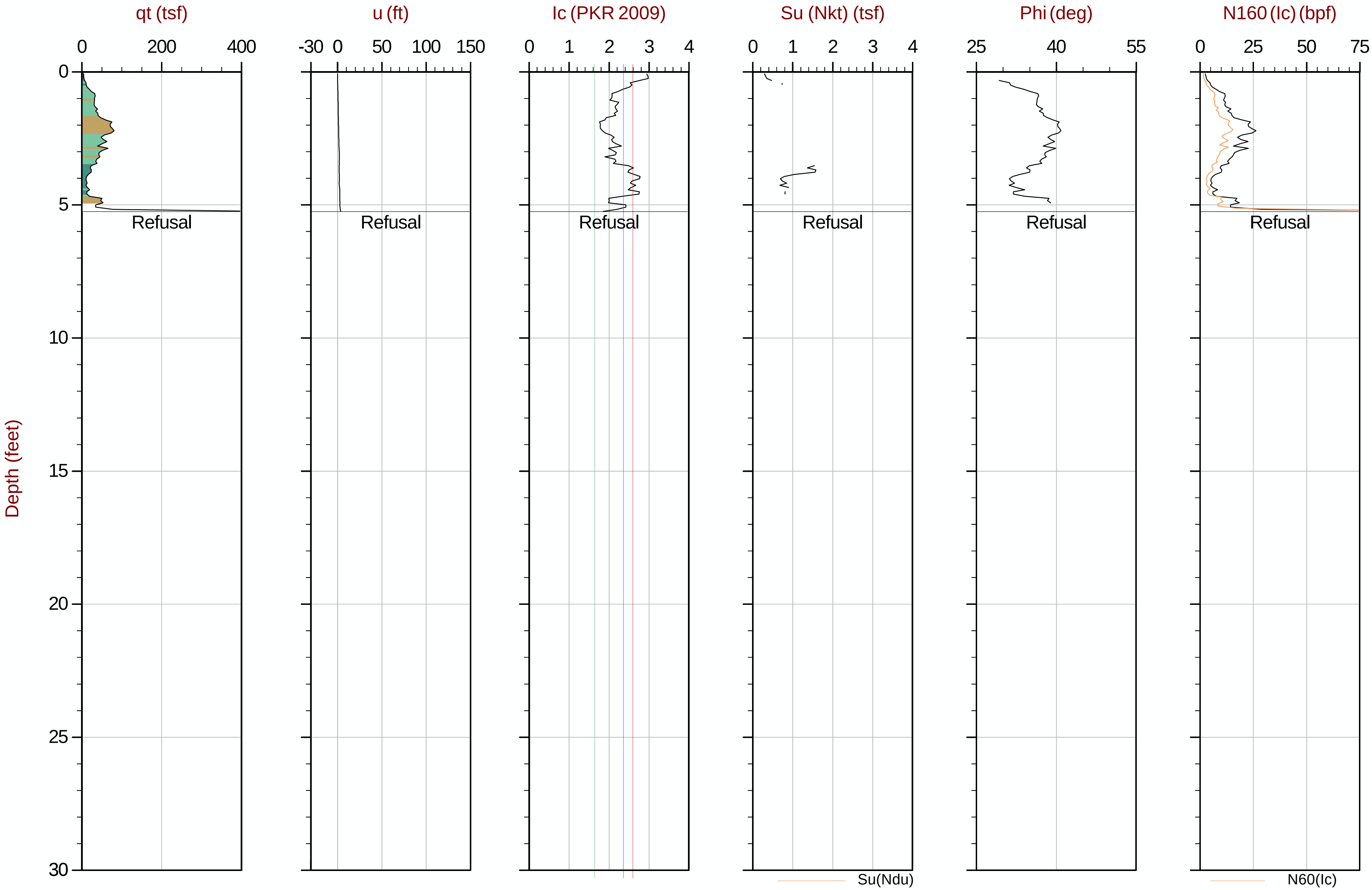
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 07:02
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-066
Cone: 604:T1500F15U35



Max Depth: 1.600 m / 5.25 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-066.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782577m E: 405304m

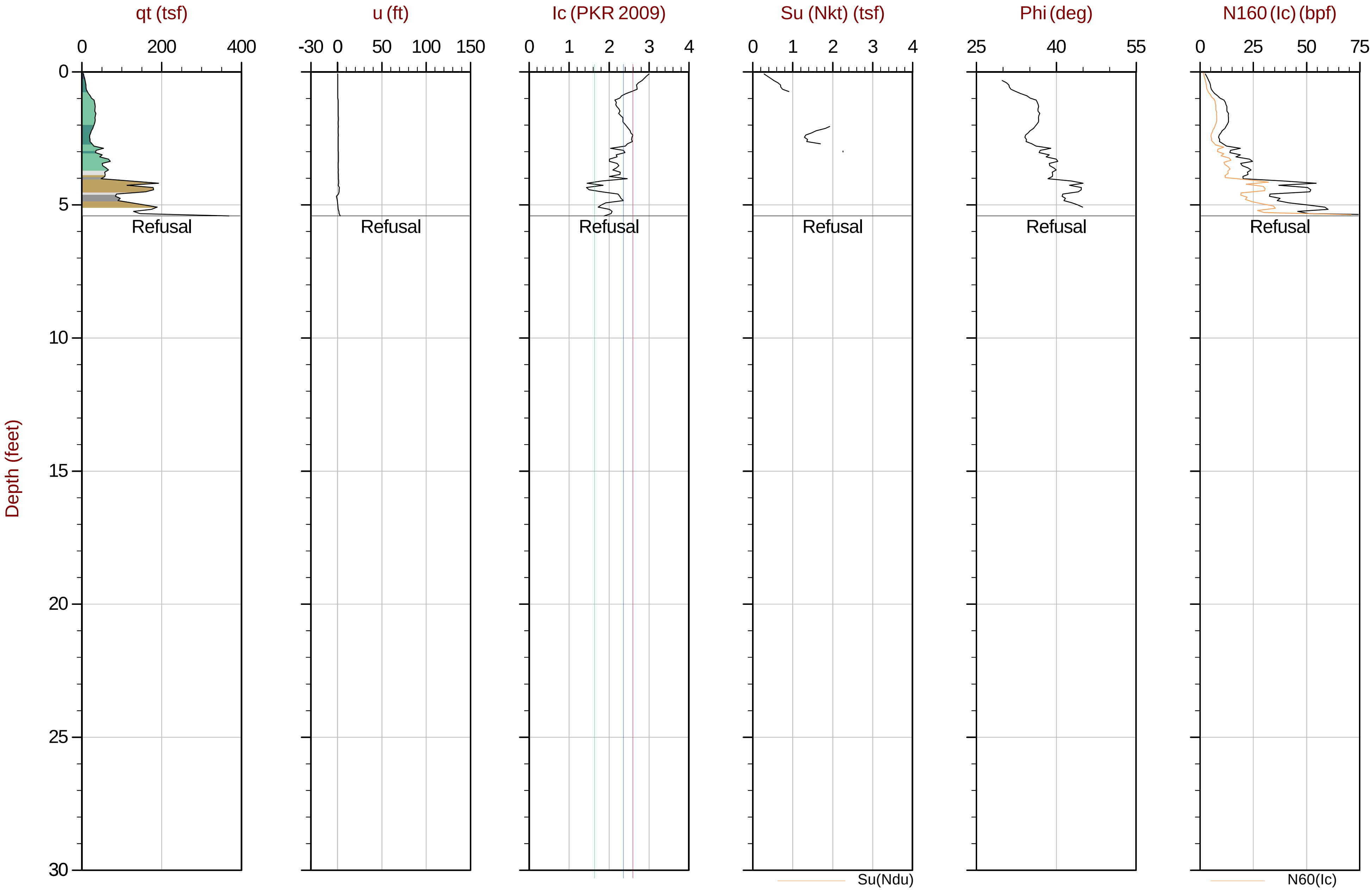
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 08:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-066A
Cone: 604:T1500F15U35



Max Depth: 1.650 m / 5.41 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-066A.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782578m E: 405304m

Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

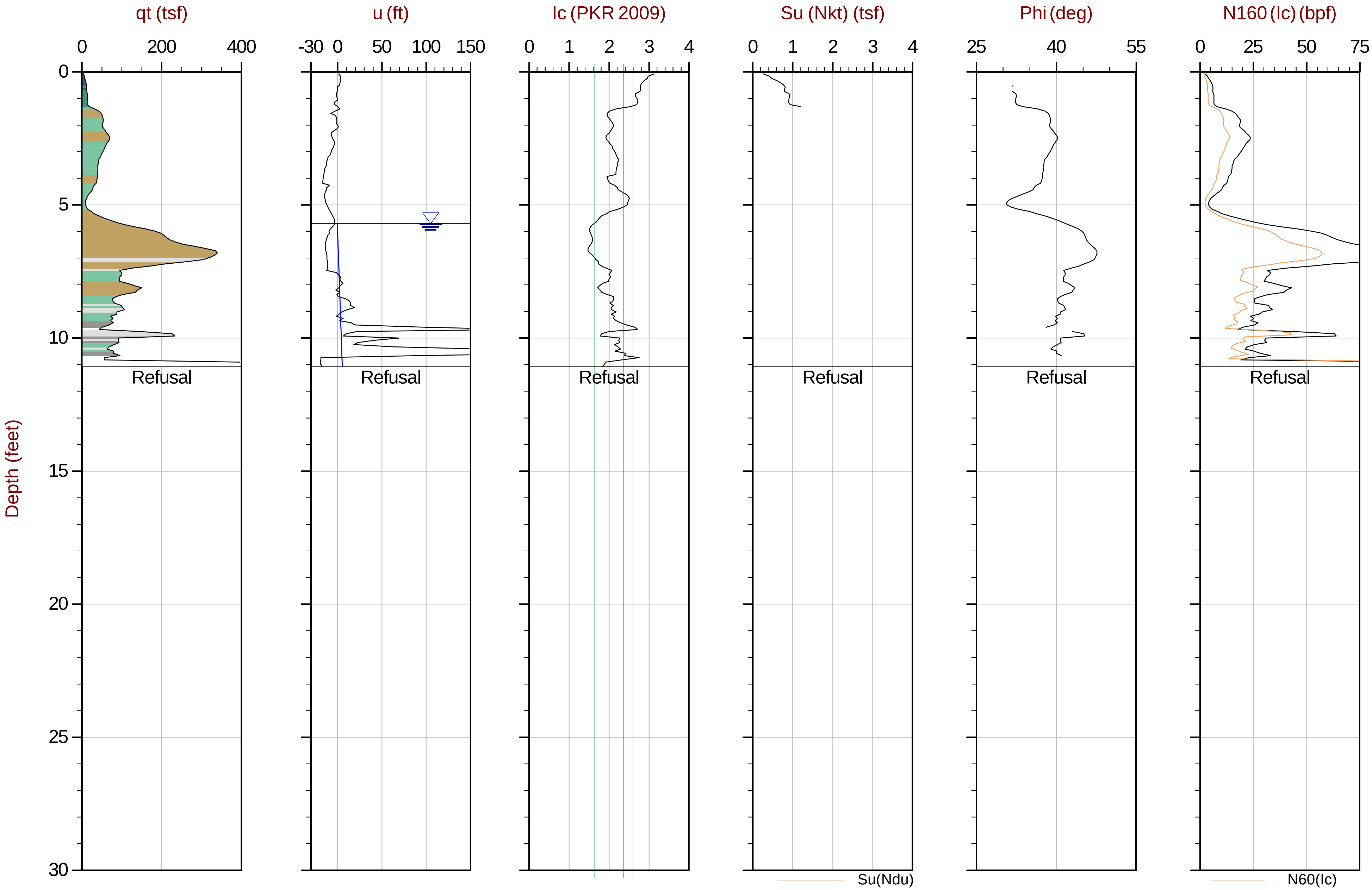
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 13:47
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-070
Cone: 604:T1500F15U35



Max Depth: 3.375 m / 11.07 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-070.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782528m E: 405678m

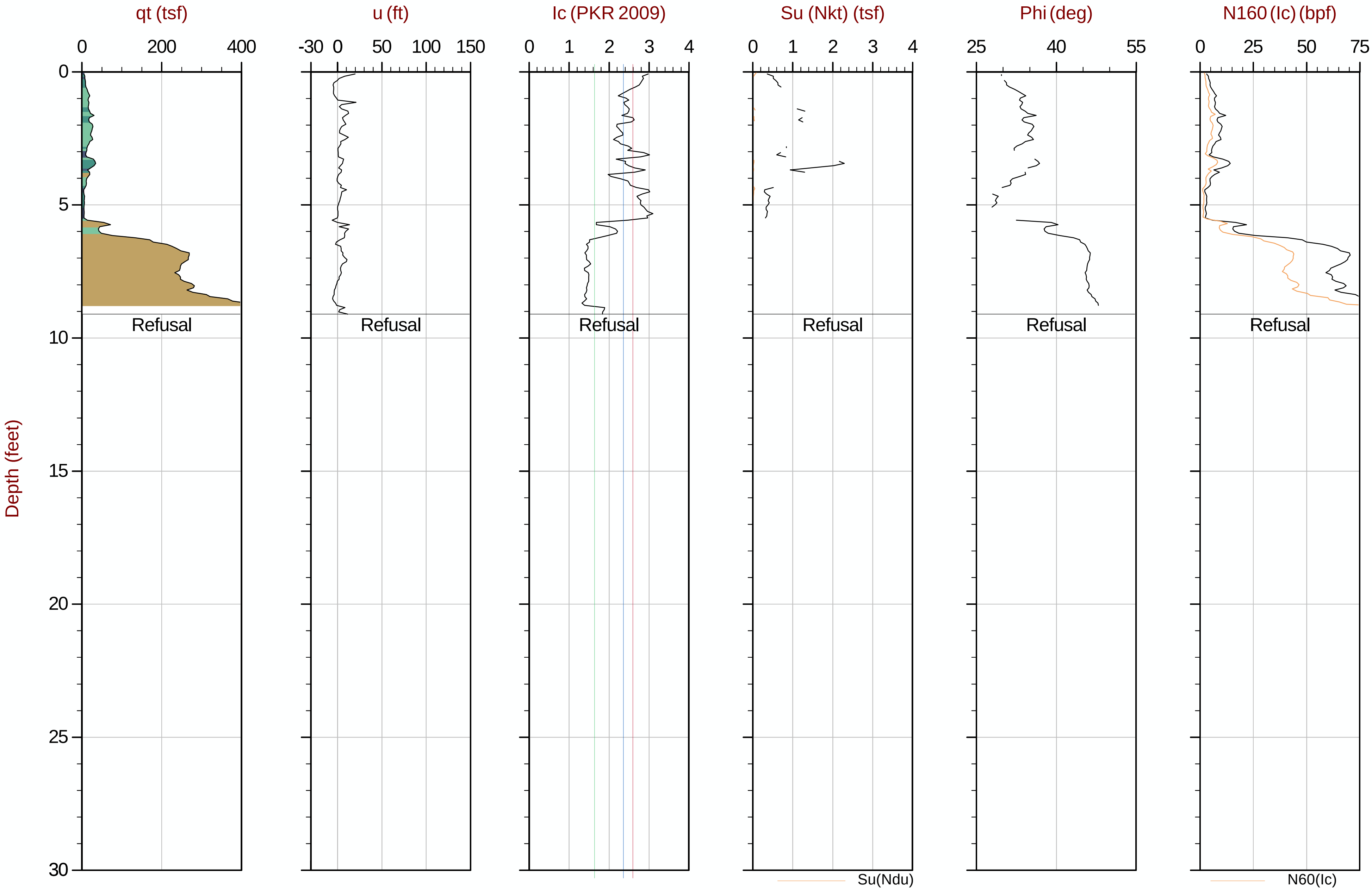
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 10:47
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-073
Cone: 604:T1500F15U35



Max Depth: 2.775 m / 9.10 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-073.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

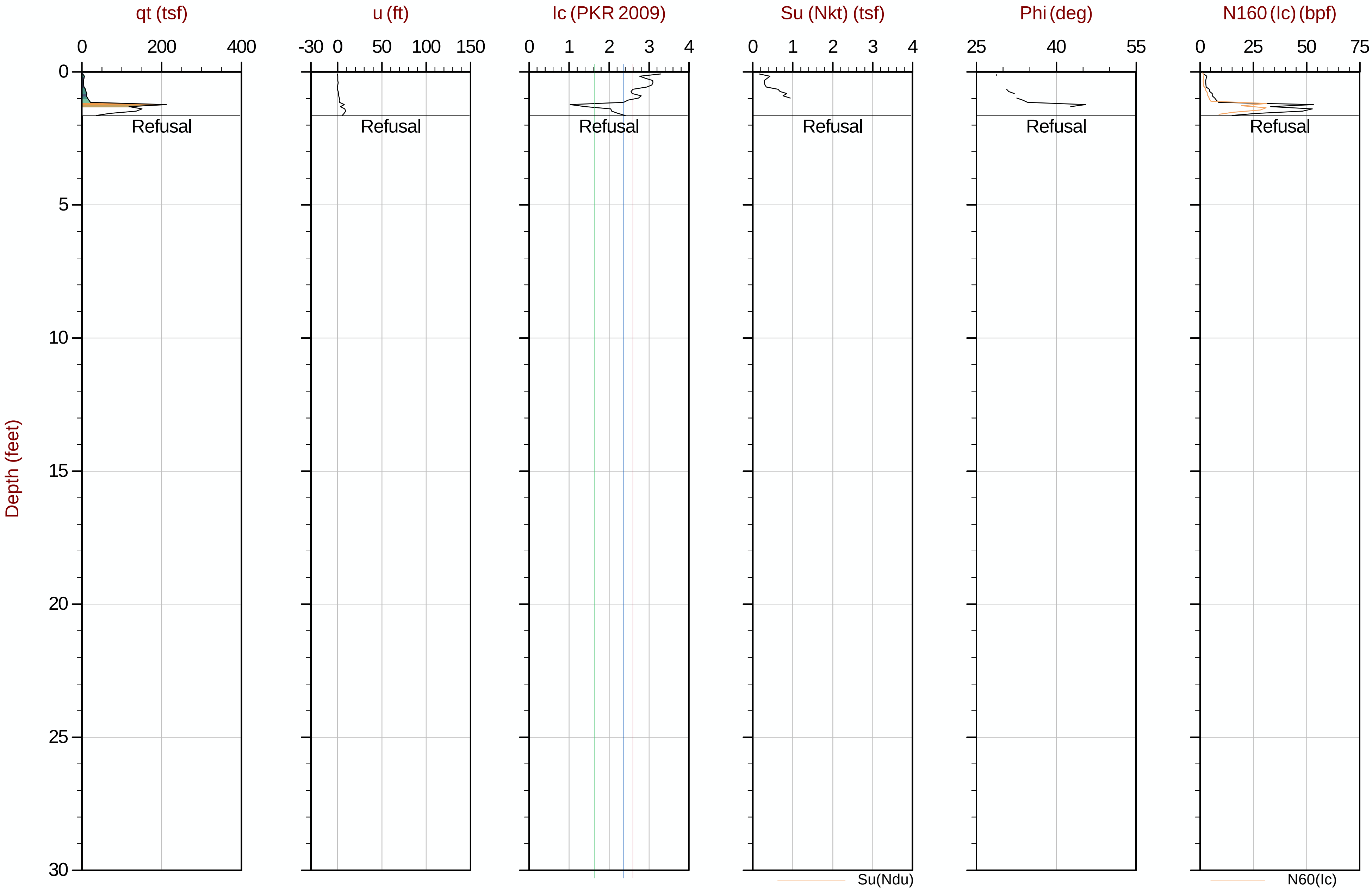
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782536m E: 405496m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:58
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-074
Cone: 604:T1500F15U35



Max Depth: 0.500 m / 1.64 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-074.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

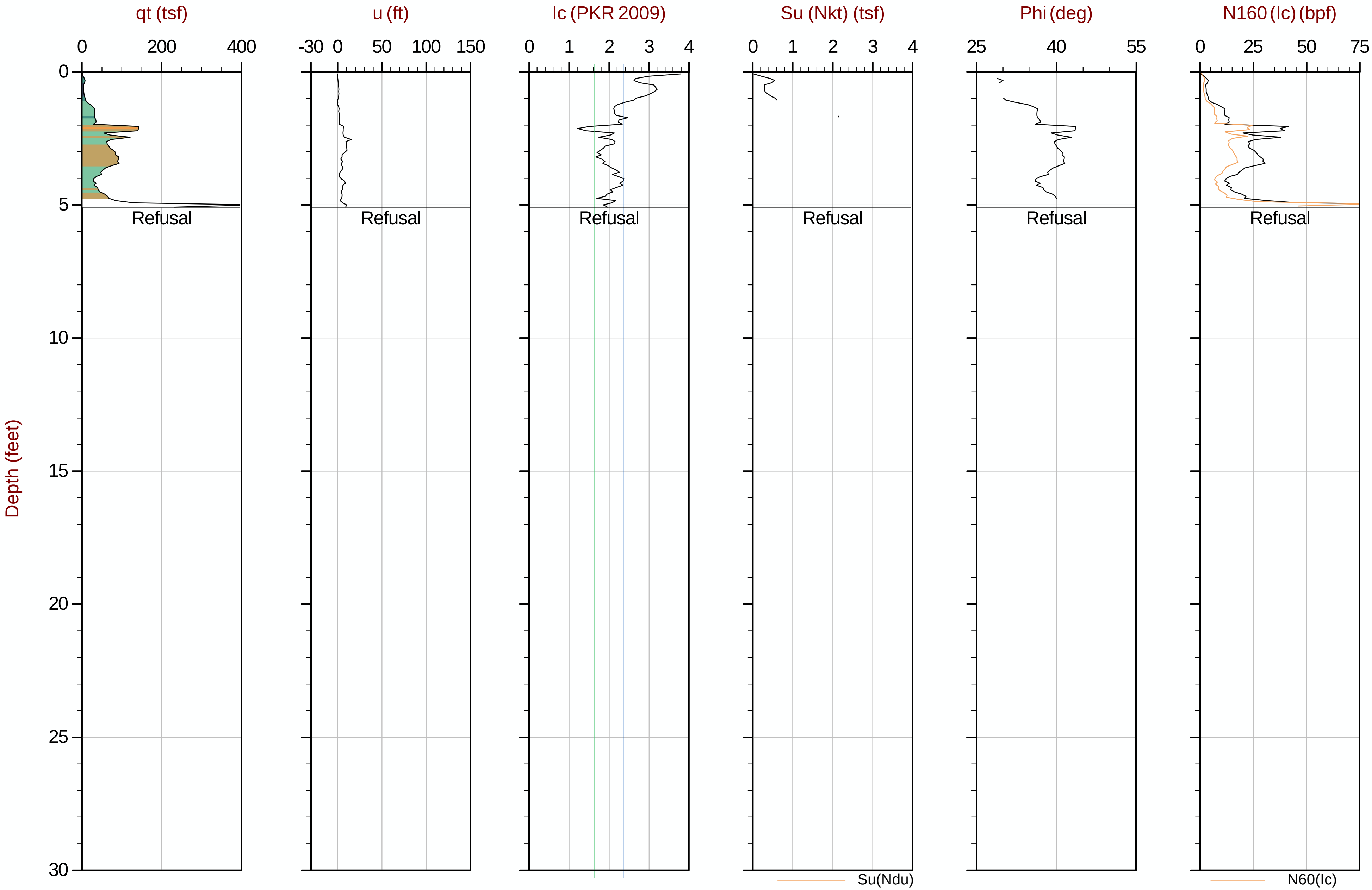
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782535m E: 405441m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 10:17
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-074A
Cone: 604:T1500F15U35



Max Depth: 1.550 m / 5.09 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-074A.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782536m E: 405438m

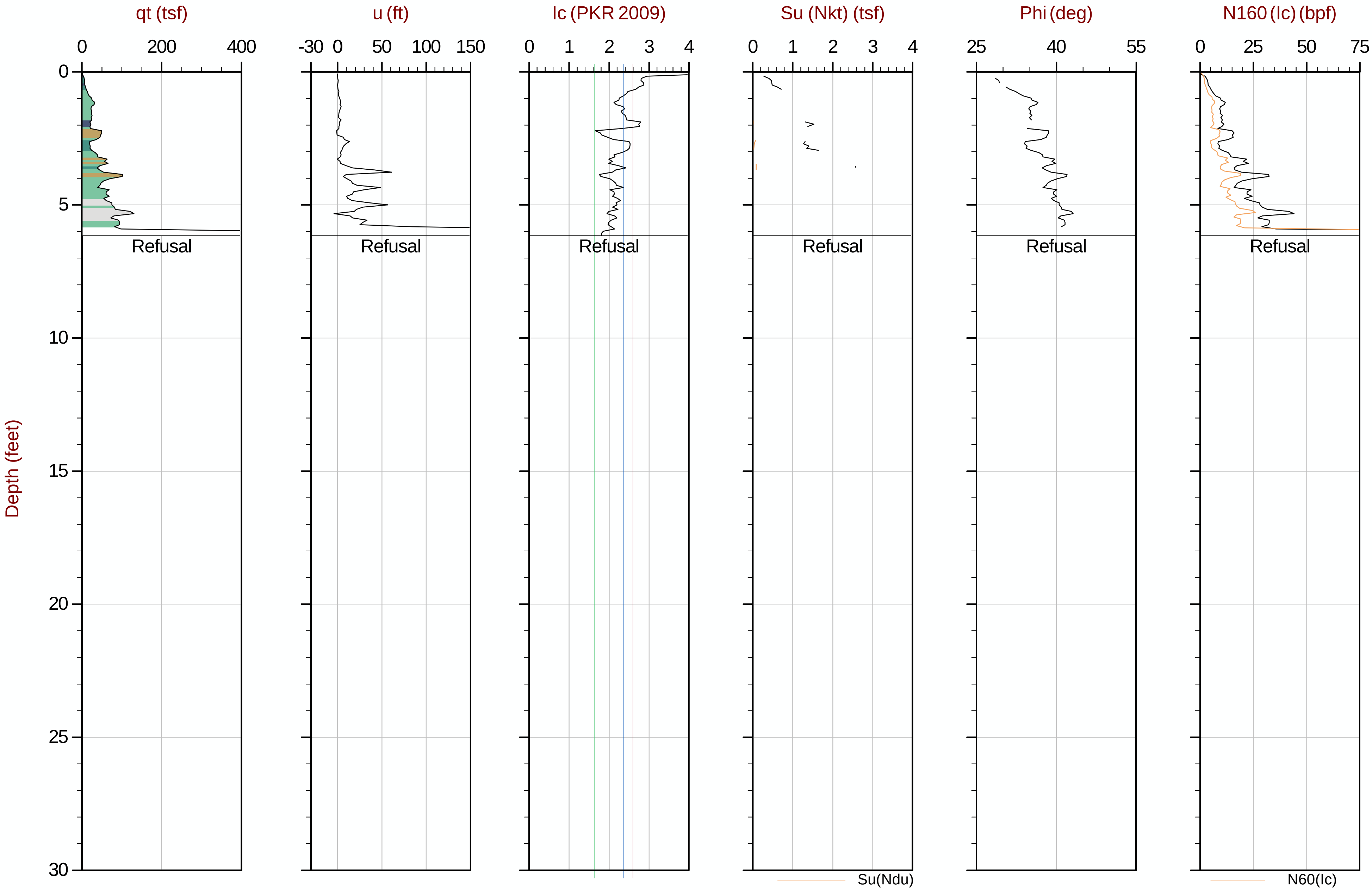
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 11:10
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-075
Cone: 604:T1500F15U35



Max Depth: 1.875 m / 6.15 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-075.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782534m E: 405362m

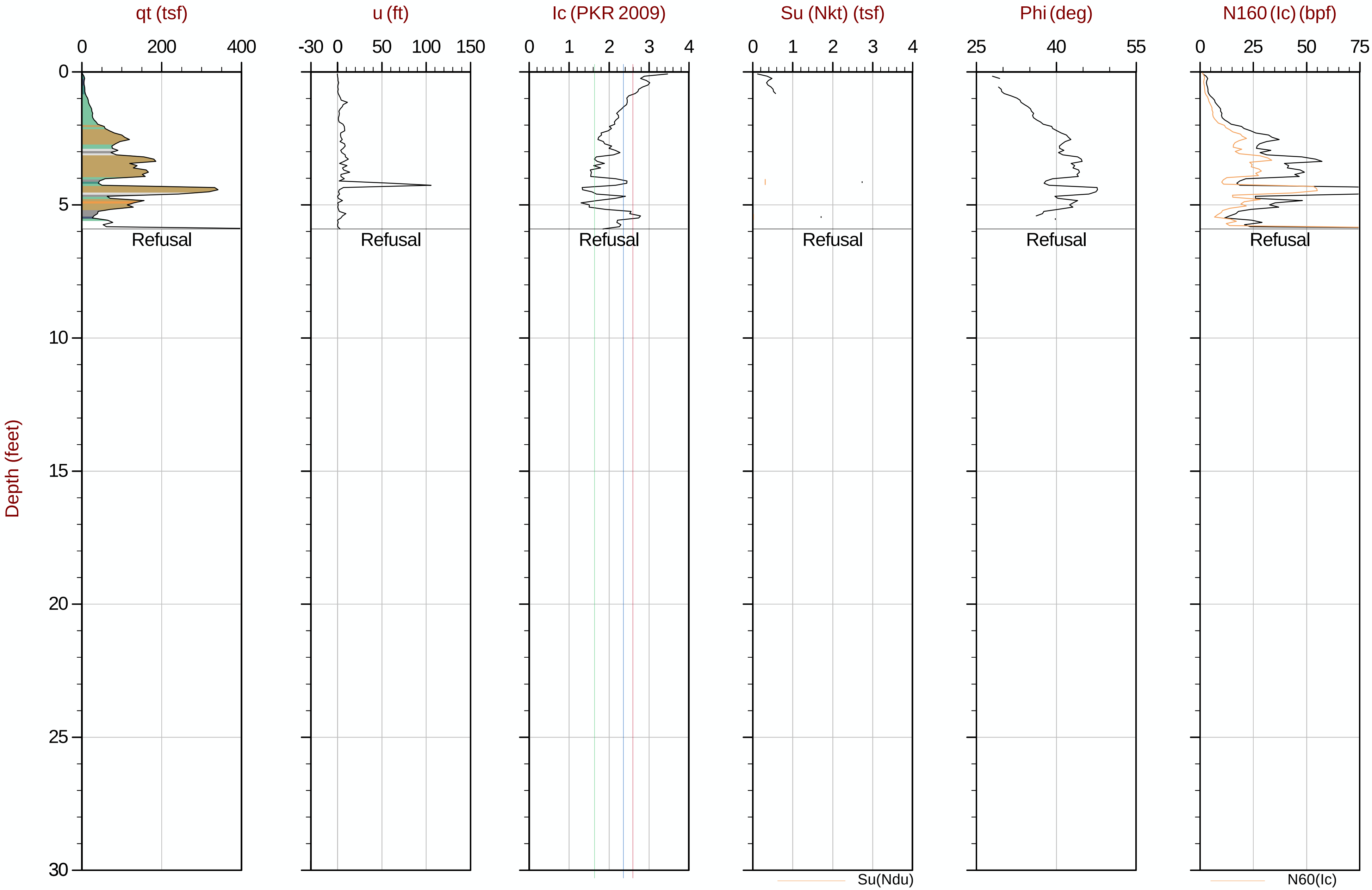
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 11:37
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-076
Cone: 604:T1500F15U35



Max Depth: 1.800 m / 5.91 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-076.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

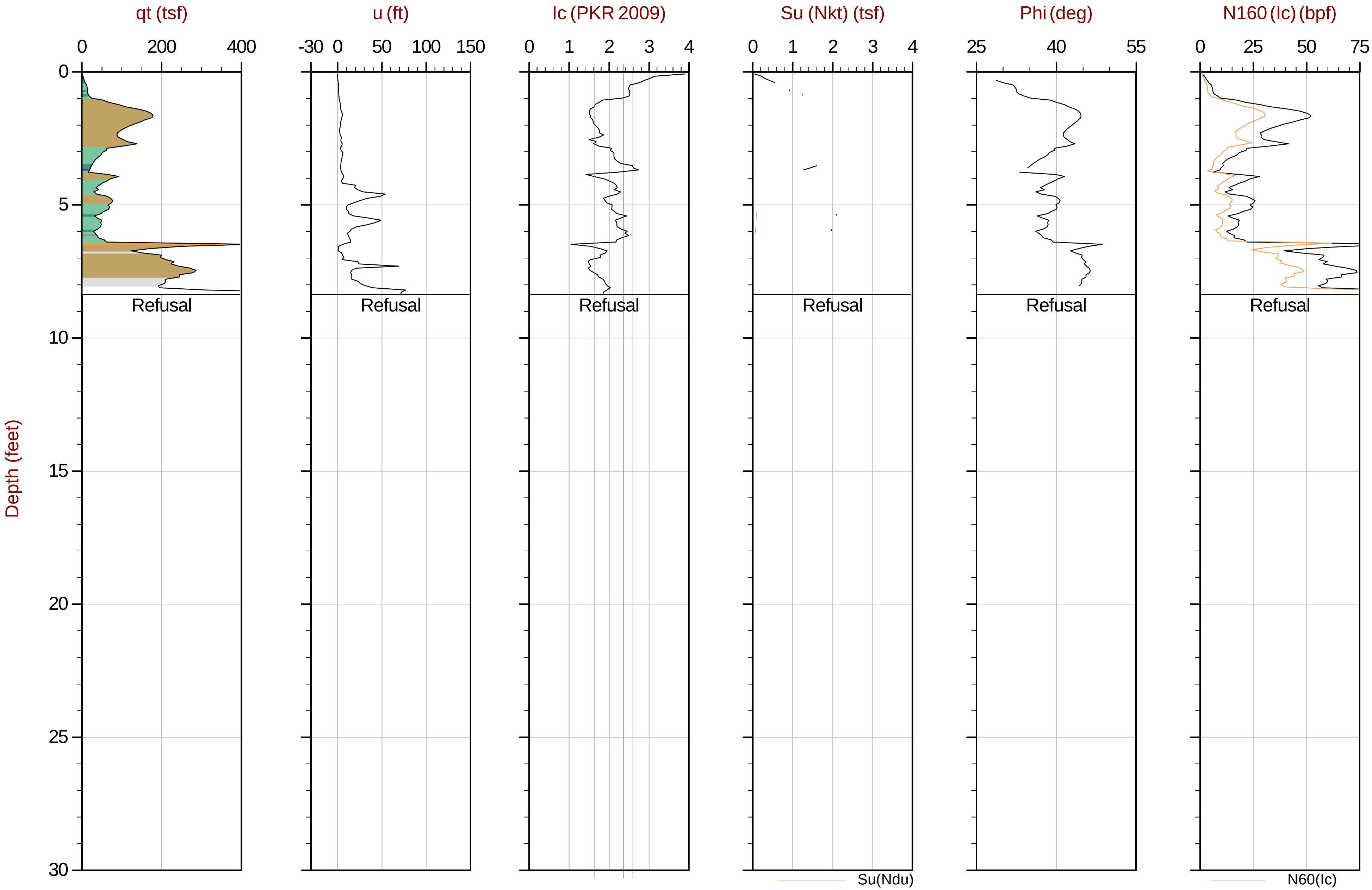
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782537m E: 405311m

Hydrostatic Line ● Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-077
Cone: 604:T1500F15U35



Max Depth: 2.550 m / 8.37 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-077.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782533m E: 405264m

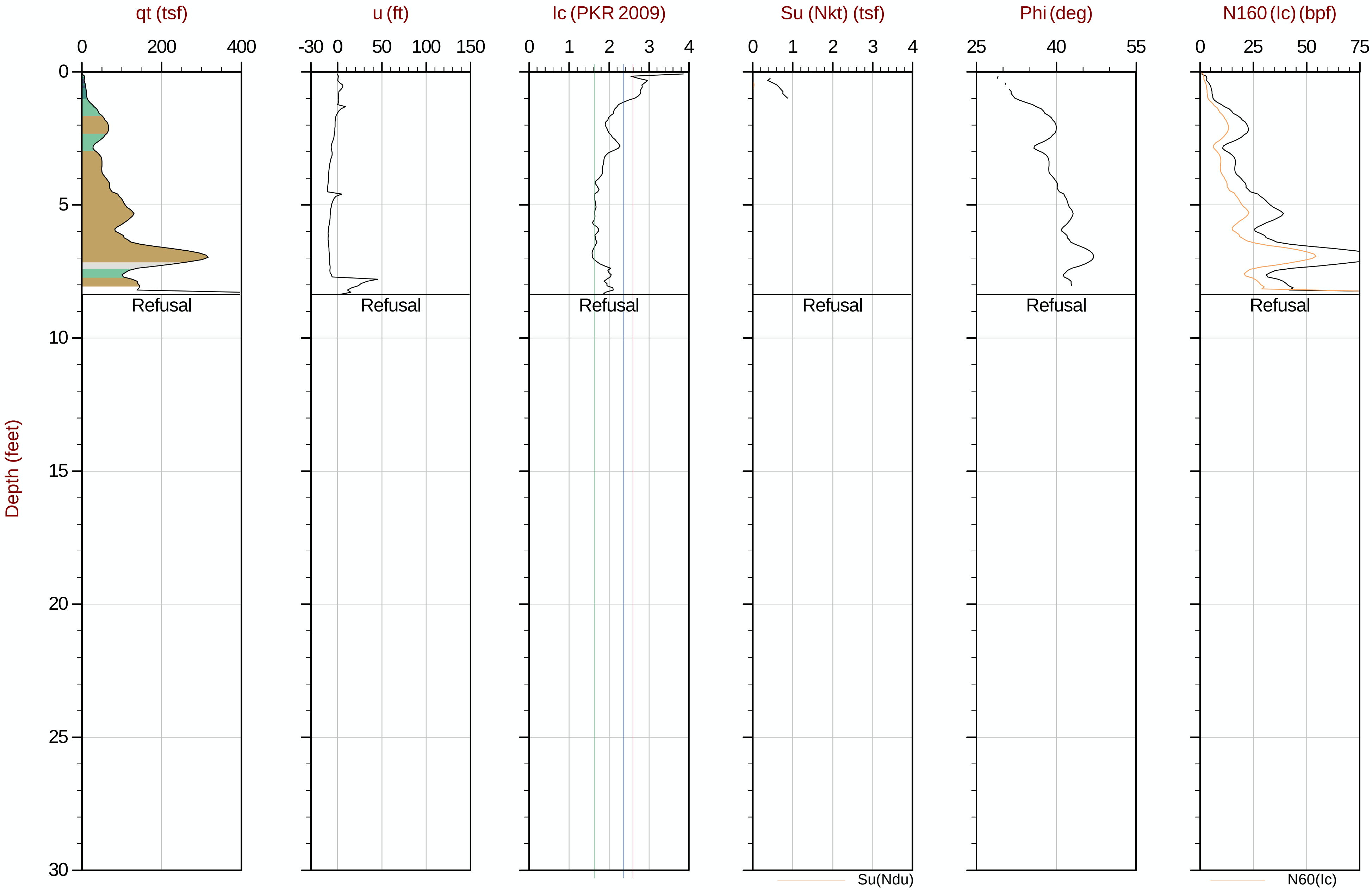
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 07:29
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-078
Cone: 604:T1500F15U35



Max Depth: 2.550 m / 8.37 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-078.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782533m E: 405733m

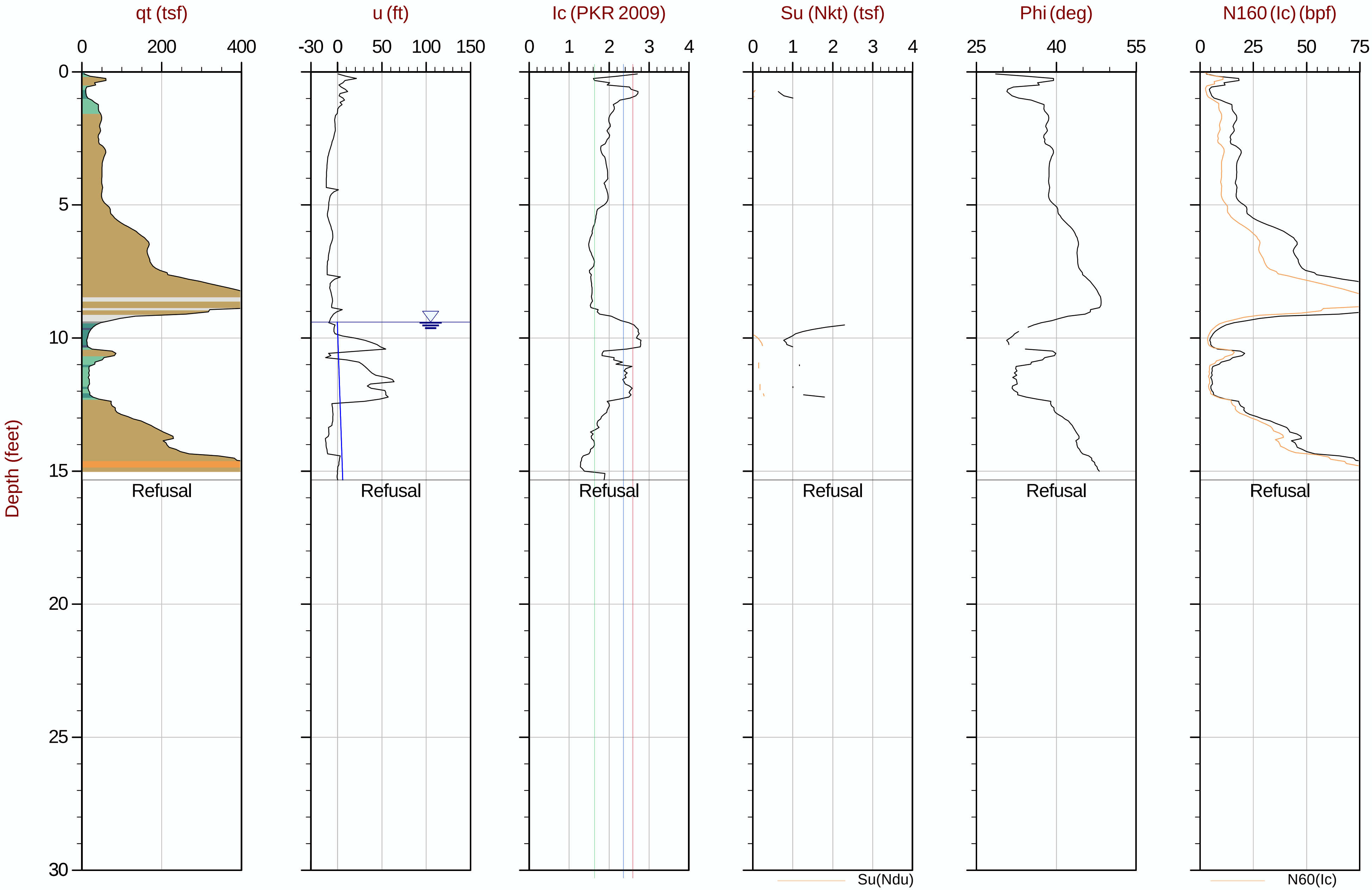
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-080
Cone: 604:T1500F15U35



Max Depth: 4.675 m / 15.34 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-080.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782485m E: 405681m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

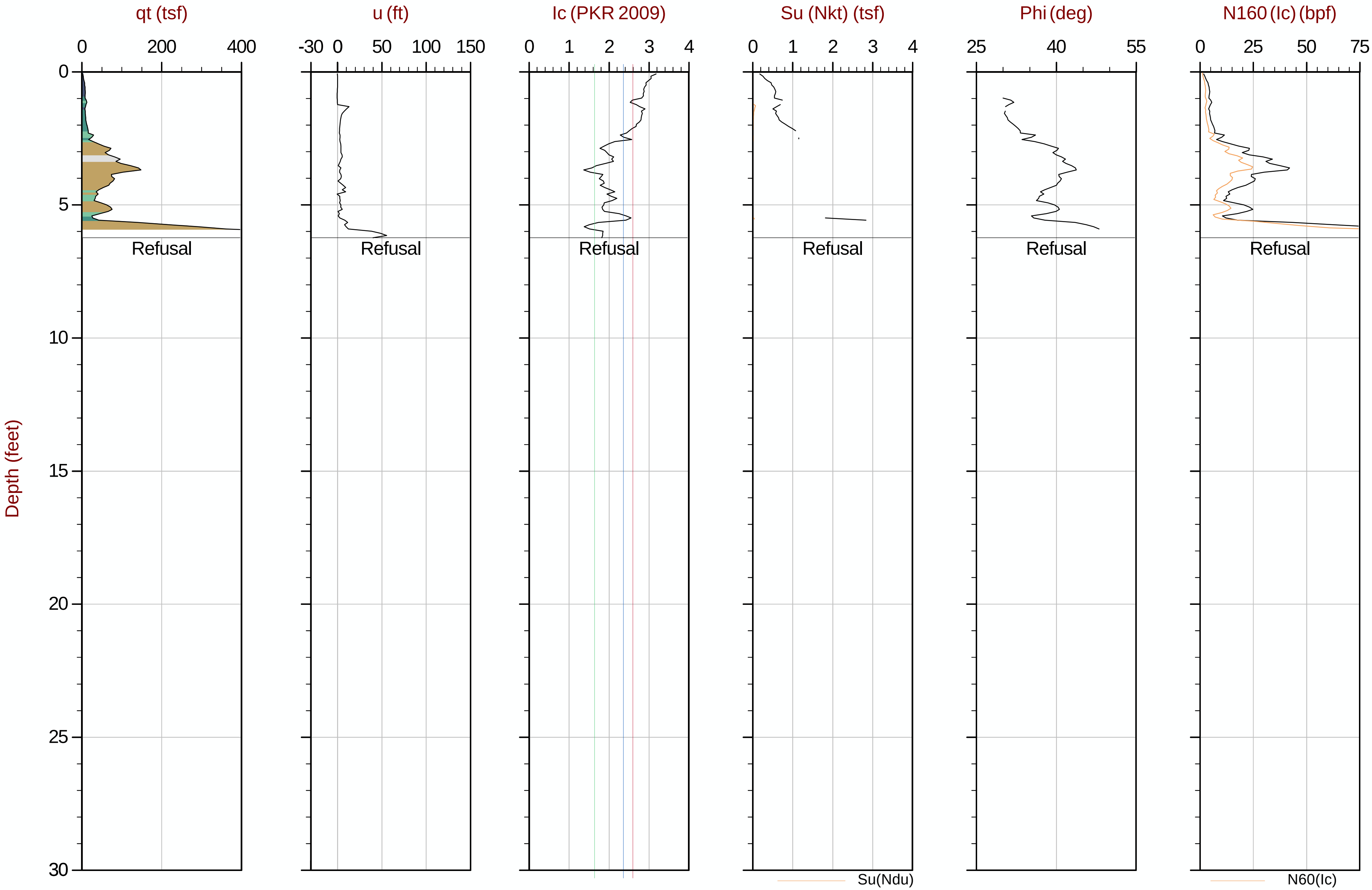
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 13:38
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-084
Cone: 604:T1500F15U35



Max Depth: 1.900 m / 6.23 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-084.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

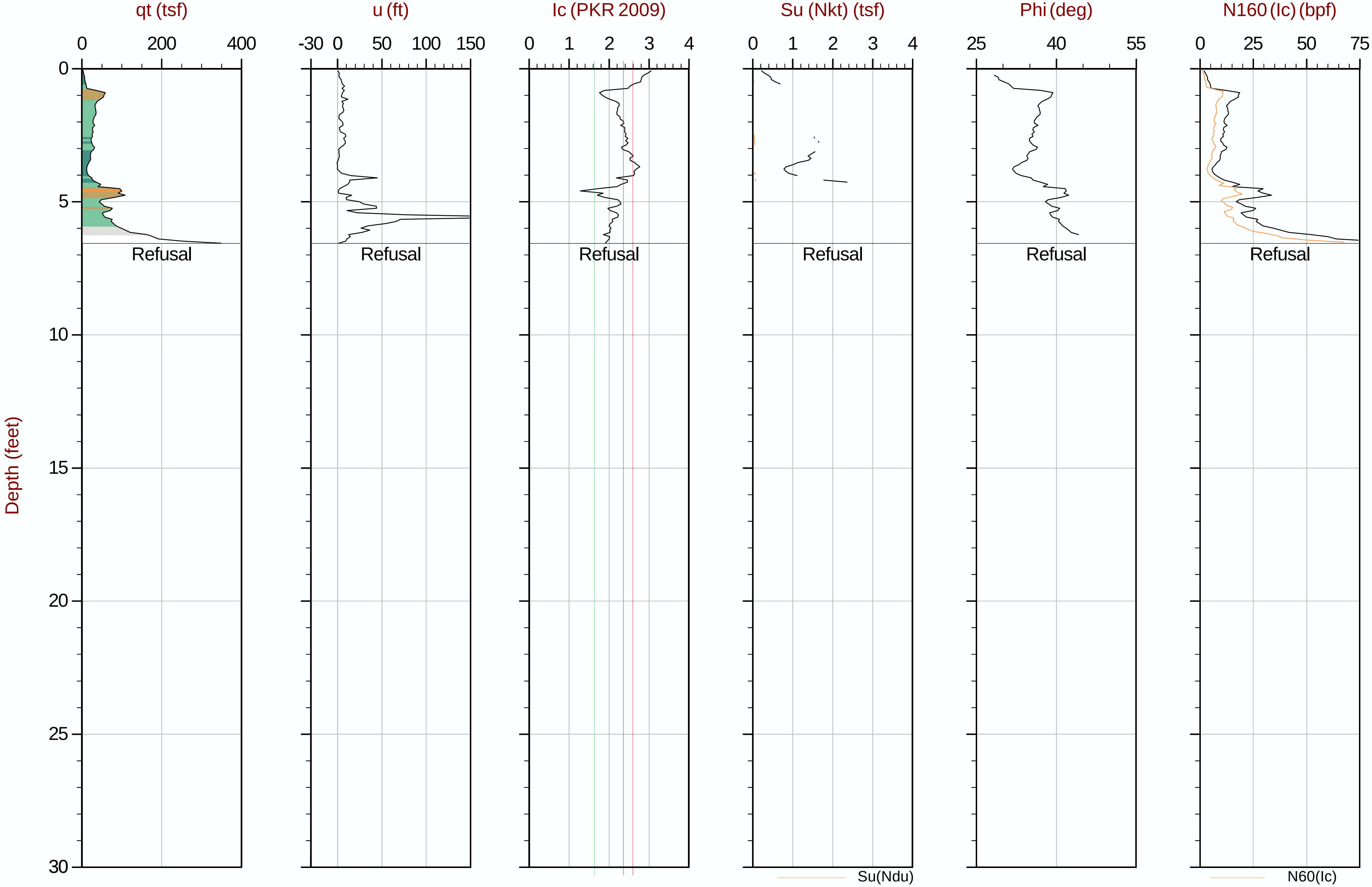
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782502m E: 405427m

Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:54
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-086
Cone: 604:T1500F15U35



Max Depth: 2.000 m / 6.56 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-086.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782506m E: 405306m

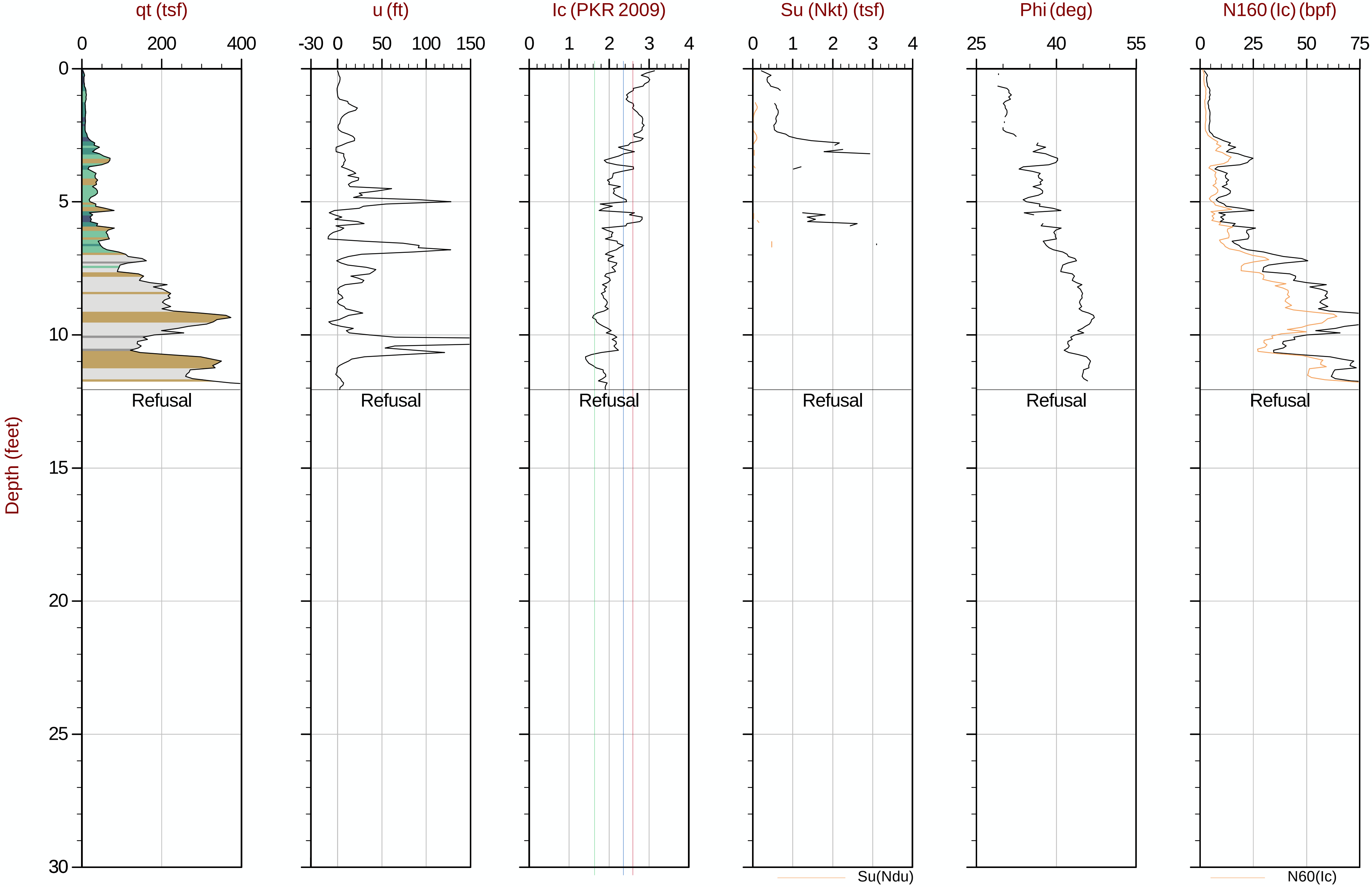
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 14:25
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-092
Cone: 604:T1500F15U35



Max Depth: 3.675 m / 12.06 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-092.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782439m E: 405546m

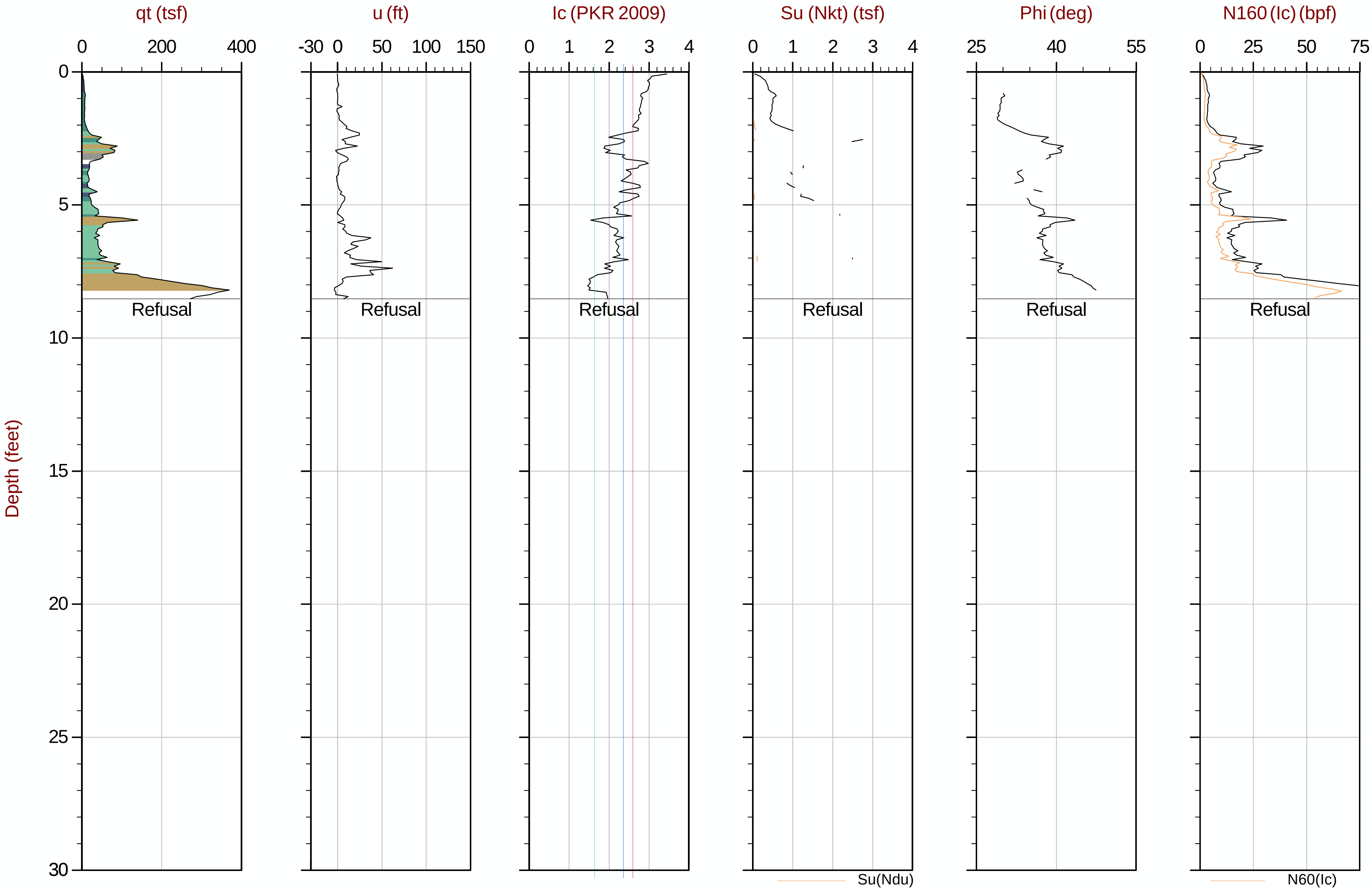
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 14:11
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-093
Cone: 604:T1500F15U35



Max Depth: 2.600 m / 8.53 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-093.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

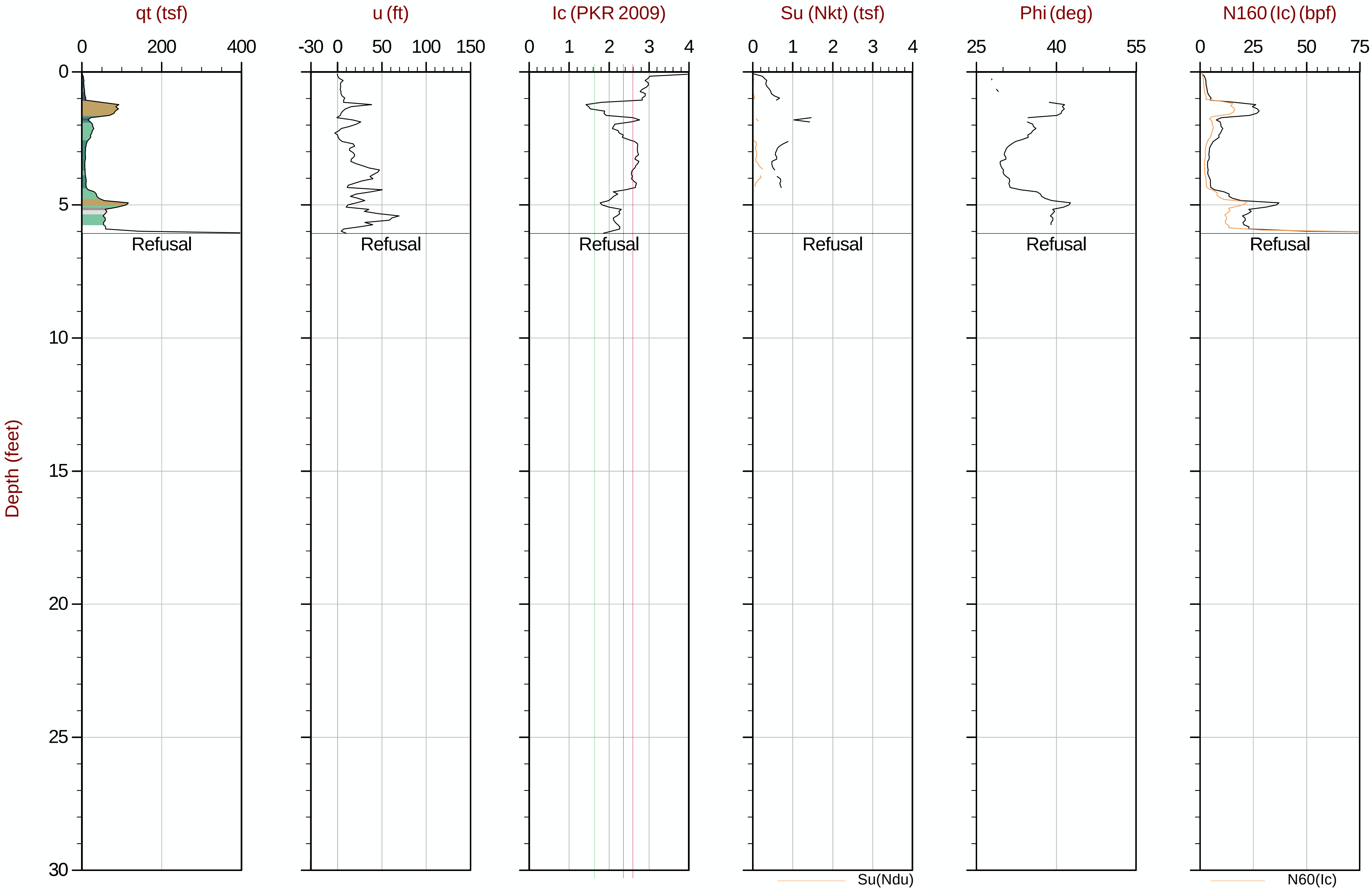
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782440m E: 405488m

Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 07:28
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-095
Cone: 604:T1500F15U35



Max Depth: 1.850 m / 6.07 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-095.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782440m E: 405366m

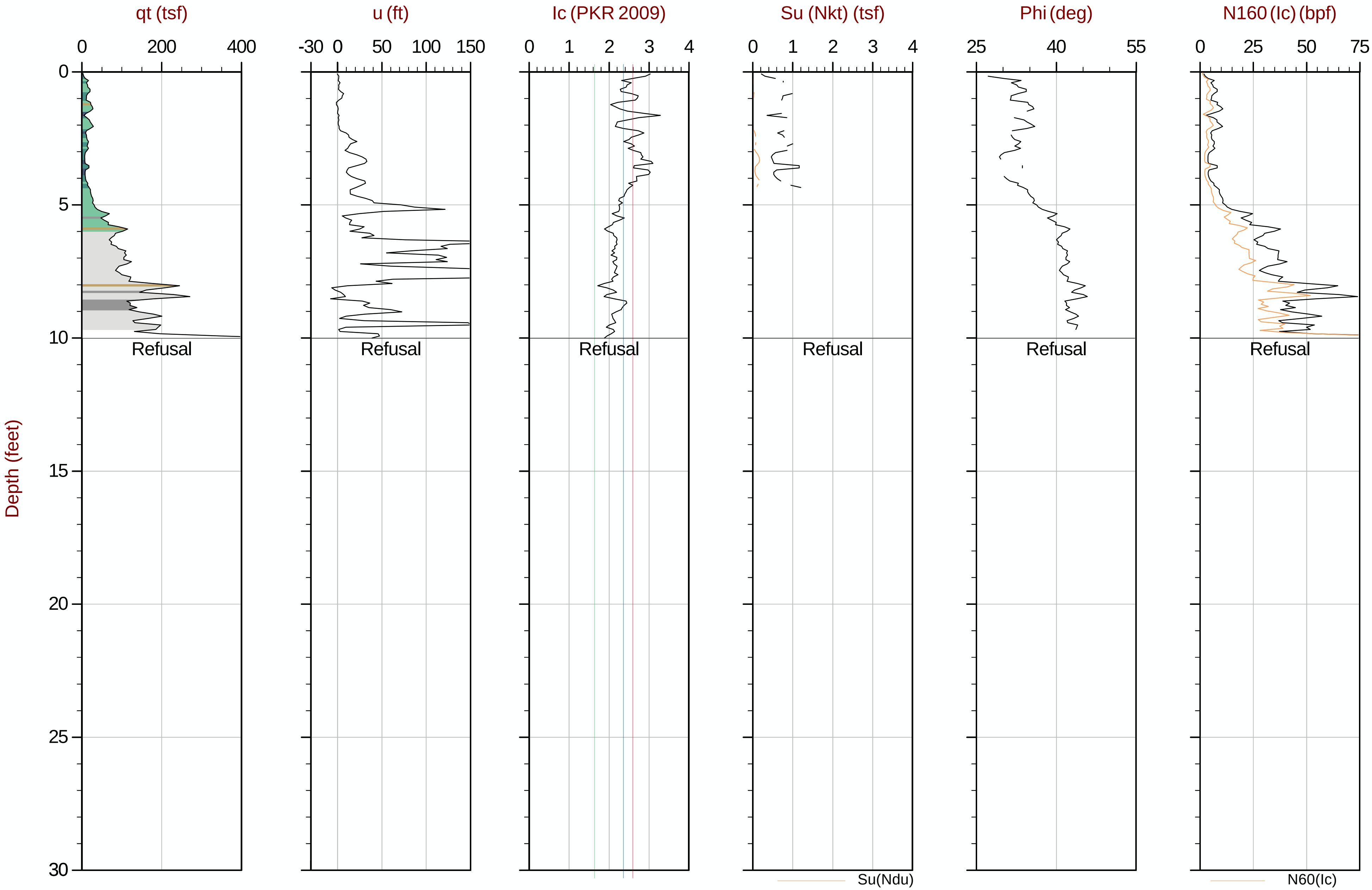
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:45
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-097
Cone: 604:T1500F15U35



Max Depth: 3.050 m / 10.01 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-097.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782444m E: 405240m

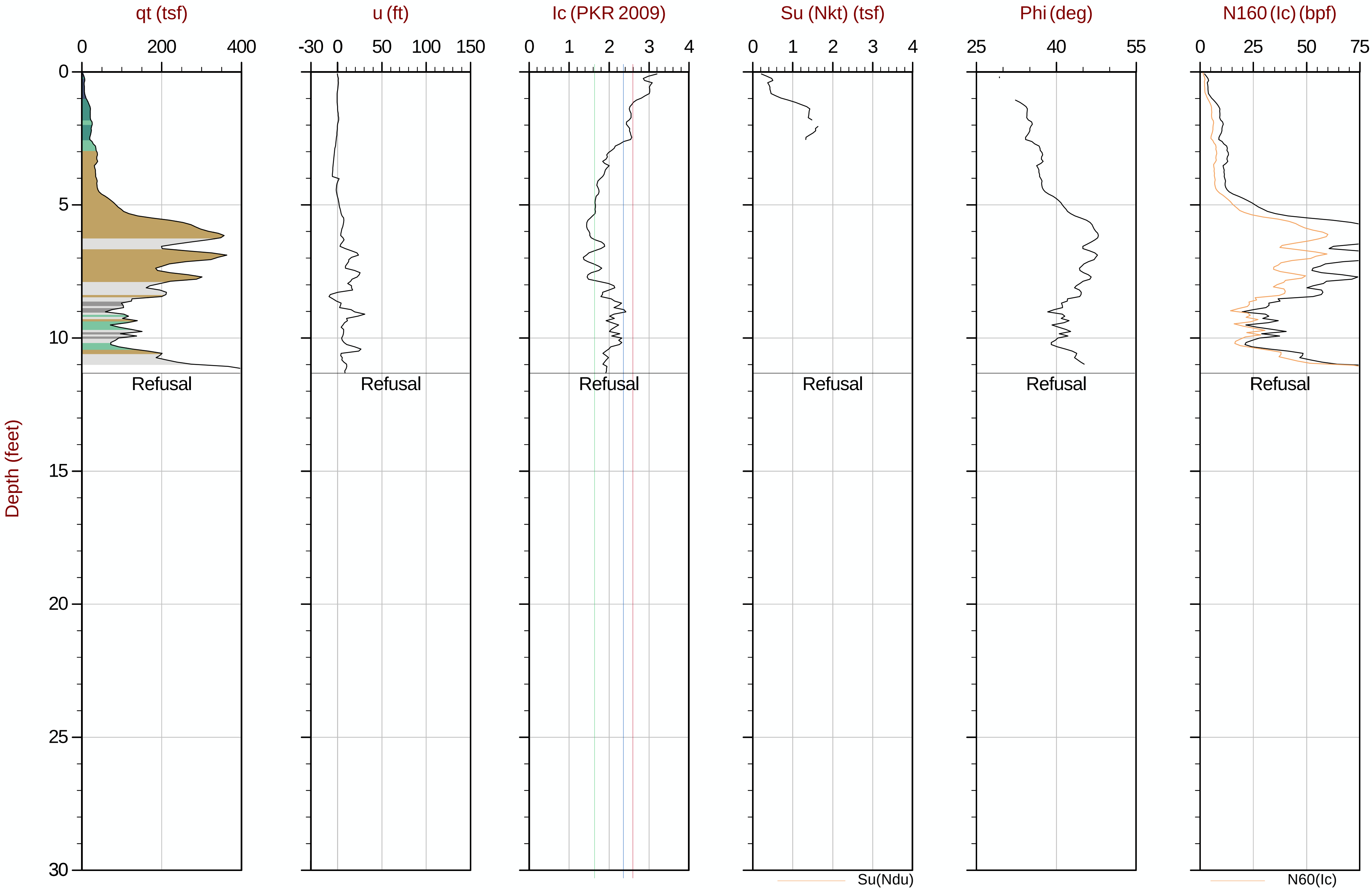
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 08:00
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-098
Cone: 604:T1500F15U35



Max Depth: 3.450 m / 11.32 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-098.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782436m E: 405738m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

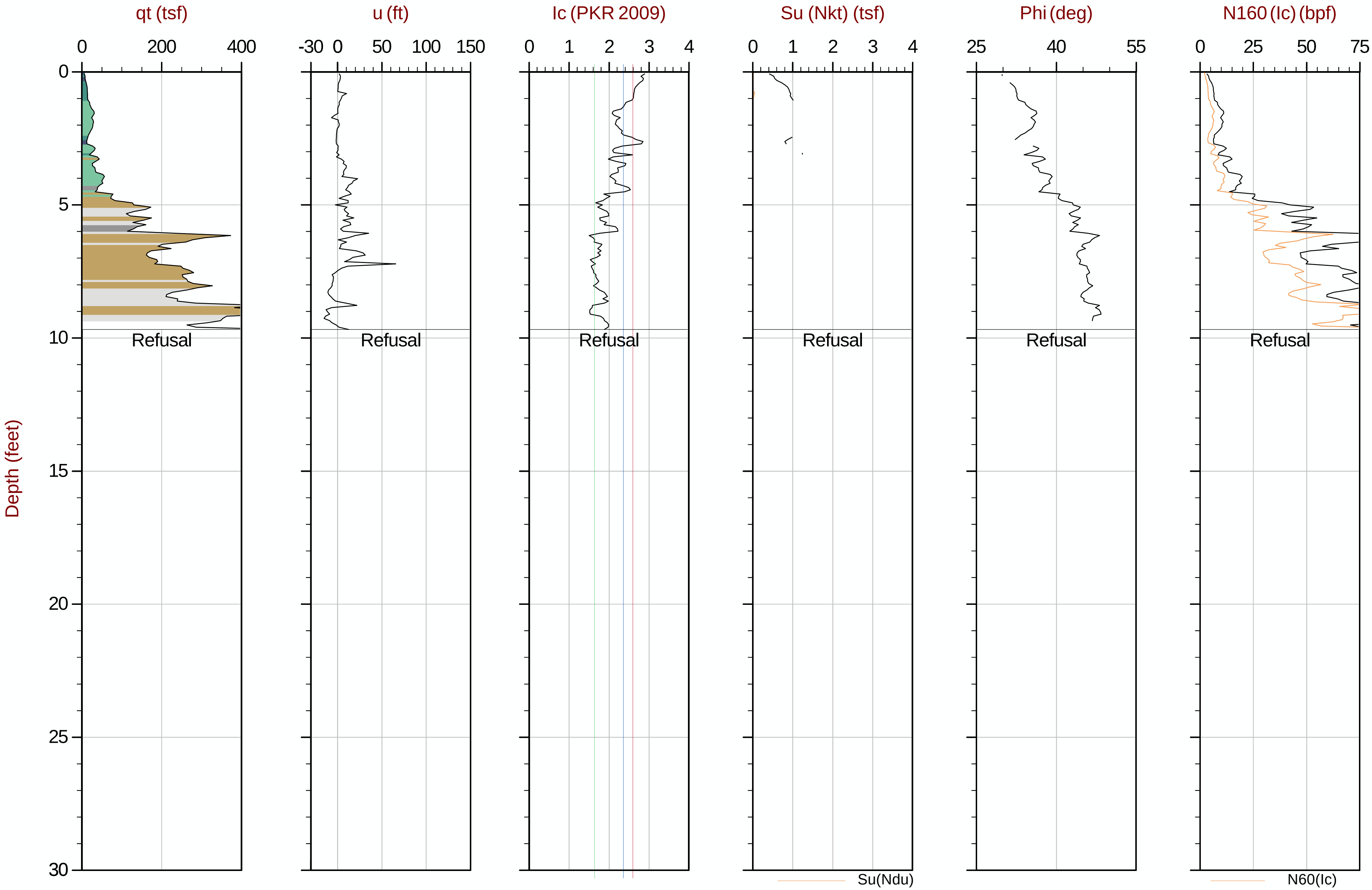
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 11:28
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-102
Cone: 604:T1500F15U35



Max Depth: 2.950 m / 9.68 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-102.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782407m E: 405552m

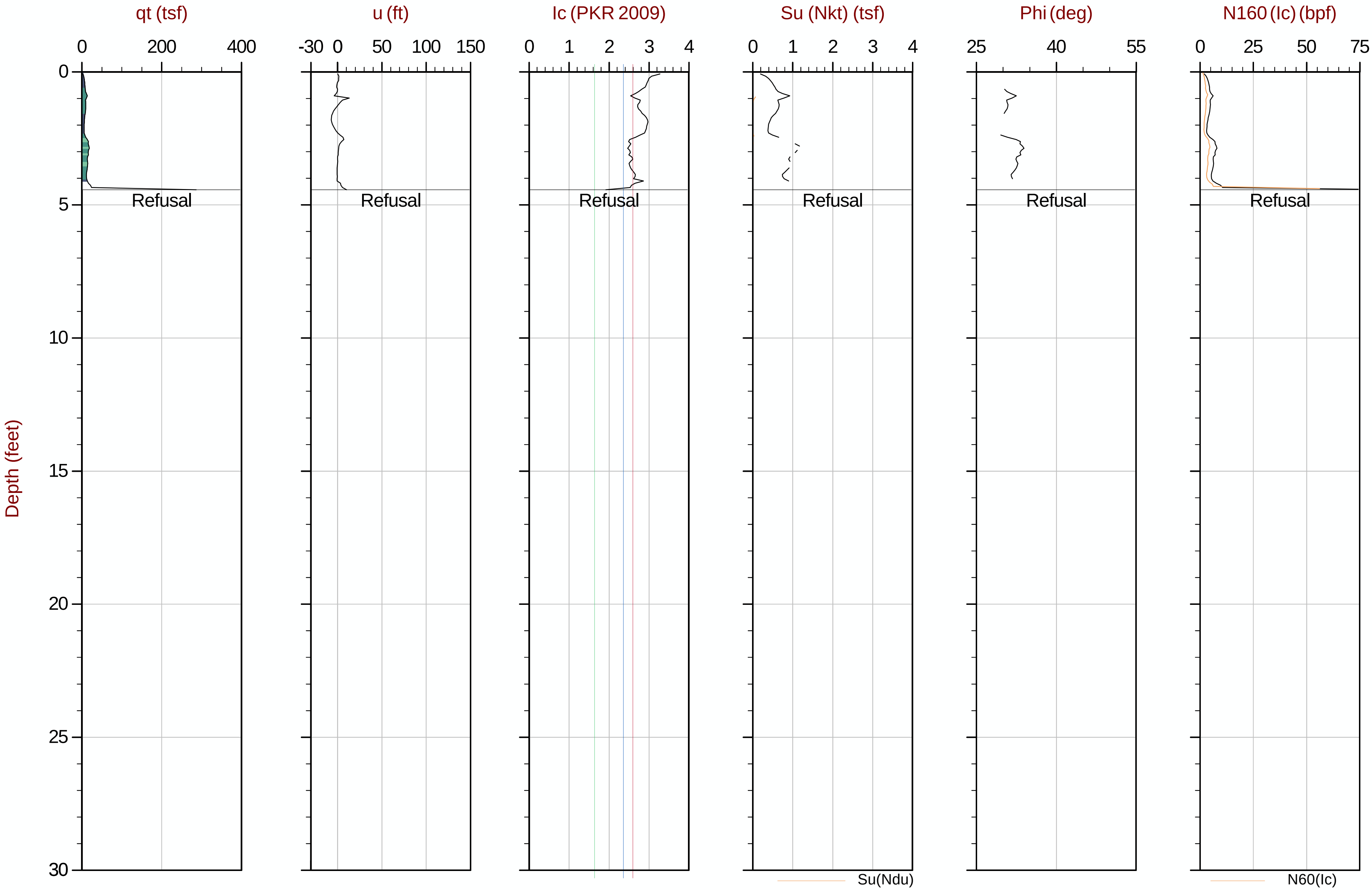
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 12:09
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-104
Cone: 604:T1500F15U35



Max Depth: 1.350 m / 4.43 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-104.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782390m E: 405424m

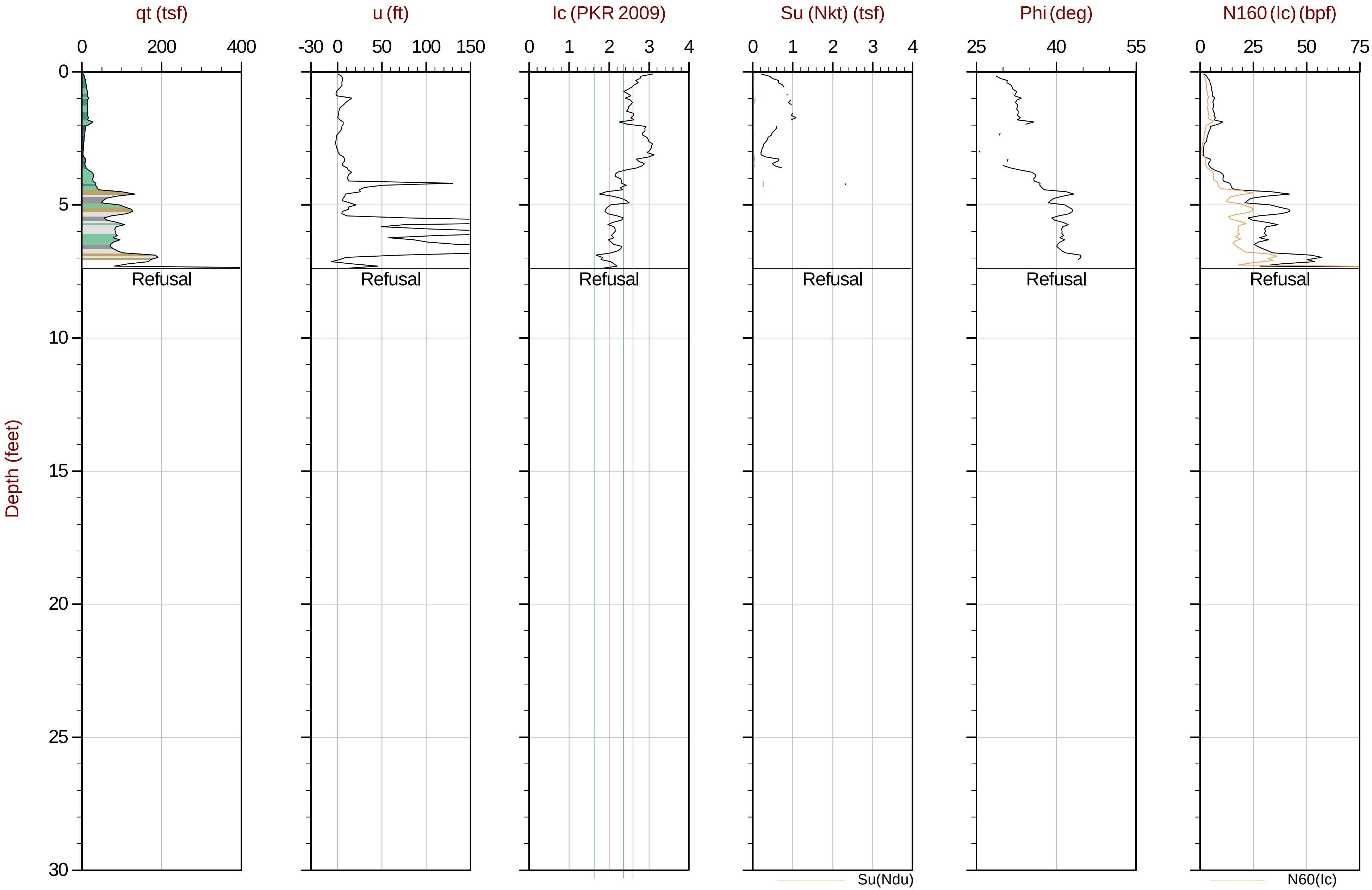
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 08:37
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-106
Cone: 604:T1500F15U35



Max Depth: 2.250 m / 7.38 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-106.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782406m E: 405306m

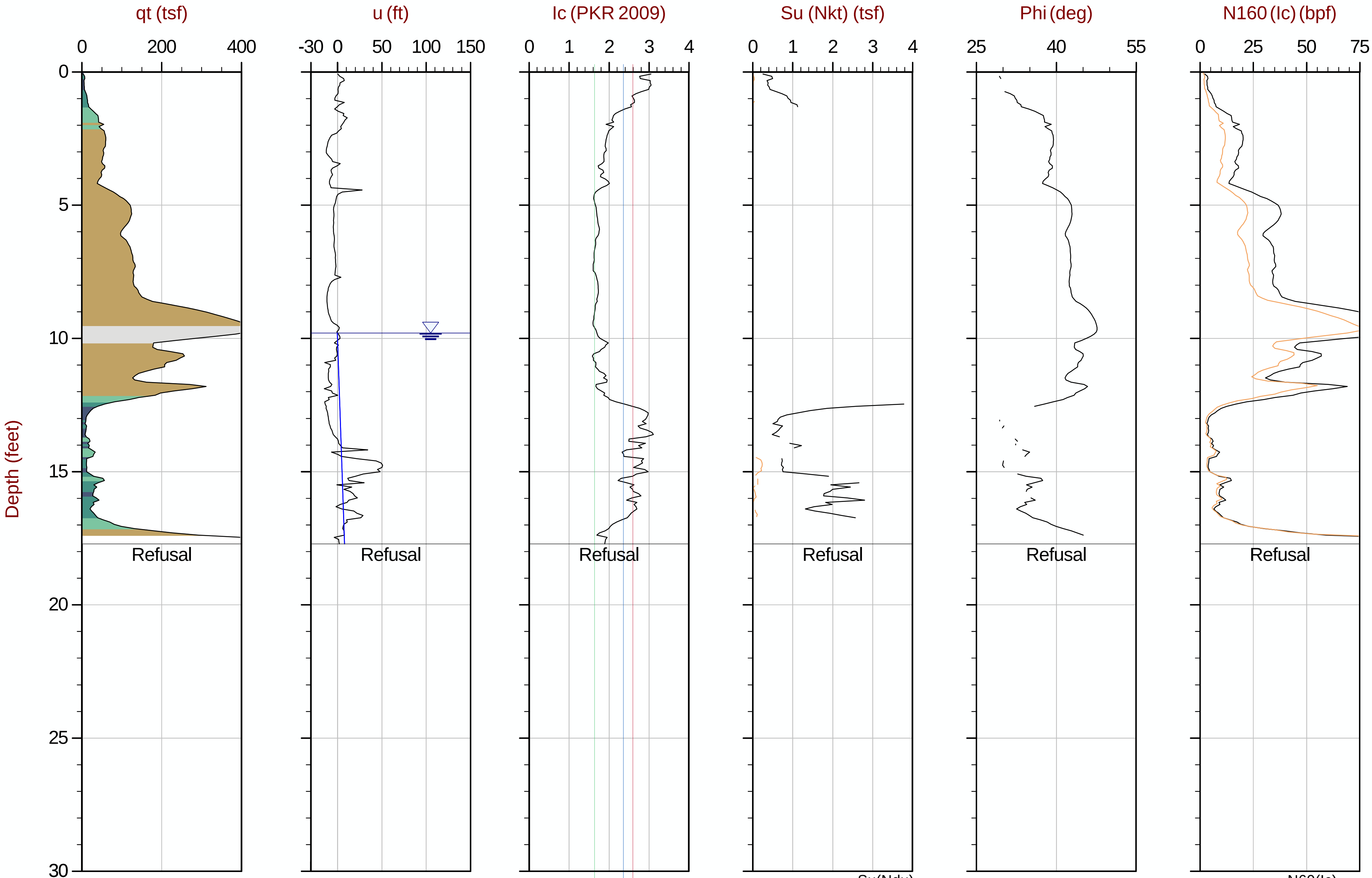
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 08:35
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-107
Cone: 604:T1500F15U35



Max Depth: 5.400 m / 17.72 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-107.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782397m E: 405742m

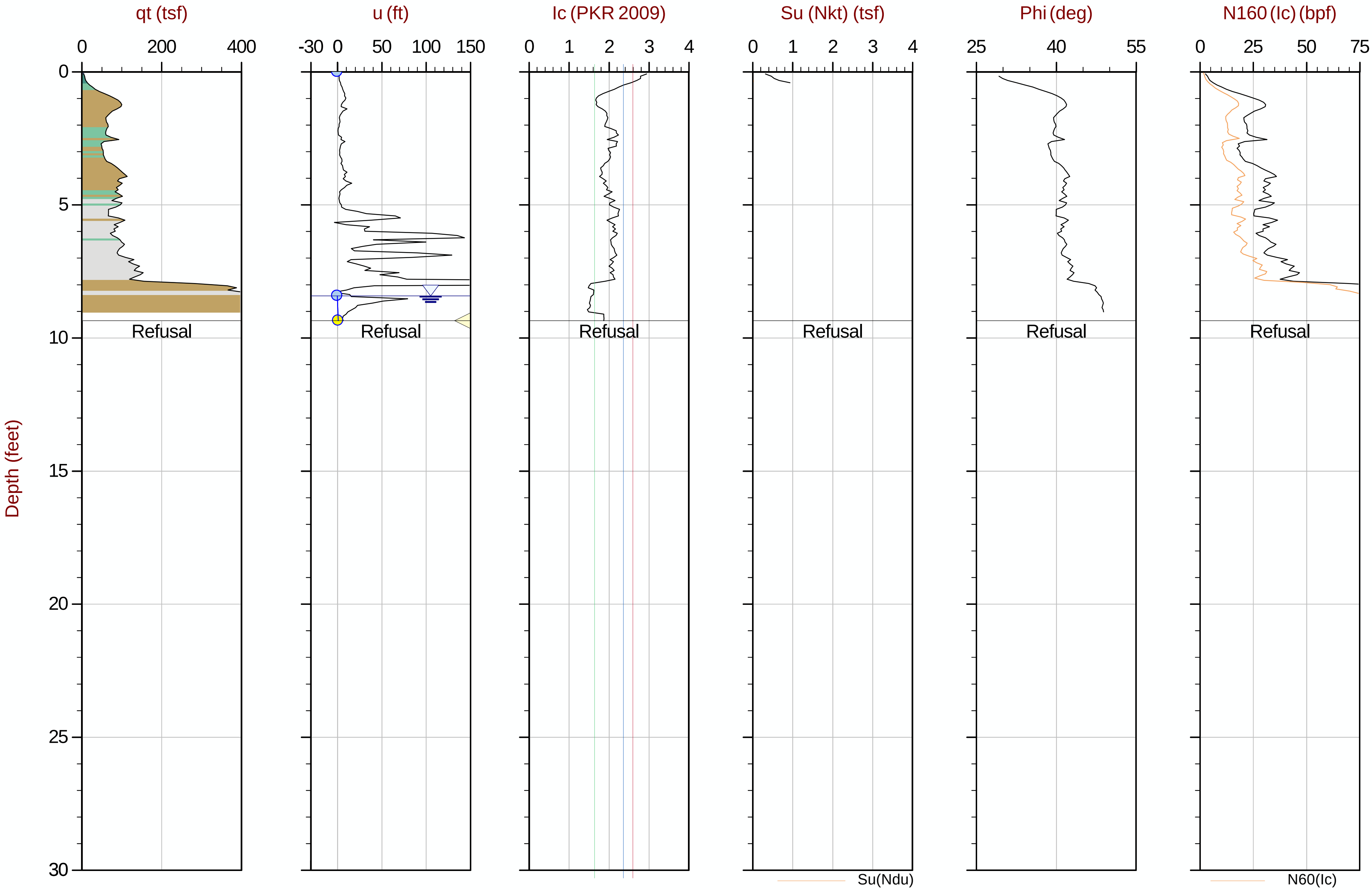
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 10:50
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-112
Cone: 604:T1500F15U35



Max Depth: 2.850 m / 9.35 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-112.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782363m E: 405534m

