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

# Soils Investigation and Conceptual Foundation Recommendation Report

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Micron Campus

Clay, New York

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Prepared For: (Client)

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#### **Table of Contents**

		Page
1.0	INTRODUCTION	
2.0	PROPOSED DEVELOPMENT	
3.0	THE 2023 EXPLORATION PROGRAMSITE DESCRIPTION AND GEOLOGICAL SETTING	
4.0 4.1	Site DescriptionSite Description	
4.1	Surficial Geology and Setting	
4.2	Bedrock Geology	
4.4	Seismic Site Classification	
4.5	USDA Soil Survey	
5.0	SUBSURFACE CONDITIONS	
5.1	Preface	
5.2	The Regional Glacial Deposition Theory	
5.3	Generalized Subsurface Profiles	
5.4	Soil Descriptions	
5.5	Groundwater & Surface Water Hydrology	
6.0	SITE CHARACTERIZATION AND ENGINEERING SIGNIFICANCE	
6.1	Preface	
6.2	Characterization and Significance	17
7.0	CONCEPTUAL PHASE FOUNDATION EVALUATION	20
7.1	The FAB and CUB Structures	21
7.2	Admin/Probe Building	22
8.0	FOUNDATION CONCEPTS	
8.1	Drainage and Preloading	
8.2	Ground Improvement	
8.3	Deep Foundations	
8.4	Shallow Foundations	
8.5	Compensated Foundations and Slabs	
8.6	Frost Cover	
8.7	Mass Fill Material and Compaction	
8.8	Geotechnical Engineering Inspections	
9.0	CLOSING	27
	List of Figures	
	e 1 – Google Earth Image	
Figure	e 2 - EIS Scope Civil - Overall Cut & Fill Layout & Schedule	3
Figure	e 3 – Exploration Area Map	5
-	e 4 - Watershed Map	
_	e 5 - Topo, Surficial Geology and Surface Hydrology Map	
	e 6 - Map of Physiographic Provinces of New York	
Figure	e 7 – Web Soil Survey – Soil Map	12



#### Attachment Listing

#### Appendix A – Geotechnical Data

Exhibit A-1 Google Earth Image: (1995)

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

#### 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

#### Appendix C - Miscellaneous Exhibits

Exhibit C-1 Generalized Soil Profile

Exhibit C-2 ASCE 7 Hazards Report

Page **1** of **26** 



Soils Investigation and
Conceptual Foundation Recommendation Report
Micron Campus
Clay, New York

#### 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*<sup>1</sup> (*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

<sup>&</sup>lt;sup>1</sup> 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.

Page 2 of 27



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<sup>2</sup> 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<sup>3</sup> 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.

<sup>&</sup>lt;sup>2</sup> FEIS = Final Environmental Impact Statement

<sup>&</sup>lt;sup>3</sup> Client provided information is presented in Appendix B.

Page **3** of **27** 



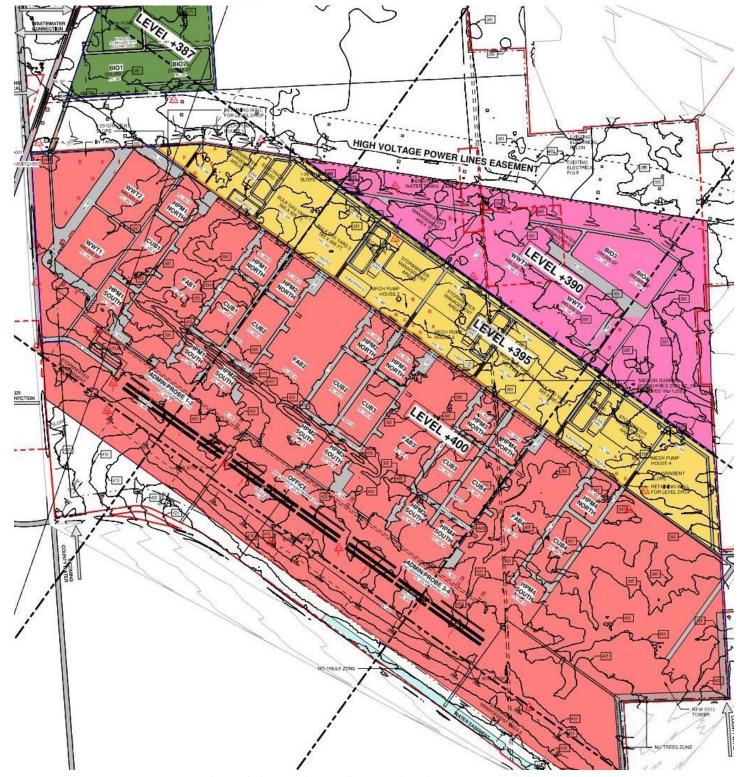


Figure 2 - EIS Scope Civil - Overall Cut & Fill Layout & Schedule The above figure is obtained from Drawing labeled NYWP-LAY-S0-00-SSITE-003, dated Dec. 2023

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

Page 4 of 27



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 onsite 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

Page **5** of **27** 



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<sup>4</sup> 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.

<sup>4</sup> 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.

Page **6** of **27** 



#### 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 1½ miles of Burnet Road north of the dead end, which made its twisting and turning way through the then-active tilled mucklands, was abandoned.

Page **7** of **27** 



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.

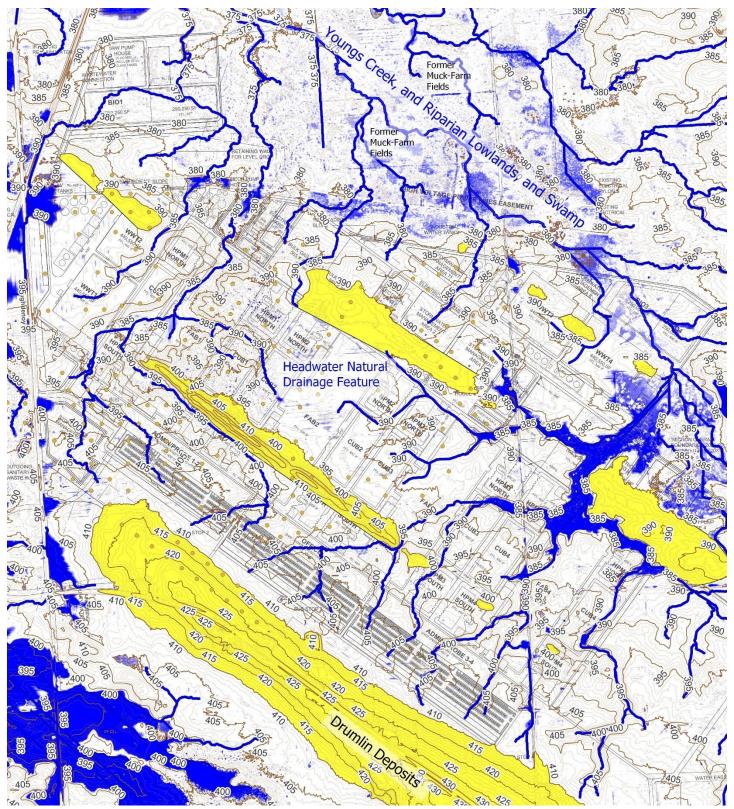


Figure 5 - Topo, Surficial Geology and Surface Hydrology Map See Exhibit A-4 in Appendix A for a Full-Size Map

Page **8** of **27** 



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<sup>5</sup> (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.

<sup>&</sup>lt;sup>5</sup> NYS GDM, Chapter 3 – Geology of New York State, June 17, 2013.

Page **9** of **27** 



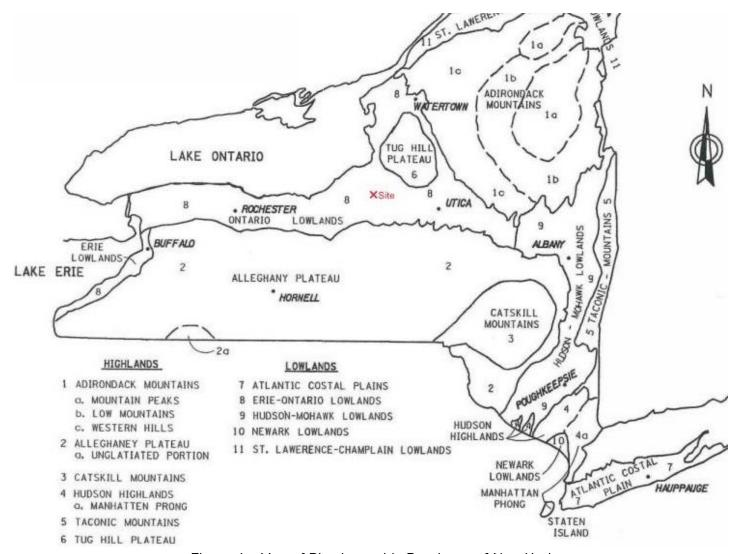


Figure 6 - Map of Physiographic Provinces of New York

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.

Page **10** of **27** 



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<sup>6</sup> 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<sup>7</sup> 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<sup>8</sup> (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

<sup>&</sup>lt;sup>6</sup> New York State Geotechnical Design Manual, Section 3.2.12.2

<sup>&</sup>lt;sup>7</sup> Building Code = 2020 NYS Building Code

<sup>&</sup>lt;sup>8</sup> CEG assembled the WSS Report from the USDA Natural Resources Conservation Service on-line application: Web Soil Survey, on January 9, 2024.

Page **11** of **27** 



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<sup>9</sup> 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<sup>10</sup> 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<sup>11</sup> 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<sup>12</sup> 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<sup>13</sup> 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.

<sup>&</sup>lt;sup>9</sup> AASHTO – American Association of State Highway and Transportation Officials. Standard Specifications for Transportation Materials and Methods, 2004.

<sup>&</sup>lt;sup>10</sup> WSS Map units listed in order of most to least coverage: Ng, Ch, Ww, Rh, Md, Du, and Mt.

<sup>&</sup>lt;sup>11</sup> WSS Map units listed in order of most to least coverage: HI, Og, On, and Ao.

<sup>&</sup>lt;sup>12</sup> WSS Map units listed in order of most to least coverage: Cd, Pb, and Fo.

<sup>&</sup>lt;sup>13</sup> Fluvaquent – of or pertaining to rivers or streams; produced by river or stream action. WSS Map Unit is "FL".

Page **12** of **27** 



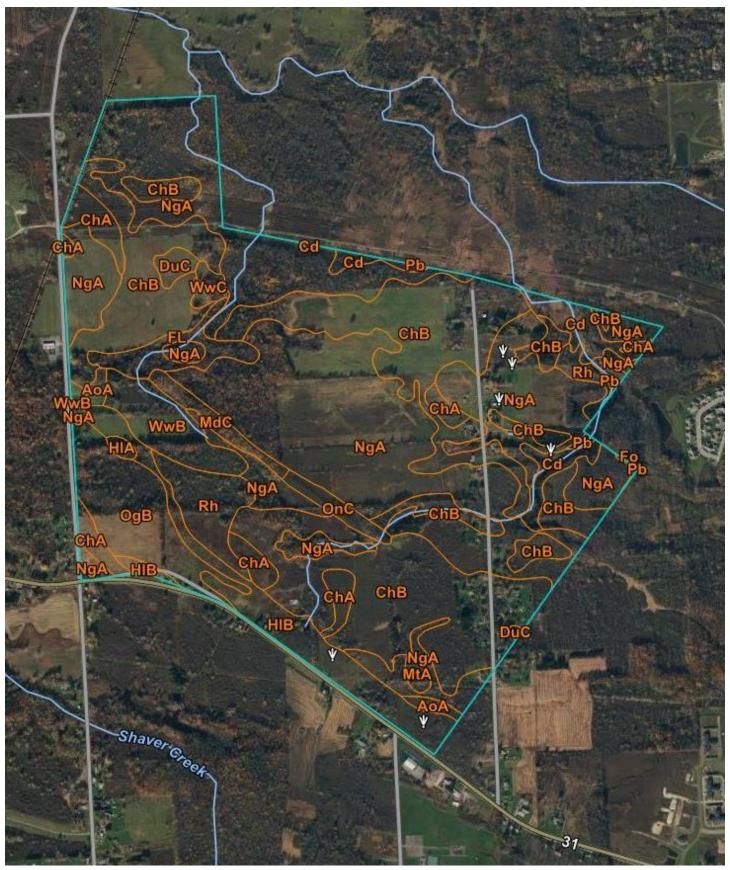


Figure 7 – Web Soil Survey – Soil Map

Page 13 of 27



#### 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<sup>14</sup>. 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.

<sup>&</sup>lt;sup>14</sup> A glacier is a slowly moving mass or river of ice.

Page **14** of **27** 



#### 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.

<u>Topsoil</u> 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.

<u>Upper Silt & Clays</u> 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<sup>15</sup> 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

<sup>&</sup>lt;sup>15</sup> ASTM D1557 - Modified Proctor Test

Page 15 of 27



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%.

<u>Sandy Silt</u> 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<sup>16</sup> 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,

<sup>&</sup>lt;sup>16</sup> RQD, Rock Quality Designation, an estimate of in-situ rock quality, is defined in the General Information & Key to Test Boring Logs.

Page **16** of **27** 



that is no return of drill water at that Boring. No water loss was noted in the other 12 Test Borings<sup>17</sup> 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-2	227	B-3	337	B-3	391	B-3	370	B-4	400	B-4	420	B-4	422
Elev. at																		
Grade (ft)	41	8.8	39	4.6	38	9.3	40	3.5	39	3.0	39	3.7	39	9.6	39	0.9	38	2.0
WELL ID	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.

 $<sup>^{17}</sup>$  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.

Page **17** of **27** 



#### 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<sup>18</sup> 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.

<sup>&</sup>lt;sup>18</sup> 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.

Page **18** of **27** 



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<sup>19</sup>.

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

<sup>19</sup> 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.

Page 19 of 27



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 asbuilts 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.

Page 20 of 27



#### 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.

Page **21** of **27** 



Table 7.1: Proposed Buildings, Dimensions and Applicable Test Borings							
Building ID Footprint		Applicable Borings and Coverage Area					
CUB 1 - West	315' x 740'	5 Borings (19, 23, 27, 28, & 29) within the northwestern two					
	= 233,100 sf	thirds and none within the southeastern third of the building					
	= 5.4 acres	footprint.					
		Coverage area is about 25% of the building footprint.					
CUB 1 - East	315' x 740'	6 Borings (363, 364, 370, 380, 426, & 427) within the					
	= 233,100 sf	southeastern half of the building footprint and none within the					
	= 5.4 acres	other half.					
		Coverage area is about 25% of the building footprint.					
CUB 2 - West	315' x 740'	3 Borings (426, 427, & 242) near the northwest corner and 3					
	= 233,100 sf	Borings (361, 363, & 384) near the south end of the building					
	= 5.4 acres	footprint.					
		Coverage area is less than about 30% of the building footprint.					
CUB 2 - East	315' x 740'	2 Borings (338 & 339) near the south end of the building					
	= 233,100 sf	footprint and none elsewhere.					
	= 5.4 acres	Coverage area is about 10% of the building footprint.					
FAB 1 – Fab Level	1,840' x 650'	13 Borings (38, 39, 40, 50, 370, 366, 382, 251, 260, 271, 281,					
	= 1,196,000 sf	430, & 428).					
	= 27.5 acres	Coverage area is about 30% of the building footprint.					
FAB 1 - Sub Level South	540' x 125'	1 Boring (366).					
	= 67,500 sf	Coverage area is less than about 10% of the sub level					
TAD 1 Cub Lavel Namb	= 1.5 Acres	footprint.					
FAB 1 – Sub Level North	540' x 125' = 67,500 sf	None					
	= 1.5 Acres						
FAB 2 – Fab Level	1,840' x 650'	10 Borings (317, 333, 334, 335, 336, 337, 347, 390, 391, & 392).					
FAB 2 - Fab Level	= 1,196,000 sf	Coverage area is about 25% of the building footprint.					
	= 27.5 acres	Coverage area is about 25% or the building rootprint.					
FAB 2 – Sub Level South	1,840' x 650'	1 Boring (361).					
17.15 2 Sub Level South	= 1,196,000 sf	Coverage area is less than about 10% of the sub level					
	= 27.5 acres	footprint.					
FAB 2 – Sub Level North	1.840' x 650'	3 Borings (241, 317, & 392).					
	= 1,196,000 sf	Coverage area is less than about 30% of the sub level					
	= 27.5 acres	footprint.					
Admin/Probe	1,990' x 230'	9 Borings (33, 37, 38, 43, 44, 45, 88, 424, & 425) within the					
,	= 457,700 sf	western two-thirds, and none within the eastern third of the					
	= 10.5 acres	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.

Page 22 of 27



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,

Page 23 of 27



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.

Page **24** of **27** 



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<sup>20</sup>, 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.

<sup>&</sup>lt;sup>20</sup> Delegated Design guideline and rules can be found at <a href="www.op.nysed.gov/professions/engineering/professional-practice/design-delegation">www.op.nysed.gov/professions/engineering/professional-practice/design-delegation</a>; 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.

Page **25** of **27** 



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.

Page **26** of **27** 



Table 8.3: Deep Foundation Options and Preliminary Axial Service Capacities						
	Axial Service Capacity					
Pile Type	(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.

Page 27 of 27



#### 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.

CME ENGINEERING GROUP. D.P.C.

Anas N. Anasthas, P.E.

President / Senior Geotechnical Engineer

Christopher R. Paolini, P.E.

Senior Vice President

Marcus A. Rotundo, P.E. Senior Principal Engineer



## **Appendix A**

### Geotechnical Data

Exhibit A-1 Google Earth Image

Exhibit A-2 Exploration Area Map

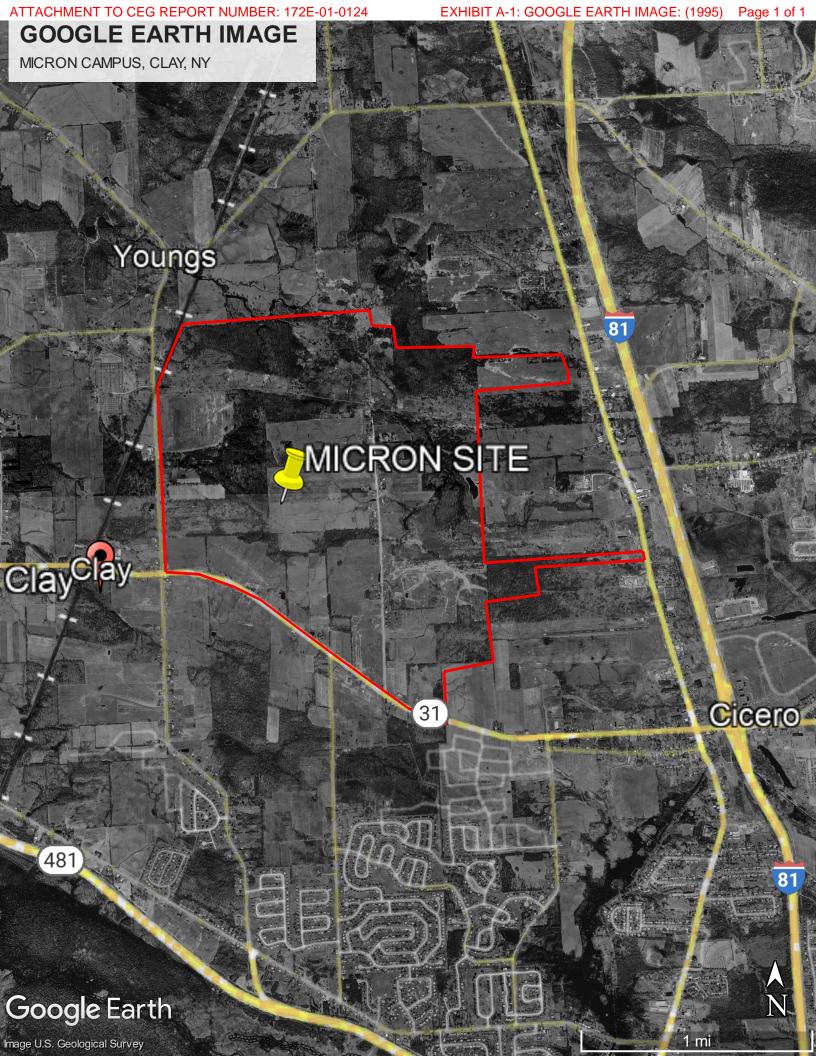
Exhibit A-3 2023 Exploration Location Plan

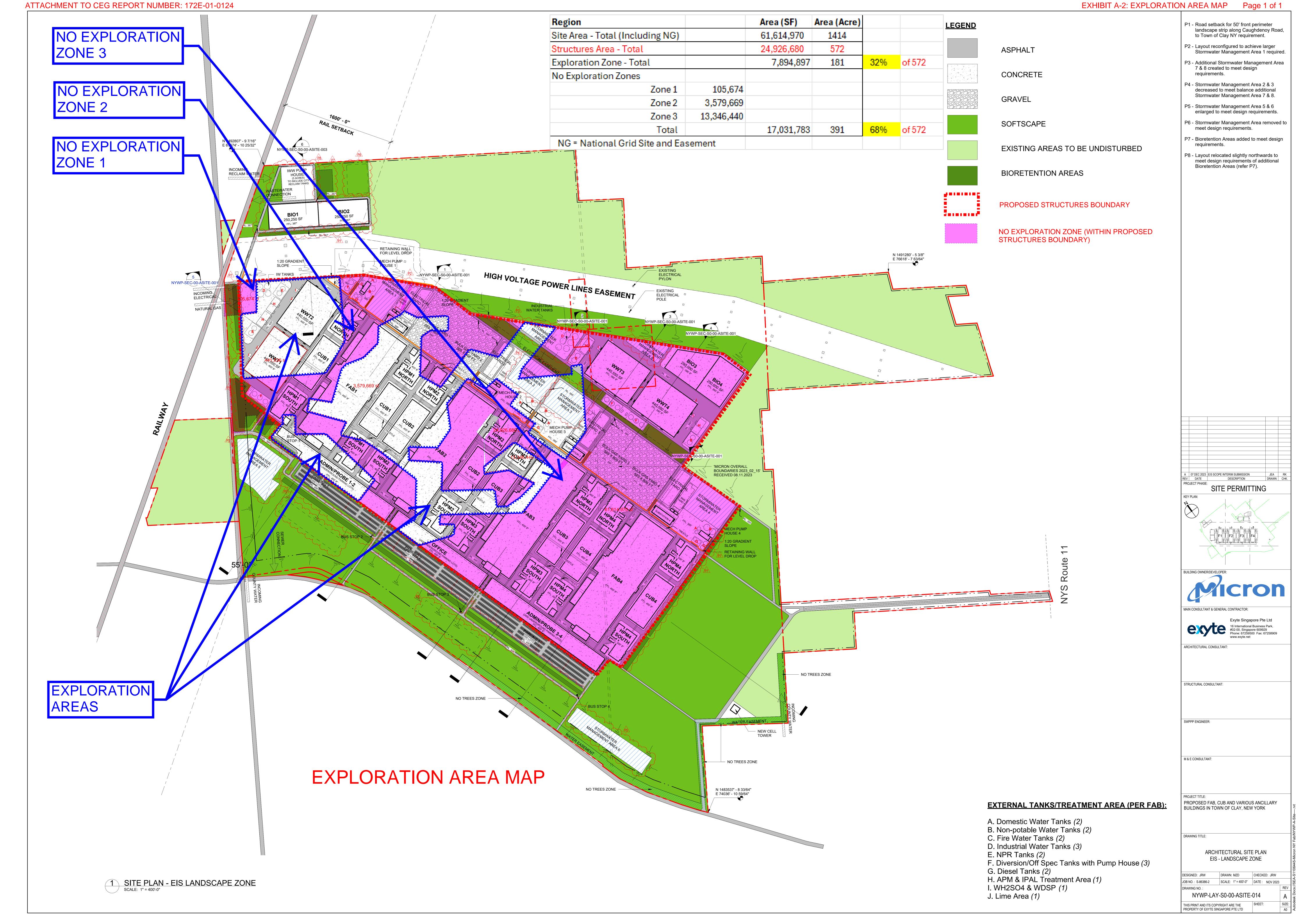
Exhibit A-4 Topo, Surficial Geology and Surface Hydrology Map