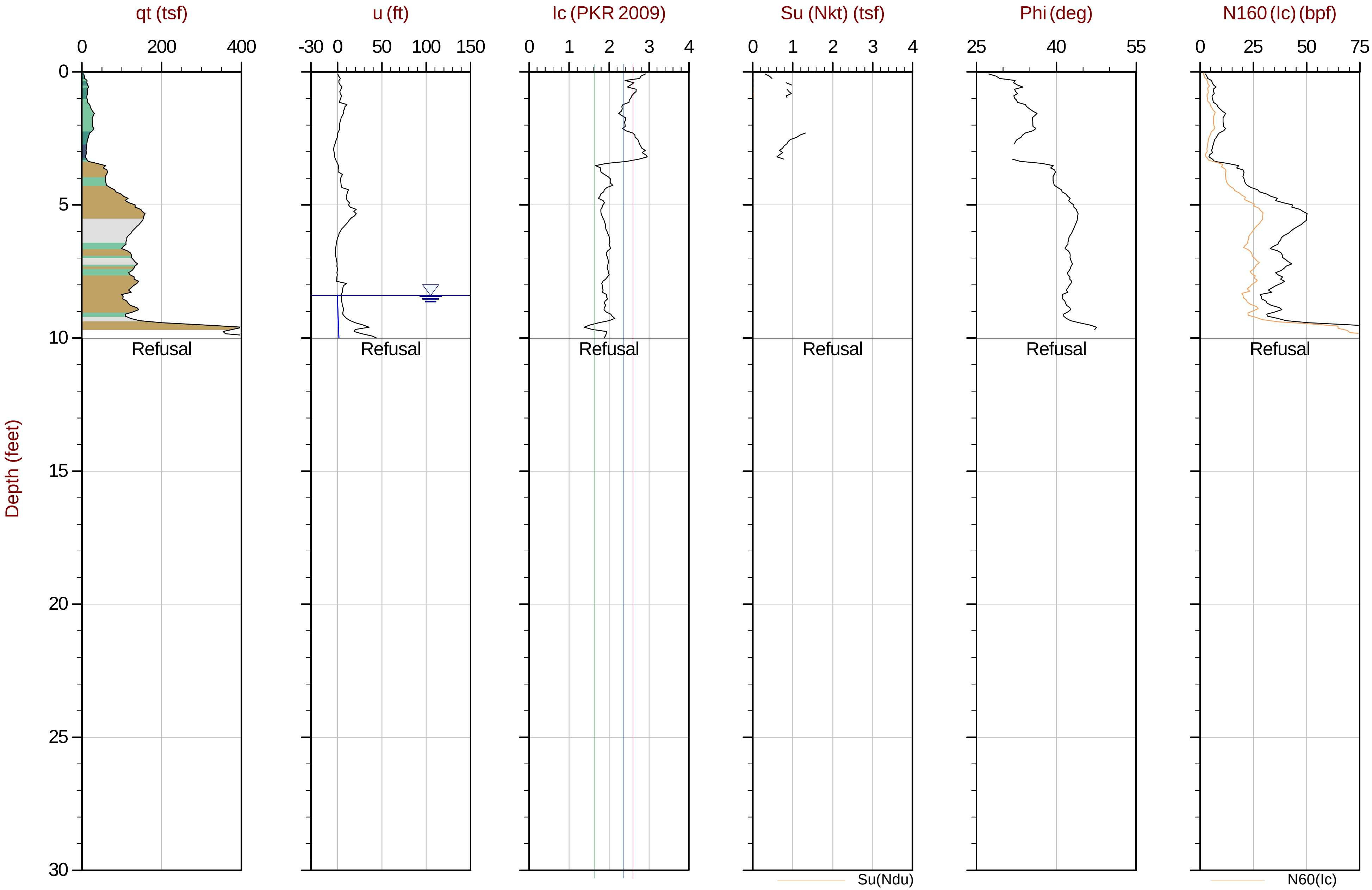
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 09:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-113
Cone: 604:T1500F15U35



Max Depth: 3.050 m / 10.01 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-113.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

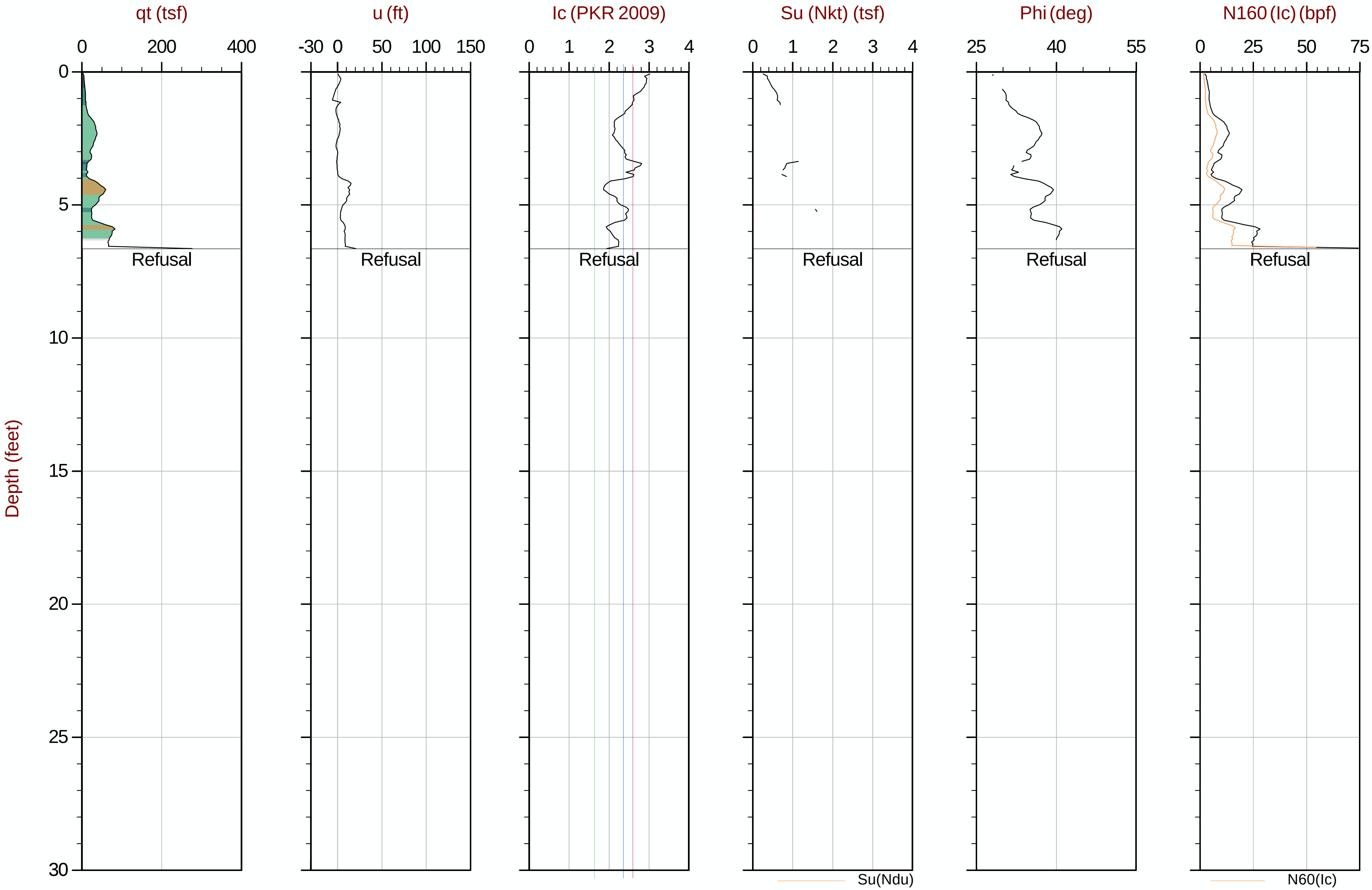
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782359m E: 405498m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 09:03
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-115
Cone: 604:T1500F15U35



Max Depth: 2.025 m / 6.64 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-115.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782356m E: 405372m

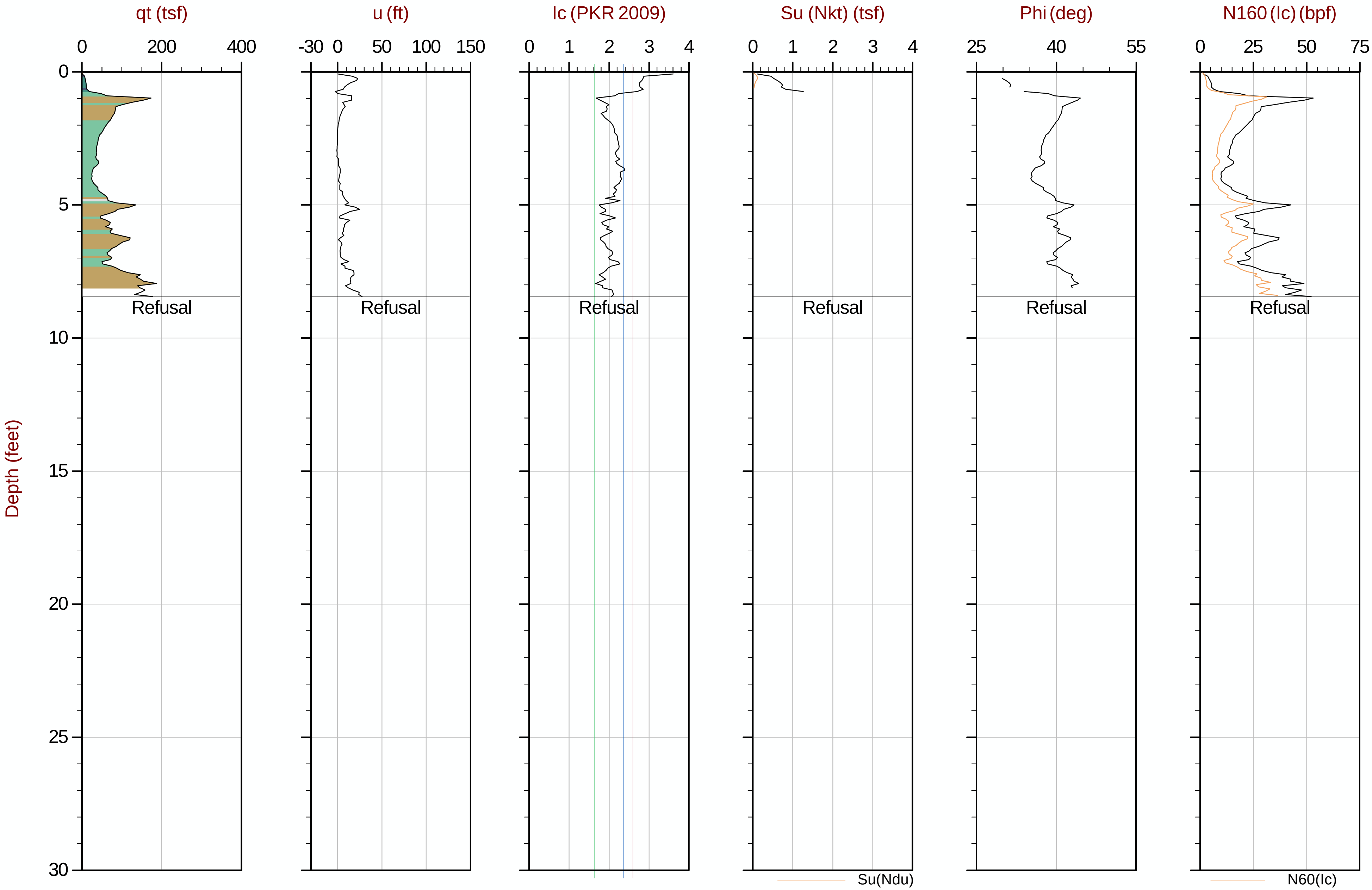
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 10:14
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-120
Cone: 604:T1500F15U35



Max Depth: 2.575 m / 8.45 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-120.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782336m E: 405417m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

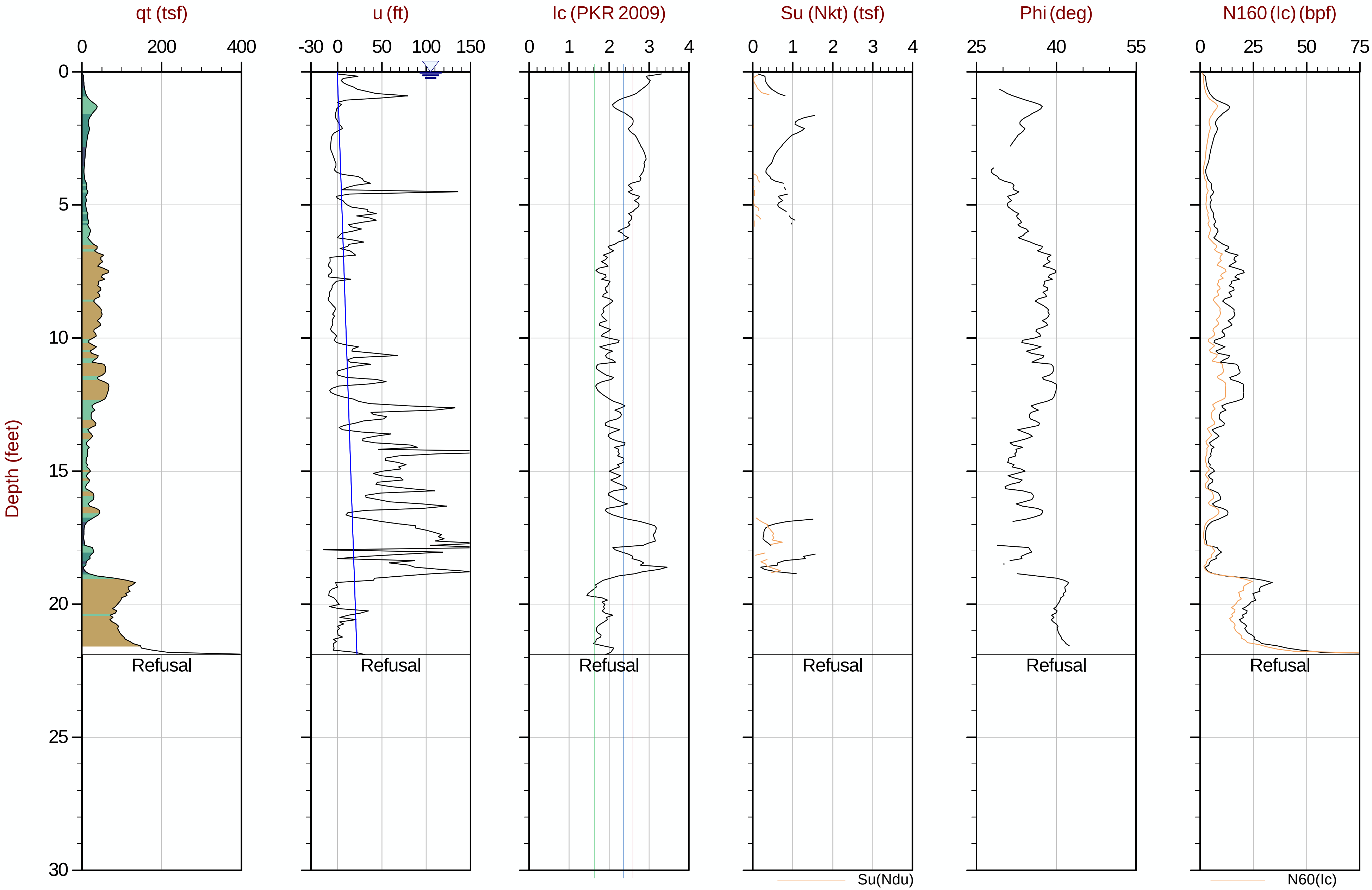
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 14:56
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-208
Cone: 606:T1500F15U35



Max Depth: 6.675 m / 21.90 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-208.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782904m E: 406684m

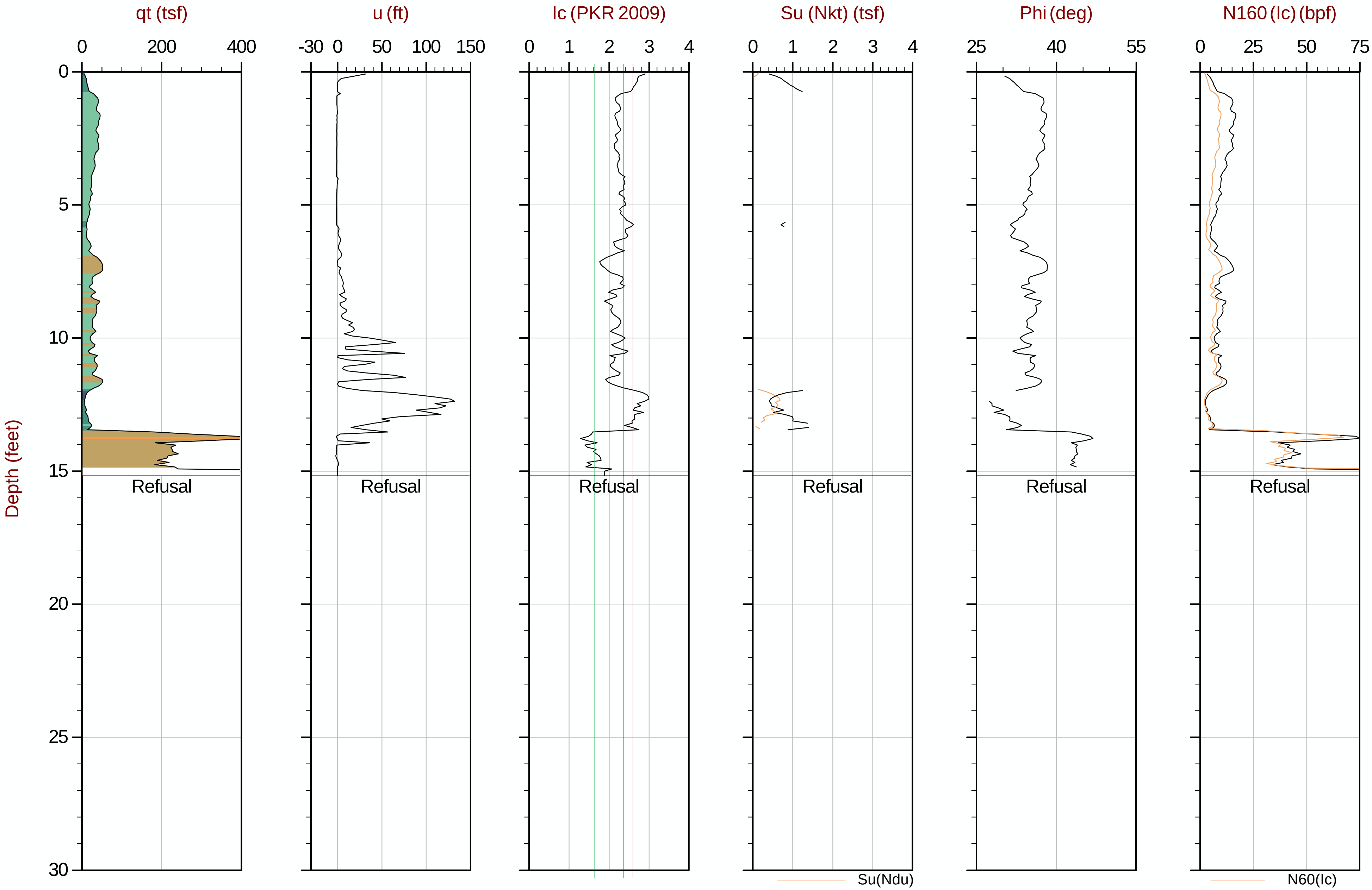
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 10:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-221
Cone: 606:T1500F15U35



Max Depth: 4.625 m / 15.17 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-221.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783038m E: 406405m

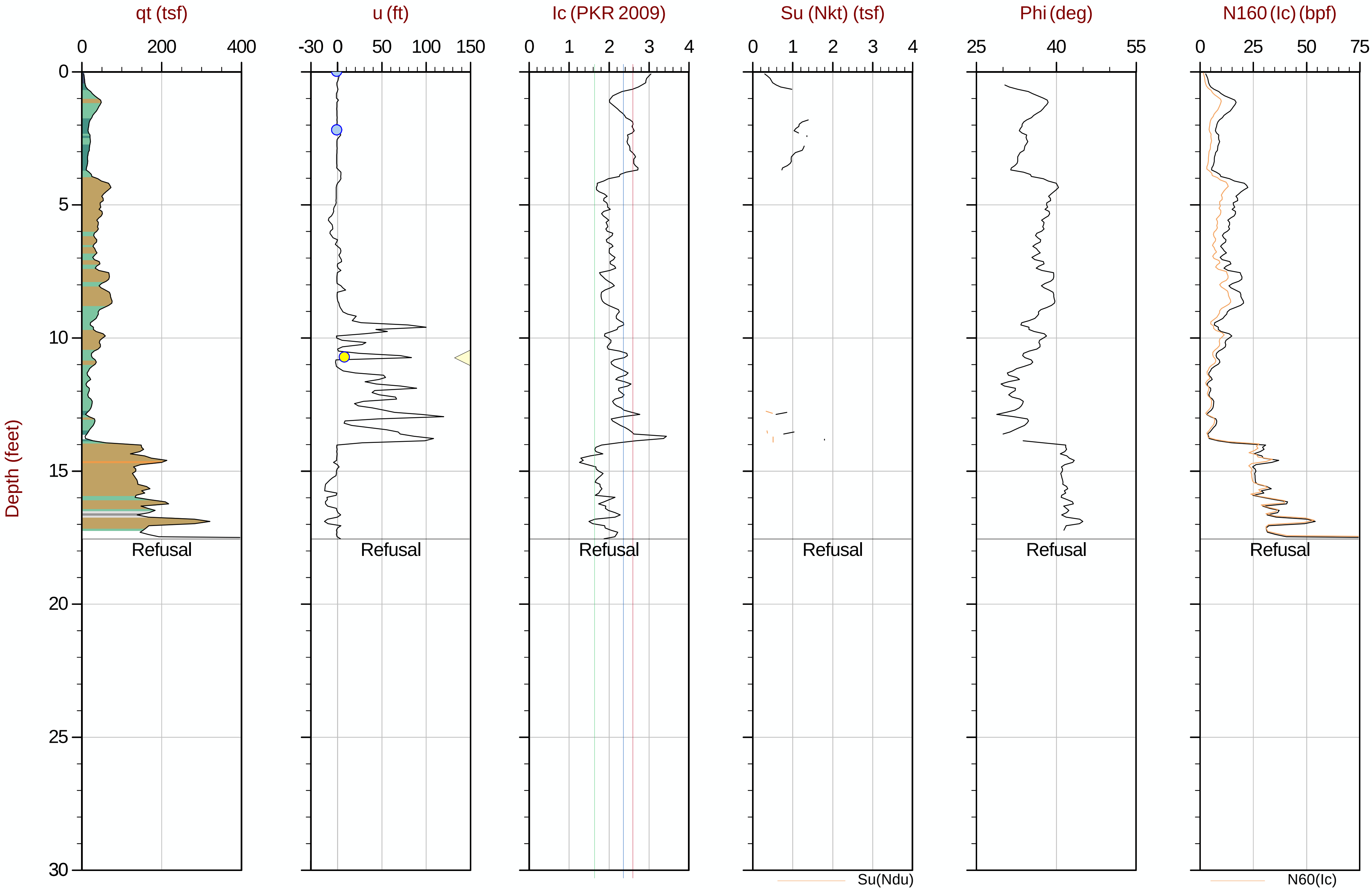
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 11:16
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-222
Cone: 606:T1500F15U35



Max Depth: 5.350 m / 17.55 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-222.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783002m E: 406458m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

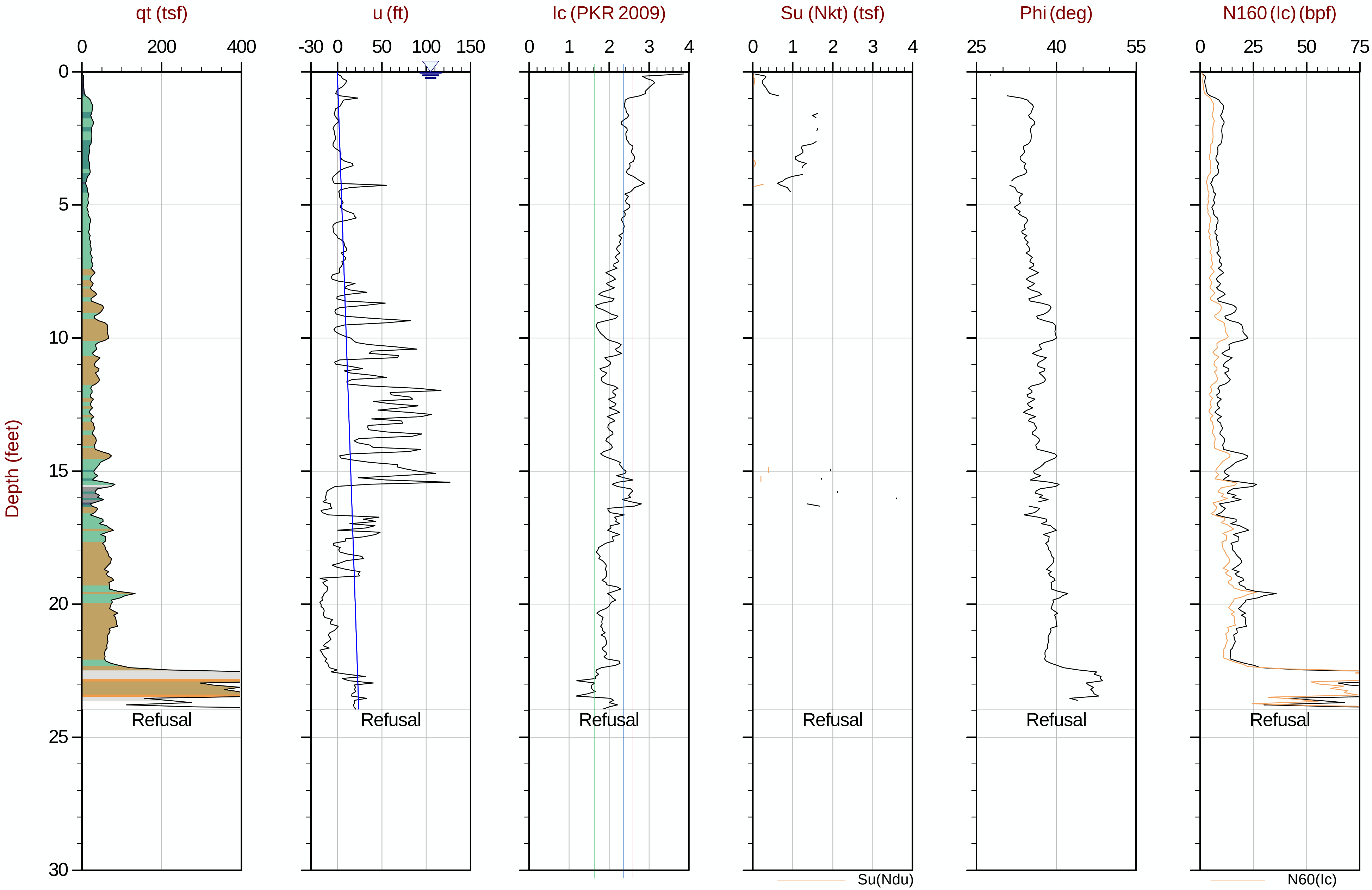
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 14:26
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-225
Cone: 606:T1500F15U35



Max Depth: 7.300 m / 23.95 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-225.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782889m E: 406600m

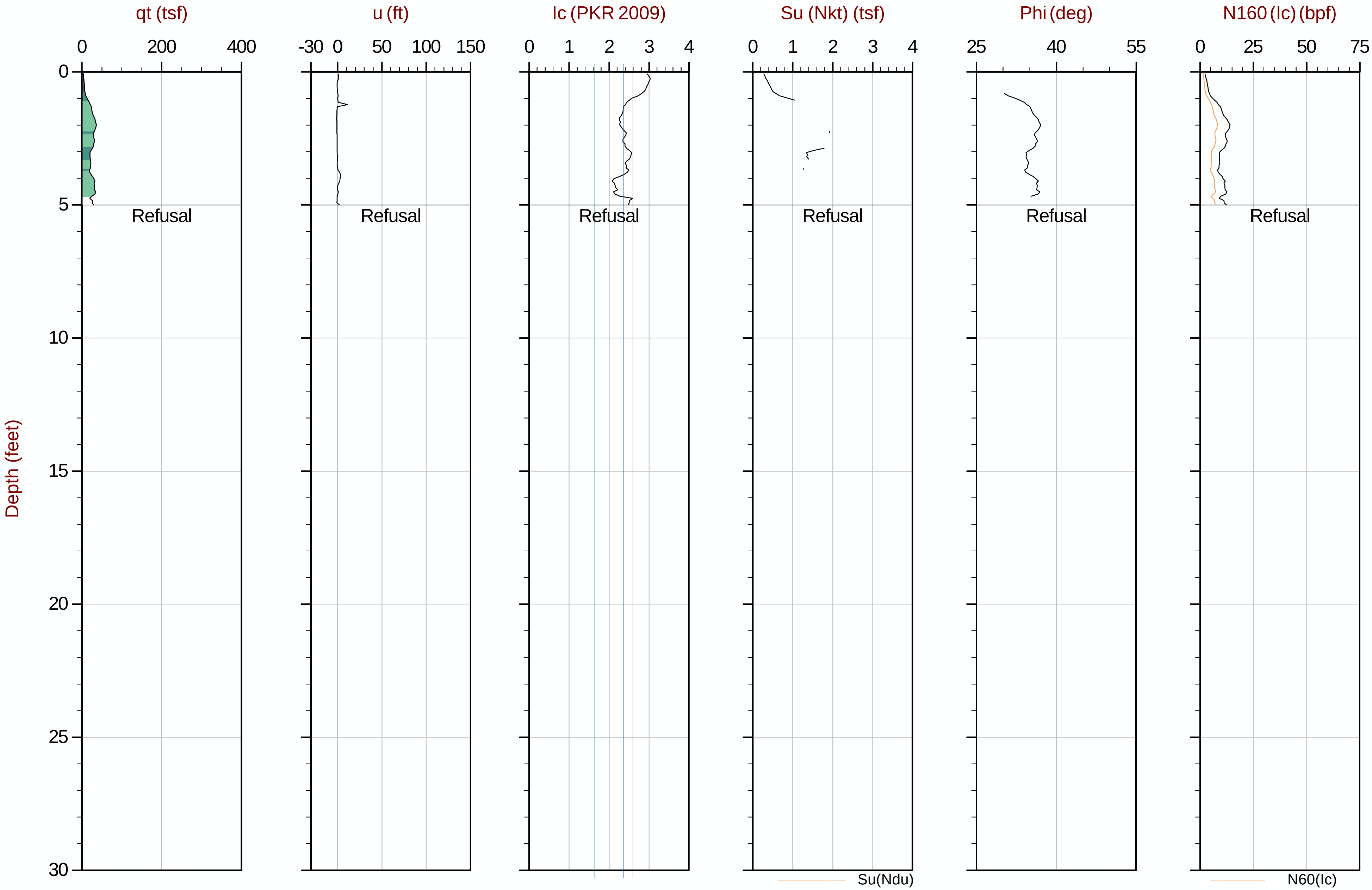
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 12:08
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228
Cone: 606:T1500F15U35



Max Depth: 1.525 m / 5.00 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-228.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

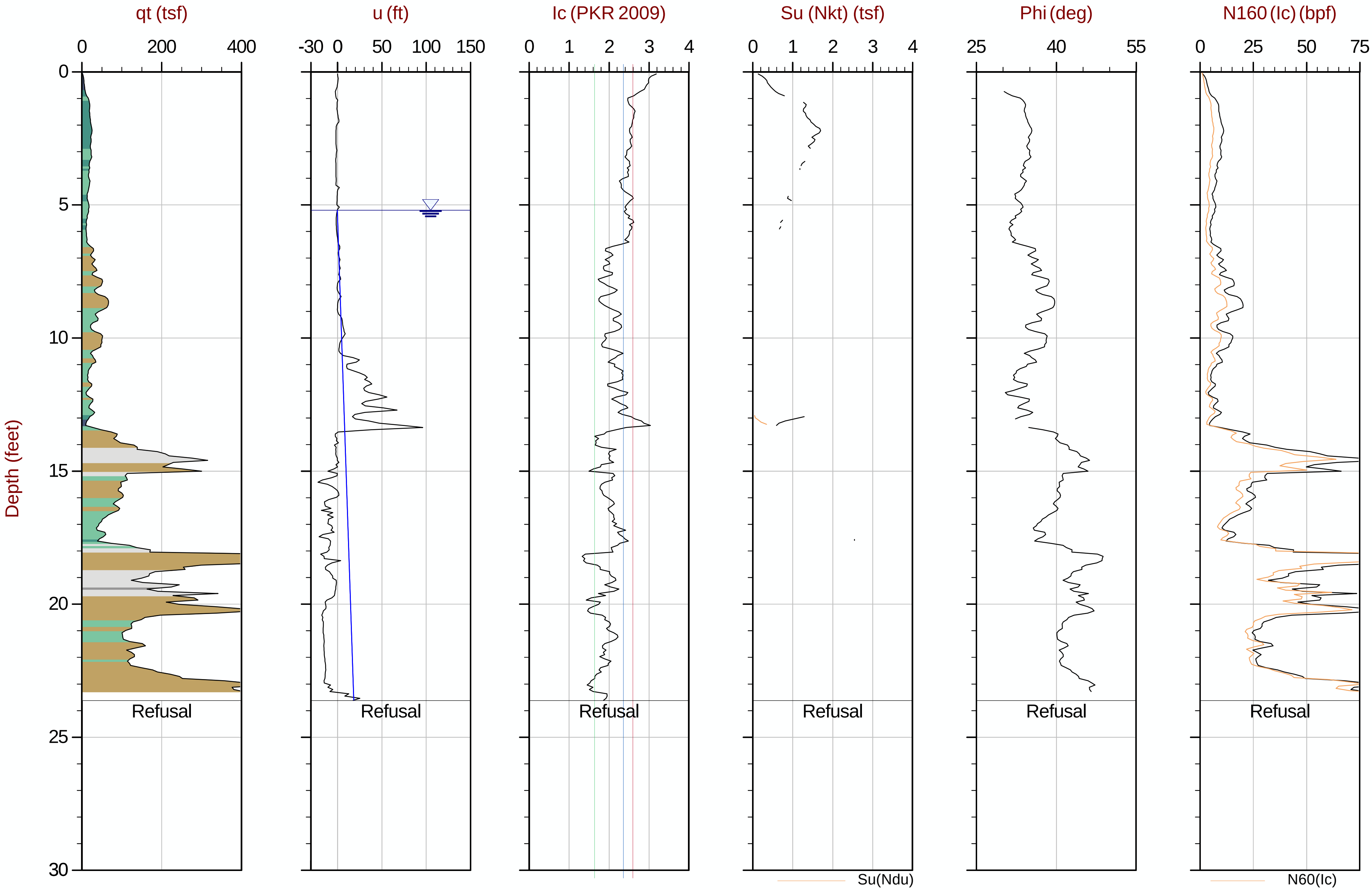
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782803m E: 406617m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 13:08
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228A
Cone: 606:T1500F15U35



Max Depth: 7.200 m / 23.62 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-228A.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782805m E: 406616m

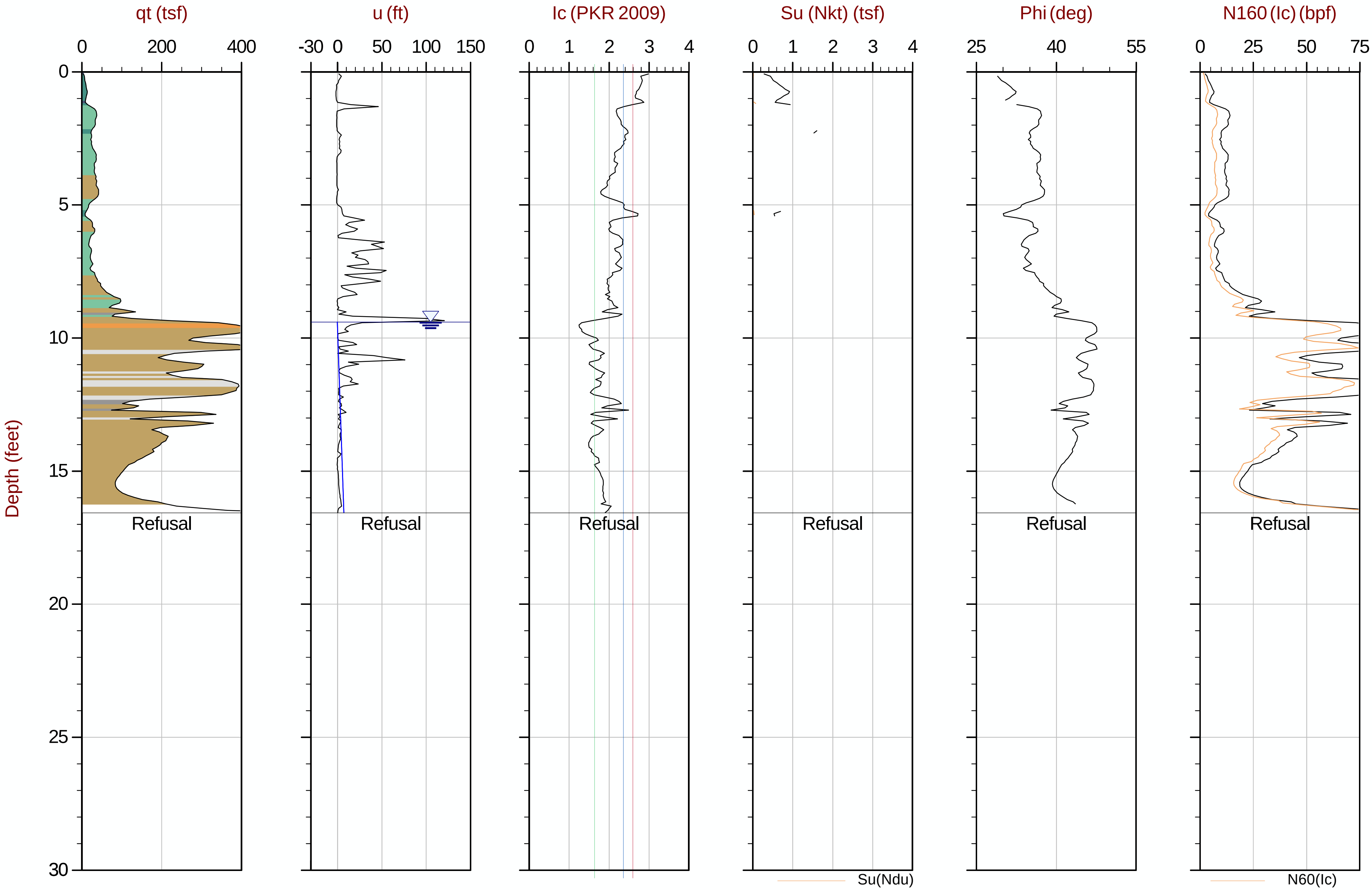
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 09:53
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-237
Cone: 606:T1500F15U35



Max Depth: 5.050 m / 16.57 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-237.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

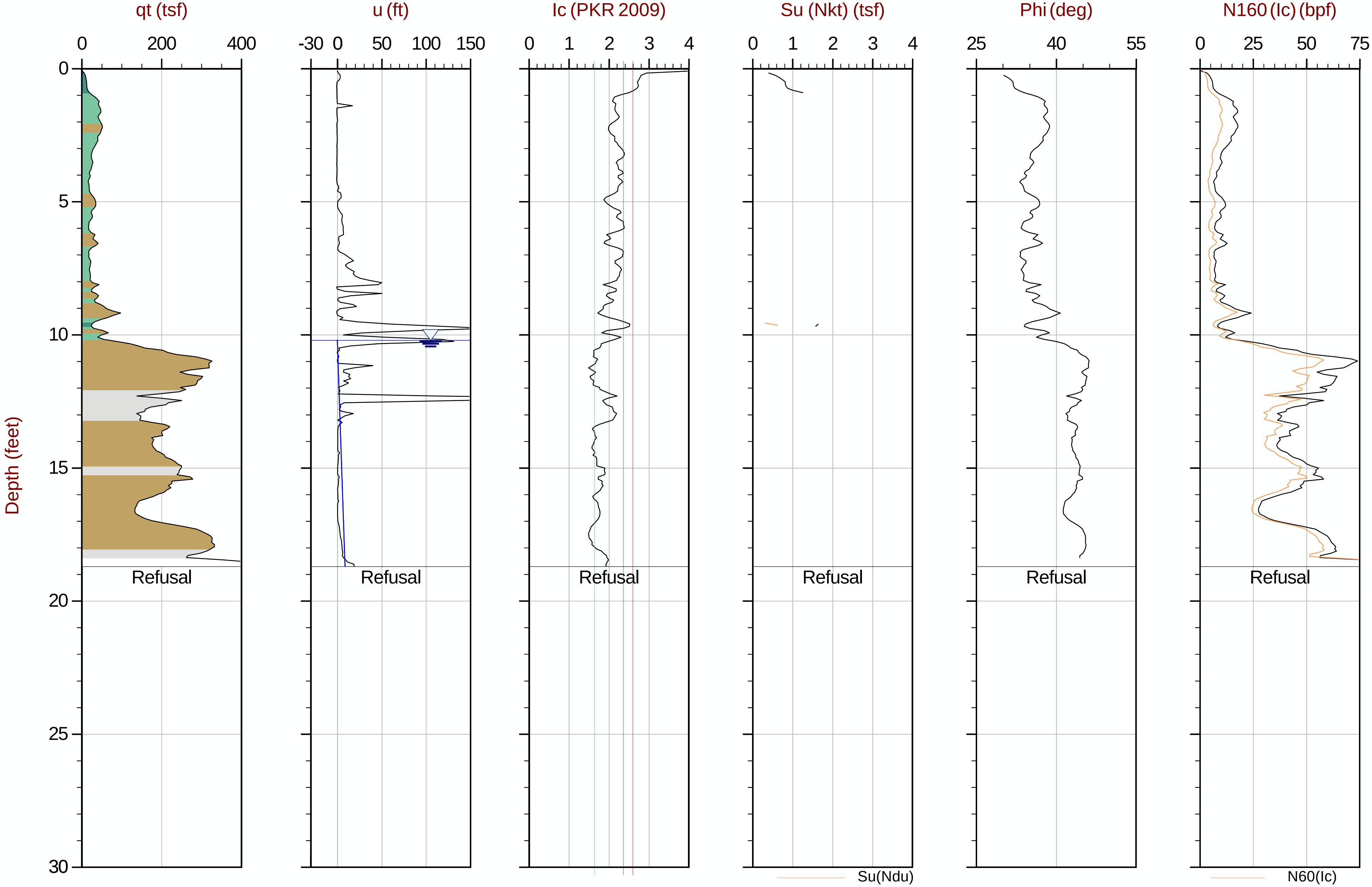
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782977m E: 406285m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 10:16
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-238
Cone: 606:T1500F15U35



Max Depth: 5.700 m / 18.70 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-238.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782942m E: 406333m

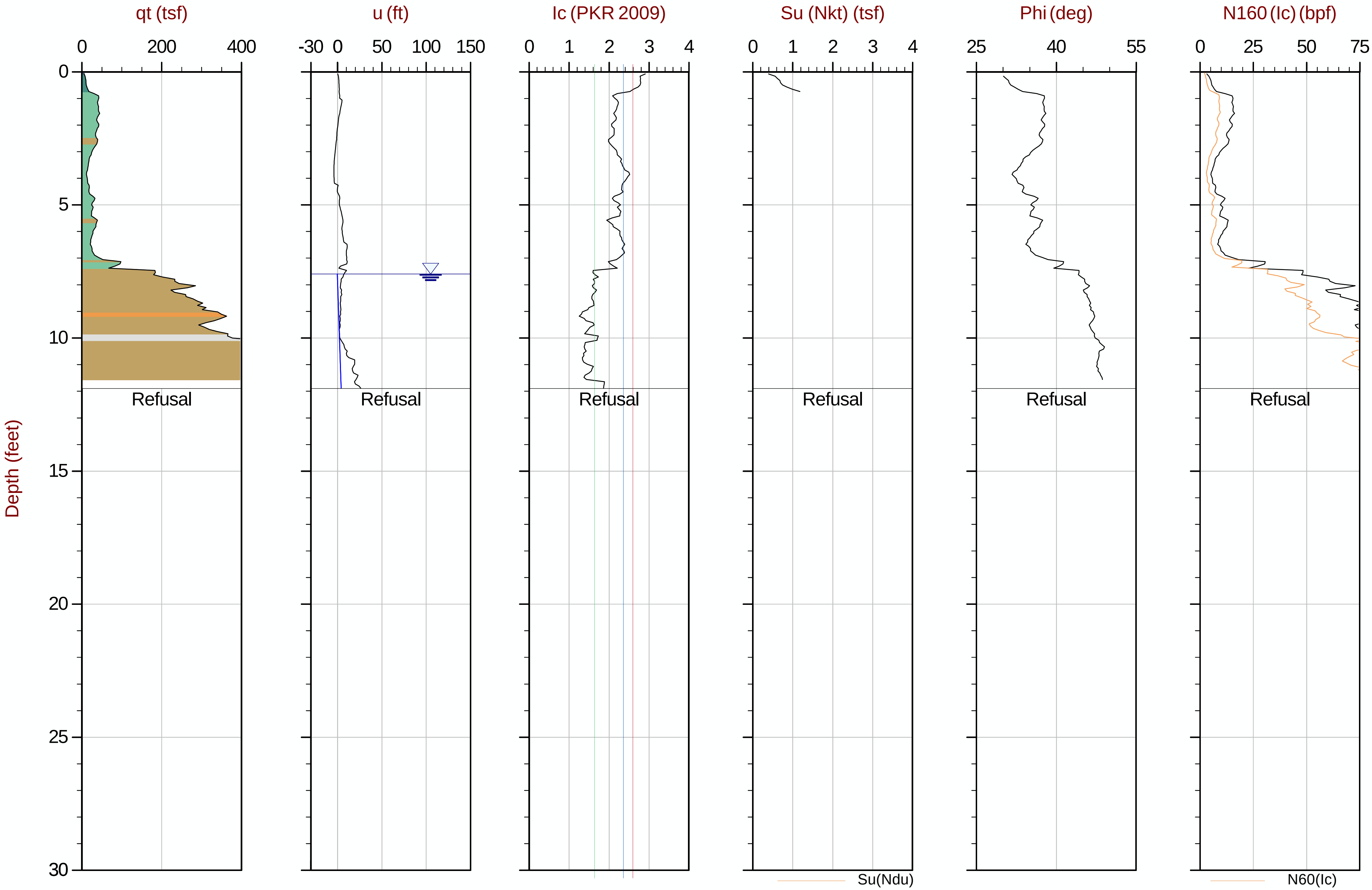
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 07:33
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-243
Cone: 604:T1500F15U35



Max Depth: 3.625 m / 11.89 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-243.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782901m E: 406077m

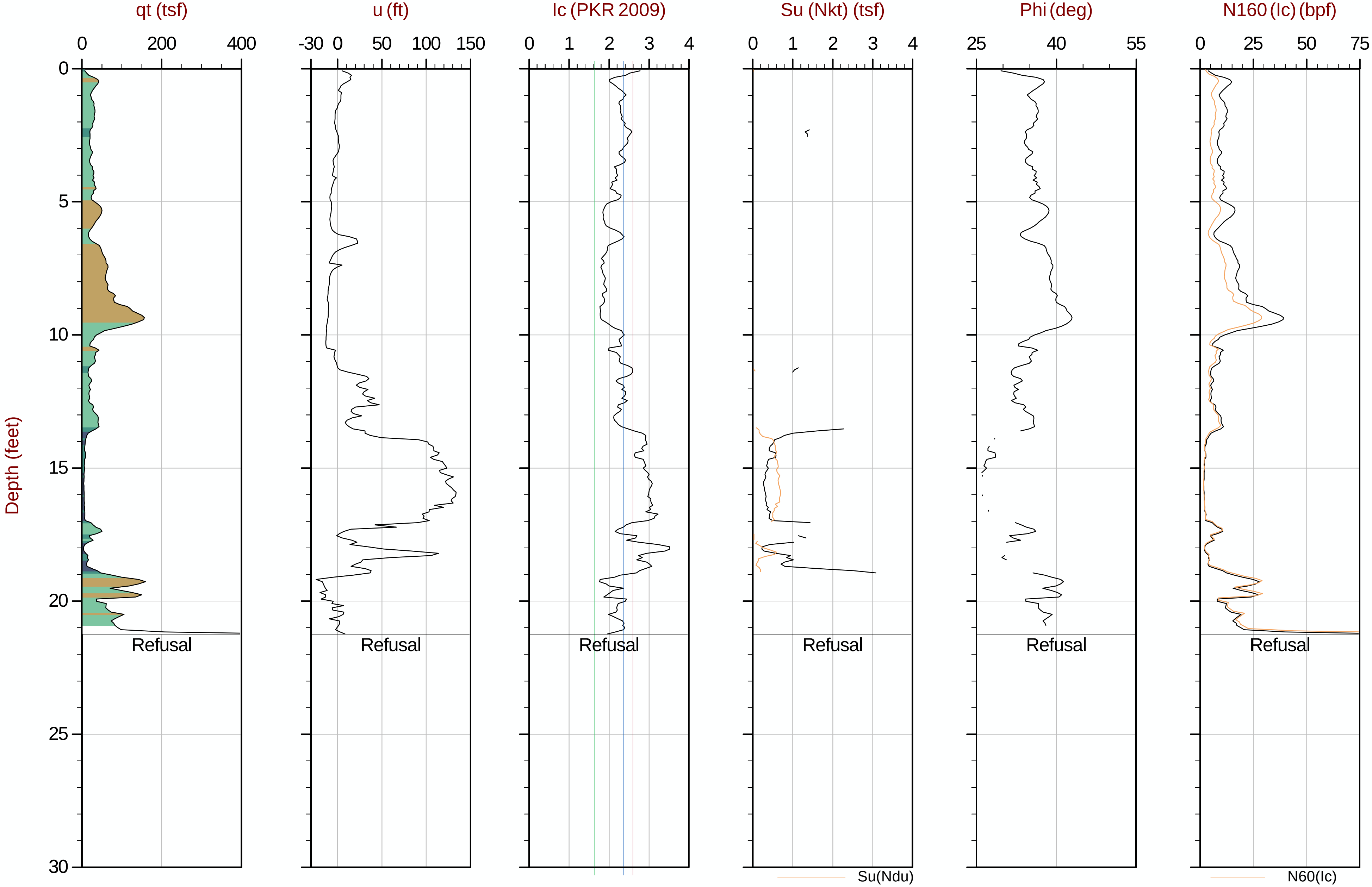
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 09:50
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-244
Cone: 604:T1500F15U35



Max Depth: 6.475 m / 21.24 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-244.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782940m E: 406022m

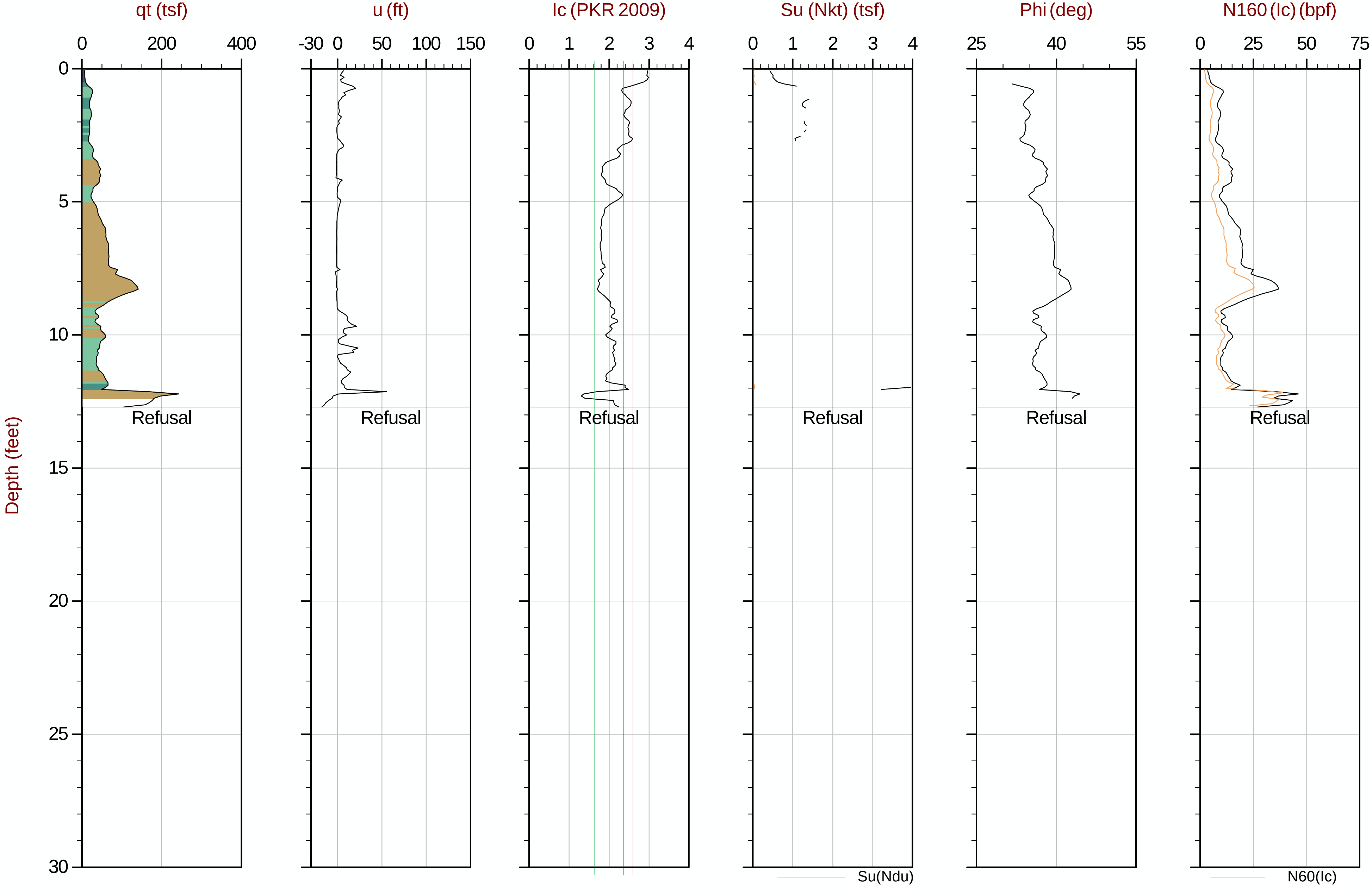
Hydrostatic Line　Ueq　Assumed Ueq　PPD, Ueq achieved　PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 11:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-246
Cone: 606:T1500F15U35



Max Depth: 3.875 m / 12.71 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-246.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782950m E: 405893m

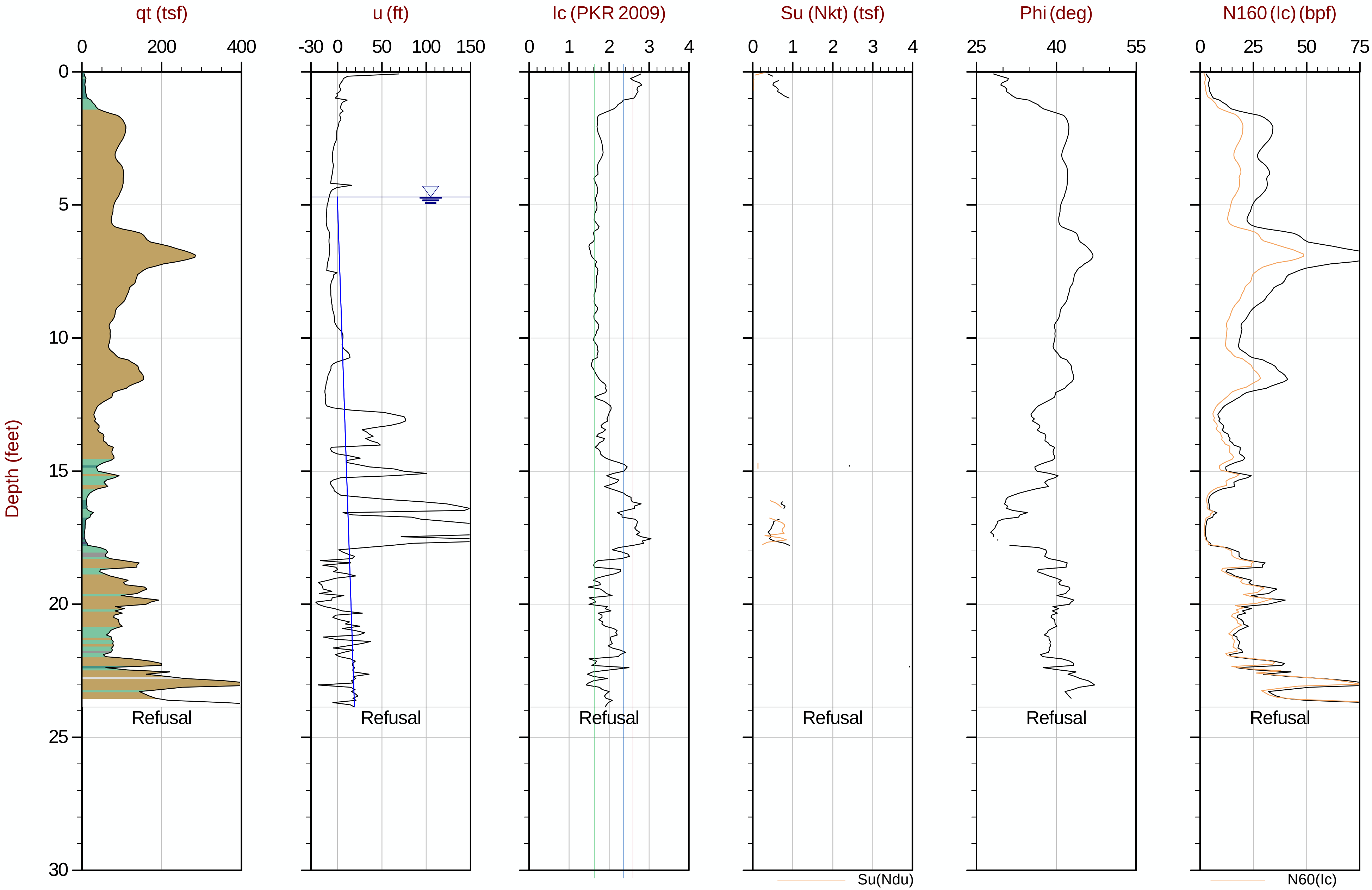
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 12:00
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-252
Cone: 606:T1500F15U35



Max Depth: 7.275 m / 23.87 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-252.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783005m E: 405730m

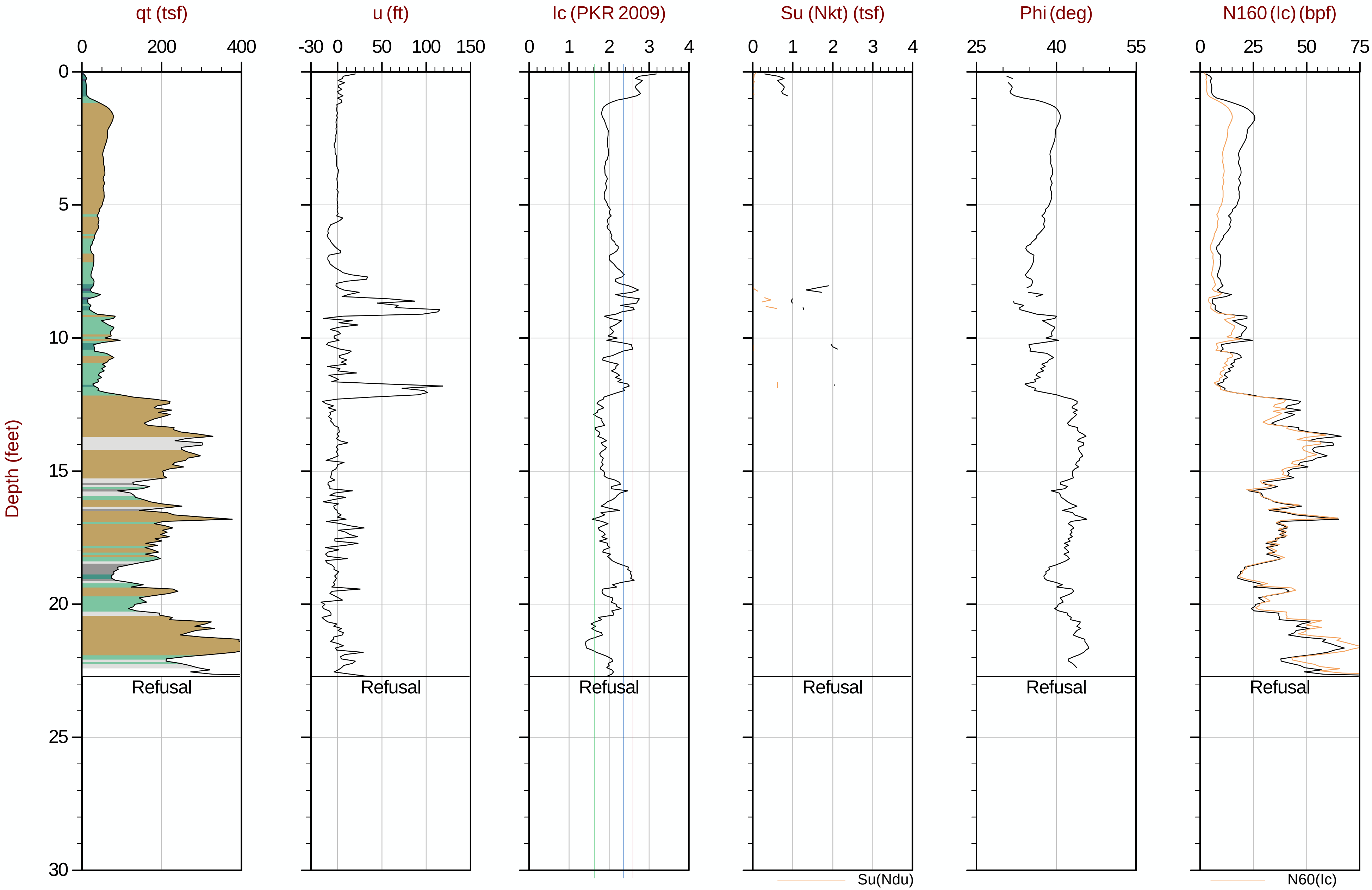
Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 12:47
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-261
Cone: 606:T1500F15U35



Max Depth: 6.925 m / 22.72 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-261.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

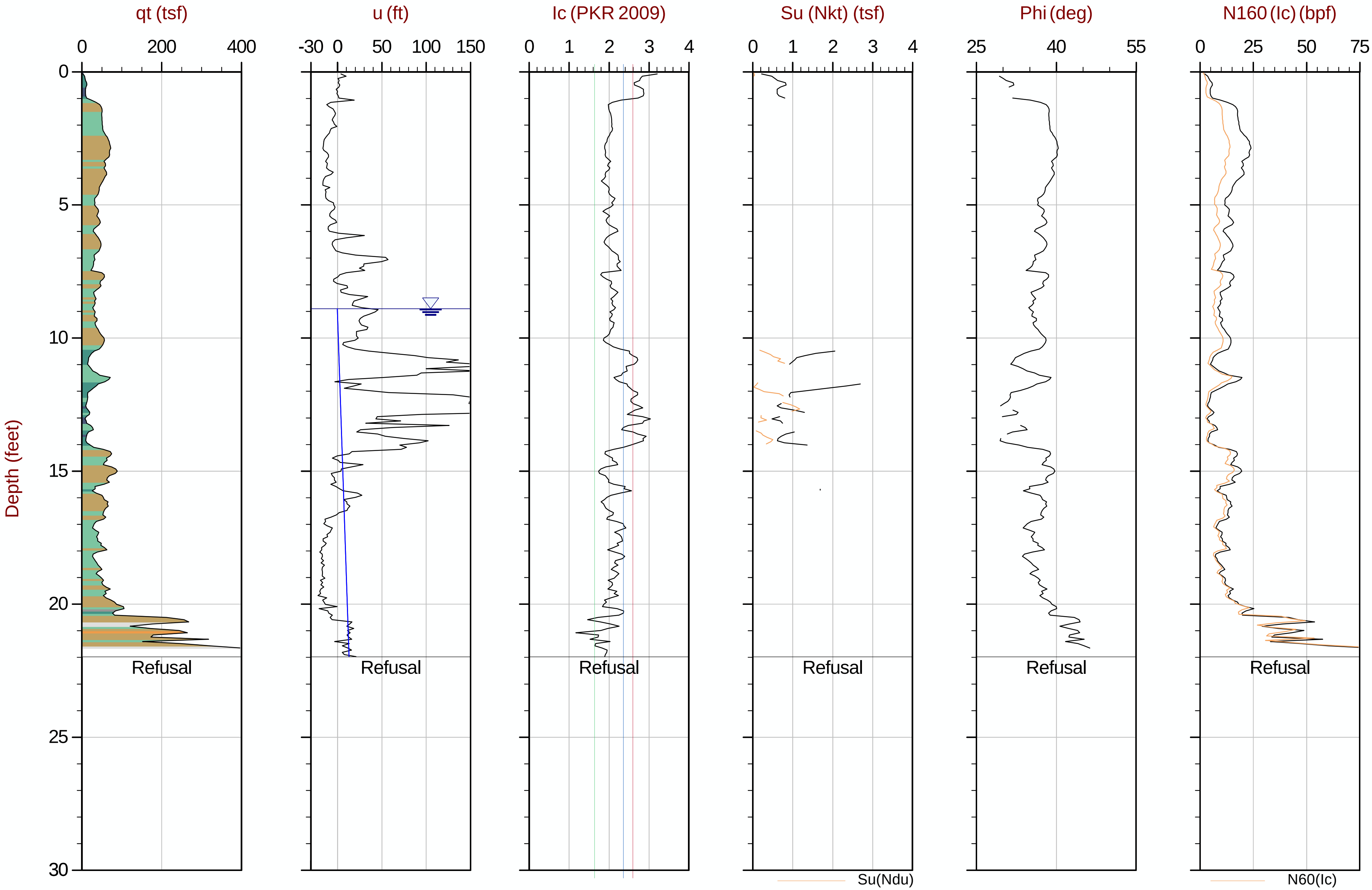
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783025m E: 405815m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 15:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-262
Cone: 606:T1500F15U35



Max Depth: 6.700 m / 21.98 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-262.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782994m E: 405928m

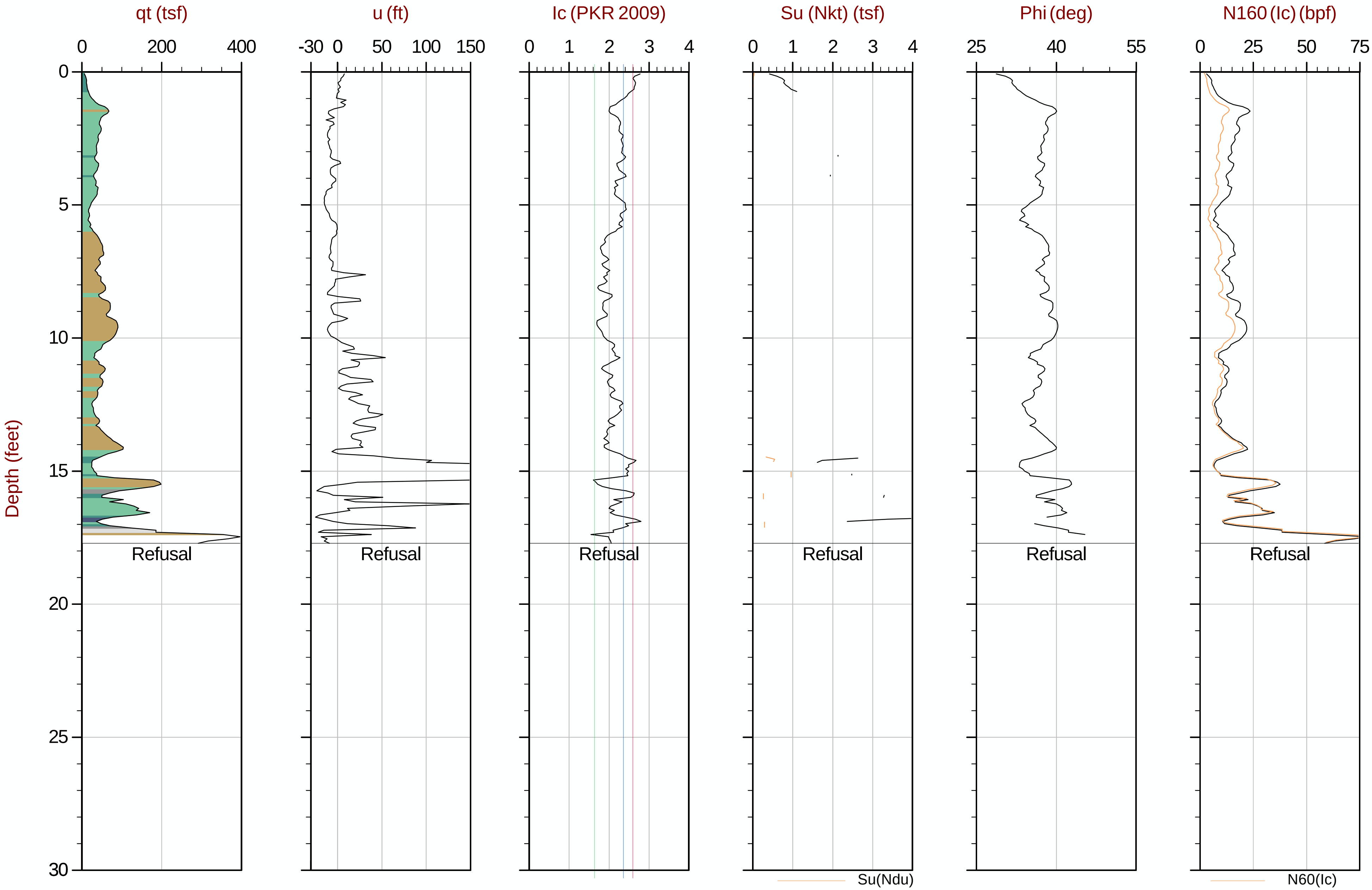
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 13:48
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-270
Cone: 606:T1500F15U35



Max Depth: 5.400 m / 17.72 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-270.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783073m E: 405910m

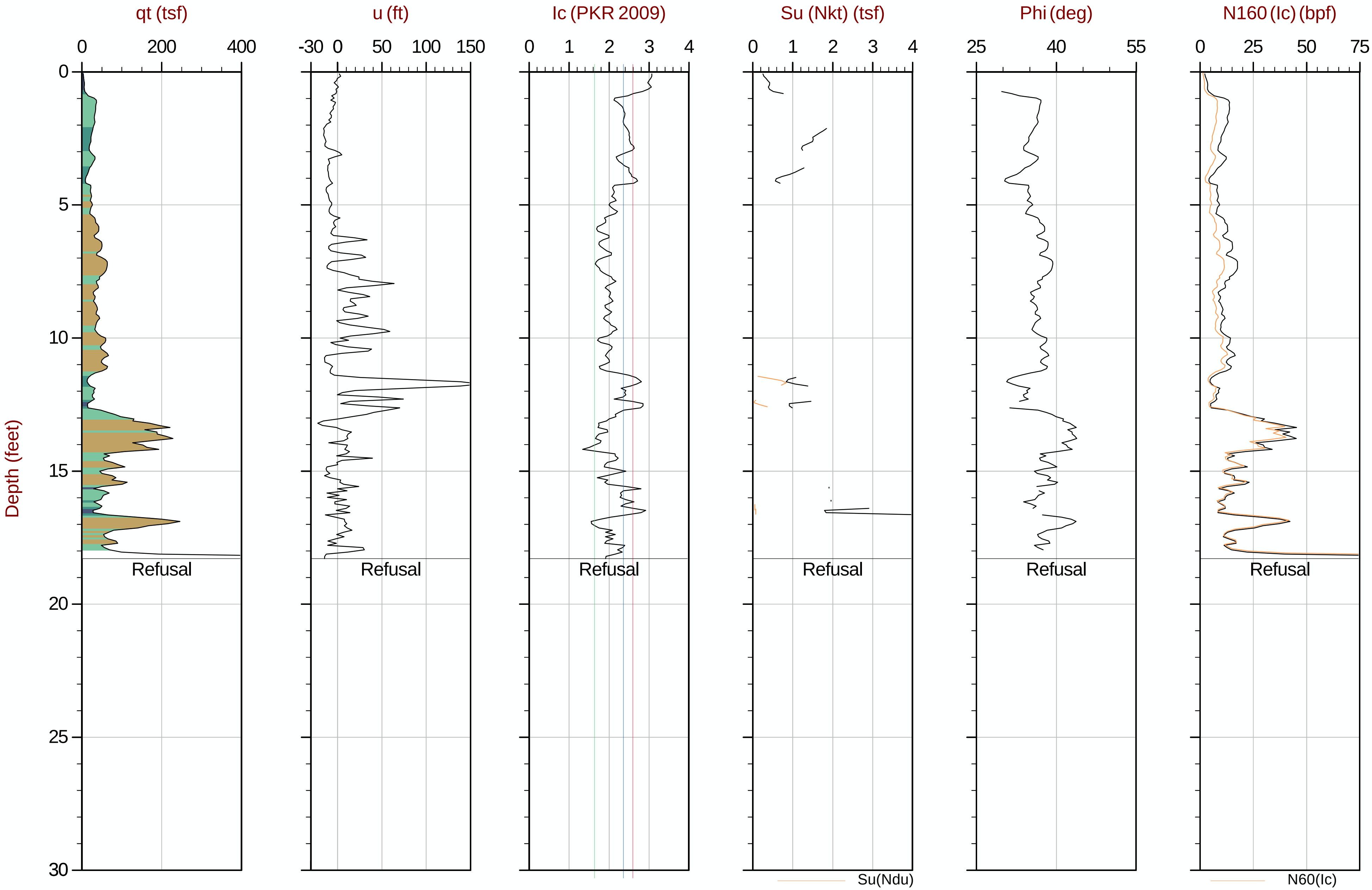
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-280
Cone: 606:T1500F15U35



Max Depth: 5.575 m / 18.29 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-280.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783111m E: 405890m

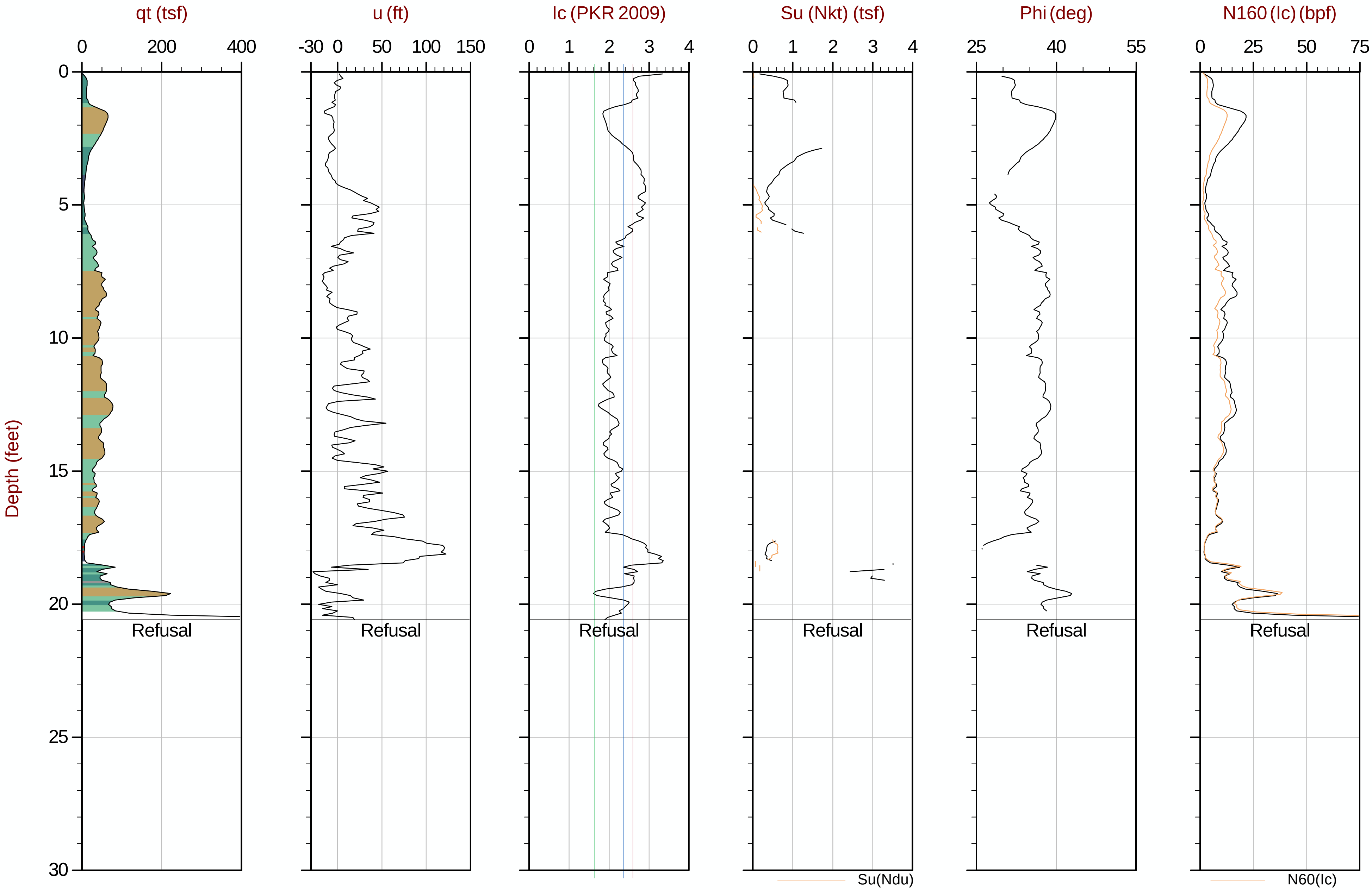
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 15:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-282
Cone: 606:T1500F15U35



Max Depth: 6.275 m / 20.59 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-282.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783220m E: 405930m

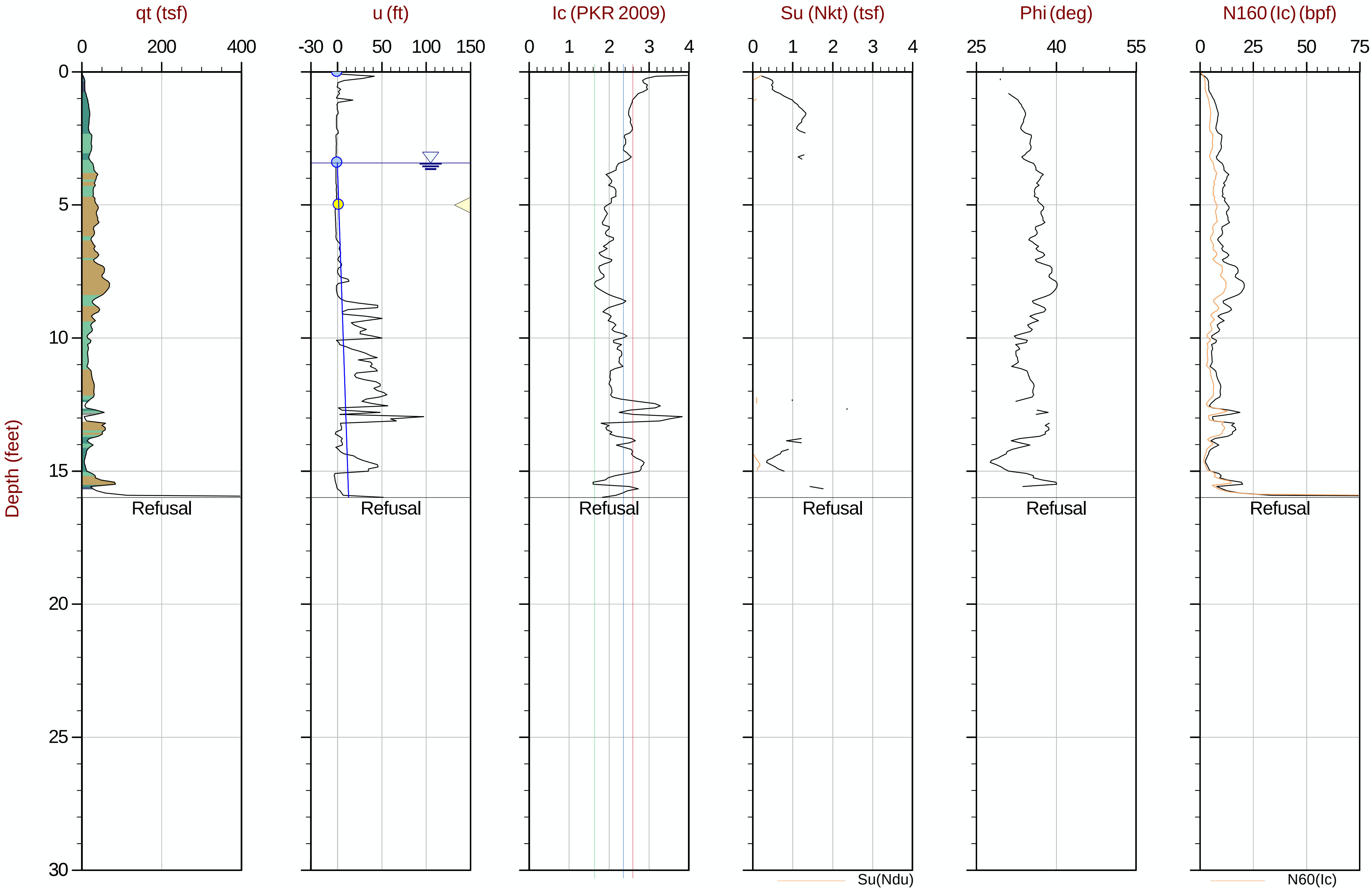
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 08:32
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-293
Cone: 606:T1500F15U35



Max Depth: 4.875 m / 15.99 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-293.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783206m E: 406149m

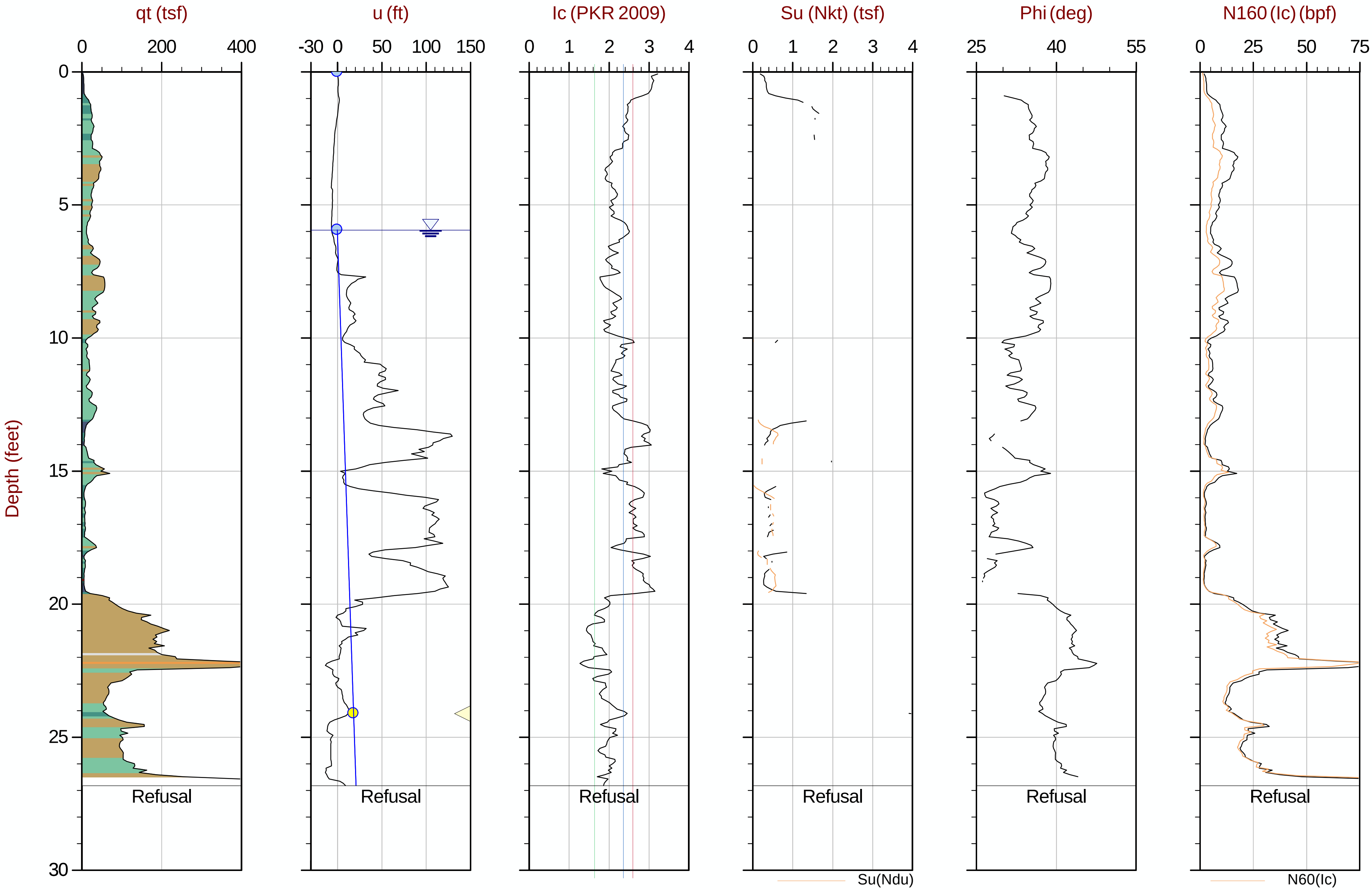
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 08:32
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-312
Cone: 604:T1500F15U35



Max Depth: 8.175 m / 26.82 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-312.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782765m E: 406355m

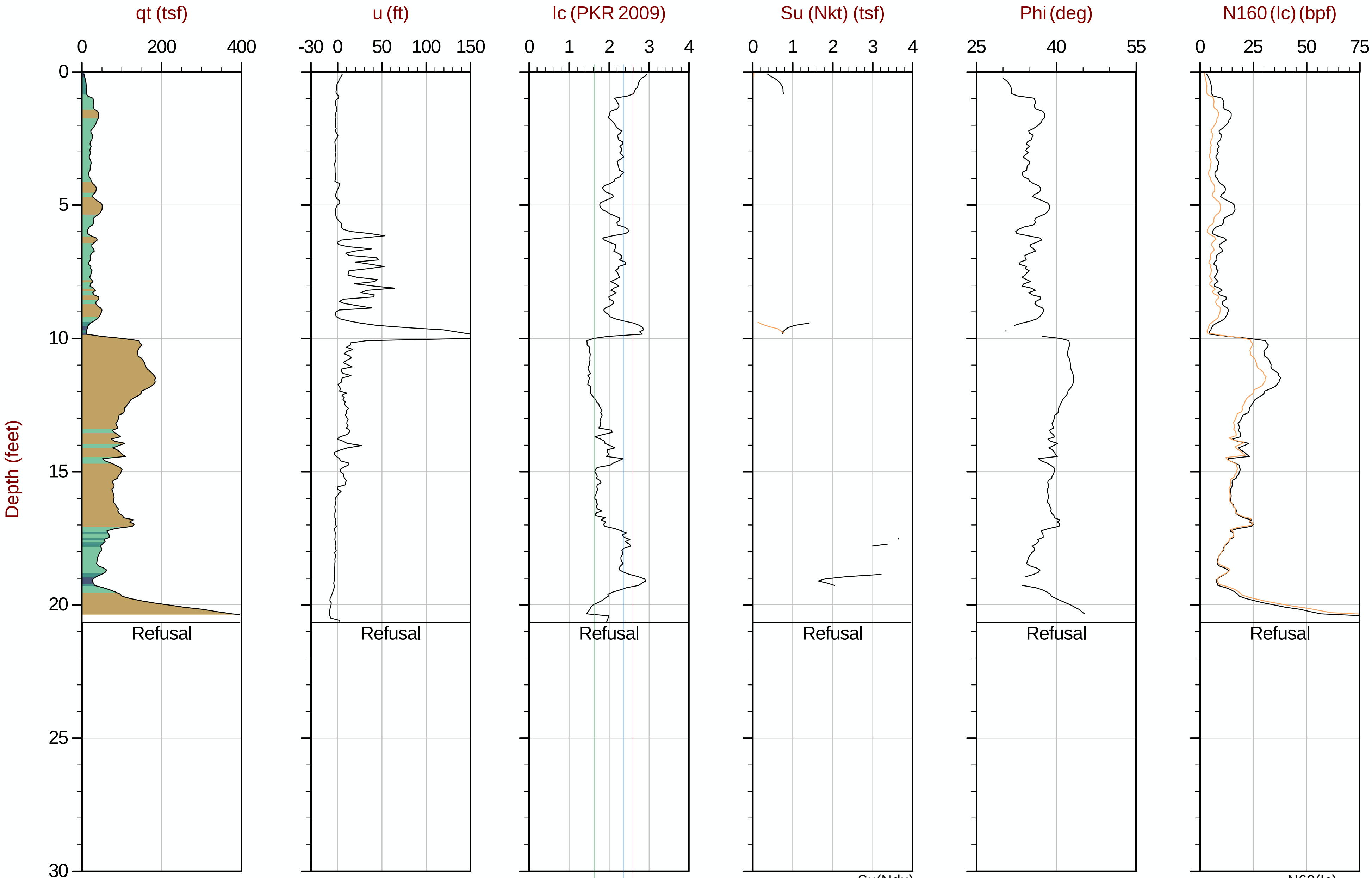
Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 11:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-325
Cone: 606:T1500F15U35



Max Depth: 6.300 m / 20.67 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-325.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782627m E: 406459m