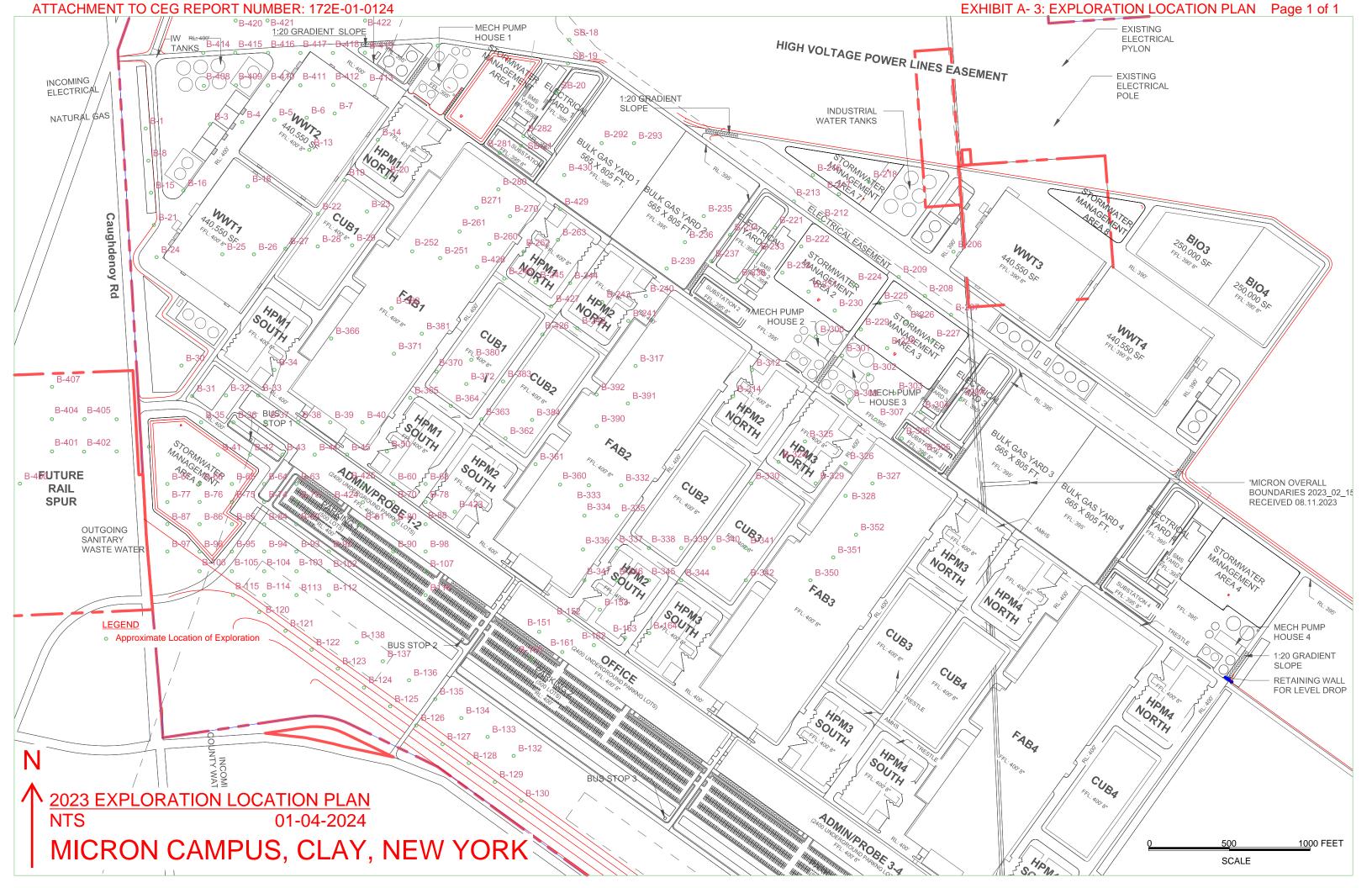
Exhibit A-5 Geotechnical Data Report- Phase 1

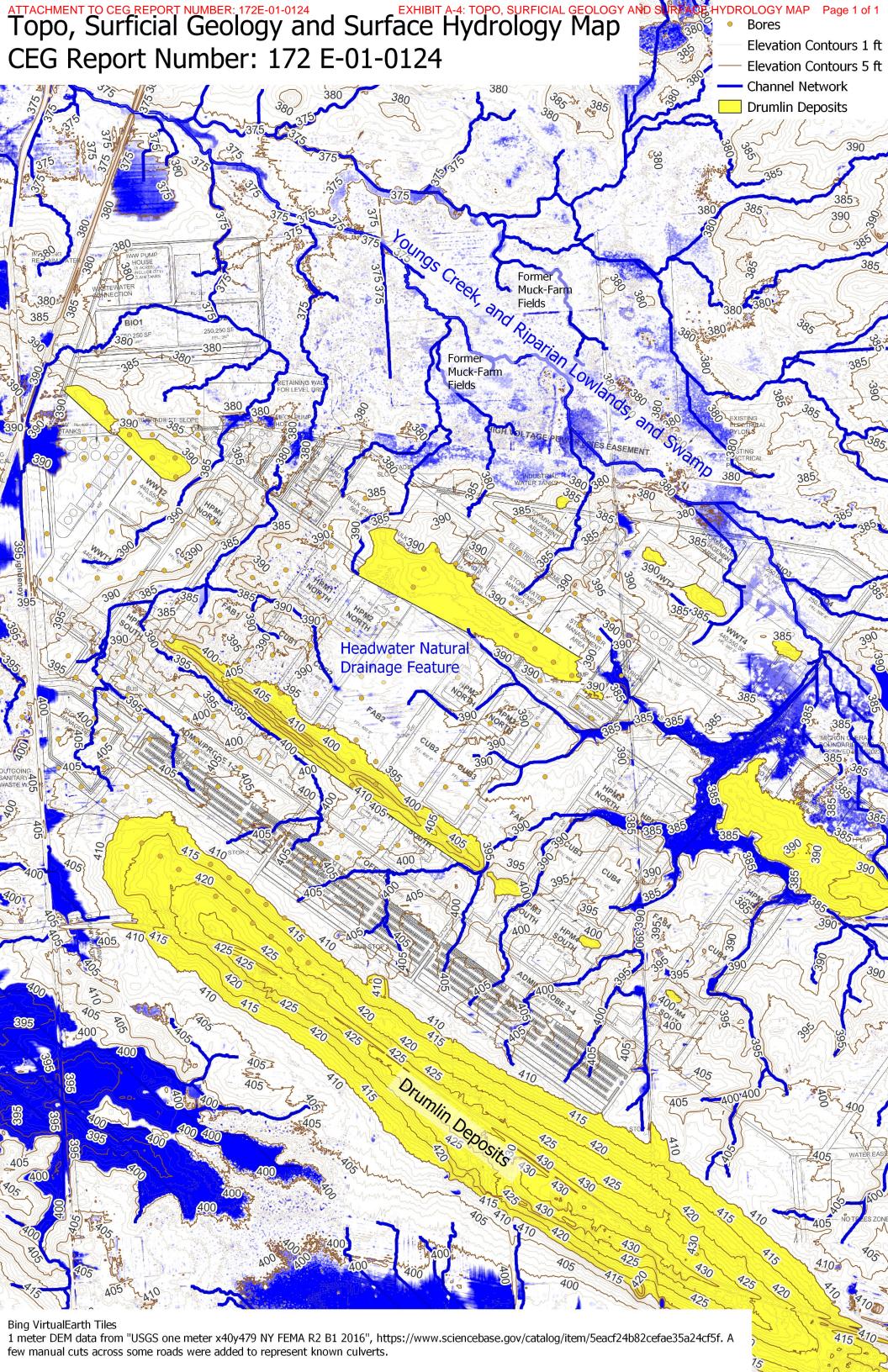
Exhibit A-6 Geotechnical Data Report- Phase 2

Exhibit A-7 Web Soil Survey Report











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.

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



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<sup>1</sup> 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.

<sup>&</sup>lt;sup>1</sup> **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 Report No.: 28062B-01-0523R1

Page 3 of 3



### 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.

Reviewed by:

CME Associates, Inc.

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

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)

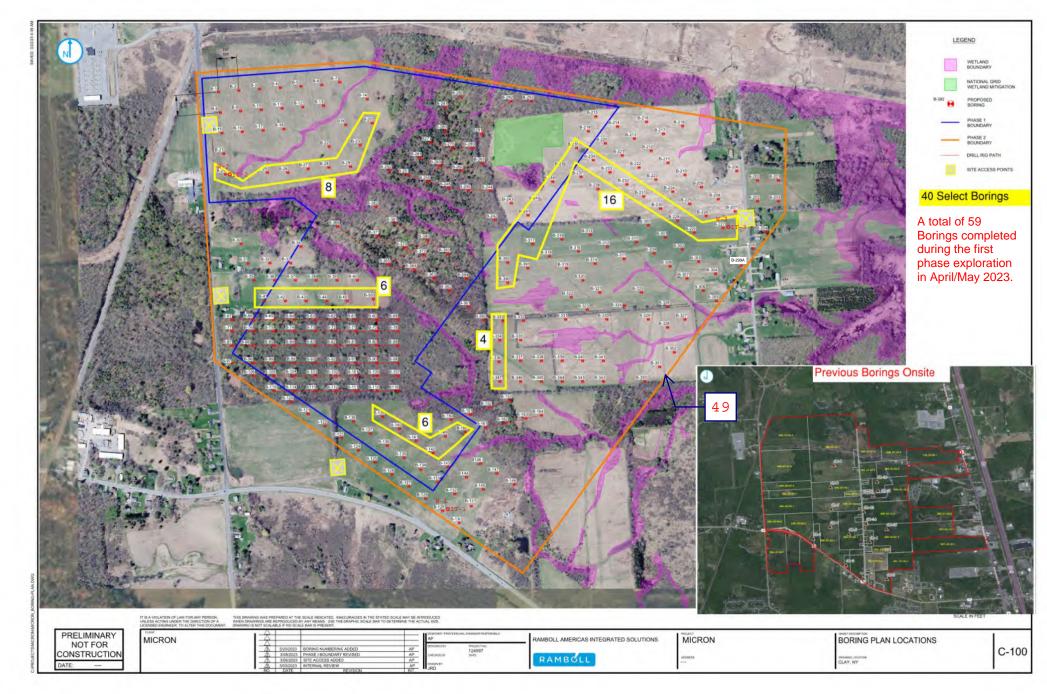
Laboratory Test Summary Report- 06/02/2023 (3 of 3)

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



**EXPLORATION LOCATION PLAN 05-17-23** 

COORDINATES AND ELEVATION TABLES

1 OF 3

Point ID	Lattitude	Longitude	Northing	Easting	Elevation
B-14	43.19581	-76.1611			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		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		1164121	932620.7	389.7
B-41	43.19048	-76.1649	1162775	931799.5	398.8
B-42	43.19047		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		1162775	932599.5	399.9
B-50	43.19052	-76.161	1162795	932847.7	396.6
B-123	43.18683			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		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		1161027	933470.7	410.3
B-134	43.18598	-76.1593	1161145	933308.4	411.5
B-135	43.1863				
B-136	43.18663			932984	413
B-137	43.18695	-76.1611	1161495	932821.9	413.5
B-138	43.18727			932659.7	412.4
B-139	43.18739	-76.1606	1161658	932938.8	407.3
B-140	43.18707	-76.16		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		1161156	933552.5	405.7
B-144	43.18578		1161073	933749.8	406.4
B-145	43.18545			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			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

2 OF 3

Point ID	Lattitude	Longitude	Northing	Easting	Elevation
B-210	43.19376	-76.1496		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		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

COORDINATES AND ELEVATION TABLES

3 OF 3

	T	l	I	I	I
Point ID	Lattitude	Longitude	Northing	Easting	Elevation
IT-1	43.18489	-76.1585		933516.1	
W-1	43.18489	-76.1585		933516.1	
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	
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		936153.5	390.5
B-350	43.18829	-76.1511	1161997	935470.9	391.4
B-351	43.18868	-76.1506		935612.5	390.1
B-352	43.18901	-76.1501	1162261	935756.5	388.7
B-299	43.19145				
	1 .5.151 15	, , , , , , ,	1 1100104	1 333 123.3	307.7

# Groundwater Level Monitoring Table Micron Campus, Clay, New York

	Observed Groundwater Elevation and Depth Below Grade (ft)									
Reading Date	W-1 (Grad	e Elevation 418.8 ft)	W-2 (Grad	le 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

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Prepared By: (Geotechnical Engineer) CME Associates, Inc.

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

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

		Page
1.0	INTRODUCTION	1
2.0	MASW Survey	1
2.1	Theory and Application	1
2.2		3
2.3	Methodology	3
2.4		4
2.5	Results	6
3.0	CLOSING COMMENTS	13

**Page 1 of 14** 



# 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).

CME Report No.: 28062N-01-0523 Page 2 of 14



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.

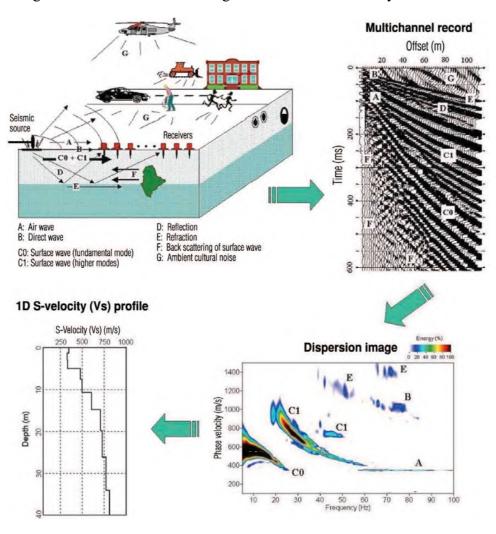


Figure 1. Overall procedure for data collection and processing.

Page 3 of 14



## 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.

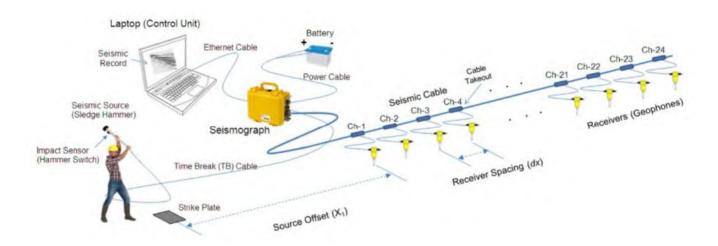


Figure 2. Typical field configuration with an active source survey.

# 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.

Page 4 of 14



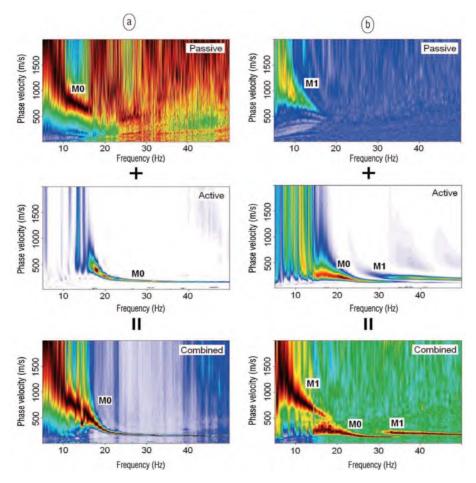


Figure 3. Dispersion images from passive and active sources are combined to enlarge dispersion bandwidth.

# 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).

**Page 5 of 14** 



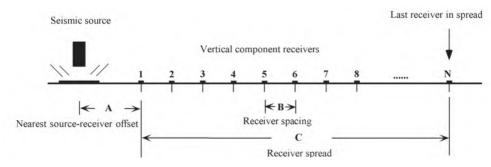


Figure 4. Three acquisition parameters for active source field configuration

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 onedimensional (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.

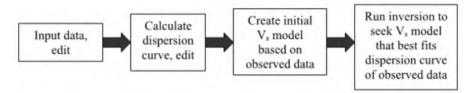


Figure 5. General processing flow using SeisImager/SW software.

**Page 6 of 14** 



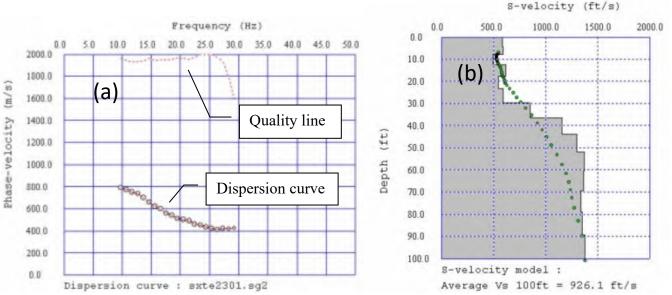


Figure 6. (a) Example of Dispersion Curve and Quality Line. Quality Line is used to assess Dispersion Curve quality based on signal amplitude. (b) Example of Final 1D Vs profile. Green points represent one-third wavelength approximation.

#### 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.

**Page 7 of 14** 



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

Page 8 of 14





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



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

CME Report No.: 28062N-01-0523 Page 9 of 14



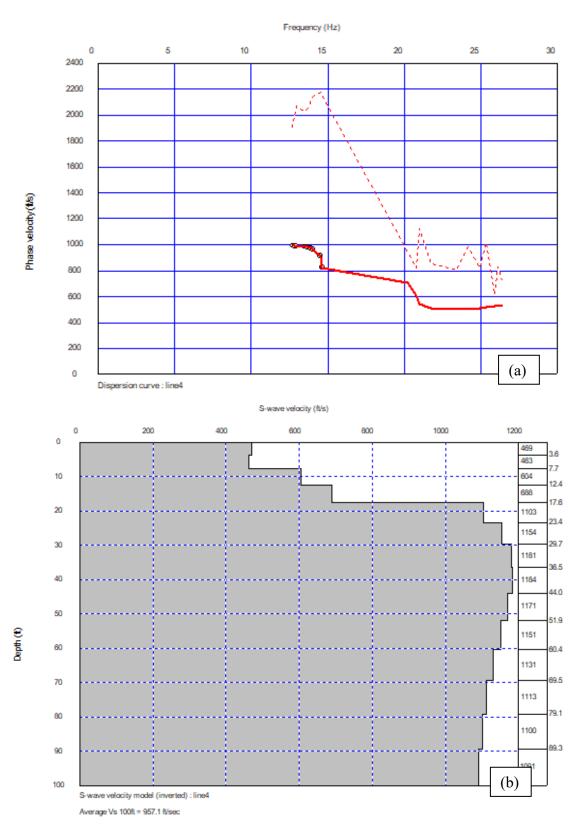


Figure 11. Survey Line 4: (a) Dispersion Curve (b) 1D Vs Profile.

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.

Page 10 of 14





Figure 12: Survey Location and Spread Configurations, Line 1

Page 11 of 14





Figure 13: Survey Location and Spread Configurations, Line 2

Page 12 of 14





Figure 14: Survey Location and Spread Configurations, Line 3

Page 13 of 14





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.

Page 14 of 14



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

Respectfully Submitted, CME Associates, Inc.

Reviewed By, CME Associates, Inc.

Chen Liu, Ph.D., EIT Geotechnical Engineer

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

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< <a href="mailto:ftp://geom.geometrics.com/pub/seismic/Literature/SurfaceWaves/KGS/TLE23n82004\_Xia-Miller-Park-Ivanov.pdf">ftp://geom.geometrics.com/pub/seismic/Literature/SurfaceWaves/KGS/TLE23n82004\_Xia-Miller-Park-Ivanov.pdf</a> [Accessed 27 September 2018].

## INFILTRATION TEST REPORT



Test ID: IT-1													
Project:	Micror	n Camp	us					CME	E Report No.:	28062	B-01-0:	523R1	
	Clay, N	ΝΥ							Test Date:				
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									Technician:	S.Yun	usak		
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	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		
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# INFILTRATION TEST REPORT



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# INFILTRATION TEST REPORT



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#### **Bedrock Core Photographs**

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



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

n 24.0' - 26.5'



Photograph 3

B-227

Run 1

Bottom

Depth

26.5' - 29.0'

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'



6035 Corporate Drive East Syracuse, New York 13057 (315) 701-0522 (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<sup>1</sup> 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		

<sup>&</sup>lt;sup>1</sup>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. <a href="https://www.AASHTOresource.org">www.AASHTOresource.org</a>.

Page 2 of 11



# 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.

Page 3 of 11

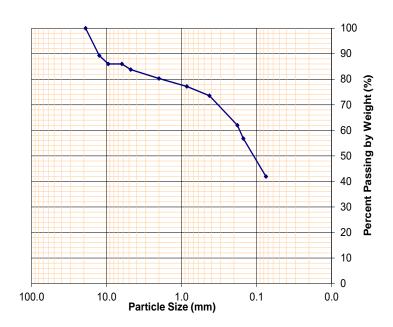


Sample # B-42; S-2



<u>Classification</u>
Light Brown SILT and cmf SAND, little mf GRAVEL
<u>Grain Size Distribution Curve</u>

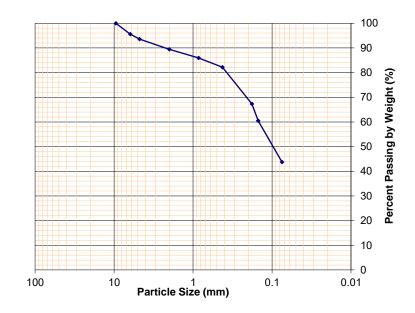
Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/4"	19.0	100
1/2"	12.5	89
3/8"	9.5	86
1/4"	6.25	86
No.4	4.75	84
No.10	2.00	80
No.20	0.850	77
No.40	0.425	74
No.80	0.180	62
No.100	0.150	57
No.200	0.075	42



<u>Sample #</u> B-43; S-2

<u>Classification</u>
Light Brown cmf SAND and SILT, trace fine GRAVEL
<u>Grain Size Distribution Curve</u>

Sieve	Sieve Size	% Passing by Dry
<b>Designation</b>	(mm)	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



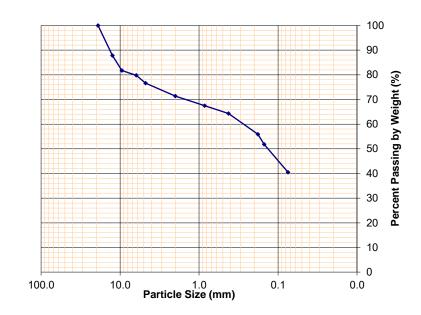
Page 4 of 11

<u>Sample #</u> B-50; S-2



<u>Classification</u>
Light Brown SILT and cmf SAND, some mf GRAVEL
<u>Grain Size Distribution Curve</u>

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
3/4"	19.0	100
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

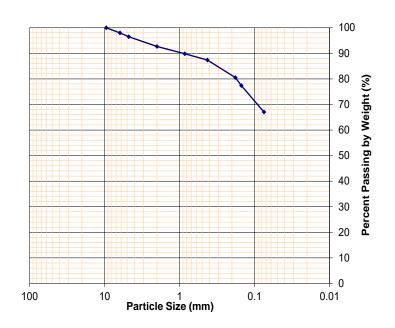


<u>Sample #</u> B-132; S-2

 $\frac{\text{Classification}}{\text{Light Brown SILT, some cmf SAND, trace CLAY, trace fine}}$   $\frac{\text{GRAVEL}}{\text{GRAVEL}}$ 

#### **Grain Size Distribution Curve**

Sieve Designation	Sieve Size (mm)	% Passing by Dry Weight
	<del>` ` ` `</del>	
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



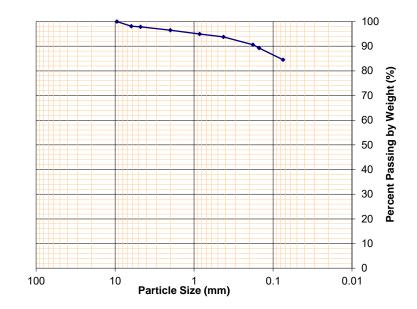
Page 5 of 11





<u>Classification</u>
Light Brown SILT, little cmf SAND, trace CLAY, trace fine GRAVEL
<u>Grain Size Distribution Curve</u>

		% Passing
Sieve	Sieve Size	by Dry
<b>Designation</b>	<u>(mm)</u>	<u>Weight</u>
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



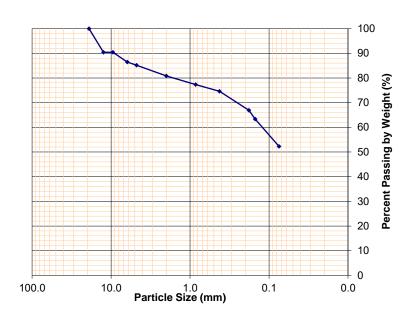
<u>Sample #</u> B-134; S-2

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

<u>Classification</u>

Brown SILT, some cmf SAND, little mf GRAVEL

Grain Size Distribution Curve



Page 6 of 11



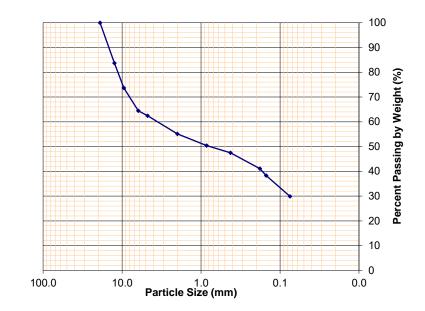


Classification

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

Grain Size Distribution Curve

Sieve	Sieve Size	% Passing by Dry
Designation	(mm)	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



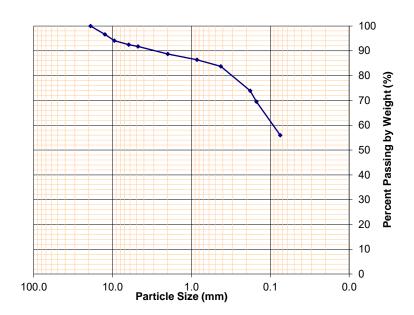
Sample # B-136; S-2

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

Classification

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

Grain Size Distribution Curve



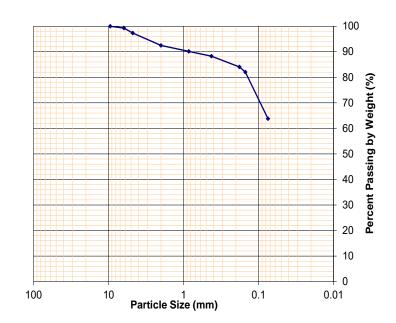
Page 7 of 11



<u>Sample #</u> B-136; S-3

Classification
Brown SILT, some cmf SAND, trace fine GRAVEL
Grain Size Distribution Curve

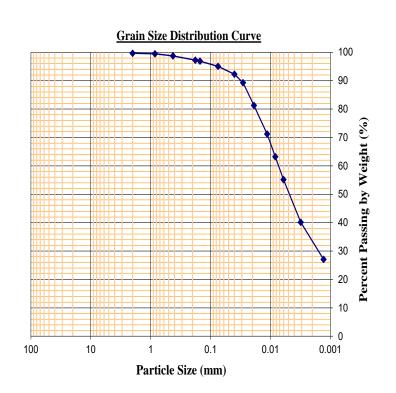
		% Passing
Sieve	Sieve Size	by Dry
<b>Designation</b>	<u>(mm)</u>	Weight
3/8"	9.5	100
1/4"	6.25	99
No.4	4.75	97
No.10	2.00	92
No.20	0.850	90
No.40	0.425	88
No.80	0.180	84
No.100	0.150	82
No.200	0.075	64



<u>Sample #</u> B-24; S-1B

<u>Classification</u>
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



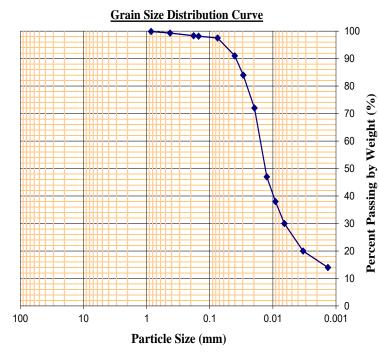
Page 8 of 11



<u>Sample #</u> B-24; S-2

<u>Classification</u>
Brown SILT, some CLAY, trace mf SAND

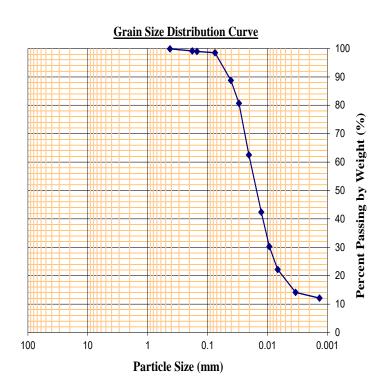
Sieve Designation	Sieve Size (mm)	Percent Passing by Weight (%)
No.20	0.850	100
No.40	0.425	99
No.80	0.180	98
No.100	0.150	98
No.200	0.075	98
Hydrometer	0.040	91
	0.029	84
	0.020	72
	0.012	47
	0.009	38
	0.007	30
	0.003	20
	0.001	14



Sample # B-24; S-3

<u>Classification</u>
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



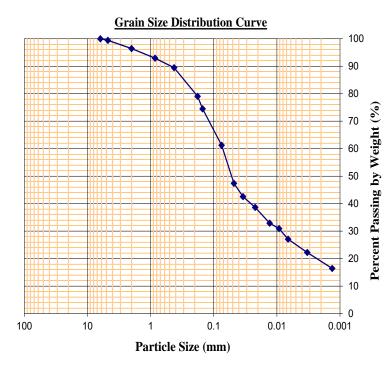
Page 9 of 11



<u>Sample #</u> B-129; S-2

<u>Classification</u>
Light Brown cmf SAND and SILT, some CLAY, trace fine GRAVEL

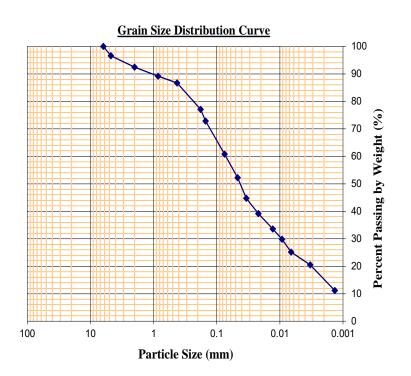
Sieve Size (mm)	Percent Passing by Weight (%)
6.25	100
4.75	99
2.00	96
0.850	93
0.425	89
0.180	79
0.150	75
0.075	61
0.048	47
0.034	43
0.022	39
0.013	33
0.009	31
0.007	27
0.003	22
0.001	16
	(mm) 6.25 4.75 2.00 0.850 0.425 0.180 0.150 0.075 0.048 0.034 0.022 0.013 0.009 0.007



<u>Sample #</u> B-129; S-3

<u>Classification</u>
Brown SILT and cmf SAND, some CLAY, trace fine GRAVEL

Sieve	Sieve Size	Percent Passing
<b>Designation</b>	<u>(mm)</u>	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



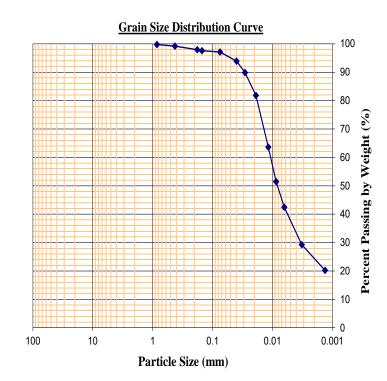
Page 10 of 11



<u>Sample #</u> B-226; S-2

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

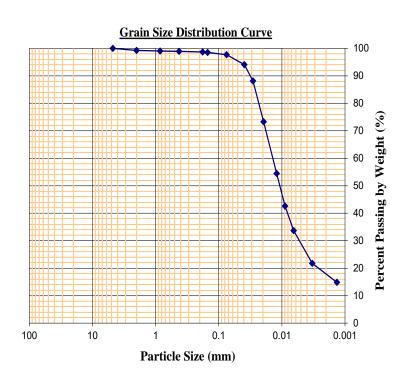
Sieve <u>Designation</u>	Sieve Size (mm)	Percent Passing by Weight (%)
No.20	0.850	100
No.40	0.425	99
No.80	0.180	98
No.100	0.150	98
No.200	0.075	97
Hydrometer	0.040	94
	0.029	90
	0.019	82
	0.012	64
	0.009	51
	0.006	42
	0.003	29
	0.001	20



<u>Sample #</u> B-229; S-2

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

Sieve <u>Designation</u>	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



Page 11 of 11



### VI. Rock Core Compression (ASTM D7012 Method C)

### **A) Testing Conditions:**

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

### **B)** Core Identification and Location:

Core ID	Location	Description
B-227; R-1	'1 /1 '1 ? '1 /1 '1 ?	Grey DOLOSTONE, slightly weathered, medium to thickly bedded, hard, thin layers (<1/8") of SHALE interbedded
B-41; R-1A	177 107	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./ft³)
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 (inch²)	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)



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**

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.



#### **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**

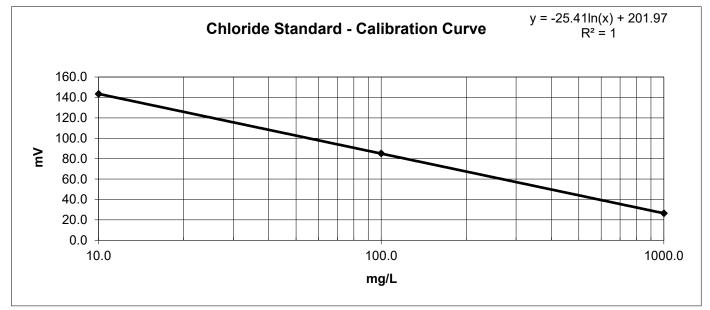
STANDARD		M <u>ILLIVOL</u> TS
	_	(mV)
10.0	mg/L	143.4
100.0	mg/L	85.1
1000.0	mg/L	26.4

#### **MEASUREMENT OF CHLORIDES**

Sample Weight (g): _	100.0	CONCENTRATION	CONCENTRATION
Water added to Sample (ml):	100.0	(mg/L)	(mg/kg)
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<sub>3</sub> solution (1:1 volume).

2) Samples were dried for a minimum of 12 hours at 110 <sup>+</sup>/<sub>-</sub> 5°C.



Notes:

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



# 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
 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
			Spectropho	otometer Rea	adings (FAU	1		
Underrange	Underrange	8	18	36	61	126	165	247

#### **Measurement of Barium Chloride Turbidity**

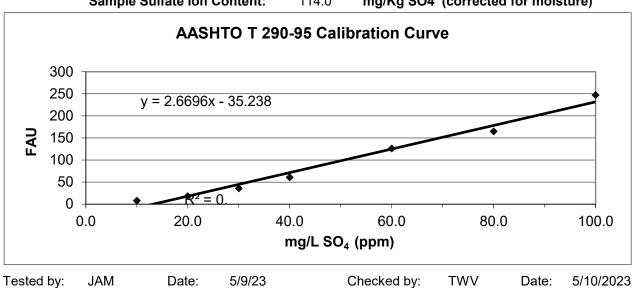
(Sample contains 5.0 mL NaCl solution and 0.3 g BaCl<sub>2</sub>·2H<sub>2</sub>O)

Sample Weight (g):	mple Weight (g): 100.0 Sample Moisture (		
Water added to Sample (mL):	300.0	Tare Number:	673
Size of Sample Aliquot (mL):	50.0	Weight of Tare & Wet Sample (g):	177.92
Sample Reading (FAU):	65	Weight of Tare & Dry Sample (g):	176.67
		Weight of Tare (g):	72.33
Sample Diluted:	No	Weight of Water (g):	1.25
		Weight of Dry Sample (g):	104.34
		Moisture Content (%):	1.20

Sulfate Solution Added (ml): 0

Sample Sulfate Ion Concentration: 37.55 mg/L SO<sub>4</sub> (ppm)

Sample Sulfate Ion Content: 112.6 mg/Kg SO<sub>4</sub> (not corrected for moisture)
Sample Sulfate Ion Content: 114.0 mg/Kg SO<sub>4</sub> (corrected for moisture)



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



#### **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**

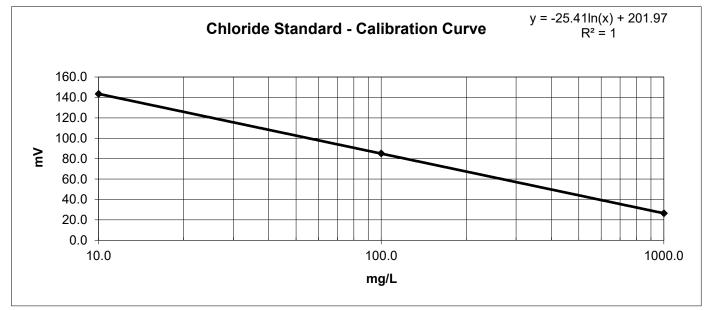
STANDARD		M <u>ILLIVOL</u> TS
		(mV)
10.0	mg/L	143.4
100.0	mg/L	85.1
1000.0	mg/L	26.4

#### **MEASUREMENT OF CHLORIDES**

Sample Weight (g):	100.0	CONCENTRATION	CONCENTRATION
Water added to Sample (ml):	100.0	(mg/L)	(mg/kg)
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<sub>3</sub> solution (1:1 volume).

2) Samples were dried for a minimum of 12 hours at 110 <sup>+</sup>/<sub>-</sub> 5°C.



Notes:

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

page 1 of 1 DCN: CT-S63A DATE: 6/2/14 REVISION: 1



# 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
			Spectropho	otometer Rea	ndings (FAU	1		
Underrange	Underrange	8	18	36	61	126	165	247

#### **Measurement of Barium Chloride Turbidity**

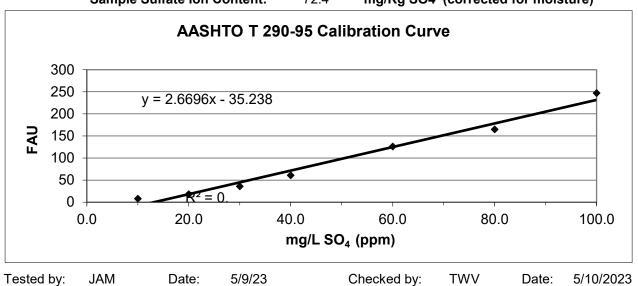
(Sample contains 5.0 mL NaCl solution and 0.3 g BaCl<sub>2</sub>·2H<sub>2</sub>O)

Sample Weight (g):	): 100.0 <u>Sample Moisture Con</u>		
Water added to Sample (mL):	300.0	Tare Number:	888
Size of Sample Aliquot (mL):	50.0	Weight of Tare & Wet Sample (g):	230.46
Sample Reading (FAU):	29	Weight of Tare & Dry Sample (g):	230.18
		Weight of Tare (g):	110.05
Sample Diluted:	No	Weight of Water (g):	0.28
		Weight of Dry Sample (g):	120.13
		Moisture Content (%):	0.23

Sulfate Solution Added (ml): 0

Sample Sulfate Ion Concentration: 24.06 mg/L SO<sub>4</sub> (ppm)

Sample Sulfate Ion Content: 72.2 mg/Kg SO<sub>4</sub> (not corrected for moisture)
Sample Sulfate Ion Content: 72.4 mg/Kg SO<sub>4</sub> (corrected for moisture)



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



May 12, 2023

Project No. 2023-294-002

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

# <u>Transmittal</u> <u>Laboratory Test Results</u> 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.



#### **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**

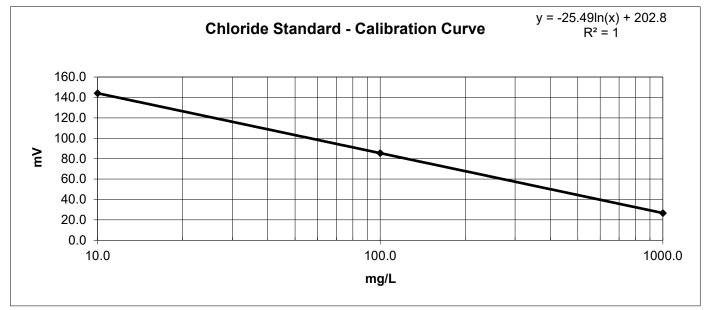
STANDAR	Ď	M <u>ILLIVOL</u> TS
		(mV)
10.0	mg/L	144.1
100.0	mg/L	85.4
1000.0	mg/L	26.7

#### **MEASUREMENT OF CHLORIDES**

Sample Weight (g): _	100.0	CONCENTRATION	CONCENTRATION
Water added to Sample (ml):	100.0	(mg/L)	(mg/kg)
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<sub>3</sub> solution (1:1 volume).

2) Samples were dried for a minimum of 12 hours at 110 <sup>+</sup>/<sub>-</sub> 5°C.



Notes:

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



# 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 lor	n Concentrat	ions (mg/L)			
0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
			Spectropho	otometer Rea	adings (FAU	)		
Inderrange	Underrange	7	22	39	65	112	173	225

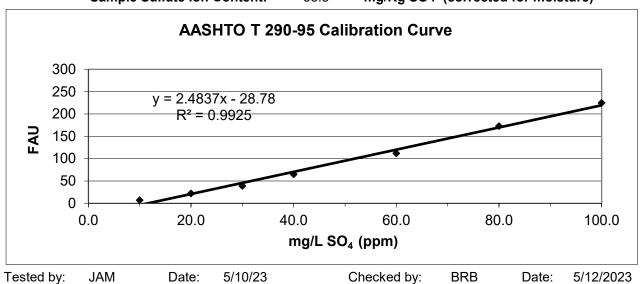
#### **Measurement of Barium Chloride Turbidity**

(Sample contains 5.0 mL NaCl solution and 0.3 g BaCl<sub>2</sub>·2H<sub>2</sub>O)

Sample Weight (g):	Sample Weight (g): 100.0		Sample Moisture Content	
Water added to Sample (mL):	300.0	Tare Number:	578	
Size of Sample Aliquot (mL):	50.0	Weight of Tare & Wet Sample (g):	222.23	
Sample Reading (FAU):	15	Weight of Tare & Dry Sample (g):	219.95	
		Weight of Tare (g):	83.79	
Sample Diluted:	No	Weight of Water (g):	2.28	
		Weight of Dry Sample (g):	136.16	
		Moisture Content (%):	1.67	
Sulfate Solution Added (ml):	0			

Sample Sulfate Ion Concentration: 17.63 mg/L SO<sub>4</sub> (ppm)

Sample Sulfate Ion Content: 52.9 mg/Kg SO<sub>4</sub> (not corrected for moisture)
Sample Sulfate Ion Content: 53.8 mg/Kg SO<sub>4</sub> (corrected for moisture)



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



#### **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**

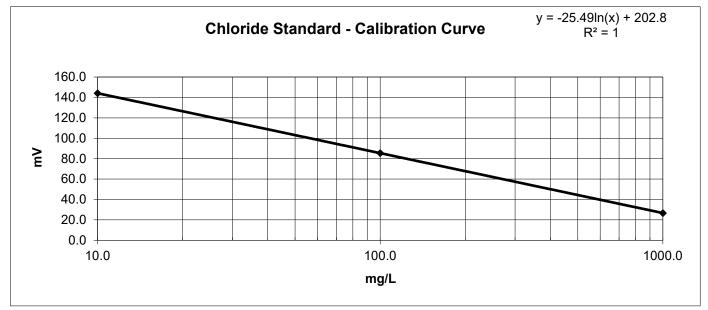
STANDARD		M <u>ILLIVOL</u> TS
		(mV)
10.0	mg/L	144.1
100.0	mg/L	85.4
1000.0	mg/L	26.7

#### **MEASUREMENT OF CHLORIDES**

Sample Weight (g): _	100.0	CONCENTRATION	CONCENTRATION
Water added to Sample (ml):	100.0	(mg/L)	(mg/kg)
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<sub>3</sub> solution (1:1 volume).