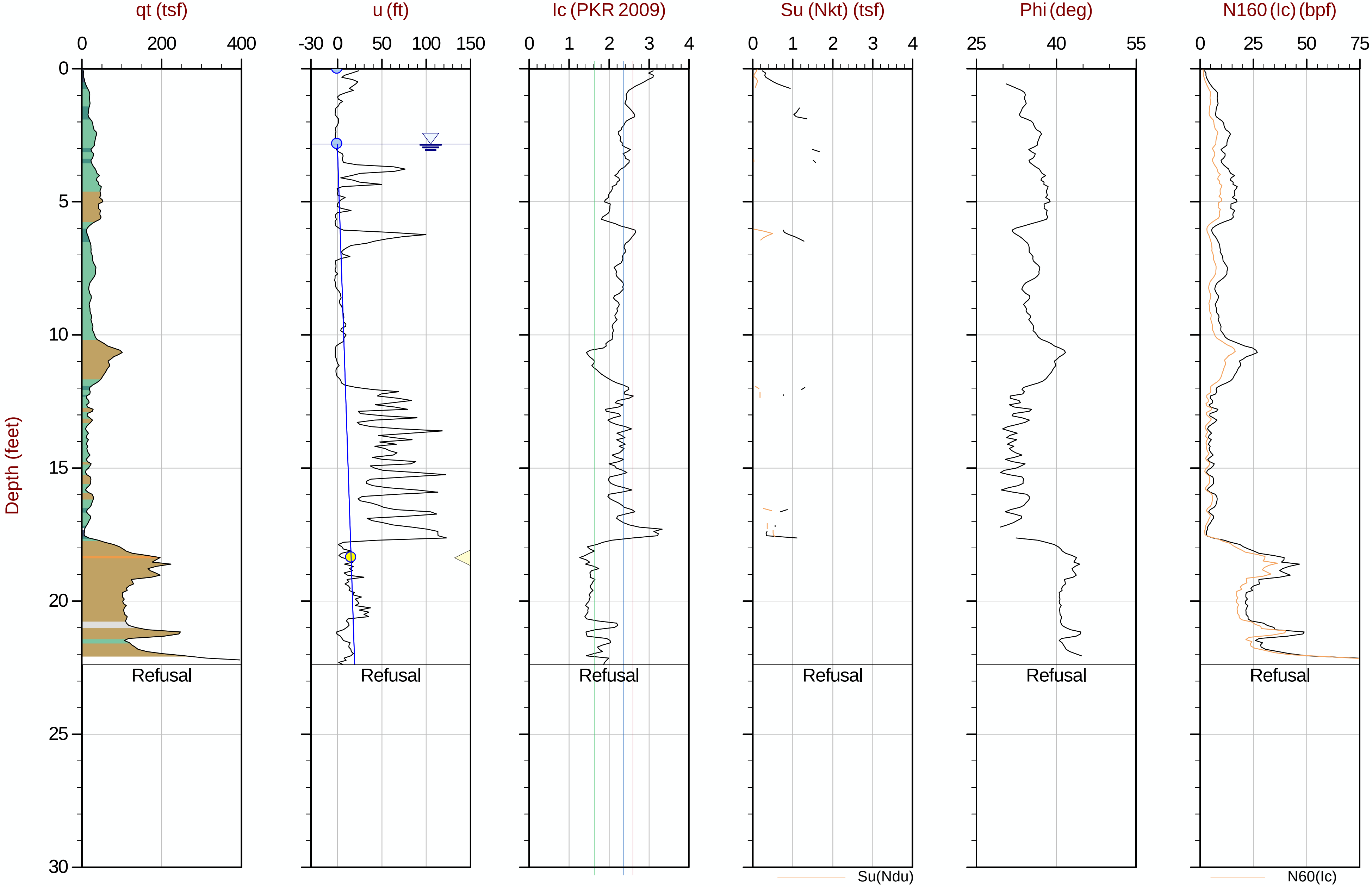
Hydrostatic Line | Ueq | Assumed Ueq | PPD, Ueq achieved | PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 10:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-327
Cone: 606:T1500F15U35



Max Depth: 6.825 m / 22.39 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-327.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782553m E: 406579m

Hydrostatic Line ● Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

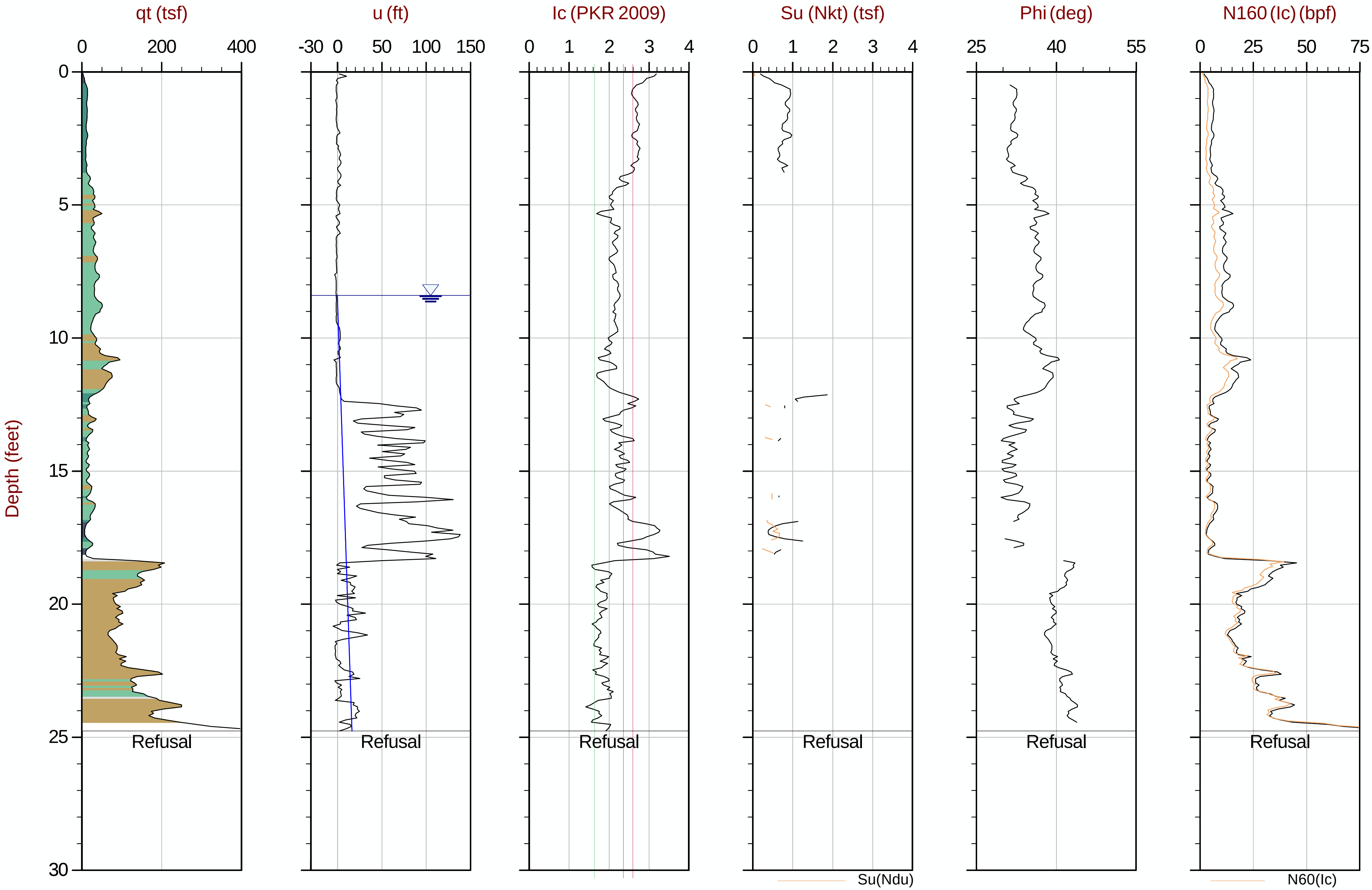
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 09:35
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-329
Cone: 606:T1500F15U35



Max Depth: 7.550 m / 24.77 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-329.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782556m E: 406475m

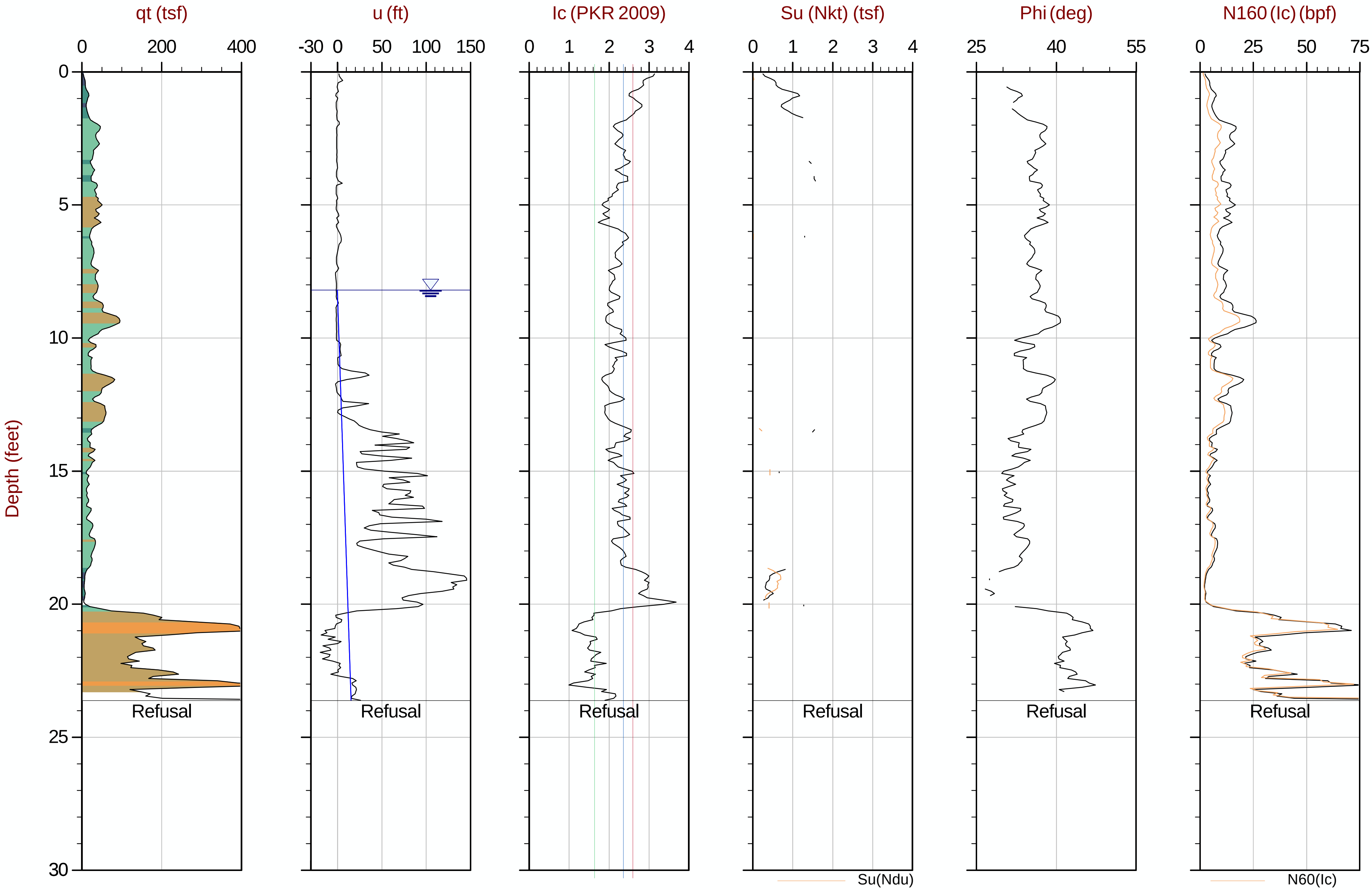
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 08:46
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-330
Cone: 606:T1500F15U35



Max Depth: 7.200 m / 23.62 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-330.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782560m E: 406351m

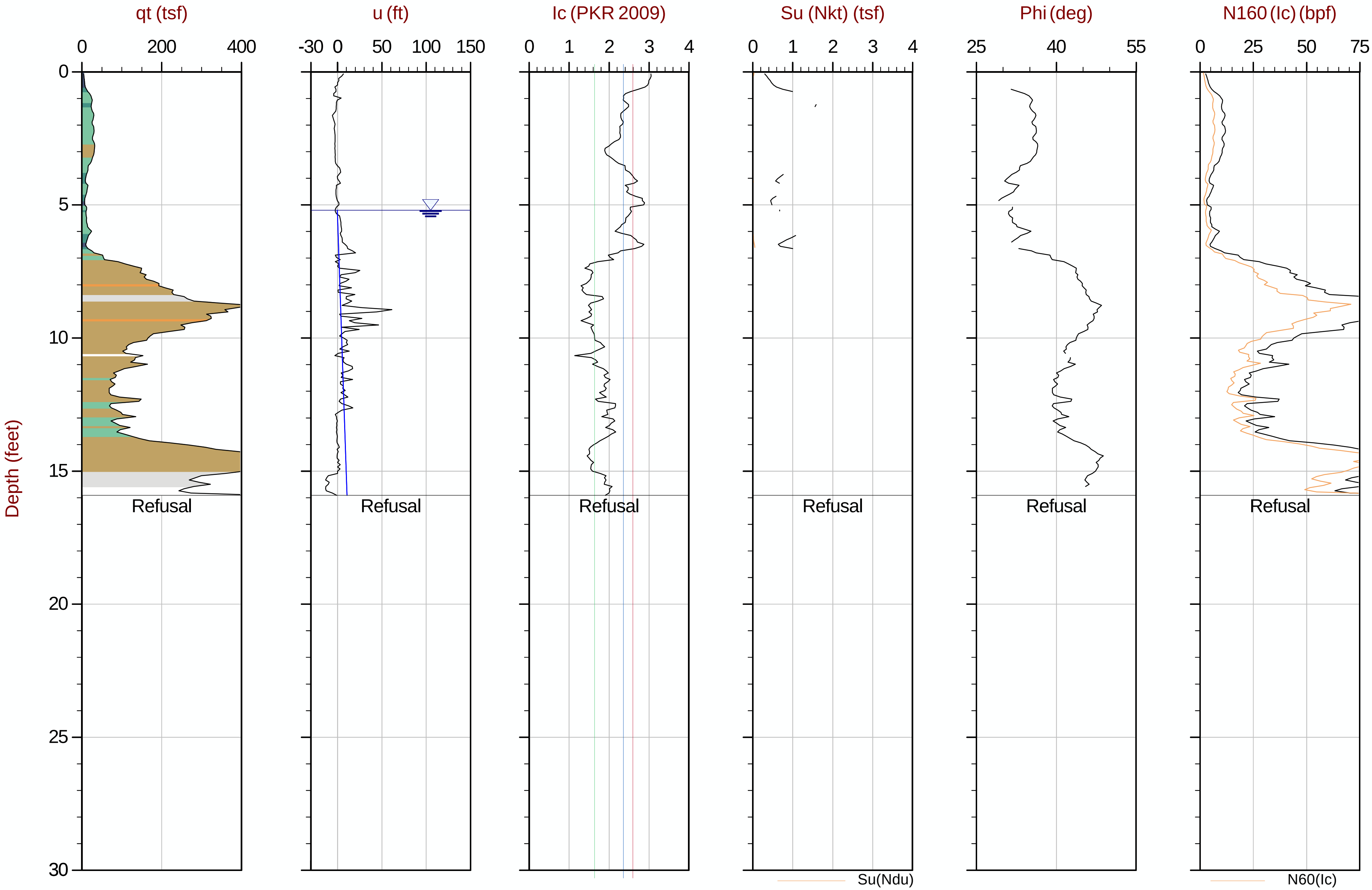
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 07:24
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-332
Cone: 606:T1500F15U35



Max Depth: 4.850 m / 15.91 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-332.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782558m E: 406102m

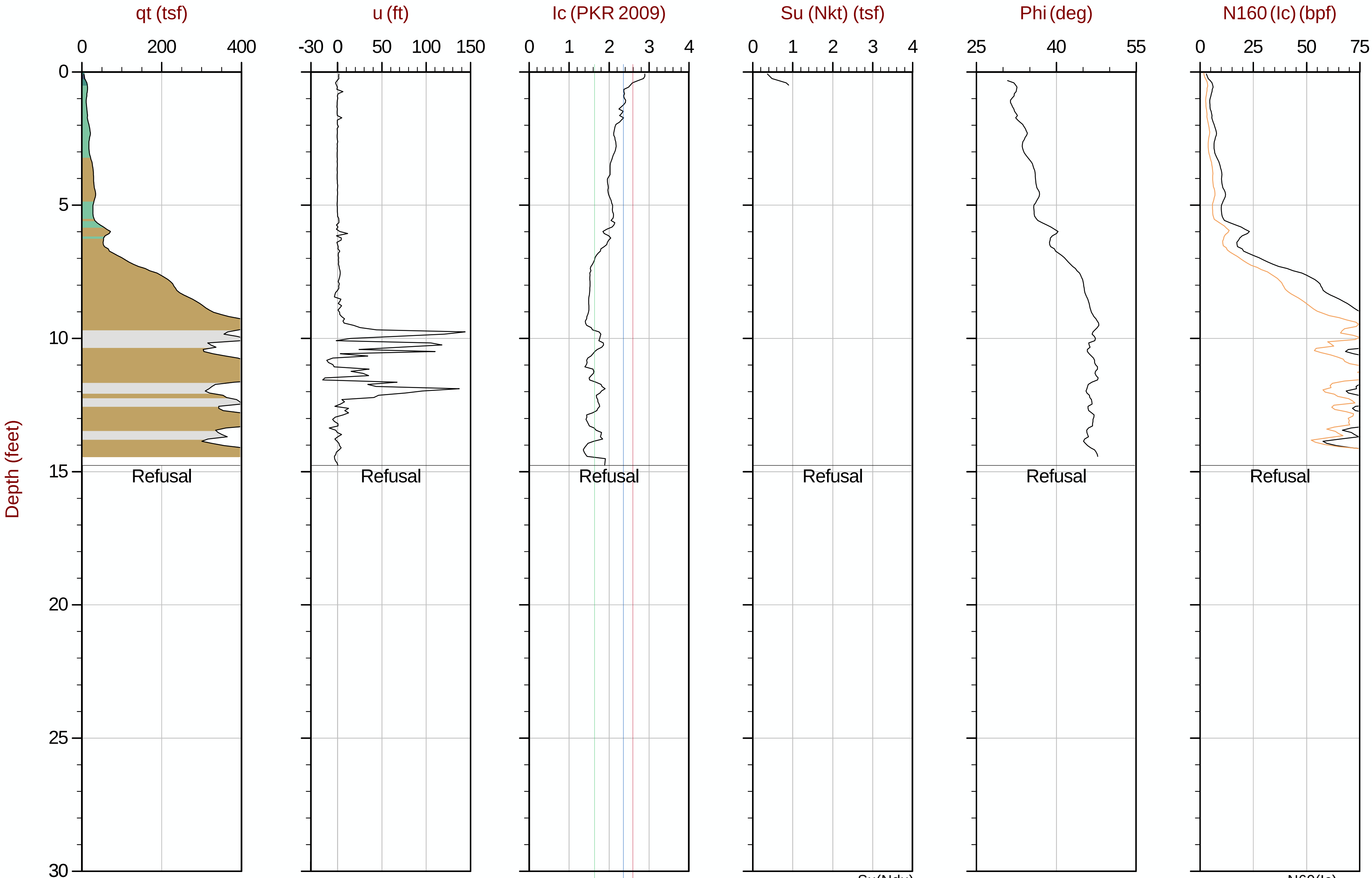
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 16:22
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-345
Cone: 606:T1500F15U35



Max Depth: 4.500 m / 14.76 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-345.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782374m E: 406153m

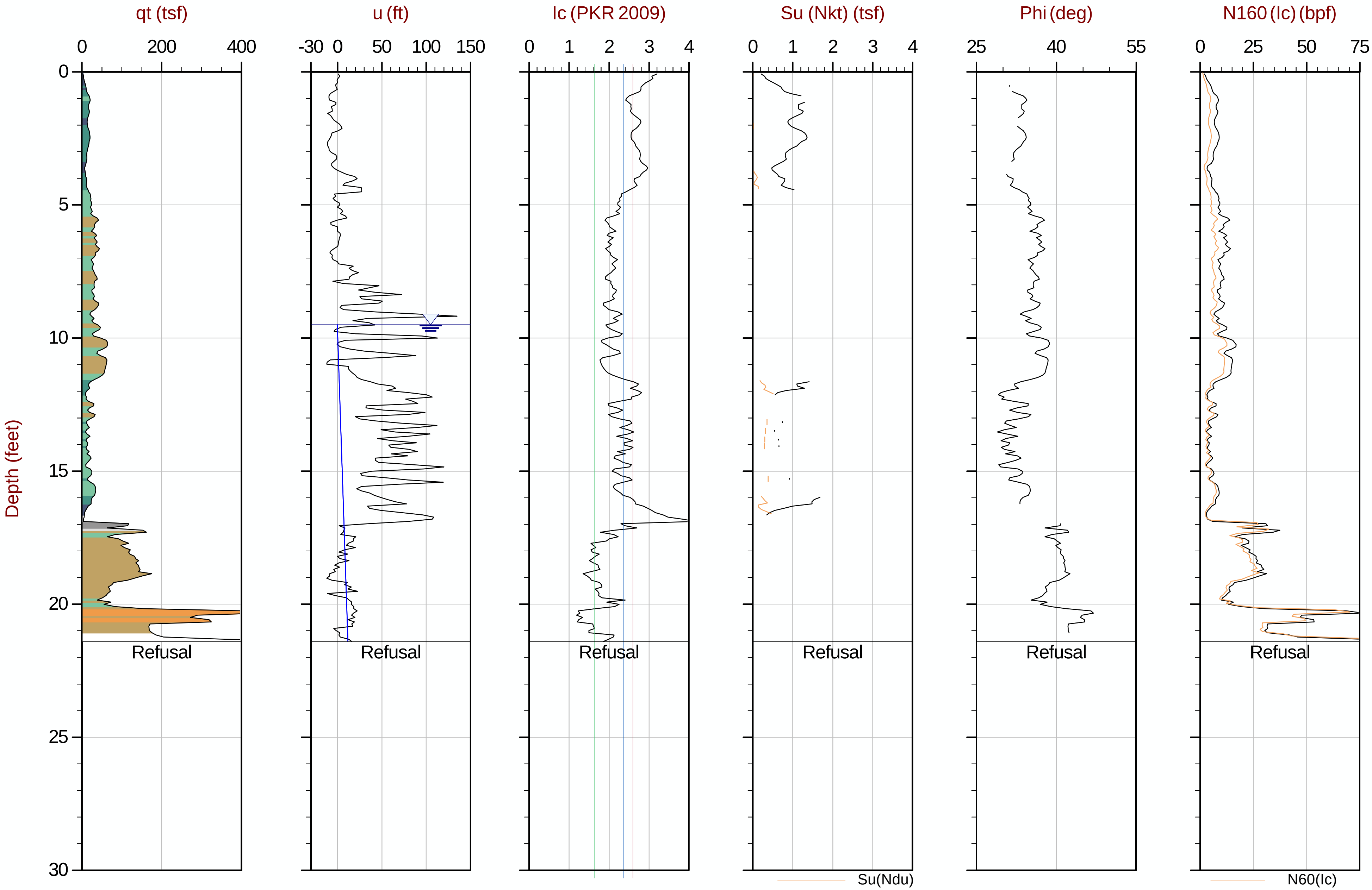
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 15:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-351
Cone: 606:T1500F15U35



Max Depth: 6.525 m / 21.41 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-351.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782409m E: 406505m

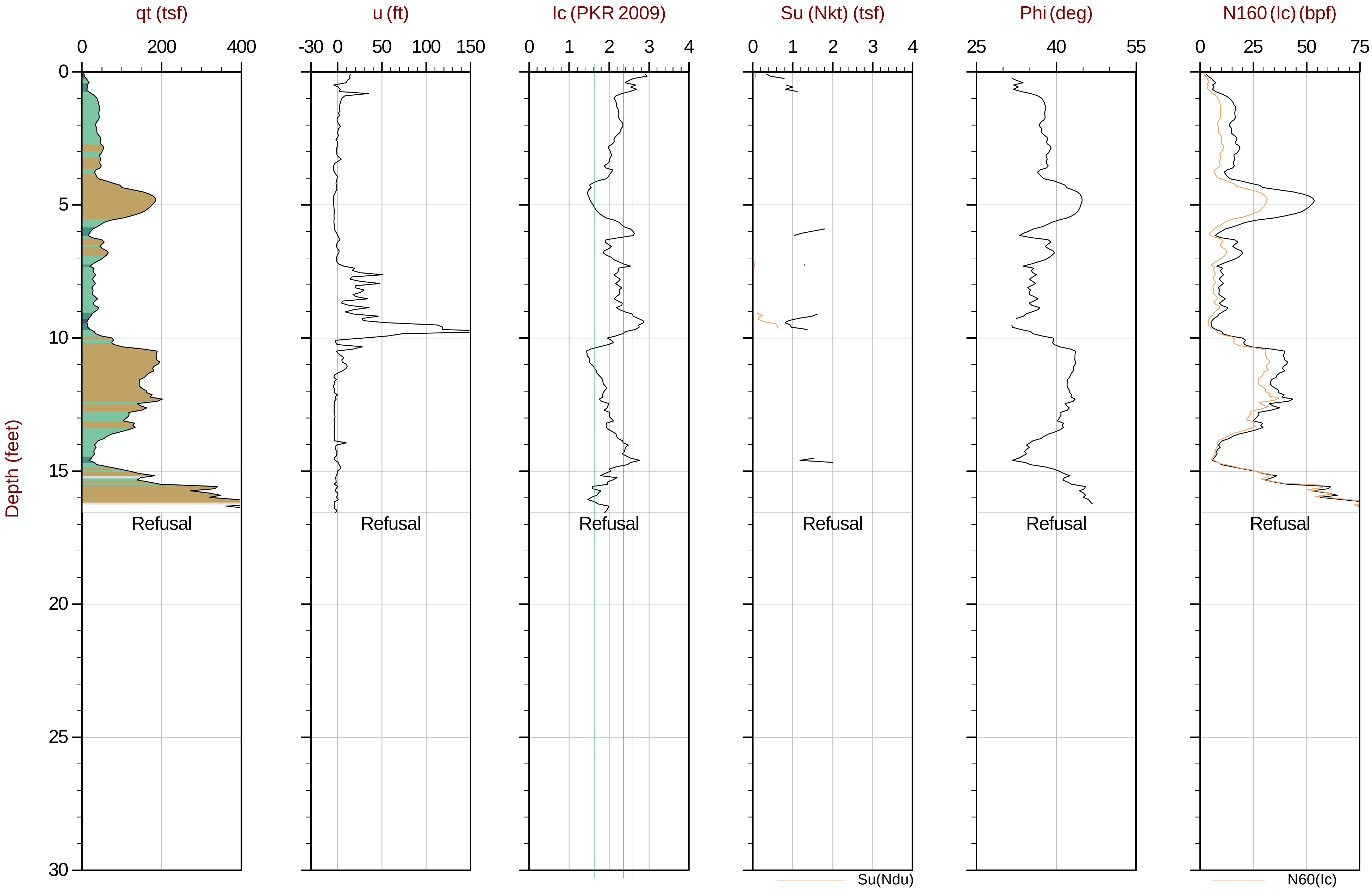
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 15:41
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-360
Cone: 606:T1500F15U35



Max Depth: 5.050 m / 16.57 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-360.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

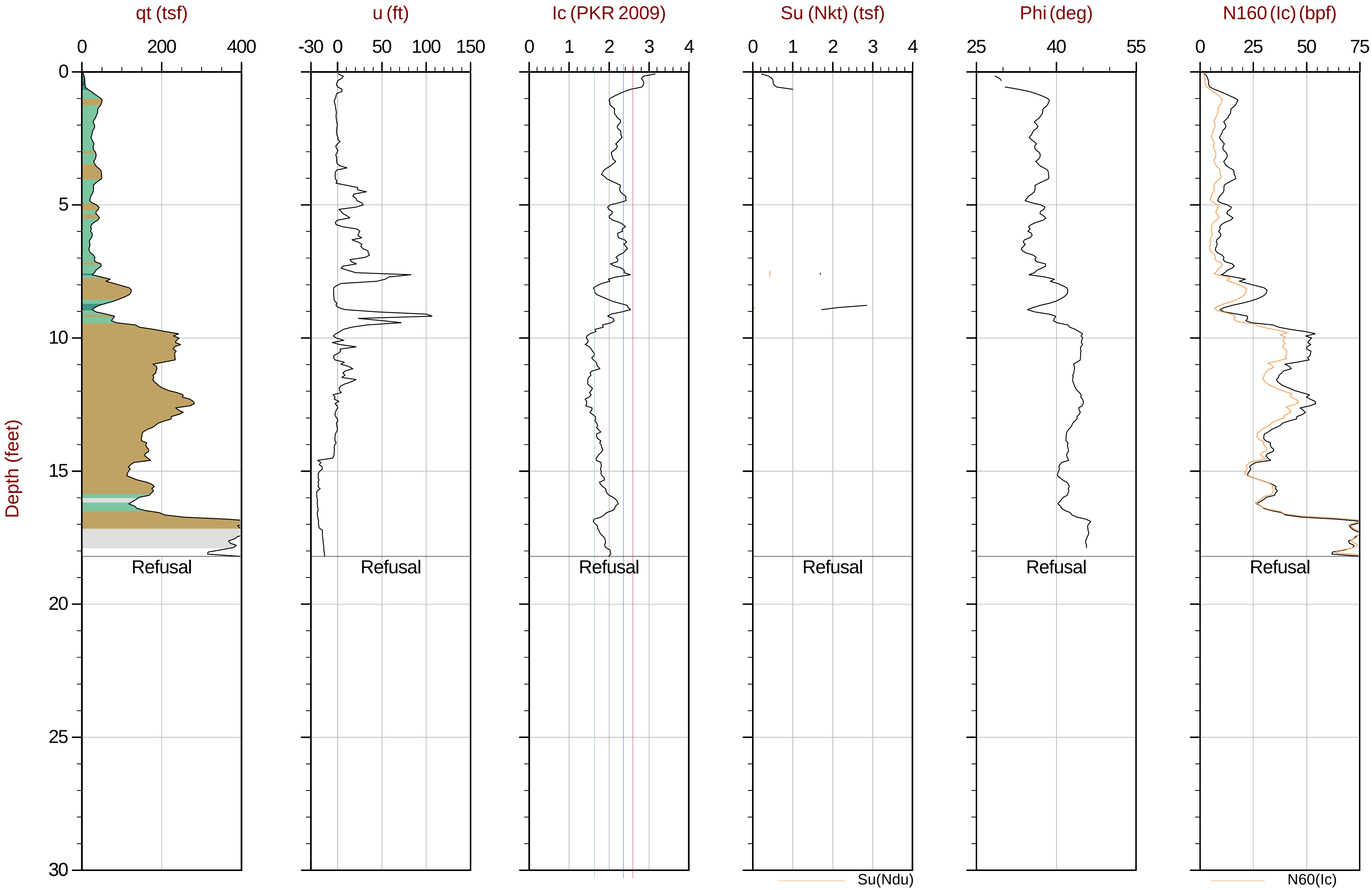
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782560m E: 405998m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 15:11
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-362
Cone: 606:T1500F15U35



Max Depth: 5.550 m / 18.21 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-362.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782651m E: 405887m

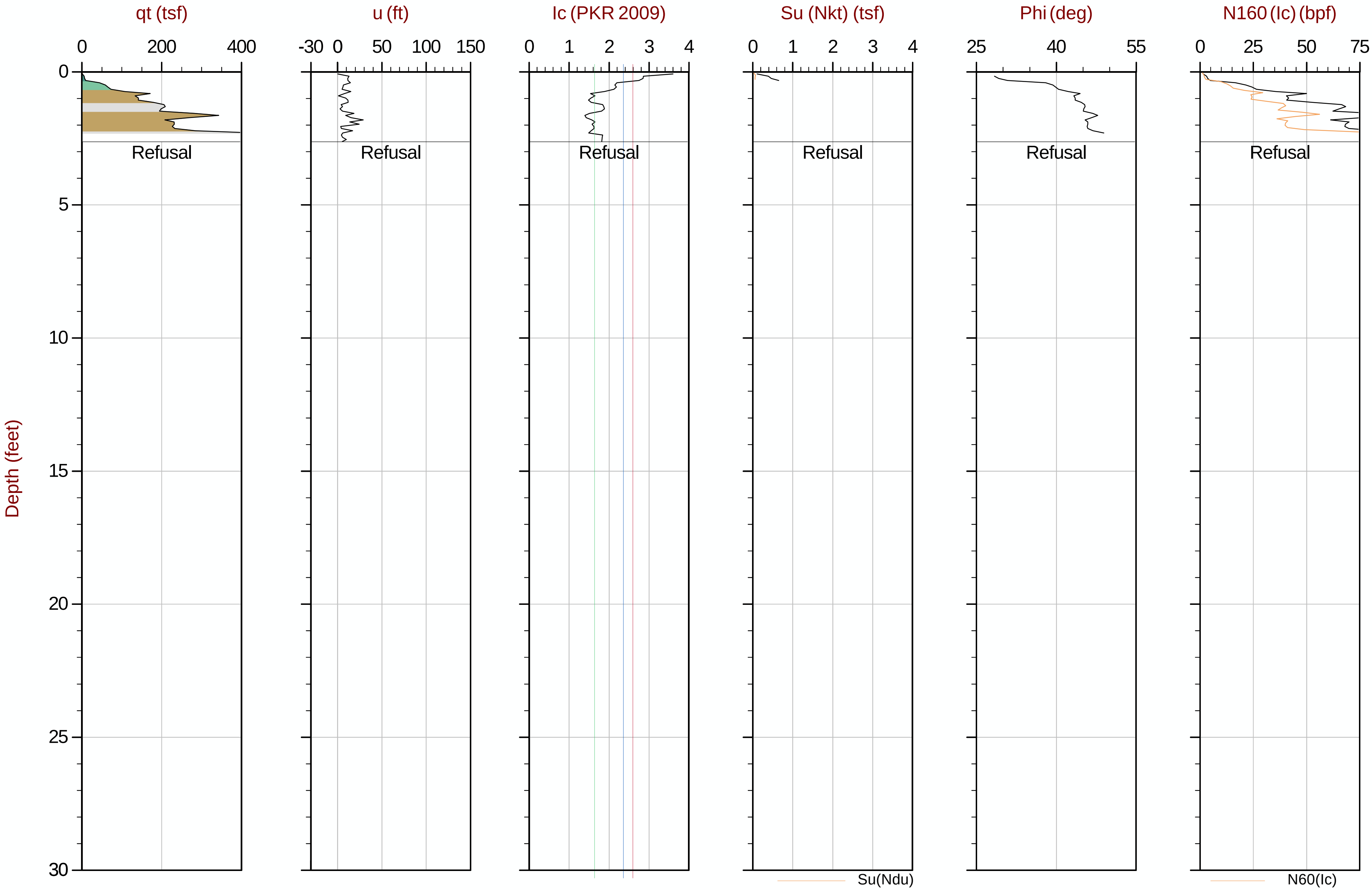
Hydrostatic Line ○ Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 14:34
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-365
Cone: 606:T1500F15U35



Max Depth: 0.800 m / 2.62 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-365.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782724m E: 405704m

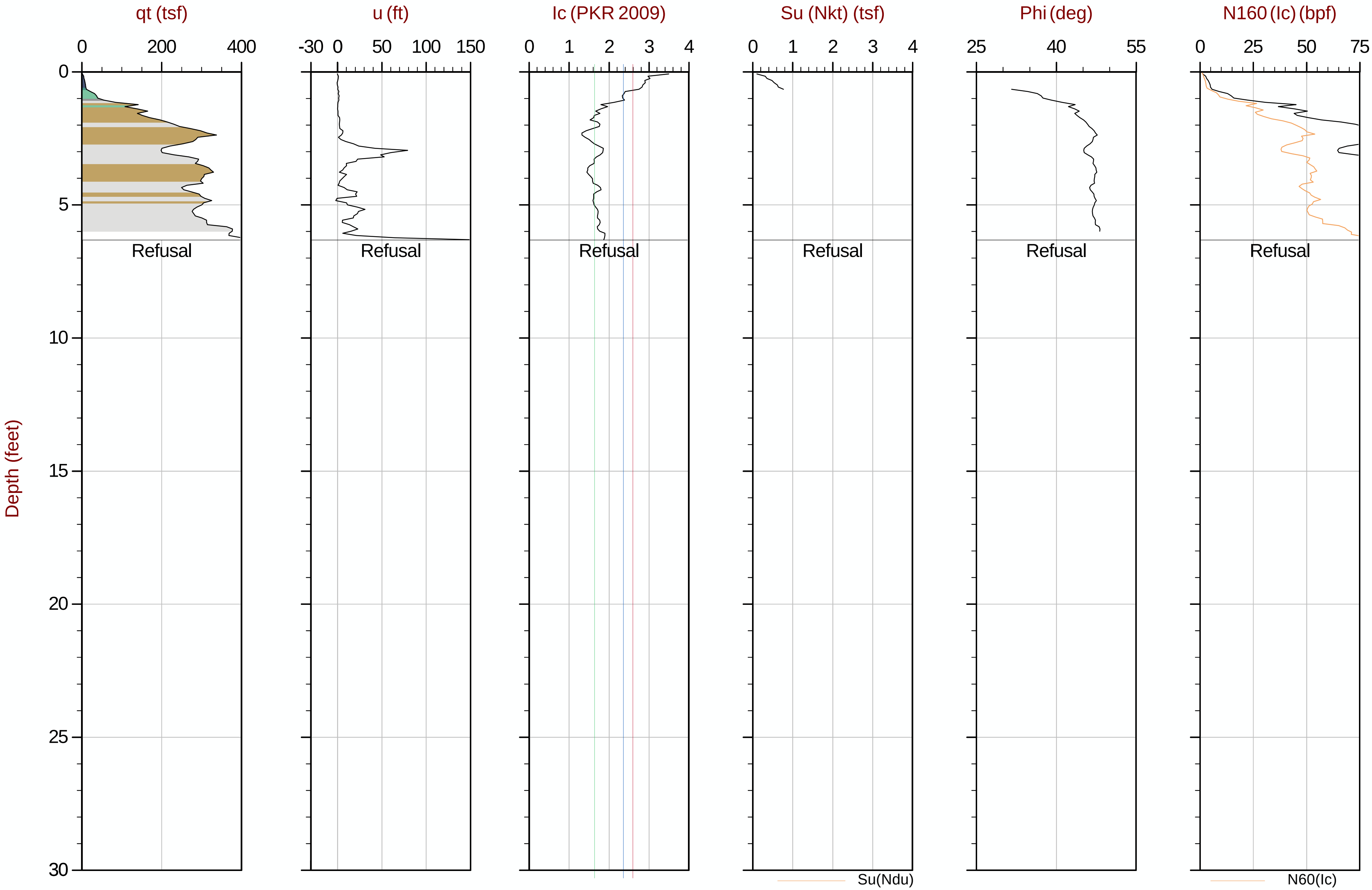
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 14:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-365A
Cone: 606:T1500F15U35



Max Depth: 1.925 m / 6.32 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-365A.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

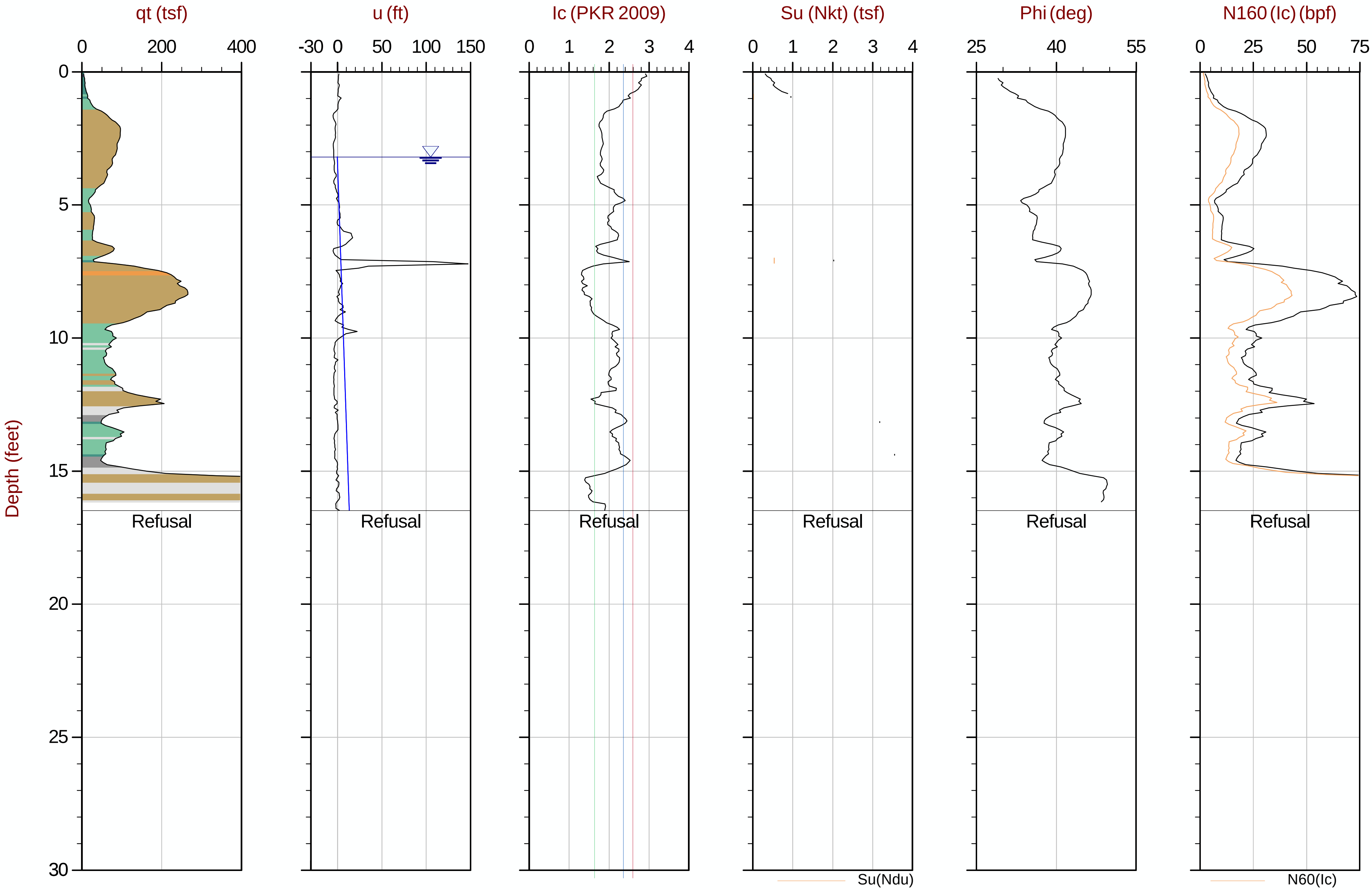
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782716m E: 405705m

Hydrostatic Line ● Ueq ● Assumed Ueq ◁ PPD, Ueq achieved ◁ PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 12:53
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-371
Cone: 606:T1500F15U35



Max Depth: 5.025 m / 16.49 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-371.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782809m E: 405685m

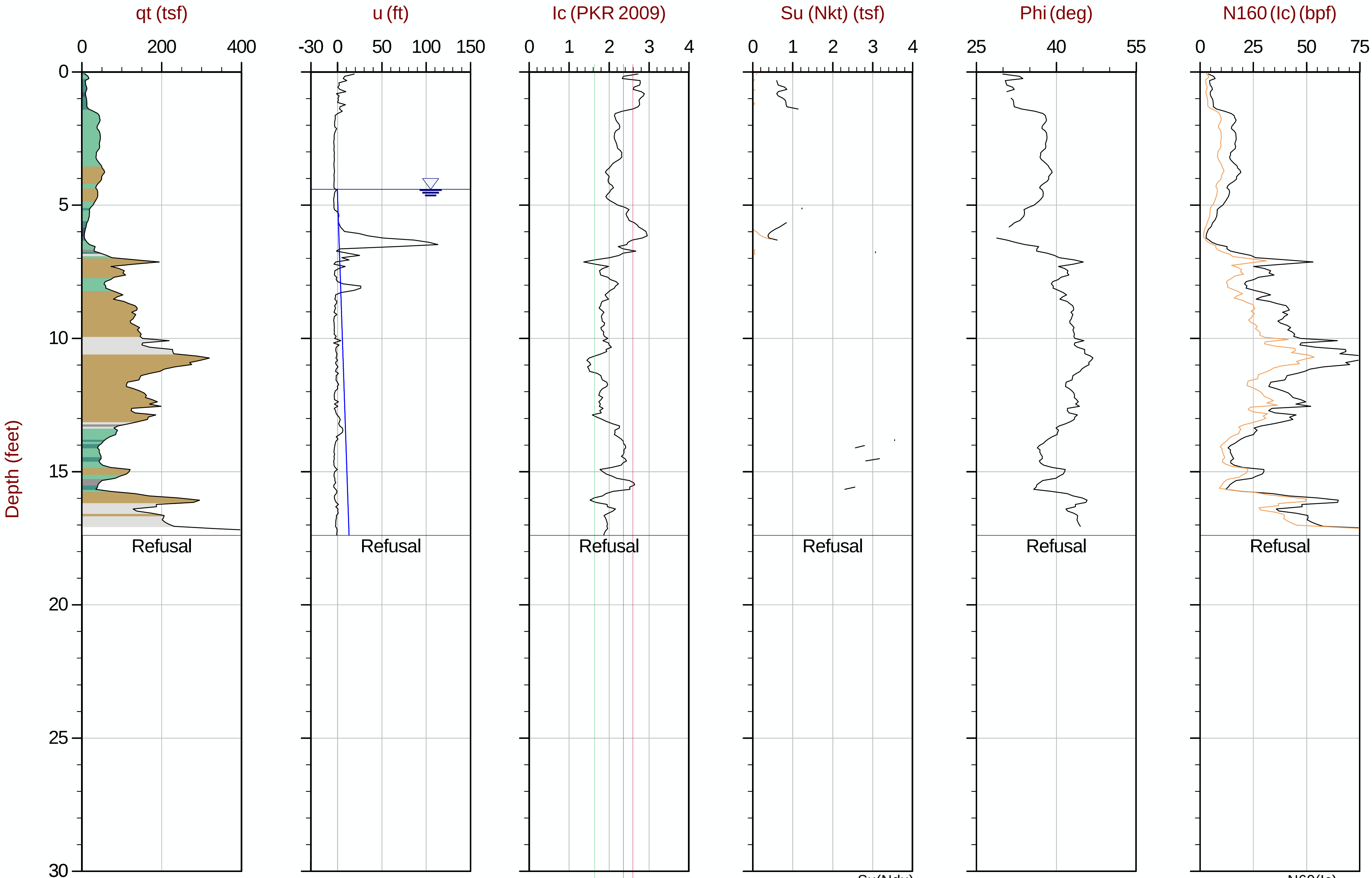
Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 13:25
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-372
Cone: 606:T1500F15U35



Max Depth: 5.300 m / 17.39 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-372.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782756m E: 405814m

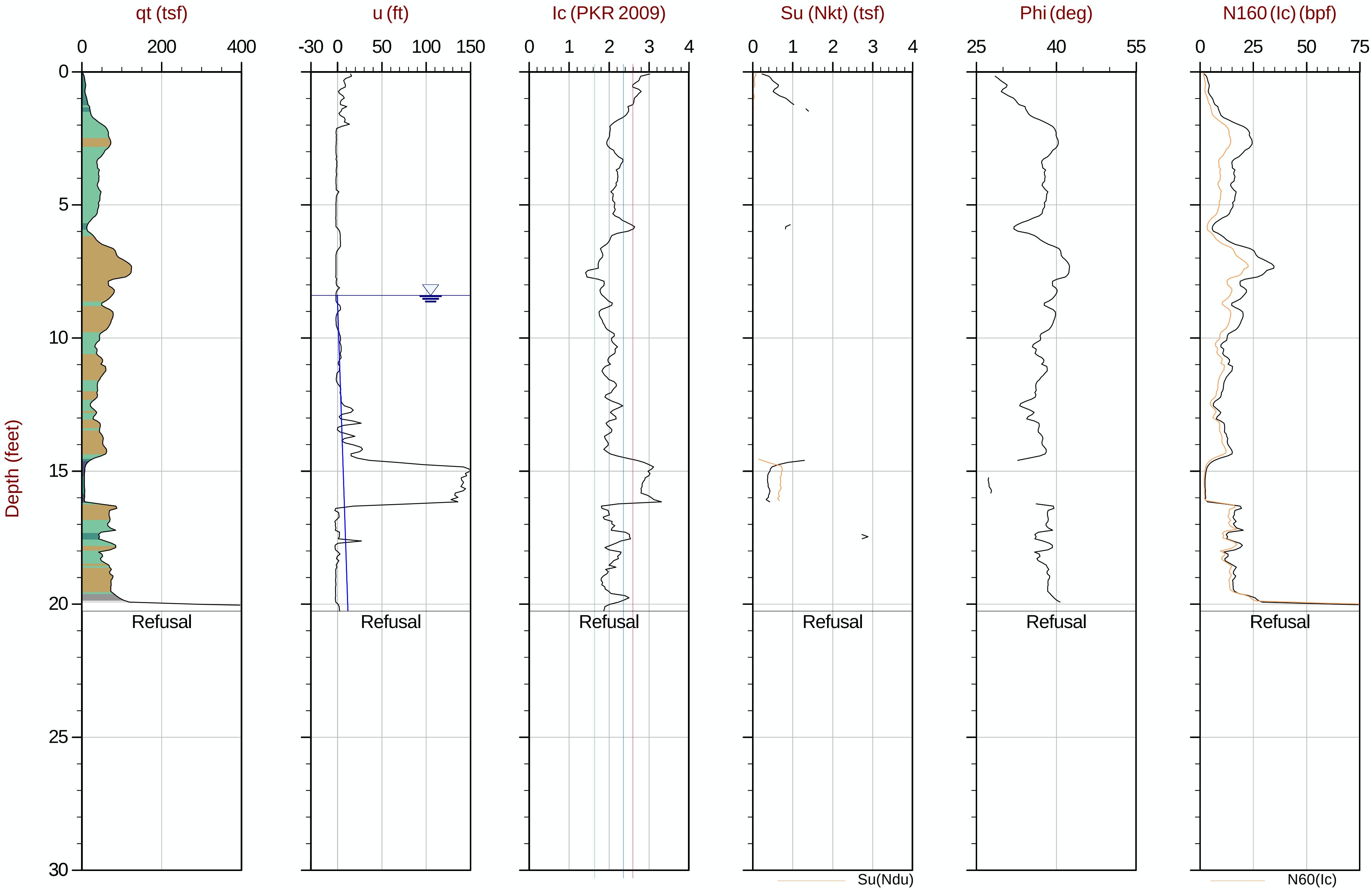
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 12:15
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-381
Cone: 606:T1500F15U35



Max Depth: 6.175 m / 20.26 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-381.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782851m E: 405725m

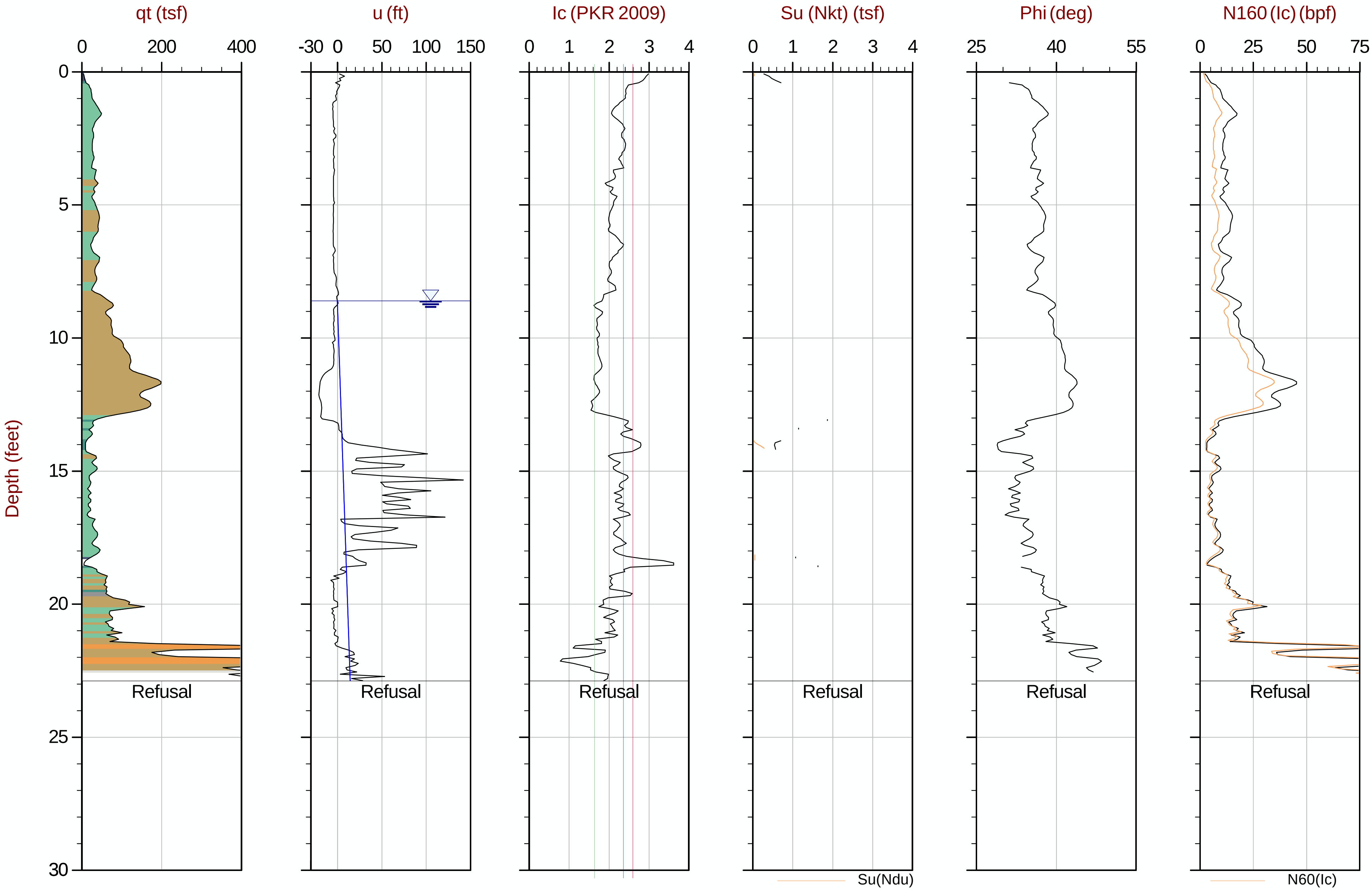
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 13:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-383
Cone: 606:T1500F15U35



Max Depth: 6.975 m / 22.88 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_CPB-383.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt/Ndu: 15.0 / 6.0

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782758m E: 405878m

Hydrostatic Line, Ueq, Assumed Ueq, PPD, Ueq achieved, PPD, Ueq not achieved

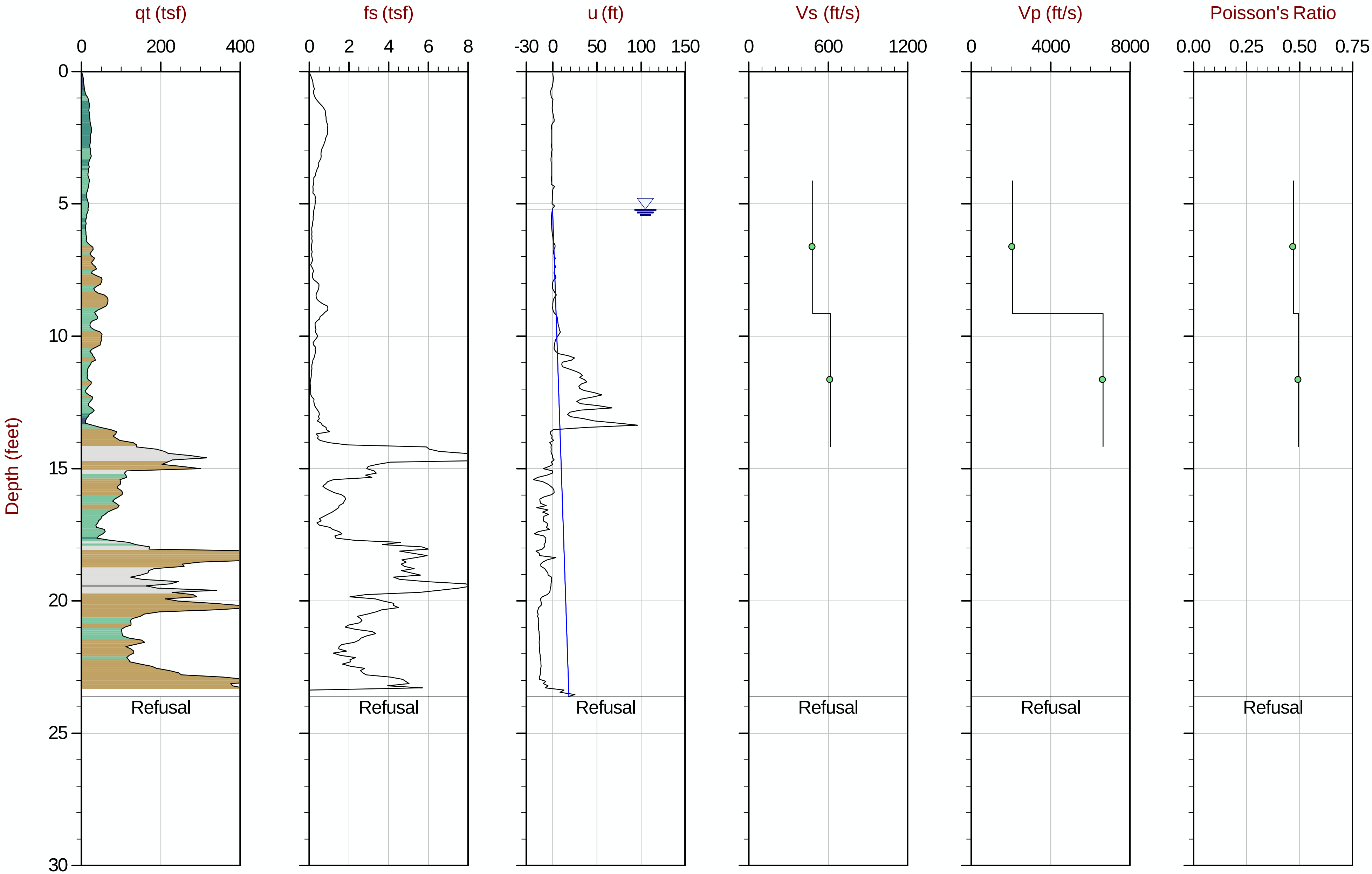
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Seismic Cone Penetration Test Plots

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 13:08
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228A
Cone: 606:T1500F15U35



Max Depth: 7.200 m / 23.62 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-228A.COR
Unit Wt: SBTQtn (PKR2009)

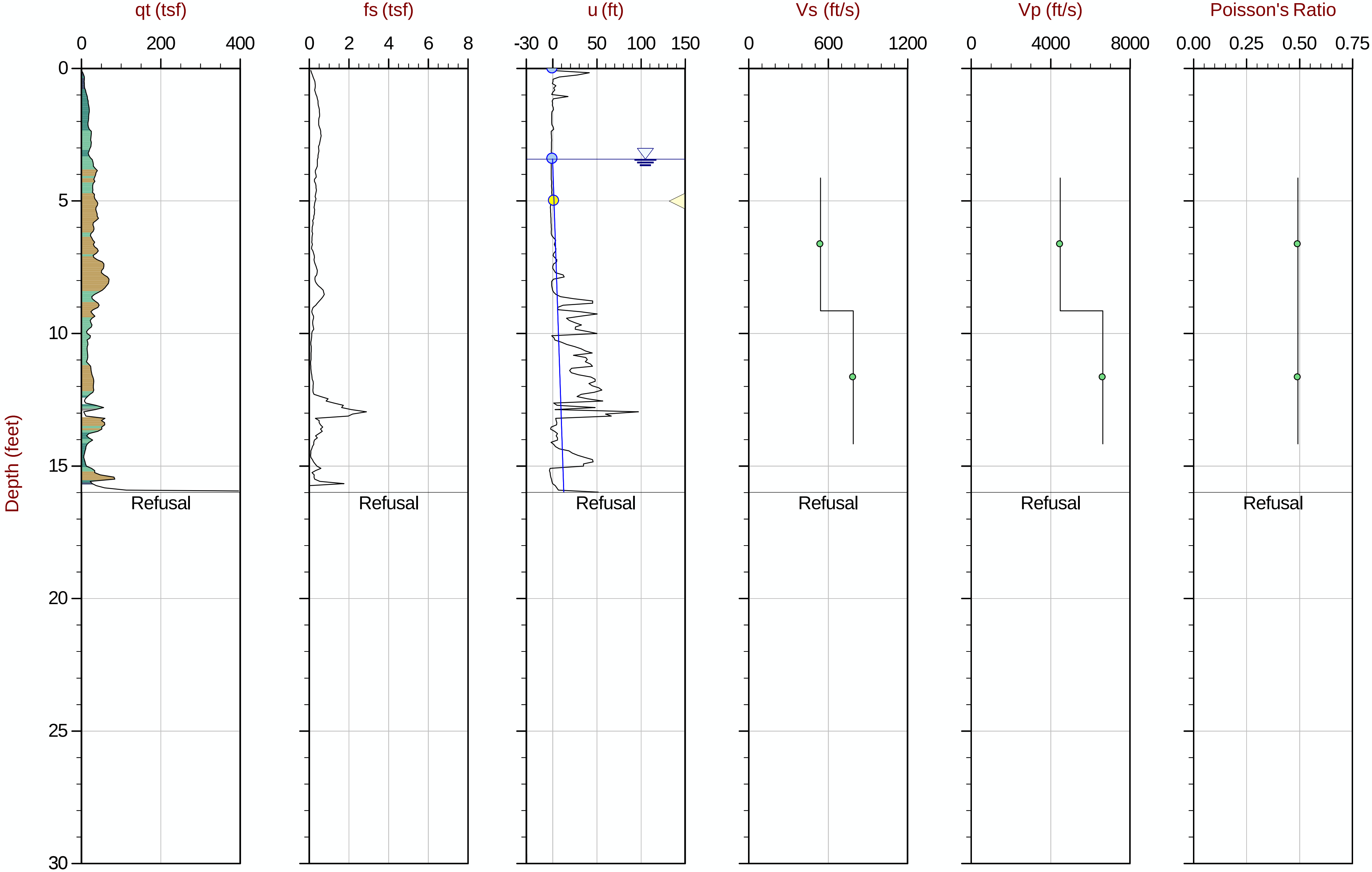
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782805m E: 406616m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 08:32
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-293
Cone: 606:T1500F15U35



Max Depth: 4.875 m / 15.99 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 23-53-26729_SPB-293.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4783206m E: 406149m

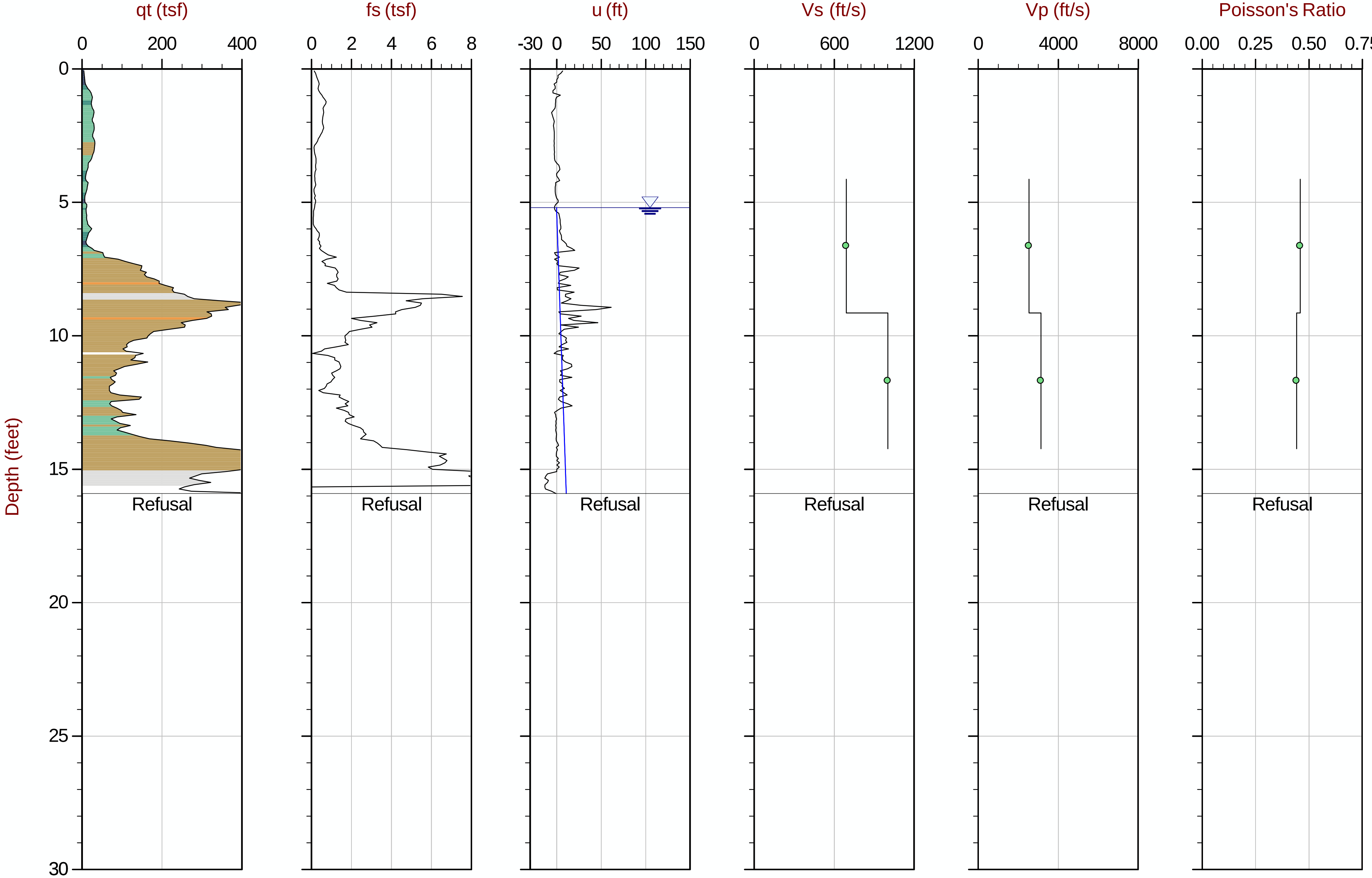
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 07:24
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-332
Cone: 606:T1500F15U35



Max Depth: 4.850 m / 15.91 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point
File: 23-53-26729_SPB-332.COR
Unit Wt: SBTQtn (PKR2009)
SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4782558m E: 406102m

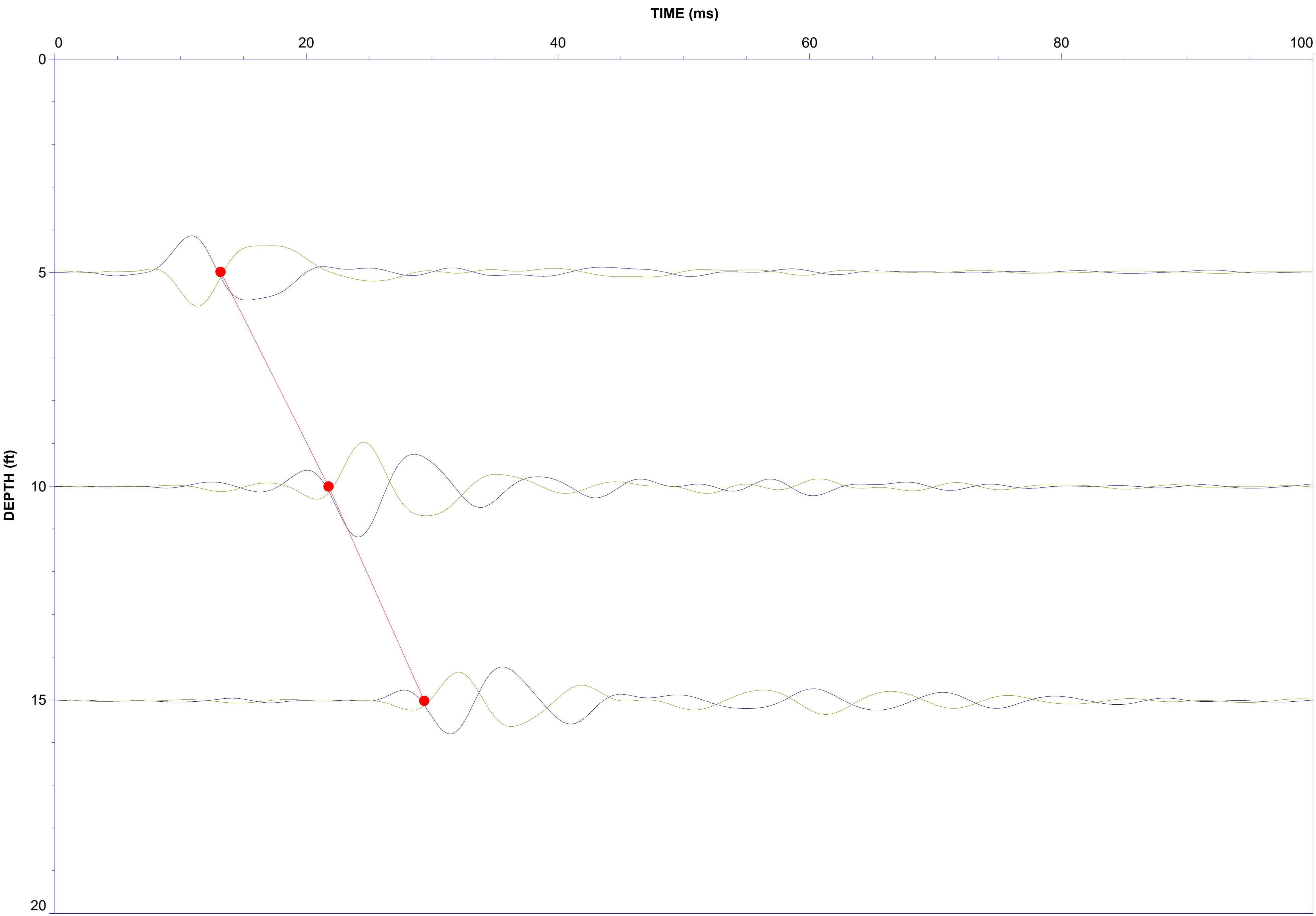
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Seismic Cone Penetration Test Shear Wave (Vs) Traces

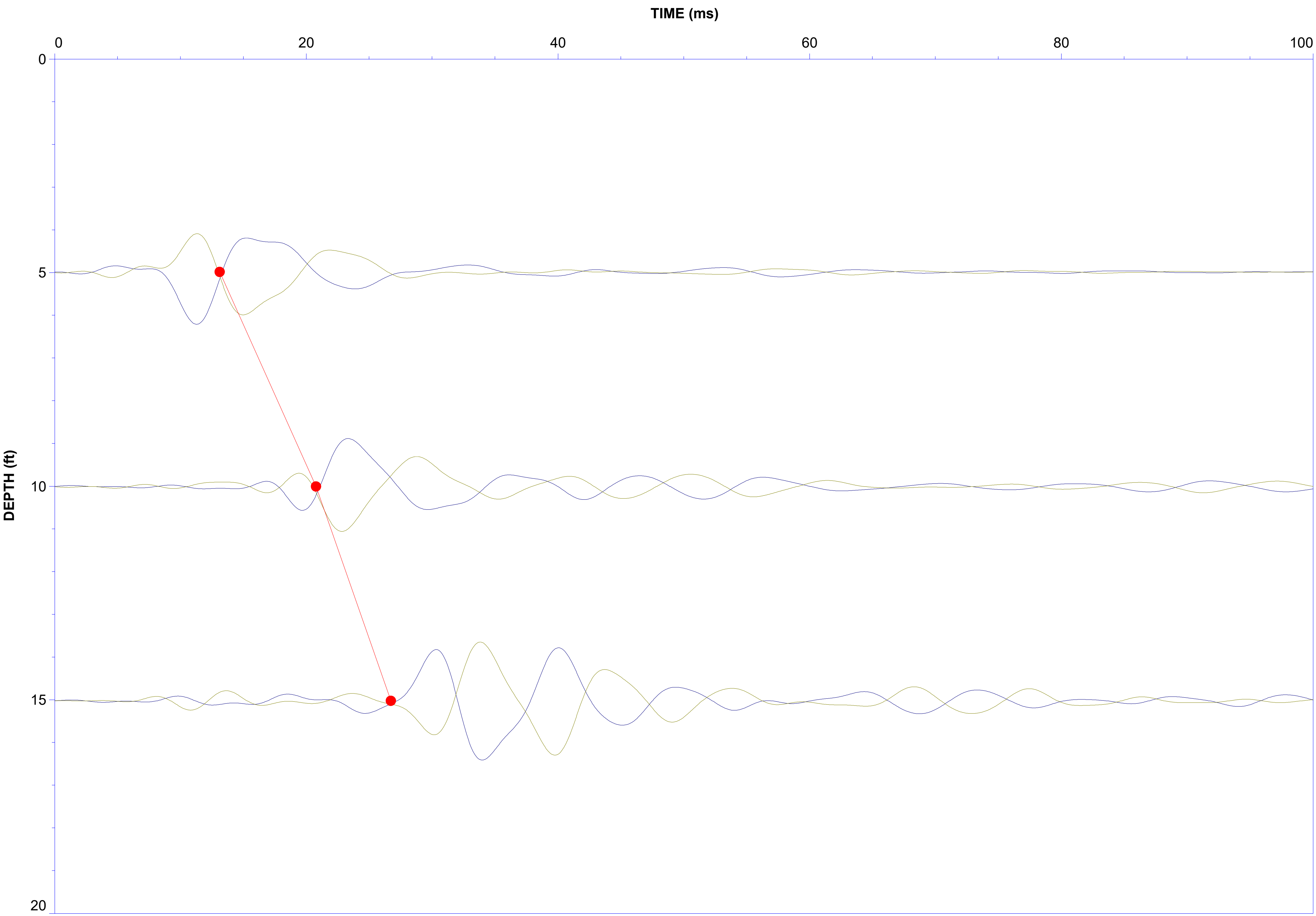
ConeTec

Job No: 23-53-26729
Date: 27-Oct-2023
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228A
Filter: 0-250 Hz



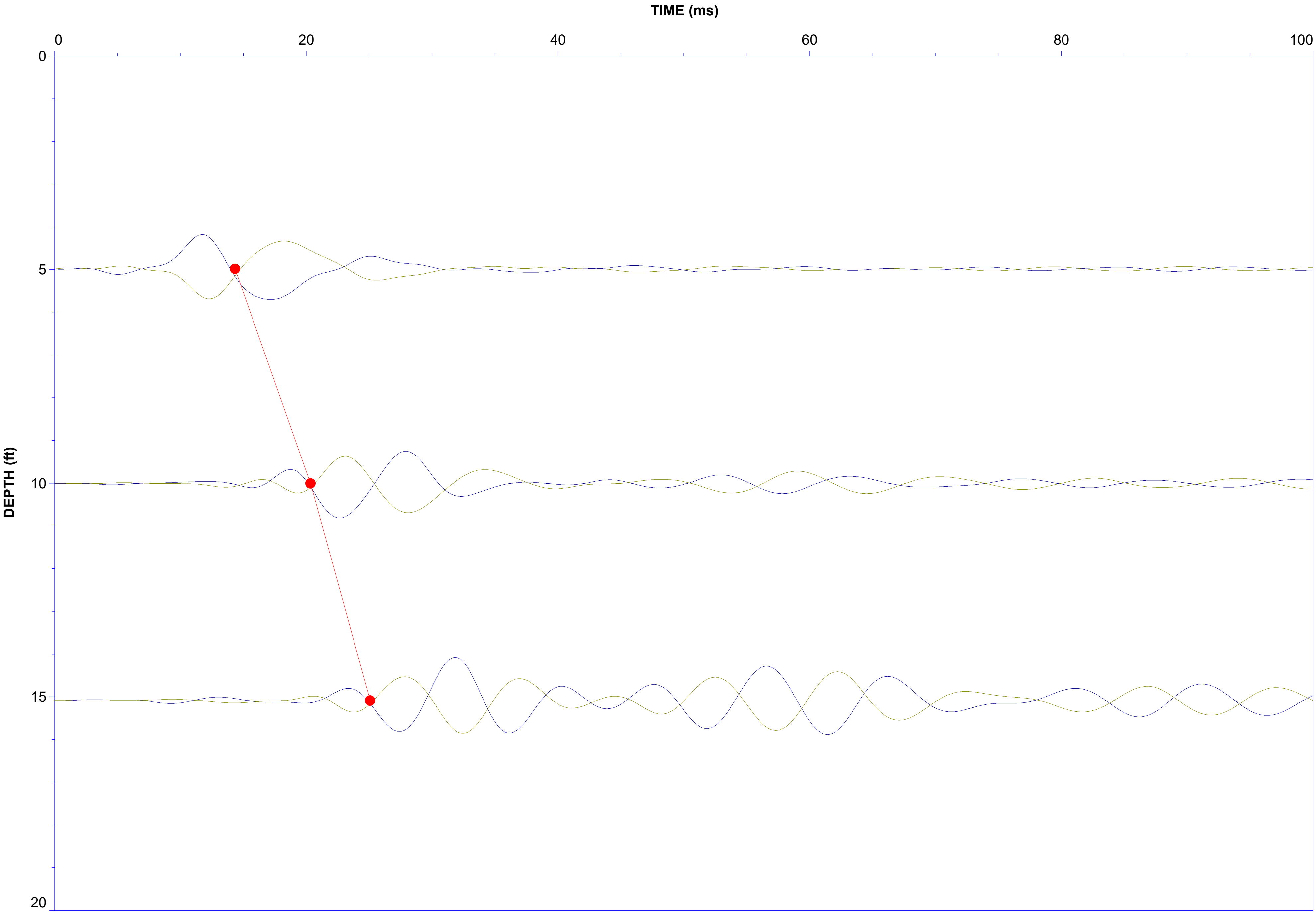
CONETEC

Job No: 23-53-26729
Date: 27-Oct-2023
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-293
Filter: 0-250 Hz



ConeTec

Job No: 23-53-26729
Date: 28-Oct-2023
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-332
Filter: 0-250 Hz



Seismic Cone Penetration Test Shear Wave (Vs) Results

CONETEC

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-228A
Date: 27-Oct-2023

Seismic Source: Beam
Seismic Offset (ft): 4.27
Source Depth (ft): 0.00
Geophone Offset (ft): 0.85

SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
4.99	4.13	5.94			
10.01	9.15	10.10	4.16	8.59	484
15.03	14.17	14.80	4.70	7.60	618

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-293
Date: 27-Oct-2023

Seismic Source: Beam
Seismic Offset (ft): 4.27
Source Depth (ft): 0.00
Geophone Offset (ft): 0.85

SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
4.99	4.13	5.94			
10.01	9.15	10.10	4.16	7.66	543
15.03	14.17	14.80	4.70	5.95	790

CONETEC

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-332
Date: 28-Oct-2023

Seismic Source: Beam
Seismic Offset (ft): 4.27
Source Depth (ft): 0.00
Geophone Offset (ft): 0.85

SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs

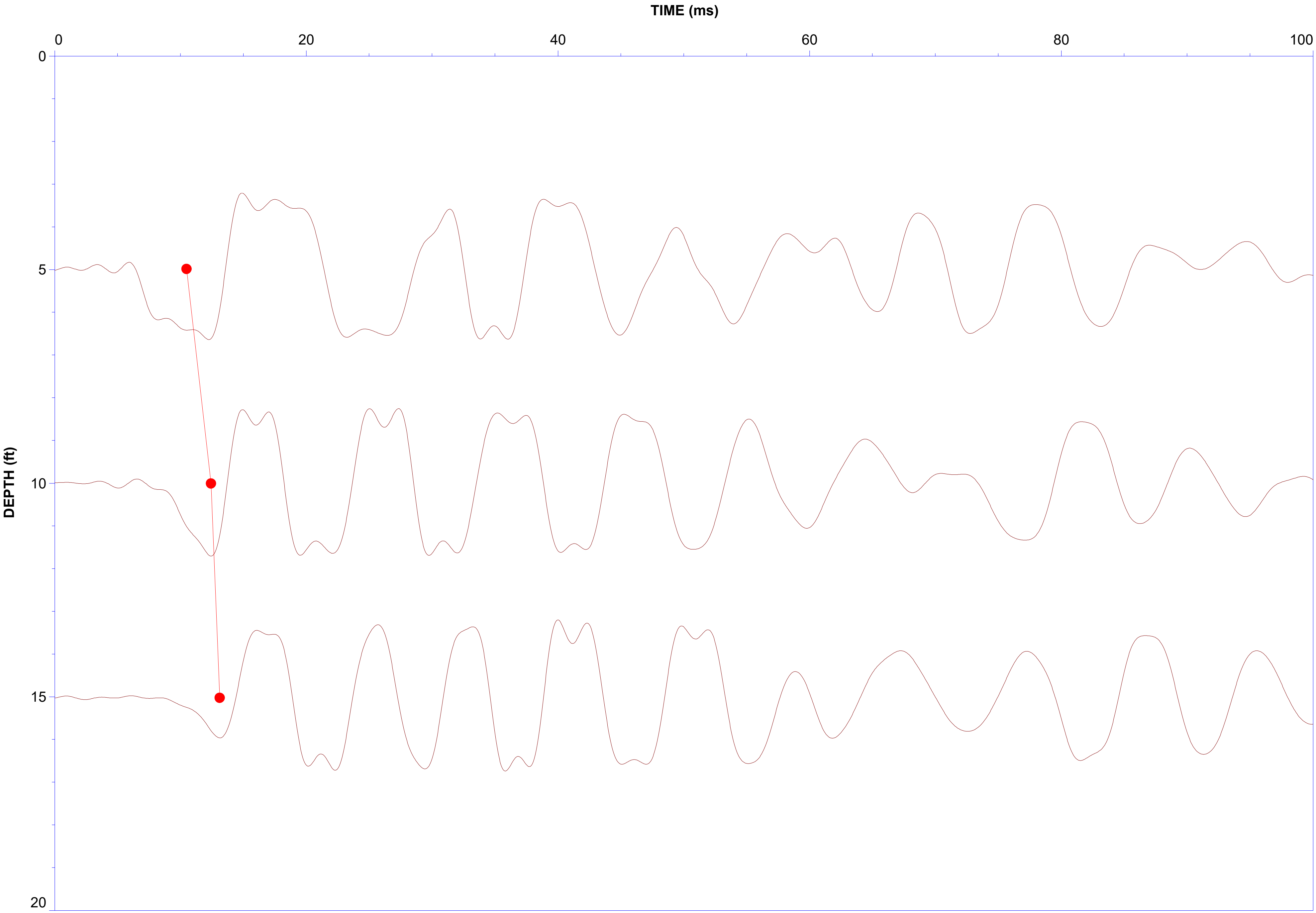
Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
4.99	4.13	5.94			
10.01	9.15	10.10	4.16	6.01	692
15.09	14.24	14.87	4.77	4.74	1005

Seismic Cone Penetration Test Compression Wave (Vp) Traces

ConeTec

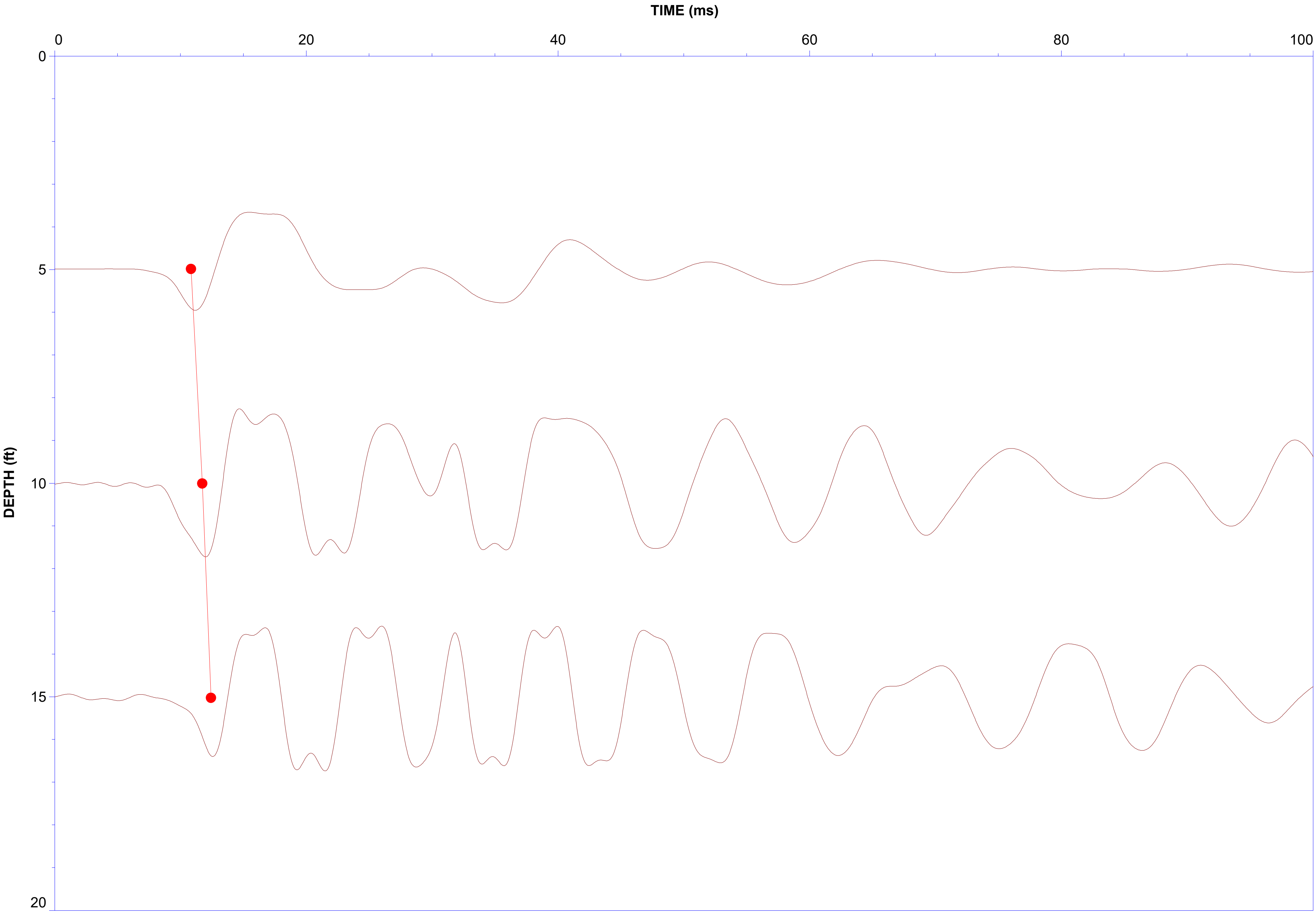
ConeTec

Job No: 23-53-26729
Date: 27-Oct-2023
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228A
Filter: 0-400 Hz

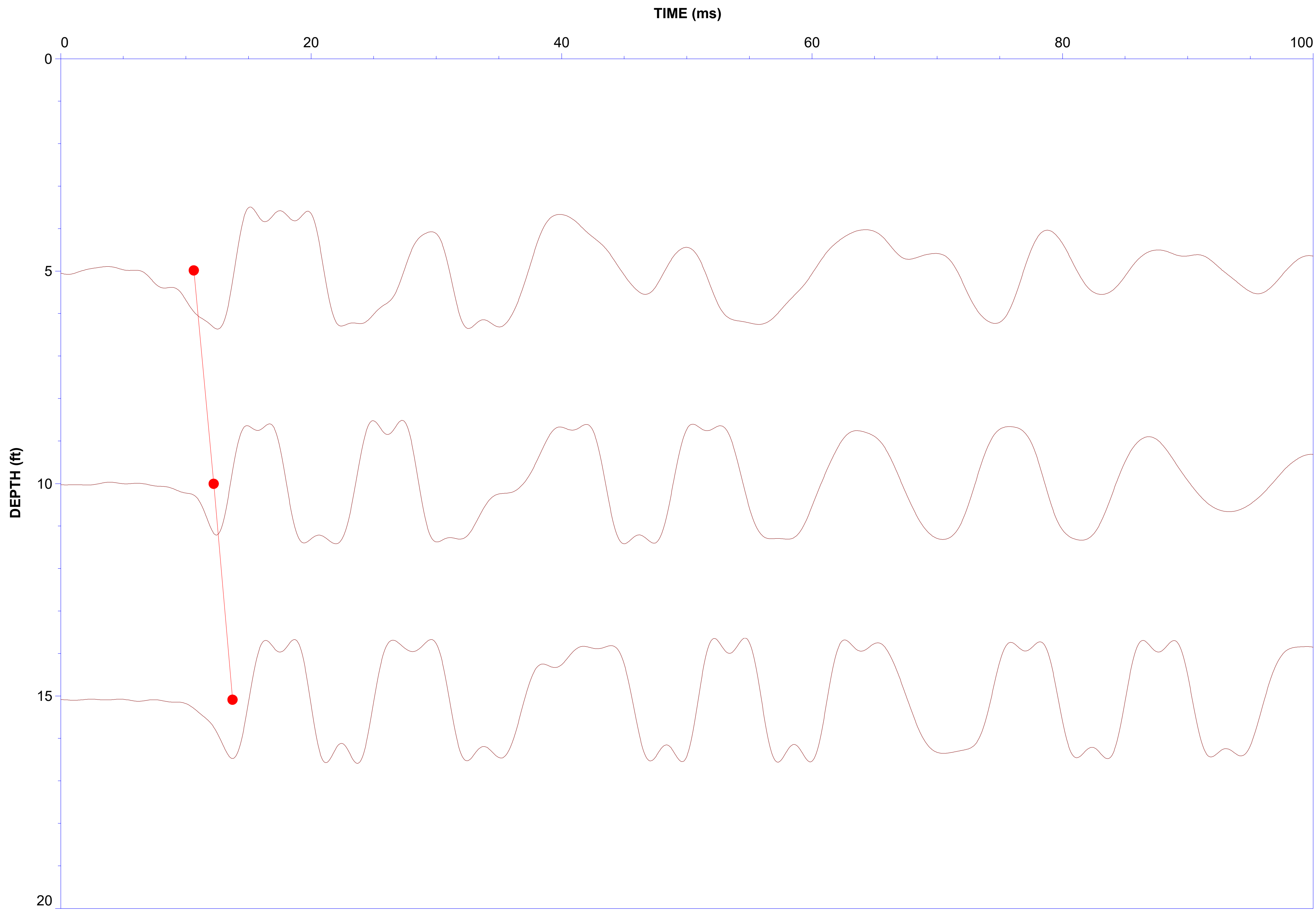


ConeTec

Job No: 23-53-26729 | Client: CME Associates, Inc. | Project: Proposed Micron Plant, Clay, NY | Sounding: SCPT23-B-293 | Filter: 0-400 Hz
Date: 27-Oct-2023