2) Samples were dried for a minimum of 12 hours at 110 <sup>+</sup>/<sub>-</sub> 5°C.



Notes:

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

page 1 of 1 DCN: CT-S63A DATE: 6/2/14 REVISION: 1



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

Client: CME Associates, Inc. Boring No.: B-138 Depth (ft): Client Reference: 28062 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

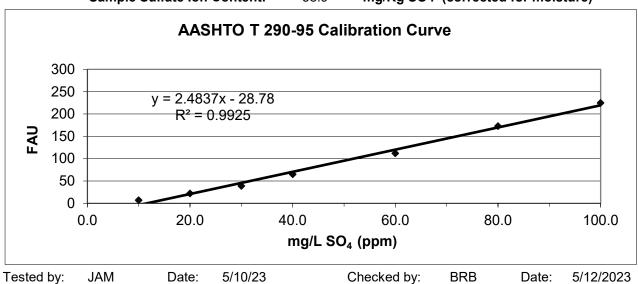
#### **Measurement of Barium Chloride Turbidity**

(Sample contains 5.0 mL NaCl solution and 0.3 g BaCl<sub>2</sub>·2H<sub>2</sub>O)

Sample Weight (g):	100.0	Sample Moisture Con	tent
Water added to Sample (mL):	300.0	Tare Number:	542
Size of Sample Aliquot (mL):	50.0	Weight of Tare & Wet Sample (g): 2	27.29
Sample Reading (FAU):	19	Weight of Tare & Dry Sample (g): 2	24.51
		Weight of Tare (g): 8	31.62
Sample Diluted:	No	Weight of Water (g):	2.78
		Weight of Dry Sample (g): 1	42.89
		Moisture Content (%):	1.95
Sulfate Solution Added (ml):	0		

Sample Sulfate Ion Concentration: 19.24 mg/L SO<sub>4</sub> (ppm)

**Sample Sulfate Ion Content:** mg/Kg SO<sub>4</sub> (not corrected for moisture) 57.7 Sample Sulfate Ion Content: 58.9 mg/Kg SO4 (corrected for moisture)



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')

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









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



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

www.cmeassociates.com

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<sup>1</sup> 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

<sup>&</sup>lt;sup>1</sup>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.

Laboratory Test Summary

CME Report No.: 28062L-02-0623

Page 2 of 3

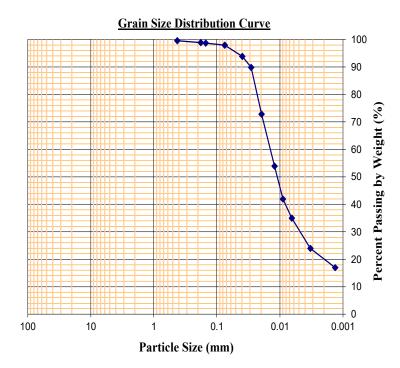


<u>Sample #</u> B-299A; S-2



<u>Classification</u>
Brown SILT, some CLAY, trace fine SAND

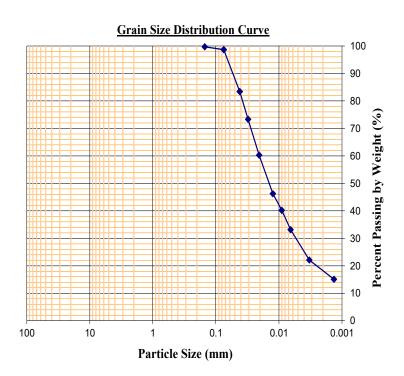
Sieve <u>Designation</u>	Sieve Size (mm)	Percent Passing by Weight (%)
No.40	0.425	100
No.80	0.180	99
No.100	0.150	99
No.200	0.075	98
Hydrometer	0.040	94
	0.029	90
	0.020	73
	0.012	54
	0.009	42
	0.006	35
	0.003	24
	0.001	17



<u>Sample #</u> B-299A; S-7

 $\frac{Classification}{\text{Grey SILT, some CLAY, trace fine SAND}}$ 

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



Laboratory Test Summary

CME Report No.: 28062L-02-0623

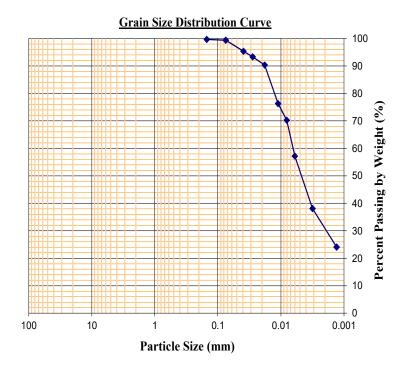
Page 3 of 3



<u>Sample #</u> B-299A; S-8

<u>Classification</u>
Grey CLAY and SILT, trace fine SAND

Sieve <u>Designation</u>	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

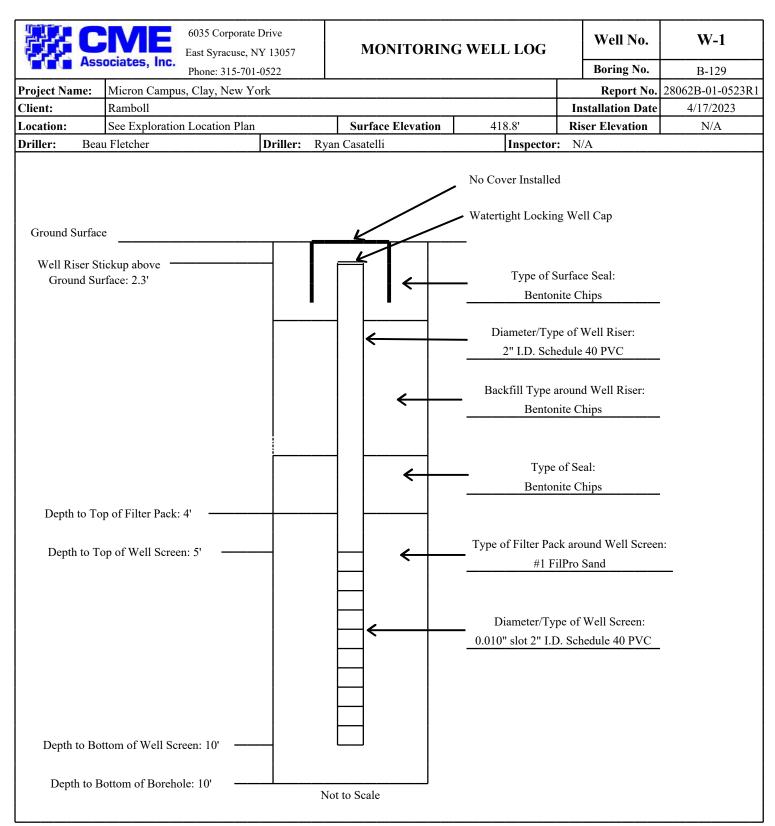


If you have any questions regarding this report, please contact our office.

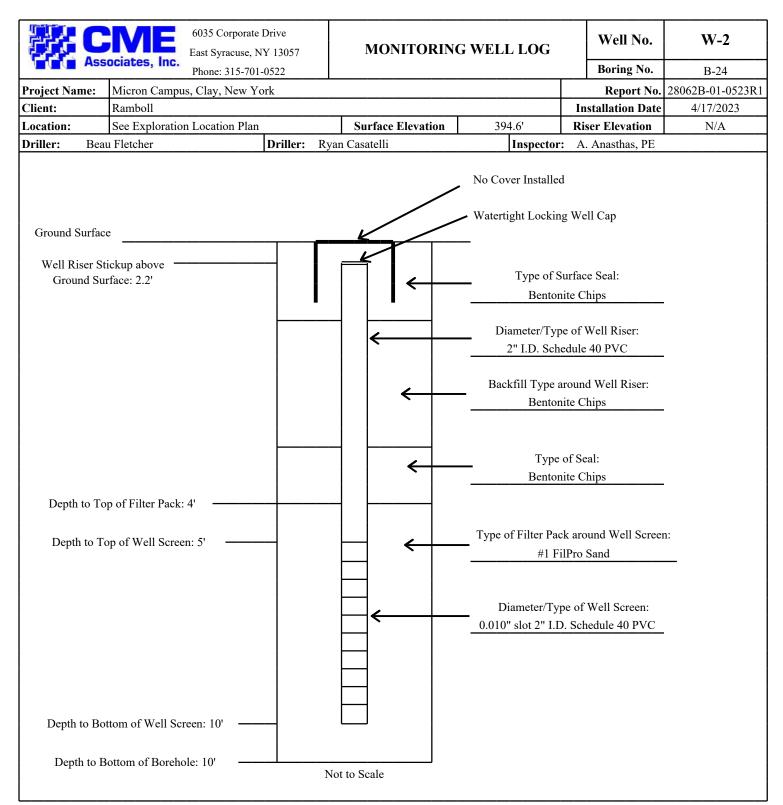
Anas N. Anasthas, P.E.for

Hannah Kloiber

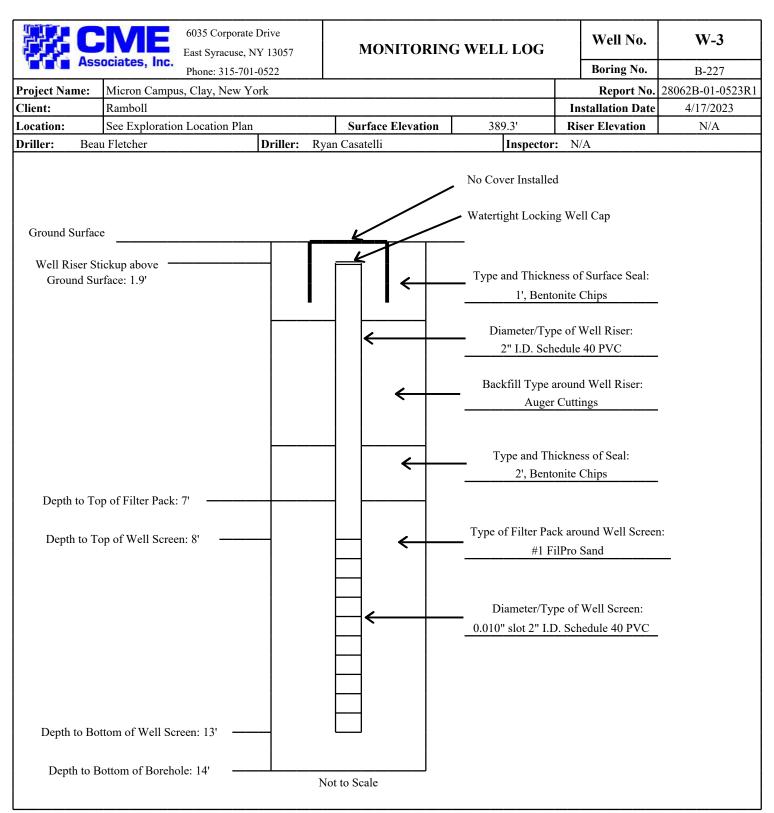
Laboratory Supervisor



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



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



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

ATTAC	יוםואוחי	VI IO	CEG	KEPU	RT NUMBER: 172	E-01-0	124 E	KHIBIT P	1-5: C	PEOTECHNICAL	L DATA REPU	אן - דאכ	HASE I
				6035 Cc	orporate Drive	SI	IRSURF	CF FX	ORATION	Boring No.	Page 🔓	<u>0</u> of 154	
		IV			racuse, NY 13057						Page No.	1	of 2
	Asso	ciates	, Inc.	Phone: 3	315-701-0522		1E51	BORI	1G I	LOG	Report No.	28062B-0	01-0523-R1
Project	Name:	Micron	Campi	us, Clay,	New York						Date Started	05/0	08/23
Client:		Rambo	11								Date Finished	05/0	08/23
Location	n:	See Ex	ploratio	n Locati	on Plan						Surface Elev.	39	2.7'
		ME	THO	DS OF	INVESTIGATIO	N			GR	OUNDWATER	OBSERVAT	IONS	
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casino	At (Ft.)
Driller:		R. Casa	atelli		Casing Hammer:							_	
Inspecto					Other:			05/08/23		While Drilling	none noted		3.5
Drill Ri	g:	CME 5	5		Soil Sampler:		Split Barrel	05/08/23		re Casing Removed	8.9		3.5
Type:		ATV			Hammer Wt:	140 lbs.		05/08/23		er Casing Removed	1.4		out
Rod Size		AWJ	DODI		Hammer Fall:	30 in.	X/10	05/08/23		er Casing Removed	caved @ 3.6		out
	LU			ING SA	AMPLES		VIX	SUAL C	LAS	SIFICATION C	DE MIATERIA	L	
Depth			Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35		or DOD 0/
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/14	Per 6 Inches WH-1-3-2	(Ft.)	Topsoil and	- fine	Mott		0% / trace - 0 to 109	<del>//</del> 0	RQD %
U	1B	1.0	2.0	33/14	W II-1-3-2					trace CLAY, little	fina SAND (ma	ict	4
1	10	1.0	2.0				medium sti		LLI, I	race CLA1, mile	ille SAND (Illo	ısı,	
1							inculum su	111)					
2	2	2.0	4.0	SS/16	3-3-4-3		Light Brow	/n/Grev S	п.т. 1	little CLAY, trace	fine SAND (we	t	7
		2.0	1.0	55/10	3313		medium sti	nuic CL711, nucc	ime Startb (we	٠,	,		
3							incaram str	,					
4	3	4.0	6.0	SS/22	2-2-2-4		Light Brow	n/Grey S	ILT, I	little cmf SAND, ti	race CLAY (we	t,	4
							medium sti		,	,		,	
5													
6	4	6.0	8.0	SS/18	5-7-7-10		Light Brow	n SILT, t	race f	fine SAND (wet, st	tiff)		14
7													
	_												
8	5	8.0	10.0	SS/17	4-8-10-12		Light Brow	n SILT, t	race f	fine SAND (wet, v	ery stiff)		18
0													
9													
10													
10													
11													
11													
12													
13													
	6	13.5	15.0	SS/18	5-6-4		Light Brow	n SILT, t	race f	fine SAND (wet, st	tiff)		10
14							_			•	•		
15													
16													
1.5													
17													
10													
18	7	18.5	20.0	SS/14	WH-WH-WH		Grov CII T	little em	FGAN	ND, trace fine GRA	VEL (wat war	(soft)	0
19	/	10.3	∠0.0	SS/14	vv п- vv п- vv п		Gley SIL1	, mue cm	SAP	ND, Have line GRA	ver, very	y son)	
17													
20													

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

ATTA	CHMEN	OT TV	CEG	REPO	RT NUMBER: 172	E-01-0	124 EXHIBIT A-5: (	SEOTECHNICA			
		N/			orporate Drive	SI	JBSURFACE EXPLO	ORATION	Boring No.		
		IV			racuse, NY 13057		TEST BORING		Page No.		of 2
		ciates			315-701-0522				Report No.		1-0523-R1
	LU	ľ		ING SE	AMPLES		VISUAL CLAS	SIFICATION C	JF MIATERIA	L	
Depth Scale	Sample		e Depth t.)	Type /	Blows on Sampler	Depth of	c - coarse m - medium	and - 35 to 50	% / some - 20 to 35%	<b>/</b> a	SPT "N" or
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)	f - fine		20% / trace - 0 to 10%		RQD %
20								-			
21											
22											
23											
	8	23.5	23.9	SS/4	100/4"		Grey SILT (wet)				100+
24							Weathered ROCK fragme	nts noted			
25							Auger refusal at 24.0' Bottom of Boring at 24'				
26							_				
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
l											

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

Remarks:

42

43

ATTAC	PHIME	VI IC	CEG	KEPU	RT NUMBER: 172	E-01-0	124 E	KHIBIT A	1-5: (	GEOTECHNICA	L DATA REPO	JK I - P	HASE 1
				6035 Co	orporate Drive	SI	JBSURF	ACE EX	PI.	ORATION	Boring No.	Page 🔓	2 <sub>3</sub> of 154
		IV	Ę	East Syr	racuse, NY 13057			BORI			Page No.		of 2
					315-701-0522		1631	DUKI	TU.	LUG	Report No.		1-0523-R1
Project	Name:			us, Clay,	New York			·			Date Started		08/23
Client:		Rambo			. ni						Date Finished		08/23
Locatio	n:			on Locati		N			CE	ROUNDWATER	Surface Elev.		93'
Driller:		B. Flet		DS OF	INVESTIGATIO	3 ¼" ID	нсл		Gh	COUNDWAIER	OBSEKVAI	IUNS	
Driller:		R. Cas			Casing: Casing Hammer:	3 /4 ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto		10.040			Other:			05/08/23		While Drilling	none noted	20	5.0
Drill Ri		CME 5	55		Soil Sampler:	2" OD S	plit Barrel	05/08/23	Befo	ore Casing Removed	10.3	2	26
Type:		ATV			Hammer Wt:	140 lbs.		05/08/23		er Casing Removed	none noted	C	ut
Rod Siz		AWJ			Hammer Fall:	30 in.		05/08/23		er Casing Removed	caved @ 4.8		ut
	LO	1		ING SA	AMPLES		VIS	SUAL C	LAS	SSIFICATION C	)F MATERIA	L	
Depth		_	e Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium - fine			1% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 1.0	Rec. (in.) SS/20	Per 6 Inches WH-WH-4-4	(Ft.)	Topsoil and		Mat		20% / trace - 0 to 10°	70	RQD %
	1/1	0.0	1.0	55/20	***************************************		ropson and	a Organic	17141		. — - —	- I	
1	1B	1.0	2.0						ILT,	fine SAND (we			
							medium sti	,					
2	2	2.0	4.0	SS/16	4-4-3-3				ILT,	trace CLAY, trace	fine SAND (we	et,	7
2							medium sti	11)					
3													
4	3	4.0	6.0	SS/24	4-3-4-8		Light Brow	n SILT. t	race	fine SAND (wet, n	nedium stiff)		7
								~, t					,
5	1												
6	4	6.0	8.0	SS/18	5-6-6-9		Similar as	above (we	t, sti	ff)			12
7													
_ ′													
8	5	8.0	10.0	SS/20	5-7-8-8		Similar as	above (we	t, ve	ry stiff)			15
								(	,	,			
9													
1.0													
10													
11													
11													
12													
13	_		l										
1.4	6	13.5	15.0	SS/13	WH-2-1		Grey/Brow	n SILT, tı	ace	CLAY, trace fine S	SAND (wet, soft	)	3
14													
15	1												
16													
17													
18													
18	7	18.5	20.0	SS/16	3-4-9		Grev SII T	some cm	f S A	ND, trace mf GRA	VEL (wet_stiff		13
19	′	10.5	20.0	55/10	J- <del>1</del> -2		GICY BILT	, some em	ı SA	in D, u acc iiii OKA	TILL (WCG, SHIII	,	1.5
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

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **B23** of 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

Associates, Inc. Phone: 315-701-0522  LOG OF BORING SAMPLES  Depth Sample Depth Type / Blows on							TEST BURING I		Report No. 28062B-	01-0523-R1
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLAS	SIFICATION (	OF MATERIAL	
Depth Scale (Feet)	Sample No.	Sample (F From		Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20										
21										
22										
23	8	23.5	25.0	SS/8	8-10-2-3		Grey cmf GRAVEL/ROC	K fragments, trac	e SILT (wet, medium	12
24							compact) ROCK fragments noted	,	,	
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							Bottom of Boring at 20.0			
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45	11: 0	<u> </u>		1 17		17 . 1 .	f Hammer + Rod WR - W	: 1, CD 1		

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

ATTAC	CHME	VI IO	CEG	KEPO	RT NUMBER: 1/2	2E-01-0	1124 E	KHIBIT A	1-5: G	EO LECHNICAI	L DATA REPO	JRT - P	HASE 1
		R A		6035 Co	orporate Drive	ÇI	IRSHDE	CF FY	pi c	ORATION	Boring No.	Page 6	4 <sub>5</sub> of 154
		IV			racuse, NY 13057						Page No.	1	of 2
	Asso	ociates	s, Inc.	Phone:	315-701-0522		IESI	BORI	NGL	JUG	Report No.	28062B-0	01-0523-R1
Project	Name:	Micror	Camp	us, Clay,	New York	<u></u>					Date Started	05/	08/23
Client:		Rambo	oll								Date Finished	05/	08/23
Location	n:			on Locati							Surface Elev.		2.7'
		ME	THO	DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	CIONS	
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing At (Ft.)	
Driller:		R. Cas	atelli		Casing Hammer:								
Inspecto					Other:			05/08/23		While Drilling	14.3		4.7
Drill Ri	g:	CME 5	55		Soil Sampler:		Split Barrel	05/08/23		re Casing Removed	2.2		4.7
Type:		ATV			Hammer Wt:	140 lbs.		05/08/23		r Casing Removed	none noted		out
Rod Siz		AWJ	DOD	INC C	Hammer Fall:	30 in.	1/1	05/08/23		r Casing Removed	caved @ 3.5		out
	LU				AMPLES	1	VIX	SUAL C	LAS	SIFICATION C	JF MIATERIA	L	
Depth			Depth	1 ype /	Blows on	Depth of		coarse					SPT "N"
Scale (Feet)	Sample No.	(F From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 35 20% / trace - 0 to 109		or RQD %
0	1A	0.0	1.0	SS/18	WH-2-4-4	(11.)	Topsoil and		Matte		.0707 trace - 0 to 10.	70	6
O	171	0.0	1.0	55/10	W11-2-4-4		T opsoir an	a Organic	Wiatte	<u> </u>			-
1	1B	1.0	2.0				Brown/Gre	v SILT. li	ittle C	LAY, trace fine S	AND, trace RO	OTS	
							(wet, medium stiff)						
2	2	2.0	4.0	SS/20	3-4-5-4	Light Brown SILT, trace fine SAND (wet					tiff)		9
						Eight Brown SiL1, trace fine SAND (wet, st							
3													
4	3	4.0	6.0	SS/24	4-4-6-8		Similar as	above (we			10		
5													
	4	( 0	0.0	00/17	67.07		G: 1	1 (		1.00			1.5
6	4	6.0	8.0	SS/17	6-7-8-7		Similar as	above (we	t, very	y stiff)			15
7													
,													
8	5	8.0	10.0	SS/17	4-7-6-11		Similar as	above (we	et. stift	f)			13
O O		0.0	10.0	55/17	1 / 0 11		Similar as		, , , , , , , ,	•)			15
9													
10	1												
11													
10													
12													
12													
13	6	13.5	15.0	SS/16	6-7-5		Gray CII T	trace fir	o CAN	ND (wet, stiff)			12
14	O	13.3	13.0	33/10	0-7-3		Giey SIL1	, uace iin	c SAN	(wei, siiii)			12
14													
15													
13													
16													
17													
18													
	7	18.5	20.0	SS/17	3-3-5		Similar as	above (we	t, stiff	f)			8
19													
20													
20		I		Ī	1	Ī	Ī						

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

ATTAC	CHMEN	OT TI	CEG	REPO	RT NUMBER: 172	E-01-0	124 EXHIBIT A-5: (	SEOTECHNICA			
					orporate Drive	SU	JBSURFACE EXPLO	ORATION	Boring No.		
	Acer	ciates	Inc		racuse, NY 13057 315-701-0522		TEST BORING	L <b>OG</b>	Page No.	2 o	
					MPLES		VISUAL CLAS	SIFICATION (	Report No.		1-0523-R1
Donath	LO	Sample						SHICATION	or MATERIA		SPT "N"
Depth Scale	Sample	(F		Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium	and - 35 to 50	0% / some - 20 to 35°	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine	little - 10 to 2	20% / trace - 0 to 109	<b>%</b>	RQD %
20											
21											
22											
23	o	22.5	24.7	SS/10	9 10 100/2!!	 	Cross our CDAVEL troop	SHT (wat warm			100+
24	8	23.5	24.7	55/10	8-10-100/3"		Grey cmf GRAVEL, trace ROCK fragments noted	s SIL1 (wet, very o	compact)		100+
25							Auger Refusal at 24.7 Bottom of Boring at 24.7				
26							Bottom of Boring at 24.7				
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											

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

Remarks:

				6035 Cc	orporate Drive	SUBSURFACE EXPLORATION				ORATION	Boring No.	rayep	<u>6</u> 701 154
		IV			racuse, NY 13057			BORI			Page No.	1	of 2
	Asso	ciates	s, Inc.	Phone: 3	315-701-0522		IESI	DUKI	101	LUG	Report No.	28062B-0	01-0523-R1
Project	Name:	Micror	Camp	us, Clay,	New York						Date Started	05/0	09/23
Client:		Rambo	11								Date Finished	05/0	09/23
Location	n:			on Locati							Surface Elev.		1.2'
		ME	THO	DS OF	INVESTIGATIO	N			GR	ROUNDWATER	OBSERVAT	TIONS	
Driller: Driller:		B. Flet R. Casa			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:				Other:			05/09/23		While Drilling	7.5	1	8.5
Drill Ri	g:	CME 5	55		Soil Sampler:	2" OD S	Split Barrel	05/09/23		ore Casing Removed	6.0	2	0.6
Type:		ATV			Hammer Wt:	140 lbs.		05/09/23	Afte	er Casing Removed	none noted	(	out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		05/09/23	Afte	er Casing Removed			
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth	G 1	Sample (F	e Depth	Type /	Blows on	Depth of		coarse		1 25 4 50	20 / 25	0/	SPT "N"
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			1% / some - 20 to 35 20% / trace - 0 to 10°		or RQD %
0	1	0.0	2.0	SS/14	WH-WH-1-4	(11.)			race (	CLAY, trace fine S			1 1
1	1	0.0	2.0	55/14	WII-WII-I-4	Materials (moist, very soft)						015	
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 (we	et, me	edium stiff)			4
7													
8	5	8.0	10.0	SS/18	3-4-6-7		Similar as	above (we	et, stif	ff)			10
9													
10													
11													
12													
13	6	13.5	13.7	SS/3	100/3"		Light Brow	vn SILT, t	race o	cmf SAND, trace f	ine GRAVEL (1	moist,	100+
14							hard)				`		
15													
16 17													
1/													
18	_	10 -	200	96/11	10.11.10.15		* * * * *	/c		2	ur <i>e</i> -		
19	7	18.5	20.0	SS/12	19-14-10-13		Light Brow (wet, very ROCK frag	stiff)		some cmf GRAVE	L, some fine SA	AND	24
20	8	20.5	20.6	SS/1	100/1"					ragments (wet)			100+
20 SS - Sn					ube C - Core WH - V	X7 - : - 1-4 -							100+

20 8 20.5 20.6 SS/1 100/1" Grey Weathered ROCK fragments (wet)
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

		$\mathbf{R}\mathbf{A}$			orporate Drive	SU	JBSURFACE EXPLO	ORATION	U	B- P- 101
		IV	Ę	East Syr	racuse, NY 13057		TEST BORING I		Page No.	2 of 2
					315-701-0522				Report No. 2806	2B-01-0523-R1
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLAS	SIFICATION	OF MATERIAL	
Depth			e Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m - medium		0% / some - 20 to 35%	or DOD 0/
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Refusal at 20.6'	little - 10 to	20% / trace - 0 to 10%	RQD %
20							Bottom of Boring at 20.6			
21							Bottom of Boring at 20.0			
22										
23										
24										
2 <b>4</b>										
25										
26										
27										
27										
28										
29										
30										
31										
51										
32										
33										
34										
34										
35										
36										
27										
37										
38										
50										
39										
40										
41										
71										
42										
43										
11										
44	Ī					1				

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

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	PLORATION	Boring No.	Page	<u>8</u> 291 15	
		IV	Ę	East Syr	racuse, NY 13057				NG LOG	Page No.	1	of 2	
	Asso	ciates	s, Inc.	Phone: 3	315-701-0522		IESI	DOKI	NG LOG	Report No.	28062B-0	01-0523-R	
roject l	Name:	Micror	Camp	us, Clay,	New York					Date Started	04/	19/23	
lient:		Rambo	oll							Date Finished	04/	19/23	
ocation	1:	See Ex	ploratio	n Locati	on Plan					Surface Elev.	39	92.4'	
		ME	THO	DS OF	INVESTIGATIO	N			GROUNDWAT	ER OBSERVAT	TIONS		
Oriller: Oriller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	g At (Ft.)	
nspecto	r:		rma, E.	IТ	Other:			04/19/23	While Drilling	none noted	none	noted	
rill Rig		CME 5		1.1.	Soil Sampler:	2" OD S	Split Barrel		Before Casing Remov			6.6	
Sype:	••	ATV	, 5		Hammer Wt:	140 lbs.		04/19/23	After Casing Remove			out	
Rod Size	a•	AWJ			Hammer Fall:	30 in.		04/19/23	_			out	
TOU SIL			ROR	NG S	AMPLES	1	VI		LASSIFICATION			-	
	LO			110 57			V 11	SUAL C	LASSIFICATIO	VOI MATERIA	1L		
Depth			Depth	Type /	Blows on	Depth of		- coarse				SPT "N	
Scale	Sample		t.)	Sample	Sampler	Change		medium		o 50% / some - 20 to 35		or	
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		f - fine		to 20% / trace - 0 to 10	%	RQD %	
0	1A	0.0	0.6	SS/22	WH-1-2-3				Matter (wet)	C CAND ( :			
1	1B	0.6	2.0				Brown Mo	ottled SIL	T, trace CLAY, trace	fine SAND (moist	, soft)	3	
2	2	2.0	4.0	SS/18	3-3-6-6		Brown SIL	T, trace C	CLAY (moist, stiff)			9	
3						PP=1.5, 1.5, 2.0							
	3A	4.0	5.0	SS/24	3-4-5-5	Dark Grev cmf SAND, some SILT, trace fine GRAVEL, trace							
4				88/24	3-4-3-3	Dark Grey cmf SAND, some SILT, trace fine GRAVEL, trace ROOTS (wet, loose)							
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 SIL <i>PP</i> =2.5, 2.		CLAY (moist, stiff)			11	
7													
8	5	8.0	10.0	SS/24	4-6-6-9		Similar as	above (mo	oist, stiff)			12	
9													
10													
11													
12													
13													
	6	13.5	15.0	SS/18	7-11-8		Similar as	above (mo	oist, very stiff)			19	
14													
15													
16													
17													
18													
19	7	18.5	20.0	SS/14	3-3-4		Grey SILT, trace CLAY (wet, medium stiff)				7		
20													
						1	1					1	

CMI	Ε
Associates,	Inc.

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

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page 69 of 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

					315-701-0522	VISUAL CLASSIFICATION OF MATERIAL						
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLASS	SIFICATION (	OF MATERIA	L		
Depth Scale (Feet)	Sample No.	Sample (F From	Depth t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%			
20				` `			•					
21												
22												
23	8	23.5	25.0	SS/18	13-12-18		Dark Grey ROCK chips &	fragments, trace	SILT (wet)			
24									` ,			
25												
26	9	26.5	26.7		100/1"		Grey ROCK chips & fragr	nents (wet)		100+		
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												
00 0	11. 0	77 7	T 11 .	1 1 7	1 0 0 11777 1	T7 1 1 .	f Hammar + Dad WD W	1 1 CD 1		•		

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

		N/		6035 Co	orporate Drive	SI	IRSURE	ACE EX	PI.	ORATION	Boring No.	Page	<b>9gf</b> 154
		IV			racuse, NY 13057			Γ BORI			Page No.		of 2
	Ass	ociates	s, Inc.	Phone:	315-701-0522		ILSI	DUKI	<b>1G</b> 1	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:	Micror	ı Campı	us, Clay,	New York						Date Started	04/1	19/23
Client:		Rambo	11								Date Finished	04/1	19/23
Locatio	n:			n Locati							Surface Elev.		7.3'
				DS OF	INVESTIGATIO				GR	COUNDWATER	OBSERVAT	IONS	
Driller: Driller:		G. Ricl			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect			rma, E.	IТ	Other:			04/19/23		While Drilling	4.6	1.5	8.5
Drill Ri		CME 5			Soil Sampler:	2" OD S	Split Barrel	04/19/23		ore Casing Removed	4.2		0.2
Type:	8.	ATV			Hammer Wt:	140 lbs.	-	04/19/23		er Casing Removed	4.2		ut
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/19/23		er Casing Removed	caved @ 9.0		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C		SIFICATION C		L	
Depth			Depth		Blows on			- coarse					SPT "N"
Scale	Sample	(F		Type / Sample	Sampler	Depth of Change		- coarse - medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	f	f - fine			0% / trace - 0 to 109		RQD %
0	1A	0.0	0.5	SS/19	WH-1-2-3		Topsoil an						3
	1B	0.5	2.0				Brown SIL	T, trace C	CLAY	, trace ROOTS, tr	ace WOOD (we	t, soft)	
1													
2	2	2.0	4.0	SS/16	7-6-5-6		Brown SII	T trace (	LAY	(wet, stiff)		. — - — :	11
_	_	2.0		55/10	, 030		PP=1.5, 1.		22.11	(1100, 5011)			
3							110,11	.0, 11, 0					
4	3	4.0	6.0	SS/18	9-5-6-9	Dark Grey/Brown SILT and CLAY, trace Organic Materials							11
						(wet, stiff)							
5							PP = 0.75,	0.75, 1.0					
6	4	6.0	8.0	SS/24	6-9-9-10		Daorem CII	T trace	T A 3/	(wat warm stiff)			18
6	4	0.0	8.0	33/24	0-9-9-10		PP=2.25,		LAI	(wet, very stiff)			18
7							2.23,	2.5, 2.0					
8	5	8.0	10.0	SS/20	6-5-4-6		Grey/Brow	vn SILT, t	race (	CLAY (wet, stiff)			9
_													
9													
10													
10													
11													
12													
12													
13	6	13.5	15.0	SS/18	1-1-3		Gray/Pray	m CII T 1	ittla n	nf SAND, trace CI	AV (wat madi	um.	4
14	0	13.3	13.0	33/10	1-1-3		stiff)	VII SILI, I	ille ii	iii sand, iiace ci	LAT (wet, mean	uIII	4
17							30111)						
15													
16													
17													
18													
10	7	18.5	20.0	SS/13	3-14-9		Dark Grev	SILT and	cmf	GRAVEL, trace c	mf SAND_trace	CLAY	23
19	′	10.5	_0.0	22,13			(wet, very		-1111		2. 11 (12), 11 1100		
							Augered H		20.31				
20	1												

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

ATTA	CHMEN	OT TO	CEG	REPO	RT NUMBER: 172	2E-01-0	124 EXHIBIT A-5: GEOT	TECHNICA	L DATA REPO	RT - PHASE 1		
		N A		6035 Co	orporate Drive	CI	IRSTIREACE EVDI ODA	TION	Boring No.	Page <u><b>r</b> 1</u> 2 <b>9</b> f 154		
East Syracuse, NY 13057 Associates, Inc. Phone: 315-701-0522 LOG OF BORING SAMPLES							SUBSURFACE EATLORATION  Bore No. 2					
							TEST BORING LOG  Report No. 28062B-					
							VISUAL CLASSIFICATION OF MATERIAL					
Depth			Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"		
Scale	Sample		t.)	Sample	Sampler	Change	m - medium		0% / some - 20 to 35%			
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine	little - 10 to 2	20% / trace - 0 to 10%	RQD %		
20	8	20.6	20.7	SS/1	100/1"		Dark Grey ROCK fragments (w	vet)		100+		
21	0 20.0 20.7 55/1 100/1				100/1	Bottom of Boring at 20.7'						
22												
23												
23												
24												
25												
26												
20												
27												
28												
29												
30												
21												
31												
32												
33												
34												
34												
35	1											
36												
37												
38												
39												
40	1											
41												

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

				East Sy Phone:	orporate Drive racuse, NY 13057 315-701-0522	St	SUBSURFACE EXPLORATION TEST BORING LOG				Page <b>3.2 a</b> f 1. 1 of 2 28062B-01-0523-1		
roject l lient:	Name:	Micror		us, Clay,	New York					Date Started Date Finished		17/23 17/23	
				on Locati	an Dlan					Surface Elev.		94.6'	
ocatio	и.				INVESTIGATIO	)N			GROUNDWATE			74.0	
riller:		G. Ric		DS OF	Casing:	3 ¼" ID	ИΩА		GROUNDWATE	T OBSERVAT	10115		
riller:		C. O'H			Casing Hammer:	3 /4 ID	11.5.71.	Date	Time	Depth (Ft.)	Casing	g At (Ft.	
Inspector:		A. Anasthas, P.I		P.E.	<del>-</del>			04/17/23	While Drilling	9.7		13.5	
Drill Rig:		CME 55			Soil Sampler:		Split Barrel	04/17/23	Before Casing Removed	8.2	2	2.7	
Гуре:		ATV			Hammer Wt:	140 lbs.		04/19/23	After Casing Removed	2.4	(	out	
od Siz		AWJ			Hammer Fall:	30 in.		04/19/23	After Casing Removed			out	
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LASSIFICATION (	OF MATERIA	L		
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse				SPT "N	
Scale	Sample		t.)	Sample	Sampler	Change	m - medium and - 35 to 5 f - fine little - 10 to		0% / some - 20 to 35	%	or		
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)			20% / trace - 0 to 10°	%	RQD 9		
0	1A	0.0	0.5	SS/15	WH-WH-1-3				Matter (wet)			1	
1	1B	0.5	2.0				Brown Mo	ttled SIL'I	and CLAY, trace mf S	SAND (moist, ve	ry soft)		
1													
2	2	2.0	4.0	SS/20	2-3-4-4		Brown Mottled SILT, some CLAY, trace mf SAND (mo					7	
_		2.0	4.0	55/20	2-3-4-4		medium sti		, some CLATT, trace in	ii 57 ti vD (iiioist,		,	
3								)					
4	3	4.0	6.0	SS/22	2-2-2-2		Brown Mo	ttled SILT	, some CLAY, trace fi	ne SAND (wet,		4	
							medium stiff)						
5							PP=1.25, 1	1.5, 1.75					
6	4	6.0	8.0	SS/24	2-4-2-4				CLAY (wet, medium sti	ff)		6	
7							PP=1.25, T	1.5, 1.75					
7													
8	5	8.0	10.0	SS/24	3-6-10-11		Similar as	ahove (we	et, very stiff)			16	
O		0.0	10.0	55/21	3 0 10 11		PP=2.5, 2.		ot, very stirry			10	
9								-,					
10													
11													
10													
12													
13													
13	6A	13.5	14.6	SS/18	5-6-6-11		Brown SIL	T. trace C	CLAY, trace mf SAND	(wet. stiff)		12	
14	011	10.0	1	22,10			PP=1.25, I		2.11, 4.40 111 211 (2	( 23, 2311)		1.2	
	6B	14.6	15.0						mf SAND, trace mf GR	AVEL (wet, stif	<u>f)</u>	1	
15										•	ĺ		
16													
1.5													
17							Ctantodto	J.,; 11	alla, ad 17 4!				
18							Started to a Started to a					1	
10	7	18.5	18.8	SS/3	100/3"				ragments & flour, some	SILT (wet)		100-	
19	,	10.5	10.0	30/3	100/3		Jiey Roc	is emps, i	raginento ex mour, sonte	SILI (WOL)		100	
20													
C Cn	lit Spoo	n, U - 1	Undist	urbed T	ube, C - Core, WH -	Weight o	of Hammer -	Rod W	R - Weight of Rod				

CIVE Associates, Inc.
LOG OF BORI

6035 Corporate Drive East Syracuse, NY 13057

### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page B 22 of 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Asso	ciate	s, Inc.	Phone: 3	315-701-0522	TEST BORING LOG  Report No. 28062B-0						
					MPLES	VISUAL CLASSIFICATION OF MATERIAL						
Depth Scale (Feet)	Sample No.		e Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %		
20				()	2 22 \$ 222222	(= 11)						
21 22	8	22.7	22.8	SS/1	100/1"		Auger refusal at 22.7' Grey ROCK chips, fragme	ent & flour (wet)		100+		
		,					Sampler refused at 22.8'	()				
23							Bottom of Boring at 22.8'					
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40	1											
41												
42												
43												
44												
45	1											

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

				Phone:	racuse, NY 13057 315-701-0522		TEST	BORI	NG LOG	Page No. Report No.	28062B-0		
roject	Name:			us, Clay,	New York					Date Started		18/23	
Client:		Rambo		T	· N					Date Finished		18/23	
ocatio	1:			n Locati	INVESTIGATIO	)NI	I		GROUNDWATER	Surface Elev.		193'	
riller:		G. Ric		DS OF	Casing:	3 ¼" ID	нсл		GROUNDWATEI	T ODSEKVA I	IONS		
riller:		C. O'H			Casing Hammer:	3 /4 ID	п.з.А.	Date	Time	Depth (Ft.)	Casing	g At (Ft.	
nspecto	r:		rma, E.	I.T.	Other:			04/18/23	While Drilling	9.6	1	3.5	
rill Ri		CME 5			Soil Sampler:	2" OD S	Split Barrel	04/18/23	Before Casing Removed	6.1		8.5	
ype:	<b>3</b> .	ATV			Hammer Wt:	140 lbs.	-	04/18/23	After Casing Removed	5.2		out	
Rod Size	e:	AWJ			Hammer Fall:	30 in.		04/18/23	After Casing Removed				
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LASSIFICATION (	OF MATERIA	L		
Depth		Sample	Depth		Blows on		C -	coarse				SPT "N	
Scale	Sample	_	t.)	Type / Sample	Sampler	Depth of Change		medium	and - 35 to 5	0% / some - 20 to 35	%	or	
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine		20% / trace - 0 to 10°		RQD %	
0		0.0	2.0	SS/15	WH-WH-2-3		Brown SIL	T, trace C	CLAY, trace ORGANIO	C Materials (mois	st, soft)	2	
1							ļ.—.—.				. — - —		
	2	2.0	4.0	GG/20	2 2 4 5		ъ.	.1 1 CIT T	CT ATT (	1: .:.00			
2	2	2.0	4.0	SS/20	3-3-4-5				, trace CLAY (moist, n	nedium stiff)		7	
3							PP=1.75, 2	2.0, 2.23					
3													
4	3	4.0	6.0	SS/24	4-3-3-5		Brown SIL	T little C	LAY, trace ROOTS (w	et medium stiff	)	6	
7	3	4.0	0.0	55/24	4-3-3-3		Diowii SiL	1, IIIIC C	Litt, nace Roots (w	ct, medium sum	,		
5													
6	4	6.0	8.0	SS/24	4-5-6-6	Brown SILT, trace CLAY (wet, stiff)							
						Blowii SiL1, trace CLA1 (wet, stiff)							
7													
8	5	8.0	10.0	SS/24	4-5-7-8				CLAY (wet, stiff)			12	
							PP=1.75, 1	1.5, 2.0					
9													
10													
10													
11													
11													
12													
13						<u>_</u>	L					]	
	6	13.5	15.0	SS/14	4-16-16				tle mf GRAVEL, little	SILT (wet, comp	oact)	32	
14							Augered sli	ightly har	der at 14.2'				
15													
16													
16													
17													
1 /							Augered ho	arder at 1	8 1'				
18							mgereu m	aci ai I	<u></u>			1	
10	7	18.5	18.6	SS/1	100/1"		Grev ROC	K chips. f	ragments & flour (wet)			100+	
19	,	-0.0	-0.0				Bottom of l					1	
								<i>5</i> ···					
20							I					1	