Job No: 23-53-26729 | Client: CME Associates, Inc. | Project: Proposed Micron Plant, Clay, NY | Sounding: SCPT23-B-332 | Filter: 0-400 Hz
Date: 28-Oct-2023



Seismic Cone Penetration Test Compression Wave (Vp) Results

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-228A
Date: 27-Oct-2023

Seismic Source: Plate
Seismic Offset (ft): 4.59
Source Depth (ft): 0.00
Geophone Offset (ft): 0.85

SCPTu COMPRESSION WAVE VELOCITY TEST RESULTS - Vp

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
4.99	4.13	6.18			
10.01	9.15	10.24	4.06	1.94	2089
15.03	14.17	14.90	4.66	0.70	6654

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-293
Date: 27-Oct-2023

Seismic Source: Plate
Seismic Offset (ft): 4.66
Source Depth (ft): 0.00
Geophone Offset (ft): 0.85

SCPTu COMPRESSION WAVE VELOCITY TEST RESULTS - Vp

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
4.99	4.13	6.23			
10.01	9.15	10.27	4.04	0.90	4491
15.03	14.17	14.92	4.65	0.70	6640

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-332
Date: 28-Oct-2023

Seismic Source: Plate
Seismic Offset (ft): 4.56
Source Depth (ft): 0.00
Geophone Offset (ft): 0.85

SCPTu COMPRESSION WAVE VELOCITY TEST RESULTS - Vp

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
4.99	4.13	6.15			
10.01	9.15	10.23	4.07	1.60	2545
15.09	14.24	14.95	4.73	1.50	3150

Seismic Cone Penetration Test Poisson's Ratio Results

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-228A
Date: 27-Oct-2023

SCPTu POISSON'S RATIO RESULTS

Depth From (ft)	Depth To (ft)	Vs Interval Velocity (ft/s)	Vp Interval Velocity (ft/s)	Poisson's Ratio
4.13	9.15	483.70	2089.20	0.47
9.15	14.17	618.40	6654.30	0.50

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-293
Date: 27-Oct-2023

SCPTu POISSON'S RATIO RESULTS

Depth From (ft)	Depth To (ft)	Vs Interval Velocity (ft/s)	Vp Interval Velocity (ft/s)	Poisson's Ratio
4.13	9.15	542.80	4491.20	0.49
9.15	14.17	790.20	6640.20	0.49

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Sounding ID: SCPT23-B-332
Date: 28-Oct-2023

SCPTu POISSON'S RATIO RESULTS

Depth From (ft)	Depth To (ft)	Vs Interval Velocity (ft/s)	Vp Interval Velocity (ft/s)	Poisson's Ratio
4.13	9.15	692.20	2544.70	0.46
9.15	14.24	1004.50	3149.80	0.44

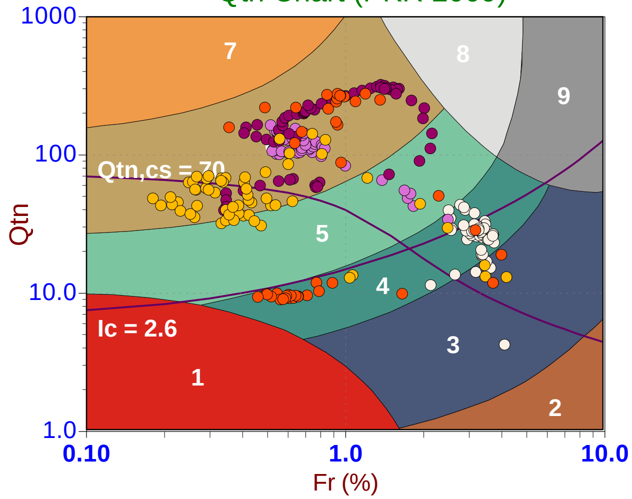
Soil Behavior Type (SBT) Scatter Plots

CONETEC

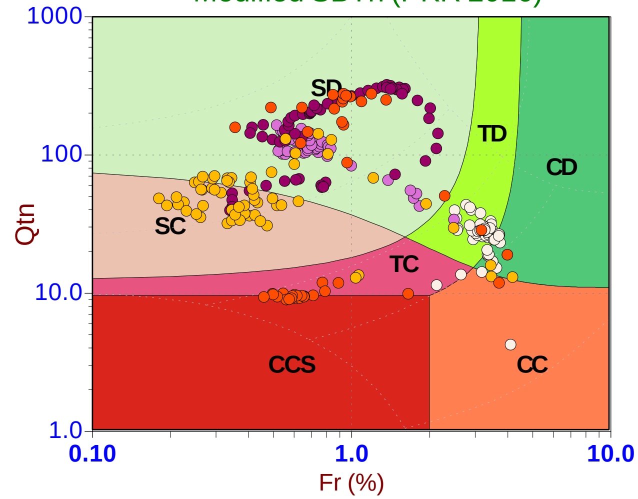
CME Associates

Job No: 23-53-26729
Date: 2023-10-25 12:03
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-004
Cone: 604:T1500F15U35

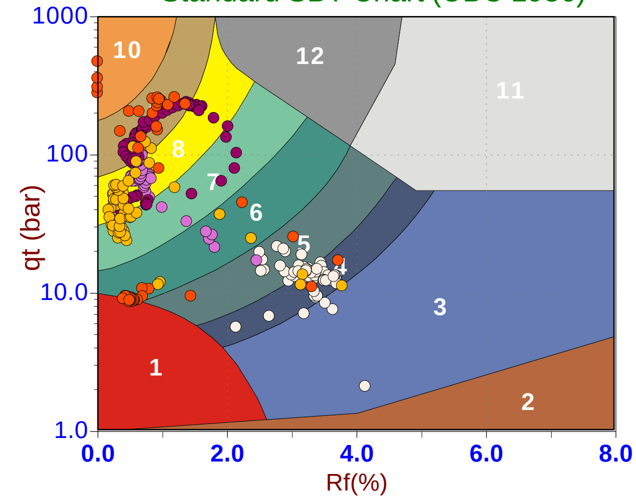
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend

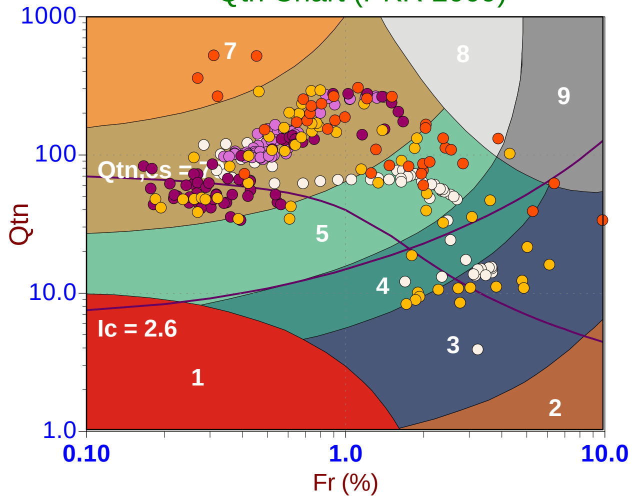
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

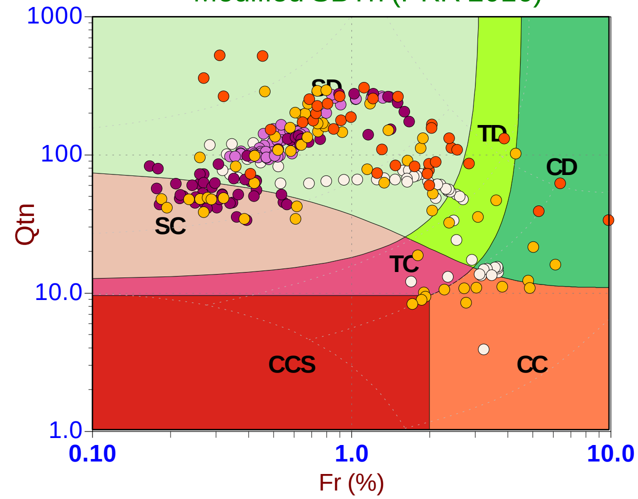
CME Associates

Job No: 23-53-26729
Date: 2023-10-25 12:43
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-006
Cone: 604:T1500F15U35

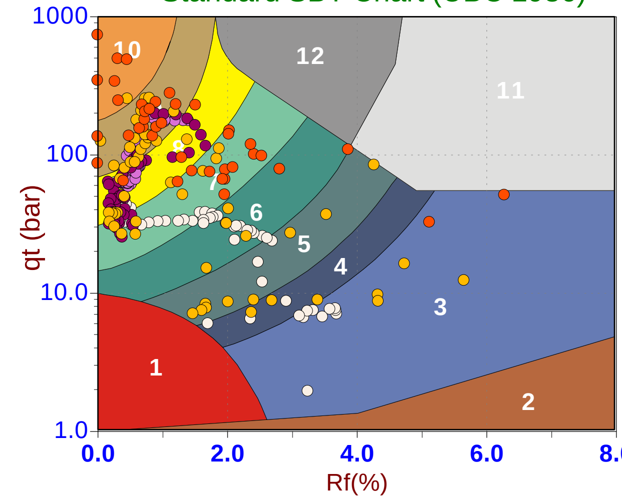
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

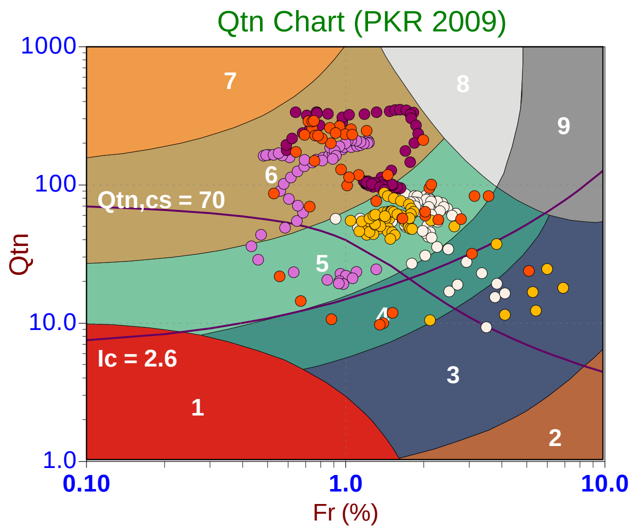
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

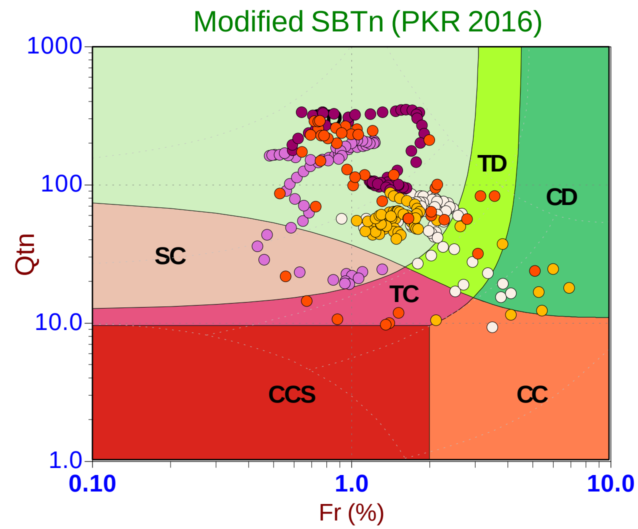
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

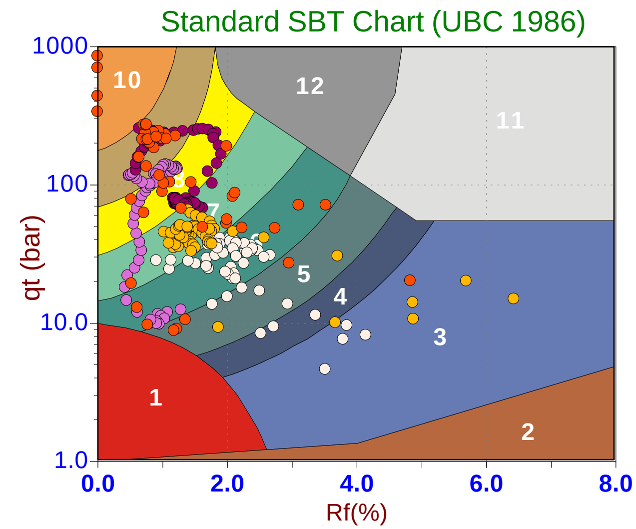
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 10:45
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-008
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

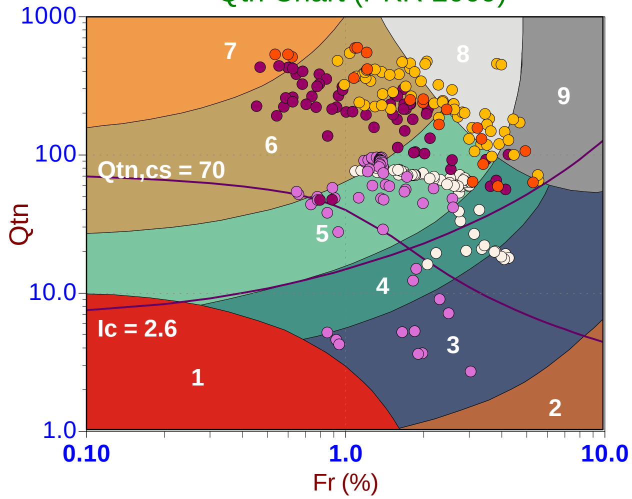
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

ConeTec

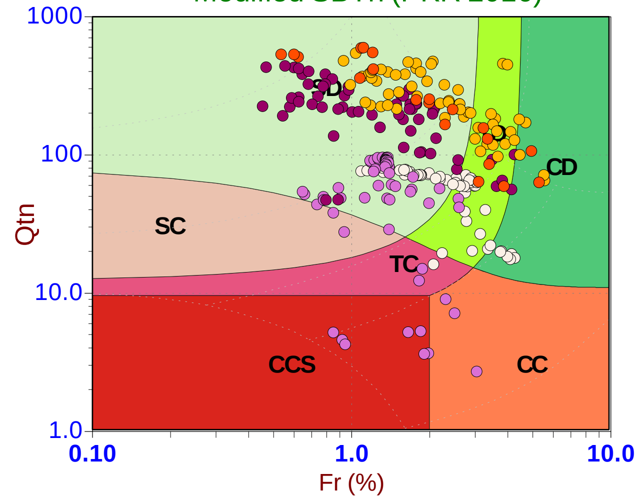
CME Associates

Job No: 23-53-26729
Date: 2023-10-25 15:20
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-014
Cone: 604:T1500F15U35

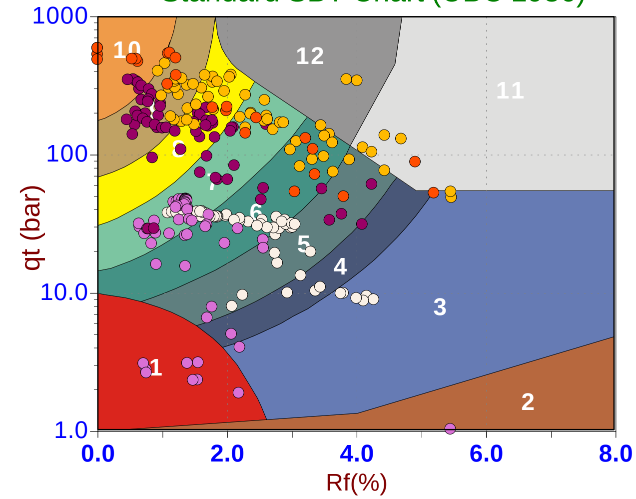
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

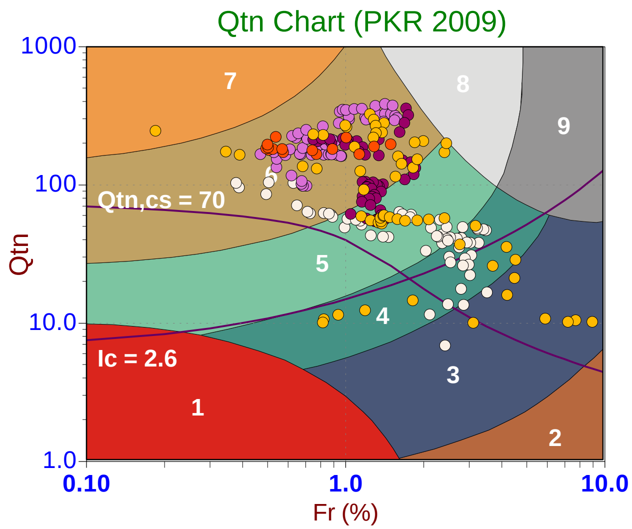
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

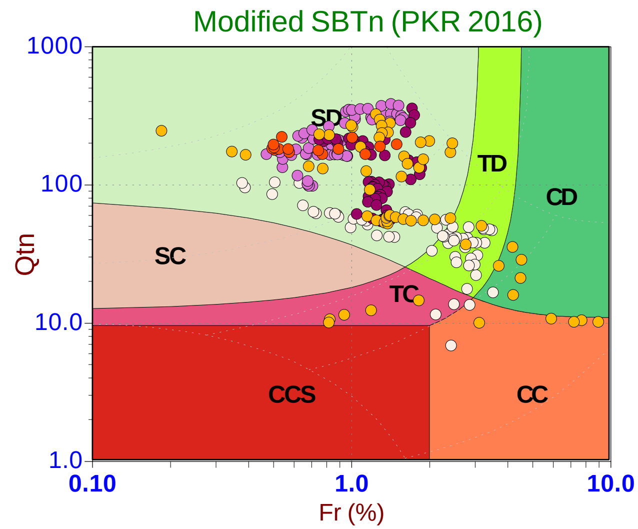
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

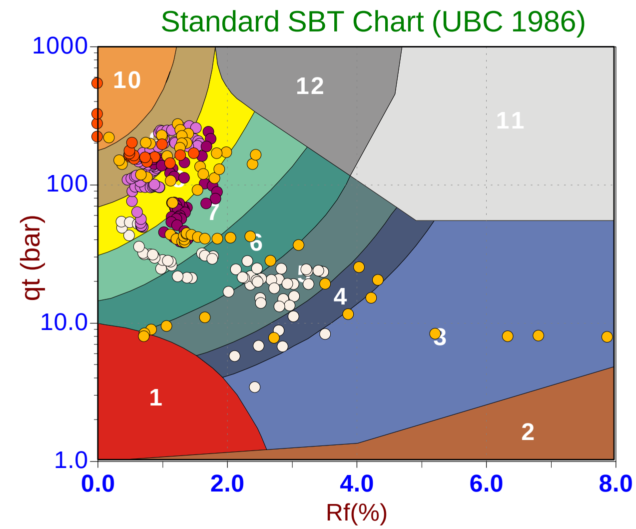
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-25 11:24
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-016
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

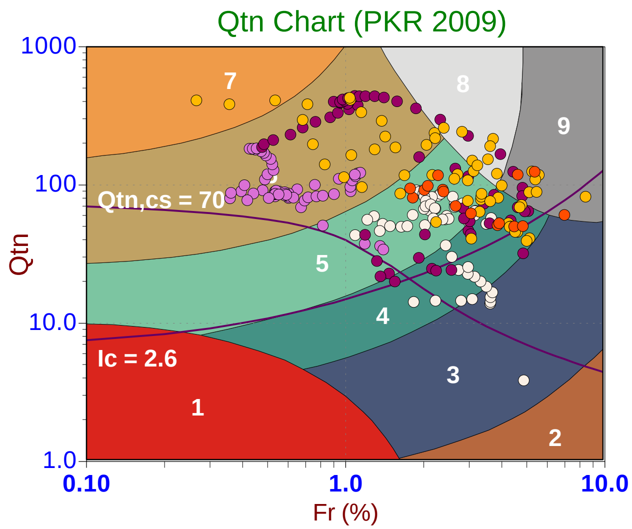
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

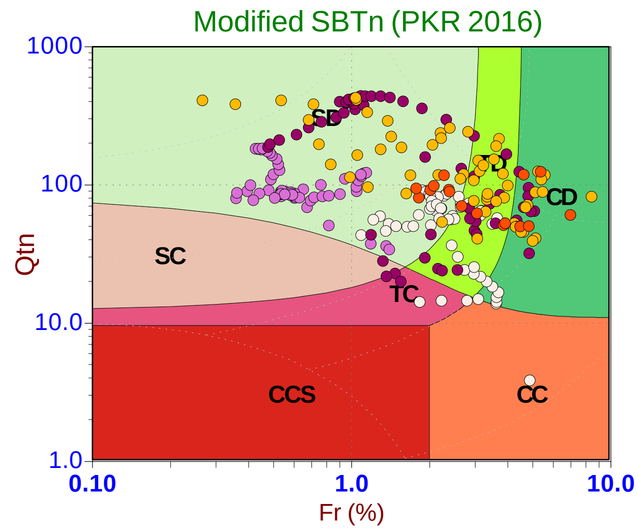
CONETEC

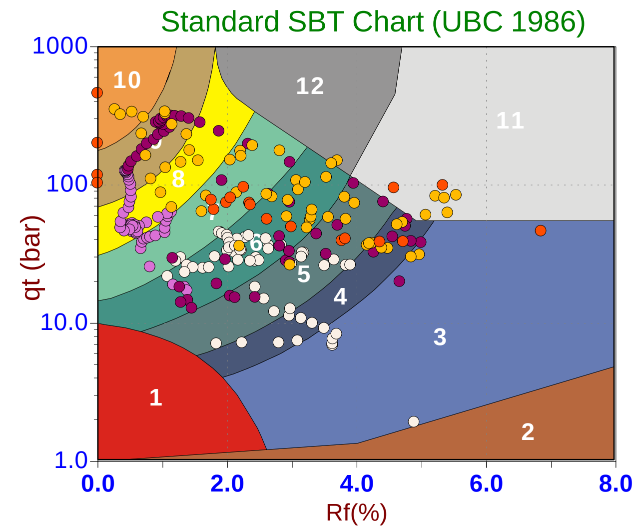
CME Associates

Job No: 23-53-26729
Date: 2023-10-25 09:58
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-021
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

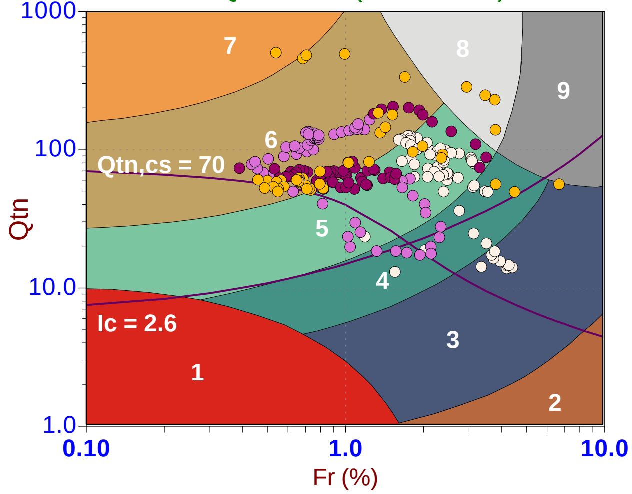
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

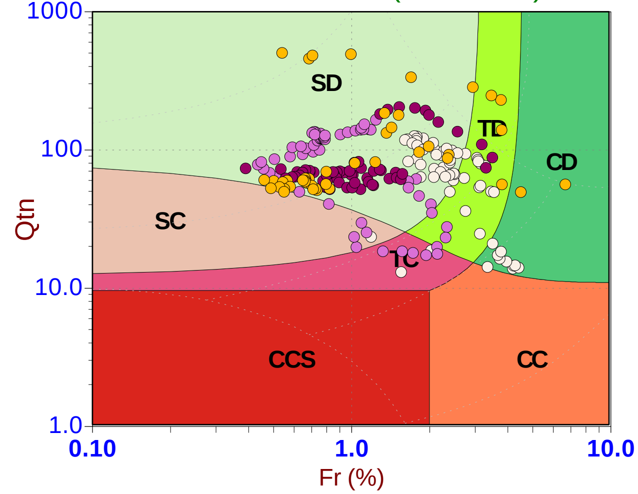
CME Associates

Job No: 23-53-26729
Date: 2023-10-25 14:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-022
Cone: 604:T1500F15U35

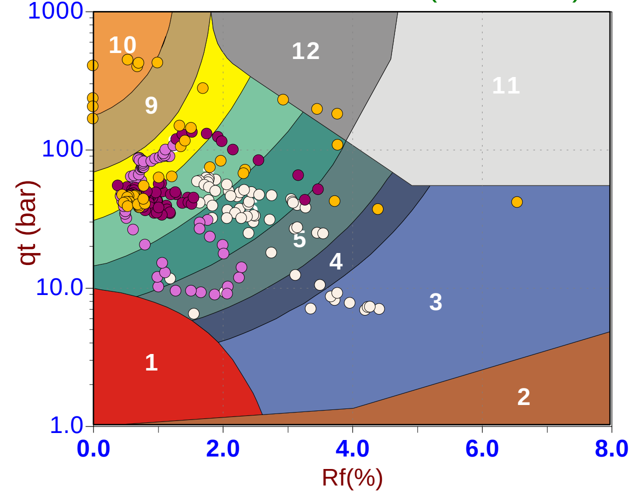
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

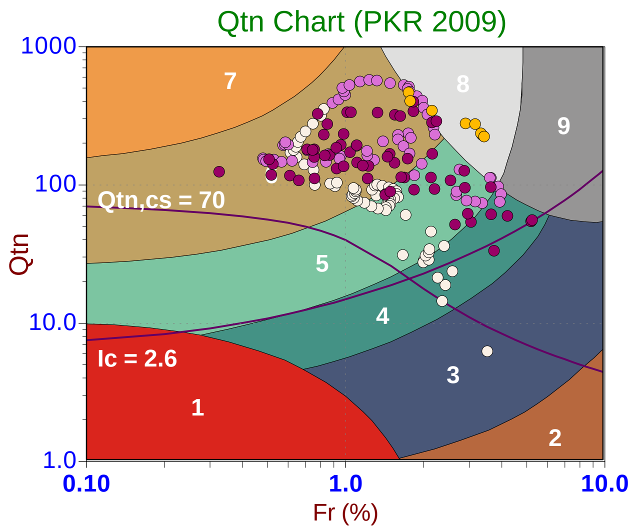
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

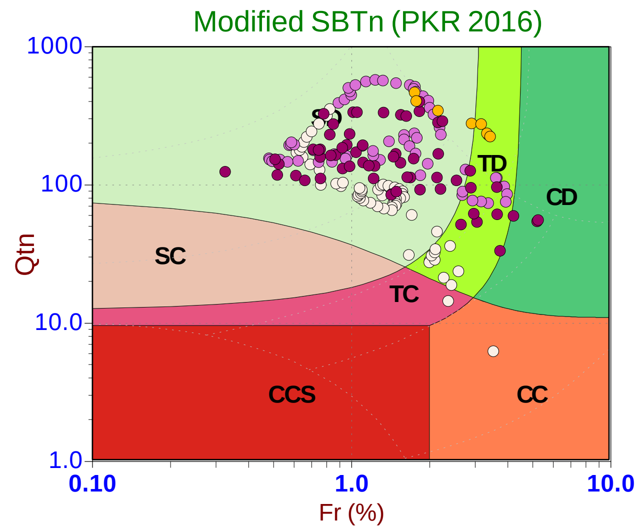
CONETEC

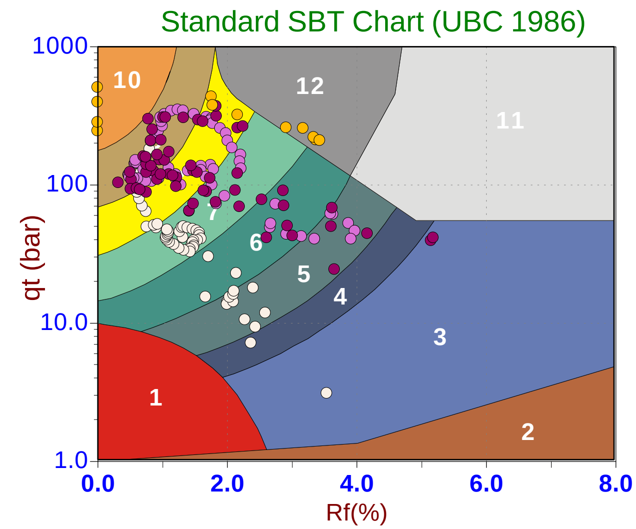
CME Associates

Job No: 23-53-26729
Date: 2023-10-24 13:10
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-060
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

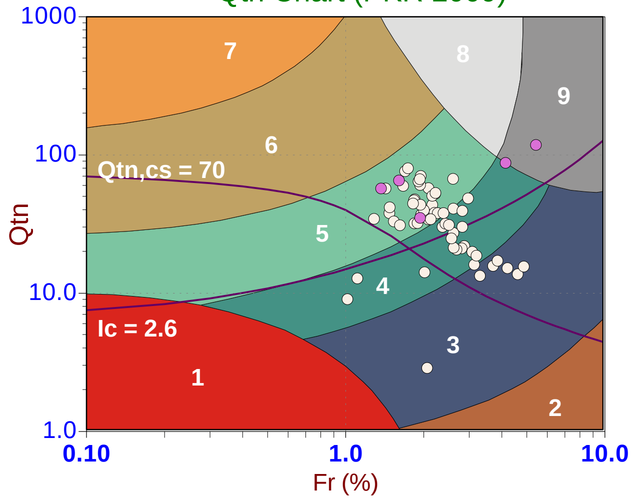
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

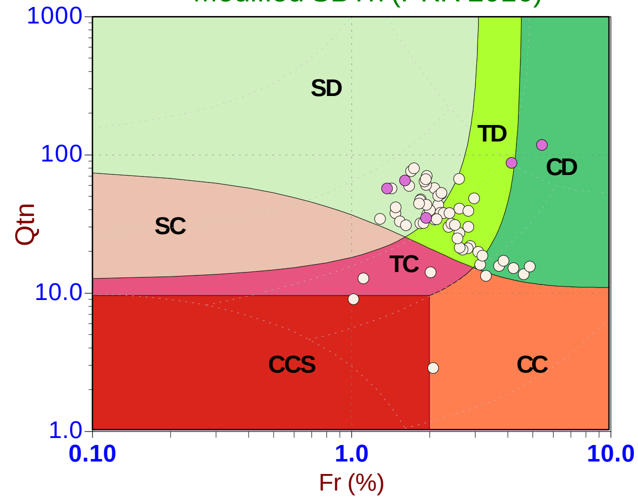
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:05
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-064
Cone: 604:T1500F15U35

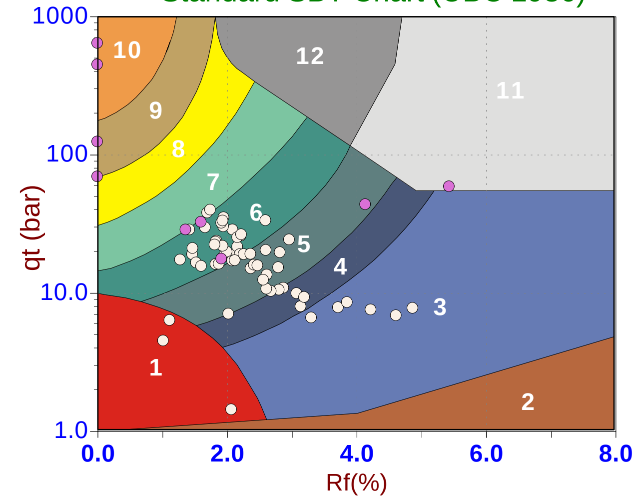
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

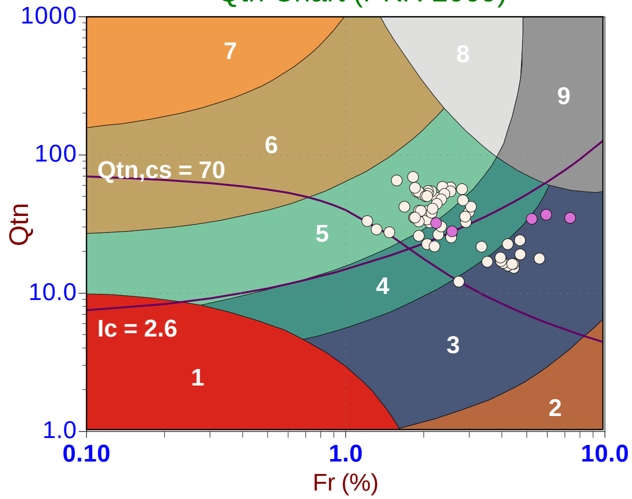
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

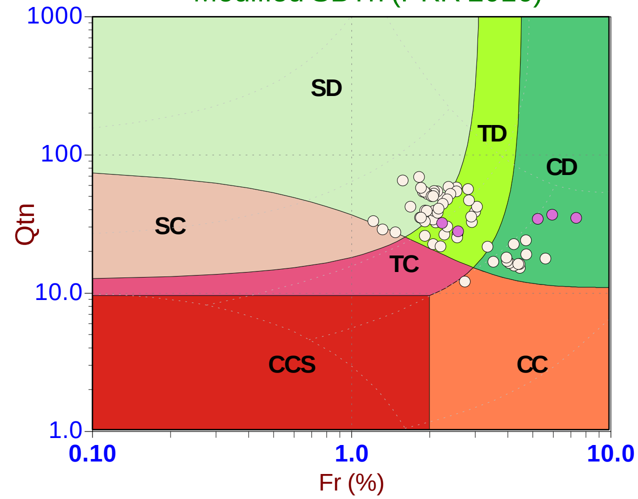
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:29
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-064A
Cone: 604:T1500F15U35

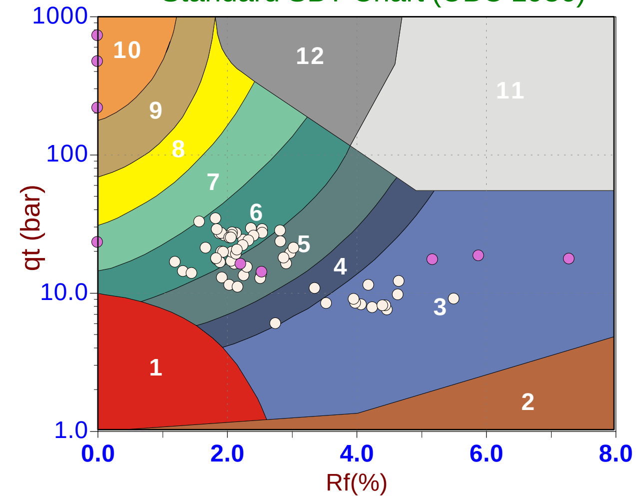
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend

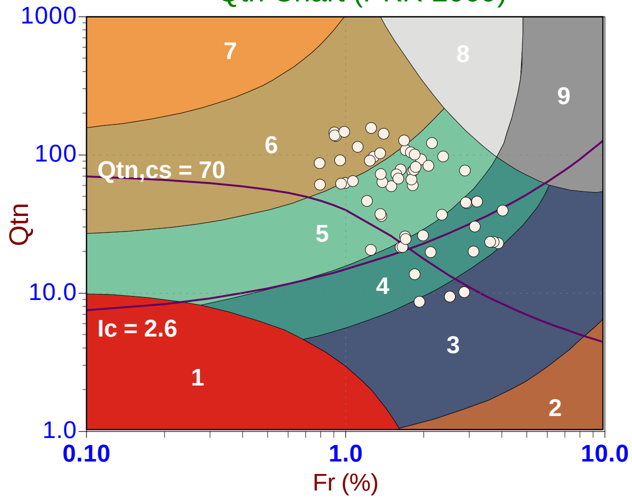
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

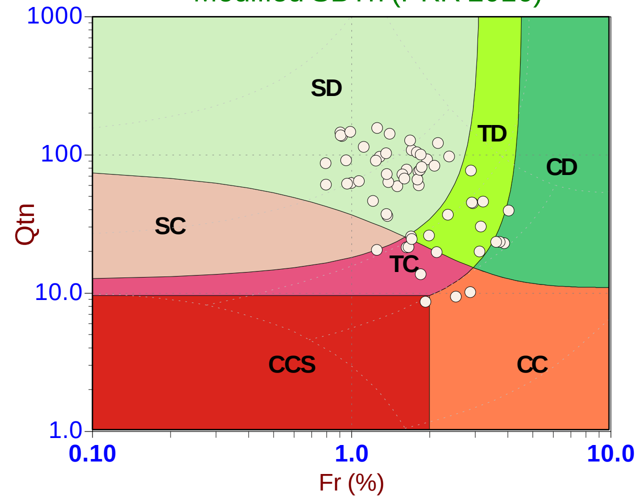
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 07:02
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-066
Cone: 604:T1500F15U35

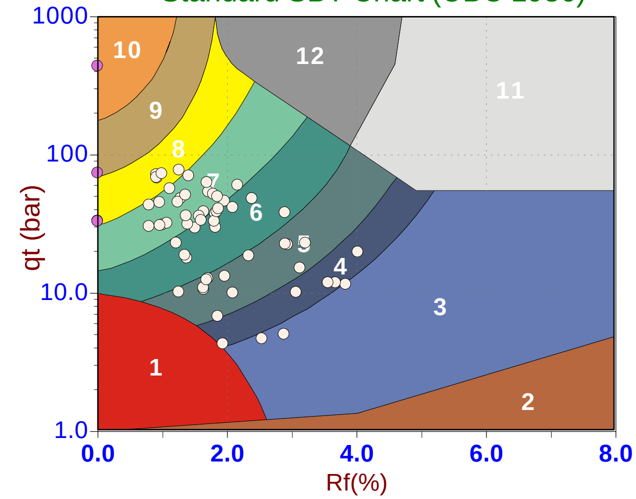
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

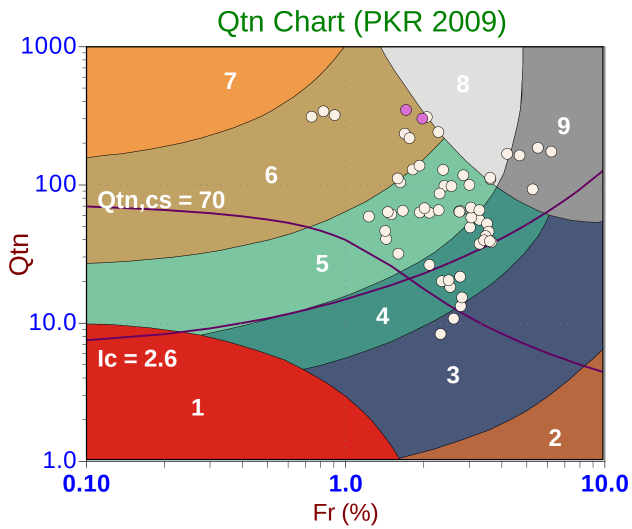
Legend

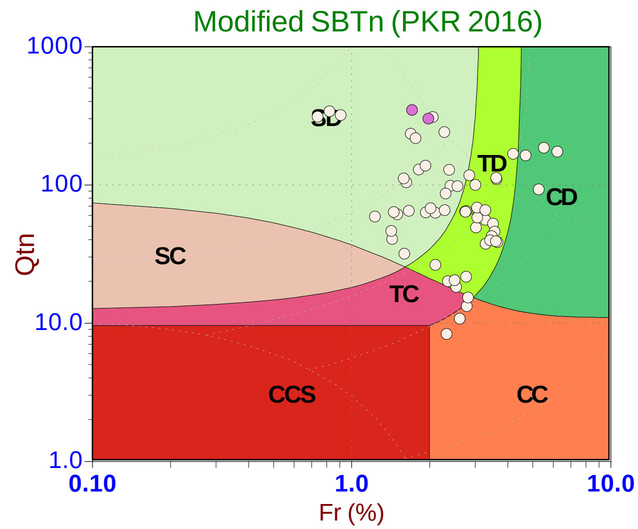
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

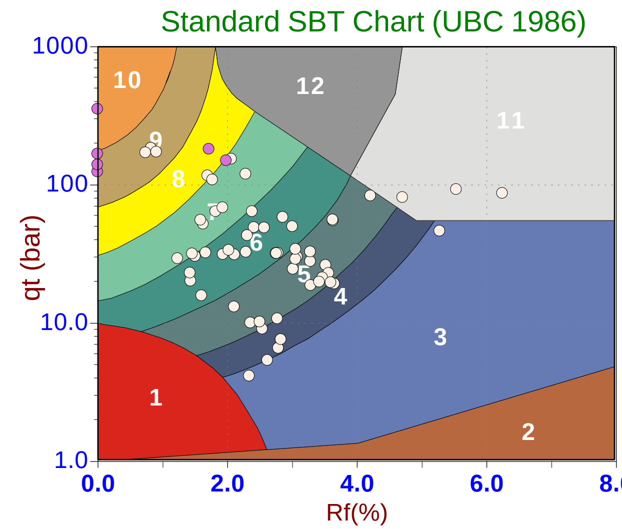
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 08:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-066A
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

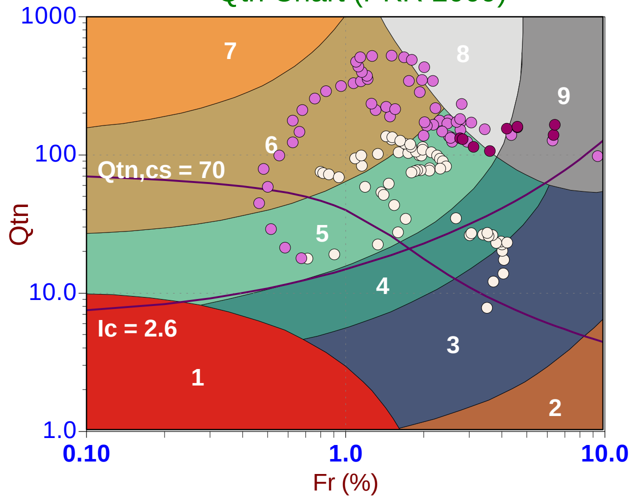
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

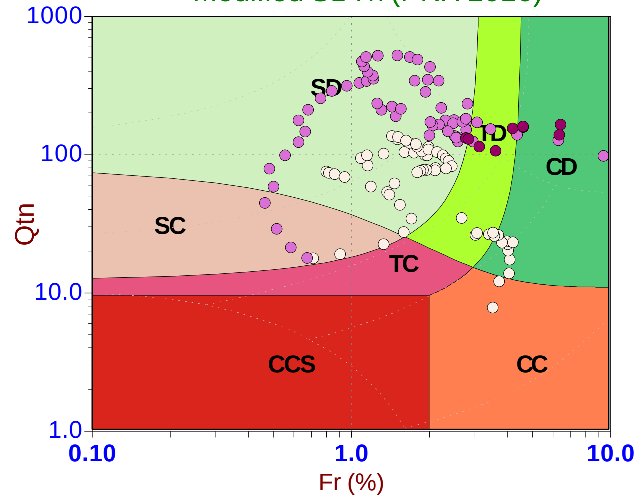
ConeTec

CME Associates	Job No: 23-53-26729	Sounding: CPT23-B-070
	Date: 2023-10-24 13:47	Cone: 604:T1500F15U35
	Site: Proposed Micron Plant, Clay, NY	

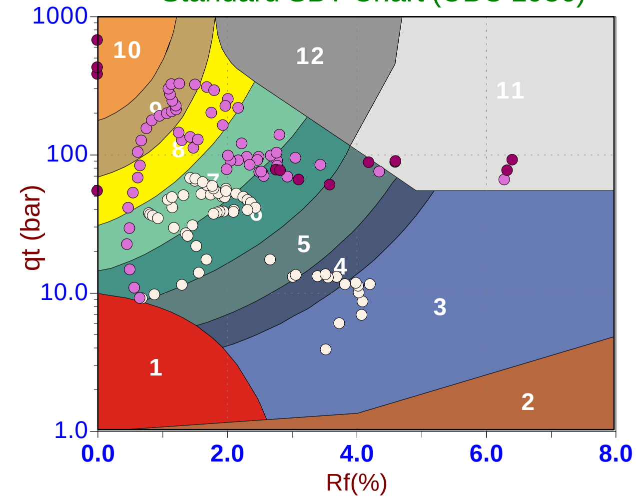
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

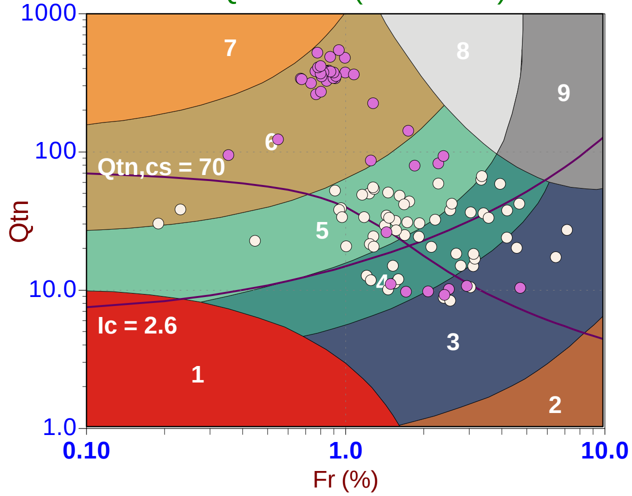
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

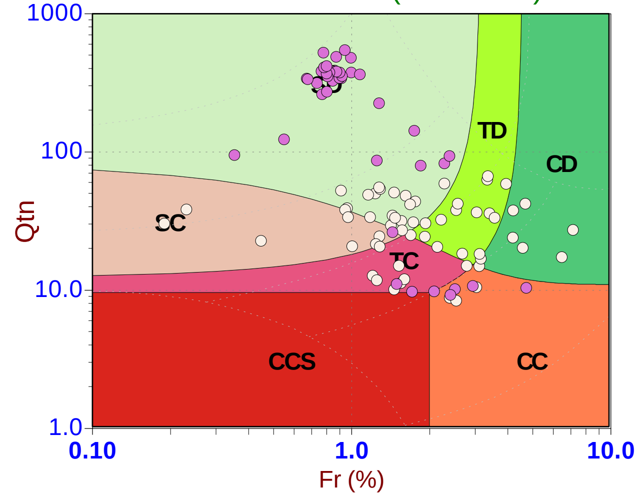
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 10:47
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-073
Cone: 604:T1500F15U35

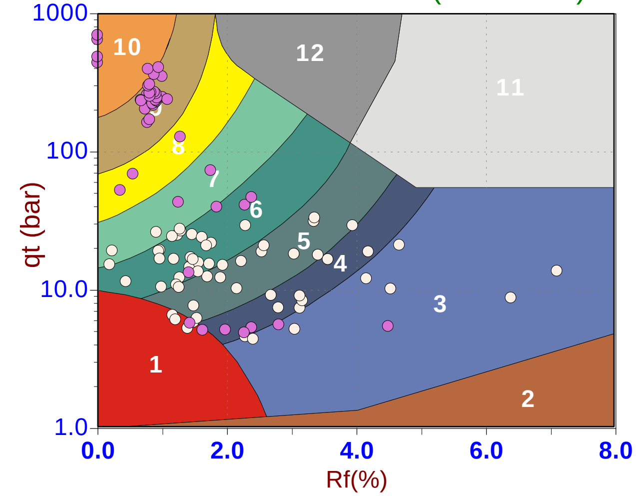
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

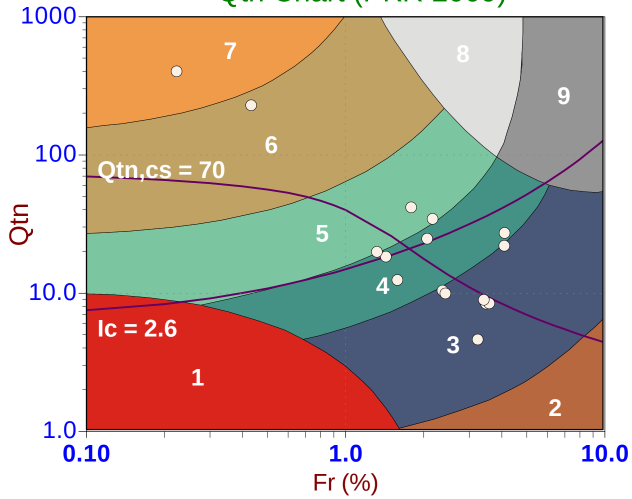
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

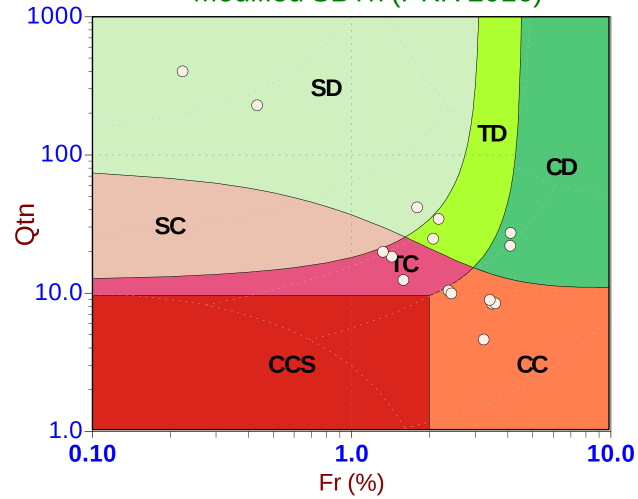
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 09:58
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-074
Cone: 604:T1500F15U35

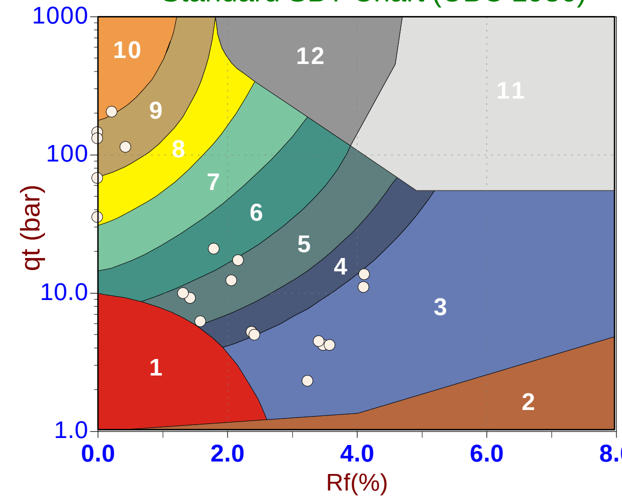
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

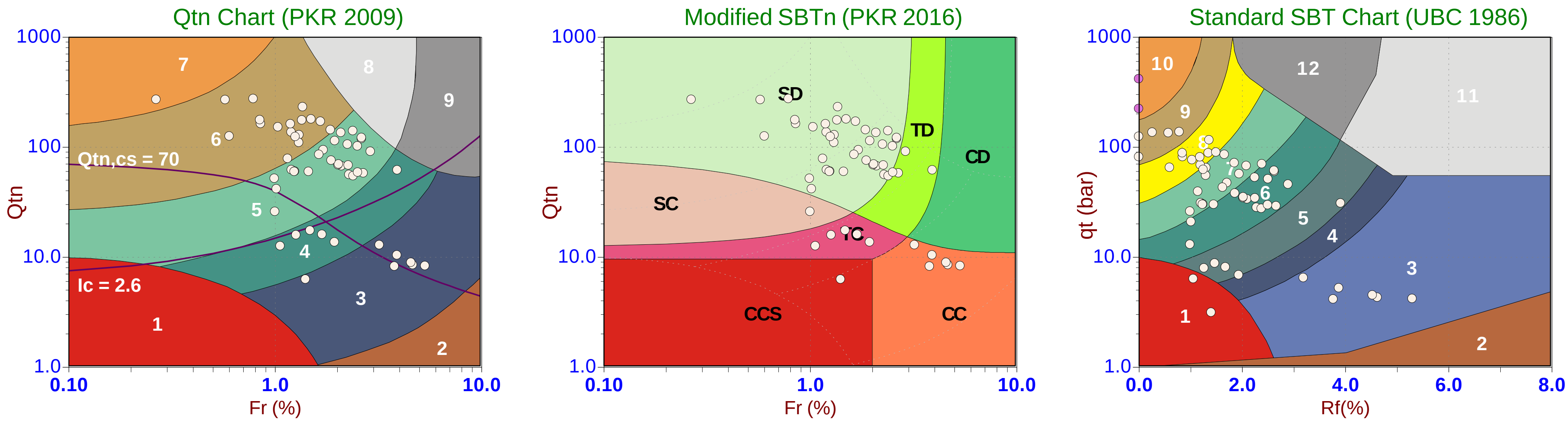
Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 10:17
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-074A
Cone: 604:T1500F15U35



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

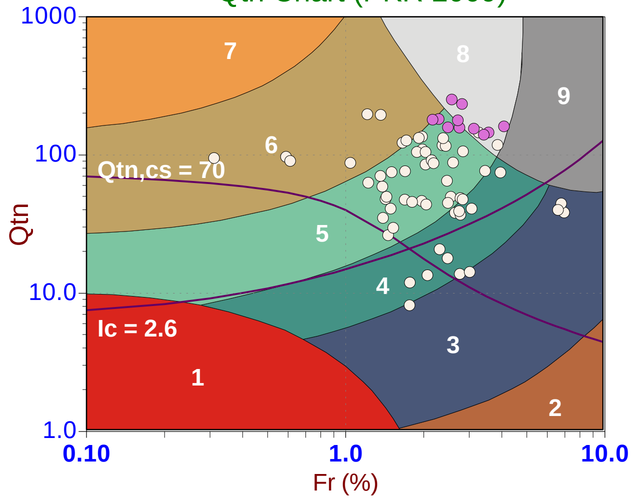
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

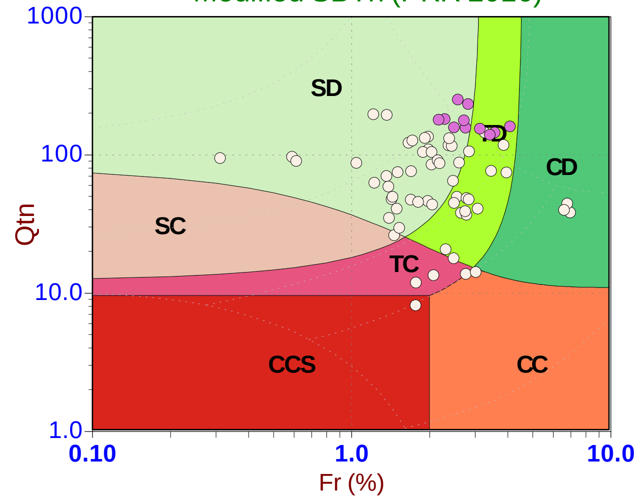
ConeTec

CME Associates	Job No: 23-53-26729	Sounding: CPT23-B-075
	Date: 2023-10-23 11:10	Cone: 604:T1500F15U35
	Site: Proposed Micron Plant, Clay, NY	

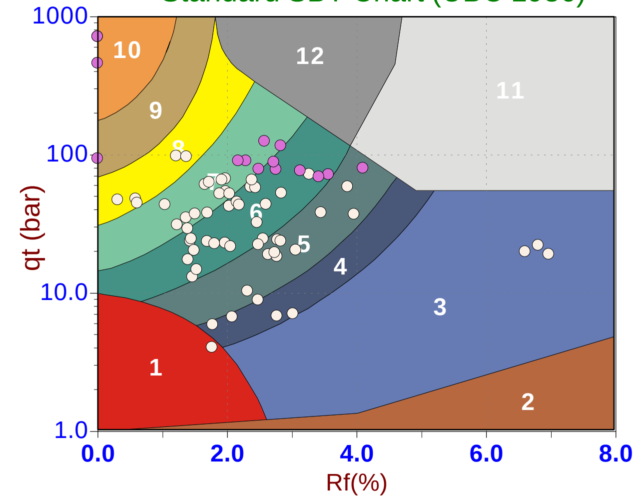
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend

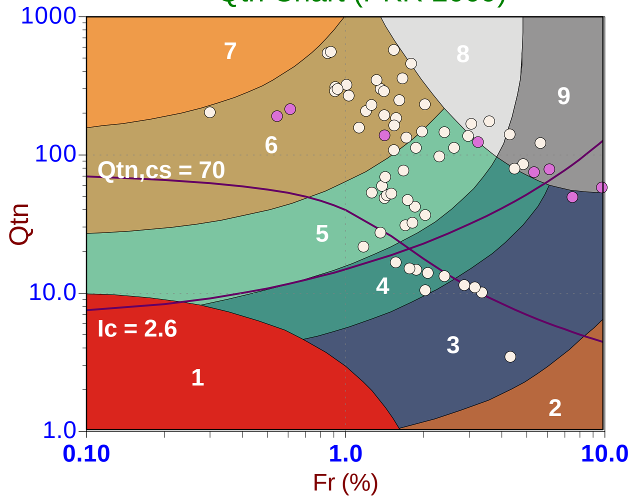
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

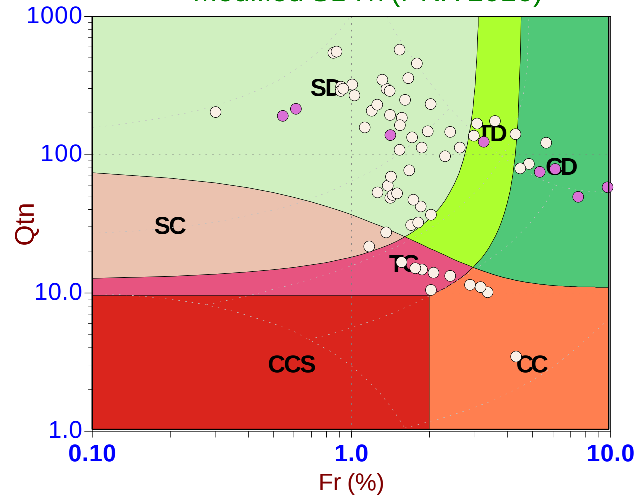
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 11:37
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-076
Cone: 604:T1500F15U35

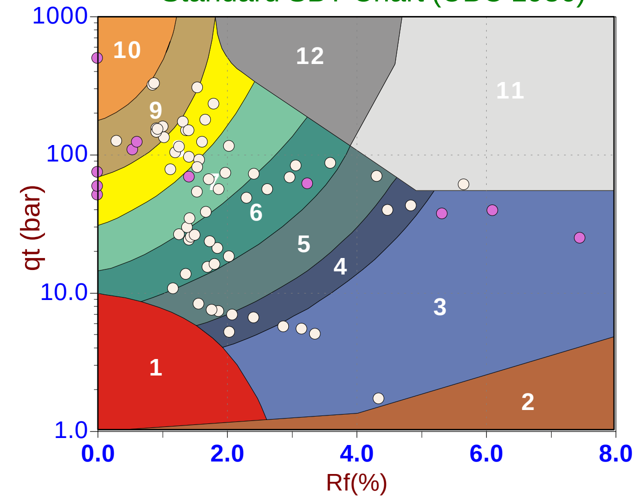
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

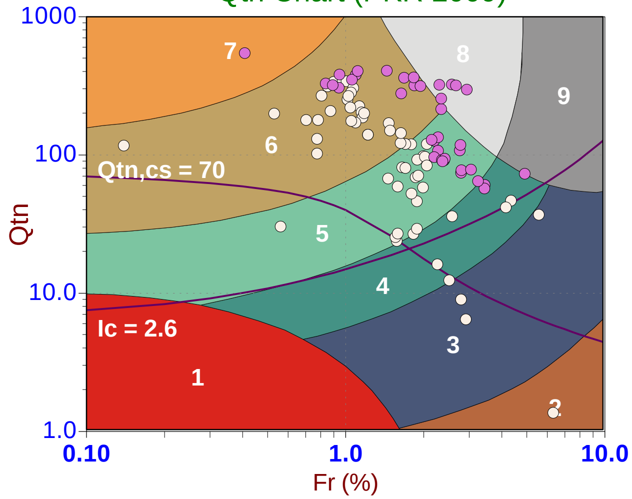
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

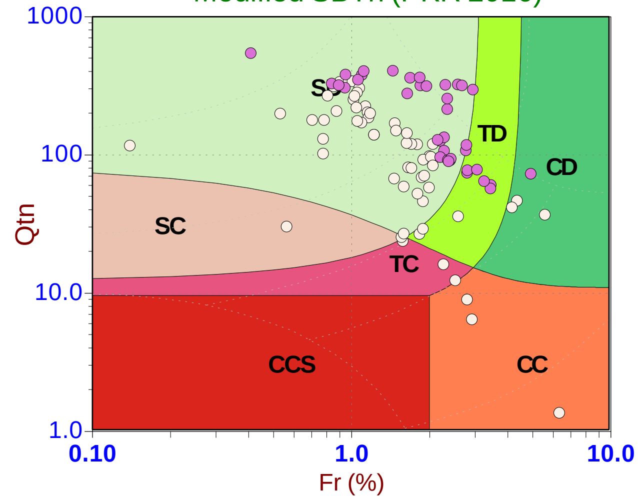
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-077
Cone: 604:T1500F15U35

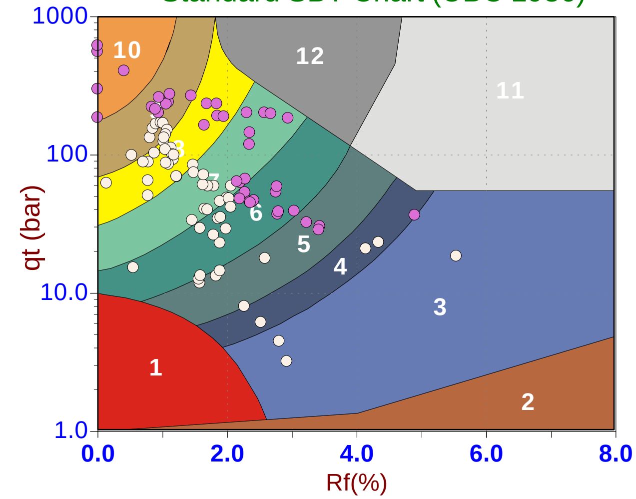
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

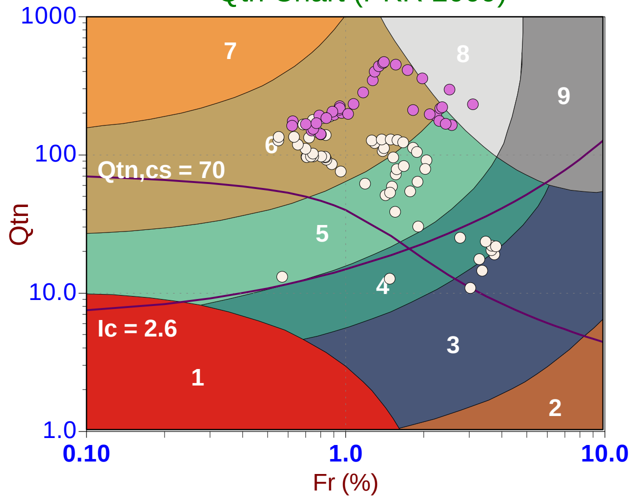
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

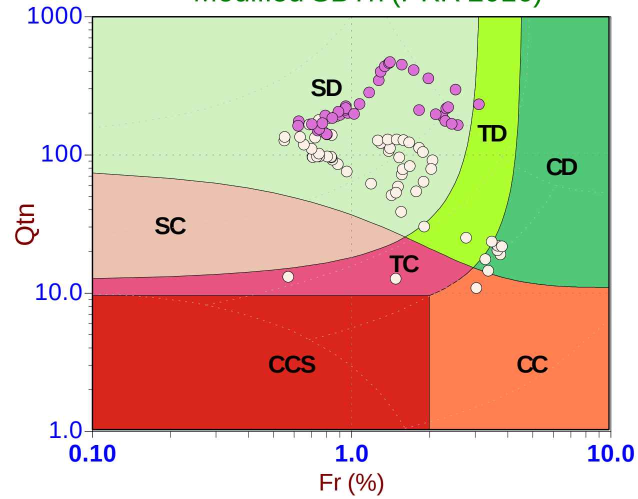
CME Associates

Job No: 23-53-26729
Date: 2023-10-25 07:29
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-078
Cone: 604:T1500F15U35

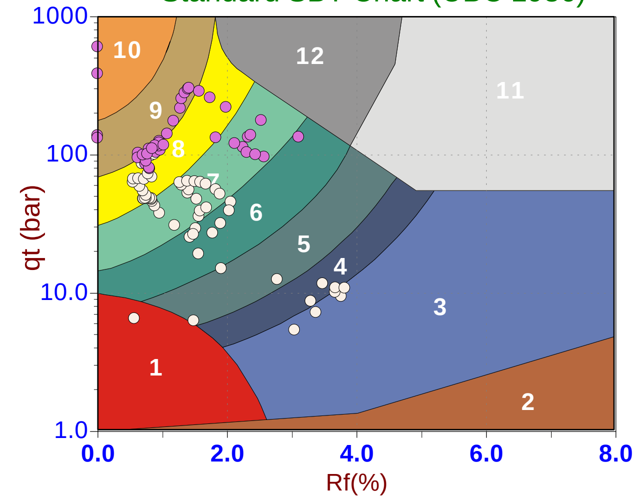
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

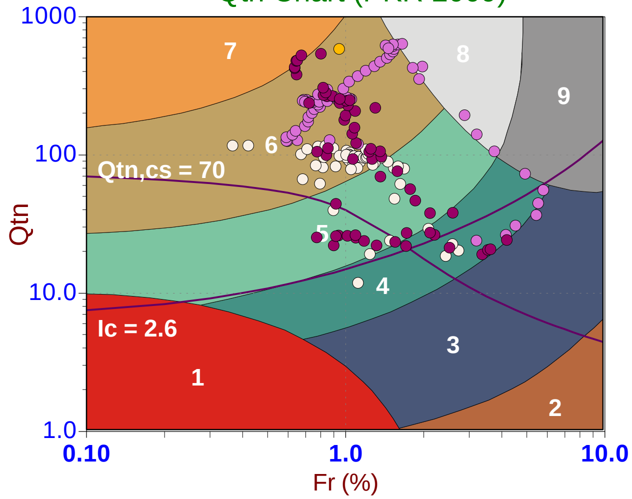
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

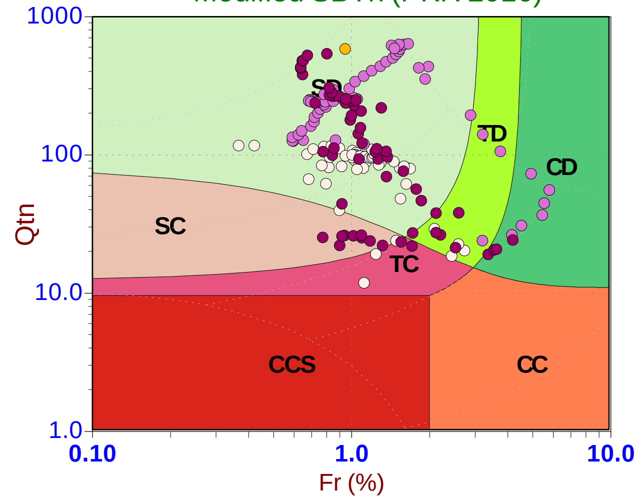
CME Associates

Job No: 23-53-26729
Date: 2023-10-24 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-080
Cone: 604:T1500F15U35

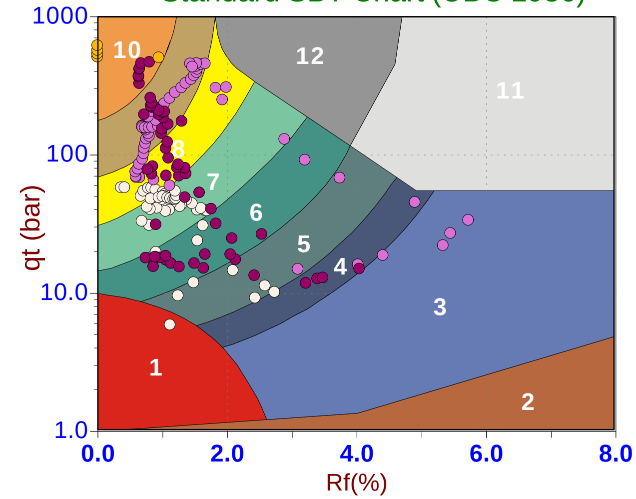
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

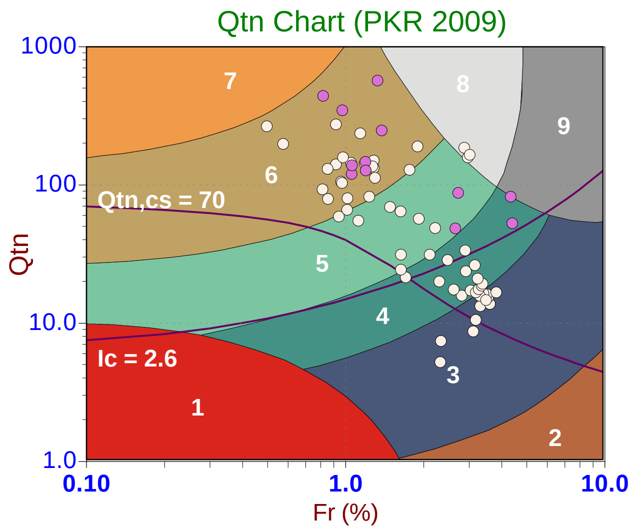
Legend

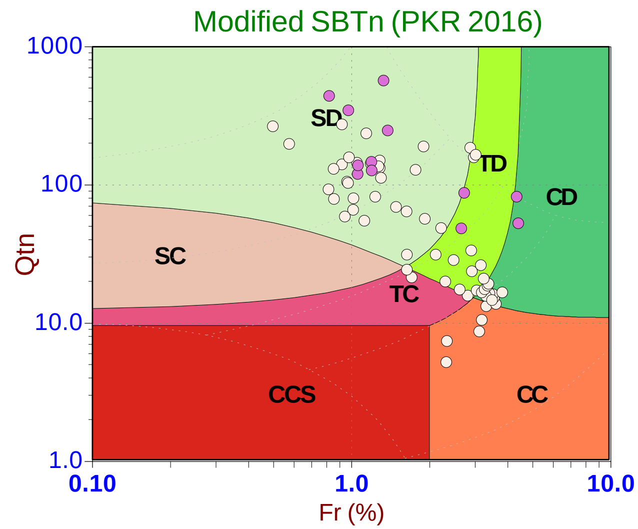
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

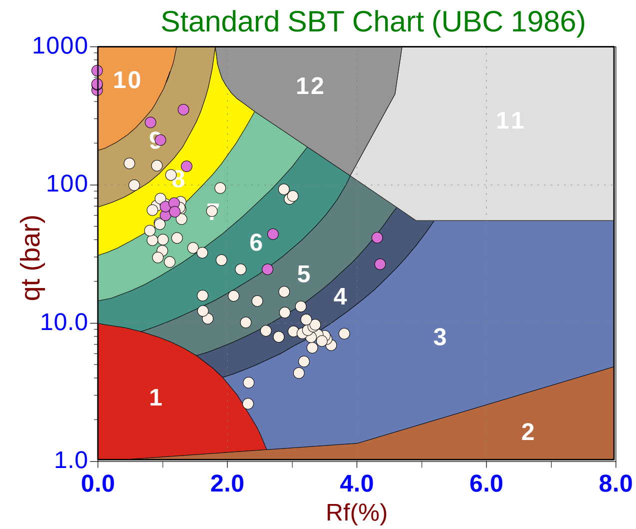
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 13:38
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-084
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

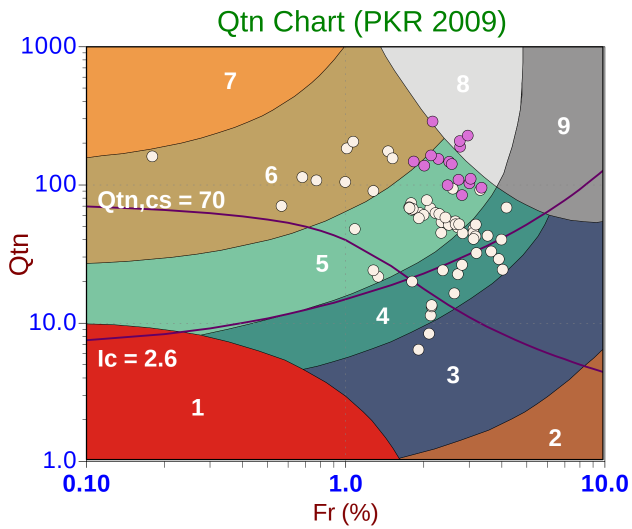
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

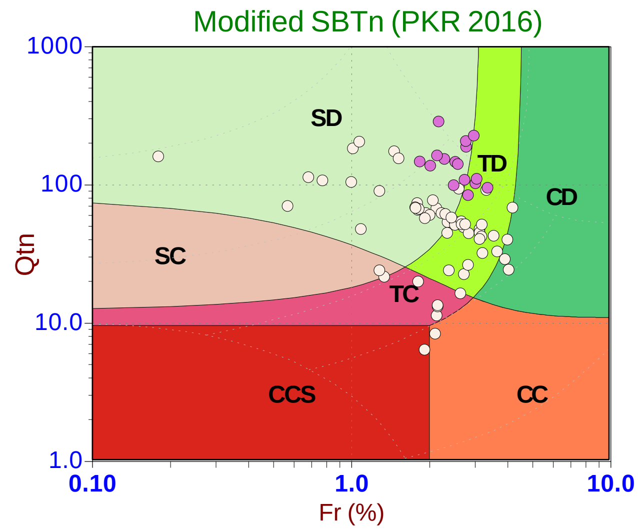
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

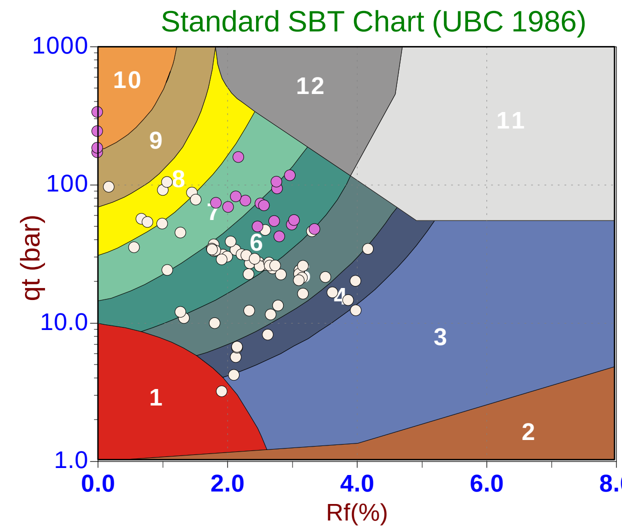
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:54
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-086
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

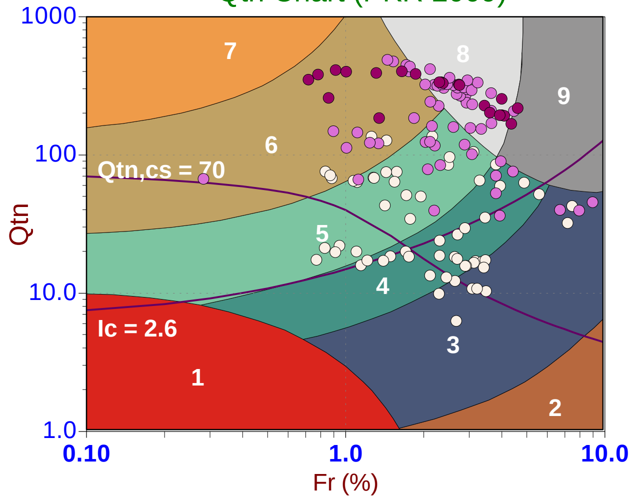
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

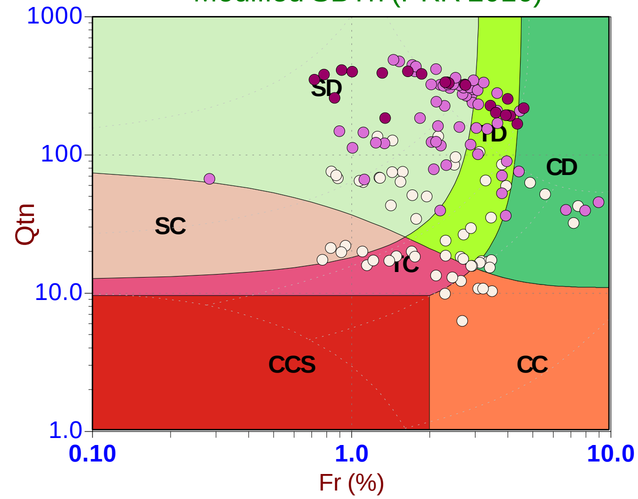
CME Associates

Job No: 23-53-26729
Date: 2023-10-23 14:25
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-092
Cone: 604:T1500F15U35

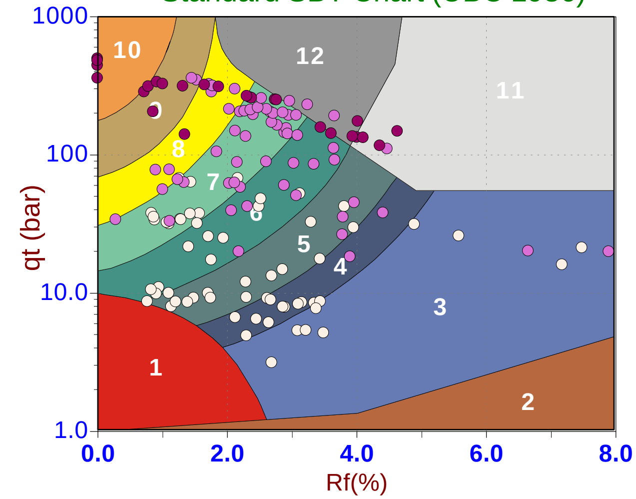
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges

- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

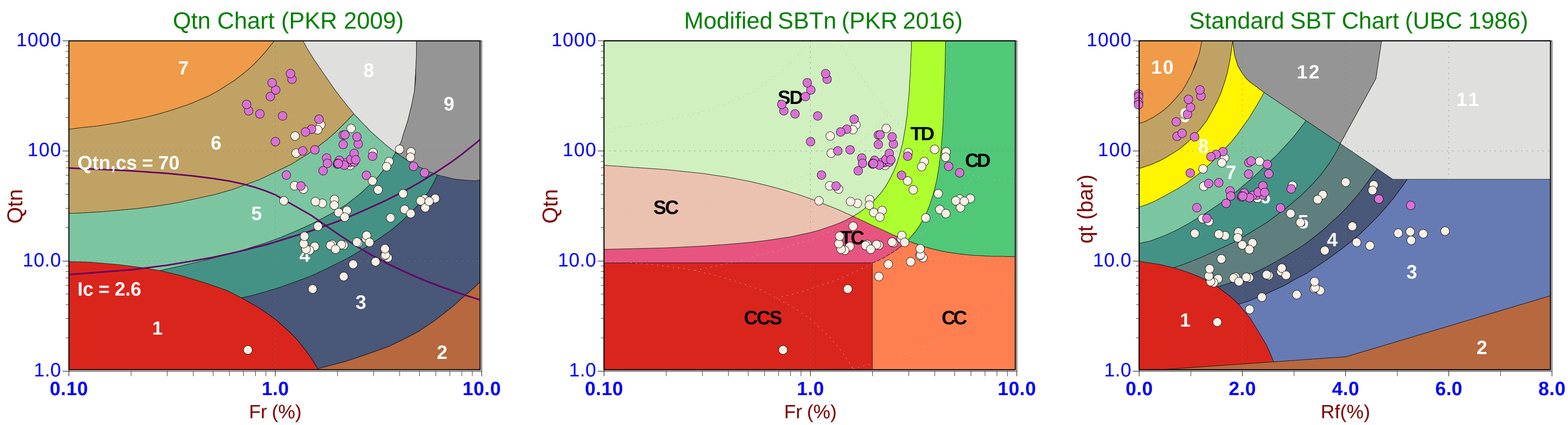
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 14:11
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-093
Cone: 604:T1500F15U35



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

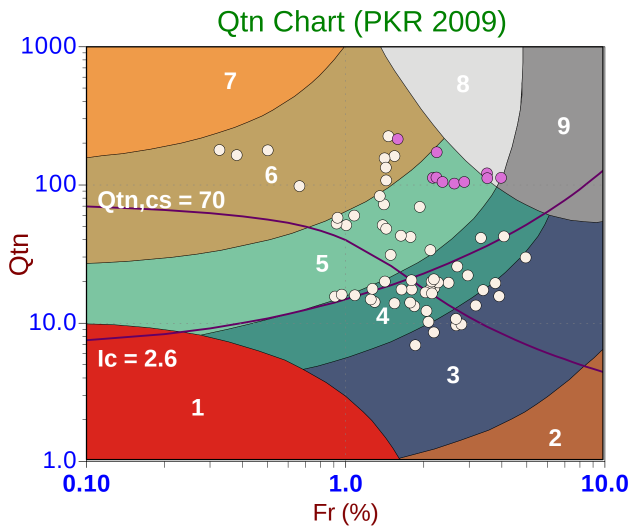
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

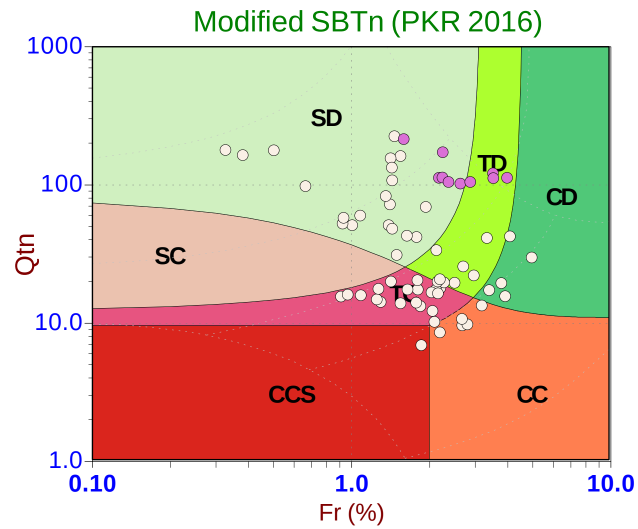
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

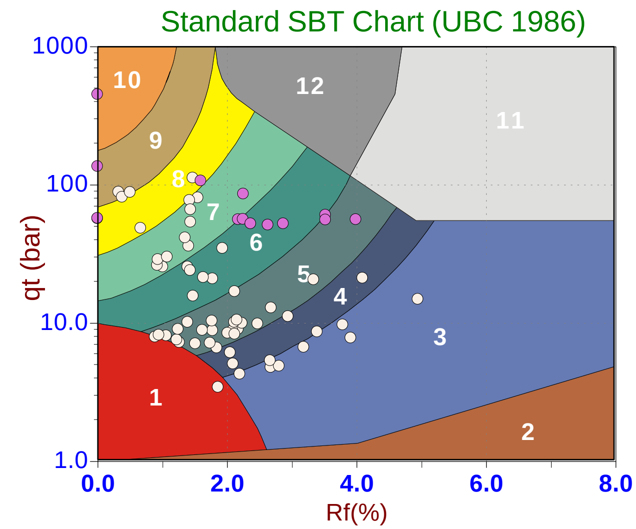
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 07:28
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-095
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

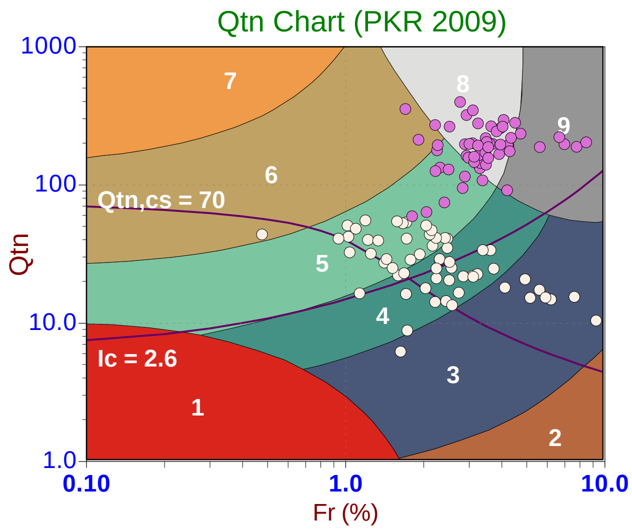
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

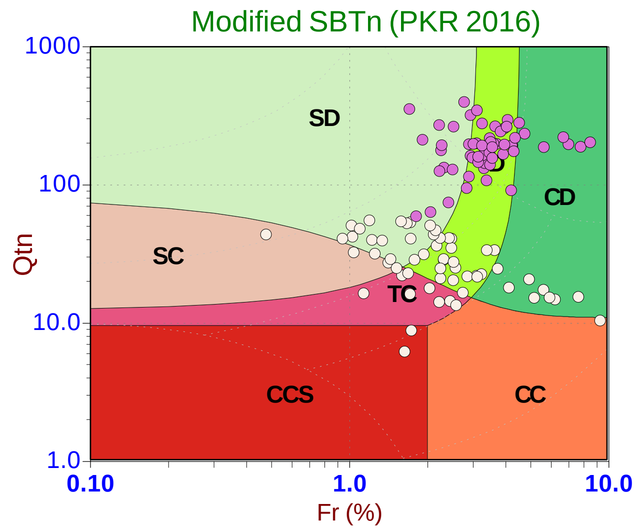
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

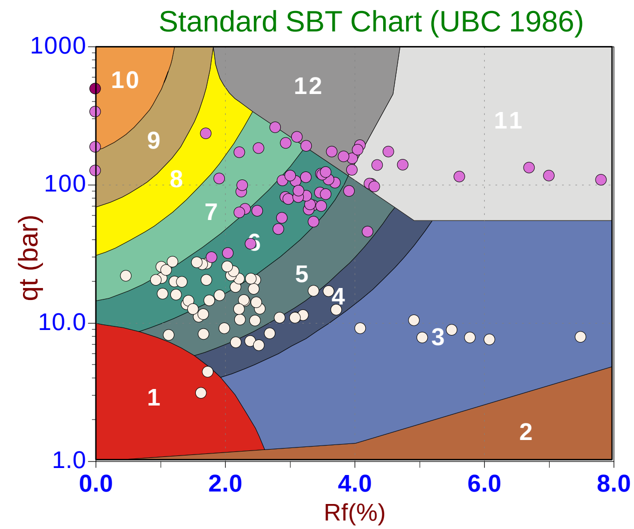
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-23 12:45
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-097
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

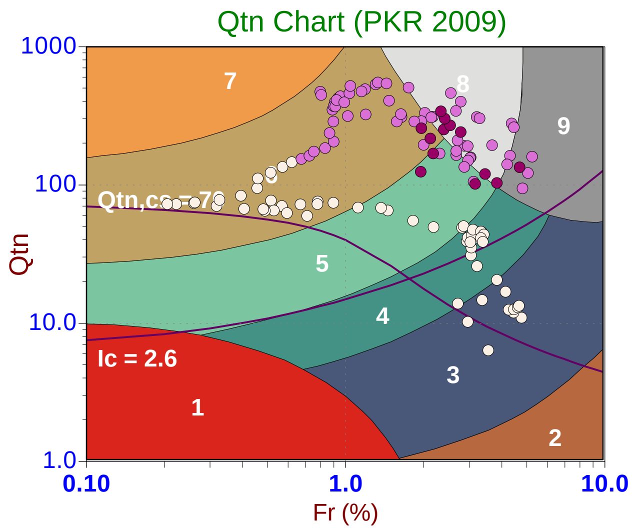
Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

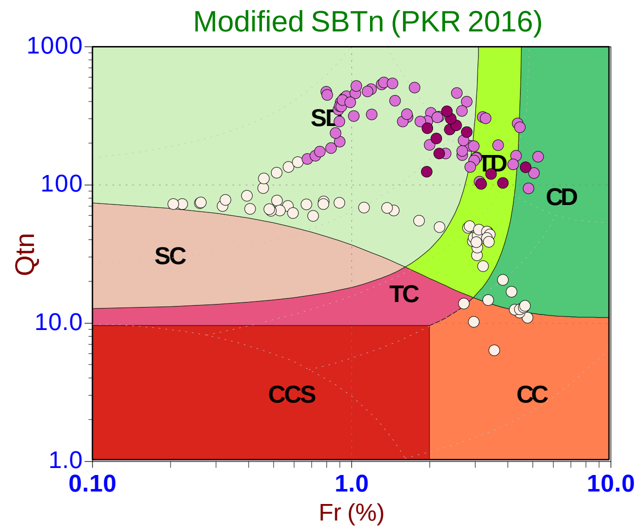
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

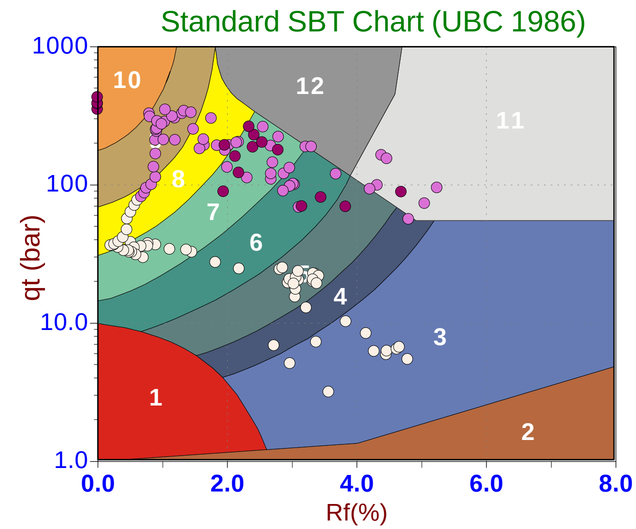
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

CME Associates	Job No: 23-53-26729	Sounding: CPT23-B-098
	Date: 2023-10-25 08:00	Cone: 604:T1500F15U35
	Site: Proposed Micron Plant, Clay, NY	







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

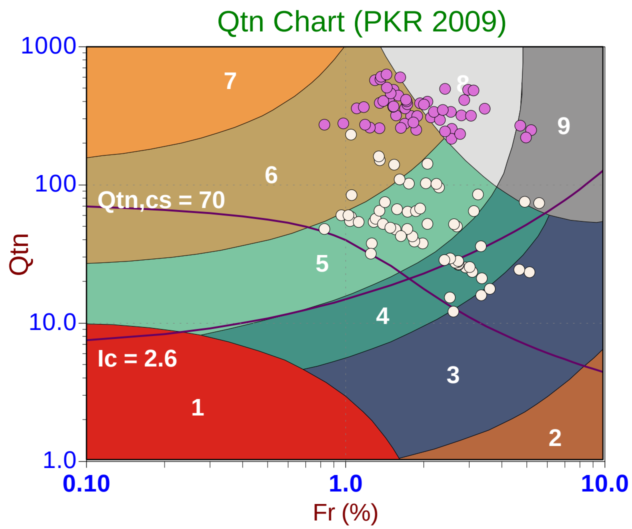
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