	Asso	Ciates	E, Inc.	East Sy	orporate Drive racuse, NY 13057 315-701-0522	SU			APLORATION NG LOG	Boring No.  Page No.  Report No.		of 1		
roject					New York					Date Started		18/23		
lient:		Rambo		,,,	1000 1000					Date Finished		18/23		
ocatio	1:	See Ex	ploratio	on Locati	on Plan					Surface Elev.	39	92.1'		
		ME	THO	DS OF	INVESTIGATIO	N			GROUNDWATER	R OBSERVAT	CIONS			
riller:		G. Ric	hard		Casing:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casino	At (Ft.		
riller:		C. O'H			Casing Hammer:					• ` ′	,	` `		
nspecto		A. Sha		I.T.	Other:			04/18/23	While Drilling	10.3		3.5		
rill Ri	<b>g</b> :	CME 5	55		Soil Sampler:		•	04/18/23	Before Casing Removed			8.0		
ype: lod Size		ATV AWJ			Hammer Wt: Hammer Fall:	140 lbs. 30 in.		04/18/23	After Casing Removed	0		out		
ou Size			DΩD	INC C	AMPLES	30 III.	1/10		After Casing Removed  LASSIFICATION (	caved @ 4.8'		out		
	LU	ı		ING SA	AMPLES		VIX	SUAL C	LASSIFICATION	JF MIATERIA	L			
Depth		_	Depth	Type /	Blows on	Depth of		coarse				SPT "N		
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine		0% / some - 20 to 35 20% / trace - 0 to 10°		or RQD 9		
0	INO.	0.0	2.0	SS/17	WH-WH-2-WH	(11.)			CLAY, trace ORGANIC			2		
O		0.0	2.0	55/17	WII WII 2 WII		Brown SIL	i, auce c	Erri, udec ortarin	o iviateriais (mon	31, 5011)			
1														
							t					1		
2	2	2.0	4.0	SS/24	3-4-5-5		Brown Mo	ttled SILT	, trace CLAY (moist, s	stiff)		9		
							PP=2.5, 2.		` ` `	•				
3														
4	3	4.0	6.0	SS/24	3-2-3-3				CLAY, (moist, medium	stiff)		5		
						PP=1.5, 1.25, 1.5								
5														
	4	( 0	0.0	GG/2.4	WIII 2 2 5	D CHT ( CLAY( ) 1' ('0')								
6	4	6.0	8.0	SS/24	WH-3-3-5		Brown SILT, trace CLAY (wet, medium stiff)							
7							PP=1.5, 1.	3, 2.0						
,														
8	5	8.0	10.0	SS/19	3-6-7-8		Same as ab	ove (wet	stiff)			13		
O	٥	0.0	10.0	55,19	3070		Sume us us	o ( ,, et,	5411)			15		
9														
10														
11														
12														
1.2														
13	6 1	12.5	140	SS/6	577		Decree Cit	T tucas C	TAV (moist stiff)			1.4		
14	6A 6B	13.5 14.0	14.0 15.0	33/6	5-7-7				CLAY (moist, stiff) tle mf GRAVEL, trace	SII T (wat mad		14		
14	OD	14.0	13.0				compact)	יבאואט, וונו	ac ini OKA v EL, trace	DILI (WEI, IIIEGI	ulli			
15							compact)							
10							Augered 91	avelv from	n 15.6' to 16.2'					
16														
17														
						L	Augered ho	a <u>rder at</u> 1	7.7'			]		
18												]		
	7	18.0	18.1	SS/1	100/1"		Grey ROC	K chips, f	ragments & flour (wet)	)		100-		
19												_		
							Bottom of	Boring at	18.1'					
20							•							

		NA		6035 C	orporate Drive	SI	J <b>BS</b> URF	ACE EX	PL	ORATION	Boring No.		<u>6</u> 9f 154	
		IV		-	racuse, NY 13057	TEST RORING LOG Pa							of 1	
	100	ociates		1 mone.	315-701-0522		1201	DOM	. 10	LOG	Report No.			
Project	Name:			us, Clay,	New York						Date Started		18/23	
Client:		Rambo		¥	71						Date Finished		18/23	
Locatio	n:			n Locati	INVESTIGATIO	NI			CD	ROUNDWATER	Surface Elev.		90'	
Driller:		G. Ric		DS OF	Casing:	3 ¼" ID	ПСЛ		GN	COUNDWAIEN	ODSERVAI	IONS		
Driller:		C. O'H			Casing Hammer:	3 /4 ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)	
Inspecto		A. Sha		I.T.	Other:			04/18/23		While Drilling	5.6	1	3.5	
Drill Ri		CME 5			Soil Sampler:	2" OD S	Split Barrel	04/18/23		ore Casing Removed	6.9		6.7	
Type:	<b>.</b>	ATV			Hammer Wt:	140 lbs.	-	04/18/23		er Casing Removed	4.4		out	
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/18/23		er Casing Removed	caved @ 8.4	(	out	
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	F MATERIA	L		
Depth		Sample	Depth	T. /	Blows on	D 1 6	c -	coarse					SPT "N"	
Scale	Sample	(F	_	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or	
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 10°	%	RQD %	
0	1A	0.0	0.5	SS/17	1-3-5-5		Topsoil and						8	
1	1B	0.5	2.0				Brown Mo stiff)	ttled SILT	ſ, littl	le CLAY, trace RO	OOTS (moist, me	edium		
2	2	2.0	4.0	SS/22	6-6-4-4		Brown Mo	r II2 haltt	trac	ce CLAY (wet, stif	n		10	
2		2.0	4.0	33/22	0-0-4-4		PP=1.5, 1.		, uac	cc CLAT (wei, sin	1)		10	
3							1.0, 1.	0, 1.0						
,	2	4.0	6.0	00/22	2456		D GH	TD	NT A X	7 (			0	
4	3	4.0	6.0	SS/22	2-4-5-6		Brown SIL	T, trace C	(moist, stiff)			9		
5														
		6.0	0.0	00/24	2557		Brown SILT, trace CLAY (wet, stiff)							
6	4	6.0	8.0	SS/24	3-5-5-7		Brown SIL	1, trace C	LAY	(wet, stiff)			10	
7														
8	5	8.0	10.0	SS/16	4-5-5-7		Same as ab	ove (mois	st, sti	ff)			10	
							PP=1.5, 1.			,				
9														
10														
11														
12							<u></u>	_						
13							T					. — - —		
1.	6	13.5	15.0	SS/16	8-9-9		-	SAND, lit	tle m	f GRAVEL, trace S	SILT (wet, medi	um	18	
14							compact)							
15														
16							Augured h	ard at 16.	6'					
	7	16.7	16.8	SS/1	100/1"					gments (wet)			100+	
17							Bottom of	Boring at	16.8'	1			-	
18							2000m or	Loring at	10.0					
19														
19														
20	1			I		Ī	Ī						1	

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

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	<b>KPLORATION</b>	Boring No.	Page <b>g<u>7</u>28</b> f 1		
		IV	Ę	East Syr	racuse, NY 13057				NG LOG	Page No.	1 of 1		
					315-701-0522		11231	DOM	III LOG	Report No.	28062B-01-0523-		
Project ?	Name:			us, Clay,	New York					Date Started	04/18/23		
Client:		Rambo								Date Finished	04/18/23		
ocatio	1:			on Locati	on Plan INVESTIGATIO	N			GROUNDWATE	Surface Elev.	390.5'		
riller:		G. Ric	hard		Casing:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing At (Ft.		
Priller:		C. O'H			Casing Hammer:			0.4/1.0/22	WI-11- D-111:	1 ( )	0		
nspecto Prill Rig		A. Sha			Other: Soil Sampler:	2" OD 9	Split Barrel	04/18/23	While Drilling Before Casing Remove	d 7.8	18.5		
7т нг каз Гуре:	<b>3•</b>	ATV	),)		Hammer Wt:	140 lbs.	-	04/18/23			out		
Rod Size	e:	AWJ			Hammer Fall:	30 in.		04/18/23			out		
			BOR		AMPLES		VIS		LASSIFICATION				
Depth		Sample	e Depth	T.,/	Blows on	Depth of	c -	- coarse			SPT "		
Scale	Sample		t.)	Type / Sample	Sampler	Change		medium	and - 35 to	50% / some - 20 to 35			
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine		20% / trace - 0 to 109			
0	1	0.0	2.0	SS/16	WH-1-3-4			T, little C	CLAY, trace ROOTS (	moist, medium	4		
							stiff)						
1							<b></b> -				. — - — -		
2	2	2.0	4.0	00/10	1151		Dugger M	#1 <sub>0</sub> .1 CTT 7	E traca CI AV (: 1	atiff			
2	2	2.0	4.0	SS/18	4-4-5-4		Brown Mo $PP=1.75, 2$		T, trace CLAY (moist,	suii)	9		
3							$\Gamma \Gamma = 1./3, \lambda$	∠. <i>∪, ∠.U</i>					
ر													
4	3	4.0	6.0	SS/16	2-2-2-1		Brown SII	T trace (	CLAY (wet, medium s	tiff)	4		
•	5		0.0	55,10	2221		PP=1.25,		(, modium s		1		
5													
6	4	6.0	8.0	SS/16	3-4-5-5		Same as ab		9				
							PP=1.25,		•				
7													
6	_								1.00				
8	5	8.0	10.0	SS/20	2-6-7-5		Same as ab	ove (moi	st, stiff)		13		
0													
9													
10													
10													
11							Augered co	obbly fron	111' to 12.4'		1		
12													
13													
	6	13.5	15.0	SS/16	13-16-16			ey SILT aı	nd mf GRAVEL, trace	e cmf SAND (moi	st, 32		
14							hard)						
15													
15													
16													
10													
17													
• '													
18							†				1		
	7	18.5	18.9	SS/4	100/5"		Dark Grey	ROCK fr	agments (wet)		100-		
10									, ,				
19			I	1			Bottom of	Boring at	19.0'				
20							Dolloill of	Dornig at	10.9				

PP=Pocket Penetrameter Results in tsf

				6035 Co	orporate Drive	SI	JBSIJRF	ACE EX	KPLORATION	Boring No.	Page	<b>829</b> f 154		
		IV	Ę		racuse, NY 13057				NG LOG	Page No.		of 2		
		ociates			315-701-0522	1				Report No.		01-0523-R1		
Project	Name:			us, Clay,	New York					Date Started		19/23		
Client:		Rambo								Date Finished		19/23		
Location	n:			on Locati		·NT	<del></del>		CDOHNDWATE	Surface Elev.		39.7'		
Dw311				DS OF	INVESTIGATIO		II C A		GROUNDWATEI	K UBSERVAT	IUNS			
Driller: Driller:		G. Ricl			Casing Hammor	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.)		
Driller: Inspecto	) <b>r•</b>		iara irma, E.	ΙΤ	Casing Hammer: Other:			04/19/23	While Drilling	none noted	19	8.0		
Drill Ri		CME 5		1.1.	Soil Sampler:	2" OD S	Split Barrel	04/19/23				8.5		
Type:	<b>5</b> *	ATV			Hammer Wt:	140 lbs.	-	04/19/23		none noted		out		
Rod Size	e:	AWJ			Hammer Fall:	30 in.		04/19/23		caved @ 3.5		out		
		G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LASSIFICATION (		\L			
Depth			e Depth		Blows on	<b>D</b>		- coarse				SPT "N"		
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		medium	and - 35 to 5	0% / some - 20 to 35	%	or		
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine		20% / trace - 0 to 10°	%	RQD %		
0	1A	0.0	0.3	l		<u> </u>			Matter (wet)		. — - — .	. ]		
1	1B	0.3	2.0	SS/18	1-1-2-4		Brown SIL	Τ, trace C	CLAY, trace ROOT Ha	irs (moist, soft)		3		
2	2	2.0	4.0	SS/14	5-4-5-3	1	Brown SIL	T, trace C	CLAY (moist, stiff)			9		
						1								
3						1								
,	2	4.0	60	00/11	5.5.4.4	1	D CIT	т.,	NI ANY A CONTRACTOR	IEI ( · · · · · · · · · · · · · · · · · ·				
4	3	4.0	6.0	SS/11	5-5-4-4		Brown SIL	T, trace C	CLAY, trace fine GRAV	VEL (wet, stiff)		9		
5														
6	4	6.0	8.0	SS/17	4-5-6-7	1	Brown SIL	T, trace C	CLAY (wet, stiff)			11		
								PP=1.5, 1.25, 1.5						
7			[											
							g: ::							
8	5	8.0	10.0	SS/17	4-5-6-7	1	Similar as	,	et, stiff)			11		
0						1	PP=1.5, 1.	5, 1.5						
9														
10						1								
						1								
11			[											
			[											
12			[											
12														
13	6	13.5	15.0	SS/16	7-6-5		Similar as	ahova (m	at ctiff)			11		
14	0	13.3	15.0	35/16	/-0-3	1	Similar as	adove (We	ะเ, SIIII)			11		
14														
15														
16														
						1								
17														
10						<u> </u>	<b></b>			—		4		
18	7	10.5	20.0	99/	2.2.5		Cass OII T	tuo o - CT	AV tugge wif CD AVE	[ (vvot at:CO		0		
19	7	18.5	20.0	SS/-	2-3-5		Grey SIL1	, trace CL	LAY, trace mf GRAVE	L (wet, still)		8		
17						1								
20						1								

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

71117101	IIIIEITI 10 0E0
	CVE Associates, Inc.
	LOG OF BOR

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

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **F 20** f 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

					315-701-0522	Report No. 28062B-01								
	LO	G OF	BOR	ING SA	AMPLES	VISUAL CLASSIFICATION OF MATERIAL								
Depth Scale (Feet)	Sample No.		e Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	m - medium and - 35 to 50% / some - 20 to 35%							
20 21 22														
23		22.5	22.0	GG /2	100/58		Augers harder at 23.7' Dark Grey ROCK fragments (wet)							
24	8	23.5	23.9	SS/3	100/5"		Auger Refusal at 24.2' Bottom of Boring at 24.2'	100+						
25														
26 27														
28														
29														
30	_													
31														
32														
33														
35	-													
36														
37														
38														
39														
40														
42														
43														
44														
45							f Hammar + Dad WD W							

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

				6035 C	orporate Drive	SUBSURFACE EXPLORATION  Boring No. Page 19 October 19 O							
		IV	Ę		racuse, NY 13057			S BORI		Page No.	1	of 1	
	Ass	ociate			315-701-0522		1631	DUKI	UU.	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:			us, Clay,	New York						Date Started		18/23
Client:		Rambo									Date Finished		18/23
Locatio	n:			on Locati		N.T			CF		Surface Elev.		8.8'
Driller:		B. Flet		DS OF	INVESTIGATIO	N 3 ¼" ID	НСА		GN	ROUNDWATER	ODSEKVAI	10112	
Driller:		R. Cas			Casing: Casing Hammer:	3 /4 ID	11.3.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect		rt. Cus			Other:			04/18/23		While Drilling	none noted	4	.0
Drill Ri		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/18/23		ore Casing Removed	none noted	4	.0
Type:		ATV			Hammer Wt:	140 lbs.		04/18/23	Aft	er Casing Removed	2.0 (Remark 1)	C	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/18/23		er Casing Removed	caved @ 9.3		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	<u>L</u>	ı
Depth			e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample No.	From	t.) To	Sample	Sampler	Change		medium - fine			0% / some - 20 to 35 20% / trace - 0 to 10°		or DOD %
(Feet)	1	0.0	2.0	Rec. (in.) SS/14	Per 6 Inches 1-2-3-4	(Ft.)			Mat	ter (moist)	20% / trace - 0 to 10	70	RQD %
	1	0.0	2.0	55/11	1231		l opsoir un	a Organie	iviat	tier (moist)			
1							L						
							[						
2	2	2.0	2.7	SS/3	4-100/3"				mf S	AND, little cmf GF	RAVEL, trace R	OCK	100+
3							fragments Possible R		Markon	1			
3							Possible K	eworkea 1	viaiei	riai			
4	3	4.0	4.2	SS/2	100/2"		Grev ROC	K Chips &	& frag	gments; Auger refu	sal at 4.3'		
	4	4.3	8.5	C/60						ghtly weathered, thi			92%
5										(<1/4") of SHALE	interbedded		
							Broken zoi						
6		8.5	9.3							n, thinly bedded, me	edium hard		
7							Recovery: RQD: 55"/			0			
,							8 pieces, 0			ragmenst			
8										, coring completed	in 5th gear		
										wn pressure			
9							Bottom of	Boring at	9.3'				
10	_												
10													
11													
12													
13													
14													
1 +													
15	1												
16													
1.7													
17													
18													
19													
20				Ī	1	Ī							ľ

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod Remakrs: 1. Water added for coring

				6025.0	amanata Duive						Boring No.	Page 18	<u>1</u> 49f 154	
	. 0	V			orporate Drive	SUBSURFACE EXPLORATION S								
	Ass	ociate	s Inc	•	racuse, NY 13057 315-701-0522		TEST	<b>BORI</b>	LOG			of 1		
Danisas				I moner.							Report No.			
Project Client:	Name:	Rambo		us, Ciay,	New York						Date Started Date Finished		18/23 18/23	
Locatio	n.			on Locati	on Dlan						Surface Elev.		18.8'	
Locatio	111;				INVESTIGATIO	N			GR	ROUNDWATER			0.0	
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	HSA		GIV					
Driller:		R. Cas			Casing Hammer:	3 /4 11	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspect					Other:			04/18/23		While Drilling	none noted	4	1.8	
Drill Ri		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/18/23		ore Casing Removed	none noted		1.8	
Type:		ATV			Hammer Wt:	140 lbs.	-	04/18/23		er Casing Removed	none noted	C	out	
Rod Siz		AWJ			Hammer Fall:	30 in.		04/18/23	Afte	er Casing Removed	caved @ 3.0	C	out	
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	F MATERIA	L		
Depth		Sample	e Depth	Type /	Blows on	Depth of	c ·	- coarse					SPT "N"	
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium		and - 35 to 50	0% / some - 20 to 35	%	or	
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 10°	%	RQD %	
0	1A	0.0	0.5	SS/18	1-2-3-3		Topsoil an					. — - —	5	
	1B	0.5	2.0							mf SAND, trace fir	ne GRAVEL			
1							(moist, me	oist, medium stiff)						
2	2	2.0	4.0	SS/17	2-3-3-3		Light Brow	vn SII T a	nd en	nf SAND, little mf	CDAVEL		6	
		2.0	4.0	55/17	2-3-3-3		(moist, me			in 57111D, ittle ini	GRIVEL		U	
3							(moist, medium sum)							
4	3	4.0	4.7	SS/6	2-100/2"		Light Brov	hight Brown SILT, trace cmf SAND, trace ROCK fragments,						
							trace CLA	Y (moist,	hard)	)				
5							Auger Refi						]	
							Bottom of	Boring at	4.8'					
6														
7														
,														
8														
9														
10														
11														
11														
12														
12														
13														
14														
L														
15														
16														
10														
17														
] '														
18														
19														
20	•													
20	I	1	I	l	I		I						1	

Project Name:   Micron Campus, Clay, New York   Date Starreto   O41	of 1 1-0523-R1 8/23 8/23
Project Name:   Micron Campus, Clay, New York   Date Started   O4/1	8/23
Client:   Ramboll   Location:   Section   Section   Plan   Surface Elev.   39	
See Exploration   Location Plan	8/23
Driller:   B. Fletcher   Casing:   Casing Hammer:   Charge   Casing Hammer:   Charge   Casing Hammer:   Charge   Casing Hammer:   Casing Ham	
Driller:   B. Fletcher   Casing Hammer:   Casing Hammer:   Other:   Other	6.3'
Drill Right   Casing Hammer   Other   Other	
Inspector:   Other:   Soil Sampler:   Soil Sample   Soil Sampler:   Soil Sample   Soil Sample   Soil Sampler:   Soil Sample   Soil Sample   Soil Sample   Soil Sample   Soil Soil Soil Soil Soil Soil Soil Soil	At (Ft.)
Drill Rig:	.9
Type   ATV   Hammer Wt:   140 lbs.   30 in.   04/18/23   After Casing Removed   none noted   0 or   04/18/23   After Casing Removed   caved (@ 5.0   or	.9
Depth   Sample   Sample   Depth   GFE   Sample   Depth   GFE   Sample   Depth   Scale   Sample   Depth   GFE   Sample   Depth   Type / Sample   Depth   Type / Sample   Type / Sample   Depth   Type / Sample   Type / Sample   Depth   Type / Sample   Type / Sample   Type / Sample   Depth   Type / Sample   Type / S	ut
Depth   Scale   Sample   Per 6 Inches	ut
Scale   Creek   No.   From   To   Rec. (m.)   Sample   Per 6 Inches   Per 6 Inc	
Sample   Sample   (Fect)   No.   From   To   Rese (in)   Per 6 Inches   (Ft.)   To   Sample   (Ft.)   Per 6 Inches   (Ft.)   Topsoil and Organic Matter (wet)	SPT "N"
1	or
18	RQD %
1	"
ROOT Hairs (moist, loose)   ROOT Hairs (moist, loose)	
4   3   4.0   6.0   SS/20   3-5-4-12   Light Brown SILT, trace cmf SAND, trace fine GRAVEL (moist, stiff)     6	6
Stiff)   S	
Column   C	9
trace ROCK fragments (moist, very stiff)  8	10
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)  Auger Refusal at 9.9' Bottom of Boring at 9.9'	19
9   Auger Refusal at 9.9'   Bottom of Boring at 9.9'     11   12	64
10 11 12 Bottom of Boring at 9.9'	
12	
20	

		N		6035 Cc	orporate Drive	SI	J <b>BSURF</b>	ACE EX	XPL () I	RATION	Boring No.	Page 18	310f 15
		IV	Ę		racuse, NY 13057			Γ BORI			Page No.		of 1
		ociate			315-701-0522		IESI	DOM	NG LC	JG	Report No.	28062B-0	)1-0523-I
Project 1	Name:			us, Clay,	New York						Date Started	04/	18/23
lient:		Rambo									Date Finished	04/	18/23
ocation	1:			on Locati				•			Surface Elev.		7.9'
					INVESTIGATION				GRO	UNDWATEF	R OBSERVAT	IONS	
Priller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft
Priller:		R. Cas	atelli		Casing Hammer:						• ` `		
nspecto		C) (E)			Other:	211.070.0	1 11: D 1	04/18/23		nile Drilling	9.0		2.0
Orill Rig	g:	CME 5	50X		Soil Sampler:		Split Barrel	04/18/23		Casing Removed			2.0
Type: Rod Size		ATV AWJ			Hammer Wt: Hammer Fall:	140 lbs. 30 in.		04/18/23		Casing Removed Casing Removed	5.4 caved @ 5.6		out
Xuu Sizi			DOD		MPLES	30 III.	VI				OF MATERIA		out
	LO	1		ING SA	WIII LES		V 1	SUAL C	LASSI	FICATION	Jr WIATEKIA	LL .	T
Depth	~ .		Depth	Type /	Blows on	Depth of		- coarse			20.		SPT "
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium f - fine			0% / some - 20 to 35 20% / trace - 0 to 10°		or RQD (
0	1A	0.0	1.0	SS/19	WH-2-2-3	(Ft.)	Topsoil an		Matter		20767 trace - 0 to 10	/0	KQD
U	IA	0.0	1.0	55/17	W11-2-2-3		1 opson an	u Organic	iviation	(wei)			
1	1B	1.0	2.0				Light Broy	vn SILT 1	trace fine	e SAND trace	fine GRAVEL,		1
•							_			edium stiff)	,		
2	2	2.0	4.0	SS/18	2-3-3-3						ce cmf SAND (r	noist.	6
							medium st			,		,	
3								,					
4	3	4.0	6.0	SS/20	2-3-10-14		Light Brov	vn SILT, l	little mf	GRAVEL, trac	e fine SAND (m	oist,	13
							stiff)						
5													
						l	<u> </u>						
6	4	6.0	8.0	SS/14	17-20-30-30		Grey SILT	, little cm	f GRAV	EL, trace mf S.	AND, trace ROC	CK	50
							fragments	(moist, ha	ard)				
7													
	_												
8	5	8.0	10.0	SS/22	13-14-15-28					EL, trace mf S.	AND, trace ROO	CK	29
0							fragments	(wet, very	y stiff)				
9													
10													
10													
11													
11													
12	6	12.0	12.0	SS/0	100/0"		No Recove	νην Δυσον	Refusal	at 12 0'			100-
14	U	12.0	12.0	33/0	100/0		Bottom of	Boring 12	2.0'	ut 12.U			100
13							Domoin of	201111g 12	0				
13													
14													
15													
16													
17													
18													
19													
20													
		* * *	T 1' 4	1 1 7	ube, C - Core, WH -	*** 1 .							

ATTAC	JI IIVI⊏I	VI IC	CEG	KEPC	ORT NUMBER: 17	2E-01-0	1124 =/	(HIDII P	\-5. C	SECTECHNICA	T		
			Æ		orporate Drive	SU	J <b>BSURF</b> A	ACE EX	(PL	ORATION	Boring No.		<u>84</u> gf 154
	Acce		lu-	East Sy	racuse, NY 13057			BORI			Page No.		of 1
					315-701-0522		1201				Report No.		01-0523-R1
Project 1	Name:			us, Clay,	New York						Date Started		18/23
Client:		Rambo		т .:	DI DI						Date Finished		18/23
Location	1:			on Locati	INVESTIGATIO	NI .			CD	OUNDWATE	Surface Elev.		99.9'
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	псч		GN	OUNDWATE	I ODSEKVAT	IONS	
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto	r:	rc. Cus	utciii		Other:			04/18/23		While Drilling	none noted	1	17.7
Drill Ri		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/18/23		re Casing Removed	1		17.7
Туре:	,	ATV			Hammer Wt:	140 lbs.	-	04/18/23		er Casing Removed	none noted		out
Rod Size	e:	AWJ			Hammer Fall:	30 in.		04/18/23	Afte	er Casing Removed	caved @ 5.7		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION (	OF MATERIA	L	
Depth		Sample	e Depth		Blows on	D 1 0	c -	coarse					SPT "N"
Scale	Sample	_	t.)	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	0% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 10°	2/0	RQD %
0	1A	0.0	1.8	SS/19	WH-1-3-7	I	Topsoil and			` :			4
	1B	1.8	2.0				Light Brow	n SILT, t	race 1	mf SAND (moist,	medium, stiff)		
1													
	•	•		~~/4 =	0.40.7.6		* * 1 . 5	~** m		0.00	a. a		1
2	2	2.0	4.0	SS/17	8-10-7-6				race 1	mf GRAVEL, trac	e fine SAND		17
2							(moist, ver	y stiff)					
3													
4	3	4.0	6.0	SS/16	8-6-7-7		Light Dugg	CII T 4		En a CDAVEL true	as mef CAND (m	. aiat	13
4	3	4.0	0.0	55/10	8-0-/-/		stiff)	/n SiL1, ι	race	fine GRAVEL, tra	ice iii SAND (ii	ioist,	13
5							Sull)						
3													
6	4	6.0	8.0	SS/22	6-5-8-10		Light Brow	m SII T c	ome	cmf SAND, trace	mf GR AVEL (n	noist	13
U	7	0.0	0.0	55/22	0-3-6-10		stiff)	ii billi, s	onne	ciii sand, tiacc	IIII GRAVEE (II	10151,	13
7							Still)						
,													
8	5	8.0	10.0	SS/20	13-16-18-34		Grey/Brow	n SILT, s	ome o	emf GRAVEL, lit	tle ROCK fragm	ents,	34
							trace cmf S				C		
9													
10													
11													
10													
12													
12													
13	6	13.5	15.5	SS/18	11-15-17		Cress CII T	little em	f CD	AVEL, little fine S	SAND (maint to	rd)	32
14	o	13.3	13.3	33/18	11-13-1/		Gley SIL1	, mue cm	ı UK/	A v EL, mue me s	SAND (IIIOISI, Na	iiu)	32
14													
15													
15													
16													
17													
•	7	17.7	17.7	SS/0	100/0"		No Recove	ry					100+
18							Bottom of		17.7'				1
								~					
19													
20			<u> </u>	<u> </u>		<u></u>							<u> </u>
		n, U -	Undist	urbed T	l ube, C - Core, WH -	Weight o	l of Hammer -	⊦ Rod, W	R - W	eight of Rod			<u> </u>

			F		orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.		<u>5</u> 5 <b>0</b> f 154
				-	racuse, NY 13057			BORI			Page No.		of 1
		ociates			315-701-0522		1201	DOM			Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		18/23
Client:		Rambo		T 4	Dl						Date Finished		18/23
Location	n:			on Locati	INVESTIGATIO	N			CE	ROUNDWATER	Surface Elev.		96.6'
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	HSA		GI	CONDWATER			
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto					Other:			04/18/23		While Drilling	none noted	1	4.5
Drill Ri	g:	CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	04/18/23	Befo	ore Casing Removed	none noted	1	4.5
Type:		ATV			Hammer Wt:	140 lbs.		04/18/23		er Casing Removed	none noted	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/18/23		er Casing Removed	caved @ 7.0		out
	LO	1		ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	)F MATERIA	<u>L</u>	
Depth			Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			1% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 1.0	Rec. (in.) SS/17	Per 6 Inches 1-1-2-3	(Ft.)	Topsoil an	:- fine d Organic	Mat		20% / trace - 0 to 109	/0	RQD %
	1/1	0.0	1.0	55/1/	1-1-2-3		1 opson an	Organic	141at	()			,
1	1B	1.0	2.0				Light Brow soft)	vn SILT, 1	ittle	emf GRAVEL, trac	ce cmf SAND (r	noist,	1
2	2	2.0	4.0	SS/16	2-6-4-3			vn SII T a	nd er	nf SAND, some mi	fGRAVEL (mo	iet	10
		2.0	7.0	55/10	2-0-4-3		stiff)	vii SiLi a	na ci	in 57 tivb, some in	GIGIVEE (IIIO	131,	10
3													
4	3	4.0	6.0	SS/19	6-10-8-8		_	ce cmf SAND (r	noist,	18			
							very stiff)						
5													
6	4	6.0	8.0	SS/15	10-12-14-20		Light Brov	vn SILT. 1	ittle 1	mf GRAVEL, trace	e fine SAND (m	oist.	26
							very stiff)	Ý		,	`	,	
7													
0	_	0.0	10.0	00/16	12 10 10 10		C CILT	. 111	COD	AMEL A BOOK	K. C		20
8	5	8.0	10.0	SS/16	13-10-10-10					AVEL, trace ROC	K fragments, tra	ce	20
9							cmf SANE	) (moist, v	ery s	u11)			
9													
10													
11													
12													
13													
13	6	13.5	14.4	SS/12	38-100/15"		Grev SILT	. little cm	f GR	AVEL, little ROCI	X fragments (mo	oist.	100+
14		15.5		22/12	20 100/10		hard)	, • • • • • • • • • • • • • • • •	_ 510		(IIIC	,	
							Auger Refi						
15							Bottom of	Boring at	14.5'				
16													
17													
18													
19													
20													

												- -	0 . ( 1 = .	
					orporate Drive	SI	JBSURFA	ACE EX	KPL	ORATION	Boring No.		<b>6</b> 20₫ 154	
				-	racuse, NY 13057			BORI			Page No.		of 1	
		ociates		I moner.	315-701-0522		1201	DOM	. 10		Report No.		)1-0523-R1	
Project	Name:			us, Clay,	New York						Date Started		26/23	
Client:		Rambo		т	DI						Date Finished		26/23	
Location	n:		1	on Locati	INVESTIGATIO	N		1	CE	ROUNDWATER	Surface Elev.		20.8'	
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	НСА		Gr	COUNDWATER	ODSERVAI	IONS		
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspecto					Other:			04/26/23		While Drilling	none noted	1	3.5	
Drill Ri		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/26/23	Befo	ore Casing Removed	none noted	1	3.5	
Type:		ATV			Hammer Wt:	140 lbs.		04/26/23	Aft	er Casing Removed	none noted	(	out	
Rod Siz		AWJ			Hammer Fall:	30 in.		04/26/23		er Casing Removed	caved @ 6.0		out	
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	<b>L</b>		
Depth		_	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"	
Scale	Sample		t.)	Sample	Sampler	Change		medium			0% / some - 20 to 35		or	
(Feet)	No.	From 0.0	To 1.0	Rec. (in.) SS/20	Per 6 Inches WH-WH-1-2	(Ft.)	Topsoil an	- fine	Mot		20% / trace - 0 to 10	%	RQD %	
U	IA	0.0	1.0	33/20	W11-W11-1-2		1 opson an	u Organic	ıvıaı	iei (wei)			1	
1	1B	1.0	2.0				Light Brov	vn SILT, 1	ittle	cmf SAND (moist,	very soft)		•	
2	2	2.0	4.0	SS/19	7-10-15-19		-	vn SILT, s	some	cmf SAND, trace	mf GRAVEL (n	noist,	25	
3							very stiff)							
4	3	4.0	6.0	SS/20	13-17-20-27									
5							hard)				`			
	4	6.0	7.6	SS/18	29-46-95-100/1"		Light Drov	m CHT		omf SAND trace	fine CDAVEL (	maist	141	
6	4	0.0	7.0	33/10	29-40-93-100/1		hard)	VII SIL I, S	some	cmf SAND, trace	ille GRAVEL (	illoist,	141	
7														
8	5	8.0	8.4	SS/5	100/5"		Grey/Brow hard)	n cmf SA	.ND,	some mf GRAVEI	L, trace SILT (m	noist,	100+	
9														
10														
11														
12														
13	_		4	a-:-					0 =					
14	6	13.5	13.9	SS/5	100/5"		,			ND, trace fine GR	AVEL (moist, h	ard)	100+	
15							Bottom of	Boring at	13.9'					
16														
17														
18														
19														
2.0	Ī			l		1	1						Ī	

		N/		6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.	Page <sub>8</sub> 8	725 154
				•	racuse, NY 13057			F BORI			Page No.		of 1
		ociates		I moner.	315-701-0522		1201	DOM			Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		25/23
Client:		Rambo		<u>.</u>	DI .						Date Finished		25/23
Locatio	n:			n Locati	INVESTIGATIO	N		1	CD	ROUNDWATER	Surface Elev.		22.1'
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	нсл		GN	COUNDWATER	ODSERVAI	IONS	
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspect					Other:			04/25/23		While Drilling	11.2	1	3.5
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/25/23	Befo	ore Casing Removed	11.2	1	3.5
Type:		ATV			Hammer Wt:	140 lbs.		04/25/23		er Casing Removed	none noted	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/25/23		er Casing Removed	caved @ 9.0		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SSIFICATION C	)F MATERIA	<u>L</u>	
Depth		_	Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Faat)	Sample	(F		Sample	Sampler	Change		medium			0% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 1.0	Rec. (in.) SS/16	Per 6 Inches WH-WH-2-1	(Ft.)	Topsoil an	:- fine d Organic	Mat		20% / trace - 0 to 109	/0	RQD %
	111	3.0	1.0	25/10	,,, <u>,,</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		T opson an	Organic	1,141	()			
1	1B	1.0	2.0	SS/10						cmf SAND, trace f	ine GRAVEL, t	race	1
_	_						ORGANIC		,				
2	2	2.0	4.0	SS/15	1-2-3-6				ittle 1	mf SAND, trace fir	ne GRAVEL (w	et,	5
3							medium st	III)					
4	3	4.0	6.0	SS/22	27-37-15-28		Light Brov	vn SILT, 1	nf GRAVEL (mo	oist,	52		
							hard)	,	,		,		
5													
		6.0	0.0	00/17	10 40 27 22		T : 1 / D	CH T 1	1	CODANEL	CCAND (	٠,	77
6	4	6.0	8.0	SS/17	18-40-37-33		hard)	vn SIL1, I	ittie (	cmf GRAVEL, trac	ce cmi SAND (r	noist	77
7							naru)						
,													
8	5	8.0	10.0	SS/23	11-17-42-28		Light Brov	vn SILT, l	ittle (	cmf SAND, trace C	CLAY (moist, ha	ard)	59
_													
9													
10													
10													
11													
12													
13													
1	6	13.5	15.0	SS/18	16-24-49		Grey SILT	, little fine	e SAl	ND, trace CLAY (1	moist, hard)		73
14											. ,		
								-	4 =:				1
15							Bottom of	Boring at	15'				
16													
10													
17													
10													
18													
19													
20		I	1	I									

												_	<u> </u>
					orporate Drive	SI	JBSURF	ACE EX	KPL	ORATION	Boring No.		<b>829</b> ₹ 154
		LV	Ę	-	racuse, NY 13057			BORI			Page No.		of 1
		ociate			315-701-0522		11231	DOM	110	LOG	Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		25/23
Client:		Rambo			71						Date Finished		25/23
Location	n:			on Locati	on Plan INVESTIGATIO	N			CI	ROUNDWATER	Surface Elev.		1.6'
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	НСА		Gr	COUNDWATER		IONS	
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:				Other:			04/25/23		While Drilling	2.7	4	1.6
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/25/23	Befo	ore Casing Removed	11.2	1	3.5
Type:		ATV			Hammer Wt:	140 lbs.		04/25/23		er Casing Removed	2.6	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/25/23		er Casing Removed	caved @ 3.5		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION (	OF MATERIA	<b>L</b>	
Depth		_	e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change		medium - fine			0% / some - 20 to 35 20% / trace - 0 to 10°		or RQD %
0	1	0.0	2.0	SS/6	WH-3-3-3	(Ft.)	Topsoil an		Mat		2076 / trace - 0 to 10	70	6
	•	0.0		22/0			r opsoir wir	a organic	11200	(meist)			Ŭ
1							† - <del></del> -						1
2	2	2.0	4.8	SS/6	2-2-2-1		_		trace	cmf SAND, trace f	fine GRAVEL (1	moist,	4
,							medium sti			4			
3							No recover	y on 1	анет	ipt			
4	3	4.0	6.0	SS/15	WH-WH-2-3		Light Broy	vn SILT s	some	cmf SAND (wet, s	soft)		2
	5	1.0	0.0	55/15	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Light Bio	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	301110	cim Si ii (B (wei, i	,010)		_
5													
6	4	6.0	8.0	SS/20	8-17-16-18		Light Brov	vn SILT, l	litte c	emf SAND, trace m	of GRAVEL (we	et, hard)	33
7													
/													
8	5	8.0	10.0	SS/20	13-25-31-50		Light Brov	vn SILT.	little	mf GRAVEL, little	e cmf SAND (me	oist.	56
							hard)	,		,		,	
9													
- 10													
10													
11													
11													
12													
13													
1.4	6	13.5	14.8	SS/14	28-80-100/4"		Grey SILT	, some cn	nf SA	AND (moist, hard)			100+
14													
15							Bottom of	Boring at	14 8'	1			1
1.5							Domoin of	Doing at	1 1.0				
16													
17													
10													
18													
19													
20			I	ĺ									1

					orporate Drive	SI	JBSURFA	ACE EX	KPL (	ORATION	Boring No.		929 154
	Acc		Inc		racuse, NY 13057			Γ BORI			Page No.		of 1
		ociates			315-701-0522		1201	DOM			Report No.		)1-0523-R1
Project	Name:			us, Clay,	New York						Date Started		25/23
Client:		Rambo		T4:	D1						Date Finished		25/23
Location	n:			on Locati	INVESTIGATIO	N			CE	ROUNDWATER	Surface Elev.		20.6'
Driller:		R. Cas		DS OF	Casing:	3 ¼" ID	НСА		GIV	COUNDWATER	ODSERVAI	10113	
Driller:		B. Flet			Casing Hammer:	5 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto					Other:			04/25/23		While Drilling	none noted	1	3.5
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/25/23		ore Casing Removed	none noted	1	3.5
Type:		ATV			Hammer Wt:	140 lbs.		04/25/23		er Casing Removed	none noted	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/25/23		er Casing Removed			
	LO	1		ING SA	AMPLES		VIS	SUAL C	LAS	SSIFICATION C	OF MATERIA	<b>L</b>	
Depth			Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			0% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 2.0	Rec. (in.) SS/12	Per 6 Inches 4-2-2-5	(Ft.)		f - fine vn SILT. 1	ittle (	cmf SAND, trace f	20% / trace - 0 to 100 ine GRAVEL. to		RQD %
		0.0	2.0	55/12	. 2 2 3		_			oist, medium stiff)	01011122, 0		'
1									(	, <del></del>			
						<u></u>	L <u></u>			<b></b>			]
2	2	2.0	4.0	SS/13	7-5-12-42		Light Brov	vn SILT, s	some	cmf SAND, trace	mf GRAVEL (n	noist,	17
							very stiff)						
3													
4	,	4.0	( 0	GG/10	17 21 25 42		I :-1-4 D	CII T			:	16	
4	3	4.0	6.0	SS/19	17-21-25-43		hard)	vn Sili, s	some	cmf SAND, trace	mi GRAVEL (n	noist,	46
5							naru)						
6	4	6.0	7.7	SS/19	45-64-88-100/3"		Light Brov	vn SILT, s	some	cmf SAND, trace	mf GRAVEL (n	noist,	152
							hard)				· ·		
7													
	_		0.0	2240	4= 400/=				2 ~ .	NT 11.1 0 0 D 1		10	100
8	5	8.0	8.9	SS/10	47-100/5"		Grey SILT	, some cn	nt SA	ND, little mf GRA	VEL (moist, ha	rd)	100+
9													
10													
11													
1.0													
12													
13													
13	6	13.5	15.0	SS/18	69-78-95		Grev SII T	` some cn	nf SA	ND, little mf GRA	VEL (moist ha	rd)	173
14		13.3	15.0	55/10	07-70-73			, some on	II JA	, muc mi OKA	LL (IIIOISI, IIA	,	1/3
15							Bottom of	Boring at	15.0'				1
16													
17													
17													
18													
19													
20		I		Ī		1	Ī						Ī

			E		orporate Drive	SI	JBSURFA	ACE EX	KPL	ORATION	Boring No.		P298 154
	Acc		las	-	racuse, NY 13057			BORI			Page No.		of 1
	100	ociates		I moner.	315-701-0522		1201	DOM			Report No.		)1-0523-R1
Project	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo		on Locati	Dl						Date Finished		26/23
Location	n:		•		INVESTIGATIO	N			CP	ROUNDWATER	Surface Elev.		9.5'
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	НСА		GIV	COUNDWATER	ODSERVAI		
Driller:		R. Cas			Casing Hammer:	5 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto					Other:			04/26/23		While Drilling	1.8	1	3.5
Drill Ri	g:	CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	04/26/23		ore Casing Removed	1.8	1	3.5
Type:		ATV			Hammer Wt:	140 lbs.		04/26/23		er Casing Removed	1.3	C	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/26/23		er Casing Removed	caved @ 7.4		out
	LO	1		ING SA	AMPLES		VIS	SUAL C	LAS	SSIFICATION (	OF MATERIA	<u>L</u>	
Depth			Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Fact)	Sample	(F From	t.) To	Sample	Sampler	Change		medium - fine			0% / some - 20 to 35 20% / trace - 0 to 10°		or
(Feet)	No.	0.0	1.0	Rec. (in.) SS/17	Per 6 Inches WH-WH-2-1	(Ft.)	Topsoil an		Matt		20/0/ uace - 0 to 10	/0	RQD %
	I A	0.0	1.0	55/1/	**************************************		1 opson an	a Organic	171411	101 (WOL)			2
1	1B	1.0	2.0				Light Brow (wet, stiff)	vn SILT, 1	ittle 1	fine SAND, trace (	ORGANIC Mate	erials	•
2	2	2.0	4.0	SS/17	2-2-7-8		,	vn SILT, s	some	cmf SAND, some	mf GRAVEL (n	noist,	9
							GRAVEL				`		
3							Looks Rew	orked					
4	3	4.0	6.0	SS/15	4-28-59-24				GRA	AVEL, little cmf SA	AND, trace CLA	ΛY	87
	ł						(moist, har	d)					
5													
6	4	6.0	8.0	SS/24	8-20-27-42			vn SILT, 1	ittle o	cmf SAND, trace f	ine GRAVEL (r	noist,	47
7							hard)						
8	5	8.0	8.7	SS/8	51-100/4"		Grey SILT	, little cm	f SAl	ND, little mf GRA	VEL (moist, har	rd)	100+
9													
10													
10													
11													
12													
13													
1.4	6	13.5	14.3	SS/7	66-100/4"		Grey SILT	, little cm	i SAl	ND, trace mf GRA	VEL (moist, hai	rd)	100+
14							Bottom of	Roring of	14 3'	1			<del> </del>
15							Domoni or	Doring at	17.3				
16													
17													
18													
19													
20													