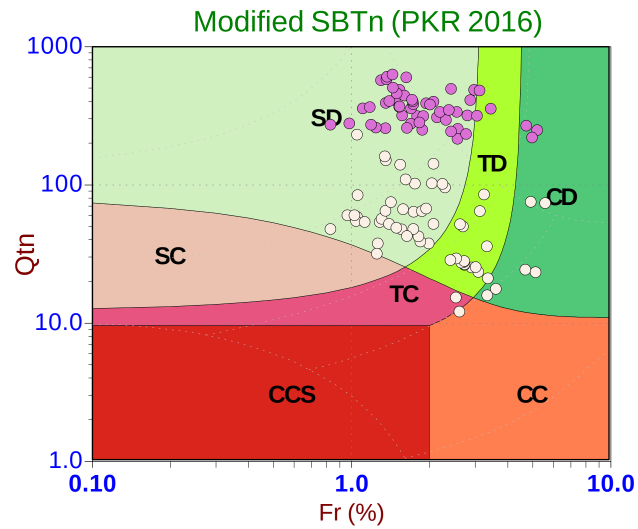
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

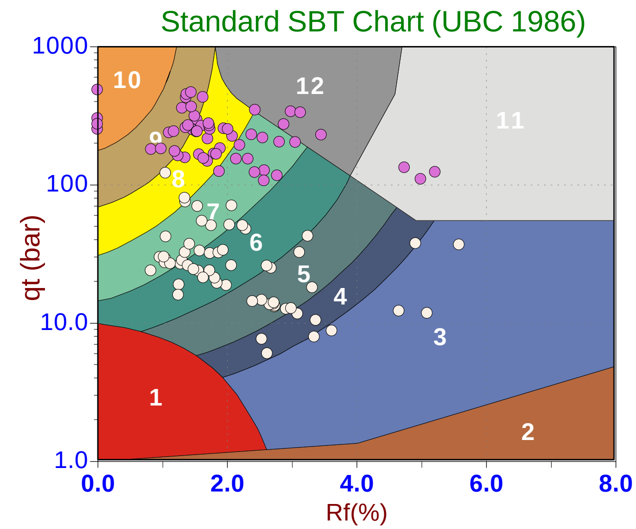
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 11:28
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-102
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

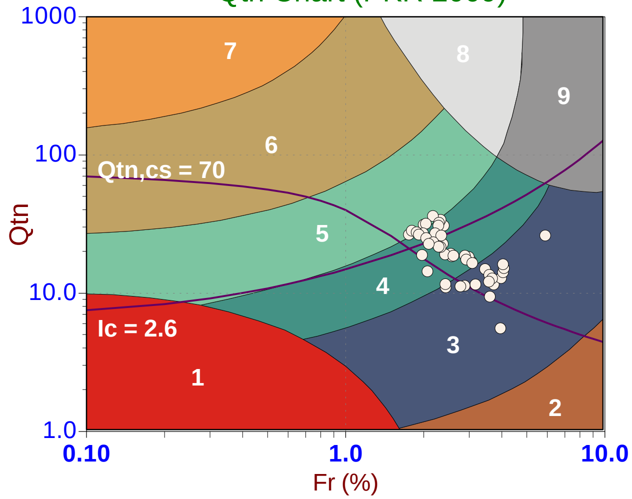
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

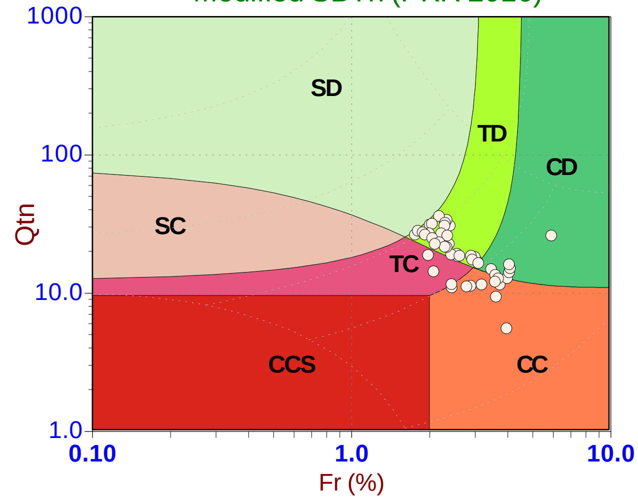
CONETEC

CME Associates	Job No: 23-53-26729	Sounding: CPT23-B-104
	Date: 2023-10-24 12:09	Cone: 604:T1500F15U35
	Site: Proposed Micron Plant, Clay, NY	

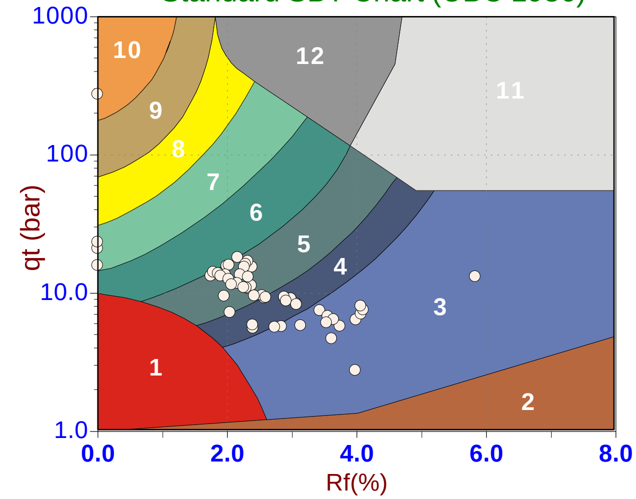
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

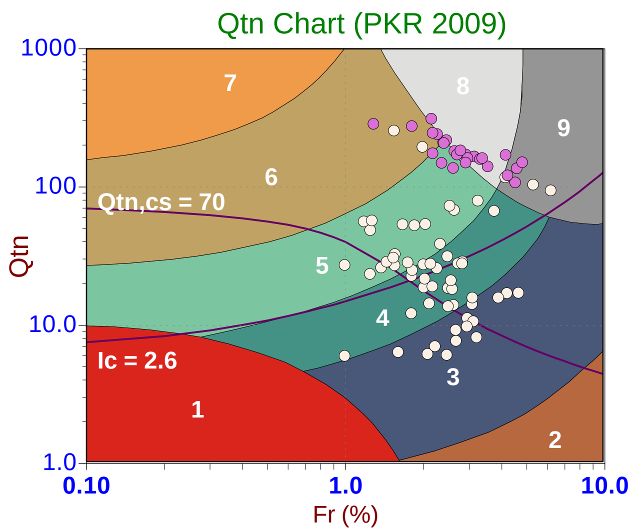
Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

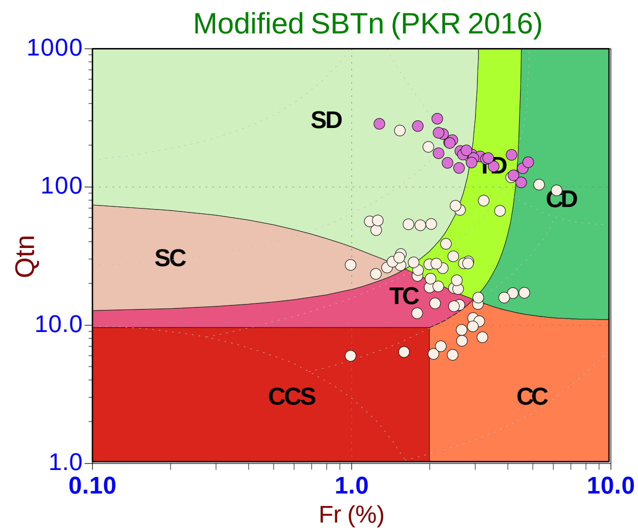
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

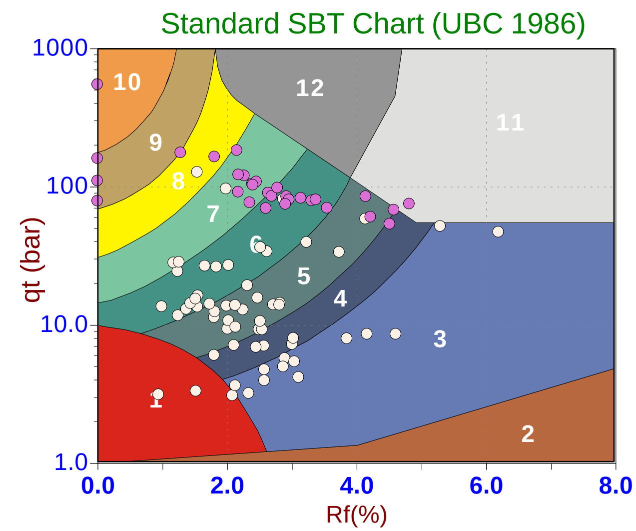
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 08:37
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-106
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

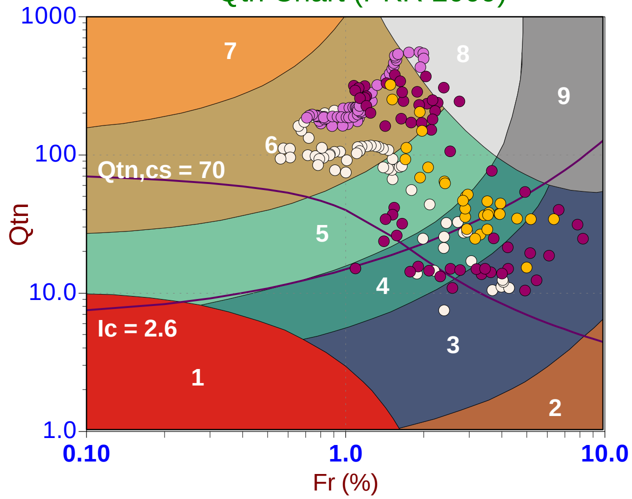
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

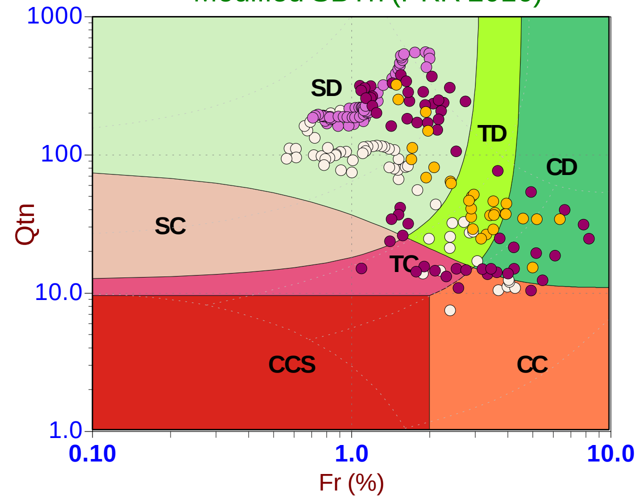
CME Associates

Job No: 23-53-26729
Date: 2023-10-25 08:35
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-107
Cone: 604:T1500F15U35

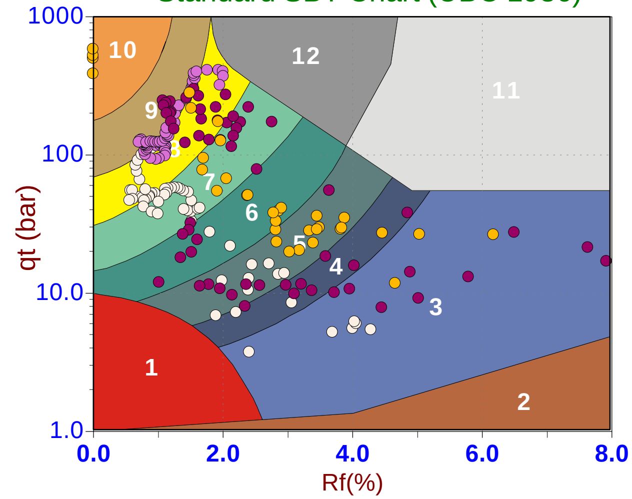
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

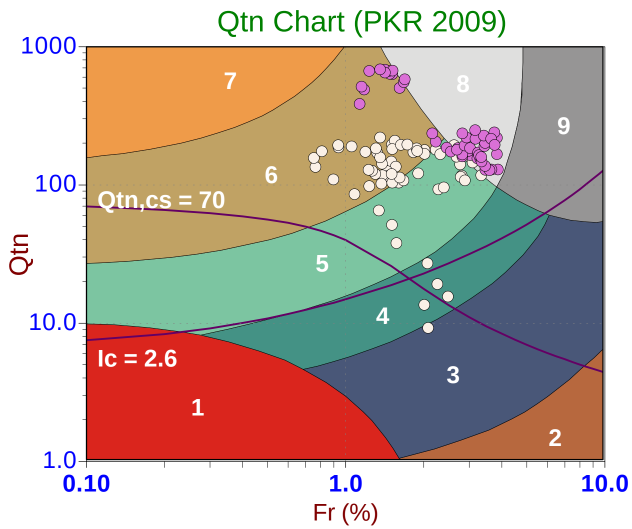
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

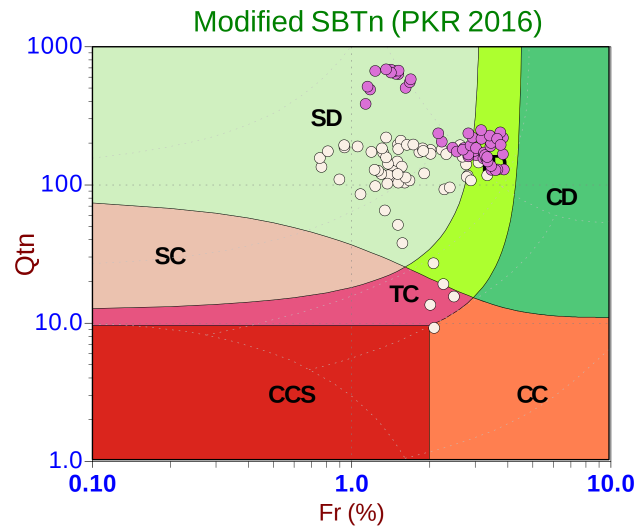
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

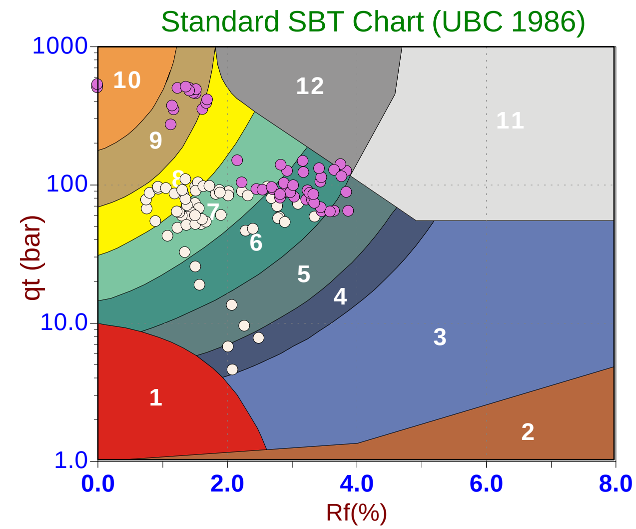
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 10:50
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-112
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

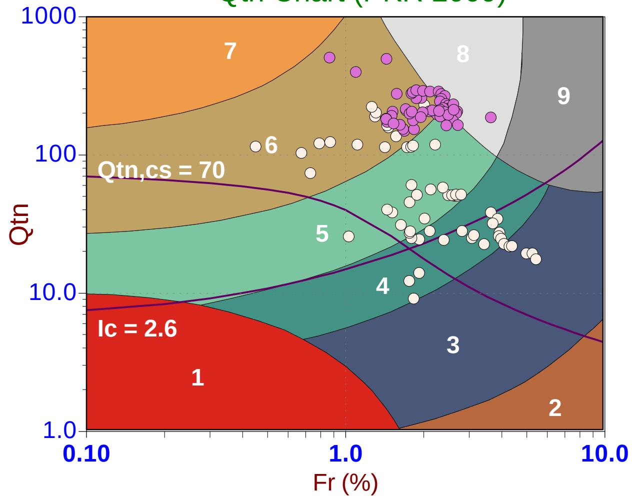
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

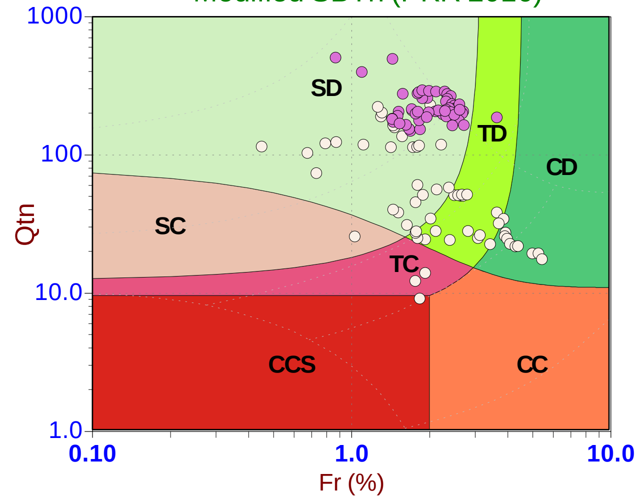
CME Associates

Job No: 23-53-26729
Date: 2023-10-24 09:36
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-113
Cone: 604:T1500F15U35

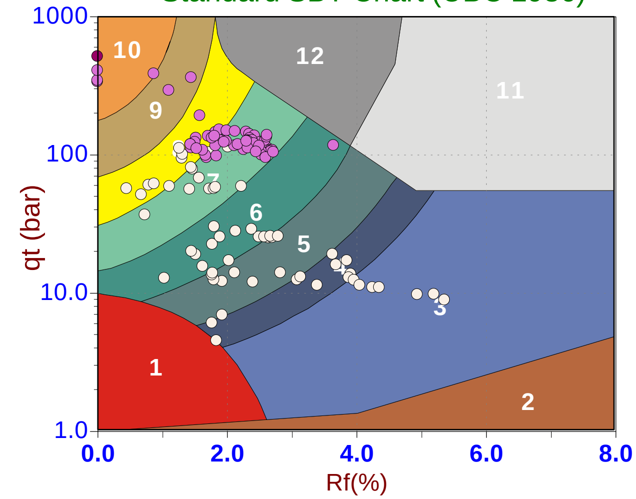
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

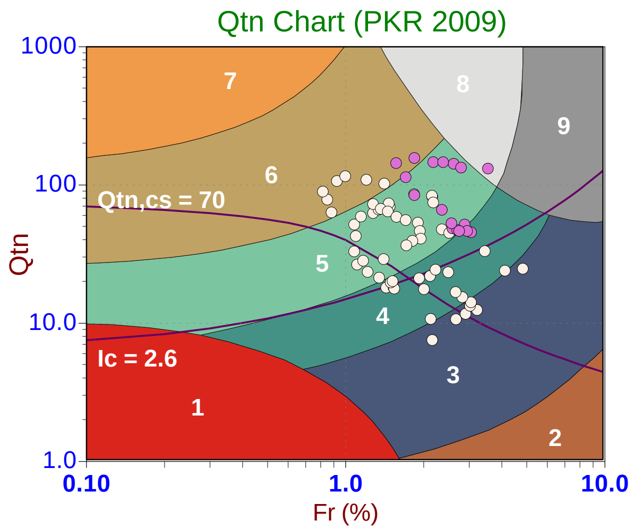
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

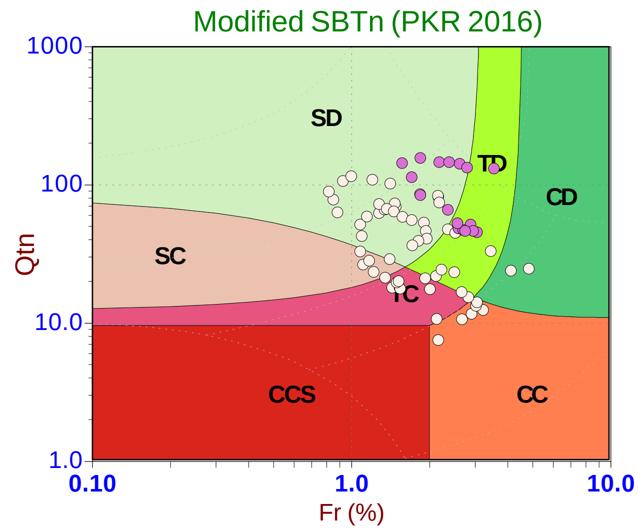
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

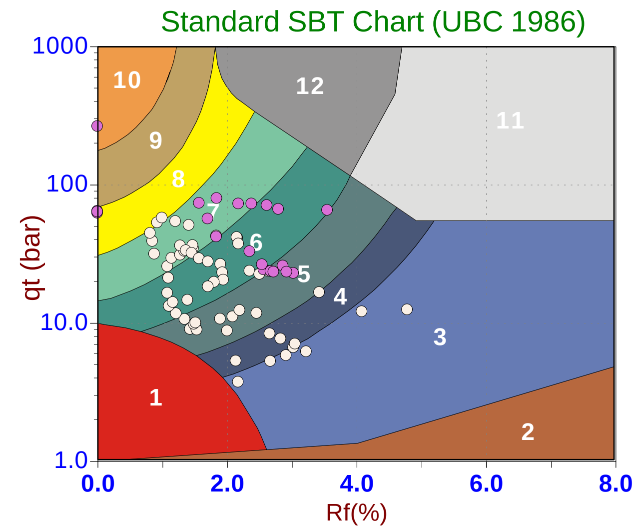
ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 09:03
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-115
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

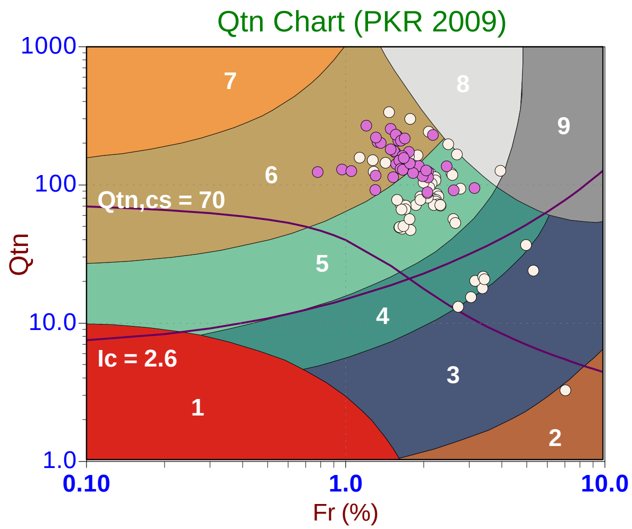
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

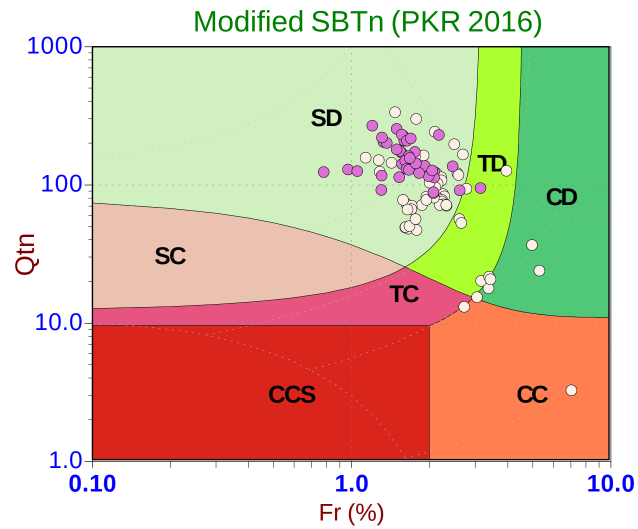
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

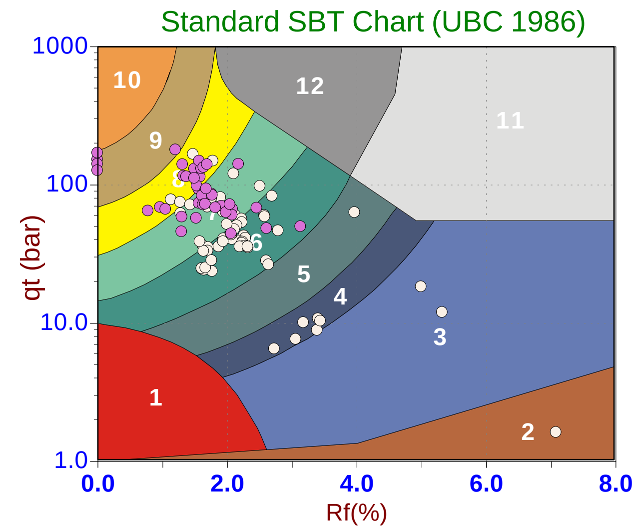
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-24 10:14
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-120
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

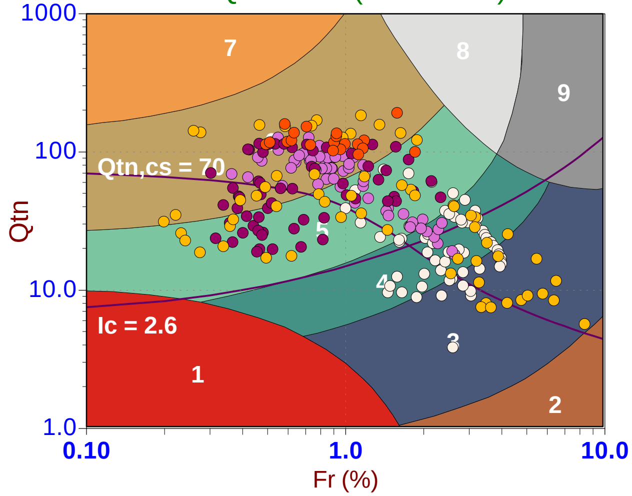
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

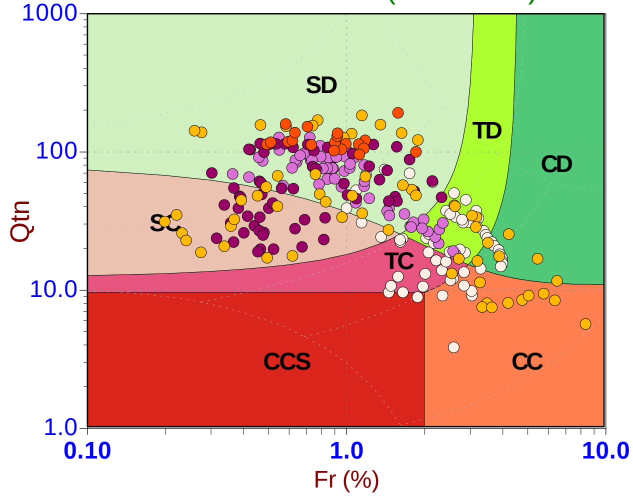
CME Associates

Job No: 23-53-26729
Date: 2023-10-27 14:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-208
Cone: 606:T1500F15U35

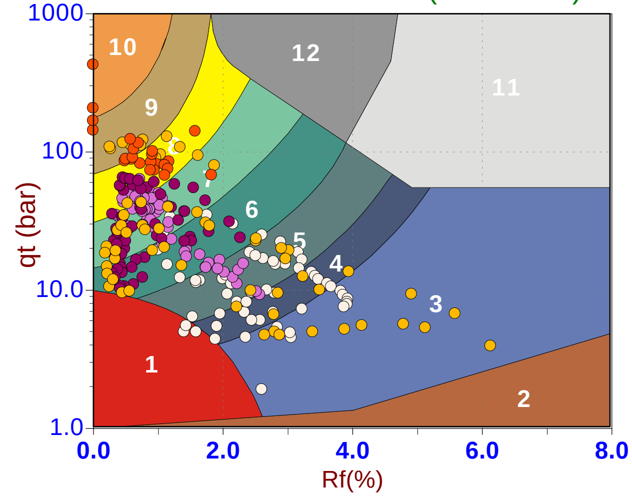
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

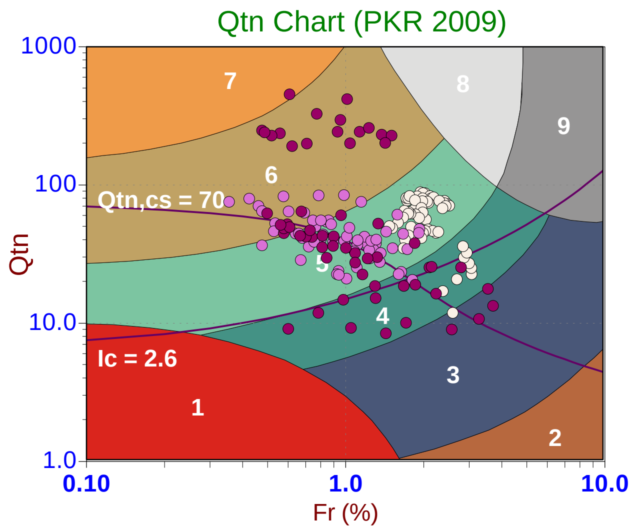
Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

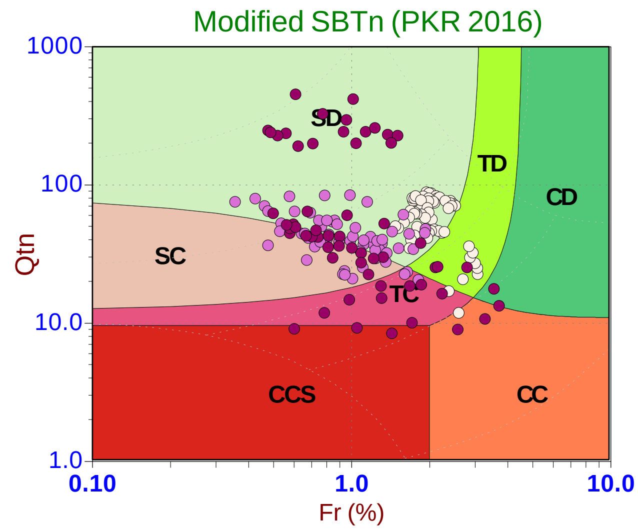
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

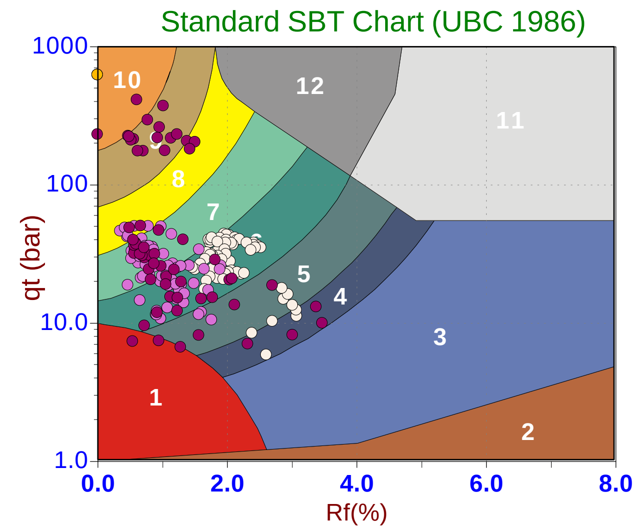
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

CME Associates	Job No: 23-53-26729	Sounding: CPT23-B-221
	Date: 2023-10-27 10:44	Cone: 606:T1500F15U35
	Site: Proposed Micron Plant, Clay, NY	







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

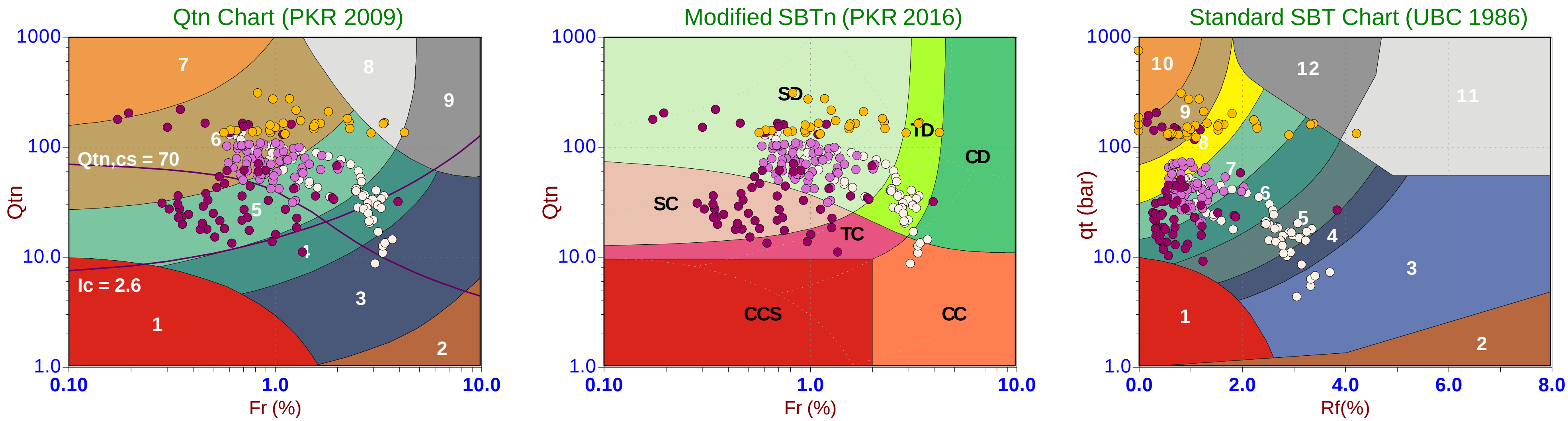
Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 11:16
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-222
Cone: 606:T1500F15U35



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

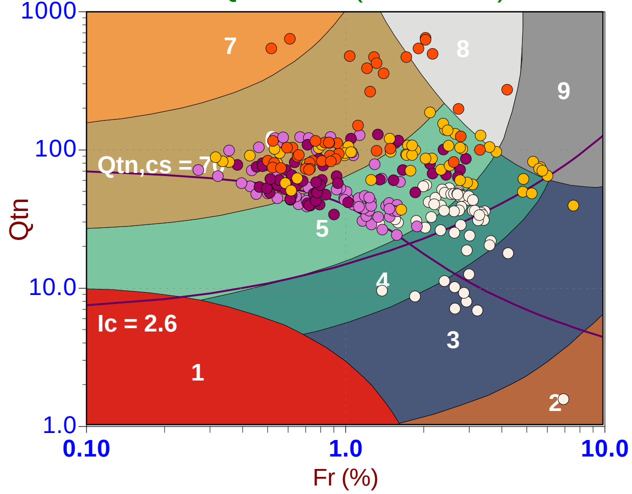
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

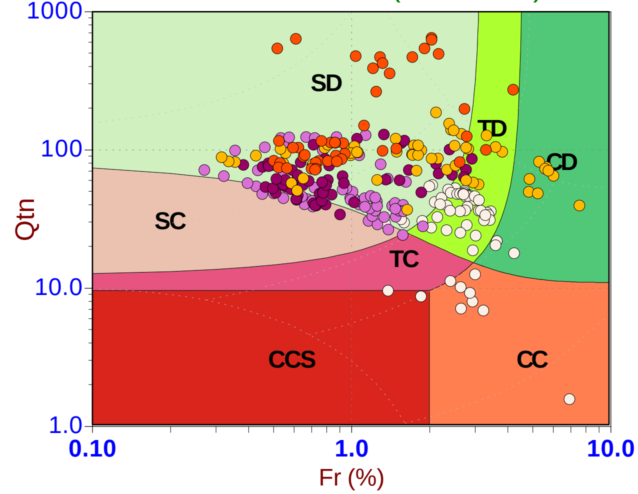
CME Associates

Job No: 23-53-26729
Date: 2023-10-27 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-225
Cone: 606:T1500F15U35

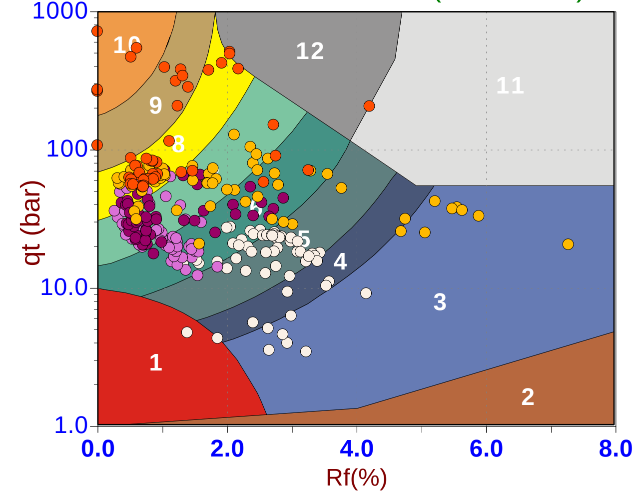
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

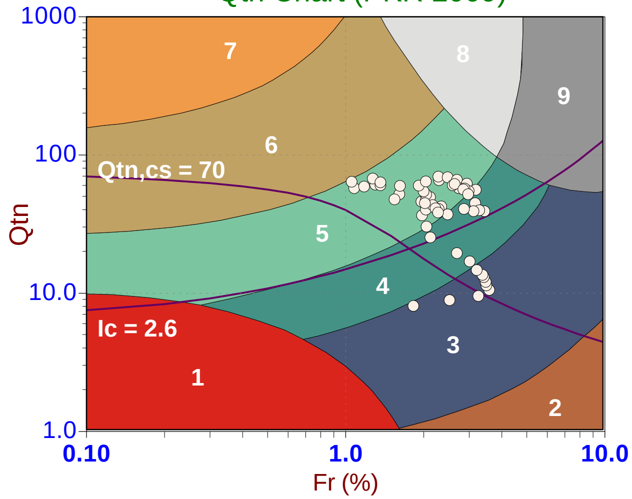
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

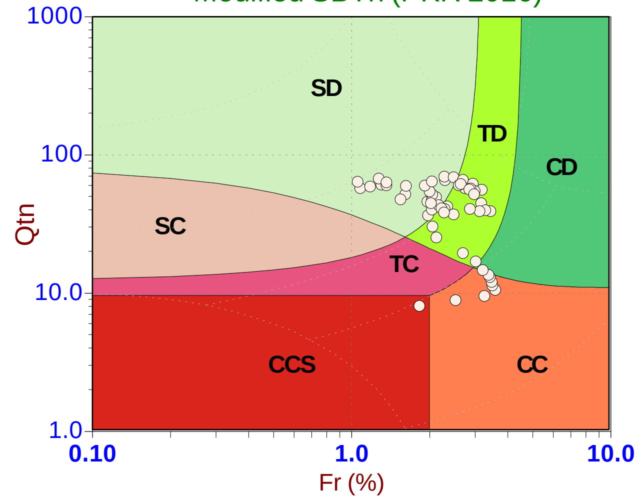
CME Associates

Job No: 23-53-26729
Date: 2023-10-27 12:08
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228
Cone: 606:T1500F15U35

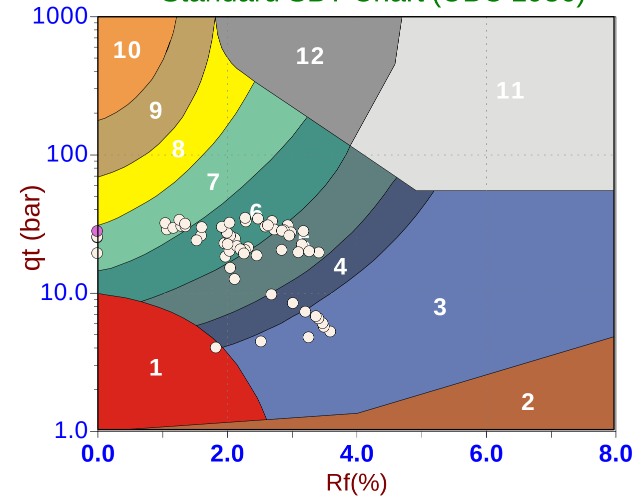
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

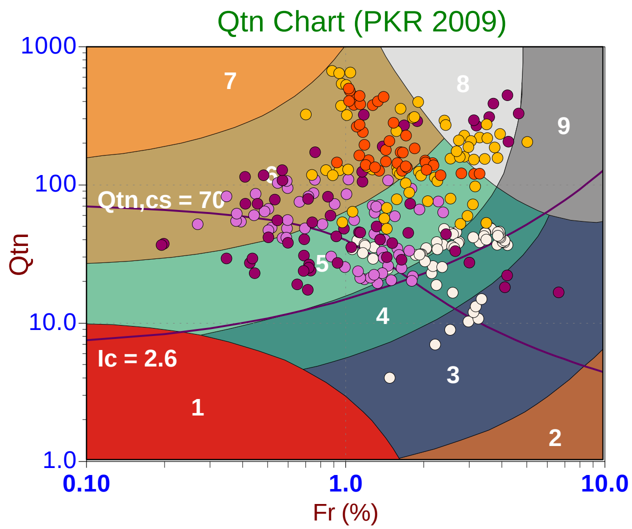
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

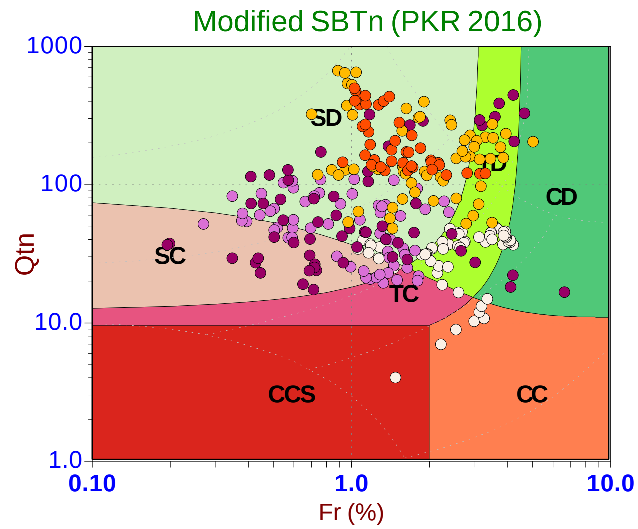
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

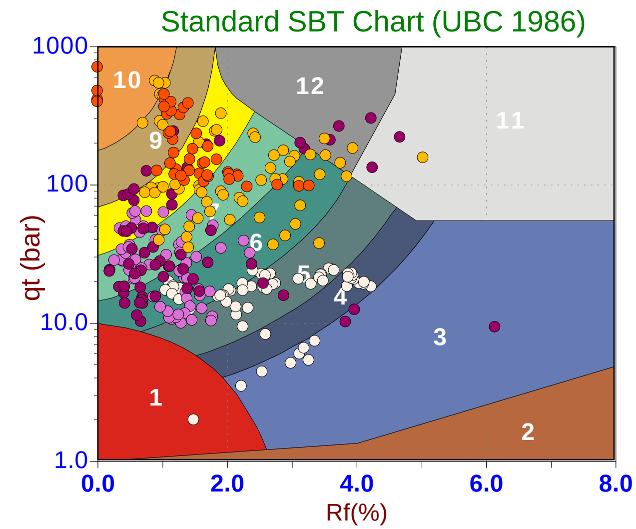
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 13:08
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-228A
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

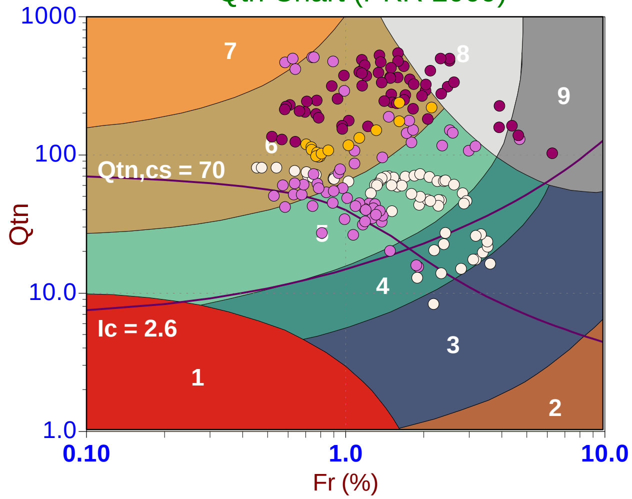
CONETEC

CME Associates

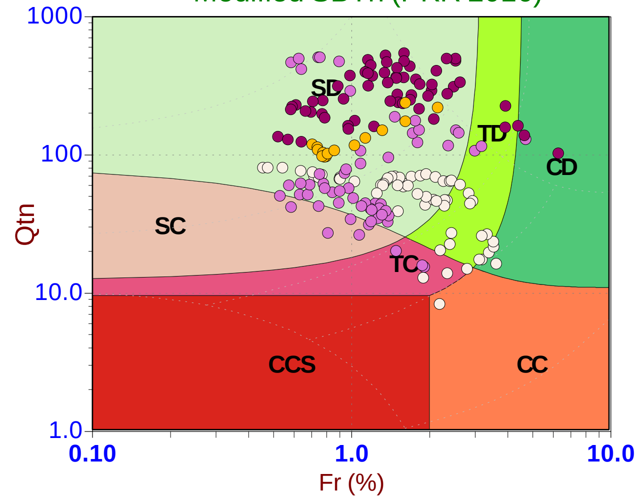
Job No: 23-53-26729
Date: 2023-10-27 09:53
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-237
Cone: 606:T1500F15U35

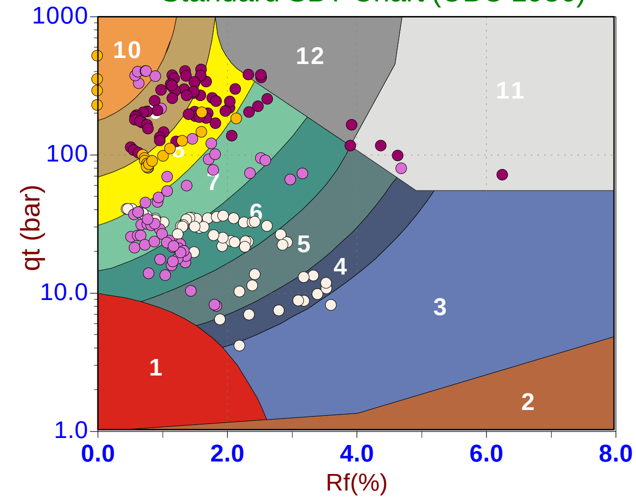
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

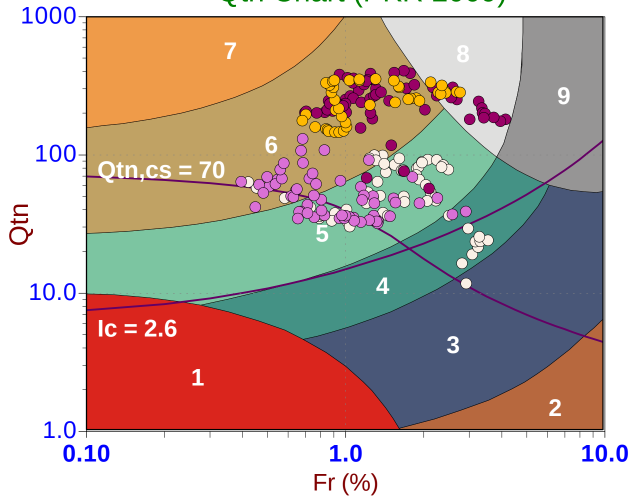
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

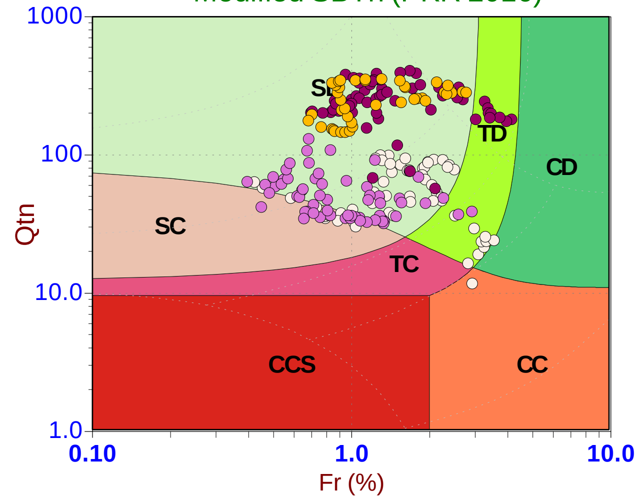
CME Associates

Job No: 23-53-26729
Date: 2023-10-27 10:16
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-238
Cone: 606:T1500F15U35

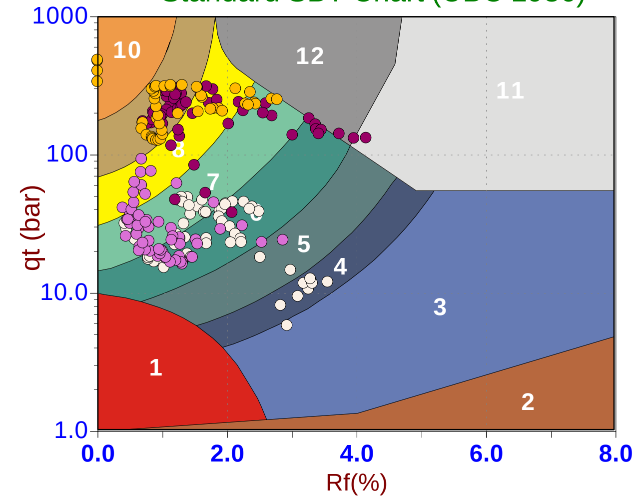
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

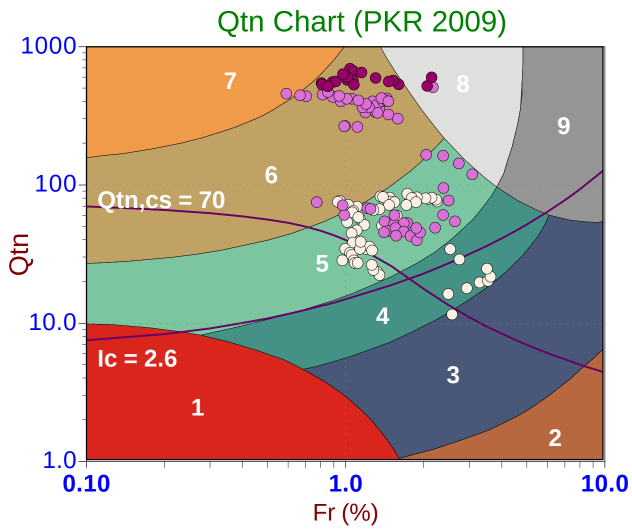
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

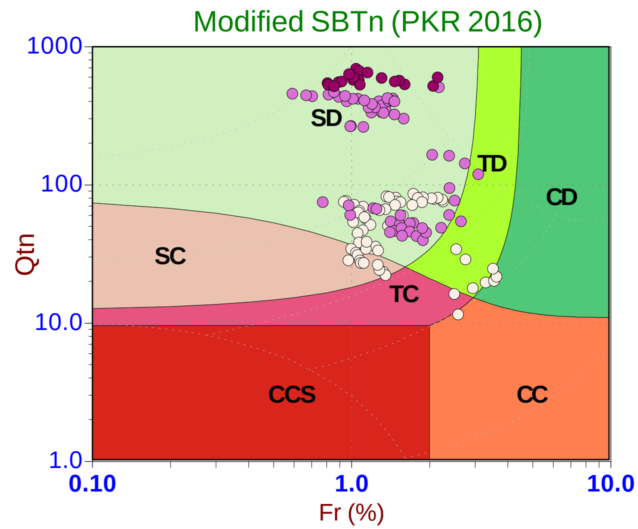
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

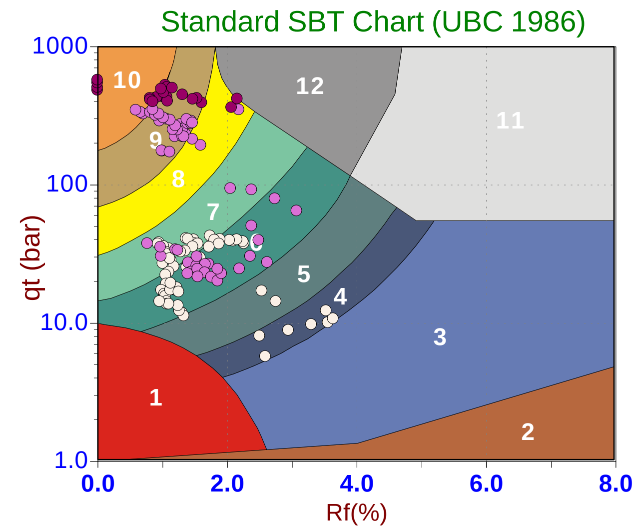
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 07:33
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-243
Cone: 604:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

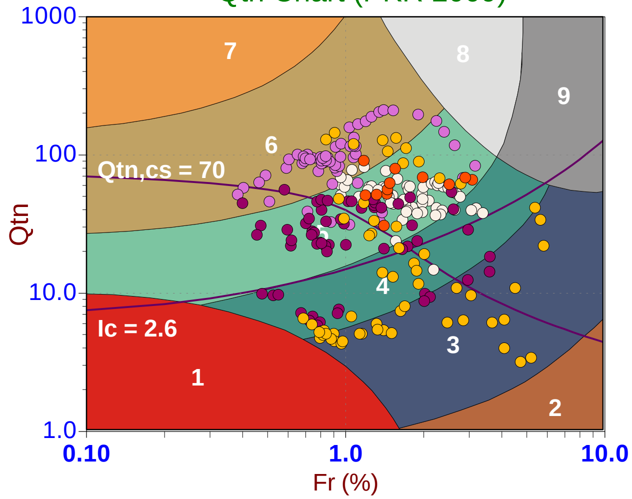
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

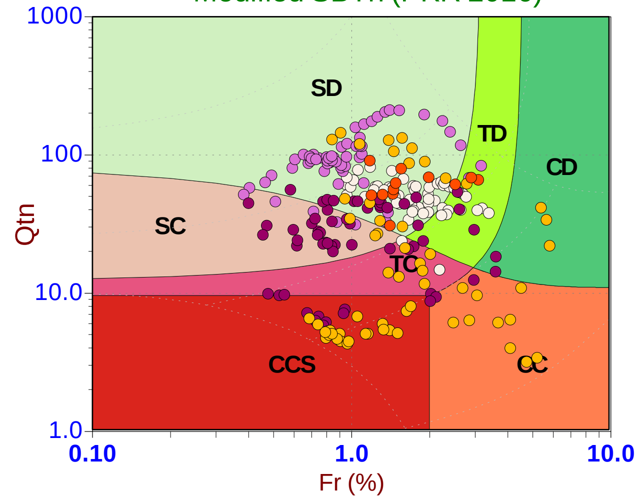
CME Associates

Job No: 23-53-26729
Date: 2023-10-26 09:50
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-244
Cone: 604:T1500F15U35

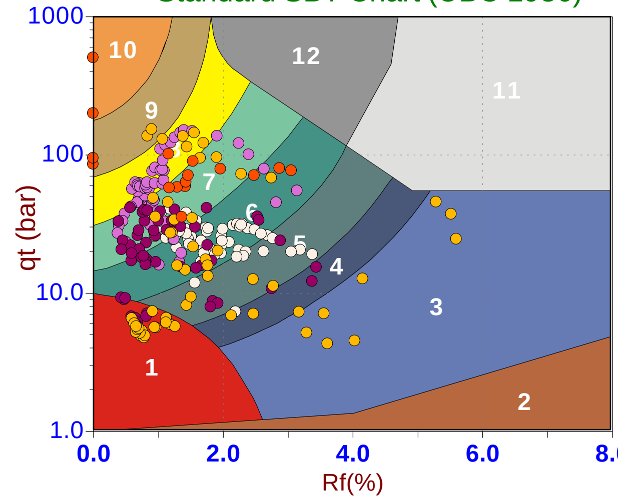
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

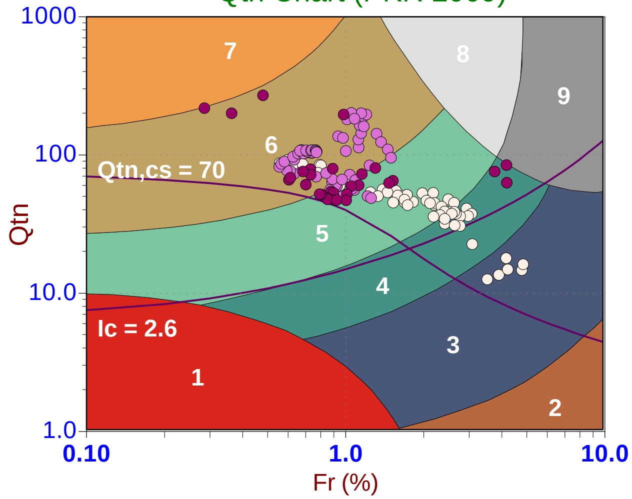
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

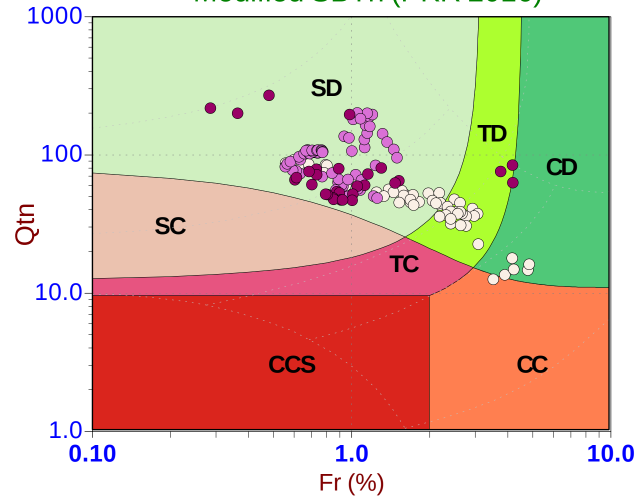
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

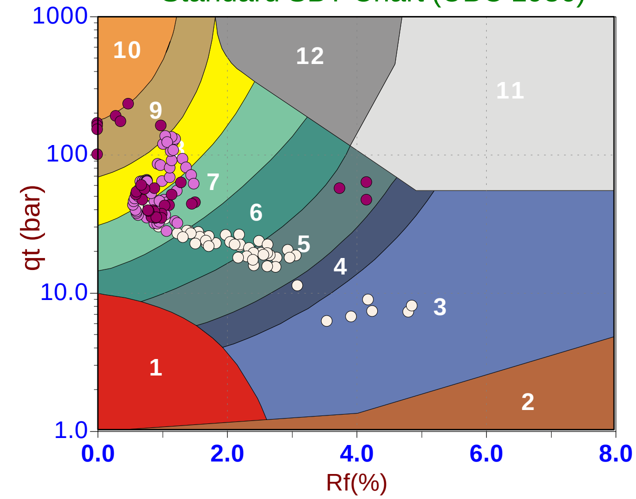
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 11:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-246
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

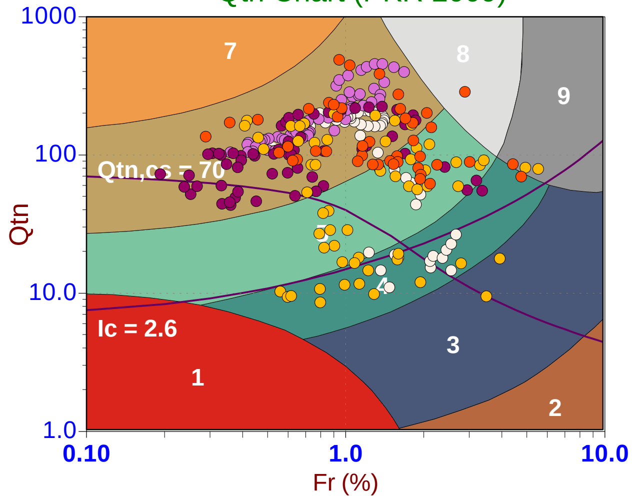
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

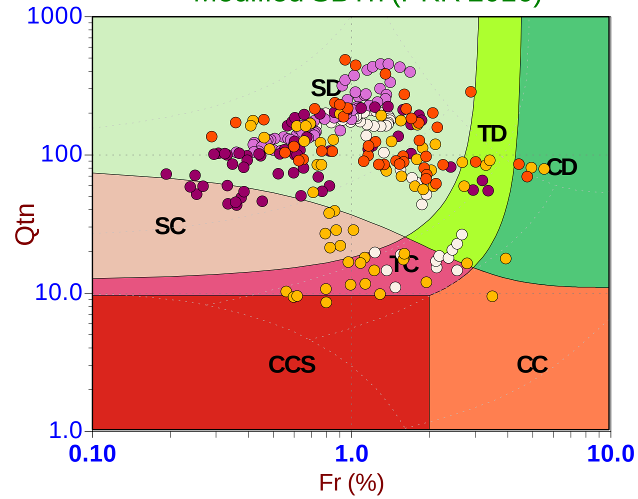
CME Associates

Job No: 23-53-26729
Date: 2023-10-26 12:00
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-252
Cone: 606:T1500F15U35

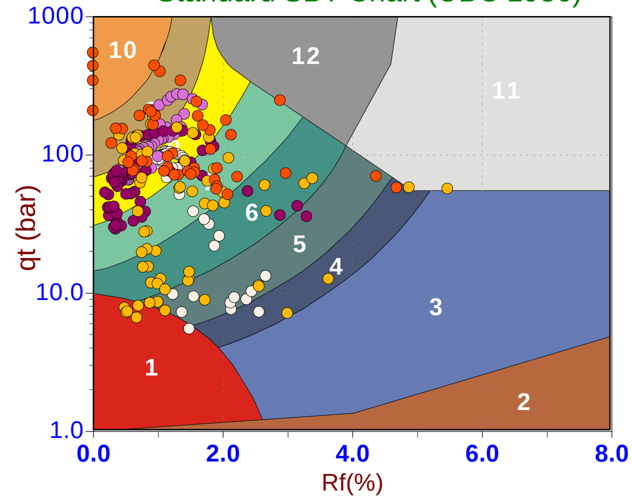
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

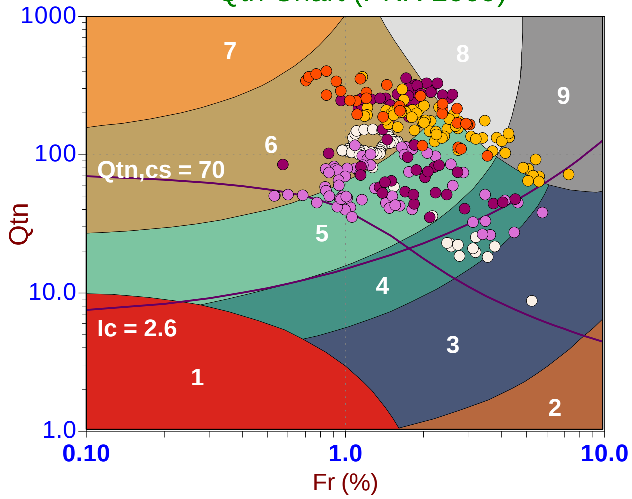
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

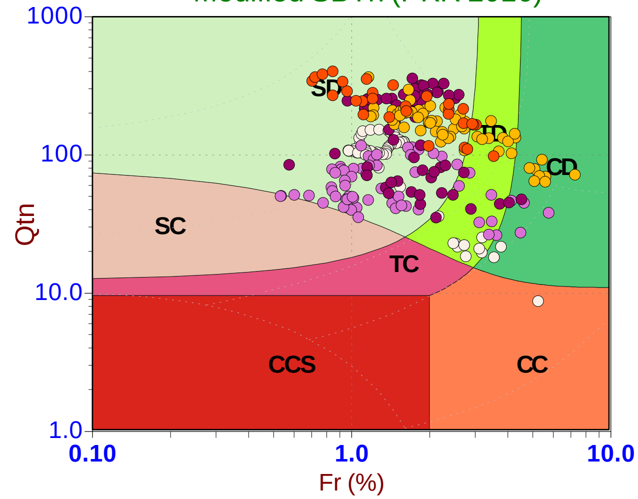
CME Associates

Job No: 23-53-26729
Date: 2023-10-26 12:47
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-261
Cone: 606:T1500F15U35

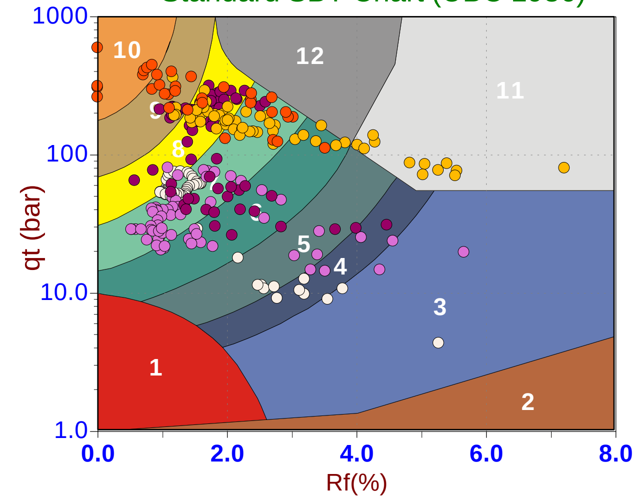
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

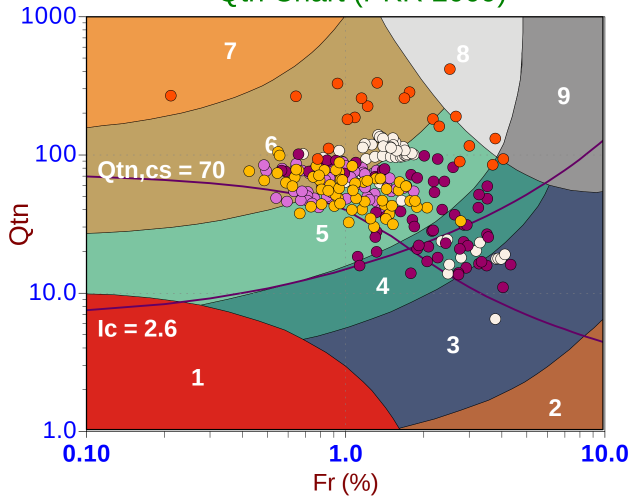
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

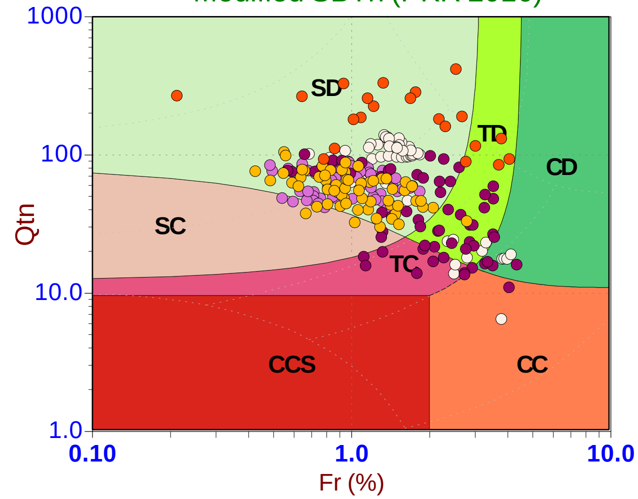
CME Associates

Job No: 23-53-26729
Date: 2023-10-26 15:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-262
Cone: 606:T1500F15U35

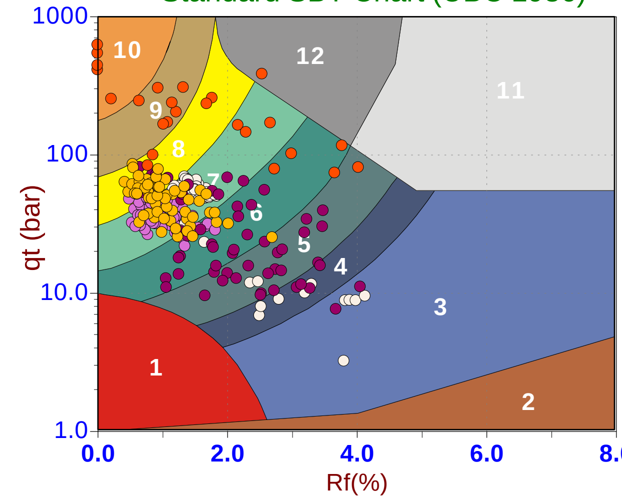
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

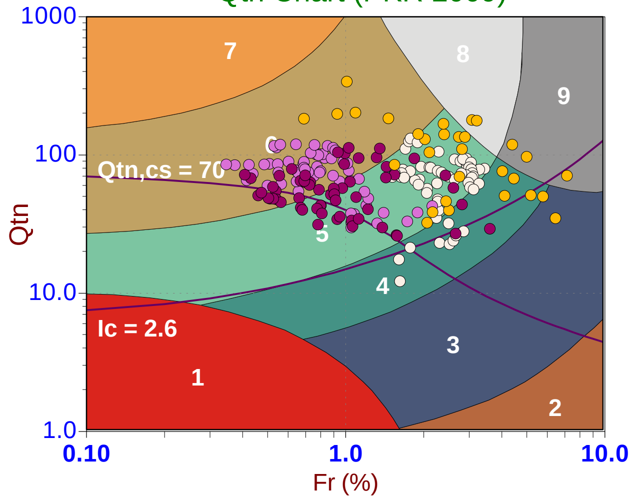
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

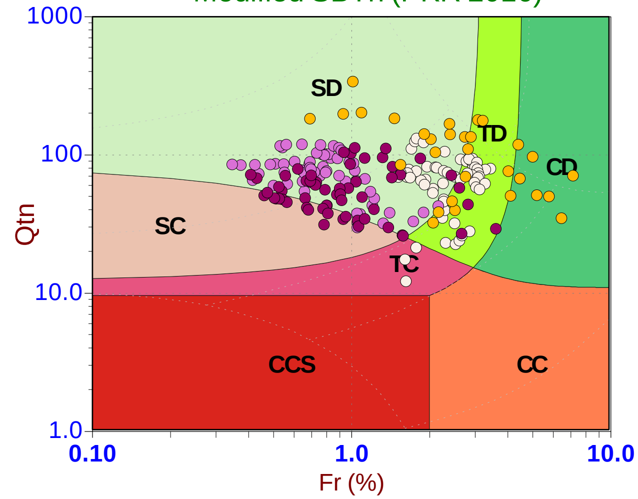
CME Associates

Job No: 23-53-26729
Date: 2023-10-26 13:48
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-270
Cone: 606:T1500F15U35

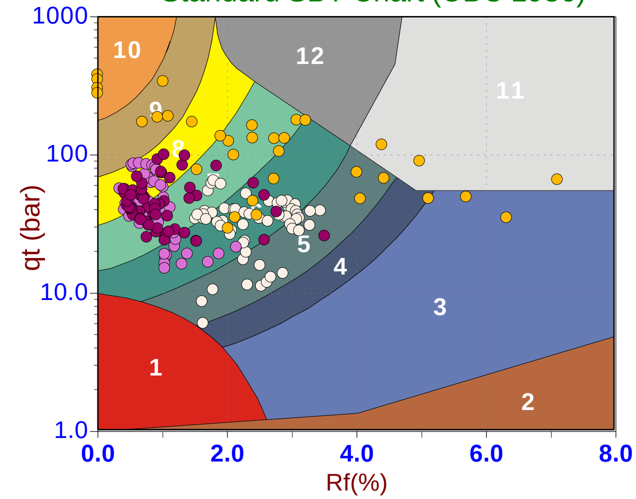
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

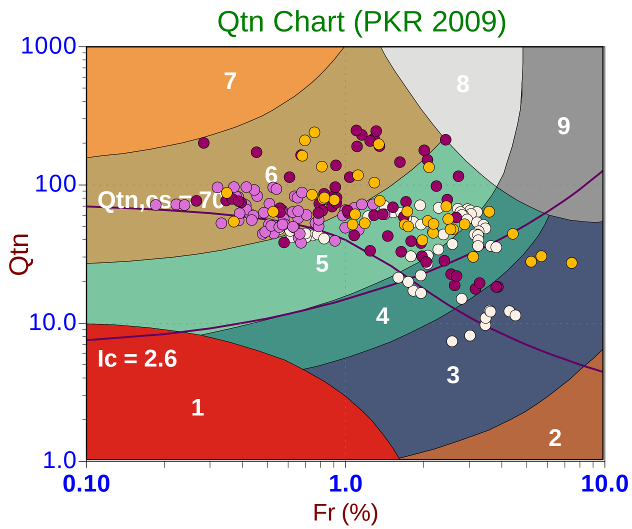
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

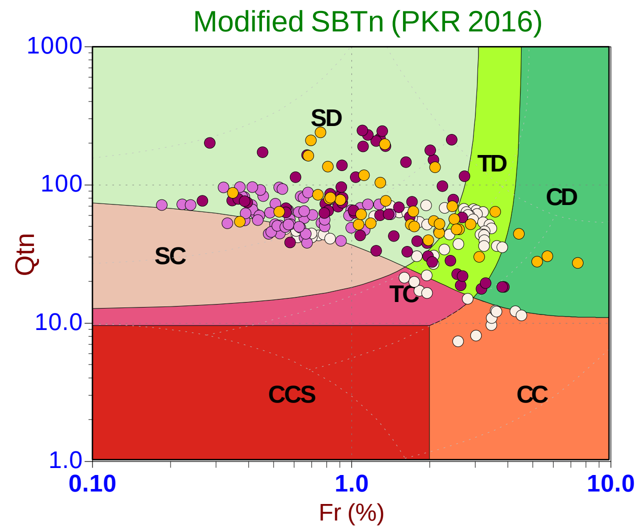
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

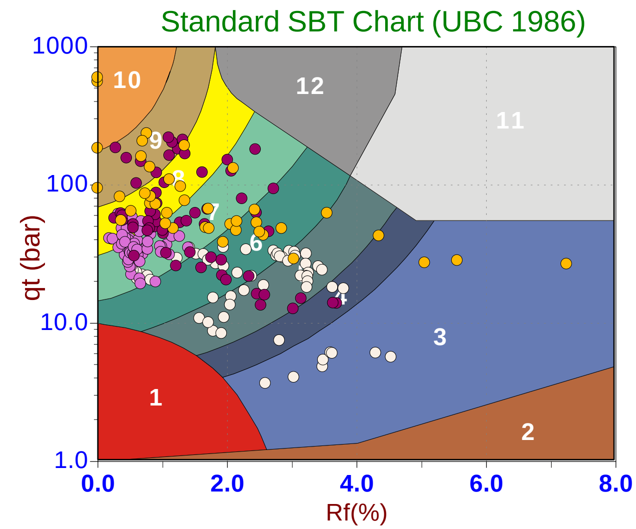
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-26 14:26
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-280
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

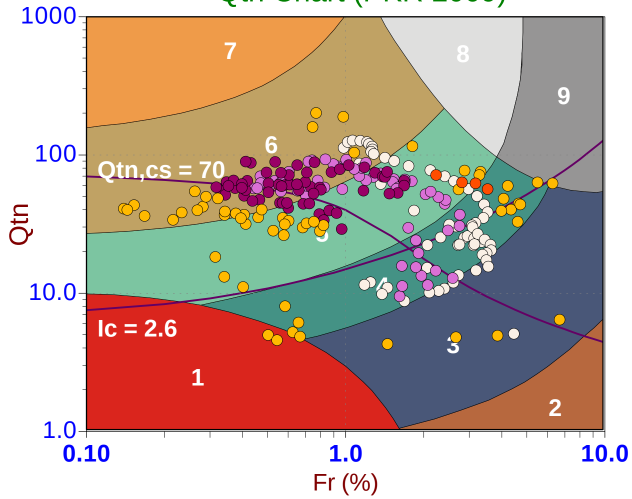
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

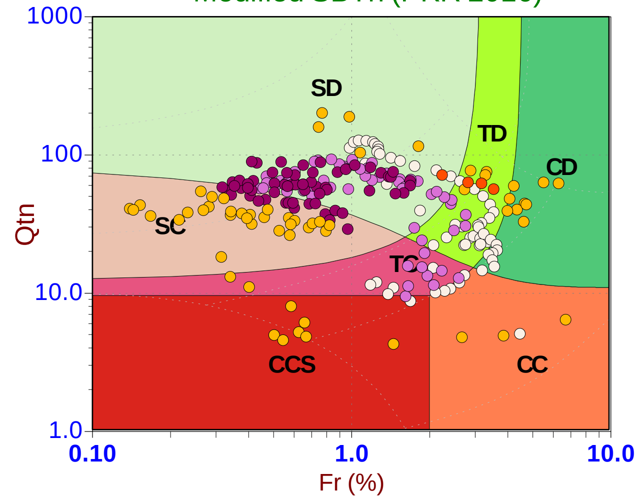
CME Associates

Job No: 23-53-26729
Date: 2023-10-26 15:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-282
Cone: 606:T1500F15U35

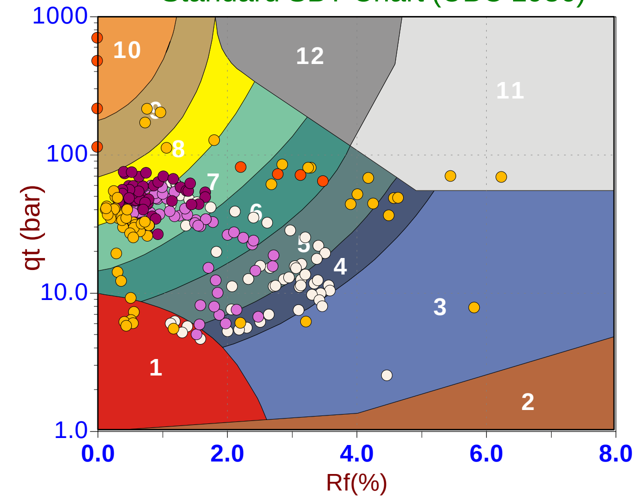
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

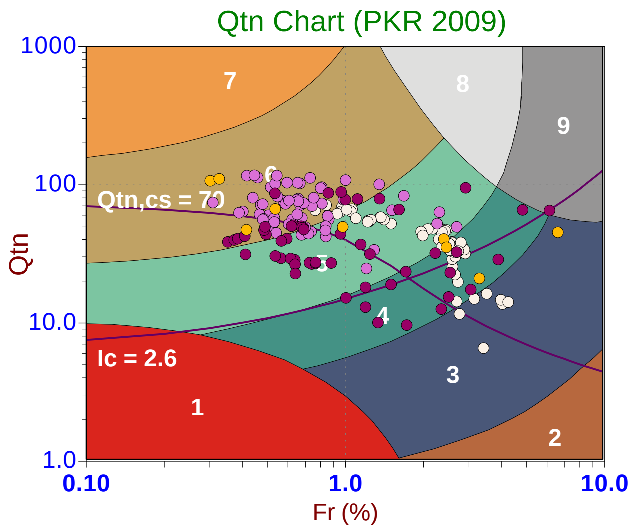
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

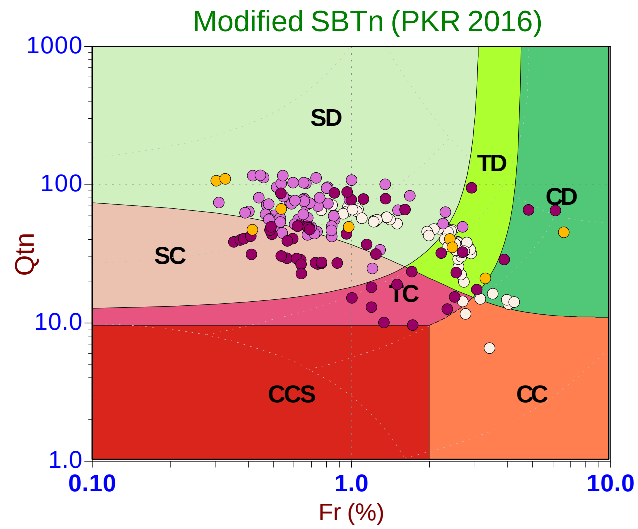
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

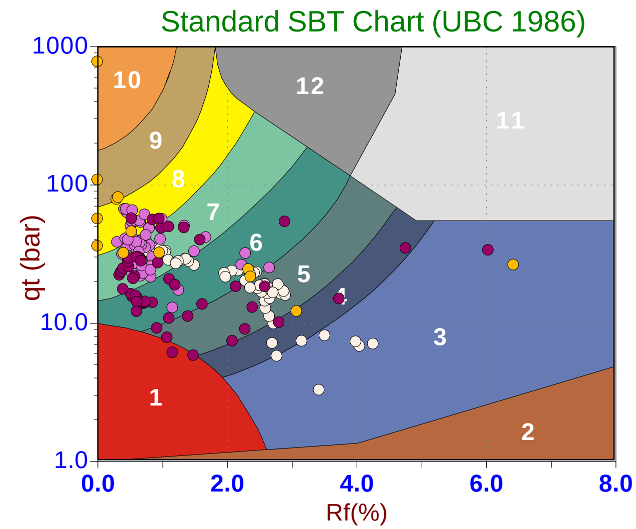
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 08:32
Site: Proposed Micron Plant, Clay, NY
Sounding: SCPT23-B-293
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

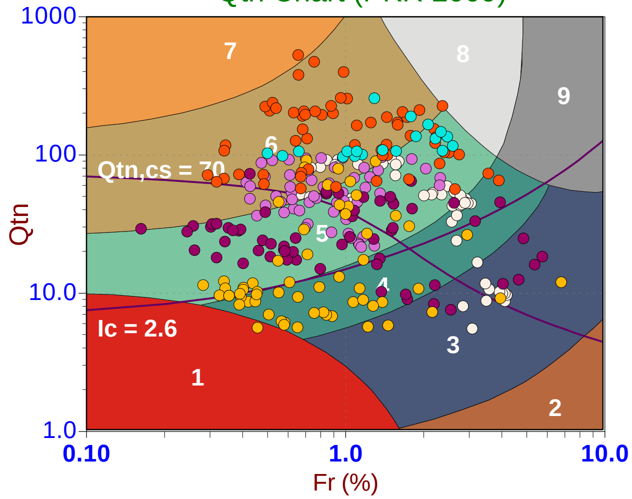
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

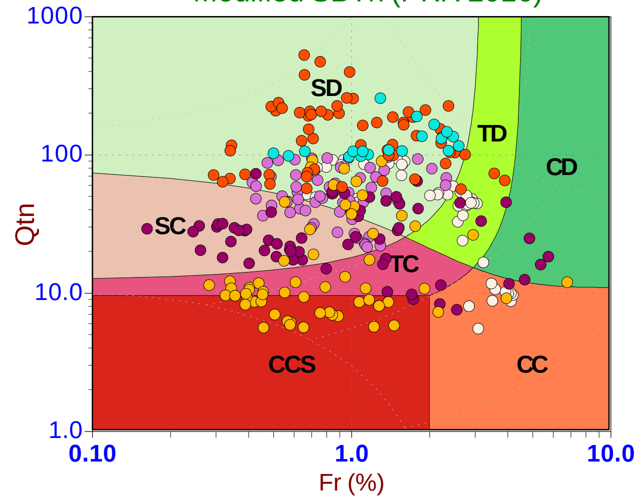
CME Associates

Job No: 23-53-26729
Date: 2023-10-26 08:32
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-312
Cone: 604:T1500F15U35

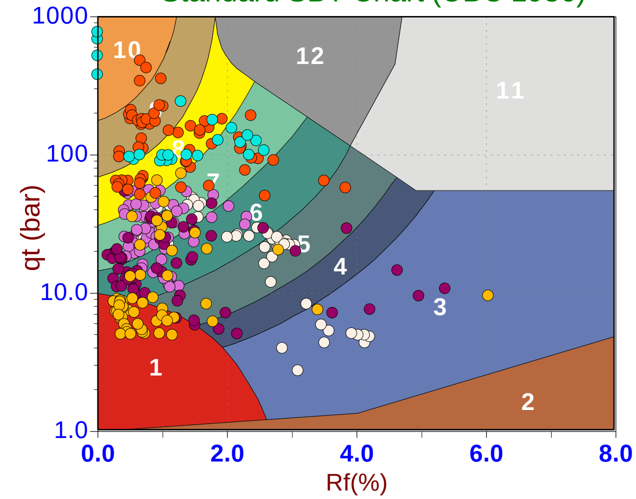
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

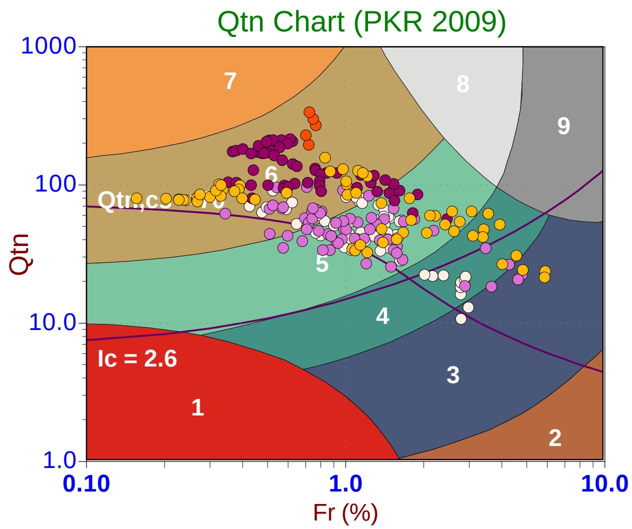
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

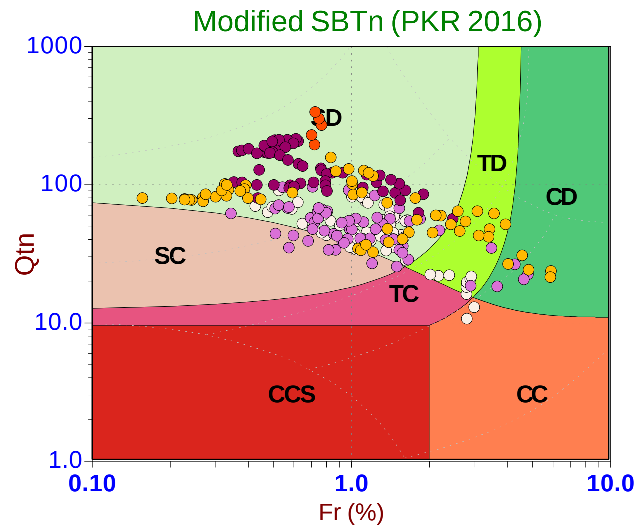
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

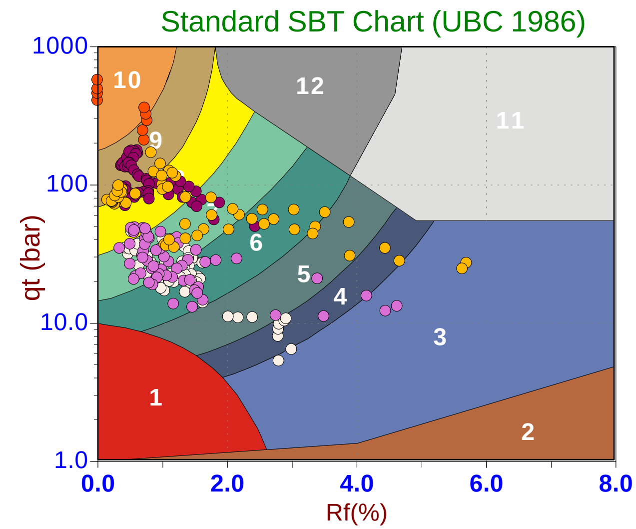
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 11:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-325
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

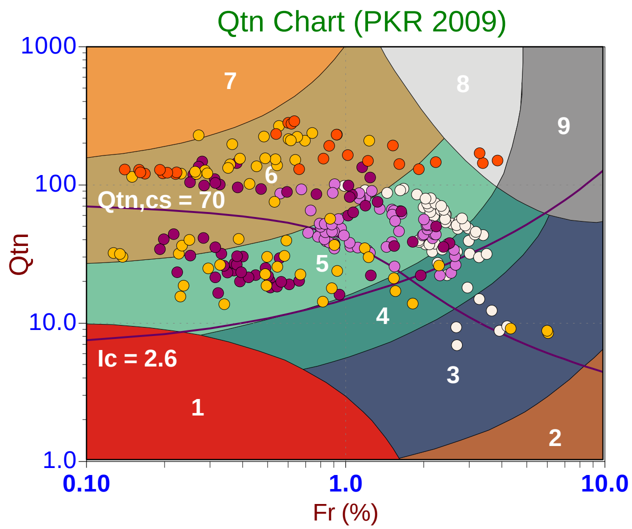
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

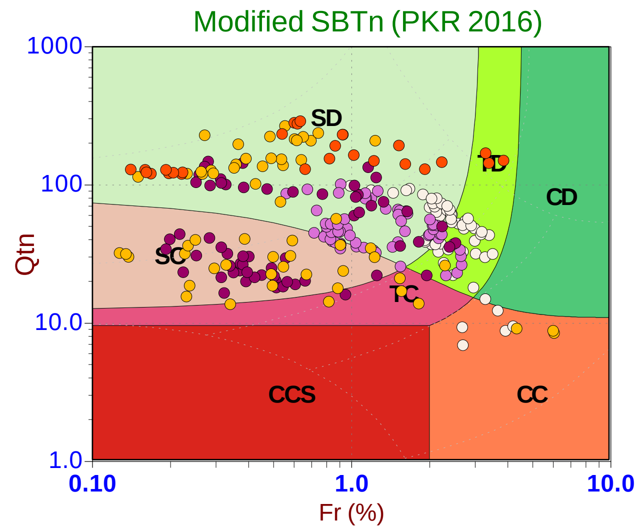
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

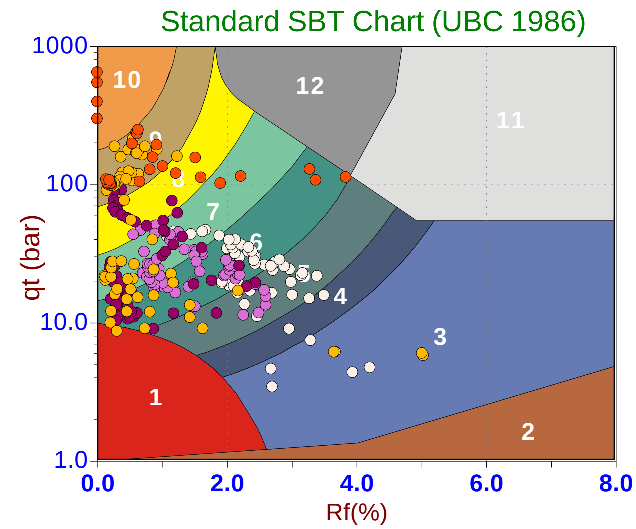
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 10:06
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-327
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

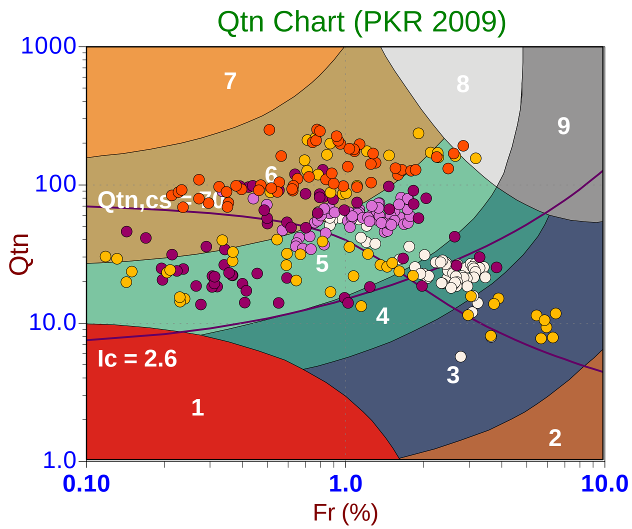
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

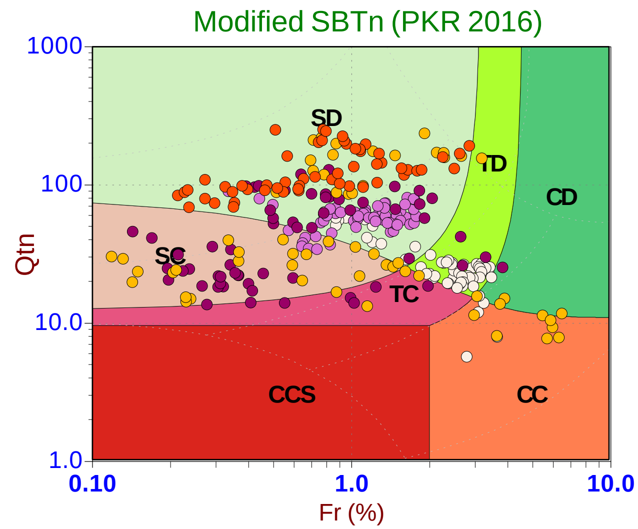
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

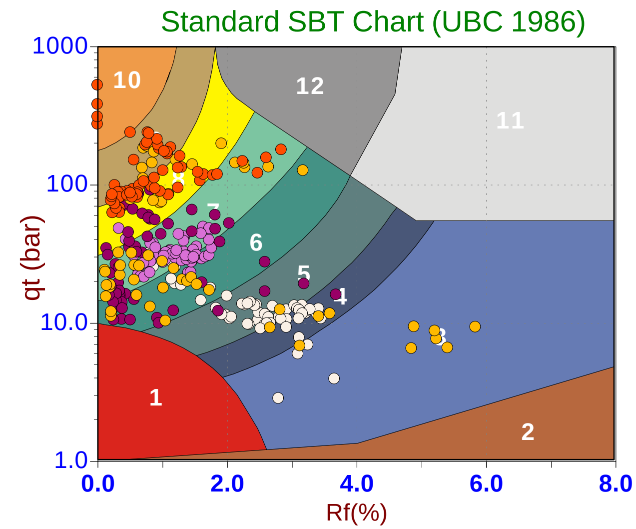
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 09:35
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-329
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

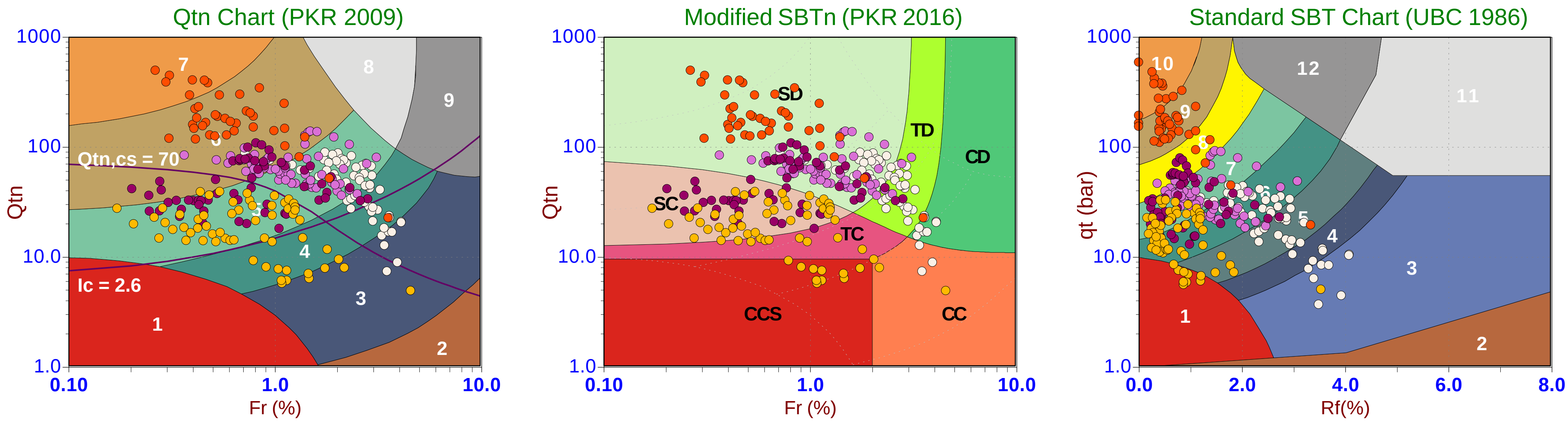
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 08:46
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-330
Cone: 606:T1500F15U35



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

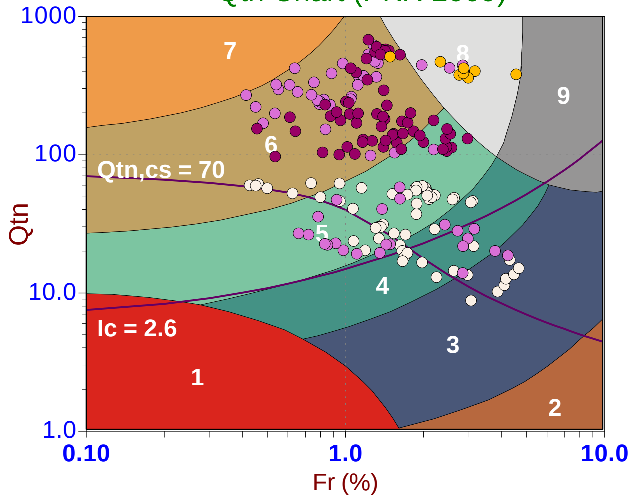
ConeTec

CME Associates

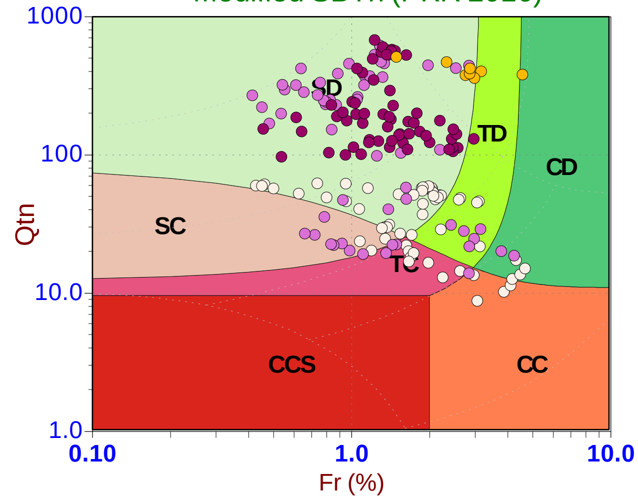
Job No: 23-53-26729
Date: 2023-10-28 07:24
Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-332
Cone: 606:T1500F15U35

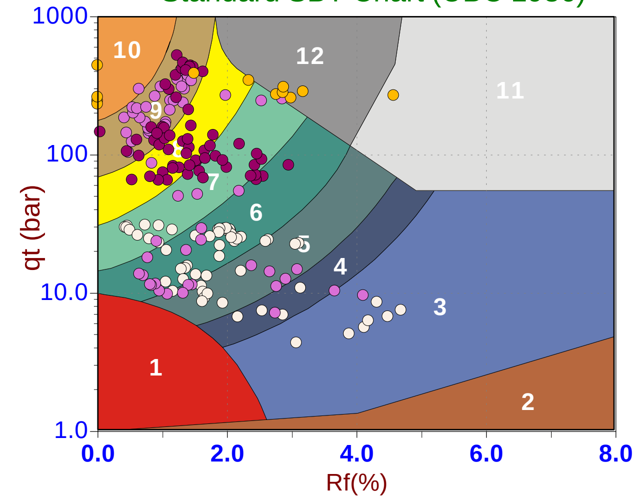
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

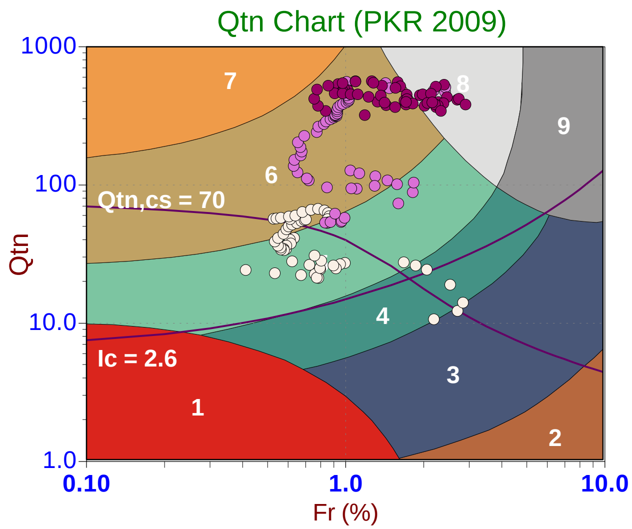
Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

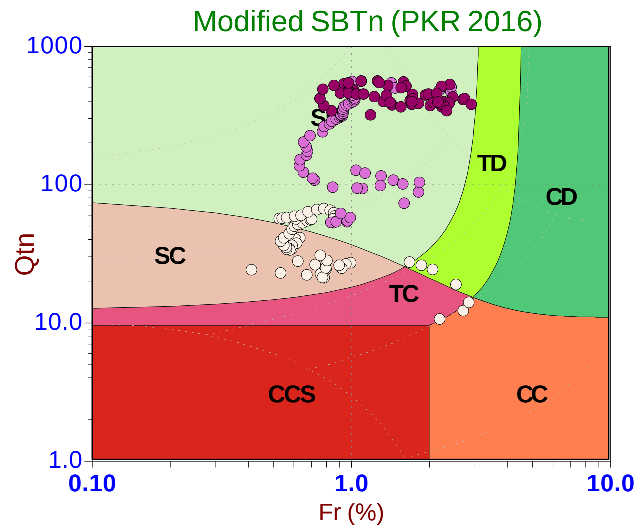
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

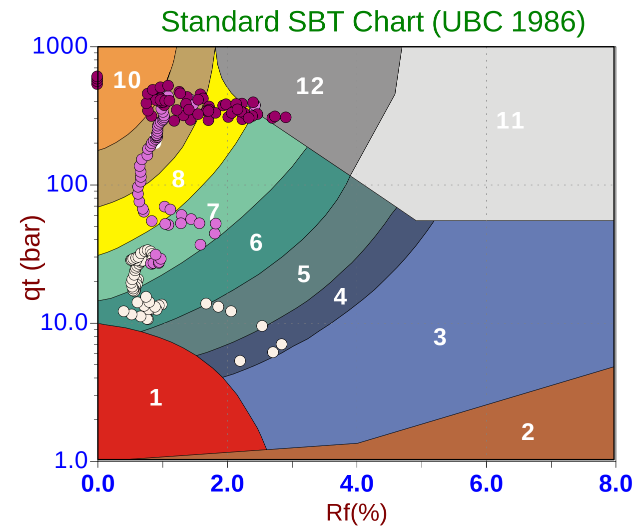
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 16:22
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-345
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

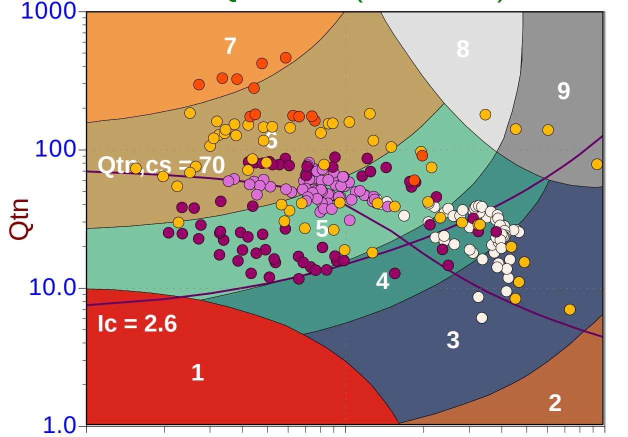
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

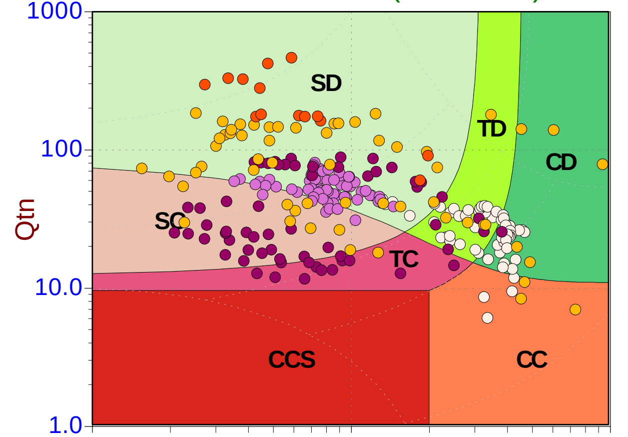
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

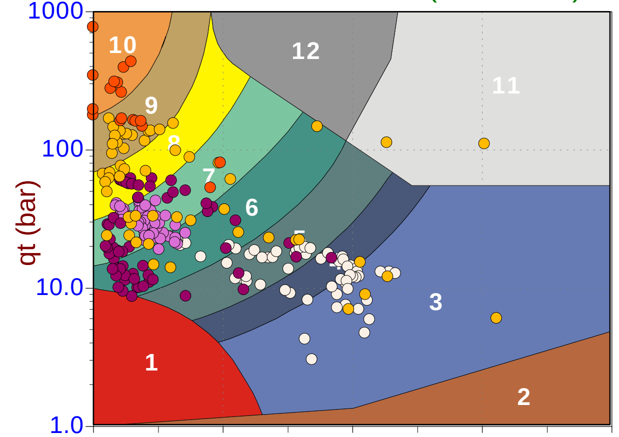
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-27 15:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-351
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

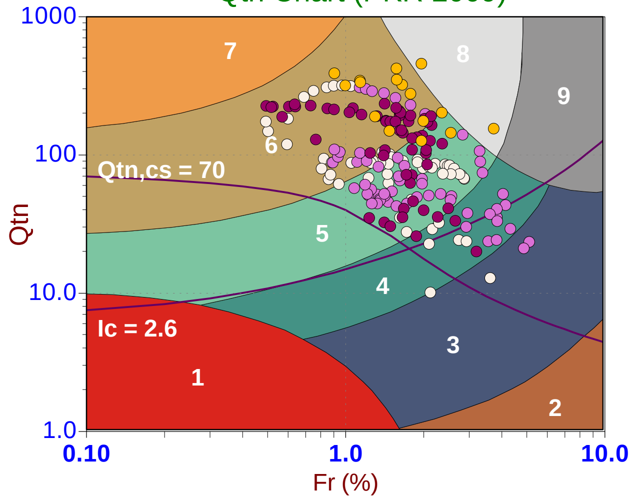
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

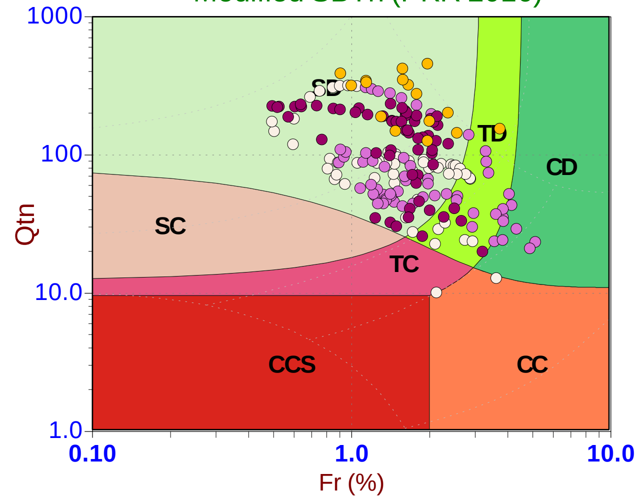
CME Associates

Job No: 23-53-26729
Date: 2023-10-28 15:41
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-360
Cone: 606:T1500F15U35

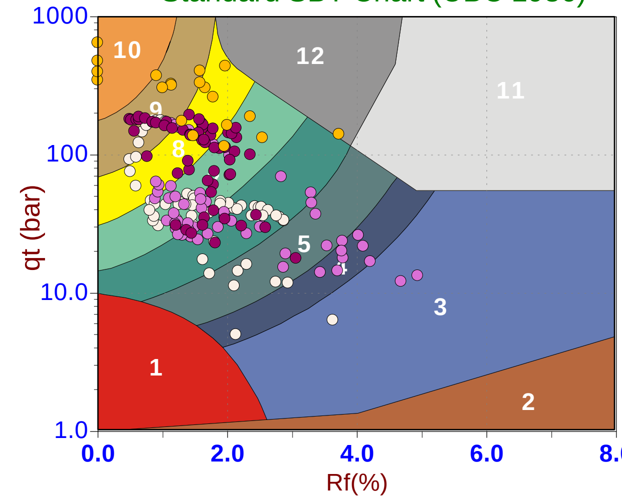
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

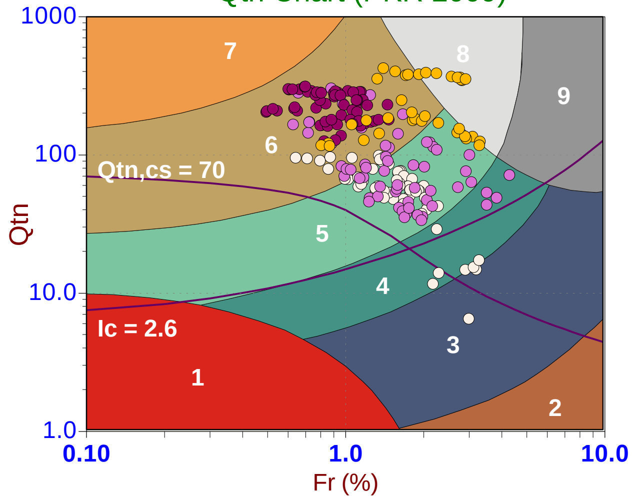
CONETEC

CME Associates

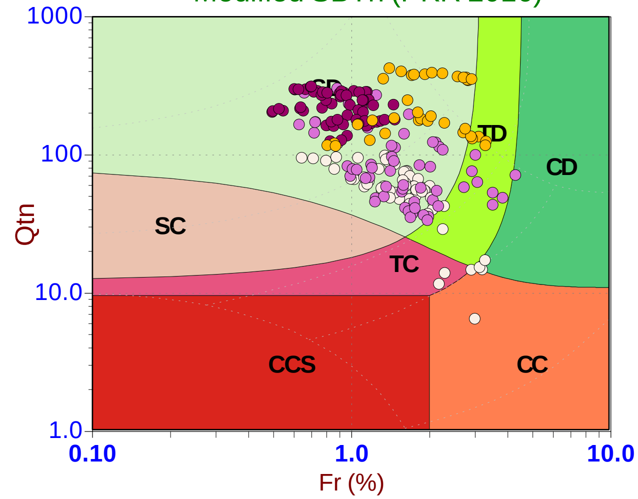
Job No: 23-53-26729
Date: 2023-10-28 15:11
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-362
Cone: 606:T1500F15U35

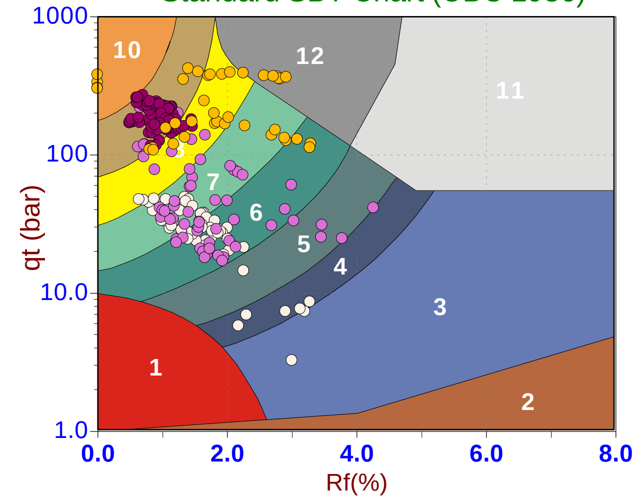
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

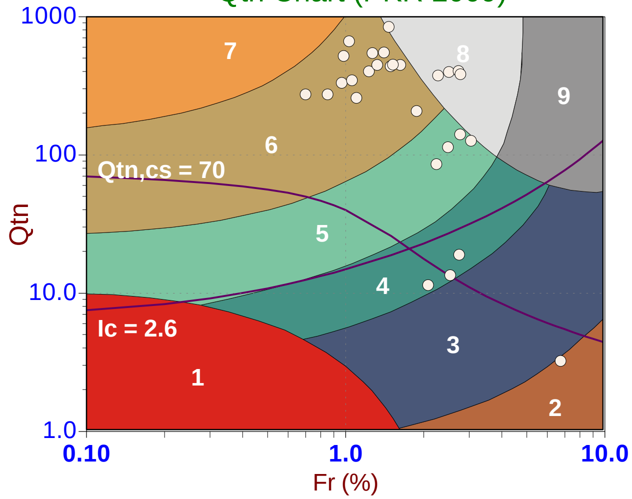
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

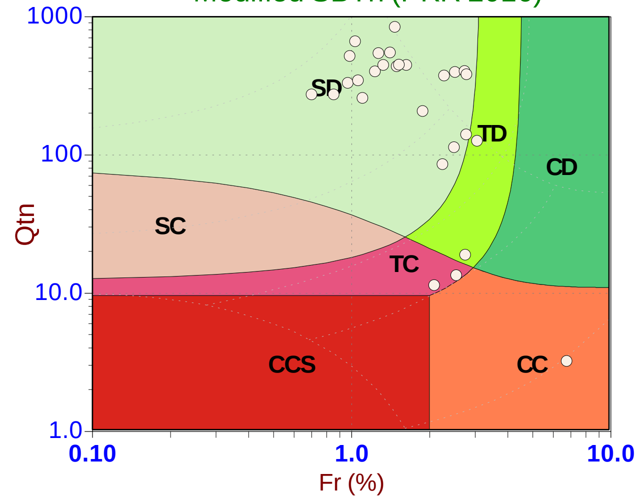
CME Associates

Job No: 23-53-26729
Date: 2023-10-28 14:34
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-365
Cone: 606:T1500F15U35

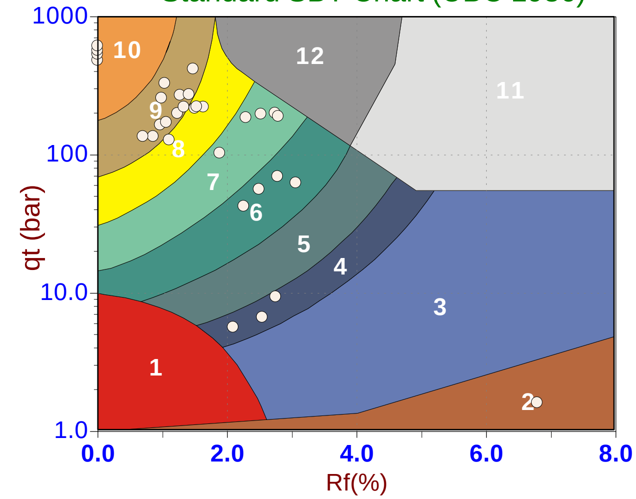
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

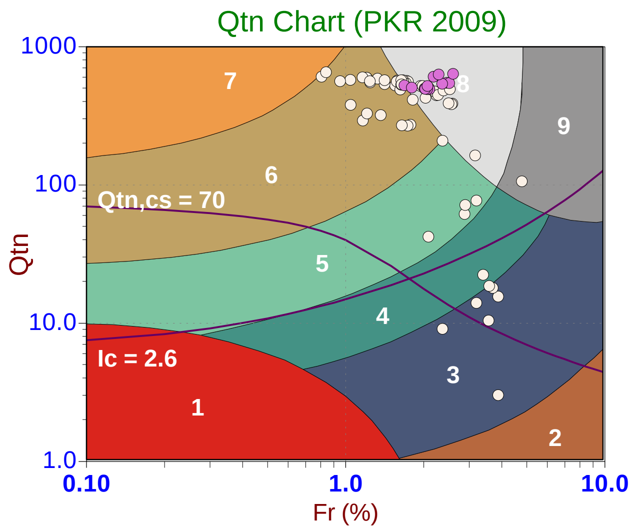
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

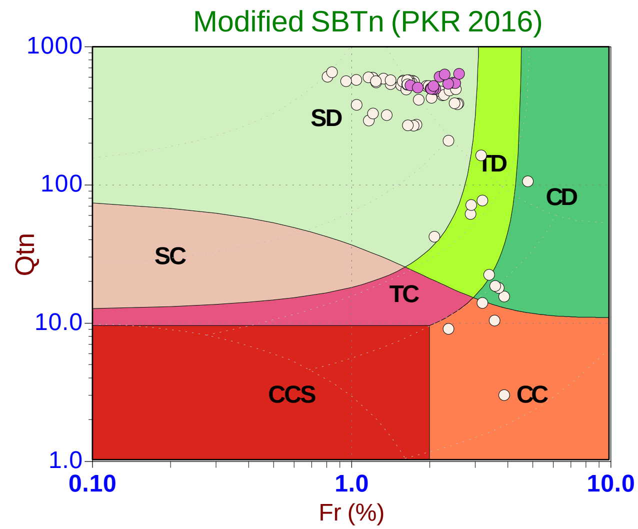
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

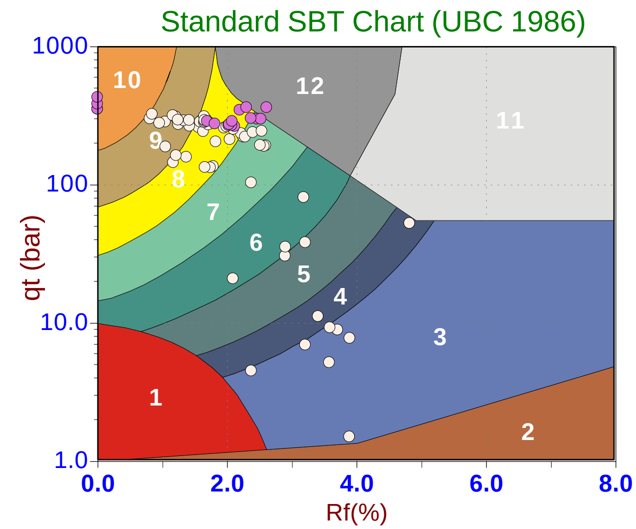
CONETEC

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 14:44
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-365A
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

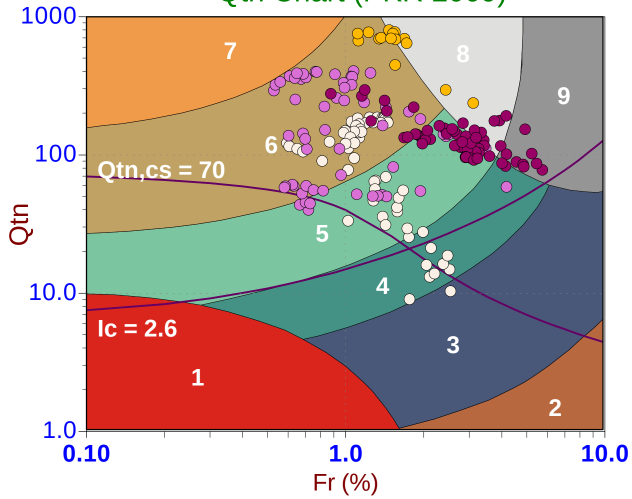
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

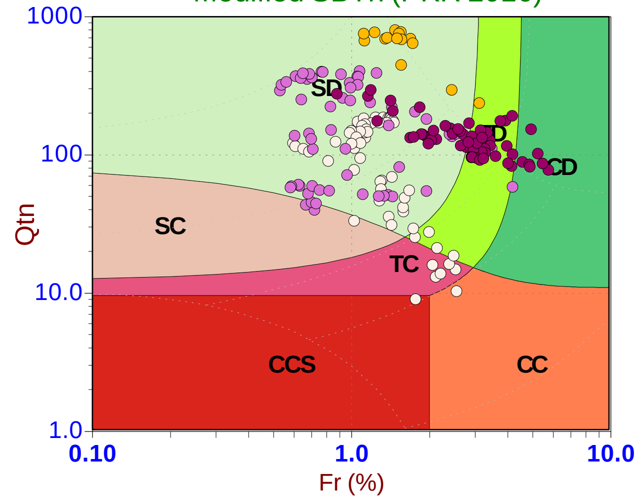
CME Associates

Job No: 23-53-26729
Date: 2023-10-28 12:53
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-371
Cone: 606:T1500F15U35

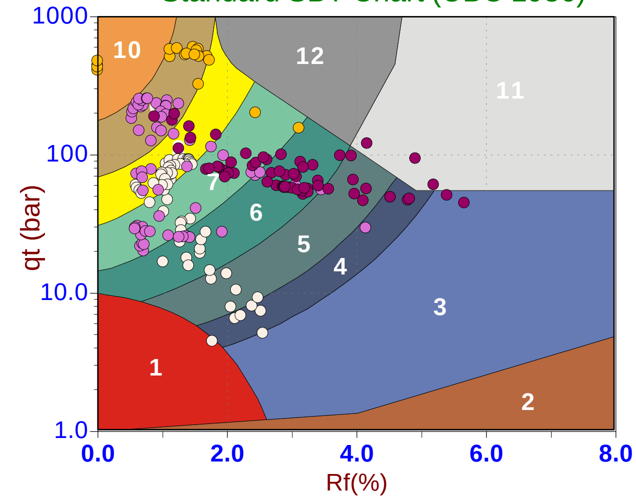
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

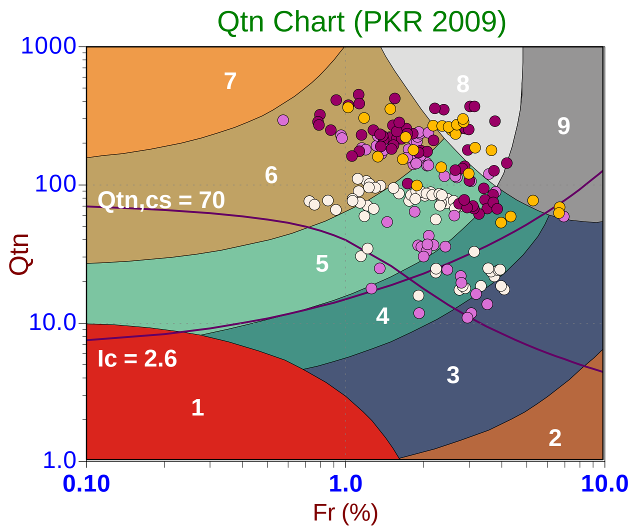
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

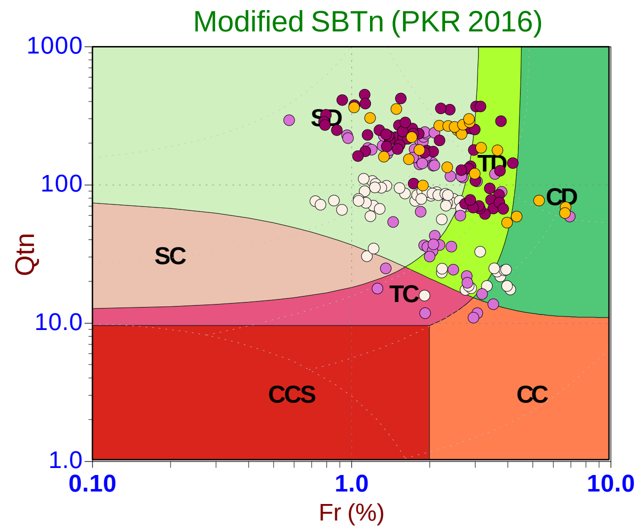
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

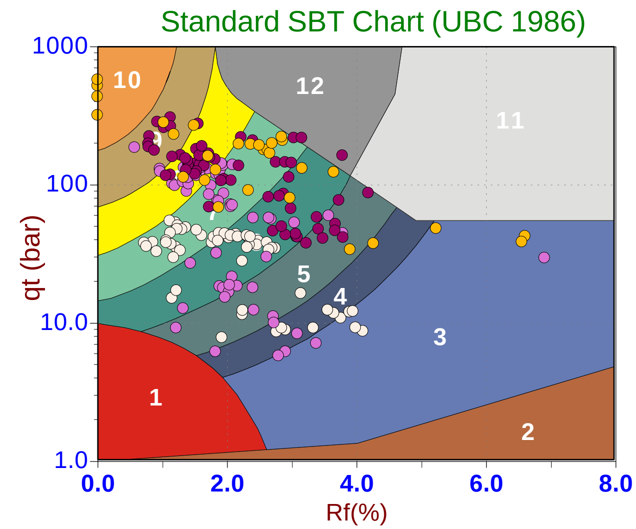
ConeTec

CME Associates

Job No: 23-53-26729
Date: 2023-10-28 13:25
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-372
Cone: 606:T1500F15U35







Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

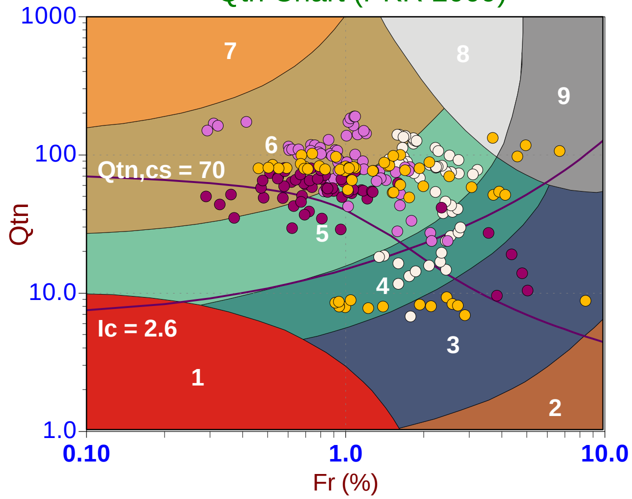
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

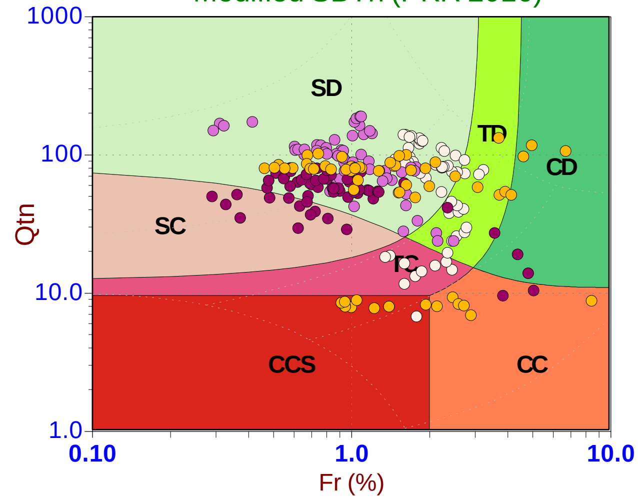
CME Associates

Job No: 23-53-26729
Date: 2023-10-28 12:15
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-381
Cone: 606:T1500F15U35

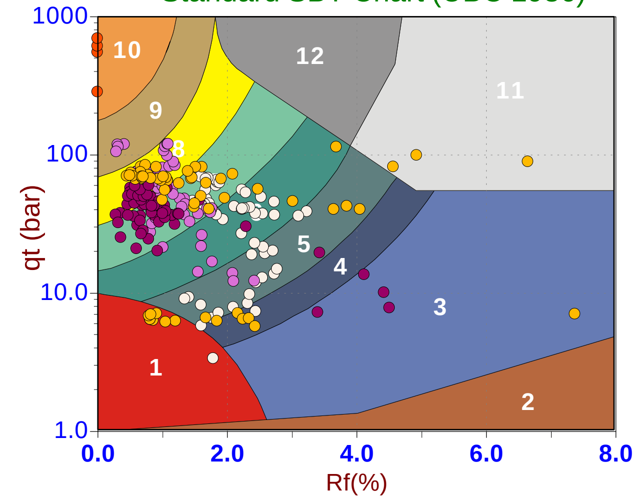
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

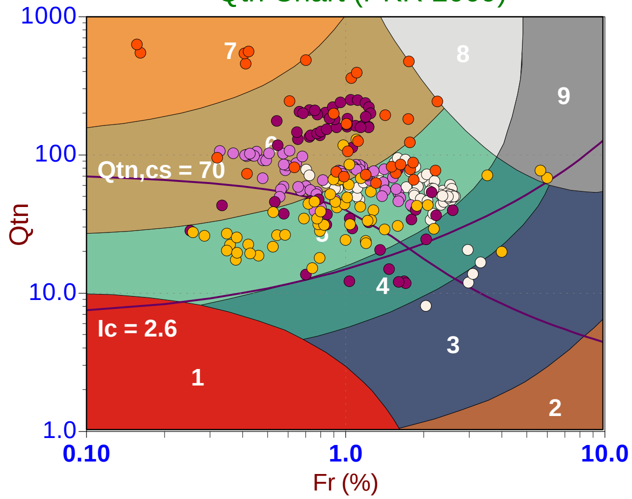
Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

CONETEC

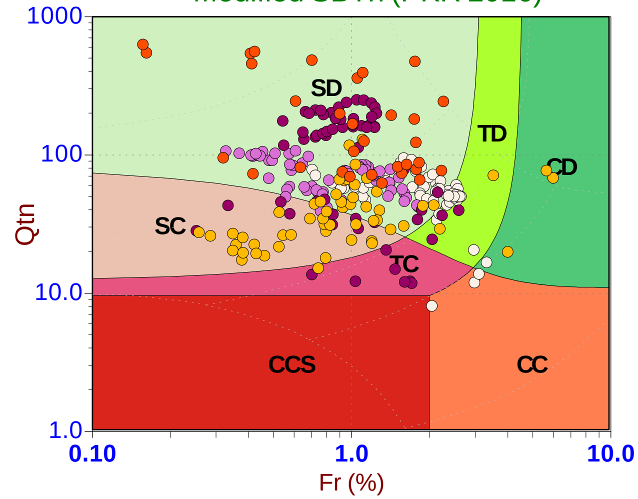
CME Associates

Job No: 23-53-26729
Date: 2023-10-28 13:56
Site: Proposed Micron Plant, Clay, NY
Sounding: CPT23-B-383
Cone: 606:T1500F15U35

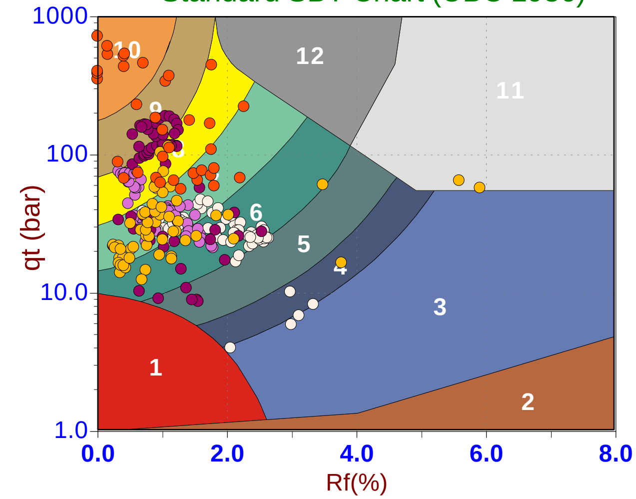
Qtn Chart (PKR 2009)



Modified SBTn (PKR 2016)



Standard SBT Chart (UBC 1986)



Depth Ranges
- >0.0 to 5.0 ft
- >5.0 to 10.0 ft
- >10.0 to 15.0 ft
- >15.0 to 20.0 ft
- >20.0 to 25.0 ft
- >25.0 to 30.0 ft
- >30.0 to 35.0 ft
- >35.0 to 40.0 ft
- >40.0 to 45.0 ft
- >45.0 to 50.0 ft
- >50.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

Pore Pressure Dissipation Summary and Pore Pressure Dissipation Plots

CONETEC

Job No: 23-53-26729
Client: CME Associates, Inc.
Project: Proposed Micron Plant, Clay, NY
Start Date: 23-Oct-2023
End Date: 28-Oct-2023

CPTu PORE PRESSURE DISSIPATION SUMMARY

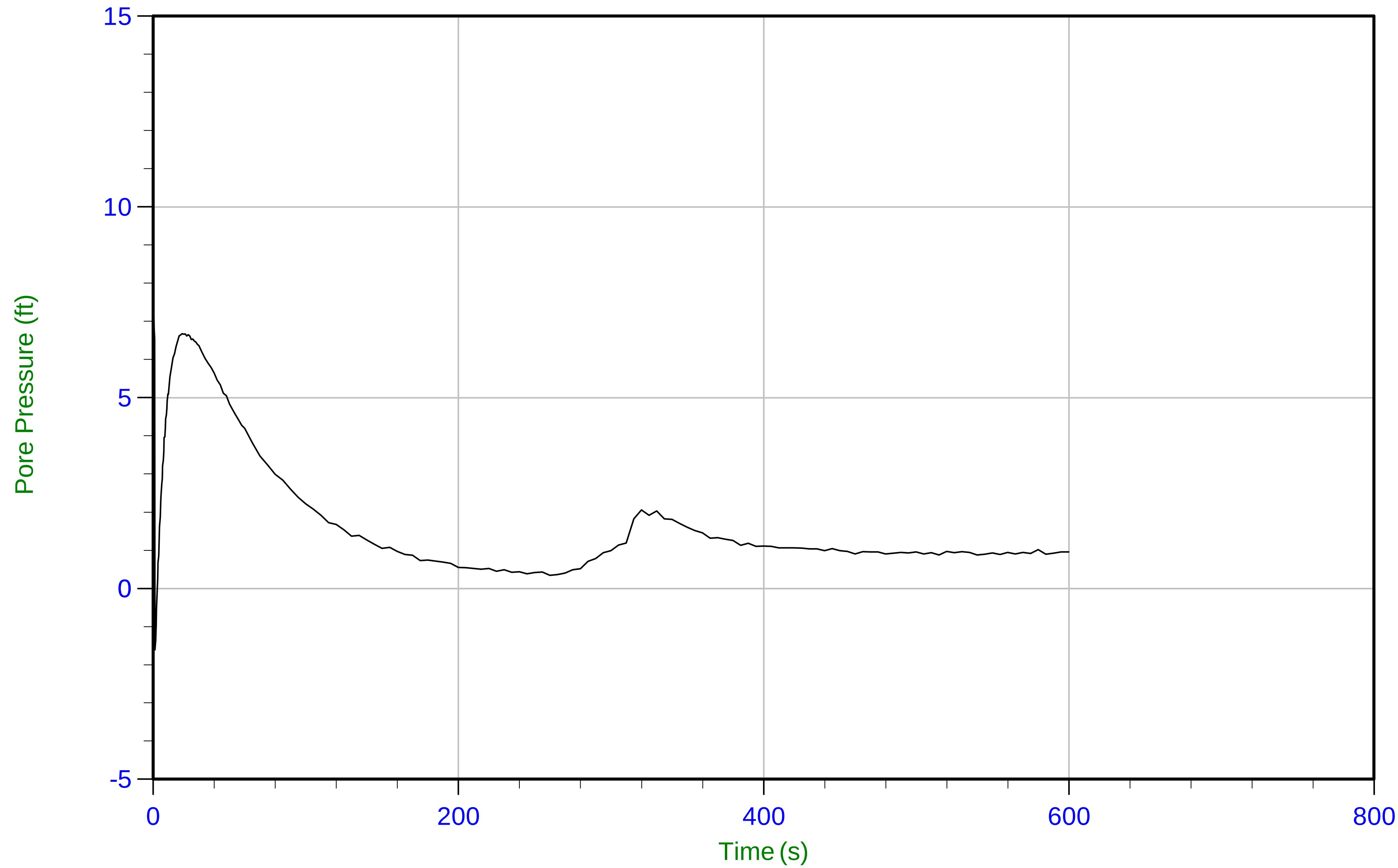
Sounding ID	File Name	Cone Area (cm^2)	Duration (s)	Test Depth (ft)	Estimated Equilibrium Pore Pressure U_{eq} (ft)	Calculated Phreatic Surface (ft)	Refer to Notation
CPT23-B-112	23-53-26729_CPB-112	15	600	9.35	0.9	8.4	
CPT23-B-222	23-53-26729_CPB-222	15	300	10.74	8.5	2.2	
SCPT23-B-293	23-53-26729_SPB-293	15	415	5.00	1.6	3.4	
CPT23-B-312	23-53-26729_CPB-312	15	300	24.11	18.2	5.9	
CPT23-B-327	23-53-26729_CPB-327	15	180	18.37	15.5	2.8	
Totals	5 Dissipations		30 min				

CONETEC

CME Associates, Inc.

Job No: 23-53-26729
Date: 2023-10-24 10:50
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-112
Cone: 604:T1500F15U35 Area=15 cm²



Trace Summary:

Filename: 23-53-26729_CPB-112.PPF2
Depth: 2.850 m / 9.350 ft
Duration: 600.0 s

u Min: -1.6 ft
u Max: 8.6 ft
u Final: 1.0 ft

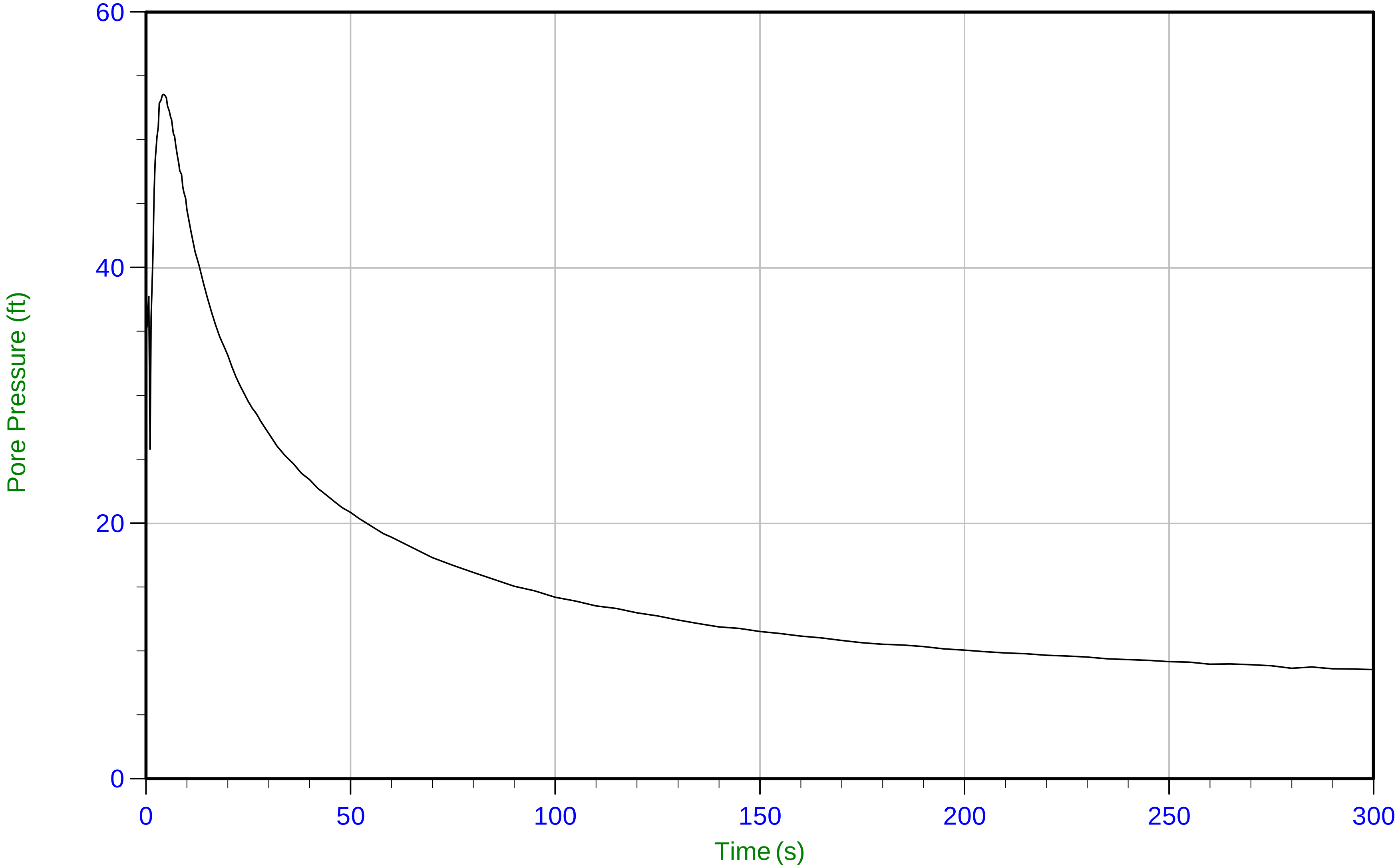
WT: 2.567 m / 8.422 ft
Ueq: 0.9 ft

CONETEC

CME Associates, Inc.

Job No: 23-53-26729
Date: 2023-10-27 11:16
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-222
Cone: 606:T1500F15U35 Area=15 cm²



Trace Summary:

Filename: 23-53-26729_CPB-222.PPF2
Depth: 3.275 m / 10.745 ft
Duration: 300.0 s

u Min: 8.6 ft
u Max: 53.6 ft
u Final: 8.6 ft

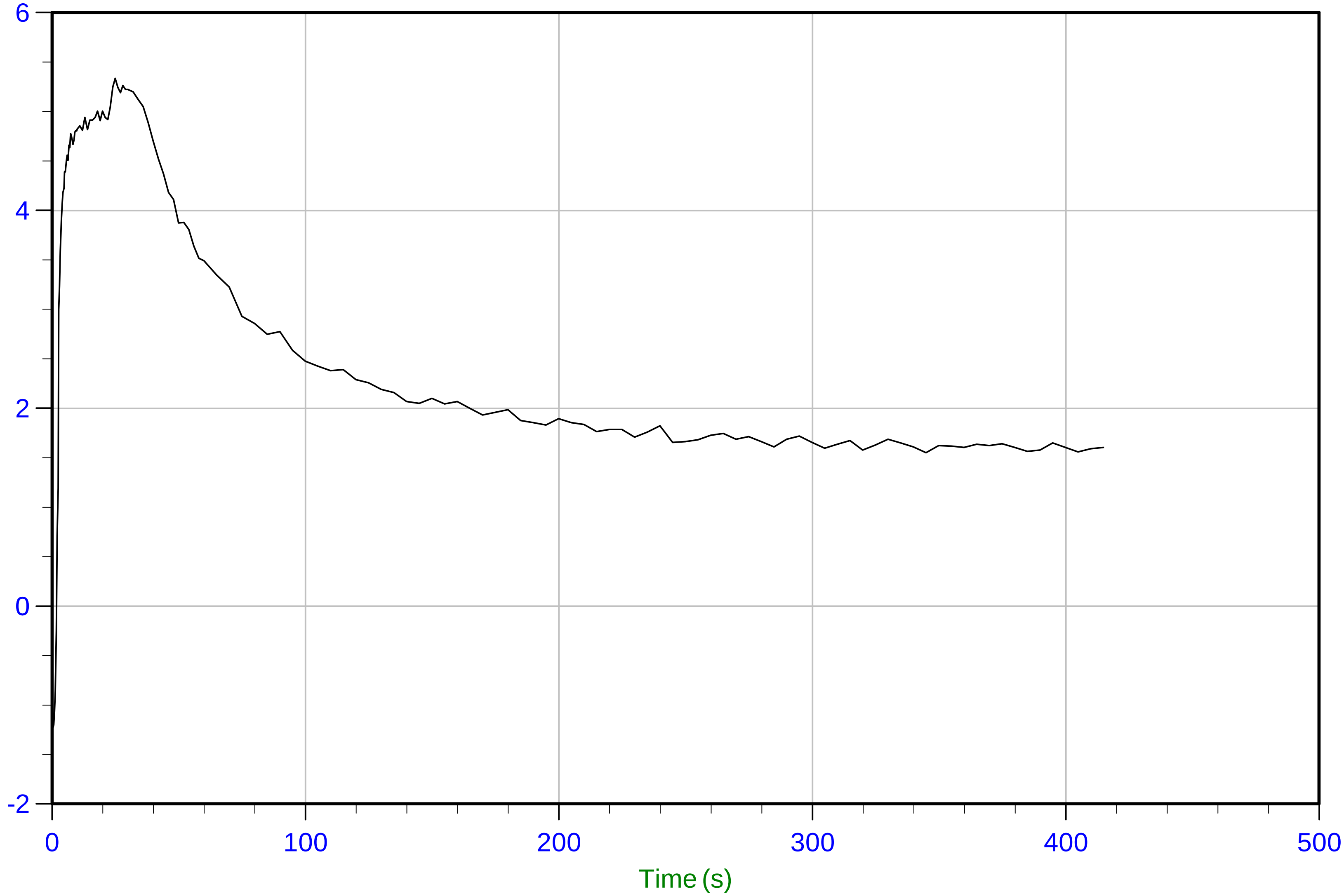
WT: 0.674 m / 2.211 ft
Ueq: 8.5 ft

CONETEC

CME Associates, Inc.

Job No: 23-53-26729
Date: 2023-10-27 08:32
Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-293
Cone: 606:T1500F15U35 Area=15 cm²



Trace Summary:

Filename: 23-53-26729_SPB-293.PPF2
Depth: 1.525 m / 5.003 ft
Duration: 415.0 s

u Min: -1.2 ft
u Max: 5.3 ft
u Final: 1.6 ft

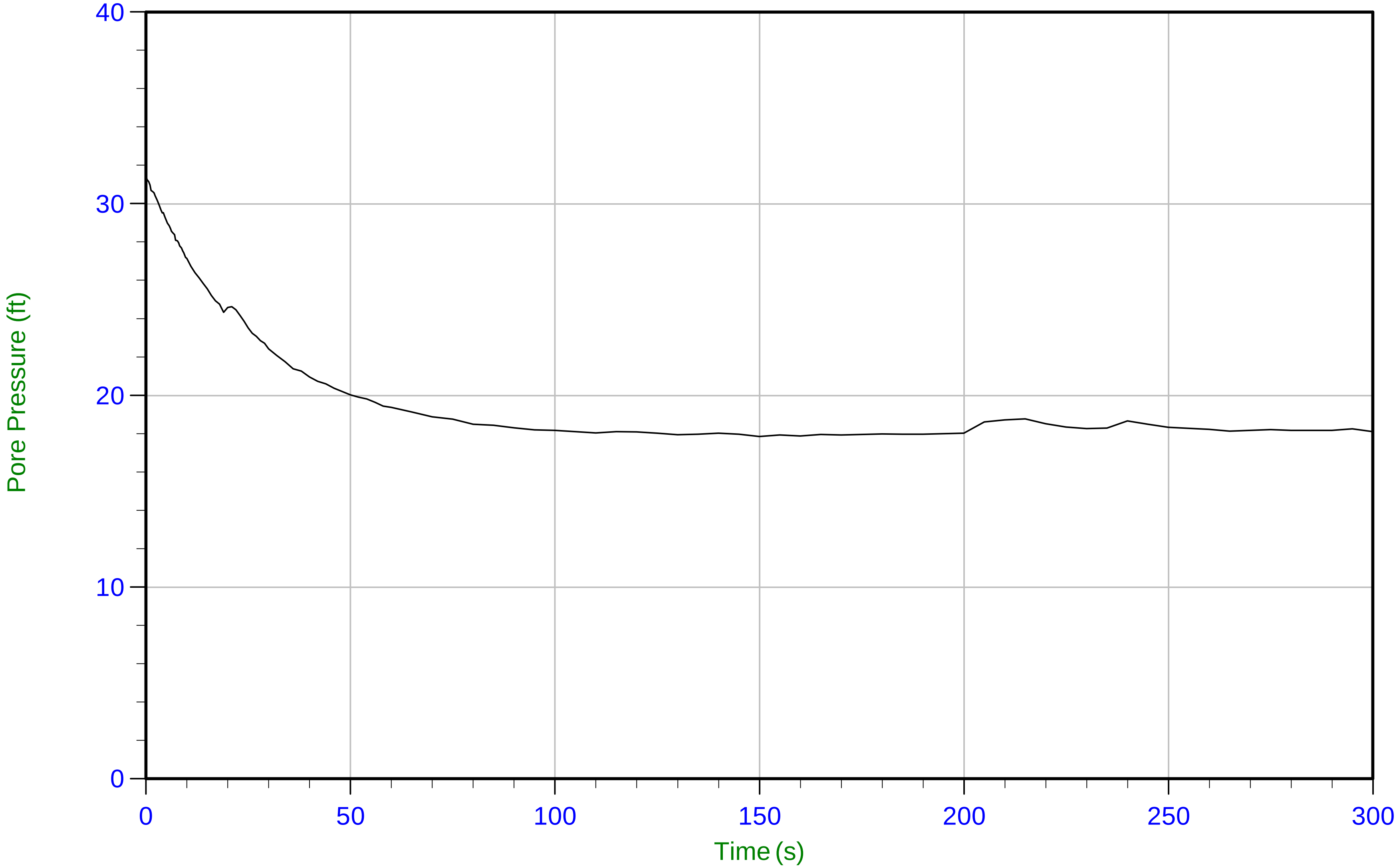
WT: 1.042 m / 3.419 ft
Ueq: 1.6 ft

CONETEC

CME Associates, Inc.

Job No: 23-53-26729
Date: 2023-10-26 08:26
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-312
Cone: 604:T1500F15U35 Area=15 cm²



Trace Summary:

Filename: 23-53-26729_CPB-312.PPF2
Depth: 7.350 m / 24.114 ft
Duration: 300.0 s

u Min: 17.9 ft
u Max: 31.5 ft
u Final: 18.1 ft

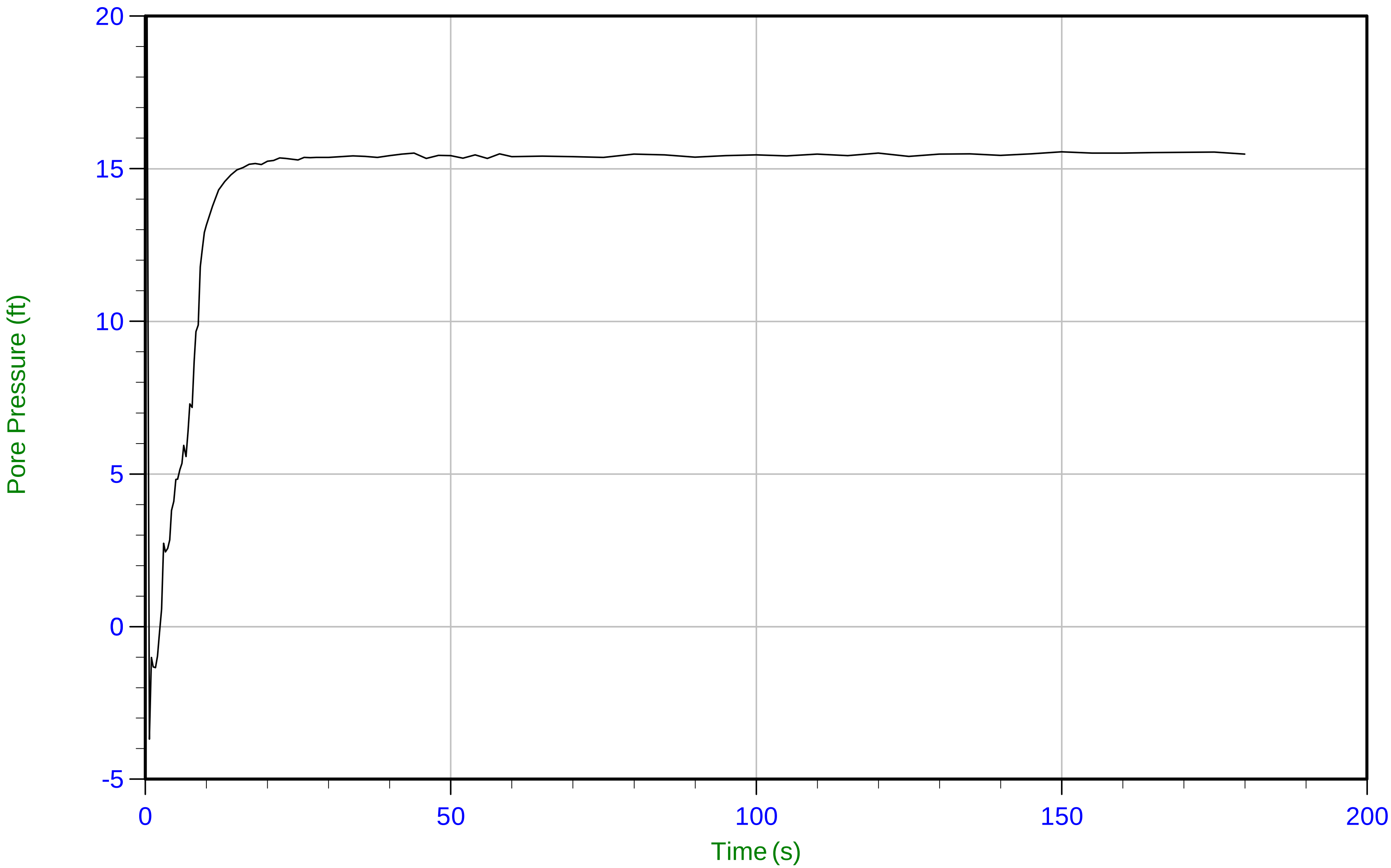
WT: 1.811 m / 5.942 ft
Ueq: 18.2 ft

CONETEC

CME Associates, Inc.

Job No: 23-53-26729
Date: 2023-10-28 10:06
Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-327
Cone: 606:T1500F15U35 Area=15 cm²



Trace Summary:

Filename: 23-53-26729_CPB-327.PPF2
Depth: 5.600 m / 18.372 ft
Duration: 180.0 s

u Min: -3.7 ft
u Max: 20.0 ft
u Final: 15.5 ft

WT: 0.863 m / 2.831 ft
Ueq: 15.5 ft

CME Associates, Inc.

GENERAL INFORMATION & KEY TO TEST BORING LOGS

The **Subsurface Exploration – Test Boring Logs** produced **by CME Associates, Inc.** (CME) present observations and mechanical data collected by the CME Drill Crew while at the site, supplemented, at times, by classification of the materials removed from the borings determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Exploration Logs together with the recovered samples will provide a basis for evaluating the character of the subsurface conditions relative to the proposed construction. The evaluation must consider all the recorded details and their significance relative to each other. Often, analyses of standard boring data indicate the need for additional testing and sampling procedures to more accurately evaluate the subsurface conditions. Any evaluations of the contents of CME's report and the recovered samples must be performed by Licensed Professionals having experience in Soil Mechanics, Geological Sciences and Geotechnical Engineering. The information presented in this Key defines some of the methods, procedures and terms used on the CME Exploration Logs to describe the conditions encountered. Refer to the Log on page 4 for key number.

Key No. **Description**

1. The figures in the **DEPTH SCALE** column define the vertical scale of the Boring Log.

2. The **SAMPLE NO.** is used for identification on the sample containers and in the Laboratory Test Report or Summary.

3. The **SAMPLE DEPTH** column gives the depth range from which a sample was recovered.

4. The **TYPE / SAMPLE RECOVERY** column is used to signify the various types of samples. "SS is Split Spoon, "U" is Undisturbed Tube, and "C" is Rock Core. For soil and rock samples, the recovered length of the sample is recorded in inches.

5. **BLOWS ON SAMPLER** – This column shows the results of the "Standard Penetration Test (SPT) ASTM D1586", recording the number of blows required to drive a 2-inch outside diameter (O.D.) split spoon sampler into the ground beneath the casing. The number of blows required for each six inches of penetration is recorded. The total number of blows required for the 6-inch to 18-inch interval is summarized in the **SPT "N"** column and represents the "Standard Penetration Number". The outside diameter of the sampler, the hammer weight and the length of drop are noted in the **Methods of Investigation** portion of the log. A "WH" or "WR" in this column indicates that the sample spoon advanced a 6-inch interval under the **W**eight of **H**ammer + Rod or **W**eight of **R**od, respectively. If a rock core sample is taken, the core bit size designation is given here.

6. The **DEPTH OF CHANGE** column designates the depth (in feet) that the driller noted a compactness or stratum change. In soft materials or soil strata exhibiting a consistent relative density, it is difficult for the driller to determine the exact change from one stratum to the next. In addition, a grading or gradual change may exist. In such cases the depth noted is approximate or estimated only and may be represented by a dashed line. When continuous split spoon sampling is not employed, or an interval of several feet exists between samplings, the Depth of Change may not be indicated at all.

7. **VISUAL CLASSIFICATION OF MATERIAL** – Soil materials sampled and recovered are described by the Driller or Geotechnical Representative on the original field log. Notes of the Drillers observations are also placed in this column. Recovered samples may also be visually classified by a Geologist, Engineer, or Soil Technician. Visual soil classifications are made using a modified Burmister System as practiced by CME and as generally described in this Key and abbreviated on the Test Boring Log. This modified Burmister System is a type of visual-manual textural classification estimated by the Driller, Geologist, Engineer, or Technician on the basis of weight-fraction of the recovered material and estimated plasticity, among other characteristics. See Table 1 **"Classification of Materials"**. The description of the relative compactness or consistency is based upon the standard penetration number as defined in Table 2. The description of the recovered sample moisture condition is described as dry, moist, wet, or saturated. Water used to advance the boring may affect the moisture content of the recovered sample. Special terms may be used to describe recovered materials in greater detail, such terms are listed in ASTM D653. When sampling gravelly soils with a standard two-inch O.D. Split Spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders, cobbles, and large gravel is sometimes, but not necessarily, detected by observation of the casing advancement and sampler blows and/or through the "action" of the drill rig, sampler and/or casing as reported by the Driller.

   The description of **Rock** is based upon the recovered rock core. Terms frequently used in the description are included in Tables 3, 4 and 5. The length of core run is defined as length of penetration between retrievals of the core barrel from the bore hole, expressed in inches. The core recovery expresses the length of core recovered from the core barrel per core run, in percent. The size core barrel used is noted in Column 5. An "N" size core, being larger in diameter than "A" size core, often produces better recovery, and is frequently utilized where accurate information regarding the geologic conditions and engineering properties is needed. An estimate of in-situ rock quality is provided by a modified core recovery ratio known as the **"Rock Quality Designation" (RQD)**. This ratio is determined by considering only pieces of core that are at least 4 inches long and are hard and sound. Breaks obviously caused by drilling are ignored. The percentage ratio between the total length of such core recovered and the length of core drilled on a given run is the RQD. Table 4 indicates in-situ rock quality as related to the **RQD**.

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8. The **SPT "N"** or **RQD** is given in this column as applicable to the specific sample taken. In Very Compact coarse-grained soils and in Hard fine-grained soils the N-value may be indicated as 50+ or 100+. This typically means that the blow count was achieved prior to driving the sampler the entire 6-inch interval or the sampler refused further penetration. For an "N"size rock core, the RQD is reported here, expressed in percent (%).

9. **GROUNDWATER OBSERVATIONS** and timing noted by the Drill Crew are shown in this section. It is important to realize that the reliability of the water level observations depend upon the soil type (e.g. water does not readily stabilize in a hole through fine grained soils), and that drill water used to advance the boring may have influenced the observations. Groundwater levels typically fluctuate seasonally so those noted on the log are only representative of that exhibited during the period of time noted on the log. One or more perched or trapped water levels may exist in the ground seasonally. All the available resources and data should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or through groundwater observation well installations.

10. **METHODS of INVESTIGATION** provides pertinent information regarding the identity of the Drill Crew members, inspector (if any), drill rig make and model, drill rig mount vehicle, casing and type of advancement, soil and rock sampling tools and appurtenances used in the installation of the Test Boring.

TABLE 1 - CLASSIFICATION OF MATERIALS

GROUP	**COARSE GRAINED SOILS TEXTURAL SIZES**
BOULDERS	larger than 12" diameter
COBBLES	12" diameter to 3" sieve
GRAVEL	3" - coarse - 1" - medium - 1/2" - fine - #4 sieve
SAND	#4 - coarse - #10 - medium - #40 - fine - #200 sieve
GROUP	**FINE GRAINED SOILS SIZE (PLASTICITY*)**
SILT	#200 sieve (0.074mm) to 0.005mm size (see below *)
CLAY	0.005mm size to 0.001 mm size (see below *)
GROUP	**ORGANIC SOILS, PEAT, MUCK, MARL**
ORGANIC	Based on smell, visual-manual and laboratory testing

ABBREVIATIONS	TERM	ESTIMATED PERCENT OF TOTAL SAMPLE BY WEIGHT
f - fine	and	35 to 50%
m - medium	some	20 to 35%
c - coarse	little	10 to 20%
	trace	0 to 10%

***PLASTICITY DESCRIPTIONS and INDICATOR FIELD TESTS**

TERM	PLASTICITY INDEX	DRY STRENGTH TEST	
		INDICATION	FIELD TEST RESULT
non-plastic	0 - 3	Very low	falls apart easily
slightly plastic	4 - 15	Slight	easily crushed by fingers
plastic	15 - 30	Medium	difficult to crush
highly plastic	31 or more	High	impossible to crush with fingers
Other Field Tests include: Dilatancy, Thread and Shine Testing			

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*TABLE 2 - DESCRIPTION OF SOIL COMPACTNESS OR CONSISTENCY based on SPT "N"**		
Primary Soil Type	**Descriptive Term of Compactness**	**Range of Standard Penetration Resistance (N)**
COARSE GRAINED SOILS	Very Loose	less than 4 blows per foot
(More than half of Material is larger than No. 200 sieve size)	Loose	4 to 10
	Medium Compact	10 to 30
	Compact	30 to 50
	Very Compact	Greater than 50
FINE GRAINED SOILS	**Descriptive Term of Consistency**	**Range of Standard Penetration Resistance (N)**
(More than half of material is smaller than No. 200 sieve size)	Very Soft	less than 2 blows per foot
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	Greater than 30

*The number of blows of 140-pound weight falling 30 inches to drive a 2-inch O.D., 1-3/8 inch I.D. sampler 12 inches is defined as the Standard Penetration Resistance, designated "N".

TABLE 3 - ROCK CLASSIFICATION TERMS		
Rock Classification Terms		**Field Test or Meaning of Term**
Hardness	Soft	Scratched by fingernail. Crumbles under firm blows with a geologic pick.
	Medium Soft	Shallow indentations (1 to 3 mm) can be made by firm blows of a geologic pick. Can be peeled with a pocketknife with difficulty.
	Medium Hard	Scratched distinctly by penknife or steel nail. Can't be peeled or scraped with knife.
	Hard	Scratched with difficulty by penknife or steel nail. Requires more than one blow with a geologic hammer to break it
	Very Hard	Cannot be scratched by penknife or steel nail. Breaks only by repeated heavy blows with a geologic hammer.
Bedding (Divisional planes and/or surfaces separating it from layers above and below)	Thinly Laminated	less than 1/8th inch
	Laminated	1/8th to 1 inch
	Thinly Bedded	1 inch to 4 inches
	Medium Bedded	4 inches to 12 inches
	Thickly Bedded	12 inches to 48 inches
	Massive	greater than 48 inches

TABLE 4
Relation of Rock Quality Designation (RQD) and in-situ Rock Quality

RQD %	**Rock Quality Term Used**
90 to 100	Excellent
75 to 90	Good
50 to 75	Fair
25 to 50	Poor
0 to 25	Very Poor

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TABLE 5 – BEDROCK WEATHERING CLASSIFICATION	
Classification	**Diagnostic Features**
Fresh	No visible sign of decomposition or discoloration. Rings under hammer impact.
Slightly Weathered	Slight discoloration inwards from open fractures, otherwise similar to Fresh.
Moderately Weathered	Discoloration throughout. Strength somewhat less than fresh rock but cores cannot be broken by hand or scraped with knife. Texture observed.
Highly Weathered	Most minerals somewhat decomposed. Specimens can be broken by hand with effort or shaved with knife. Core stones present in rock mass. Texture becoming indistinct but fabric preserved.
Completely Weathered	Minerals decomposed to soil, but fabric and structure preserved (e.g. Saprolite). Specimens easily crumbled or penetrated.
Residual Soil	Advanced state of decomposition resulting in plastic soils. Rock fabric and structure completely destroyed. Large volume change.

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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-2**
Page No.	1 of 1
Report No.	
Project Name:	
Client:	
Location:	
Date Started	
Date Finished	
Surface Elev.	

METHODS OF INVESTIGATION

Driller:	**10**	**Casing:**	**10**
Driller:		**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:		**Soil Sampler:**	
Type:		**Hammer Wt:**	
Rod Size:		**Hammer Fall:**	

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
	While Drilling	9	9
	Before Casing Removed		
	After Casing Removed		
	After Casing Removed		

LOG OF BORING SAMPLES / **VISUAL CLASSIFICATION OF MATERIAL**

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
1	2	3	3	4	5	6	7	8

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

United States Department of Agriculture

NRCS

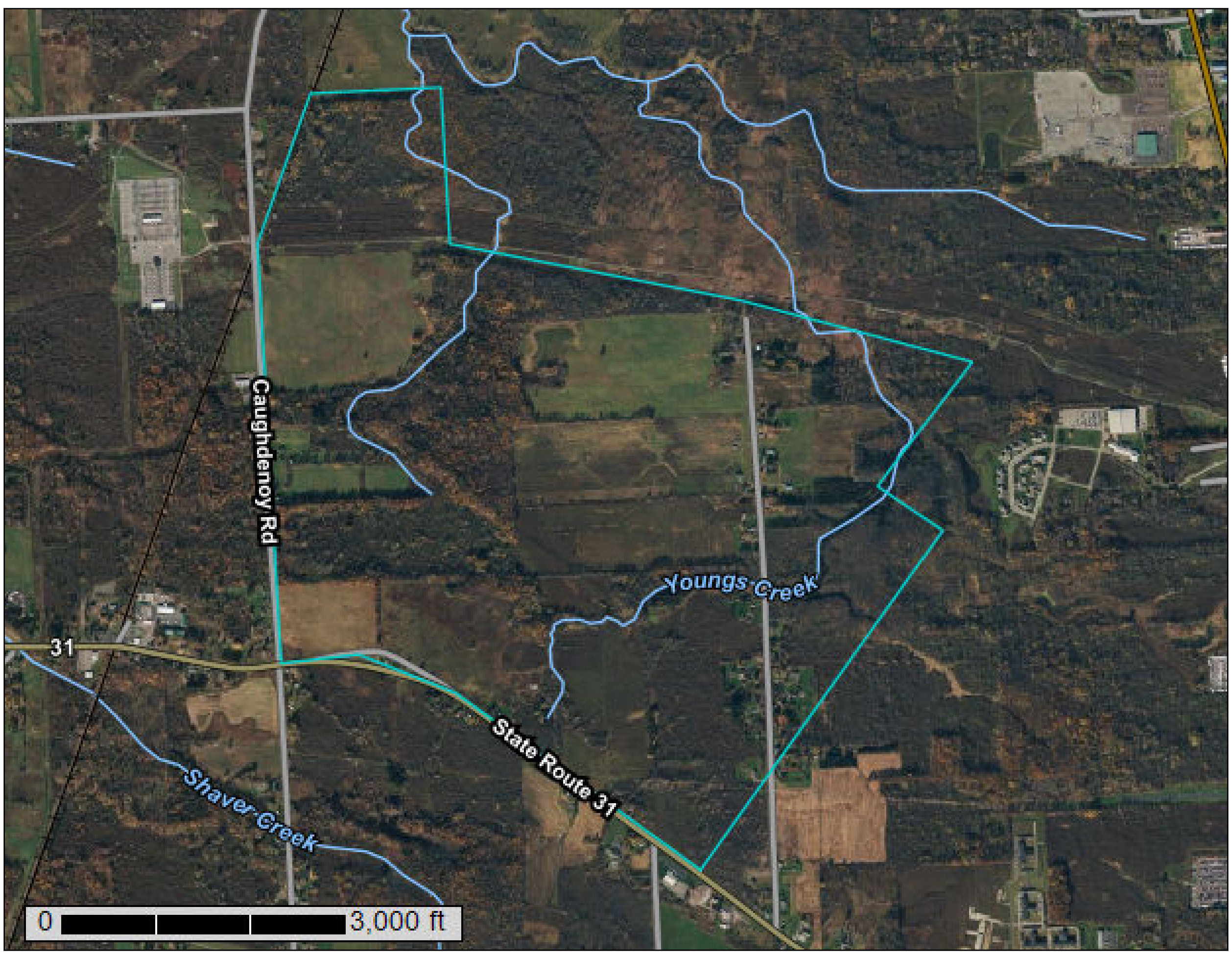
Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

Onondaga County, New York

MICRON-CLAY, NY



January 9, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

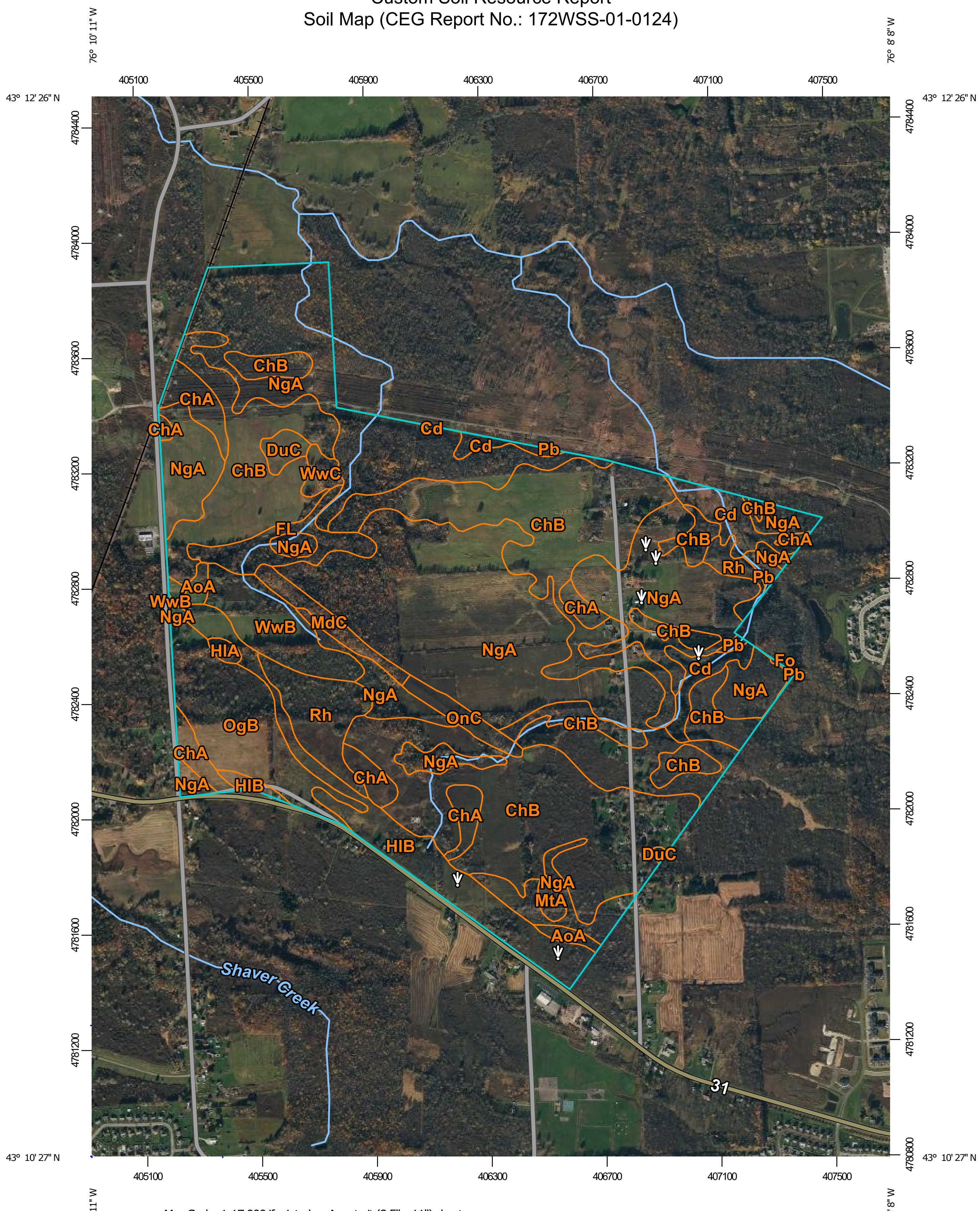
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (CEG Report No.: 172WSS-01-0124)



Map Scale: 1:17,900 if printed on A portrait (8.5" x 11") sheet.

Meters: 0, 250, 500, 1000, 1500

Feet: 0, 500, 1000, 2000, 3000

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 18, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2021—Nov 7, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (CEG Report No.: 172WSS-01-0124)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AoA	Appleton loam, 0 to 3 percent slopes	4.4	0.5%
Cd	Canandaigua mucky silt loam	21.5	2.6%
ChA	Collamer silt loam, 0 to 2 percent slopes	26.9	3.3%
ChB	Collamer silt loam, 2 to 6 percent slopes	255.2	31.1%
DuC	Dunkirk silt loam, rolling	4.5	0.6%
FL	Fluvaquents, frequently flooded	14.3	1.7%
Fo	Fonda mucky silty clay loam	0.4	0.0%
HlA	Hilton loam, 0 to 3 percent slopes	1.7	0.2%
HlB	Hilton loam, 3 to 8 percent slopes	44.1	5.4%
MdC	Madrid fine sandy loam, 8 to 15 percent slopes	8.2	1.0%
MtA	Minoa fine sandy loam, 0 to 2 percent slopes	2.6	0.3%
NgA	Niagara silt loam, 0 to 4 percent slopes	333.7	40.7%
OgB	Ontario loam, 3 to 8 percent slopes	40.5	4.9%
OnC	Ontario gravelly loam, 8 to 15 percent slopes	6.7	0.8%
Pb	Palms muck	2.6	0.3%
Rh	Rhinebeck silt loam	25.0	3.0%
WwB	Williamson silt loam, 2 to 6 percent slopes	23.6	2.9%
WwC	Williamson silt loam, rolling	3.9	0.5%
Totals for Area of Interest		**819.9**	**100.0%**

Map Unit Descriptions (CEG Report No.: 172WSS-01-0124)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps.

The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Onondaga County, New York

AoA—Appleton loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w5hs
Elevation: 250 to 1,670 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Appleton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Appleton

Setting

Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: loam
E - 8 to 16 inches: loam
Bt - 16 to 30 inches: gravelly silt loam
C1 - 30 to 54 inches: gravelly loam
C2 - 54 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Hilton

Percent of map unit: 5 percent
Landform: Till plains, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Lyons

Percent of map unit: 4 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Churchville

Percent of map unit: 3 percent
Landform: Till plains, lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, rise, talf
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Darien

Percent of map unit: 3 percent
Landform: Till plains, drainageways
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Cd—Canandaigua mucky silt loam

Map Unit Setting

National map unit symbol: 9vg3
Elevation: 100 to 1,000 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Canandaigua and similar soils: 80 percent

Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canandaigua

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: mucky silt loam
H2 - 8 to 31 inches: very fine sandy loam
H3 - 31 to 60 inches: stratified silt loam to very fine sand to fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very high (about 13.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F101XY010NY - Wet Lake Plain Depression
Hydric soil rating: Yes

Minor Components

Niagara

Percent of map unit: 5 percent
Hydric soil rating: No

Lakemont

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Fonda

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Palms

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

ChA—Collamer silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 9vg9
Elevation: 360 to 1,280 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Collamer and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Collamer

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 16 inches: silt loam
H3 - 16 to 42 inches: silt loam
H4 - 42 to 60 inches: stratified silt loam to very fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Dunkirk

Percent of map unit: 5 percent
Hydric soil rating: No

Niagara

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent
Hydric soil rating: No

ChB—Collamer silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9vgb
Elevation: 360 to 1,310 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Collamer and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Collamer

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 16 inches: silt loam
H3 - 16 to 42 inches: silt loam
H4 - 42 to 60 inches: stratified silt loam to very fine sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Niagara

Percent of map unit: 5 percent
Hydric soil rating: No

Dunkirk

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent
Hydric soil rating: No

DuC—Dunkirk silt loam, rolling

Map Unit Setting

National map unit symbol: 9vgk
Elevation: 100 to 1,000 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Dunkirk, rolling, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dunkirk, Rolling

Setting

Landform: Lake plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 5 inches: silt loam
H2 - 5 to 16 inches: silt loam
H3 - 16 to 36 inches: silt loam
H4 - 36 to 72 inches: stratified silt loam to very fine sand

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F101XY008NY - Well Drained Lake Plain
Hydric soil rating: No

Minor Components

Schoharie

Percent of map unit: 5 percent
Hydric soil rating: No

Niagara

Percent of map unit: 5 percent
Hydric soil rating: No

Collamer

Percent of map unit: 5 percent
Hydric soil rating: No

Arkport

Percent of map unit: 5 percent
Hydric soil rating: No

FL—Fluvaquents, frequently flooded

Map Unit Setting

National map unit symbol: 9vgn
Elevation: 300 to 1,800 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Typical profile

H1 - 0 to 5 inches: mucky silt loam
H2 - 5 to 70 inches: very gravelly silt loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F101XY003NY - Low Floodplain Depression
Hydric soil rating: Yes

Minor Components

Wayland

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Saprists

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Teel

Percent of map unit: 5 percent
Hydric soil rating: No

Hamlin

Percent of map unit: 5 percent

Hydric soil rating: No

Warners

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Fo—Fonda mucky silty clay loam

Map Unit Setting

National map unit symbol: 9vgp
Elevation: 50 to 650 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Fonda and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fonda

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: mucky silty clay loam
H2 - 9 to 33 inches: silty clay
H3 - 33 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: F101XY010NY - Wet Lake Plain Depression
Hydric soil rating: Yes

Minor Components

Canandaigua

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Odessa

Percent of map unit: 5 percent
Hydric soil rating: No

Rhinebeck

Percent of map unit: 5 percent
Hydric soil rating: No

Lakemont

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Palms

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

HlA—Hilton loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wrdq
Elevation: 660 to 980 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hilton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hilton

Setting

Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear

Across-slope shape: Convex, concave
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 17 inches: loam
Bt/E - 17 to 24 inches: gravelly loam
Bt - 24 to 36 inches: gravelly loam
C1 - 36 to 54 inches: gravelly loam
C2 - 54 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Appleton

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ontario

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Bombay

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope, crest

Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Cayuga

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

HIB—Hilton loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3ld
Elevation: 260 to 1,310 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hilton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hilton

Setting

Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex, concave
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 17 inches: loam
Bt/E - 17 to 24 inches: gravelly loam
Bt - 24 to 36 inches: gravelly loam
C1 - 36 to 54 inches: gravelly loam
C2 - 54 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained

Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Appleton

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ontario

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Bombay

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Cayuga

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

MdC—Madrid fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9vj3
Elevation: 380 to 1,250 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Madrid and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Madrid

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived mainly from sandstone and limestone

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 19 inches: fine sandy loam
H3 - 19 to 42 inches: fine sandy loam
H4 - 42 to 72 inches: fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F101XY012NY - Till Upland
Hydric soil rating: No

Minor Components

Bombay
Percent of map unit: 5 percent
Hydric soil rating: No

Howard
Percent of map unit: 5 percent
Hydric soil rating: No

Palmyra
Percent of map unit: 5 percent
Hydric soil rating: No

Hilton
Percent of map unit: 5 percent
Hydric soil rating: No

MtA—Minoa fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 9vjn
Elevation: 250 to 800 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Minoa and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Minoa

Setting
Landform: Deltas on lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Deltaic or glaciolacustrine deposits with a high content of fine and very fine sand

Typical profile
H1 - 0 to 10 inches: fine sandy loam
H2 - 10 to 38 inches: loamy very fine sand
H3 - 38 to 60 inches: stratified very fine sand to fine sand to silt loam

Properties and qualities
Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Galen

Percent of map unit: 8 percent
Hydric soil rating: No

Lamson

Percent of map unit: 8 percent
Landform: Depressions
Hydric soil rating: Yes

Canandaigua

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

NgA—Niagara silt loam, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 9vjv
Elevation: 360 to 1,590 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Niagara and similar soils: 80 percent
Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Niagara

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 39 inches: silt loam
H3 - 39 to 60 inches: stratified silt loam to loamy very fine sand

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Canandaigua

Percent of map unit: 7 percent
Landform: Depressions
Hydric soil rating: Yes

Williamson

Percent of map unit: 5 percent
Hydric soil rating: No

Collamer

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 3 percent
Hydric soil rating: No

OgB—Ontario loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3ps
Elevation: 250 to 1,490 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ontario and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ontario

Setting

Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: loam
E - 8 to 14 inches: loam
Bt/E - 14 to 21 inches: loam
Bt - 21 to 39 inches: gravelly loam
C1 - 39 to 48 inches: gravelly loam
C2 - 48 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B
Ecological site: F101XY012NY - Till Upland
Hydric soil rating: No

Minor Components

Hilton

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex, concave
Hydric soil rating: No

Honeoye

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Cazenovia

Percent of map unit: 3 percent
Landform: Reworked lake plains, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 2 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

OnC—Ontario gravelly loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w3qc
Elevation: 250 to 1,250 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ontario and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ontario

Setting

Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: gravelly loam
E - 8 to 14 inches: loam
Bt/E - 14 to 21 inches: loam
Bt - 21 to 39 inches: gravelly loam
C1 - 39 to 48 inches: gravelly loam
C2 - 48 to 79 inches: gravelly loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F101XY012NY - Till Upland
Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Hilton

Percent of map unit: 5 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex, concave
Hydric soil rating: No

Cazenovia

Percent of map unit: 3 percent
Landform: Reworked lake plains, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 2 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Pb—Palms muck

Map Unit Setting

National map unit symbol: 9vkf
Elevation: 250 to 1,500 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Palms and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Palms

Setting

Landform: Marshes, swamps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave

Parent material: Organic material over loamy glacial drift

Typical profile

H1 - 0 to 24 inches: muck
H2 - 24 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Available water supply, 0 to 60 inches: Very high (about 16.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F101XY004NY - Mucky Depression
Hydric soil rating: Yes

Minor Components

Lamson

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Carlisle

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Edwards

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Canandaigua

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Rh—Rhinebeck silt loam

Map Unit Setting

National map unit symbol: 9vkn
Elevation: 80 to 1,000 feet

Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 11 inches: silty clay
H3 - 11 to 36 inches: silty clay
H4 - 36 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Collamer

Percent of map unit: 5 percent
Hydric soil rating: No

Odessa

Percent of map unit: 5 percent
Hydric soil rating: No

Niagara

Percent of map unit: 5 percent
Hydric soil rating: No

Fonda

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

WwB—Williamson silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9vlf
Elevation: 360 to 1,570 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Williamson and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Williamson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Glaciolacustrine or eolian deposits with a high content of silt and very fine sand

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 22 inches: silt loam
H3 - 22 to 45 inches: very fine sandy loam
H4 - 45 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 15 to 24 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 13 to 22 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Colonie

Percent of map unit: 4 percent
Hydric soil rating: No

Galen

Percent of map unit: 4 percent
Hydric soil rating: No

Collamer

Percent of map unit: 4 percent
Hydric soil rating: No

Arkport

Percent of map unit: 4 percent
Hydric soil rating: No

Niagara

Percent of map unit: 4 percent
Hydric soil rating: No

WwC—Williamson silt loam, rolling

Map Unit Setting

National map unit symbol: 9vlg
Elevation: 360 to 1,230 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Williamson, rolling, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Williamson, Rolling

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Glaciolacustrine or eolian deposits with a high content of silt and very fine sand

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 22 inches: silt loam
H3 - 22 to 45 inches: very fine sandy loam
H4 - 45 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 15 to 24 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 13 to 22 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Collamer

Percent of map unit: 5 percent
Hydric soil rating: No

Colonie

Percent of map unit: 5 percent
Hydric soil rating: No

Niagara

Percent of map unit: 5 percent
Hydric soil rating: No

Arkport

Percent of map unit: 5 percent
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Building Site Development

This folder contains a collection of tabular reports that present soil interpretations related to building site development. The reports (tables) include all selected map units and components for each map unit, limiting features and interpretive ratings. Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Dwellings and Small Commercial Buildings (CEG Report No.: 172WSS-01-0124)

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. This table shows the degree and kind of soil limitations that affect dwellings and small commercial buildings.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Information in this table is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this table. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Report—Dwellings and Small Commercial Buildings (CEG Report No.: 172WSS-01-0124)

[Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations]

Dwellings and Small Commercial Buildings–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AoA—Appleton loam, 0 to 3 percent slopes							
Appleton	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Cd—Canandaigua mucky silt loam							
Canandaigua	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ChA—Collamer silt loam, 0 to 2 percent slopes							
Collamer	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
ChB—Collamer silt loam, 2 to 6 percent slopes							
Collamer	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
						Slope	0.01
DuC—Dunkirk silt loam, rolling							
Dunkirk, rolling	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00

Dwellings and Small Commercial Buildings–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FL—Fluvaquents, frequently flooded							
Fluvaquents	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fo—Fonda mucky silty clay loam							
Fonda	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
HlA—Hilton loam, 0 to 3 percent slopes							
Hilton	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
HlB—Hilton loam, 3 to 8 percent slopes							
Hilton	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
						Slope	0.14
MdC—Madrid fine sandy loam, 8 to 15 percent slopes							
Madrid	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
MtA—Minoa fine sandy loam, 0 to 2 percent slopes							
Minoa	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
NgA—Niagara silt loam, 0 to 4 percent slopes							
Niagara	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Dwellings and Small Commercial Buildings–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OgB—Ontario loam, 3 to 8 percent slopes							
Ontario	85	Not limited		Not limited		Somewhat limited	
						Slope	0.52
OnC—Ontario gravelly loam, 8 to 15 percent slopes							
Ontario	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Pb—Palms muck							
Palms	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Rh—Rhinebeck silt loam							
Rhinebeck	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.29	Shrink-swell	0.01	Shrink-swell	0.29
WwB—Williamson silt loam, 2 to 6 percent slopes							
Williamson	80	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Depth to thick cemented pan	1.00
		Depth to saturated zone	0.99			Depth to thin cemented pan	1.00
		Depth to thin cemented pan	0.50			Depth to saturated zone	0.99
						Slope	0.01
WwC—Williamson silt loam, rolling							
Williamson, rolling	80	Very limited		Very limited		Very limited	
		Depth to thick cemented pan	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.99	Slope	0.63	Depth to thick cemented pan	1.00
		Slope	0.63			Depth to thin cemented pan	1.00
		Depth to thin cemented pan	0.50			Depth to saturated zone	0.99

Land Management

This folder contains a collection of tabular reports that present soil interpretations related to land management. The reports (tables) include all selected map units and components for each map unit, limiting features and interpretive ratings. Land management interpretations are tools designed to guide the user in evaluating existing conditions in planning and predicting the soil response to various land management practices, for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture, and rangeland. Example interpretations include suitability for a variety of irrigation practices, log landings, haul roads and major skid trails, equipment operability, site preparation, suitability for hand and mechanical planting, potential erosion hazard associated with various practices, and ratings for fencing and waterline installation.

Haul Roads, Log Landings, and Soil Rutting on Forestland (CEG Report No.: 172WSS-01-0124)

This table can help forestland owners or managers plan the use of soils for wood crops. Interpretive ratings are given for the soils according to the limitations that affect various aspects of forestland management. The ratings are both verbal and numerical.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings,* the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings. *Well suited* indicates that the soil has features that are favorable for log landings and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for log landings. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for log landings. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forestland equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National forestry manual.

Report—Haul Roads, Log Landings, and Soil Rutting on Forestland (CEG Report No.: 172WSS-01-0124)

[Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations]

Haul Roads, Log Landings, and Soil Rutting on Forestland–Onondaga County, New York

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AoA—Appleton loam, 0 to 3 percent slopes							
Appleton	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
		Dusty	0.01	Low strength	0.50		
				Dusty	0.01		
Cd—Canandaigua mucky silt loam							
Canandaigua	80	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Dusty	0.01	Ponding	1.00		
				Wetness	1.00		
				Dusty	0.01		

Haul Roads, Log Landings, and Soil Rutting on Forestland–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChA—Collamer silt loam, 0 to 2 percent slopes							
Collamer	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Dusty	0.01	Wetness	0.50		
				Dusty	0.01		
ChB—Collamer silt loam, 2 to 6 percent slopes							
Collamer	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Dusty	0.01	Wetness	0.50		
				Dusty	0.01		
DuC—Dunkirk silt loam, rolling							
Dunkirk, rolling	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Dusty	0.01	Low strength	0.50		
				Dusty	0.01		
FL—Fluvaquents, frequently flooded							
Fluvaquents	75	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Dusty	0.01	Flooding	1.00		
				Wetness	1.00		
				Low strength	0.50		
				Dusty	0.01		
Fo—Fonda mucky silty clay loam							
Fonda	75	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
		Dusty	0.01	Wetness	1.00		
				Low strength	0.50		
				Dusty	0.01		

Haul Roads, Log Landings, and Soil Rutting on Forestland–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HlA—Hilton loam, 0 to 3 percent slopes							
Hilton	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Dusty	0.01	Wetness	0.50		
				Dusty	0.01		
HlB—Hilton loam, 3 to 8 percent slopes							
Hilton	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Dusty	0.01	Wetness	0.50		
				Dusty	0.01		
MdC—Madrid fine sandy loam, 8 to 15 percent slopes							
Madrid	80	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
MtA—Minoa fine sandy loam, 0 to 2 percent slopes							
Minoa	80	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
NgA—Niagara silt loam, 0 to 4 percent slopes							
Niagara	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
		Dusty	0.01	Low strength	0.50		
				Dusty	0.01		
OgB—Ontario loam, 3 to 8 percent slopes							
Ontario	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Dusty	0.01	Slope	0.50		
				Dusty	0.01		

Haul Roads, Log Landings, and Soil Rutting on Forestland–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OnC—Ontario gravelly loam, 8 to 15 percent slopes							
Ontario	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Dusty	0.01	Low strength	0.50		
				Dusty	0.01		
Pb—Palms muck							
Palms	80	Severe		Poorly suited		Severe	
		Low strength	1.00	Low strength	1.00	Low strength	1.00
		Dusty	0.01	Ponding	1.00		
				Wetness	1.00		
				Dusty	0.01		
Rh—Rhinebeck silt loam							
Rhinebeck	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
		Dusty	0.01	Low strength	0.50		
				Dusty	0.01		
WwB—Williamson silt loam, 2 to 6 percent slopes							
Williamson	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Dusty	0.01	Wetness	0.50		
				Dusty	0.01		
WwC—Williamson silt loam, rolling							
Williamson, rolling	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Dusty	0.01	Low strength	0.50		
				Wetness	0.50		
				Dusty	0.01		

Soil Erosion

This folder contains a collection of tabular reports that present soil erosion factors and groupings. The reports (tables) include all selected map units and components for each map unit. Soil erosion factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

Conservation Planning (CEG Report No.: 172WSS-01-0124)

This report provides those soil attributes for the conservation plan for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. It provides the soil description along with the slope, runoff, T Factor, WEI, WEG, Erosion class, Drainage class, Land Capability Classification, and the engineering Hydrologic Group and the erosion factors Kf, the representative percentage of fragments, sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. Further information on these factors can be found in the National Soil Survey Handbook section 618 found at the url http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/ref/?cid=nrcs142p2_054223#00 .

Soil properties and interpretations for conservation planning. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

Conservation Planning–Onondaga County, New York																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Factor	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydrologic Group	Surface						
												Depths in.	Kf Factor	Frag-ments RV	Sand RV	Silt RV	Clay RV
AoA—Appleton loam, 0 to 3 percent slopes																	
Appleton	85	2.0	298	Very high	5	56	5	Class 1	Somewhat poorly drained	3w	B/D	0 - 7	.28	10	41	42	17
Cd—Canandaigua mucky silt loam																	
Canandaigua	80	2.0	—	—	5	48	6	—	Poorly drained	4w	C/D	0 - 7	.49	4	11	66	22
ChA—Collamer silt loam, 0 to 2 percent slopes																	
Collamer	85	1.0	—	—	5	48	6	—	Moderately well drained	2w	C/D	0 - 9	.49	0	11	66	22
ChB—Collamer silt loam, 2 to 6 percent slopes																	
Collamer	85	4.0	—	—	5	48	6	—	Moderately well drained	2e	C/D	0 - 9	.49	0	11	66	22
DuC—Dunkirk silt loam, rolling																	
Dunkirk, rolling	80	9.0	—	—	5	48	6	—	Well drained	3e	C	0 - 5	.49	0	11	66	22
FL—Fluvaquents, frequently flooded																	
Fluvaquents	75	3.0	—	—	5	56	5	—	Poorly drained	5w	A/D	0 - 5	.32	14	32	55	12
Fo—Fonda mucky silty clay loam																	
Fonda	75	2.0	—	—	5	86	4	—	Very poorly drained	5w	C/D	0 - 9	.49	0	19	43	37

Conservation Planning–Onondaga County, New York																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Fact or	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydro logic Group	Surface						
												Depths in.	Kf Fact or	Frag- ments RV	Sand RV	Silt RV	Clay RV
HlA—Hilton loam, 0 to 3 percent slopes																	
Hilton	85	3.0	200	Low	5	56	5	Class 1	Moderately well drained	2w	B/D	0 - 9	.28	10	41	42	17
HlB—Hilton loam, 3 to 8 percent slopes																	
Hilton	85	5.0	160	Low	5	56	5	Class 1	Moderately well drained	2e	B/D	0 - 9	.28	10	41	42	17
MdC—Madrid fine sandy loam, 8 to 15 percent slopes																	
Madrid	80	12.0	—	—	5	86	3	—	Well drained	3e	B	0 - 9	.20	5	67	22	10
MtA—Minoa fine sandy loam, 0 to 2 percent slopes																	
Minoa	80	1.0	—	—	5	86	3	—	Somewhat poorly drained	3w	B/D	0 - 9	.20	0	68	21	10
NgA—Niagara silt loam, 0 to 4 percent slopes																	
Niagara	80	2.0	—	—	5	48	6	—	Somewhat poorly drained	3w	C/D	0 - 11	.49	0	11	66	22
OgB—Ontario loam, 3 to 8 percent slopes																	
Ontario	85	6.0	150	Low	5	56	5	Class 1	Well drained	2e	B	0 - 7	.28	10	41	42	17
OnC—Ontario gravelly loam, 8 to 15 percent slopes																	
Ontario	85	12.0	150	Medium	5	48	6	Class 1	Well drained	3e	B	0 - 7	.28	15	41	42	17

Conservation Planning–Onondaga County, New York																		
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Fact or	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydro logic Group	Surface						
												Depths in.	Kf Fact or	Frag- ments RV	Sand RV	Silt RV	Clay RV
Pb—Palms muck																	
Palms	80	2.0	—	—	1	134	2	—	Very poorly drained	5w	B/D	0 - 24	—	—	60	30	10
Rh—Rhinebeck silt loam																	
Rhinebeck	80	2.0	—	—	5	48	6	—	Somewhat poorly drained	3w	C/D	0 - 7	.49	0	26	52	22
WwB—Williamson silt loam, 2 to 6 percent slopes																	
Williamson	80	4.0	—	—	4	56	5	—	Moderately well drained	2e	D	0 - 9	.37	0	20	67	12
WwC—Williamson silt loam, rolling																	
Williamson, rolling	80	12.0	—	—	4	56	5	—	Moderately well drained	3e	D	0 - 9	.37	0	20	67	12

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Engineering Properties (CEG Report No.: 172WSS-01-0124)

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Onondaga County, New York

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
AoA—Appleton loam, 0 to 3 percent slopes														
Appleton	85	B/D	0-8	Fine sandy loam, gravelly silt loam, silt loam, loam	SP-SM, ML, OH	A-4, A-1-b, A-7-5	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	6-32 -61	NP-6 -11
			8-16	Silt loam, loam, gravelly silt loam, fine sandy loam	SP-SM, ML, CL-ML	A-4, A-1-b, A-7-5	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	4-25 -41	NP-6 -11
			16-30	Loam, clay loam, silt loam, gravelly silt loam, silty clay loam	ML, CL, GC-GM	A-4, A-2-4, A-7-5	0- 0- 2	0- 0- 15	60-75-95	55-70-90	30-65-90	30-55-90	23-30 -44	7-9 -13
			30-54	Loam, very gravelly fine sandy loam, gravelly loam, gravelly silt loam	ML, GC-GM, GW-GM, SC-SM	A-1-a, A-4, A-6	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 85	4-23 -38	NP-6 -11
			54-79	Gravelly silt loam, gravelly loam, very gravelly fine sandy loam, loam	GC-GM, ML, GW-GM, SC-SM	A-4, A-1-a, A-6	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 85	4-23 -38	NP-6 -11

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	**Pct. of map unit**	**Hydrologic group**	**Depth**	**USDA texture**	**Classification**		**Pct Fragments**		**Percentage passing sieve number—**				**Liquid limit**	**Plasticity index**
					Unified	**AASHTO**	**>10 inches**	**3-10 inches**	**4**	**10**	**40**	**200**		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Cd—Canandaigua mucky silt loam														
Canandaigua	80	C/D	0-8	Mucky silt loam	MH, ML, OH, OL	A-4, A-5, A-7	0- 0- 0	0- 0- 0	95-100-100	92-100-100	85-95-100	70-80-95	35-45-55	5-10-15
			8-31	Silt loam, very fine sandy loam, silty clay loam	CL, CL-ML	A-6, A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	80-95-100	50-65-95	20-30-40	5-10-15
			31-60	Stratified silt loam to very fine sand to fine sand, very fine sandy loam, silty clay	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	60-90-100	30-75-95	20-25-30	3-7 -10
ChA—Collamer silt loam, 0 to 2 percent slopes														
Collamer	85	C/D	0-10	Silt loam	CL, CL-ML, ML, SC-SM, SM	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-95-100	40-80-90	25-30-35	5-8 -10
			10-16	Silt loam, very fine sandy loam, fine sandy loam	CL, CL-ML, ML, SC-SM	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-95-100	40-80-90	20-25-30	3-7 -10
			16-42	Silt loam, silty clay loam, sandy clay loam	CL, CL-ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	80-95-100	70-80-95	20-28-35	5-10-15
			42-60	Silt loam, stratified silt loam to very fine sand, silty clay loam	CL, CL-ML, ML, SM	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	70-90-100	40-75-95	20-28-35	3-9 -15

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
ChB—Collamer silt loam, 2 to 6 percent slopes														
Collamer	85	C/D	0-10	Silt loam	CL, CL-ML, ML, SC-SM, SM	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-95-100	40-80-90	25-30-35	5-8 -10
			10-16	Fine sandy loam, very fine sandy loam, silt loam	CL, CL-ML, ML, SC-SM	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-95-100	40-80-90	20-25-30	3-7 -10
			16-42	Silt loam, silty clay loam, sandy clay loam	CL, CL-ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	80-95-100	70-80-95	20-28-35	5-10-15
			42-60	Silt loam, stratified silt loam to very fine sand, silty clay loam	CL, CL-ML, ML, SM	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	70-90-100	40-75-95	20-28-35	3-9 -15
DuC—Dunkirk silt loam, rolling														
Dunkirk, rolling	80	C	0-5	Silt loam	CL, CL-ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-95-100	45-80-90	20-25-30	5-8 -10
			5-16	Silt loam, very fine sandy loam, fine sandy loam	CL, CL-ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-95-100	45-80-90	20-25-30	5-8 -10
			16-36	Silt loam, silty clay loam, very fine sandy loam	CL, CL-ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	80-95-100	50-80-90	20-25-30	5-10-15
			36-72	Silt, stratified silt loam to very fine sand, silty clay loam	ML, SM	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	70-90-100	40-70-95	15-15-15	NP-2 -4

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
FL—Fluvaquents, frequently flooded														
Fluvaquents	75	A/D	0-5	Mucky silt loam	CL, ML, SM	A-2, A-4, A-6	0- 0- 0	0- 2- 5	80-90-100	75-80-100	40-70-100	15-55-95	15-23-30	NP-10-20
			5-70	Gravelly sand, very gravelly silt loam, silty clay loam	GC, CL, GM, ML, SC-SM	A-4, A-1, A-2, A-6	0- 0- 0	0- 8- 15	35-68-100	30-65-100	15-58-100	5-48- 90	15-23-30	NP-10-20
Fo—Fonda mucky silty clay loam														
Fonda	75	C/D	0-9	Mucky silty clay loam	CL, CL-ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	95-100-100	92-100-100	90-95-100	80-90-95	23-33-43	7-13-18
			9-33	Silty clay, silty clay loam, clay	CL	A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	90-95-100	80-95-95	25-33-40	11-18-25
			33-60	Silty clay, clay	CL	A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	90-95-100	80-95-95	25-33-40	11-18-25

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HlA—Hilton loam, 0 to 3 percent slopes														
Hilton	85	B/D	0-9	Loam, fine sandy loam, silt loam, gravelly silt loam	ML, CL-ML, SM	A-4, A-2-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	6-28 -51	NP-6 -11
			9-17	Fine sandy loam, loam, gravelly silt loam, silt loam	ML, CL-ML, SM	A-4, A-2-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	4-25 -41	NP-6 -11
			17-24	Silt loam, loam, gravelly loam, sandy clay loam	GC, CL, ML	A-6, A-4	0- 0- 2	0- 0- 15	60-75-95	55-70-90	10-65-90	10-50-90	23-30 -44	7-9 -13
			24-36	Silt loam, gravelly loam, sandy clay loam, loam	ML, GC, CL	A-4, A-6	0- 0- 2	0- 0- 15	60-75-95	55-70-90	10-65-90	10-50-90	23-30 -44	7-9 -13
			36-54	Loam, gravelly loam, very gravelly fine sandy loam	CL-ML, ML, GC-GM, SM, SC-SM, GM	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11
			54-79	Loam, very gravelly fine sandy loam, gravelly loam	GC-GM, GM, SC-SM, ML, CL-ML, SM	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HlB—Hilton loam, 3 to 8 percent slopes														
Hilton	85	B/D	0-9	Loam, fine sandy loam, silt loam, gravelly silt loam	ML, CL-ML, SM	A-4, A-2-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	6-28 -51	NP-6 -11
			9-17	Fine sandy loam, loam, gravelly silt loam, silt loam	ML, CL-ML, SM	A-4, A-2-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	4-25 -41	NP-6 -11
			17-24	Silt loam, loam, gravelly loam, sandy clay loam	GC, CL, ML	A-4, A-6	0- 0- 2	0- 0- 15	60-75-95	55-70-90	10-65-90	10-50-90	23-30 -44	7-9 -13
			24-36	Loam, sandy clay loam, gravelly loam, silt loam	ML, GC, CL	A-4, A-6	0- 0- 2	0- 0- 15	60-75-95	55-70-90	10-65-90	10-50-90	23-30 -44	7-9 -13
			36-54	Loam, gravelly loam, very gravelly fine sandy loam	CL-ML, ML, GC-GM, SM, SC-SM, GM	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11
			54-79	Gravelly loam, very gravelly fine sandy loam, loam	GC-GM, GM, SC-SM, ML, CL-ML, SM	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
MdC—Madrid fine sandy loam, 8 to 15 percent slopes														
Madrid	80	B	0-9	Fine sandy loam	SM, ML	A-2, A-4	0- 0- 0	0- 0- 15	85-95-100	75-92-100	50-70-90	30-45-90	30-35-40	5-8 -10
			9-19	Fine sandy loam, gravelly loam, gravelly silt loam	CL-ML, GC-GM, SC, SC-SM	A-2, A-4	0- 0- 0	0- 0- 15	80-95-95	60-92-92	40-70-90	25-40-80	20-25-30	5-8 -10
			19-42	Fine sandy loam, gravelly loam, gravelly silt loam	CL-ML, GC-GM, SC, SC-SM	A-4, A-2	0- 0- 0	0- 2- 15	70-95-95	55-92-92	40-70-90	25-40-80	20-25-30	5-8 -10
			42-72	Gravelly silt loam, fine sandy loam, very gravelly loam	SC, GC-GM, CL-ML, SC-SM	A-1, A-2, A-4	0- 0- 0	0- 2- 15	65-95-95	50-92-92	35-70-90	20-40-80	20-25-30	5-8 -10
MtA—Minoa fine sandy loam, 0 to 2 percent slopes														
Minoa	80	B/D	0-10	Fine sandy loam	ML, SM	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-80-95	35-50-80	15-18-20	NP-2 -4
			10-38	Loamy very fine sand, silt loam, fine sandy loam	ML, SM	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-90-95	35-50-80	15-18-20	NP-2 -4
			38-60	Stratified very fine sand to fine sand to silt loam, silt loam, fine sandy loam, loamy fine sand	ML, SM	A-2, A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	60-80-95	20-35-90	15-18-20	NP-2 -4

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
NgA—Niagara silt loam, 0 to 4 percent slopes														
Niagara	80	C/D	0-11	Silt loam	ML	A-4, A-5, A-6, A-7	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-95-100	45-80-90	30-38-45	5-10-15
			11-39	Silt loam, silty clay loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-95-100	45-80-95	25-30-35	3-8 -13
			39-60	Silt loam, very fine sandy loam, silty clay loam, stratified silt loam to loamy very fine sand	CL, CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	92-100-100	80-90-100	35-70-95	25-30-35	3-8 -13

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
OgB—Ontario loam, 3 to 8 percent slopes														
Ontario	85	B	0-8	Gravelly silt loam, silt loam, loam, fine sandy loam	SM, ML, CL-ML	A-4, A-2-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	6-28 -51	NP-6 -11
			8-14	Fine sandy loam, gravelly silt loam, loam, silt loam	SM, ML, CL-ML	A-4, A-2-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	4-25 -41	NP-6 -11
			14-21	Gravelly loam, loam, sandy clay loam, silt loam	CL, ML, GC	A-4, A-6	0- 0- 2	0- 0- 15	60-90-95	55-85-90	10-80-90	10-60-90	23-30 -44	7-9 -13
			21-39	Sandy clay loam, silt loam, loam, gravelly loam	CL, ML, GC	A-4, A-6	0- 0- 2	0- 0- 15	60-75-95	55-70-90	10-65-90	10-50-90	23-30 -44	7-9 -13
			39-48	Gravelly loam, very gravelly fine sandy loam, loam	SM, GC-GM, GM, SC-SM, ML, CL-ML	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11
			48-79	Gravelly loam, very gravelly fine sandy loam, loam	GM, CL-ML, ML, GC-GM, SM, SC-SM	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
OnC—Ontario gravelly loam, 8 to 15 percent slopes														
Ontario	85	B	0-8	Gravelly loam, silt loam, loam, fine sandy loam	SM, ML, CL-ML	A-4, A-2-4	0- 0- 2	0- 0- 15	60-80-95	55-75-90	30-70-90	10-50-90	6-28 -51	NP-6 -11
			8-14	Silt loam, loam, gravelly silt loam, fine sandy loam	SM, ML, CL-ML	A-4, A-2-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	30-75-90	10-55-90	4-25 -41	NP-6 -11
			14-21	Gravelly loam, loam, sandy clay loam, silt loam	CL, ML, GC	A-6, A-4	0- 0- 2	0- 0- 15	60-90-95	55-85-90	10-80-90	10-60-90	23-30 -44	7-9 -13
			21-39	Sandy clay loam, silt loam, loam, gravelly loam	CL, ML, GC	A-4, A-6	0- 0- 2	0- 0- 15	60-75-95	55-70-90	10-65-90	10-50-90	23-30 -44	7-9 -13
			39-48	Gravelly loam, very gravelly fine sandy loam, loam	SM, GC-GM, GM, SC-SM, ML, CL-ML	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11
			48-79	Gravelly loam, very gravelly fine sandy loam, loam	GM, CL-ML, ML, GC-GM, SM, SC-SM	A-2-4, A-4, A-1	0- 0- 5	0- 0- 25	30-75-90	25-70-85	15-60-85	5-45- 75	4-23 -38	NP-6 -11
Pb—Palms muck														
Palms	80	B/D	0-24	Muck	PT	A-8	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	—	—	—	—
			24-60	Clay loam, silty clay loam, gravelly sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6, A-7	0- 0- 0	0- 0- 0	70-100-100	60-100-100	35-95-100	15-75-95	20-33 -45	5-13-20

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	**Pct. of map unit**	**Hydrologic group**	**Depth**	**USDA texture**	**Classification**		**Pct Fragments**		**Percentage passing sieve number—**				**Liquid limit**	**Plasticity index**
					Unified	**AASHTO**	**>10 inches**	**3-10 inches**	**4**	**10**	**40**	**200**		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Rh—Rhinebeck silt loam														
Rhinebeck	80	C/D	0-8	Silt loam	CH, CL, MH, ML	A-6, A-7	0- 0- 0	0- 0- 0	85-100-100	65-100-100	50-95-100	40-80-95	30-43-55	10-18-25
			8-11	Silty clay loam, silty clay	CH, CL	A-6, A-7	0- 0- 0	0- 0- 0	92-100-100	85-100-100	70-95-100	50-90-95	30-43-55	15-23-30
			11-36	Silty clay loam, clay, silty clay	CH, CL	A-7, A-6	0- 0- 0	0- 0- 0	92-100-100	85-100-100	75-95-100	70-90-95	30-43-55	15-23-30
			36-60	Silty clay loam	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	92-100-100	85-100-100	70-95-100	55-90-95	10-20-30	NP-5-10
WwB—Williamson silt loam, 2 to 6 percent slopes														
Williamson	80	D	0-9	Silt loam	ML, SM	A-4, A-6, A-7	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-95-100	35-80-90	30-38-45	5-10-15
			9-22	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-95-100	45-80-90	15-23-30	NP-5-10
			22-45	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-90-100	45-60-90	15-23-30	NP-5-10
			45-60	Stratified silt loam to very fine sandy loam, very fine sandy loam	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-90-100	45-55-90	15-23-30	NP-5-10

Engineering Properties–Onondaga County, New York														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
WwC—Williamson silt loam, rolling														
Williamson, rolling	80	D	0-9	Silt loam	ML, SM	A-4, A-6, A-7	0- 0- 0	0- 0- 0	95-100-100	92-100-100	65-95-100	35-80-90	30-38-45	5-10-15
			9-22	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-95-100	45-80-90	15-23-30	NP-5-10
			22-45	Silt loam, very fine sandy loam	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-90-100	45-60-90	15-23-30	NP-5-10
			45-60	Stratified silt loam to very fine sandy loam, very fine sandy loam	CL, CL-ML, ML	A-4	0- 0- 0	0- 0- 0	95-100-100	92-100-100	75-90-100	45-55-90	15-23-30	NP-5-10

Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Soil Features (CEG Report No.: 172WSS-01-0124)

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Features–Onondaga County, New York									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
		In	*In*		*In*	*In*			
AoA—Appleton loam, 0 to 3 percent slopes									
Appleton		—	—		0	0	High	High	Low
Cd—Canandaigua mucky silt loam									
Canandaigua		—	—		—	—	High	High	Low
ChA—Collamer silt loam, 0 to 2 percent slopes									
Collamer		—	—		—	—	High	High	Low
ChB—Collamer silt loam, 2 to 6 percent slopes									
Collamer		—	—		—	—	High	High	Low
DuC—Dunkirk silt loam, rolling									
Dunkirk, rolling		—	—		—	—	High	High	Low
FL—Fluvaquents, frequently flooded									
Fluvaquents		—	—		—	—	High	High	Moderate
Fo—Fonda mucky silty clay loam									
Fonda		—	—		—	—	High	High	Low

Custom Soil Resource Report

Soil Features–Onondaga County, New York									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
HlA—Hilton loam, 0 to 3 percent slopes									
Hilton		—	—		0	0	Moderate	High	Moderate
HlB—Hilton loam, 3 to 8 percent slopes									
Hilton		—	—		0	0	Moderate	High	Moderate
MdC—Madrid fine sandy loam, 8 to 15 percent slopes									
Madrid		—	—		—	—	Moderate	Low	Moderate
MtA—Minoa fine sandy loam, 0 to 2 percent slopes									
Minoa		—	—		—	—	High	High	Moderate
NgA—Niagara silt loam, 0 to 4 percent slopes									
Niagara		—	—		—	—	High	High	Low
OgB—Ontario loam, 3 to 8 percent slopes									
Ontario		—	—		0	0	Moderate	Low	Moderate
OnC—Ontario gravelly loam, 8 to 15 percent slopes									
Ontario		—	—		0	0	Moderate	Low	Moderate

Soil Features–Onondaga County, New York									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
Pb—Palms muck									
Palms		—	—		4-15	25-32	High	High	Moderate
Rh—Rhinebeck silt loam									
Rhinebeck		—	—		—	—	High	High	Low
WwB—Williamson silt loam, 2 to 6 percent slopes									
Williamson	Fragipan	15-22-24	—	noncoherent	—	—	High	High	Moderate
WwC—Williamson silt loam, rolling									
Williamson, rolling	Fragipan	15-22-24	—	noncoherent	—	—	High	High	Moderate

Water Management

This folder contains a collection of tabular reports that present soil interpretations related to water management. The reports (tables) include all selected map units and components for each map unit, limiting features and interpretive ratings. Water management interpretations are tools for evaluating the potential of the soil in the application of various water management practices. Example interpretations include pond reservoir area, embankments, dikes, levees, and excavated ponds.

Stormwater Management (NY) (CEG Report No.: 172WSS-01-0124)

Proper management of stormwater runoff from construction sites and developed areas is an issue of growing importance in New York State. During construction, exposed soil is subject to a greater risk of erosion, resulting in a greater potential for sedimentation in waterways. Stormwater runoff increases on the rooftops of buildings, paved parking lots, and other impervious surfaces, and thus increases the potential for flooding and discharge of polluted runoff into open water. Management of stormwater runoff can prevent or reduce the availability, release, or transport of substances that can degrade surface and ground waters. Guidelines and design criteria for stormwater management practices have been established by the New York State Department of Environmental Conservation (2008).

These interpretations are designed to evaluate the limitations of soils for stormwater management practices. The purpose of the interpretations is to help decision makers use soil survey information in the selection and implementation of the stormwater management practices best suited to a particular location. The information in the interpretations is intended for planning purposes and does not eliminate the need for on-site investigation of the soil.

Rating class terms indicate the extent to which the soils are limited by the soil features that influence the design, construction, and performance of stormwater management practices. *Least limited* indicates that the soil has features that are very favorable for this practice. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the practice. The limitations can be overcome or minimized by special planning, design, or construction. Fair performance and moderate maintenance can be expected. *Most limited* indicates that the soil has one or more features that are unfavorable for the practice. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive construction procedures. Poor performance and high maintenance can be expected.

The rating class is based on the maximum value of the rating indices generated for each soil feature considered. Where the rating value is:

equal to 0.0, the rating class is *least limited.*

greater than 0 and less than 1.0, the rating class is *somewhat limited.*

equal to 1.0, the rating class is *most limited.*

Design criteria in the "New York State Stormwater Management Design Manual" (New York State Department of Environmental Conservation, 2008) were used to guide the selection of potentially limiting soil properties. Additional limiting features incorporated into the interpretations are based on soil function for the specific practice.

Infiltration Practices

This interpretation is designed to evaluate the limitations of soils for stormwater management infiltration practices. Infiltration practices collect stormwater runoff in basins (or trenches) for storage prior to filtration through undisturbed soil in the basin (or trench) floor and sides. Deep, well drained, and permeable soils are required for implementing infiltration practices. Following is a synopsis of the soil features considered in this interpretation.

Excessive permeability: Excessive permeability in one or more layers may allow stormwater to move rapidly through the soil without sufficient filtering, resulting in a potential for groundwater contamination. Additional pretreatment or soil amendments may be required as part of an infiltration practice. The interpretation evaluates the range (low to high) of permeability values for the most transmissive layer in the soil.

Low permeability: Low permeability restricts movement of water through the soil, impeding the infiltration function. The interpretation evaluates the range (low to high) of permeability values for the least transmissive layer in the soil.

Slope gradient: Excessive slope limits the functionality of an infiltration practice. The representative slope gradient percent for the soil component is the property evaluated.

Depth to bedrock: Limited depth to bedrock impedes excavation and restricts infiltration. The minimum depth to bedrock is the property evaluated.

Depth to manufactured layer: In urban areas, some anthropogenic (human-altered) soils have a restrictive layer, such as pavement, below the surface. Limited depth to this feature impedes excavation and restricts infiltration. The minimum depth to a manufactured layer is the property evaluated.

Depth to saturation: A seasonal high water table in the upper part of the soil limits the storage capacity of an infiltration practice. The interpretation evaluates the minimum depth to a zone of saturation.

Excessive fines: Soils with a high content of silt and clay may become plugged with sediment from stormwater, resulting in restricted infiltration. The interpretation evaluates the weighted average of the percent clay and percent silt, for depths greater than 36 inches.

In addition to soil characteristics, other attributes of the site and the surrounding area are important factors in planning and implementing stormwater management practices. For example, proximity and slope direction from the installation practice to a drinking water well are important considerations when sites for infiltration practices are selected.

Pond Practices

This interpretation is designed to evaluate the limitations of soils for stormwater management ponds (excluding small "pocket ponds"). Although designs vary, most stormwater ponds are excavated, have a dam with a spillway, a separate forebay area, and a permanent pool 4 to 6 feet deep. Such designs detain stormwater for a number of days to a few weeks, allowing pollutants to settle out while aiding biological uptake of nutrients. Following is a synopsis of the soil features considered in this interpretation.

Permeability: Excessive permeability limits the capability of the soil to retain water. The interpretation evaluates the representative permeability in the least transmissive layer (minimum) and the bottom layer, excluding bedrock.

Slope gradient: Excessive slope reduces the feasibility of constructing a pond. The representative slope gradient percent for the soil component is the property evaluated.

Depth to bedrock: Limited depth to bedrock impedes excavation and construction of the pond. Minimum depth to bedrock is the property evaluated. The severity of the depth limitation increases as slope gradient increases, since the bedrock impedes grading and shaping of the land. The interpretation also evaluates slope gradient percent in conjunction with depth to bedrock.

Depth to manufactured layer: In urban areas, some anthropogenic (human-altered) soils have a restrictive layer, such as pavement, below the surface. Limited depth to this restriction impedes excavation and construction of the pond. The minimum depth to a manufactured layer is the property evaluated. The severity of the depth limitation increases as slope gradient increases, since the pavement or other restriction impedes grading and shaping of the land. The interpretation also evaluates slope gradient percent in conjunction with depth to a manufactured layer.

Flooding: Flooding limits the storage capacity of the pond and may degrade the quality of the site. The interpretation evaluates the flooding frequency of the soil.

Depth to saturation: A seasonal high water table at the surface of the soil limits the storage capacity of the pond. The interpretation evaluates the minimum depth to a zone of saturation.

In addition to soil characteristics, other attributes of the site and the surrounding area are important factors in planning and implementing stormwater ponds. For example, an increase in the runoff-generating potential and size of a contributing area upslope from the proposed pond site generally increases the size of the required area with suitable soils for constructing the stormwater pond.

Wetland Practices

This interpretation is designed to evaluate the limitations of soils for stormwater management wetlands. These are constructed, shallow-water areas designed to simulate the water quality improvement function of natural wetlands, as a stand-alone practice or as the downstream component of related practices, such as stormwater ponds or infiltration basins. Following is a synopsis of the soil features considered in this interpretation.

Permeability: Excessive permeability limits the capability of the soil to retain water. The interpretation evaluates the representative permeability in the least transmissive layer (minimum) and the bottom layer, excluding bedrock. In some organic soils, permeability is flagged as a limitation, even though the soil is saturated for most of the year because of its low position on the landscape. A zone of saturation in the soil partially offsets the limitation of excessive permeability. Water lost from the soil may be replenished during times of the year when the soil has a seasonal high water table. The interpretation evaluates whether a seasonal zone of saturation is within the upper 3 feet of the soil.

Slope gradient: Excessive slope limits the feasibility of constructing a wetland. The representative slope gradient percent for the soil component is the property evaluated.

Depth to bedrock: Limited depth to bedrock impedes excavation and construction of a wetland. The minimum depth to bedrock is the property evaluated. The severity of the depth limitation increases as slope gradient increases, since the bedrock impedes grading and shaping of the land. The interpretation also evaluates slope gradient percent in conjunction with depth to bedrock.

Depth to manufactured layer: In urban areas, some anthropogenic (human-altered) soils have a restrictive layer, such as pavement, below the surface. Limited depth to this restriction impedes excavation and construction of a wetland. The minimum depth to a manufactured layer is the property evaluated. The severity of the depth limitation increases as slope gradient increases, since the pavement or other restrictive material impedes grading and shaping of the land. The interpretation also evaluates slope gradient percent in conjunction with depth to a manufactured layer.

Surface fragments: Large fragments on the surface, such as stones or boulders, interfere with the regrading that may be required during construction of a wetland. The interpretation evaluates the representative size and percent cover of fragments on the surface of the soil.

Flooding: Flooding interferes with the function of a wetland practice and may degrade the quality of the site. The interpretation evaluates flooding frequency of the soil.

Hydric soil: Hydric soils are saturated near the surface for extended periods during the growing season and are commonly associated with naturally existing wetlands. A hydric soil limitation flags areas that may be designated as wetlands, and thus restricted from the development of stormwater wetlands. The interpretation evaluates the hydric rating and the minimum depth to saturation for the soil.

In addition to soil characteristics, other attributes of the site and the surrounding area are important factors in planning and implementing stormwater management practices. For example, stormwater management wetlands should not be created within areas of naturally existing wetlands, so these natural areas need to be identified to avoid their degradation. On-site evaluation by a trained wetland scientist can verify the occurrence of wetlands and determine the boundaries between wetlands and uplands.

References:

New York State Department of Environmental Conservation. April 2008. New York State Stormwater Management Design Manual.

New York State Department of Environmental Conservation. June 2000. Urban/ Stormwater Runoff Management Practices Catalogue for Nonpoint Source Pollution Prevention in New York State.

Report—Stormwater Management (NY) (CEG Report No.: 172WSS-01-0124)

[On-site investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows a maximum of the top five limiting features for any given soil. The soil may have additional limitations.]

Stormwater Management (NY)–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Infiltration Practices		Pond Practices		Wetland Practices	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AoA—Appleton loam, 0 to 3 percent slopes							
Appleton	85	Most limited		Least limited		Somewhat limited	
		Depth to saturation	1.00			Potential hydric soil	0.50
		Excessive fines	0.50				
Cd—Canandaigua mucky silt loam							
Canandaigua	80	Most limited		Most limited		Most limited	
		Depth to saturation	1.00	Depth to saturation	1.00	Hydric soil	1.00
		Low permeability	0.50				
ChA—Collamer silt loam, 0 to 2 percent slopes							
Collamer	85	Most limited		Least limited		Least limited	
		Depth to saturation	1.00				
		Low permeability	0.50				
		Excessive fines	0.50				
ChB—Collamer silt loam, 2 to 6 percent slopes							
Collamer	85	Most limited		Least limited		Somewhat limited	
		Depth to saturation	1.00			Slope	0.50
		Low permeability	0.50				
		Excessive fines	0.50				
DuC—Dunkirk silt loam, rolling							
Dunkirk, rolling	80	Somewhat limited		Somewhat limited		Most limited	
		Low permeability	0.50	Slope	0.90	Slope	1.00
		Slope	0.50				
FL—Fluvaquents, frequently flooded							
Fluvaquents	75	Most limited		Most limited		Most limited	
		Depth to saturation	1.00	Flooding	1.00	Flooding	1.00
		Excessive fines	0.50	Depth to saturation	1.00	Hydric soil	1.00
				Excessive permeability	1.00	Excessive permeability	0.80

Stormwater Management (NY)–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Infiltration Practices		Pond Practices		Wetland Practices	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fo—Fonda mucky silty clay loam							
Fonda	75	Most limited		Most limited		Most limited	
		Low permeability	1.00	Depth to saturation	1.00	Hydric soil	1.00
		Depth to saturation	1.00				
		Excessive fines	1.00				
HlA—Hilton loam, 0 to 3 percent slopes							
Hilton	85	Most limited		Least limited		Least limited	
		Depth to saturation	1.00				
		Excessive fines	0.50				
HlB—Hilton loam, 3 to 8 percent slopes							
Hilton	85	Most limited		Least limited		Somewhat limited	
		Depth to saturation	1.00			Slope	0.50
		Excessive fines	0.50				
MdC—Madrid fine sandy loam, 8 to 15 percent slopes							
Madrid	80	Somewhat limited		Somewhat limited		Most limited	
		Low permeability	0.50	Slope	0.90	Slope	1.00
		Slope	0.50				
MtA—Minoa fine sandy loam, 0 to 2 percent slopes							
Minoa	80	Most limited		Somewhat limited		Somewhat limited	
		Depth to saturation	1.00	Excessive permeability	0.90	Excessive permeability	0.70
						Potential hydric soil	0.50
NgA—Niagara silt loam, 0 to 4 percent slopes							
Niagara	80	Most limited		Least limited		Somewhat limited	
		Depth to saturation	1.00			Potential hydric soil	0.50
		Low permeability	0.50				
		Excessive fines	0.50				
OgB—Ontario loam, 3 to 8 percent slopes							
Ontario	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Excessive fines	0.50	Slope	0.50	Slope	0.90

Stormwater Management (NY)–Onondaga County, New York							
Map symbol and soil name	Pct. of map unit	Infiltration Practices		Pond Practices		Wetland Practices	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OnC—Ontario gravelly loam, 8 to 15 percent slopes							
Ontario	85	Somewhat limited		Somewhat limited		Most limited	
		Slope	0.50	Slope	0.90	Slope	1.00
		Excessive fines	0.50				
Pb—Palms muck							
Palms	80	Most limited		Most limited		Most limited	
		Depth to saturation	1.00	Depth to saturation	1.00	Hydric soil	1.00
		Excessive fines	1.00				
Rh—Rhinebeck silt loam							
Rhinebeck	80	Most limited		Least limited		Somewhat limited	
		Low permeability	1.00			Potential hydric soil	0.50
		Depth to saturation	1.00				
		Excessive fines	1.00				
WwB—Williamson silt loam, 2 to 6 percent slopes							
Williamson	80	Most limited		Least limited		Somewhat limited	
		Low permeability	1.00			Slope	0.50
		Depth to saturation	1.00				
WwC—Williamson silt loam, rolling							
Williamson, rolling	80	Most limited		Somewhat limited		Most limited	
		Low permeability	1.00	Slope	0.90	Slope	1.00
		Depth to saturation	1.00				
		Slope	0.50				

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the following National Soil Survey Handbook link: "National Soil Survey Handbook."

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3
Low: 3 to 6
Moderate: 6 to 9
High: 9 to 12
Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural)

Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2
Low: 0.2 to 0.4
Moderately low: 0.4 to 0.75
Moderate: 0.75 to 1.25
Moderately high: 1.25 to 1.75
High: 1.75 to 2.5
Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent
Low: 0.5 to 1.0 percent
Moderately low: 1.0 to 2.0 percent
Moderate: 2.0 to 4.0 percent
High: 4.0 to 8.0 percent
Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5

Extremely acid: 3.5 to 4.4

Very strongly acid: 4.5 to 5.0

Strongly acid: 5.1 to 5.5

Moderately acid: 5.6 to 6.0

Slightly acid: 6.1 to 6.5

Neutral: 6.6 to 7.3

Slightly alkaline: 7.4 to 7.8

Moderately alkaline: 7.9 to 8.4

Strongly alkaline: 8.5 to 9.0

Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   - A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   - B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   - C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   - A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   - B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which “severely eroded,” “very severely eroded,” or “gullied” is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1

Moderate: 13-30:1

Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0

Coarse sand: 1.0 to 0.5

Medium sand: 0.5 to 0.25

Fine sand: 0.25 to 0.10

Very fine sand: 0.10 to 0.05

Silt: 0.05 to 0.002

Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated
Prismatic: Vertically elongated and having flat tops
Columnar: Vertically elongated and having rounded tops
Angular blocky: Having faces that intersect at sharp angles (planes)
Subangular blocky: Having subrounded and planar faces (no sharp angles)
Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand
Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

Wilting point (or permanent wilting point)

The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

The uprooting and tipping over of trees by the wind.

CEG
CME ENGINEERING GROUP, D.P.C.

Appendix B

Information from Ramboll

Exhibit B-1 Site Permitting Drawing Set
Exhibit B-2 Ramboll Email with Project Information
Exhibit B-3 White Pine Geotechnical Evaluation Report

1 SITE PLAN - EIS LANDSCAPE ZONE
SCALE: 1" = 400'-0"

LEGEND

- ASPHALT
- CONCRETE
- GRAVEL
- SOFTSCAPE
- EXISTING AREAS TO BE UNDISTURBED
- BIORETENTION AREAS

EXTERNAL TANKS/TREATMENT AREA (PER FAB):

A. Domestic Water Tanks *(2)*
B. Non-potable Water Tanks *(2)*
C. Fire Water Tanks *(2)*
D. Industrial Water Tanks *(3)*
E. NPR Tanks *(2)*
F. Diversion/Off Spec Tanks with Pump House *(3)*
G. Diesel Tanks *(2)*
H. APM & IPAL Treatment Area *(1)*
I. WH2SO4 & WDSP *(1)*
J. Lime Area *(1)*

P1 - Road setback for 50' front perimeter landscape strip along Caughdenoy Road, to Town of Clay NY requirement.

P2 - Layout reconfigured to achieve larger Stormwater Management Area 1 required.

P3 - Additional Stormwater Management Area 7 & 8 created to meet design requirements.

P4 - Stormwater Management Area 2 & 3 decreased to meet balance additional Stormwater Management Area 7 & 8.

P5 - Stormwater Management Area 5 & 6 enlarged to meet design requirements.

P6 - Stormwater Management Area removed to meet design requirements.

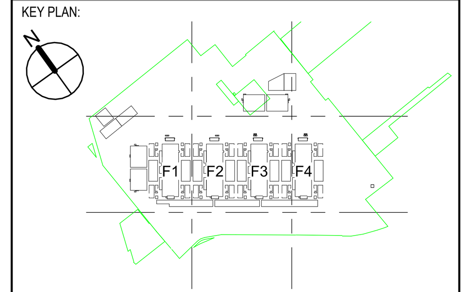
P7 - Bioretention Areas added to meet design requirements.

P8 - Layout relocated slightly northwards to meet design requirements of additional Bioretention Areas (refer P7).

REV	DATE	DESCRIPTION	DRAWN	CHK.
A	07 DEC 2023	EIS SCOPE INTERIM SUBMISSION	JEA	RK

PROJECT PHASE: SITE PERMITTING

KEY PLAN:



BUILDING OWNER/DEVELOPER: Micron

MAIN CONSULTANT & GENERAL CONTRACTOR:

Exyte Singapore Pte Ltd
16 International Business Park,
#02-00, Singapore 609929
Phone: 67259500 Fax: 67258909
www.exyte.net

ARCHITECTURAL CONSULTANT:

STRUCTURAL CONSULTANT:

SWPPP ENGINEER:

M & E CONSULTANT:

PROJECT TITLE:
PROPOSED FAB, CUB AND VARIOUS ANCILLARY BUILDINGS IN TOWN OF CLAY, NEW YORK

DRAWING TITLE:
ARCHITECTURAL SITE PLAN
EIS - LANDSCAPE ZONE

DESIGNED: JRW	DRAWN: MZD	CHECKED: JRW
JOB NO. : S-86386-2	SCALE: 1" = 400'-0"	DATE : NOV 2023

DRAWING NO. : NYWP-LAY-S0-00-ASITE-014 REV A

SHEET:
SIZE: A0

Autodesk Docs://SEA-S1106445-Micron NY Fab/NYWP-A-Site----.rvt

LEGEND:

- 24" DIA SRPE PIPE
- 36" DIA SRPE PIPE
- 48" DIA SRPE PIPE
- 60" DIA SRPE PIPE
- 72" DIA SRPE PIPE
- 90" DIA SRPE PIPE

NOTE :

SRPE : STEEL REINFORCED POLYETHYLENE

1 UNDERGROUND STORM WATER DRAINAGE OVERALL PLAN

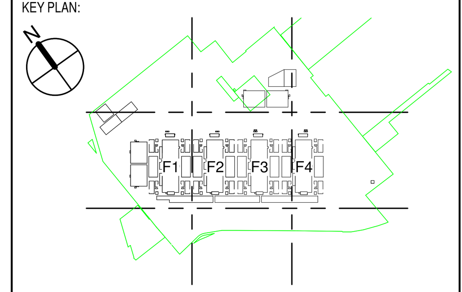
SCALE: 1" = 400'-0"

REV	DATE	DESCRIPTION	DRAWN	CHK.
G	07 DEC 2023	EIS SCOPE INTERIM SUBMISSION	LTH	DR K
F	28 JUL 2023	JULY 2023 REFRESH	TH LEE	DRK
E	08 MAY 2023	SITE MASTER PLAN UPDATE	MMH	DRK
D	05 MAY 2023	ISSUE FOR SITE PLAN PERMIT	JEMS	SP
C	05 APR 2023	SMP04 - ISSUED FOR CLIENT REVIEW	MMH	DRK
B	24 MAR 2023	SMP03 - ISSUED FOR CLIENT REVIEW	MMH	DRK
A	03 MAR 2023	SMP02 - ISSUED FOR CLIENT REVIEW	MMH	DRK

PROJECT PHASE:

SITE PERMITTING

KEY PLAN:



BUILDING OWNER/DEVELOPER:

Micron

MAIN CONSULTANT & GENERAL CONTRACTOR:

exyte

Exyte Singapore Pte Ltd
16 International Business Park,
#02-00, Singapore 609929
Phone: 67258500 Fax: 67258909
www.exyte.net

ARCHITECTURAL CONSULTANT:

STRUCTURAL CONSULTANT:

SWPPP ENGINEER:

M & E CONSULTANT:

PROJECT TITLE:

PROPOSED FAB, CUB AND VARIOUS ANCILLARY BUILDINGS IN TOWN OF CLAY, NEW YORK

DRAWING TITLE:

EIS SCOPE
CIVIL - OVERALL DRAINAGE & GRADING LAYOUT

DESIGNED: NT	DRAWN: MMH	CHECKED: DRK
JOB NO. : S-86386-2	SCALE: As indicated	DATE : FEB 2023

DRAWING NO. : NYWP-LAY-S0-00-SDRAI-001

REV: G

SHEET:

SIZE: A0

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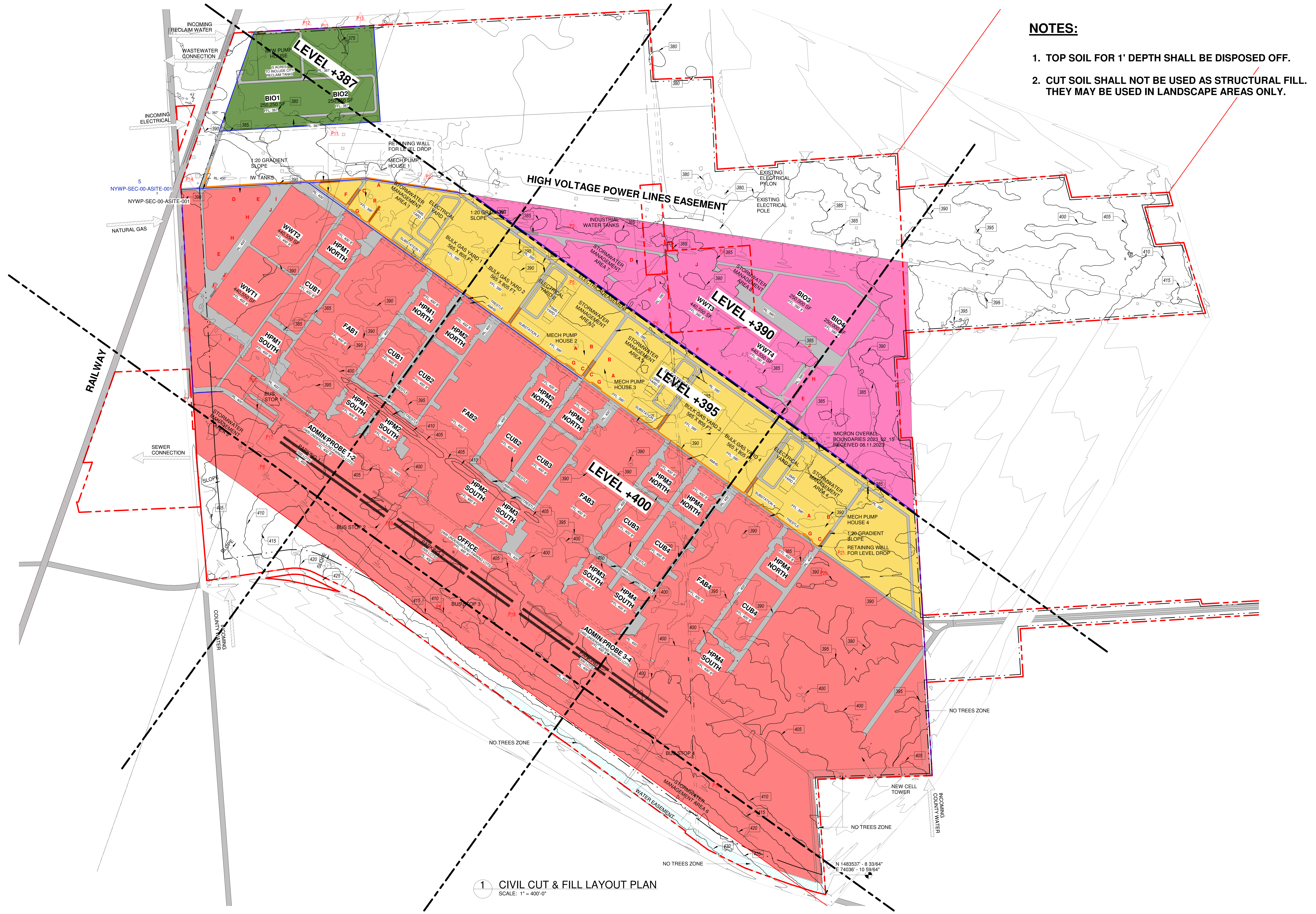


1 CIVIL CUT & FILL LAYOUT PLAN
SCALE: 1" = 400'-0"

NOTES:

1. TOP SOIL FOR 1' DEPTH SHALL BE DISPOSED OFF.
2. CUT SOIL SHALL NOT BE USED AS STRUCTURAL FILL. THEY MAY BE USED IN LANDSCAPE AREAS ONLY.

FINAL CUT & FILL SCHEDULE

	TOTAL FILL VOLUME (CUBIC FEET)	TOTAL FILL VOLUME (CUBIC YARD)	TOTAL CUT VOLUME (CUBIC FEET)	TOTAL CUT VOLUME (CUBIC YARD)
LEVEL +387	13,102,947	485,294	3,787,908	140,293
LEVEL +390	26,257,884	972,514	9,473,455	350,868
LEVEL +395	60,664,421	2,246,830	12,936,493	479,129
LEVEL +400	130,283,497	4,825,314	124,064,421	4,594,978
TOTAL	230,308,749	8,529,954	150,262,277	5,565,269

NOTE :
1. FINAL FILL VOLUME INCLUDES THE ADDITIONAL FILL REQUIRED DUE TO 1' DEPTH OF TOPSOIL BEING REMOVED & DISPOSED OF.
2. FINAL FILL VOLUME ALSO INCLUDES THE REDUCTION IN FILL VOLUME BELOW BUILDINGS/ROADS AS SOIL FILL IS CONSIDERED ONLY UPTO 2 FEET BELOW PLATFORM LEVEL AT THESE AREAS.
3. FINAL CUT VOLUME INCLUDES VOLUME OF TOPSOIL (1' DEPTH) BEING REMOVED & DISPOSED OFF.
4. FINAL CUT VOLUME INCLUDES CUT VOLUME FOR ADMIN BASEMENT.

ADMIN BUILDING BASEMENT CUT SCHEDULE (BELOW 400')

	AREA (ft^2)	DEPTH (ft)	CUT VOLUME (ft^3)	CUT VOLUME (CUBIC YARD)
ADMIN / PROBE 1-2	413,400	18	7,441,200	275,600
OFFICE	363,020	18	6,534,360	242,013
ADMIN / PROBE 3-4	456,032	18	8,208,576	304,021
TOTAL	1,232,452	-	22,184,136	821,634

NOTE : THE CUT VOLUME FOR ADMIN BUILDING IS THE CUT BELOW LEVEL OF +400'

REDUCTION IN FILL VOLUME BELOW BUILDINGS / ROADS (SOIL FILL ONLY UPTO 2 FEET BELOW PLATFORM LEVEL)

NAME	AREA (ft^2)	REDUCTION IN FILL VOLUME (ft^3)	REDUCTION IN FILL VOLUME (CUBIC YARD)
LEVEL +387	717,940	1,435,880	53,180
LEVEL +390	1,398,842	2,797,684	103,618
LEVEL +400	13,770,540	27,541,080	1,020,040
TOTAL	15,887,322	31,774,644	1,176,839

PROJECT PHASE: SITE PERMITTING

BUILDING OWNER/DEVELOPER: Micron

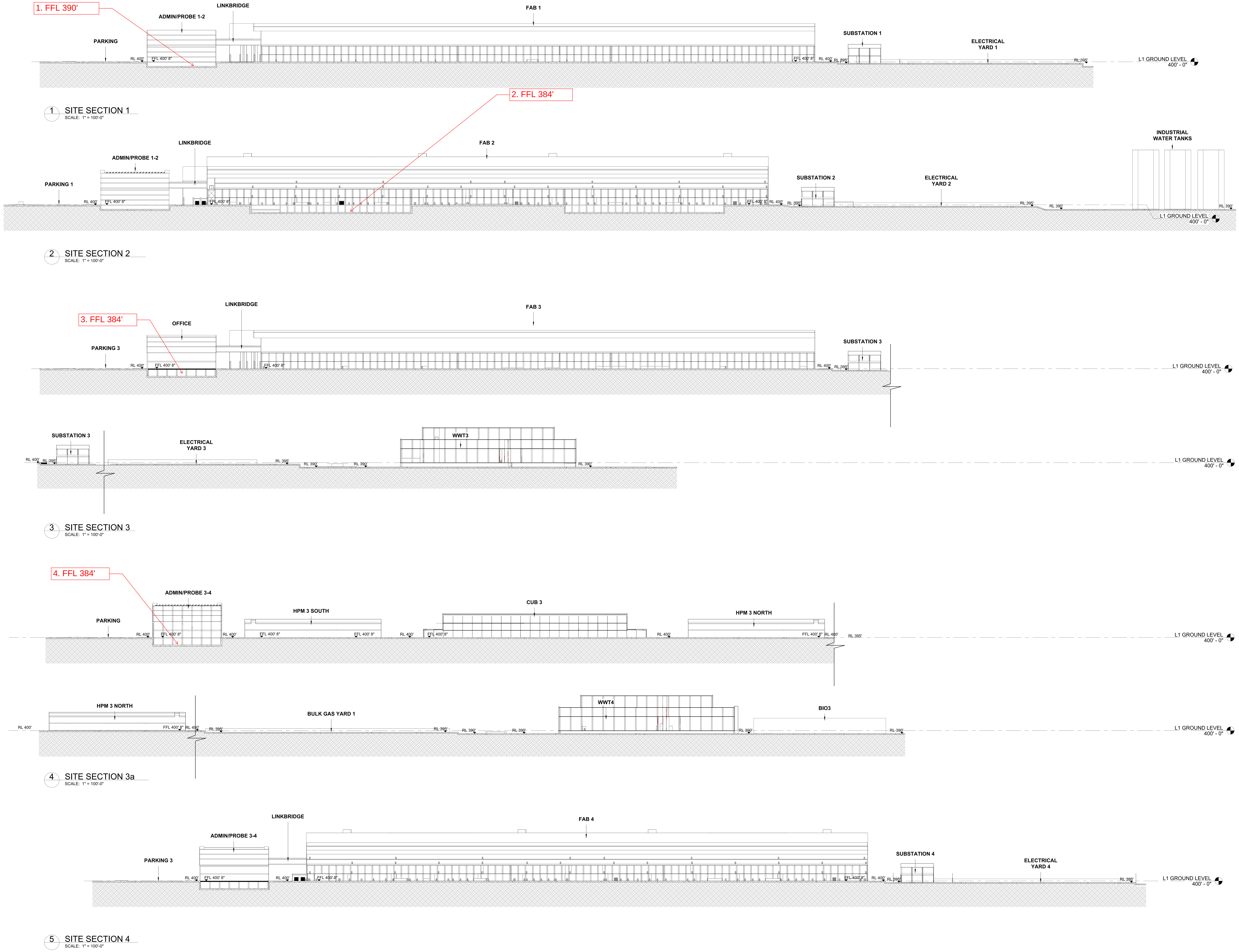
MAIN CONSULTANT & GENERAL CONTRACTOR: exyte
Exyte Singapore Pte Ltd

PROJECT TITLE: PROPOSED FAB, CUB AND VARIOUS ANCILLARY BUILDINGS IN TOWN OF CLAY, NEW YORK

DRAWING TITLE: EIS SCOPE CIVIL - OVERALL CUT & FILL LAYOUT & SCHEDULE

SCALE: As indicated DATE: DEC 2023

DRAWING NO.: NYWP-LAY-S0-00-SSITE-003 REV: A



1 SITE SECTION 1
SCALE: 1" = 100'-0"

2 SITE SECTION 2
SCALE: 1" = 100'-0"

3 SITE SECTION 3
SCALE: 1" = 100'-0"

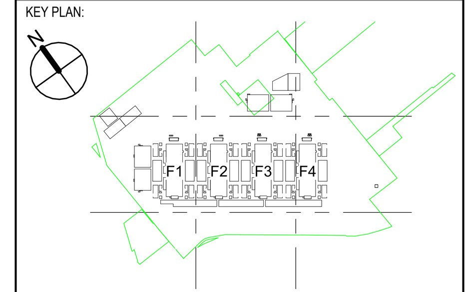
4 SITE SECTION 3a
SCALE: 1" = 100'-0"

5 SITE SECTION 4
SCALE: 1" = 100'-0"

REV	DATE	DESCRIPTION	DRAWN	CHK.
C	07 DEC 2023	EIS SCOPE INTERIM SUBMISSION	JEA	RK
B	28 JUL 2023	JULY 2023 REFRESH	SFB	RK
A	05 MAY 2023	ISSUE FOR SITE PLAN PERMIT	SFB	JRW

PROJECT PHASE:
SITE PERMITTING

KEY PLAN:



BUILDING OWNER/DEVELOPER:
Micron

MAIN CONSULTANT & GENERAL CONTRACTOR:
exyte
Exyte Singapore Pte Ltd
16 International Business Park,
#02-00, Singapore 609929
Phone: 67259500 Fax: 67258909
www.exyte.net

ARCHITECTURAL CONSULTANT:

STRUCTURAL CONSULTANT:

SWPPP ENGINEER:

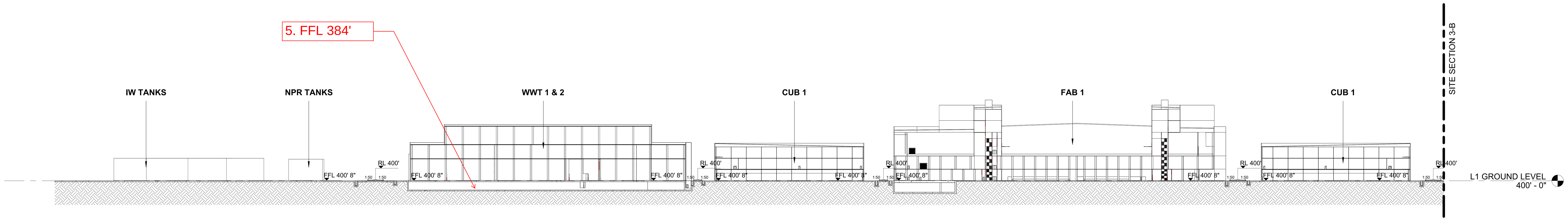
M & E CONSULTANT:

PROJECT TITLE:
PROPOSED FAB, CUB AND VARIOUS ANCILLARY BUILDINGS IN TOWN OF CLAY, NEW YORK

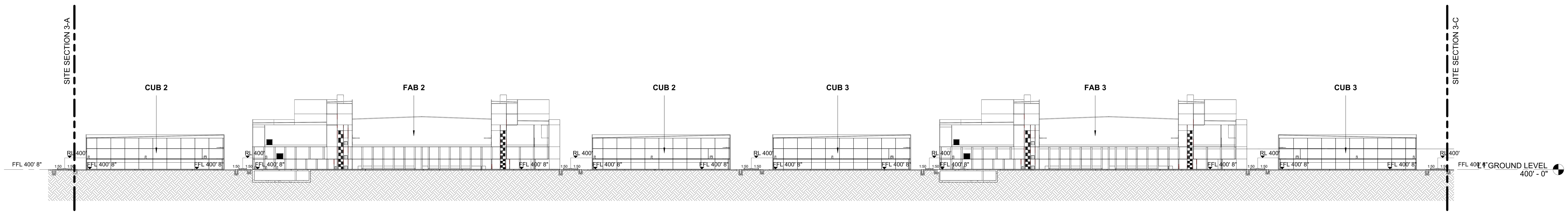
DRAWING TITLE:
ARCHITECTURAL
SITE SECTIONS 1-4

DESIGNED: JRW | DRAWN: SFB | CHECKED: JRW
JOB NO. : S-86386-2 | SCALE: 1" = 100'-0" | DATE : NOV 2023
DRAWING NO. : NYWP-SEC-S0-00-ASITE-001 | REV C
SHEET: | SIZE: A0

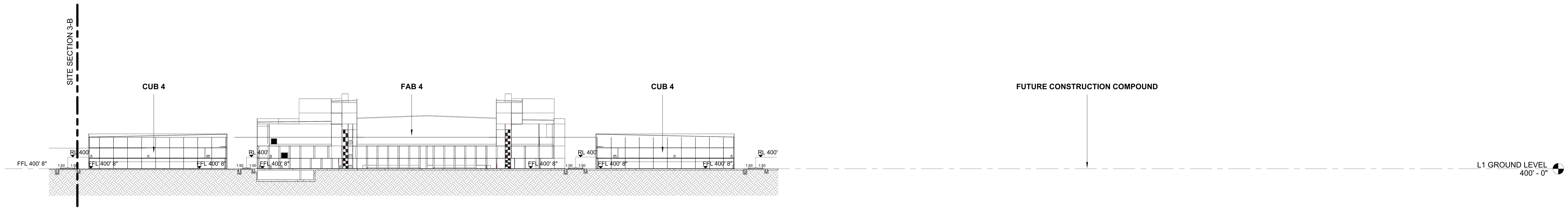
Autodesk Docs://SEA-S1106445-Micron NY Fab/NYWP-A-Site----.rvt



1 SITE SECTION 5 - A
SCALE: 1" = 100'-0"



2 SITE SECTION 5 - B
SCALE: 1" = 100'-0"

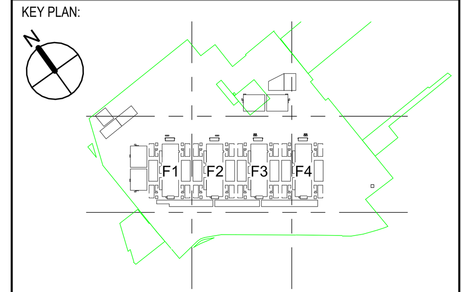


3 SITE SECTION 5 - C
SCALE: 1" = 100'-0"

REV	DATE	DESCRIPTION	DRAWN	CHK.
C	07 DEC 2023	EIS SCOPE INTERIM SUBMISSION	JEA	RK
B	28 JUL 2023	JULY 2023 REFRESH	SFB	RK
A	05 MAY 2023	ISSUE FOR SITE PLAN PERMIT	SFB	JRW

PROJECT PHASE:
SITE PERMITTING

KEY PLAN:



BUILDING OWNER/DEVELOPER:
Micron

MAIN CONSULTANT & GENERAL CONTRACTOR:
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16 International Business Park, #02-00, Singapore 609929
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www.exyte.net

ARCHITECTURAL CONSULTANT:

STRUCTURAL CONSULTANT:

SWPPP ENGINEER:

M & E CONSULTANT:

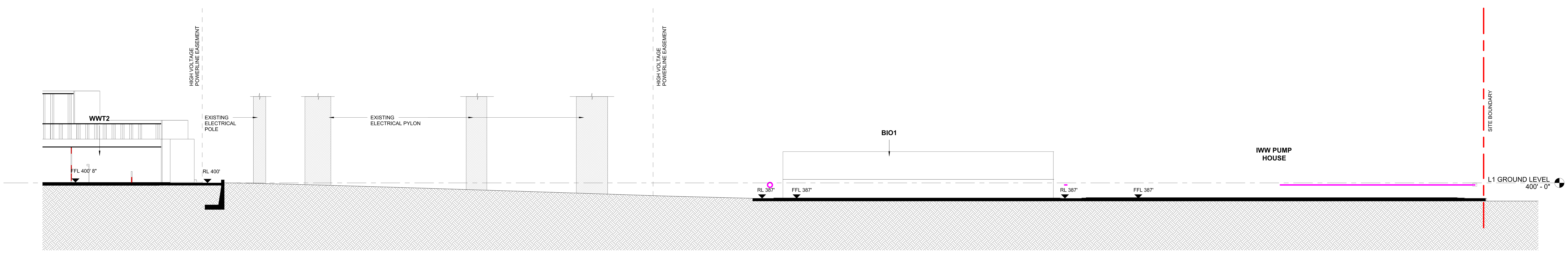
PROJECT TITLE:
PROPOSED FAB, CUB AND VARIOUS ANCILLARY BUILDINGS IN TOWN OF CLAY, NEW YORK

DRAWING TITLE:
ARCHITECTURAL
SITE SECTIONS 5A, 5B & 5C

DESIGNED: JRW | DRAWN: SFB | CHECKED: JRW
JOB NO. : S-86386-2 | SCALE: 1" = 100'-0" | DATE : NOV 2023

DRAWING NO. : NYWP-SEC-S0-00-ASITE-002
REV C

SHEET:
SIZE: A0

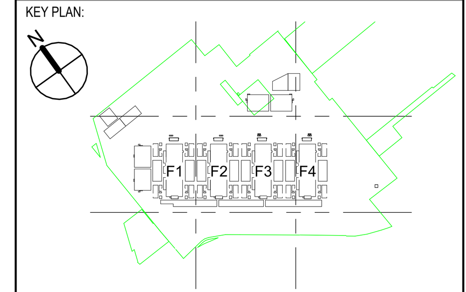


6 SITE SECTION 6
SCALE: 1" = 50'-0"

REV	DATE	DESCRIPTION	DRAWN	CHK.
A	07 DEC 2023	EIS SCOPE INTERIM SUBMISSION	JEA	RK

PROJECT PHASE:
SITE PERMITTING

KEY PLAN:



BUILDING OWNER/DEVELOPER:
Micron

MAIN CONSULTANT & GENERAL CONTRACTOR:
exyte
Exyte Singapore Pte Ltd
16 International Business Park,
#02-00, Singapore 609929
Phone: 67259500 Fax: 67258909
www.exyte.net

ARCHITECTURAL CONSULTANT:

STRUCTURAL CONSULTANT:

SWPPP ENGINEER:

M & E CONSULTANT:

PROJECT TITLE:
PROPOSED FAB, CUB AND VARIOUS ANCILLARY BUILDINGS IN TOWN OF CLAY, NEW YORK

DRAWING TITLE:
ARCHITECTURAL
SITE SECTION 6

DESIGNED: JRW	DRAWN: SFB	CHECKED: JRW
JOB NO. : S-86386-2	SCALE: 1" = 50'-0"	DATE : NOV 2023

DRAWING NO. : NYWP-SEC-S0-00-ASITE-003
REV: A
SHEET:
SIZE: A0

Autodesk Docs://SEA-S1106445-Micron NY Fab/NYWP-A-Site----.rvt

Anas Anasthas

From:	Andy Philips <Andy.Philips@ramboll.com>
Sent:	Wednesday, December 13, 2023 11:08 AM
To:	Chris Paolini; Anas Anasthas
Cc:	Derrick Cheney; Victor Warner; Dave Farber
Subject:	Micron NY - Geotechnical Report Input Data
Attachments:	33 - 1106445 US NY WHITE PINE EIS SCOPE 07DEC23 05 INTERIM REVIEW.pptx; NYWP-LAY-S0-00-SDRAI-001.pdf; NYWP-LAY-S0-00-ASITE-014.pdf; NYWP-SEC-S0-00-ASITE-003.pdf; NYWP-SEC-S0-00-ASITE-002.pdf; NYWP-LAY-S0-00-SSITE-003.pdf; NYWP-SEC-S0-00-ASITE-001.pdf

Chris/Anas – I apologize in the delay getting this information, we worked with Micron to leverage historical data from past projects as the inputs for the Geotechnical Report. Please review the information below and reach out with questions.

1. Site Plan, Grading Plan, & Finish Floor Elevations
   a. See the attached powerpoint and drawings
2. Maximum design loads (column, wall and slab live load) for each structure)
   a. FAB Level – Column loads up to 200 kips supported on spread footings.
   b. SubFAB – Supported on a mat foundation with loads generating a bearing pressures of 3,000 to 4,000 pounds per square foot (psf). Select column lines with loads up to 500 kips. Wall line loads of up to 10 kips per lineal foot.
   c. CUP – Column loads up to 500 kips with floor loading up to 500 psf for boilers and chillers with tank loading up to 2,500 psf.
   d. ADMIN:
      i. Parking Garage Interior Columns – sustained maximum loads up to 2,200 kips
      ii. Exterior Columns – sustained maximum loads up to 2,100 kips
3. Settlement tolerance (total and differential) for each structure
   a. Estimated Total Settlement for Column Footings: 1 inch
   b. Estimated Total Settlement for Continuous Footings: 1 inch
   c. Estimated Differential Settlement for Column Footings: Less than 0.5 inches between columns
   d. Estimated Differential Settlement for Continuous Footings: Less than 0.5 inches over 30 feet
4. Risk Category for seismic design
   a. Seismic Risk Category III
5. Traffic loading for pavement design
   a. Asphalt (light-duty and heavy-duty) and concrete (heavy-duty) pavement section designs for the parking lot, access roadway, and service yard areas will be based upon a 20 year design life, HS-20 design loads for truck traffic areas, and traffic data including 50 5-axle trucks and 3,500 cars per day.

Kind regards
Andy Philips

Sr. Project Manager
Advanced Manufacturing

M +1 315 420 8439
andy.philips@ramboll.com
____

Ramboll
333 West Washington Street
Syracuse, NY 13202
USA

RAMBOLL

ENVIRONMENT
& HEALTH

February 1, 2021

Mr. Robert M. Petrovich
Executive Director
Onondaga County Industrial Development Agency
333 W. Washington Street, Suite 130
Syracuse, NY 13202

RE: OCIDA White Pine Commerce Park Geotechnical Evaluation

Dear Mr. Petrovich:

This geotechnical letter report presents the findings of a preliminary geotechnical investigation and evaluation completed by Ramboll Americas Engineering Solutions, Inc. (Ramboll) in connection with the Onondaga County Industrial Development Agency's (OCIDA) development of the White Pine Commerce Park located in Clay, NY. The site totals approximately 1,420 acres and is bordered by Caughdenoy Road to the west and New York State (NYS) Route 31 to the South.

Ramboll
333 West Washington Street
Syracuse, NY 13202
USA

T 315-956-6100
F 315-463-7554
https://ramboll.com

The purpose of the preliminary geotechnical investigation and evaluation was to provide sufficient information to describe general geotechnical conditions across the site. Per the 2015 International Building Code as adopted by New York State, future site improvements and foundation designs will require project specific geotechnical borings and analysis.

Subsurface Investigation

The subsurface conditions at the site were evaluated based on a subsurface investigation program conducted from December 20,2021 through December 28, 2021. The subsurface investigation consisted of geotechnical soil borings drilled by Kenney Geotechnical Engineering Services, PLLC at locations indicated on the attached Figure 1. A Ramboll geotechnical engineer was present on-site to observe the drilling activities. The borings were drilled with an ATV mounted Geoprobe drill rig.

Fifteen geotechnical soil borings (SB-1 through SB-15) were drilled for the subsurface investigation program using 3¼ inch inside diameter hollow stem augers in accordance with ASTM D1452 *Standard Practice for Soil Investigation and Sampling by Auger Borings*. The borings were sampled continuously with a split spoon sampler to 16 feet below ground surface (bgs), and then once every 5 feet (standard sampling) to 30 feet below grade or refusal, whichever was shallower. Split spoon sampling was conducted in accordance with ASTM D1586 *Standard Method for Penetration Test and Split Barrel Sampling of Soils*.

In addition to the split spoon sampling, Shelby tubes were collected from borings SB-5, SB-9, SB-11, SB-14 and SB-15. The Shelby tubes were collected in accordance with ASTM D1586 *Standard Practice for Thin-Walled Tube Sampling of*

Soils for Geotechnical Purposes. Upon completion, each borehole was backfilled with cuttings to existing grade. The soil boring logs are presented in Appendix 1.

Subsurface Conditions

The subsurface conditions encountered at the site can generally be characterized into four soil strata consisting of topsoil, silt and clay, sand, and weathered bedrock. These strata are described in further detail below.

- Topsoil – Topsoil was observed throughout the site varying in thickness from approximately 2 inches to 12 inches.

- Silt and Clay – Silt and clay was encountered in each of the 15 borings from 2 inches bgs to depths ranging between approximately 3 and 28 feet bgs, with depth generally increasing to the north and east. The silt and clay density ranged from very soft to stiff with unfactored blow counts ranging from 0 (Weight of Hammer (WOH)) blows per foot (bpf) to 27 blows per foot.

- Sand - The sand stratum was encountered below the silt and clay layer in 9 of the 15 borings. The stratum ranged in depth from 3 feet bgs to termination of borings at 28 feet bgs. The sand layer consisted primarily of a mix of sand with various amounts of silt, clay, and gravel. The sand stratum density ranged from loose to very dense with unfactored blow counts ranging from 7 bpf to 50 blows over 2 inches, and generally increased with the quantity of gravel present.

- Weathered Bedrock – Weathered bedrock, consisting primarily of shale was encountered below the silt and clay or sand soil strata in 11 of the 15 borings at depths ranging from approximately 16 to 28 feet bgs. The weathered bedrock was observed as shale in each boring except for boring SB-9 which described bedrock as limestone/dolostone. The weathered bedrock stratum was very dense with blow counts ranging between 50 blows over 0.2 inches to 50 blows over 4 inches.

Groundwater was observed within 14 of the 15 boring locations at the time of drilling. The depths of the observed groundwater during drilling are summarized in Table 1 below.

Table 1: Observed Ground Water Depths

Boring	Depth BGS
SB-2	2.0 ft
SB-3	3.0 ft
SB-4	2.0 ft
SB-5	2.0 ft
SB-6	4.0 ft
SB-7	3.5 ft
SB-8	6.0 ft
SB-9	7.0 ft
SB-10	10.0 ft

SB-11	10.0 ft
SB-12	7.0 ft
SB-13	8.0 ft
SB-14	8.0 ft
SB-15	2.0 ft

Geotechnical Laboratory Testing

Following review of the boring logs, a laboratory testing program was developed to assess site specific geotechnical properties. The laboratory testing program included evaluating the natural moisture content, Atterberg Limits, grain size distribution of the overburden soil, and one-dimensional consolidation testing. Below is a summary of the test results.

Natural Moisture Content

Natural moisture content tests were performed on 22 soil samples taken from the site. The tests were completed in accordance with ASTM D2216 *Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass*. Results ranged from 4.3% to 30.6%, with an average moisture content of 20.3%. Detailed results are included in Appendix 2.

Atterberg Limits

Atterberg Liquid and Plastic Limit testing was conducted on six soil samples collected form the site. Atterberg limits were analyzed in accordance with *ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils*. Table 2 summarizes the results. Detailed results are provided in Appendix 2.

Table 2: Atterberg Limits Results

Boring / Sample	Depth BGS (ft)	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
SB-2 / S-6	10 to 12	15	9	6
SB-5 / S-3	4 to 6	25	19	6
SB-9 / S-8	14 to 16		Non-Plastic	
SB-11 / S-6	10 to 12		Non-Plastic	
SB-14 / S-5	8 to 10	22	19	3
SB-15 / S-7	12 to 14	23	19	4

Particle Size Analysis

Particle size analysis was performed on six soil samples collected from the site. Testing was completed in accordance with ASTM D422 *Standard Test Method for Particle Size Analysis of Soil*. The results of the testing are summarized below. Detailed results are provided in Appendix 2.

Table 3: Particle Size Analysis Results

Boring / Sample	Depth BGS (ft)	Percent Gravel	Percent Sand	Percent Silt	Percent Clay
SB-4 / S-8	14 to 16	31	37	23	9
SB-7 / S-6	10 to 12	0.0	2.9	83.4	13.7
SB-9 / S-4	6 to 8	0.0	4.5	78.3	17.2
SB-9 / S-8	14 to 16	0.0	1.0	82.0	17.0
SB-13 / S-2	2 to 4	0.2	6.1	77.2	16.5
SB-15 / S-7	12 to 14	0.0	4.7	79.9	15.4

One-dimensional consolidation

One-dimensional consolidation tests have been performed on undisturbed (Shelby tube) soil samples obtained from the site. Analyses were performed in accordance with ASTM D2435 *Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading*. The Shelby tube samples were collected in boring SB-5, SB-11, and SB-15 at depths of 12-14, 14-16, and 16-18 feet bgs, respectively. Testing results from the Shelby tube samples taken from the three borings were non-conclusive for settlement parameters. The soils obtained in the Shelby tubes were determined to be non-cohesive in nature and there for long term consolidation may not be a concern. Testing results from SB-11 and SB-5 are attached in Appendix 2.

Foundation Design Recommendations

At the time this report was prepared, proposed site or building plans were not available but based on the results of the subsurface investigation and laboratory testing, it is anticipated that the soft silt and clay soils at the site would require any proposed manufacturing facility to be founded upon deep end bearing foundations, or for the soft soils to be over excavated and replaced with compacted imported granular fill. Per the 2015 International Building Code as adopted by New York State, future site improvements and foundation designs will require project specific geotechnical borings and analysis.

Earthwork

Excavations should be performed in accordance with applicable Occupational, Safety, and Health Act (OSHA) requirements. Areas which are unsuitable should be over-excavated to a suitable bearing stratum and replaced with compacted structural fill. Based on the subsurface conditions observed in the borings, groundwater is anticipated to be encountered. When groundwater is encountered, the excavations should be dewatered to a minimum depth of 2 feet below the final proposed subgrades for the proposed facilities.

Open cut methods should utilize recommended maximum slopes of 1.5Horizontal: 1Vertical. If the excavation size must be limited such that the maximum recommended slopes cannot be utilized, an excavation support system that protects adjacent structures or utilities should be designed by an engineer licensed in the state of New York and submitted for review.

If existing underground utilities are in the vicinity of the earthwork and excavations to be performed, they should be protected by underpinning and/or a sheeting and shoring system installed prior to excavation. If an excavation support system is required to protect existing underground utilities, a vibration monitoring program should be developed and implemented during the installation of the support system.

Excavations for foundation and underground utility excavations should be protected from freezing conditions and maintained free of ponded water before concrete placement. The foundations should be placed as soon as possible after excavation. The foundation excavations should be backfilled as soon as possible after the concrete has been placed and cured. Bearing soils at the proposed site are frost susceptible. The most effective way to prevent damage from frost heave is to not perform construction activities during non-freezing conditions. If foundation construction activities must continue during freezing conditions, it is recommended that the Contractor continue foundation construction without interruption until backfill has been placed. The contractor should be responsible for excavating and replacing any heaved or frozen subgrade material and repairing any related structural damage. It is imperative that in the event of a winter shutdown:

- All stormwater control measures are in place and maintained throughout the shutdown to ensure surface water is conveyed around and away from the proposed facility foundations.
- Proposed foundations are properly insulated to the equivalent insulation provided by 4 feet of soil, and top of insulation material sloped to drain away from the foundation area.
- Final finished exterior grades should be established as soon as feasible at the proposed facilities.

Structural Fill and Backfill Criteria
Crushed stone placed as subbase below pavement or structures should meet the requirements of New York State DOT Type 304.12. Imported structural fill placed within the footprint of the proposed facilities should consist of predominately granular soils, free from organic matter, ice, debris, or other deleterious material. Imported fill, backfill, and base course material beneath structures or pavement should be placed in horizontal lifts not to exceed 8 inches loose thickness, and should be compacted to 95% of maximum dry density as determined by ASTM Method D1557 *Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort*.

It is anticipated the on-site soils may be used as non-structural backfill in areas to be designated as grass-covered areas, provided on-site soils do not contain substantial amounts of organics or miscellaneous debris. Reuse of the on-site materials will be contingent upon gradation test results, proper placement, and compaction, including moisture control. On-site soils placed as non-structural backfill should be placed in horizontal lifts not to exceed 10 inches of loose lift thickness and compacted to a minimum of 90% of the maximum dry density as determined by ASTM Method D1557 *Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort*.

The Atterberg limits of the overburden soils tested for the site assessment had liquid limits of ranging between 15 and 25 and plasticity indices between 3 and 6. Based on the samples tested for index properties, the site soils are considered marginal for expansion potential.

Liquefaction Potential

Review of the subsurface conditions at the site indicated that the potential for liquefaction of the soils at the site to occur is low. The soil type, density, and compaction of the soils observed in the borings are not consistent with soils likely to liquefy.

Seismic Activity

Review of the boring logs indicated that the overburden soils at White Pine Commerce Park are classified as Site Class D according to Table 20.3-1 of ASCE 7 - Minimum Design Loads and Associated Criteria for Building, and Other Structures. If the overburden is excavated and replaced with engineered structural fill, or if the proposed development is constructed to bear directly on the bedrock, then the design may be based on Site Class C. These site class designations should be used when determining the maximum considered earthquake spectral response accelerations in accordance with Section 1613 of the 2015 International Building Code.

Summary

This letter report has been prepared by Ramboll to support OCIDA's development of the White Pine Commerce Park. The recommendations in this report are based on the information obtained from the limited subsurface investigation. A revised report will be submitted upon receipt of the one-dimensional consolidation testing results. Any proposed development will require a project specific subsurface investigation conducted in accordance with the International Building Code and an evaluation completed by a geotechnical engineer licensed in the State of New York. Furthermore, based on the data collected at the site to date, the geologic conditions appear to be typical of the general area investigated.

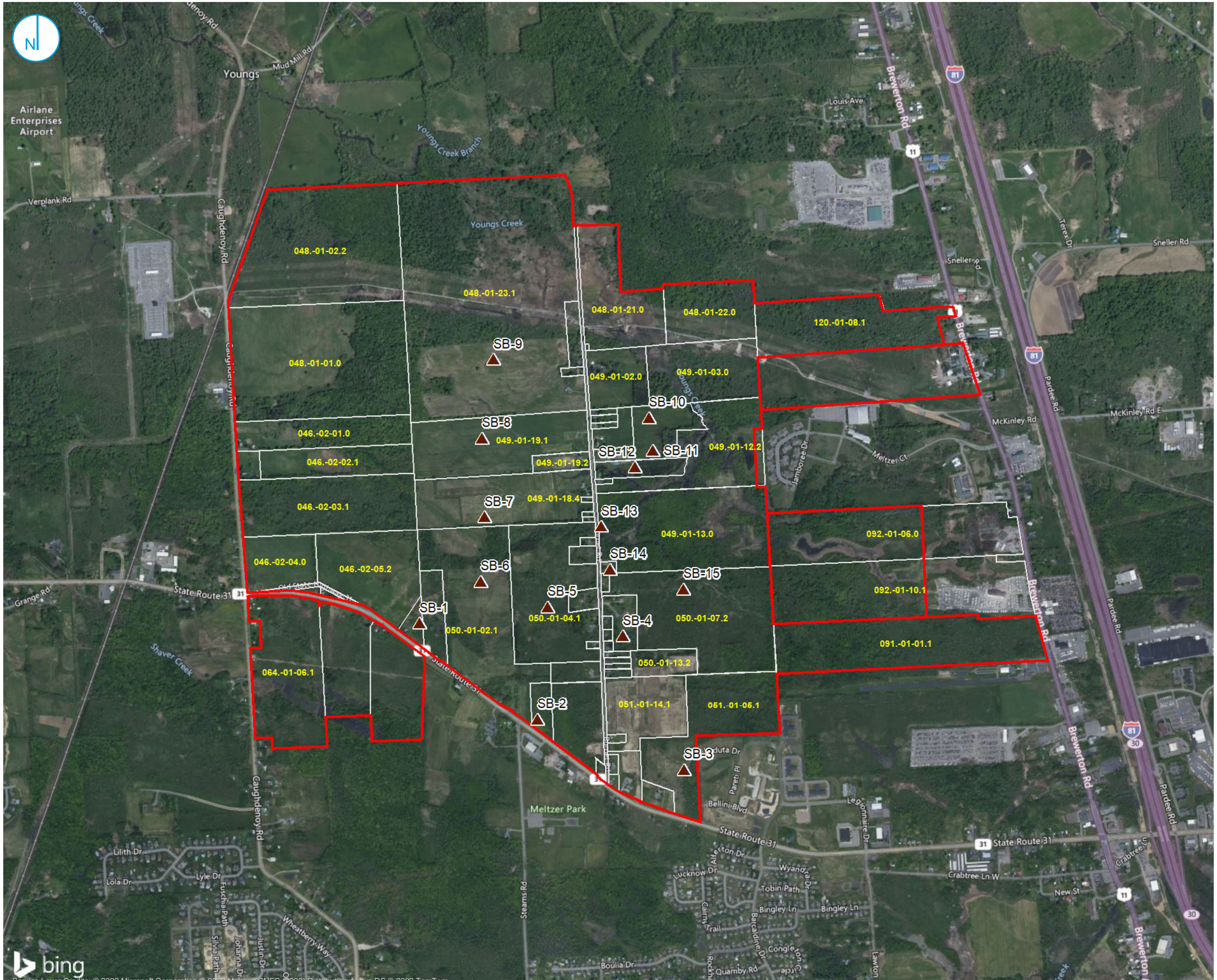
Yours sincerely

Dave T. Farber, PE
Senior Division Manager

Attachments:
Figure 1
Appendix 1 - Soil Boring Logs
Appendix 2 –Laboratory Test Results

FIGURE 1
GEOTECHNICAL SOIL BORING LOCATION PLAN

C:\Users\stantosa.RAMBOLL\OneDrive - Ramboll\desktop\Delete\OCIDA_Geotech_Boring_Plan.mxd



PROJECT: 169000XXXX | DATED: 1/23/2022 | DESIGNER: STANTOSA

▲ GEOTECH BORING
ONONDAGA COUNTY PARCELS
WHITE PINE MEGA CAMPUS (1,535 acres)

0 700 1,400 Feet

WHITE PINE MEGA CAMPUS
GEOTECH BORING PLAN

White Pine Commerce Park
Town of Clay, New York

FIGURE 01

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

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APPENDIX 1
BORING LOGS

RAMBOLL

SOIL BORING LOG

BORING ID: SB-1
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/22/2021
CLIENT:	OCIDA	SITE LOC.:	Route 31, Clay, NY 13041	DATE COMPLETED:	12/22/2021
JOB #:	194007120	BORING LOC.:	SB-1	FINAL STATIC WL:	N/E

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.183690
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.145568
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	20"	1	4	4" of Top Soil	CL-ML		
				2		Soft Dark Brown Sandy Silty Clay,			
				2		some Gravel, (moist)			
				4					
2	2	4	6"	3	16	Stiff Dark Brown Sandy Silty Clay,	CL-ML		
				4		some Gravel, (moist)			
				12					
				12					
3	4	6	7"	4	21	Medium Dense Brown Silty Sand with Gravel	SM		
				9		(moist)			
				12					
				46					
4	6	6.9	10"	30	50+	Dense Brown Silty Sand with Gravel	SM		
				50/4"		(moist)			
5	8	8.7	5"	35	50+	Hit a Cobble then Very Dense brown Silty	SM		
				50/2"		Sand with Gravel (moist)			
6	10	10.7	4"	46	50+	Hit Cobble then Very Dense Grey Silty Sand	SM		
				50/2"		with Gravel (moist) Till			
7	12	12.8	7"	36	50+	Very Dense Grey Silty Sand with Gravel	SM		
				50/3"		Till			
						Boring terminated at 12.8'			

NOTES: No Water Table Encountered

PAGE: 1 of 1

RAMBOLL

SOIL BORING LOG

BORING ID: SB-2
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/23/2021
CLIENT:	OCIDA	SITE LOC.:	Route 31, Clay, NY 13041	DATE COMPLETED:	12/23/2021
JOB #:	194007120	BORING LOC.:	SB-2	FINAL STATIC WL:	4.2'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.180371
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.150278
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	12"	WH	2	6" Top Soil	CL-ML		
				1		Soft Light Brown Sandy Silty Clay, organics,			
				1		some Gravel, (moist)			
				1					
2	2	4	21"	3	26	2'-3.5' Stiff Light Brown Sandy Silty	CL-ML		
				13		Clay, organics, (wet)			
				13		3.5'-4' Medium Dense Silty Sand with	SM		
				20		Gravel (moist)			
3	4	6	19"	17	36	Dense Brown Silty Sand with Gravel	SM		
				18		(moist)			
				18					
				16					
4	6	7.9	22"	6	51	Very Dense Brown Silty Sand with Gravel	SM		
				23		(moist)			
				28					
				50/4"					
5	8	9.33	16"	26	50+	8'-9' Very Dense Brown Poorly Graded Silty	SM		
				34		Sandy (wet)			
				50/4"		9'-9.33' Very Dense Gray Clayey Silt with	CL-ML		
						Sand and Gravel (moist) Till			
6	10	10.7	6"	21	50+	Very Dense Grey Clayey Silt With Sand	CL-ML		
				50/2"		and Gravel (moist) Till			
7	12	12.1	0	50/1"	50+	Very Dense Grey Clayey Silt With Sand	CL-ML		
						and Gravel (moist) Till			

NOTES: Water table encounterd during drilling at 2'. At completion of drilling water in augers at 12.2'.
After removal of augers water in hole at 4.2'.
Boring Terminated at 12.1'.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-3
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/23/2021
CLIENT:	OCIDA	SITE LOC.:	Route 31, Clay, NY 13041	DATE COMPLETED:	12/23/2021
JOB #:	194007120	BORING LOC.:	SB-3	FINAL STATIC WL:	1.3'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.178311
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.142260
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	12"	WH	4	6" Top Soil	CL-ML		
				1		Soft Brown Sandy Silty Clay, (moist)			
				3					
				3					
2	2	4	20"	2	12	2'-3' Soft Brown Sandy Silty Clay	CL-ML		
				4		(moist)			
				8		3'-4' Loose Brown Silty Sand with Gravel	SM		
				16		(wet)			
3	4	5.33"	13"	8	90+	Very Dense Brown Silty Sand with Gravel	SM		
				40		(moist)			
				50/4"					
4	6	6.75	8"	32	50+	Very Dense Gray Silty Clayey Sand with	SC-SM		
				50/2"		Gravel (moist) Till			
5	8	8.3	3"	50/4"	50+	Very Dense Gray Silty Clayey Sand with	SC-SM		
						Gravel (moist) Till			
6	10	10.3	4"	50/4"	50+	Very Dense Gray Silty Clayey Sand with	SC-SM		
						Gravel (moist) Till			
						Boring Terminated at 10.33'			

NOTES: Water table encounterd during drilling at 3.0'. At completion of drilling water in augers at 9.1'. After removal of augers water in hole at 1.3'.

PAGE: 1 of 1

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SOIL BORING LOG

BORING ID: SB-4
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/23/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/23/2021
JOB #:	194007120	BORING LOC.:	SB-4	FINAL STATIC WL:	9.3'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.183690
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.145568
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	20"	WH	2	2" of Topsoil	CL-ML		
				WH		Soft Brown Sandy Silty Clay, (moist)			
				2					
				3					
2	2	4	18"	3	6	Medium Stiff Soft Brown Sandy Silty Clay	CL-ML		
				3		Wet at 2 feet			
				3					
				4					
3	4	6	24"	2	10	4'-5' Medium Stiff Soft Brown Sandy Silty	CL-ML		
				5		Clay, (wet)			
				5		5'-6' Loose Brown Sandy Silt, Trace Clay	ML		
				5		wet			
4	6	8	20"	5	16	Loose Brown Sandy Silt, Trace Clay, (wet)	ML		
				10					
				6					
				8					
5	8	10	24"	3	9	8'-9' Brown Soft Silty Clay, (wet)	CL-ML		
				5		9'-10' Loose Grey Sandy Silt, trace Clay,			
				4		(moist)	ML		
				8					
6	10	12	8"	WH	13	Loose Grey Silty Sand, trace Clay, (moist)	SM		
				5					
				8					
				5					

NOTES: Water table encounterd during drilling at 2'. At completion of drilling water in augers at 23.2'. After removal of augers water in hole at 9.3'

RAMBOLL

SOIL BORING LOG

BORING ID: SB-4
INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	22	3	4	Loose Grey Silty Sand, trace Clay, some	SM		
				3		Gravel, (wet)			
				1					
				3					
8	14	16	3"	3	16	Loose Grey Silty Sand, trace Clay, some	SM		
				6		Gravel, (wet), cobble in end of spoon			
				10					
				14					
9	18	20	18"	2	19	Medium Dense Grey Silty Sand with Clay,	SM-SC		
				7		some Gravel (wet) possible beginning of Till			
				12					
				18					
10	23	23.9	4"	22	50+	Very Dense Grey Silty Sand with Clay,	SC		
				50/4"		some Gravel (wet) Till			
11	28	28.6	6"	31	50+	Very Dense Grey Silty Sand with Clay,	SC		
				50/1"		some Gravel (wet) Till			
						Boring Terminated at 28.6'			

NOTES:

RAMBOLL

SOIL BORING LOG

BORING ID: SB-5
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/27/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/27/2021
JOB #:	194007120	BORING LOC.:	SB-5	FINAL STATIC WL:	2.1'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.184862
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.149698
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	15"	WH	3	4" Top Soil	CL-ML		
				WH		Soft Brown Sandy Silty Clay, (moist)			
				3					
				4					
2	2	4	20"	5	8	Medium Stiff Brown Sandy Silty Clay (wet)	CL-ML		
				4					
				4					
				4					
3	4	6	24"	3	3	Soft Stiff Brown Sandy Silty Clay (wet)	CL-ML		
				2					
				1					
				1					
4	6	8	24"	1	8	Loose Brown Sandy Silt, some Clay, (wet)	ML		
				4					
				4					
				5					
5	8	10	10"	6	7	Medium Stiff Brown Sandy Silty Clay, (wet)	CL-ML		
				3					
				4					
				7					
6	10	12	12"	1	0	Soft Grey Silty Clay, some sand (wet)	CL		
				WH					
				WH					
				WH					

NOTES: Water table encounterd during drilling at 2.0'. At completion of drilling water in augers at 5.3'.
After removal of augers water in hole at 2.1'.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-5
INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
ST	12	14	24"	ST	-	Shelby Tube attempt, 24" recovery	CL		
						last 4" difficult to push tube			
7	14	16	20"	WH	2	Soft Grey Sandy Clay with gravel (wet)	CL		
				WH					
				2					
				5					
8	18	20	12"	2	12	Stiff Dark Gray Sandy Clay with Gravel, some	CL		
				3		Silt, (moist)			
				9					
				18					
9	21.5	21.8	2"	50/3"	50+	Black Weathered Shale	Rock		
						Auger Refusal at 21.5'			
						Boring Terminated at 21.8'			

NOTES:

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-6
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/27/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/27/2021
JOB #:	194007120	BORING LOC.:	SB-6	FINAL STATIC WL:	2.0'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.185909
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.153341
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	19"	1	4	12" Top Soil	CL-ML		
				2		Soft Brown Sandy Silty Clay, (moist)			
				2					
				4					
2	2	4	18"	4	9	Loose Brown Sandy Silt, some Clay, (moist)	ML		
				4					
				5					
				6					
3	4	6	20"	2	13	Loose Brown Sandy Silt, some Clay (Wet)	ML		
				5					
				8					
				12					
4	6	8	14"	7	10	Loose Brown Sandy Silt, some Clay (Wet)	ML		
				6					
				4					
				5					
5	8	10	12"	10	25	Medium Dense Gray Clayey Sand with	SC		
				17		Gravel, (wet)			
				8					
				9					
6	10	12	8"	26	18	Loose Gray Clayey Sand with Gravel, (wet)	SC		
				11					
				7					
				6					

NOTES: Water table encounterd during drilling at 4.0'. At completion of drilling water in augers at 2.7'. After removal of augers water in hole at 2.0'.

PAGE: 1 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-6

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	10"	3	11	Loose Gray Clayey Sand with Gravel, (wet)	SC		
				5					
				6					
				7					
8	14	16	13"	3	12	Loose Gray Sandy Silty Clay with Gravel	CL		
				6		(wet) Till			
				6					
				12					
9	18	20	11"	6	34	Highly Weathered Shale Rock beginning at	Rock		
				10		17'			
				24					
				50/3"					
10	20	20.1	1"	50/2"	50+	Weathered Shale Bedrock	Rock		
						Boring Terminated at 20.1'			

NOTES:

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-7
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/28/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/28/2021
JOB #:	194007120	BORING LOC.:	SB-7	FINAL STATIC WL:	1.7'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.188507
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.153120
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	19"	WH	1	6" Top Soil	CL-ML		
				WH		Soft Brown Sandy Silty Clay, (moist)			
				1					
				2					
2	2	4	24"	4	6	Medium Stiff Brown Sandy Silty Clay,	CL-ML		
				3		wet at 3.5 feet			
				3					
				4					
3	4	6	22"	1	7	Medium Stiff Brown Sandy Silty Clay, (wet)	CL-ML		
				2					
				3					
				4					
4	6	8	18"	3	10	Stiff Brown Sandy Silty Clay, (wet)	CL-ML		
				5					
				5					
				4					
5	8	10	22"	4	13	8'-9' Medium Stiff Brown Sandy Silty Clay,	CL-ML		
				4		(wet)			
				9		9'-10' Loose Gray Silt, some clay, some	ML		
				10		sand, (wet)			
6	10	12	12"	3	4	Very Loose Gray Silt, some clay, some sand	ML		
				2		(wet)			
				2					
				2					

NOTES: Water table encounterd during drilling at 3.5'. At completion of drilling water in augers at 11.1'. After removal of augers water in hole at 1.7'.

PAGE: 1 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-7

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	24"	WH	2	Very Loose Gray Silt, some clay, some sand	ML		
				1		(wet)			
				1					
				1					
8	14	16	14"	WH	0	Soft Gray Sandy Clay, some Silt, (wet)	CL		
				WH					
				WH					
				3					
9	18	20	15"	1	7	Loose Clayey Sand with Gravel, some Silt	SC		
				4		(wet)			
				3					
				6					
10	21.5	21.6	1"	50/1	50+	Black Weathered Shale Bedrock	Rock		
						Auger refusal 21.5'			
						Boring Terminated at 21.6'			

NOTES: Labored augering at 20.5'. Auger refusal at 21.5'.

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-8
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/20/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/20/2021
JOB #:	194007120	BORING LOC.:	SB-8	FINAL STATIC WL:	3.3'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.191671
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.153226
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	24"	WH	2	Soft Brown Silty Clay, some organics,	CL-ML		
				WH		(Moist)			
				2					
				3					
2	2	4	12"	4	10	Stiff Brown Silty Clay, some sand, (Moist)	CL-ML		
				5					
				5					
				5					
3	4	6	24"	4	9	4'-5' Stiff Brown Silty Clay, some sand,	CL-ML		
				5		(Moist)			
				4		5'-6' Loose Brown Sandy Silt, some clay,	ML		
				5		(Moist)			
4	6	8	24"	2	5	Medium Stiff Brown Silty Clay, some sand	CL-ML		
				2		(Wet)			
				3					
				5					
5	8	10	24"	2	9	Loose Brown Clayey Sand, some silt, (Wet)	SC		
				4					
				5					
				4					
6	10	12	24"	WH	2	Loose Brown Clayey Sand, some silt, (Wet)	SC		
				1					
				1					
				1					

NOTES: Water table encounterd during drilling at 6'. At completion of drilling water in augers at 9.9'.
After removal of augers water in hole at 3.3'

RAMBOLL

SOIL BORING LOG

BORING ID: SB-8

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	24"	WH	2	Loose Brown Clayey Sand, some silt, (Wet)	SC		
				1					
				1					
				1					
8	14	16	24"	WH	5	Loose Grey Clayey Sand, some silt, (Wet)	SC		
				2					
				3					
				6					
9	18	20	14"	1	6	Medium Stiff Grey Sandy Clay with Gravel,	CL		
				1		some sitl (Wet)			
				5					
				7					
10	23	24.8	18"	26	85	Very Dense Dark Gray Sandy Clay with	CL		
				35		Gravel (Till), some stone fragments, (Wet)			
				50					
				50/3"					
						Auger Refusal 24.5'			
						Boring terminated at 24.75'			

NOTES:

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-9
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/20/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/20/2021
JOB #:	194007120	BORING LOC.:	SB-9	FINAL STATIC WL:	4.8'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.194830
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.152578
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	18"	WH	2	4" Top Soils	CL-ML		
				WH		Soft Brown/Grey Silty Clay, some organics			
				2		(Moist)			
				4					
2	2	4	24"	2	6	Firm Brown Silty Clay, some ogrganics,	CL-ML		
				3		(Moist)			
				3					
				6					
3	4	6	18"	3	10	Stiff Bown Sandy Silt, some clay, (Moist)	ML		
				5					
				5					
				6					
4	6	8	24"	4	11	Medium Dense Brown Sandy Silt, some	ML		
				6		clay, (Wet at 7')			
				5					
				6					
5	8	10	24"	2	5	Loose Brown Sandy Silt, some clay (Wet)	ML		
				2					
				3					
				5					
6	10	12	14"	WH	4	Loose Brown Sandy Silt, some clay (Wet)	ML		
				1					
				3					
				4					

NOTES: Water table encounterd during drilling at 7.0'. At completion of drilling water in augers at 4.5'. After removal of augers water in hole at 4.8'.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-9

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	24"	3	7	Loose Brown to Grey Sandy Silt, (Wet)	ML		
				3					
				4					
				2					
8	14	16	24"	WH	0	Very Soft Grey Silty Clay, some sand, (Wet)	CL-ML		
				WH					
				WH					
				WH					
				WH					
9	18	20	22"	4	10	12" Loose Poorly Graded Sand, some silt	SM		
				5		(Wet)			
				5		12" Loose Silty Sand and Gravel (Wet)			
				11					
10	22.5	23.8	14"	40	95+	Grey Westhered Rock	GW		
				45		Limestone/Dolo=stone			
				50/3					
						Auger Refusal at 22.5'			
						Boring terminated at 23.8'			

NOTES: Shelby Tube taken form 14'-16' next to this hole, augering straight to 14'.

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-10
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/20/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/20/2021
JOB #:	194007120	BORING LOC.:	SB-10	FINAL STATIC WL:	3.0'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.192455
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.144057
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	24"	1	4	4" Top soil			
				2		Soft Brown Silty Clay, some sand, (Moist)	CL-ML		
				2					
				3					
2	2	4	24"	3	8	Medium Dense Brown Silty Clay, some sand	CL-ML		
				4		(Moist)			
				4					
				3					
3	4	6	13"	2	5	Medium Stiff Brown Silty Clay, some sand	CL-ML		
				3		(moist)			
				2					
				3					
4	6	8	18"	3	11	Medium Stiff Brown Silty Clay, some sand	CL-ML		
				5		(moist)			
				6					
				5					
5	8	10	13.2"	2	9	Loose Grey Sandy Silt, some clay, (Moist)	ML		
				5					
				4					
				4					
6	10	12	13.2	WH	3	Loose Grey Sandy Silt, some clay, (Wet)	ML		
				1					
				2					
				2					

NOTES: Water table encounterd during drilling at 10.0'. At completion of drilling water in augers at 12.8'. After removal of augers water in hole at 3.0'.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-10
INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	22"	2	6	Loose Grey Sandy Silt, some clay, (Wet)	ML		
				3					
				3					
				2					
8	14	16	20"	WH	2	Soft Grey Silty Clay, some sand, (Wet)	CL-ML		
				1					
				1					
				2					
9	18	20	12"	5	27	Stiff Grey Silty Clay with Gravel, (wet)	CL-ML		
				17					
				10					
				14					
10	21.5	21.7	0	50/0.2"	50+	Westhered Shale Bedrock	Rock		
						Boring terminated at 21.7'			

NOTES: Labored augering at 21.5. Auger refusal at 21.5'.

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-11
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/21/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/21/2021
JOB #:	194007120	BORING LOC.:	SB-11	FINAL STATIC WL:	4.6'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.191136
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.143872
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	24"	WH	5	3" Top Soil	CL-ML		
				1		Medium Stiff Brown Silty Clay,			
				4		some Organics, (moist)			
				1					
2	2	4	24"	4	15	Stiff Brown Sandy Clay, some Silt, (moist)	CL-ML		
				5					
				10					
				9					
3	4	6	24"	4	9	Medium Stiff Brown Sandy Silty Clay,	CL-ML		
				4		(moist)			
				5					
				8					
4	6	8	24"	5	14	Stiff Brown Sandy Silty Clay,	CL-ML		
				7		(moist)			
				7					
				7					
5	8	10	24"	3	9	8'-9.5' Medium Stiff Brown Sandy Silty Clay	CL-ML		
				4		(Moist)			
				5		9.5'-10' Stiff Gray Silty Clay, some Sand,	CL-ML		
				6		(Moist)			
6	10	12	24"	WH	3	Soft Gray Silty Clay, some Sand (wet)	CL-ML		
				1					
				2					
				2					

NOTES: Water table encounterd during drilling at 10.0'. At completion of drilling water in augers at 8.3'. After removal of augers water in hole at 5.6'.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-11

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
ST	12	14	13"	ST	-	Shelby Tube Attempt, 13" Recovery	CL		
7	14	16	12"	1	2	Soft Gray Silty Clay, some Sand (wet)	CL-ML		
				1					
				1					
				1					
8	18	20	24"	WH	0	Soft Gray Silty Clay, some Sand (wet)	CL-ML		
				WH					
				WH					
				WH					
9	22	22.4	4"	50/4"	50+	Weathered Shale Bedrock	Rock		
						Boring Terminated at 22.4'			

NOTES: Labored augering at 21'. Auger refusal at 22.0'.

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-12
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/21/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/21/2021
JOB #:	194007120	BORING LOC.:	SB-12	FINAL STATIC WL:	4.6'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.190470
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.144870
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	13"	WH	2	0-1' Brown Soft Silty Clay with Organics	CL-ML		
				1		1'-2' Soft Brown Silty Clay no organics			
				1		(moist)			
				4					
2	2	4	14"	3	8	Medum Stiff Brown Silty Clay, some Sand,	CL-ML		
				4		(moist)			
				4					
				7					
3	4	6	14"	4	16	Medum Stiff Brown Silty Clay, some Sand,	CL-ML		
				7		(moist)			
				9					
				9					
4	6	8	14"	5	9	6'-7' Medium Stiff Brown Silty Clay,	CL-ML		
				5		some Sand (moist)			
				4		7'-8' Stiff Gray Silty Clay, some sand, (wet)	CL-ML		
				7					
5	8	10	12"	2	5	Medium Stiff Gray Silty Clay, some sand,	CL-ML		
				3		(wet)			
				2					
				3					
6	10	12	12"	WH	3	Loose Gray Sandy Silt, some Clay, (wet)	ML		
				1					
				2					
				2					

NOTES: Water table encounterd during drilling at 7.0'. At completion of drilling water in augers at 6.4'. After removal of augers water in hole at 4.6', water below cave.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-12

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	18"	1	2	Soft Gray Silty Clay, some sand, (wet)	CL-ML		
				1					
				1					
				1					
8	14	16	22"	WH	0	Soft Gray Silty Clay, some sand, (wet)	CL-ML		
				WH					
				WH					
				WH					
9	17.5	19.5	6"	36	11	Loose Poorly Graded Gavel some Clay,	GM		
				5		some Silt, (wet)			
				6					
				8					
10	20	22	8"	5	12	Loose Black Poorly Graded Gravel with Sand	GM		
				3		(wet)			
				9					
				5					
11	22.5	22.6	1"	50/1"	50+	Black Weathered Shale	Rock		
						Boring Terminated at 22.6'			

NOTES: Labored augering at 21'. Auger refusal at 22.5'.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-13
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/21/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/21/2021
JOB #:	194007120	BORING LOC.:	SB-13	FINAL STATIC WL:	3.8'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.188098
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.146715
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	20"	1	3	4" of Top Soil	CL-ML		
				1		Soft Brown Silty Clay, some Sand, (moist)			
				2					
				2					
2	2	4	22"	2	6	Medium stiff Brown Silty Clay, some Sand	CL-ML		
				2		(moist)			
				4					
				6					
3	4	6	13"	3	11	Stiff Brown Silty Clay, some Sand (moist)	CL-ML		
				5					
				6					
				6					
4	6	8	20"	4	7	Medium stiff Brown Silty Clay, some Sand			
				3		(moist)	CL-ML		
				4					
				5					
5	8	10	20.5"	2	5	8'-9' Soft Brown Silty Clay, some sand, (wet)	CL-ML		
				2		9'-10' Soft Gray Silty Clay, some sand, (wet)	CL-ML		
				3					
				3					
6	10	12	12"	1	4	Soft Gray Silty Clay, some sand, (wet)	CL-ML		
				2					
				2					
				4					

NOTES: Water table encounterd during drilling at 8.0'. At completion of drilling water in augers at 3.8'.
After removal of augers water in hole caved at 3.0', water below cave.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-13

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	24"	1	2	Soft Gray Silty Clay, some sand, (wet)	CL-ML		
				1					
				1					
				3					
8	14	16	22"	1	2	Soft Gray Silty Clay, some sand, (wet)	CL-ML		
				1					
				1					
				1					
9	18	20	15"	4	10	Loose Poorly Graded Sand with Silt and	SP-SM		
				4		Gravel, (wet)			
				6					
				6					
10	23	23.9	10"	7	50+	Weathered Shale Bedrock	Rock		
				50/4"					
						Boring Terminated at 23.9'			

NOTES:

PAGE: 2 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-14
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/22/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/22/2021
JOB #:	194007120	BORING LOC.:	SB-14	FINAL STATIC WL:	3.2'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.186360
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.146233
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	12"	1	4	12" Top Soil	CL-ML		
				2		Soft Sandy Silty Clay with organics (moist)			
				2					
				2					
2	2	4	21"	2	6	Medium Stiff Dark Brown Silty Clay, some	CL-ML		
				2		Sand, trace organics, (moist)			
				4					
				5					
3	4	6	24"	2	10	4'-5' Medium Stiff Dark Brown Silty Clay	CL-ML		
				4		(moist)			
				6		5'-6' Loose Grey Sandy Silt some Clay	ML		
				17		(moist)			
4	6	8	19"	12	25	Medium Dense Grey Sandy Silt, some Clay	ML		
				12		(moist)			
				13					
				21					
5	8	10	12"	1	5	Loose Grey Sandy Silt, some Clay (wet)	ML		
				2		wet at 8'			
				3					
				3					
6	10	12	12"	1	2	Loose Grey Sandy Silt, some Clay (wet)	ML		
				1					
				1					
				1					

NOTES: Water table encounterd during drilling at 8.0'. At completion of drilling water in augers at 1.9'. After removal of augers water in hole at 3.2'

PAGE: 1 of 2

RAMBOLL

SOIL BORING LOG

BORING ID: SB-14

INSPECTOR: CJN

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	24"	1	2	Soft Grey Silty Clay, some Sand (wet)	CL-ML		
				1					
				1					
				1					
ST	14	16	0	ST	ST	Shelby Tube Attempted, no recovery	-		
8	18	19.3	9"	10	73+	3" Highly Westhered Shale	Rock		
				23		6" Weathered Shale			
				50/3"		Shale began at 18'			
						Boring Terminated at 19.3'			

NOTES: Soil changed to silt at shelby tube attempt depth. Wet silt on inside walls of tube.

C:\Users\NortonCJ\OneDrive - Ramboll\Desktop\OCIDA\Borings\SB-14_Log.xlsx

RAMBOLL

SOIL BORING LOG

BORING ID: SB-15
INSPECTOR: Chris Norton

PROJECT:	White Pine Geotech	SITE NAME:	White Pine Comercial Park	DATE STARTED:	12/28/2021
CLIENT:	OCIDA	SITE LOC.:	Burnet Road, Clay, NY 13041	DATE COMPLETED:	12/28/2021
JOB #:	194007120	BORING LOC.:	SB-15	FINAL STATIC WL:	5.1'

DRILLING CONT.:	Kenney Geotechnical	DRILLING METHOD:	Hollow Stem Auger	NORTHING:	43.185557
FOREMAN:	Nate Morehouse	HAMMER / FALL:	Auto / 30"	EASTING:	76.142219
RIG TYPE:	Geoprobe	SAMPLER TYPE:	Split Spoon	ELEVATION:	N/A
PURPOSE:	Geotechnical Boring	SAMPLER DIAMETER:	2 inch	DATUM:	N/A

Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	
1	0	2	20"	WH	6	3" Top Soil	CL-ML		
				3		Medium Stiff brown Sandy Silty Clay,			
				3		(moist)			
				4					
2	2	4	24"	3	7	Medium Stiff brown Sandy Silty Clay,	CL-ML		
				3		(moist)			
				4					
				4					
3	4	6	24"	2	6	Medium Stiff brown Sandy Silty Clay, (wet)	CL-ML		
				2					
				4					
				6					
4	6	8	24"	1	11	Medium Stiff brown Sandy Silty Clay, (wet)	CL-ML		
				6					
				5					
				4					
5	8	10	23"	1	7	8'-9' Medium Stiff brown Sandy Silty Clay,	CL-ML		
				3		(wet)			
				4		9'-10' Medium Stiff Grey Sandy Silty Clay,	CL-ML		
				6		(wet)			
6	10	12	26"	WH	3	Soft Grey Sandy Silty Clay, (wet)	CL-ML		
				1					
				2					
				3					

NOTES: Water table encounterd during drilling at 2.0'. At completion of drilling water in augers at 3.7'. After removal of augers water in hole at 5.1'.

RAMBOLL

SOIL BORING LOG

BORING ID: SB-15
INSPECTOR: CJN

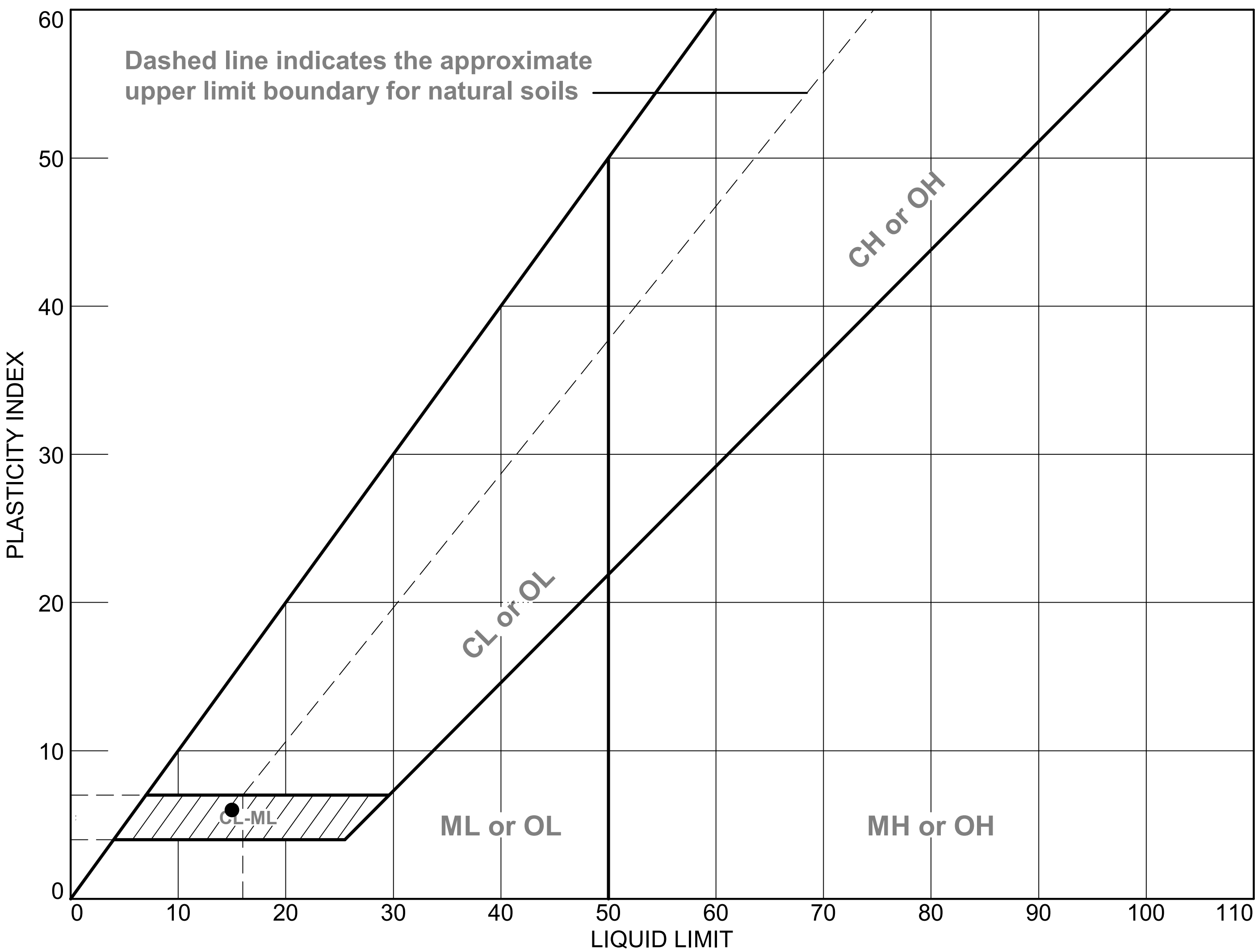
Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum Descrip.	Field Testing PID (ppm)	Field Testing Other
7	12	14	21"	1	6	Medium Stiff Gray Sandy Silty Clay, (wet)	CL-ML		
				3					
				3					
				3					
8	14	16	24"	WH	0	Soft Gray Sandy Silty Clay, (wet)	CL-ML		
				WH					
				WH					
				WH					
ST	16	18	20"	ST	-	Shelby Tune Attempt, 20" of recovery	CL		
9	18	20	24"	1	2	Soft Gray Sandy Silty Clay, (wet)	CL-ML		
				1					
				1					
				2					
10	23	25	20"	WH	4	Soft Gray Sandy Silty Clay, (wet)	CL-ML		
				1					
				3					
				4					
11	28	28.6	6"	50	50+	Weathered Shale Bedrock	Rock		
				50/1"					
						Boring Terminated at 28.6'			

NOTES: Labored augering at 26 feet.

PAGE: 2 of 2

APPENDIX 2
LABORATORY TESTING RESULTS

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

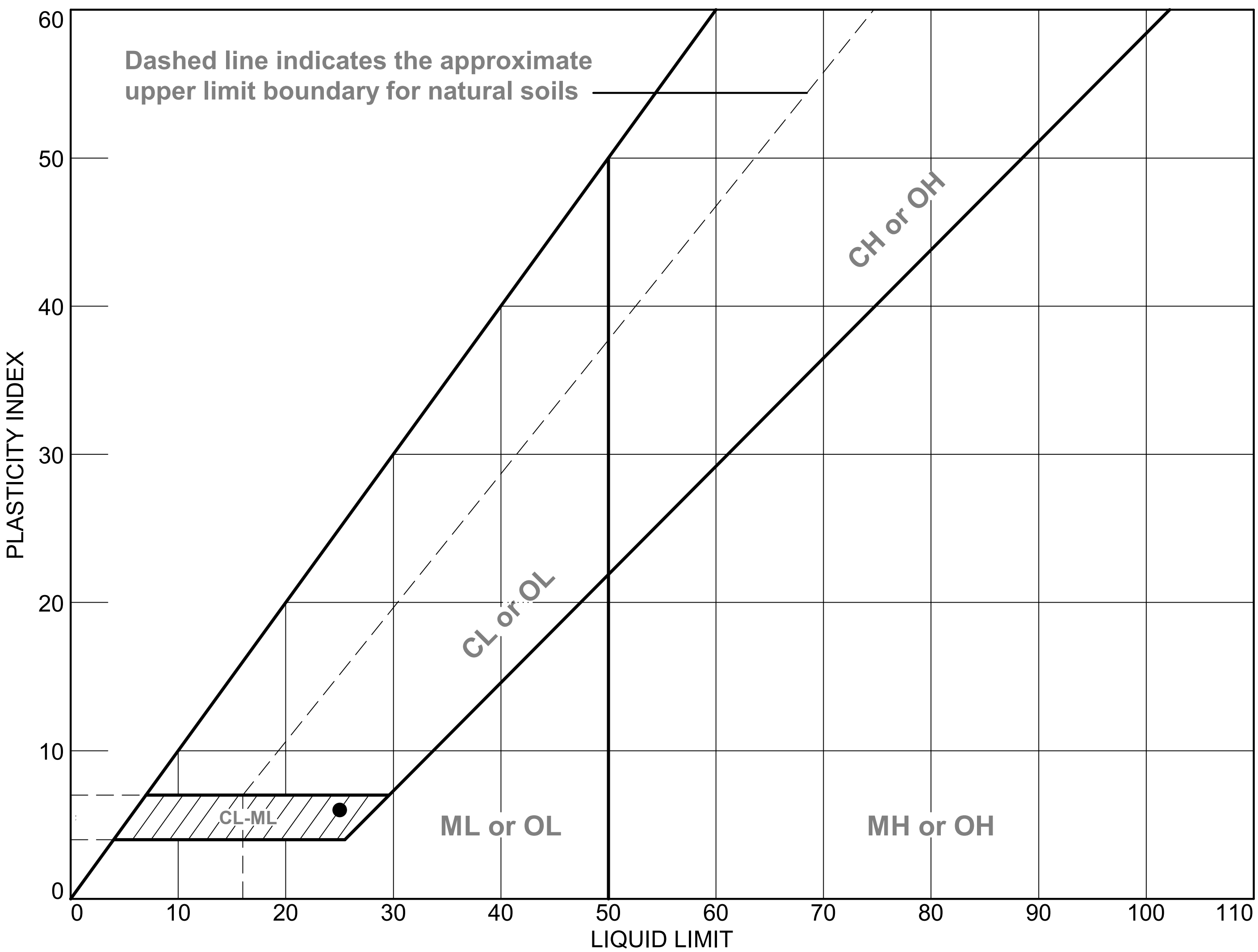
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	SB-2, 10-12	6	10-12	8.2	9	15	6	CL-ML

Kenney Geotechnical Services

Client: Ramboll Americas
Project: White Pines
Project No.: 2021-212 **Figure**

Tested By: JK **Checked By:** CMK

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	SB-5, 4-6	3	4-6	23.6	19	25	6	CL-ML

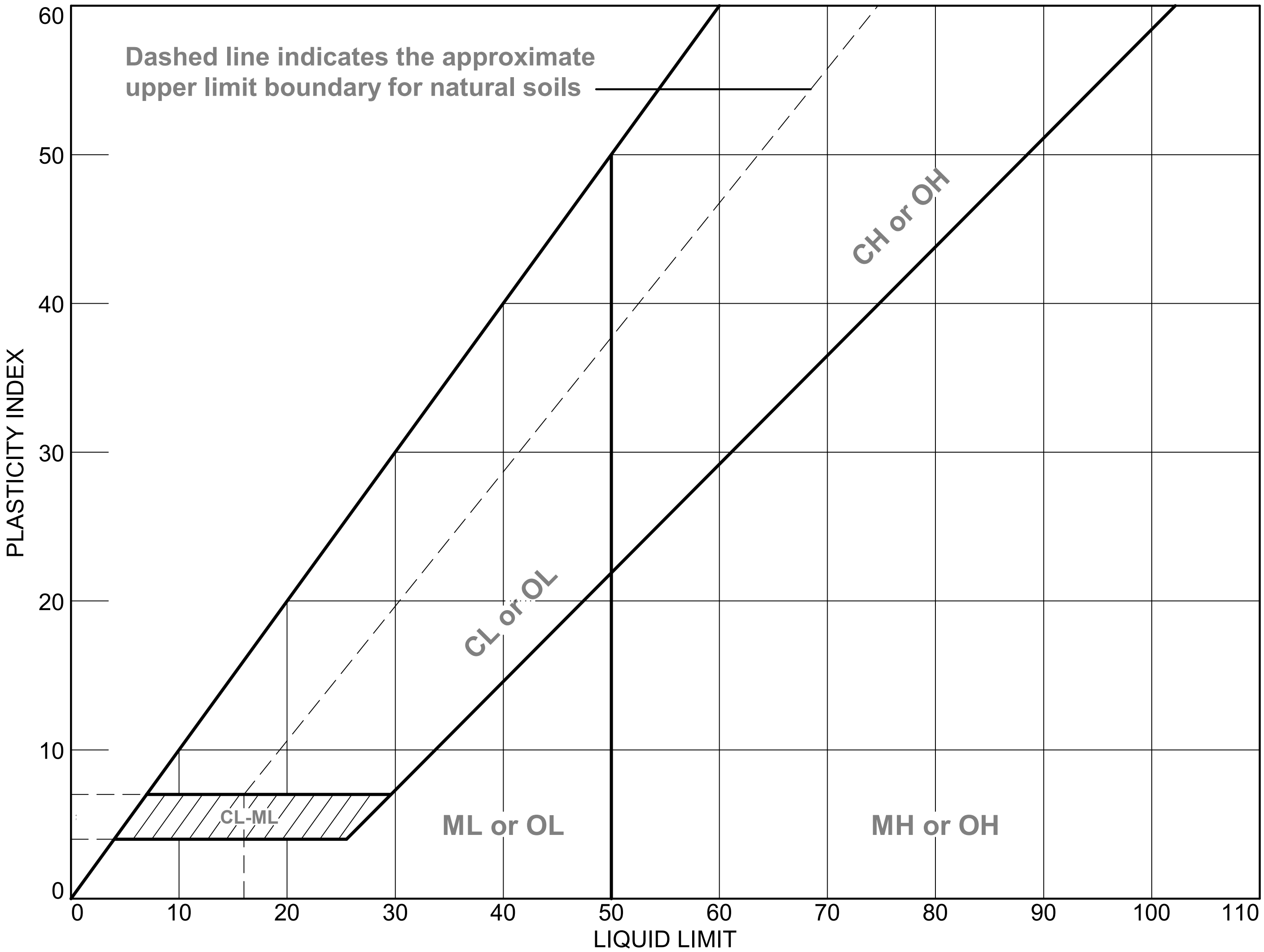
Kenney Geotechnical Services

Client: Ramboll Americas
Project: White Pines

Project No.: 2021-212 **Figure**

Tested By: JK **Checked By:** CMK

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	SB-11, 10-12	6	10-12		NP	NV	NP	

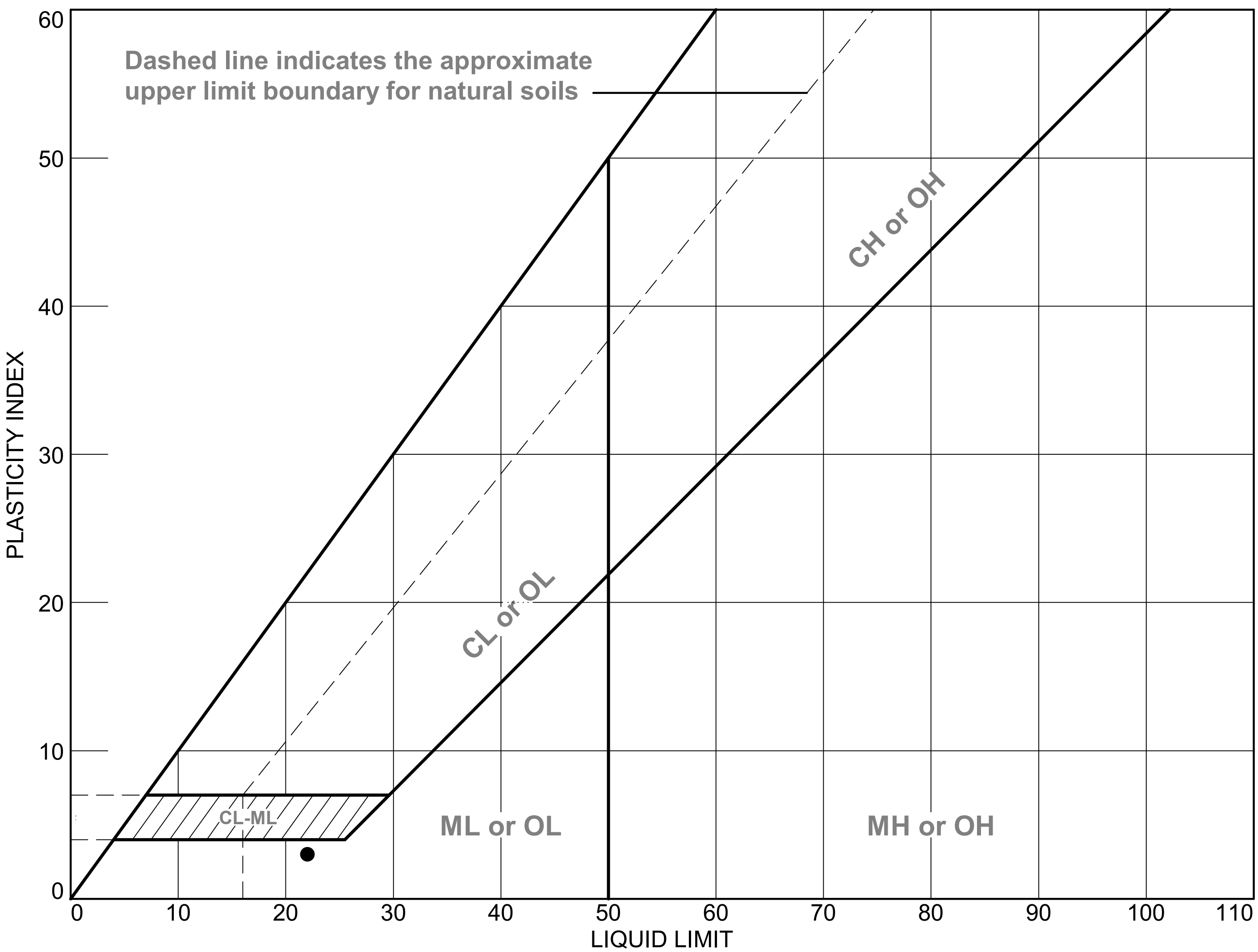
Kenney Geotechnical Services

Client: Ramboll Americas
Project: White Pines

Project No.: 2021-212 **Figure**

Tested By: JK **Checked By:** CMK

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	SB-14, 8-10	5	8-10	21.8	19	22	3	ML

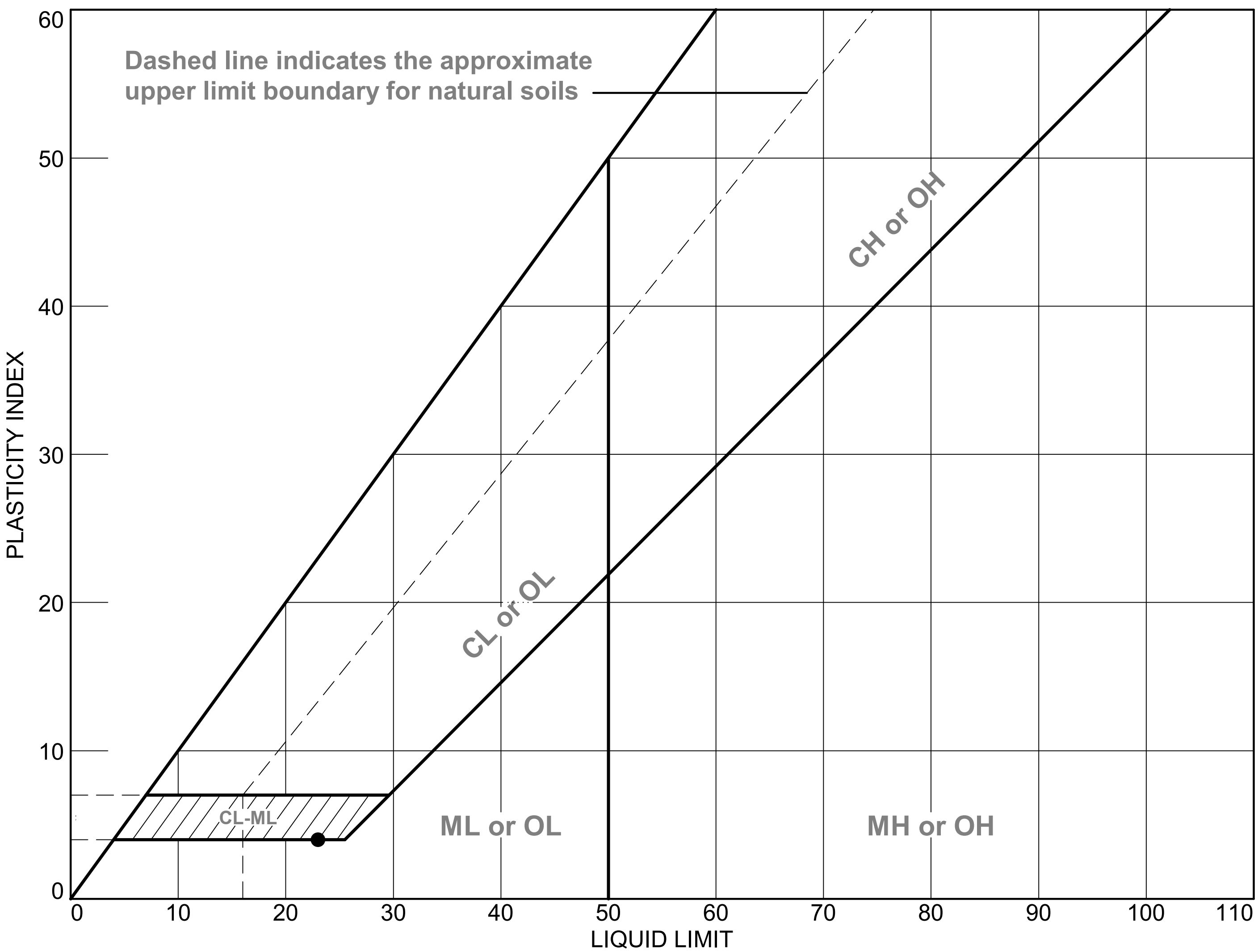
Kenney Geotechnical Services

Client: Ramboll Americas
Project: White Pines

Project No.: 2021-212 **Figure**

Tested By: JK **Checked By:** CMK

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	SB-15, 12-14	7	12-14	21.9	19	23	4	CL-ML

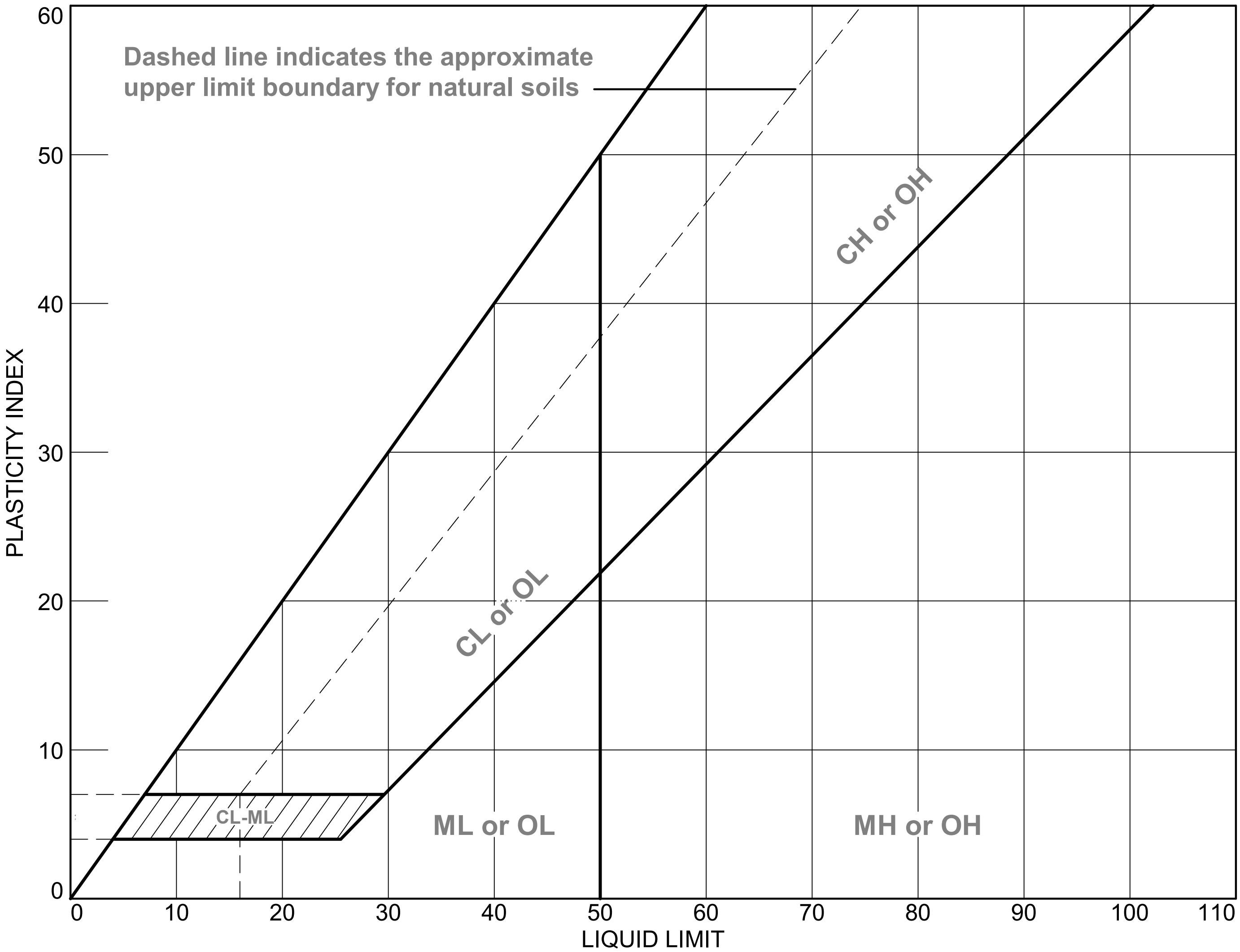
Kenney Geotechnical Services

Client: Ramboll Americas
Project: White Pines

Project No.: 2021-212 **Figure**

Tested By: JK **Checked By:** CMK

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	SB-9 14-16 Shelby Tube	8	15	24.8	NP	NP	NP	ML

Kenney Geotechnical Services

Client: Ramboll Associates
Project: White Pines

Project No.: 2021-212 **Figure**

Tested By: RS **Checked By:** CMK

Kenney Geotechnical Engineering Services, PLLC
Office: 6901 Herman Road, Syracuse, NY 13209
Mail :P.O. Box 117 Warners, NY 13164
Phone: (315) 638-2706 Fax: (315) 638-1544

Project No.:	**2021-212**	**Date:**	**1/6/2022**
Project Name:	**White Pines**		

Natural Moisture Content
ASTM D2216

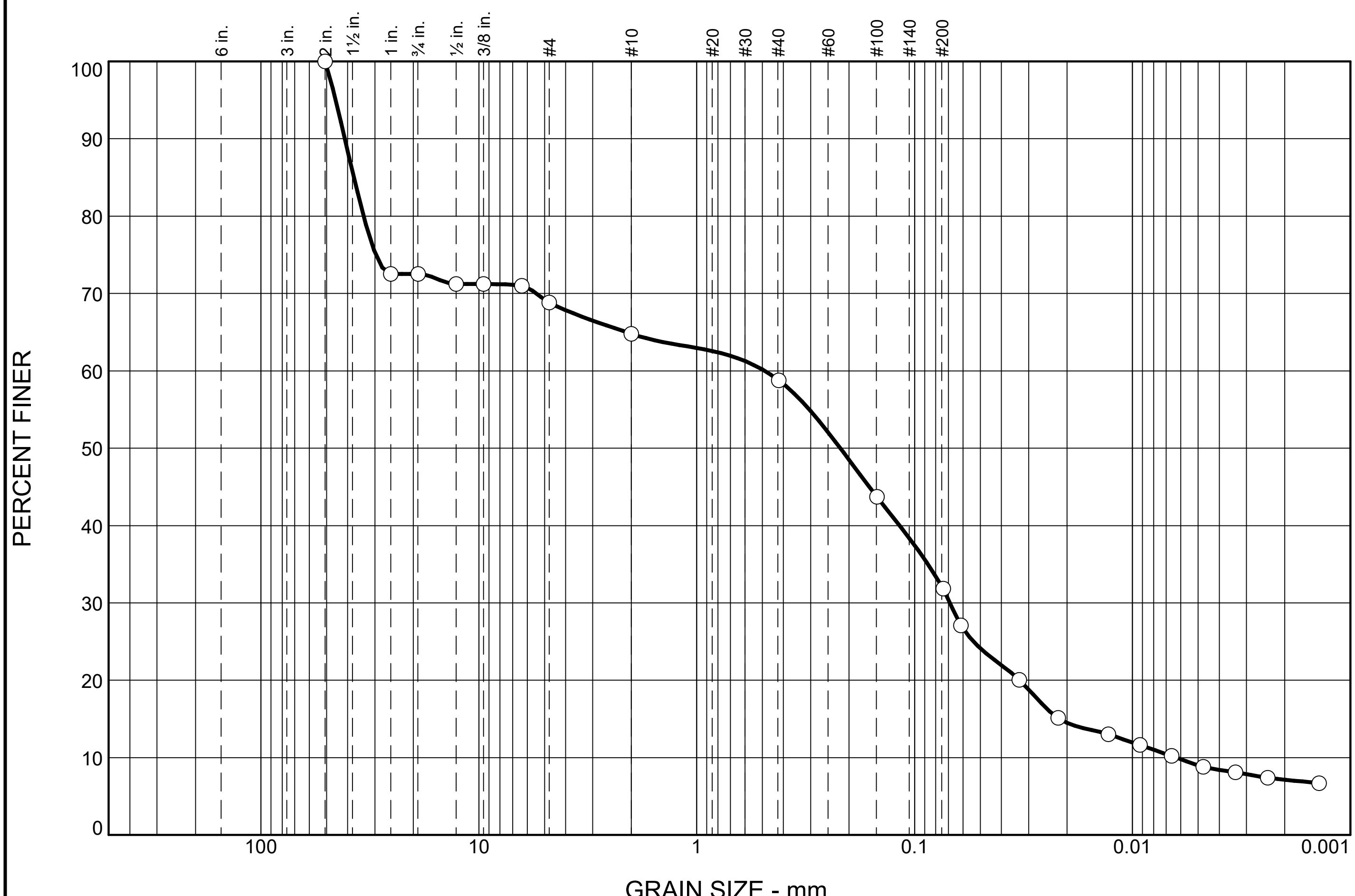
Sample:	**SB-2, 4-6**	**SB-3, 8-10**	**SB-4, 2-4**	**SB-5, 18-20**	**SB-6, 8-10**	**SB-7, 2-4**	**SB-9, 14-16**	**SB-10, 2-4**
Tare Name:	NMFP	Link	Duck	Alfa	KOA	Burt	Moo	NCIS
Tare Weight:	14.06	13.83	14.03	13.81	13.57	14.09	13.72	14.63
Tare + Wet Sample Wt.:	50.77	56.68	55.13	51.72	51.42	56.25	58.61	50.66
Tare + Dry Sample Wt.:	47.93	54.91	46.31	48.45	48.4	46.36	48.43	42.65
H20 Wt.:	2.8	1.8	8.8	3.3	3.0	9.9	10.2	8.0
Dry Sample Wt.:	33.9	41.1	32.3	34.6	34.8	32.3	34.7	28.0
MC = (H20 Wt. / Dry Sample Wt.) x 100:	8.4	4.3	27.3	9.4	8.7	30.6	29.3	28.6

Sample:	**SB-10, 18-20**	**SB-12, 4-6**	**SB-12, 12-14**	**SB-15, 2-4**	**SB-13, 2-4**	**SB-4, 14-16**	**SB-7, 10-12**	**SB-9, 6-8**
Tare Name:	Ball	Hornet	Sox	Fish	Run	CC-3	Bus	Star
Tare Weight:	14.19	14.18	13.8	13.85	157.4	65.3	168.9	211.7
Tare + Wet Sample Wt.:	53.63	53.06	54.57	52.38	399.7	319.8	474.6	415.4
Tare + Dry Sample Wt.:	48.83	45.71	45.44	45.2	348	291.3	416.2	372.1
H20 Wt.:	4.8	7.4	9.1	7.2	51.7	28.5	58.4	43.3
Dry Sample Wt.:	34.6	31.5	31.6	31.4	190.6	226.0	247.3	160.4
MC = (H20 Wt. / Dry Sample Wt.) x 100:	13.9	23.3	28.9	22.9	27.1	12.6	23.6	27.0

Sample:	**SB-15, 12-14**	**SB-14, 8-10**	**SB-2, 10-12**	**SB-15, 12-14**	**SB-11, 10-12**	**SB-5, 4-6**		
Tare Name:	Barn	CC-6	PRP	Dawg	No Name	Bunker		
Tare Weight:	227.6	133.8	169.6	226.2	200.2	133.3		
Tare + Wet Sample Wt.:	352.1	431.1	434.2	347.5	449.9	360.4		
Tare + Dry Sample Wt.:	329.6	377.8	414.2	325.7	402.1	317		
H20 Wt.:	22.5	53.3	20.0	21.8	47.8	43.4	0.0	0.0
Dry Sample Wt.:	102.0	244.0	244.6	99.5	201.9	183.7	0.0	0.0
MC = (H20 Wt. / Dry Sample Wt.) x 100:	22.1	21.8	8.2	21.9	23.7	23.6	#DIV/0!	#DIV/0!

Particle Size Distribution Report

ASTM D422



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	27	4	4	6	27	23	9

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			37.4920	0.4874	0.2195	0.0688	0.0216	0.0063	1.55	77.52

Material Description	Test Date	USCS	NM
○ Silty Sand with Gravel	1/11/2022	SM	

Project No. 2021-212 **Client:** Ramboll Associates

Project: White Pines

○ **Source of Sample:** SB-4 14-16 **Depth:** 15 **Sample Number:** 8

Remarks:

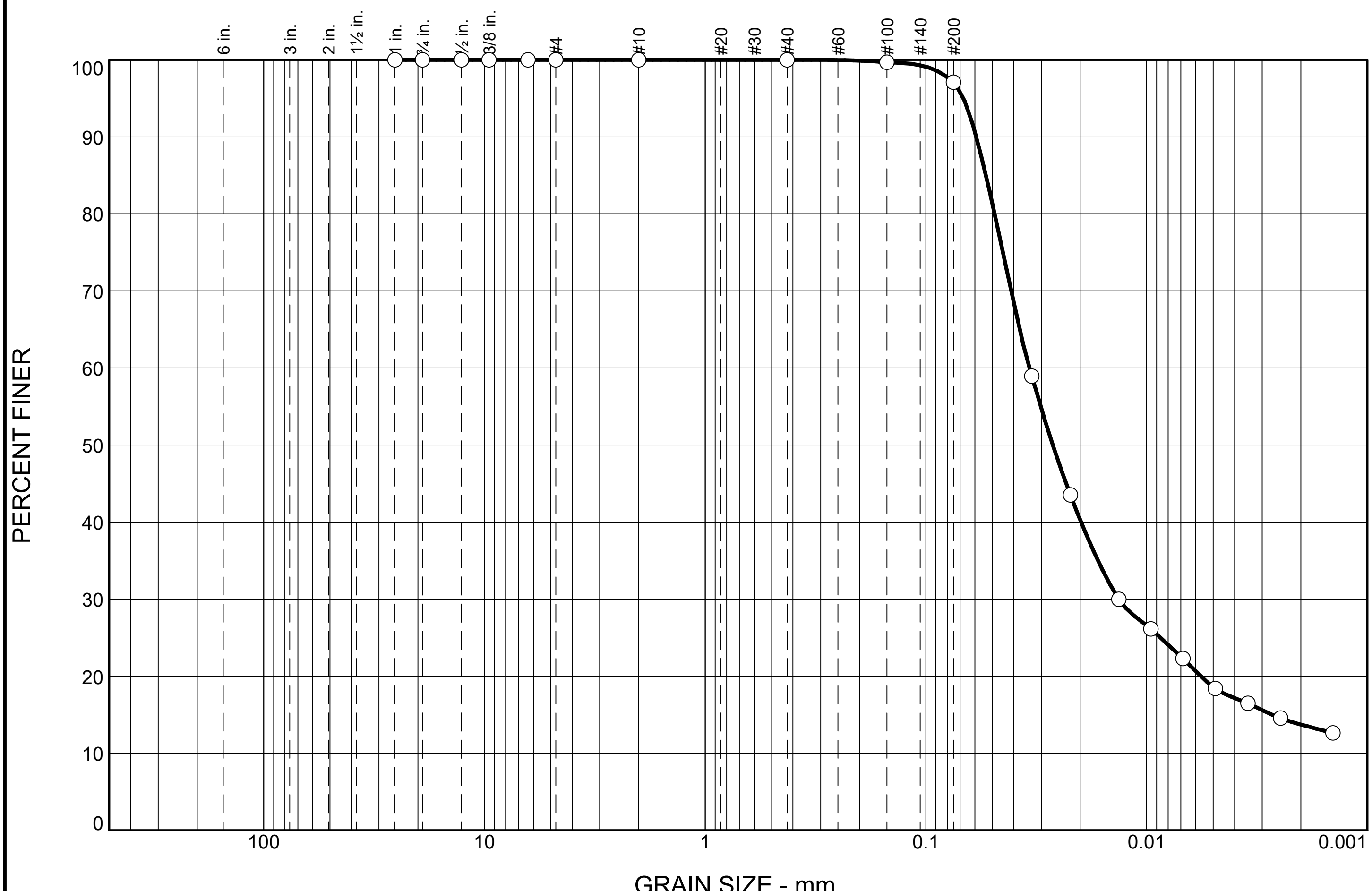
○ Kenney Geotechnical Engineering Services, PLLC
6901 Herman Road
Syracuse, NY 13209
315-638-2706

Figure

Tested By: BE **Checked By:** CMK

Particle Size Distribution Report

ASTM D422 & D1140



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.0	2.9	83.4	13.7

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.0534	0.0339	0.0266	0.0134	0.0027			

Material Description	Test Date	USCS	NM
○ SILT WITH CLAY	1/10/2022	ML	

Project No. 2021-212 **Client:** Ramboll Americas

Project: White Pines

○ **Source of Sample:** SB-7, 10-12 **Depth:** 10-12 **Sample Number:** 6

Remarks:

○ Kenney Geotechnical
Engineering Services, PLLC
6901 Herman Road
Syracuse, NY 13209
(315) 638-2706

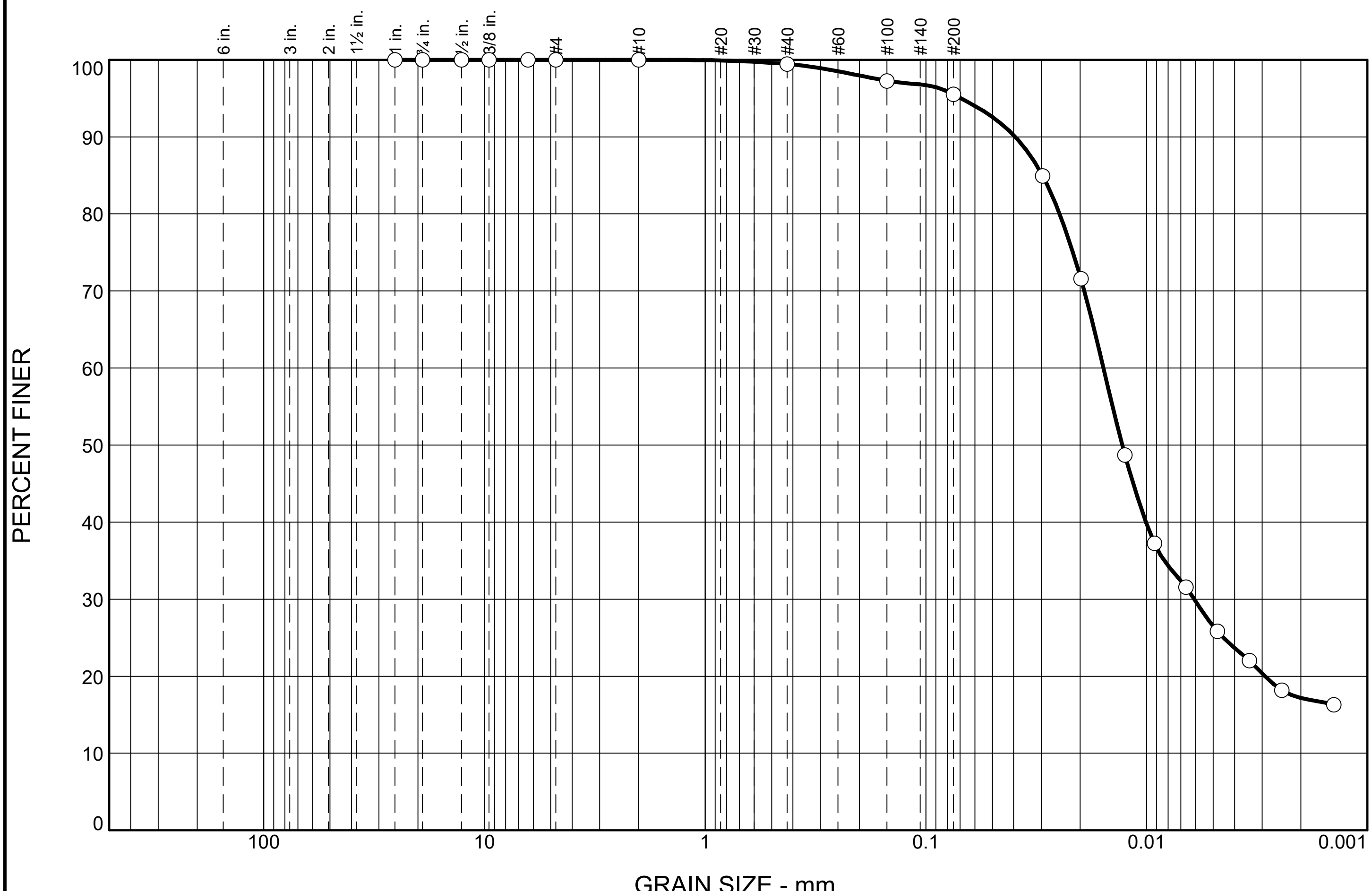
Kenney Geotechnical Services

Figure

Tested By: JK **Checked By:** CMK

Particle Size Distribution Report

ASTM D422 & D1140



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.5	4.0	78.3	17.2

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.0296	0.0157	0.0129	0.0061				

Material Description	Test Date	USCS	NM
○ SILT WITH CLAY	1/10/2022	ML	

Project No. 2021-212 **Client:** Ramboll Americas
Project: White Pines

○ **Source of Sample:** SB-9, 6-8 **Depth:** 6-8 **Sample Number:** 4

Remarks:
○ Kenney Geotechnical Engineering Services, PLLC
6901 Herman Road
Syracuse, NY 13209
(315) 638-2706

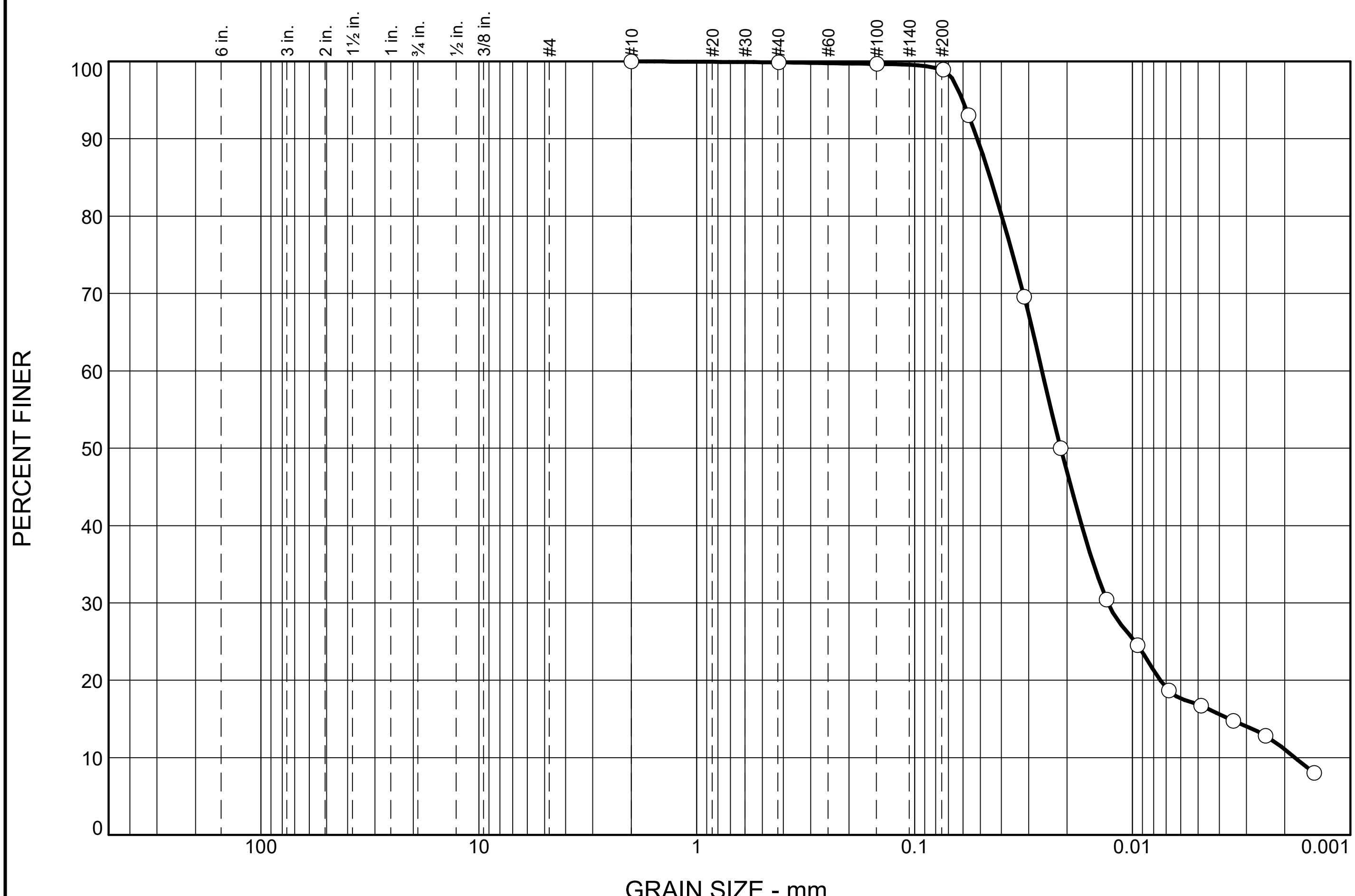
Kenney Geotechnical Services

Figure

Tested By: JK **Checked By:** CMK

Particle Size Distribution Report

ASTM D422



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0	0	0	0	0	1	82	17

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	NP	NP	0.0450	0.0260	0.0214	0.0130	0.0036	0.0018	3.60	14.50

Material Description	Test Date	USCS	NM
○ Silt	1/11/2022	ML	24.8

Project No. 2021-212 **Client:** Ramboll Associates
Project: White Pines

○ **Source:** SB-9 14-16 Shelby Tube **Depth:** 15 **Sample No.:** 8

Kenney Geotechnical Services

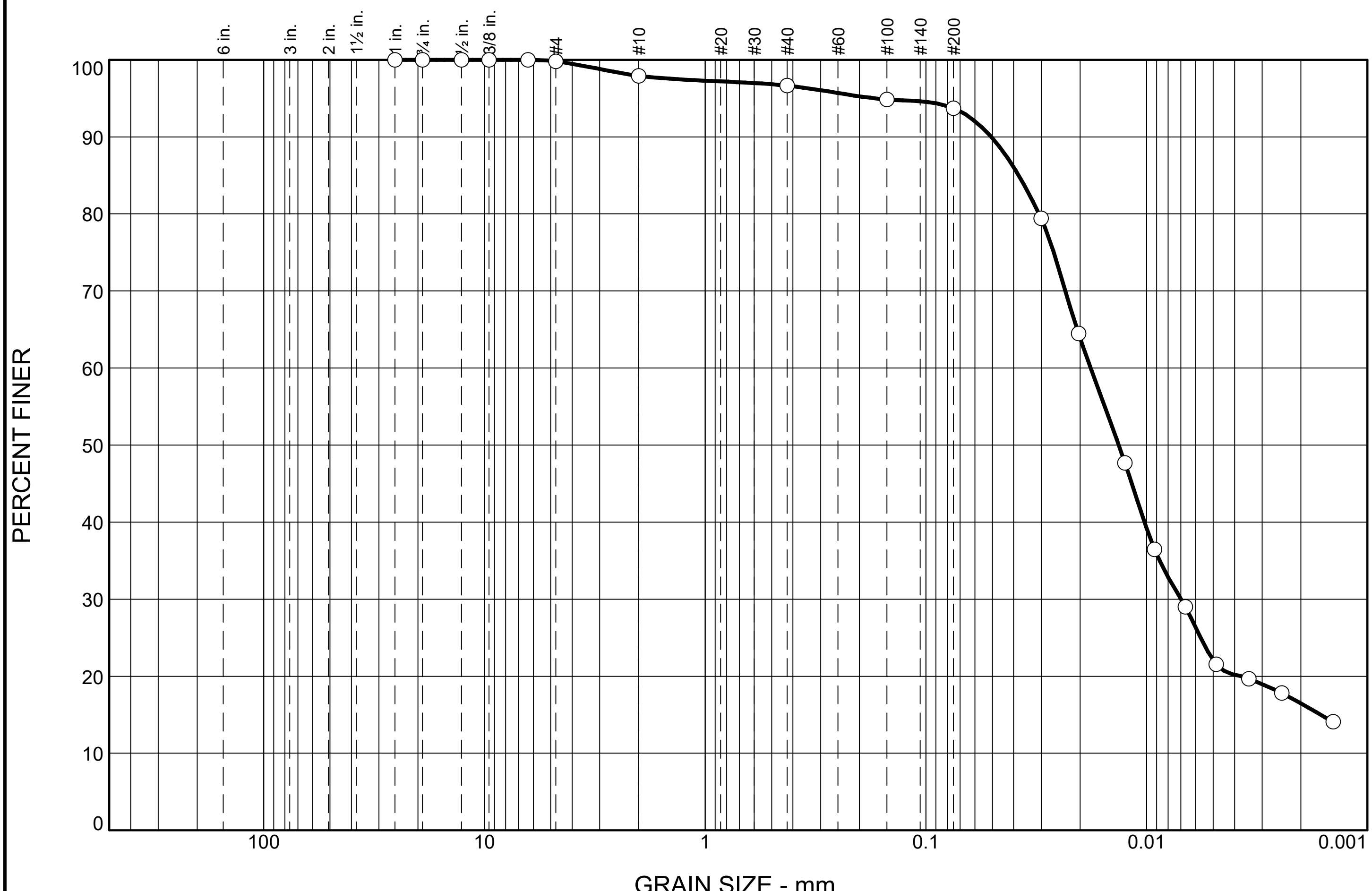
Remarks:
○ Kenney Geotechnical
Engineering Services, PLLC
6901 Herman Road
Syracuse, NY 13209
315-638-2706

Figure

Tested By: BE **Checked By:** CMK

Particle Size Distribution Report

ASTM D422 & D1140



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.2	1.9	1.3	2.9	77.2	16.5

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.0380	0.0179	0.0134	0.0070	0.0016			

Material Description	Test Date	USCS	NM
○ SILT WITH CLAY	1/10/2022	ML	

Project No. 2021-212 **Client:** Ramboll Americas

Project: White Pines

○ **Source of Sample:** SB-13, 2-4 **Depth:** 2-4 **Sample Number:** 2

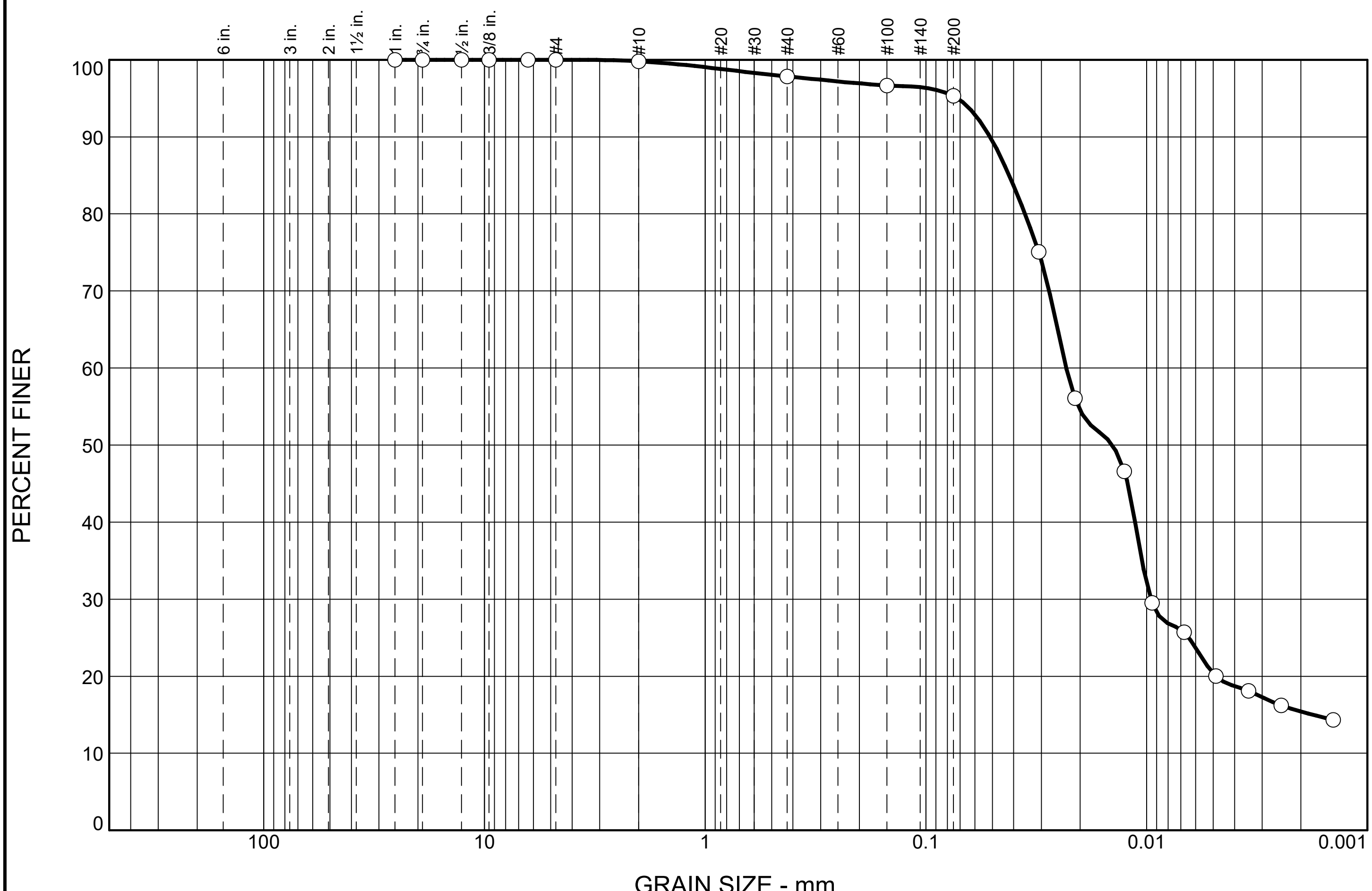
Remarks:
○ Kenney Geotechnical Engineering Services, PLLC
6901 Herman Road
Syracuse, NY 13209
(315) 638-2706

Figure

Tested By: JK **Checked By:** CMK

Particle Size Distribution Report

ASTM D422 & D1140



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.2	2.0	2.5	79.9	15.4

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.0419	0.0231	0.0143	0.0096	0.0018			

	Material Description	Test Date	USCS	NM
○	SILT WITH CLAY	1/10/2022	ML	

Project No. 2021-212 **Client:** Ramboll Americas
Project: White Pines

○ **Source of Sample:** SB-15, 12-14 **Depth:** 12-14 **Sample Number:** 7

Remarks:
○ Kenney Geotechnical Engineering Services, PLLC
6901 Herman Road
Syracuse, NY 13209
(315) 638-2706

Kenney Geotechnical Services

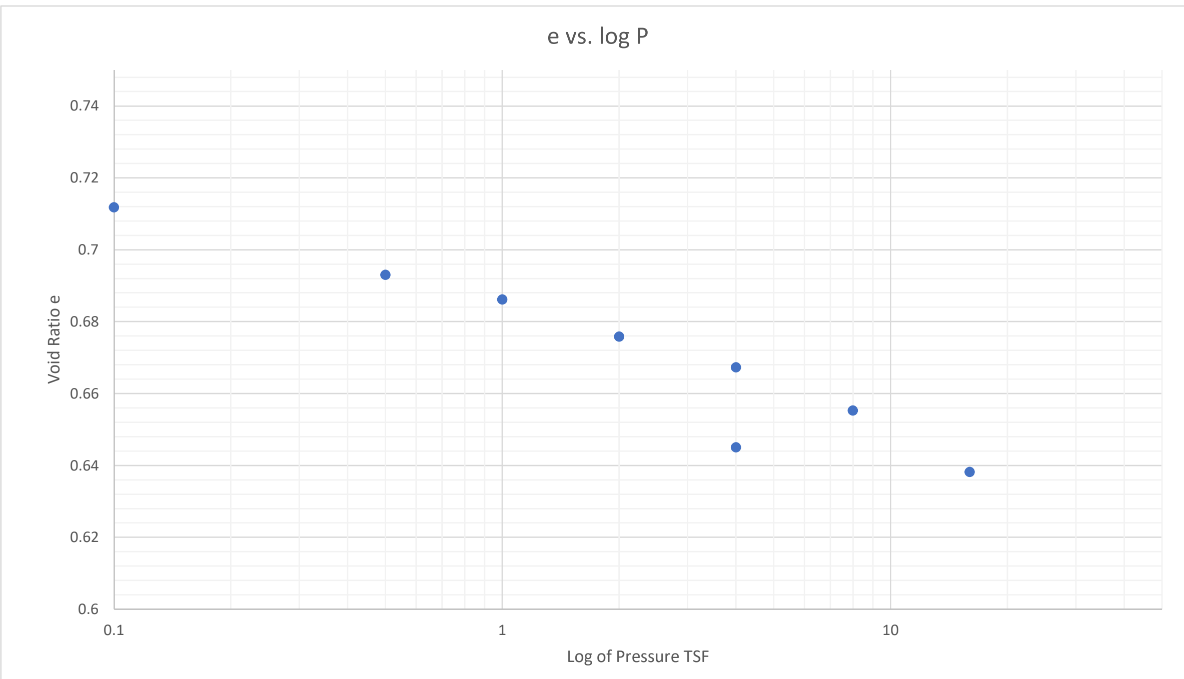
Figure

Tested By: JK **Checked By:** CMK

Desciption of Soil:	B-9 14-16'	Location:	White Pine								
Specimen Diameter:	2.5	inches	Initial Height:	1	inches	Height of Solids Hs	0.584182	inches			
Moisture Constent:	Start:	24.5	%	End:	19.5	%	Weight Dry Specimen	126.8	g	Gs	2.7
Tested By:	CMK/WME			Date:	Jan. 20, 2022						

Pressure P tsf	Final Dial Reading inches	Change In Height inches	Final Height inches	Height Void Inches	Final Void Ratio e	Avg H H inches	Fiting Time sec t_{90}	Fiting Time sec t_{50}	$c_v \times 10^3$ in^2/sec t_{90}	$c_v \times 10^3$ in^2/sec t_{50}
0	0.742		1.000	0.416	0.712					
		0.011				0.9945	30		1.747	
0.5	0.731		0.989	0.405	0.693					
		0.004				0.987	30		1.721	
1	0.727		0.985	0.401	0.686					
		0.006				0.982	20		2.555	
2	0.721		0.979	0.395	0.676					
		0.005				0.9765	21		2.407	
4	0.716		0.974	0.390	0.667					
		0.007				0.9705	28		1.783	
8	0.709		0.967	0.383	0.655					
		0.01				0.962	25		1.962	
16	0.699		0.957	0.373	0.638					
		-0.004				0.959	26		1.875	
4	0.703		0.961	0.377	0.645					

Pressure P tsf	Final Void Ratio e
0.1	0.711796
0.5	0.692966
1	0.686119
2	0.675848
4	0.667289
8	0.655306
16	0.638189
4	0.645036



Desciption of Soil: B5 12'-14' Location: White Pine
Specimen Diameter: 2.5 inches Initial Height: 1 inches Height of Solids Hs 0.605835 inches
Moisture Constent: Start: 24.81 % End: 17.6 % Weight Dry Specimen 131.5 g Gs 2.7
Tested By: CMK/WME Date: Jan. 30, 2022

Pressure	Final Dial	Change In	Final	Height	Final	Avg H	Fiting Time		c_v x 10^3	
P	Reading	Height	Height	Void	Void Ratio	H	sec		in^2/sec	
tsf	inches	inches	inches	Inches	e	inches	t_{90}	t_{50}	t_{90}	t_{50}
0	0.798		1.000	0.394	0.651					
		0.004				0.998	60		0.880	
0.5	0.794		0.996	0.390	0.644					
		0.009				0.9915	375		0.139	
1	0.785		0.987	0.381	0.629					
		0.01				0.982	216		0.237	
2	0.775		0.977	0.371	0.613					
		0.012				0.971	135		0.370	
4	0.763		0.965	0.359	0.593					
		0.013				0.9585	125		0.390	
8	0.75		0.952	0.346	0.571					
		0.014				0.945	120		0.394	
16	0.736		0.938	0.332	0.548					
		-0.019				0.9475	90		0.529	
4	0.755		0.957	0.351	0.580					

Pressure	Final
P	Void Ratio
tsf	e
0.1	0.711796
0.5	0.692966
1	0.686119
2	0.675848
4	0.667289
8	0.655306
16	0.638189
4	0.645036