AIIA	ΣΙ ΠΝΙ⊏Ι'	11 10	CEG	KEFU	RT NUMBER: 172	<u></u> 01-0	124 = -	VIIIDII F	۷-5. ر	3EO I ECHNICA	L DATA KEF	<u> </u>	TIASE I
		NA		6035 Cc	orporate Drive	ÇT	IRSURF	CE EX	PI 4	ORATION	Boring No.	Page <sub>B</sub> 9	<b>129</b> 154
		IV			racuse, NY 13057	50		BORI			Page No.	1 (	of 2
	Asso	ciates	s, Inc.	Phone: 3	315-701-0522		IESI	BUKI	NG	LUG	Report No.	28062B-0	01-0523-R1
Project ?	Name:	Micror	ı Campı	us, Clay,	New York						Date Started	04/2	20/23
Client:		Rambo									Date Finished	04/2	20/23
Location	1:			n Locati							Surface Elev.		8.8'
				DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	TONS	
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		R. Cas	atelli		Casing Hammer:								
Inspecto		G) (F) (			Other:	<b>4</b> 11 0 D 0		04/20/23		While Drilling	3.0		1.0
Drill Rig	g:	CME 5	50X		Soil Sampler:		plit Barrel	04/20/23		re Casing Removed	4.0		9.8
Type: Rod Size		ATV AWJ			Hammer Wt: Hammer Fall:	140 lbs. 30 in.		04/01/23		er Casing Removed	1.2 caved @ 24.5		out
Rou Size			DADI			30 III.	371			er Casing Removed SIFICATION O	_		out
	LU			ING SE	AMPLES		VIX	SUAL C	LAS	SIFICATION C	JF MIATERIA	L	
Depth		_	Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F From	t.) To	Sample	Sampler	Change		medium - fine			0% / some - 20 to 35		or RQD %
(Feet)	No.	0.0	2.0	Rec. (in.) SS/8	Per 6 Inches WH-2-2-1	(Ft.)	Topsoil an		. Mat		20% / trace - 0 to 10°	70	4
U	1	0.0	2.0	55/6	W11-2-2-1		Topson an	id Organii	. Iviai	ter (moist)			7
1													
1													
2	2	2.0	4.0	SS/5	2-2-2-3		Light Brow	n cmf SA	ND a	and SILT, some CI	LAY, trace fine		4
					-		GRAVEL			,	,		
3													
4	3	4.0	6.0	SS/14	5-5-4-7		Brown SIL	T and cm	f SAl	ND, some CLAY,	trace fine GRAV	VEL,	9
							trace ROO	TS (moist	t, stiff	f)			
5													
6	4	6.0	8.0	SS/15	9-12-21-36		_	-	ILT, 1	trace fine SAND, t	trace fine GRAV	/EL	33
							(moist, har	d)					
7													
0	-	0.0	0.0	GG (0	22 100/58		C CILT	111	6643	ID ( CD)	A 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1\	100
8	5	8.0	8.9	SS/8	22-100/5"		Grey SILT	, little cm	f SAI	ND, trace fine GRA	AVEL (moist, ha	ard)	100+
0													
9													
10													
10													
11													
12													
13													
	6	13.5	14.3	SS/8	38-100/4"		Grey SILT	, little cm	f GR	AVEL, little cmf S	AND (moist, ha	rd)	100+
14													
15													
16													
17													
10													
18	7	10.5	20.0	SS/18	26-37-56		Gray CII T	1;#10 000	f C A N	VID trace mf CD A	VEL (maint be-	·4)	0.2
10	7	18.5	20.0	22/18	20-37-36		Grey SIL1	, mue cm	ı SAl	ND, trace mf GRA	vel (moist, hai	a)	93
19													
20													

CME Associates, Inc 6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page 92 29 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		TEST BORING I	LUG	Report No. 28062B	-01-0523-R1
					AMPLES	1	VISUAL CLAS	SIFICATION (	OF MATERIAL	
Depth Scale (Feet)	Sample No.		e Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
21 22										
23 24	8	23.5	25.0	SS/18	64-96-99		Grey SILT, little cmf GRA	AVEL, trace cmf S	SAND (moist, hard)	195
25 26										
27 28	9	28.5	29.3	SS/9	61-100/4"		Grey SILT, trace cmf GR.	AVEL, trace cmf	SAND (moist, hard)	100+
30	10	29.8	34.8	C/60			Auger Refusal at 29.8' 3.1' of a mixture of COBE	BLES and GLACL	AL TILL. 1.9' of core	
31							not recovered Recovered Core ended in	Glacial Till.		
32										
34	_						Bottom of Boring at 34.8'			
36							Bottom of Boring at 34.8			
37 38										
39										
40										
42										
44										
45										

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

East Syracuse, NY 13057   Page No.   1 of 1   Report No.   28062B-01-0523-R1			N/		6035 Co	orporate Drive	SI	IRSURE	ACE EX	PI.	ORATION	Boring No.	Page <u>g</u> 9	<b>130</b> 154
Page			IV		East Syr	racuse, NY 13057						Page No.	1 (	of 1
Remission   Section   Section   Section   Pan   Surface   File		Asso	ociates	s, Inc.	Phone:	315-701-0522		IESI	BUKI	NG	LUG	Report No.	28062B-0	1-0523-R1
Martin   Section   Plan   Martin   Ma	Project I	Name:	Micror	ı Campı	us, Clay,	New York						Date Started	04/2	27/23
Martin   Section   Plan   Martin   Ma	Client:		Rambo	oll								Date Finished	04/2	27/23
METHODS OF INVESTIGATION   GROUNDWATER OBSERVATIONS   Right   Casing Hammer   Riller   R. Casalet   Casing Hammer   Casing Hammer   Riller   R. Casalet   Casing Hammer   Riller   Riller   R. Casalet   Casing Hammer   Riller		ı:	See Ex	ploratio	n Locati	on Plan							41	8.8'
Date   File   Casing   Casin				•			N			GF	ROUNDWATER			
Second   S	Driller:		B. Flet	cher		Casing:		H.S.A.	Date					At (Ft.)
No.   Section			K. Cas	atem					04/27/23		While Drilling	4.5	S	2.0
Note   Section	-		CME 5	550Y			2" OD S	Split Barrel		Refe				
Note	_	<b>5•</b>		)50A		-		-						
Company   Comp														
Depth   Scale   Scarple	Kou Size			DADI	INC S		30 III.	VI				)		out
Sample	1	LU	ı		ING SE	AMITLES		V 1	SUAL C	LAS	SIFICATION (	JE WIATEKIA	L	1
Test   No.   From   To   Sec. (in)   Per 6 Inches   (ft)	Depth		_	-	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
1	Scale	-				*	Change							
1							(Ft.)					20% / trace - 0 to 10 <sup>o</sup>	2/0	
2 2 2.0 4.0 SS/14 4-10-17-17 Brown SILT, little mf GRAVEL, little cmf SAND, trace CLAY (wet, very stift)  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)  5 6 4 6.0 8.0 SS/17 23-14-18-18 Light Brown SILT and mf GRAVEL, some cmf SAND (wet, hard)  8 5 8.0 10.0 SS/11 47-81-37-21 Light Brown SILT, little cmf SAND, little fine GRAVEL (wet, hard)  10 11 12 13 6 13.5 15.0 SS/12 31-28-16 Light Brown SILT, some mf GRAVEL, little cmf SAND (wet, hard)  11 15 16 17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  12 13 15 15.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  13 15 15.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  14 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	0	1	0.0	2.0	SS/10	1-2-3-2		Topsoil an	d Organic	Mat	ter (moist)			5
2 2 2.0 4.0 SS/14 4-10-17-17 Brown SILT, little mf GRAVEL, little cmf SAND, trace CLAY (wet, very stift)  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)  5 6 4 6.0 8.0 SS/17 23-14-18-18 Light Brown SILT and mf GRAVEL, some cmf SAND (wet, hard)  8 5 8.0 10.0 SS/11 47-81-37-21 Light Brown SILT, little cmf SAND, little fine GRAVEL (wet, hard)  10 11 12 13 6 13.5 15.0 SS/12 31-28-16 Light Brown SILT, some mf GRAVEL, little cmf SAND (wet, hard)  11 15 16 17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  12 13 15 15.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  13 15 15.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  14 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18														
(wet, very stiff)  (cLay (moist, hard)  (cl	1													
(wet, very stiff)  (cLay (moist, hard)  (cl	_	^		4.0	gg/f f	4 10 15 15		<u></u>	T. 1::	C ~~	NAMES CO.	TAND : S	<del></del>	
3	2	2	2.0	4.0	SS/14	4-10-17-17				if Gk	RAVEL, little cmf S	SAND, trace CL	ΔAY	27
3	_							(wet, very	stiff)					
CLAY (moist, hard)  CLAY (	3													
CLAY (moist, hard)  CLAY (														
Light Brown SILT and mf GRAVEL, some cmf SAND (wet, hard)   32	4	3	4.0	6.0	SS/12	18-95-26-16		Brown Gre	ey/SILT, s	ome	mf GRAVEL, little	e cmf SAND, tra	ace	121
Light Brown SILT and mf GRAVEL, some cmf SAND (wet, hard)   32								CLAY (mo	oist, hard)					
To   Section	5							,	ŕ					
To   Section														
To   Section	6	4	6.0	8.0	SS/17	23-14-18-18		Light Broy	vn SILT a	nd m	f GRAVEL, some	cmf SAND (we	t. hard)	32
S	Ü	•	0.0	0.0	55.17	20 11 10 10		Zigiii Zio	5121 4			· · · · · · · · · · · · · · · · · · ·	., 11414)	52
S	7													
hard)   hard)   hard)   hard)	,													
hard)   hard)   hard)   hard)	0	5	9.0	10.0	CC/11	47 91 27 21		Light Dron	m CII T 1	;++1a	omf CAND little f	no CDAVEL (v	rot	110
10	0	3	8.0	10.0	33/11	47-01-37-21		_	vii SiL1, i	IIIIC (	ciiii sand, iiiie ii	ille GRAVEL (V	vei,	110
10	0							nara)						
11	9													
11	10													
12	10													
12	1.													
13	11													
13														
14	12													
14														
14       hard)         15       hard)         16       17         18       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'         S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	13													
15 16 17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact) Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod		6	13.5	15.0	SS/12	31-28-16		Light Brov	vn SILT, s	some	mf GRAVEL, little	e cmf SAND (w	et,	44
16 17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	14							hard)						
16 17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod														
17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact) Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	15													
17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact) Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod														
17 18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact) Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	16													
18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	-													
18 7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	17													
7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  19 Bottom of Boring 20.0'  S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	- /													
7 18.5 20.0 SS/18 16-25-36 Light Brown cmf SAND and SILT, trace mf GRAVEL (wet, very compact)  19 Bottom of Boring 20.0'  S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	18													
very compact)  Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	10	7	18.5	20.0	SS/1Ω	16-25-36		Light Brow	vn cmf S A	ND	and SILT trace mt	FGRAVEL (wat		61
Bottom of Boring 20.0' S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	10	/	10.3	20.0	33/10	10-23-30		-		עויוג	and SIL1, Have IIII	OKAVEL (WEI	•	01
S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	19							very comp	act)					
S - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod	20							Datts C	Danis - 20	01				{
		24 C		[ ] <sub>10</sub> 1' /	 	ulas C. C WIII	W/a!-14	Bottom of	Boring 20	יי. ע.י	Vaialet - CD - 1			<u> </u>
			ıı, ∪ - \	∪naisti	urbed 1	uoe, C - Core, WH -	weight o	л паштег	· Kou, W.	K - V	veigni or Kod			

ATTAC	וםואודי	VI 10	CEG	REPU	RT NUMBER: 172	E-01-0	124 E	KHIBIT P	1-5: G	BEOTECHNICAL	L DATA REPU	JR I - P	HASE I
				6035 Cd	orporate Drive	SI	IRSURF	CE EX	PL C	DRATION	Boring No.	Page <sub>B</sub> 9	<b>132</b> 154
		IV			racuse, NY 13057			BORI			Page No.	1 0	of 2
	Asso	ociates	, Inc.	Phone:	315-701-0522		ILSI	BUKII	NGI	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:	Micron	Campi	us, Clay,	New York	•					Date Started	04/2	20/23
Client:		Rambo	11								Date Finished	04/2	20/23
Location	n:			n Locati							Surface Elev.		0.3'
		ME	THO	DS OF	INVESTIGATIO	N			GR	OUNDWATER	OBSERVAT	IONS	
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casino	At (Ft.)
Driller:		R. Casa	atelli		Casing Hammer:							_	
Inspecto		~			Other:			04/20/23		While Drilling	none noted		3.5
Drill Ri	g:	CME 5	50X		Soil Sampler:		Split Barrel	04/20/23		re Casing Removed	none noted		3.5
Type:		ATV			Hammer Wt:	140 lbs.		04/20/23		r Casing Removed	none noted	0	ut
Rod Siz		AWJ	D/OD1	NC C	Hammer Fall:	30 in.	371	04/20/23		r Casing Removed	DE MATERIA	T	
	LU			ING SA	AMPLES		VIX	SUAL C	LAS	SIFICATION C	JF MIATERIA	L	
Depth			Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium - fine			1% / some - 20 to 35		or DOD 0/
(Feet)	No.	From 0.8	To 1.0	Rec. (in.) SS/19	Per 6 Inches WH-WH-4-4	(Ft.)	Topsoil and		Motte		20% / trace - 0 to 109	<b>%</b> 0	RQD %
U	1A	0.6	1.0	33/19	VV11- VV11-4-4		1 opson and	u Organic	wain	ci (wei)			7
1	1B	1.0	2.0	SS/19			Light Brow	/n/Grev S	T.II	race CLAY, trace	fine GRAVEL	trace	
	110	1.0	2.0	55/17			cmf SAND				inic GlatvEE,	iracc	
2	2	2.0	4.0	SS/18	8-4-8-6					emf SAND, trace (	CLAY, trace fin	e	12
_	_						GRAVEL		,	,			
3								,					
4	3	4.0	6.0	SS/20	3-4-9-14		Light Brow	n SILT, 1	ittle c	mf SAND, trace C	CLAY, trace fine	•	13
							GRAVEL	(moist, sti	ff)				
5													
6	4	6.0	8.0	SS/15	12-30-33-38		Brown/Gre	y SILT, tı	race fi	ine SAND (moist,	hard)		63
_													
7													
0	_	0.0	10.0	00/24	11 10 24 42		C CILT	. ~	CD.		CAND ( 1	1)	42
8	5	8.0	10.0	SS/24	11-19-24-42		Grey SIL I	, trace iin	e GRA	AVEL, trace fine S	SAND (moist, n	ara)	43
9													
9													
10													
10													
11													
12													
13													
	6	13.5	15.0	SS/18	27-38-59		Grey SILT	, trace fin	e SAN	ND, trace fine GR	AVEL (moist, h	ard)	97
14													
15													
16													
1.77													
17													
18													
10	7	18.5	19.1	SS/8	34-100/2"		Grev SII T	trace fin	e SAN	ND, trace fine GRA	AVEL (mojet h	ard)	100+
19	,	10.3	17.1	20/0	J <del>1</del> -100/2		Oley SIL1	, uace IIII	COAN	1D, Hace Tille GRA	aver (moist, fi	aru)	100⊤
1)													
20													

CME Associates, Inc 6035 Corporate Drive East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Pag \$2 \frac{154}{2} 154 Page No. 2 of 2 Report No. 28062B-01-0523-R1

	Associates, Inc. Phone: 315-701-0522						TEST BORING I	LOG	Report No. 28062E	3-01-0523-R1
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLAS	SIFICATION (	OF MATERIAL	
Depth Scale (Feet)	Sample No.	Sample	e Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
21										
22 23										
24	8	23.5	25.0	SS/16	34-44-100		Grey SILT, trace fine GRA	AVEL, trace fine	SAND (moist, hard)	144
25							Bottom of Boring at 25.0'			1
26										
27										
28 29										
30	-									
31										
32										
33										
34										
36										
37										
38										
39										
40										
42										
43										
44										
45		TT 1	T 1' 4	1 17	1 C C WII	NV : 14	CH + D 1 W/D W/	7 14 CD 1		

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

		M			orporate Drive	SU	JBSURFA	CE EX	PLORAT	ION	Boring No.	Page <sub>B</sub> g	
الإلالا				East Sy	racuse, NY 13057		TEST	BORI	NG LOG		Page No.		of 1
					315-701-0522		11101	DOM	id Lod		-	28062B-	
roject l	Name:			us, Clay,	New York						Date Started		25/23
lient:		Rambo									Date Finished		25/23
ocation	n:			n Locati							Surface Elev.		10.3'
				DS OF	INVESTIGATIO				GROUNI	<b>WATER</b>	R OBSERVAT	TONS	
riller:		G. Ric			Casing:	3 ¼" ID	H.S.A.	Date	Tin	1e	Depth (Ft.)	Casing	g At (Ft
riller:		C. O'H			Casing Hammer:		•				• ( )		
nspecto		A. Sha		I.T.	Other:			04/25/23	While D		8		3.5
rill Rig	g:	CME 5	55		Soil Sampler:		Split Barrel	04/25/23	Before Casin	-		1	8.5
ype:		ATV			Hammer Wt:	140 lbs.	•	04/25/23	After Casing		4		out
od Size		AWJ			Hammer Fall:	30 in.		04/25/23	After Casing		caved @ 1.7		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LASSIFIC	ATION (	OF MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "
Scale	Sample	(F	t.)	Sample	Sampler	Change		medium		and - 35 to 50	0% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 10	%	RQD
0	1A	0.0	0.5	SS/14	WH-1-1-2		Topsoil and	d Organic	)			2	
	1B	0.5	2.0				Brown SIL	T, trace C	LAY, trace	fine SAND	(moist, soft)		
1											•		
2	2	2.0	4.0	SS/24	2-2-2-2		Brown SIL	T, little ci	mf SAND, tr	ace CLAY	(moist, medium	stiff)	4
									•				
3													
4	3	4.0	6.0	SS/24	1-4-8-11		Brown SIL	T, little fi	ne GRAVEI	, trace CL	AY, trace mf SA	ND	12
							(moist, stiff			,	,		
5								,					
6	4	6.0	8.0	SS/23	9-12-21-27		Brown/Gre	v SILT t	race CLAY	trace cmf S	SAND, trace fine	<b>.</b>	33
O	•	0.0	0.0	55/25	7 12 21 27		GRAVEL (	-		irace emir s	or it vib, trace this	5	
7							GIGIVEE	(moist, na	14)				
,													
8	5	8.0	10.0	SS/13	2-6-15-18		Grev SII T	trace CI	AV trace m	f GR A VFI	L, trace cmf SAN	JD	21
O	3	0.0	10.0	55/15	2-0-13-10		(moist, ver		arr, nace m	I GIUI VLI	z, trace enii 57 ti	\D	21
9							(moist, ver	y stiii)					
9													
10													
10													
11													
11													
12													
12													
12													
13		10.5	15.0	GG /0	10 17 27		g: .,		/	`			
	6	13.5	15.0	SS/8	10-17-27		Sımilar soil	as above	(moist, hard	.)			44
14													
15													
16													
17													
18													
	7	18.5	19.5	SS/12	38-100/6"		Grey cmf S	SAND and	l SILT, little	mf GRAV	EL, trace ROCk		100
19							fragments (	moist, ve	ry compact)				
			1		1	1						_	7
20					ube, C - Core, WH -		Bottom of l	Boring at	19.5'				

See Exploration Location Plan   Surface Elev.   411.5'						TOWNER. 172	1	,					Dogo O	7-of 45-4
Test   Franch   Fra			NA		6035 Co	orporate Drive	SI	J <b>BSURF</b>	ACE EX	KPL	ORATION	Boring No.	Page <u>g</u>	134 154
New York   No.   Page   15-10-10-12   New York   Such Plant   15-25   New York			IA	5			~ (							
Chiestin   Chestin   Che		Asso	ociates	s, Inc.	Phone:	315-701-0522		11201	DOKI	NG.	LOG	Report No.	28062B-0	1-0523-R1
	Project	Name:	Micror	Camp	us, Clay,	New York						Date Started	04/2	20/23
METHODS OF INVESTIGATION   GROUNDWATER OBSERVATIONS	Client:		Rambo	11								Date Finished	04/2	20/23
Defiller   C. C. CHara   Casing Hammer:   Casing Hammer	Locatio	n:										Surface Elev.	41	1.5'
Define   C. Cy   Hammer   Casing Hammer   Define   Cy   Cy   Hammer   Half   Sy   Hammer			ME	THO	DS OF	INVESTIGATIO	N			GR	ROUNDWATER	OBSERVAT	IONS	
Case   Faramers   Case	Driller:		G. Ricl	nard		Casing:	3 ¼" ID	H.S.A.	Data		Time	Donth (Et.)	Casina	A+ (E+ )
Drift   Red   Size   AW   Hammer   Ha	Driller:		C. O'H	ara		Casing Hammer:			Date		1 ime	Depth (Ft.)	Casing	At (Ft.)
Type:   ATV   Hammer Ful:   140 lbs.	Inspecto	or:	A. Sha	rma, E.	I.T.	Other:					While Drilling	1.4	1.	3.5
Note	Drill Ri	g:	CME 5	55		Soil Sampler:	2" OD S	Split Barrel	04/20/23	Befo	ore Casing Removed	7.1	1	8.5
Dogsh   Sample   First   Type   Sample   First   Type   Sample   First   Type   Sample   Sa	Type:		ATV			Hammer Wt:	140 lbs.		04/20/23		·		C	out
Depth   Sample   Carlo   Prop.   Sample   Prop.   Type   T	Rod Siz						30 in.					Ŭ		out
Sample   Circle   No.   From   To   Sample   Circle   No.   No.   Property   Property   No.   Property   No.   Property   No.   Property   No.   Property   No.   Property		LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SSIFICATION C	F MATERIA	L	
Sample   Circle   No.   From   To   Sample   Circle   No.   No.   Property   Property   No.   Property   No.   Property   No.   Property   No.   Property   No.   Property	Denth		Sample	Depth	T. /	Blows on	D 4 6	c -	coarse					SPT "N"
No.   From   To   Rec. (in.)   Per to Inches   (iv.)   f fine   Intel- 10 to 20% (mace - 10 to 10%   RQD %		Sample									and - 35 to 50	% / some - 20 to 35	%	
1B	(Feet)	No.	From	To	-	Per 6 Inches						0% / trace - 0 to 100	<b>%</b>	RQD %
1	0	1A	0.0		SS/6	WH-1-1-1	 							
2		1B	0.5	2.0				Brown SIL	T, trace C	CLAY	Y, trace mf GRAVE	EL, trace ROOT	S (moist	
Stiff)   S	1							soft)						
Stiff)   S														
3	2	2	2.0	4.0	SS/24	WH-1-4-6			T, some o	emf S	SAND, little mf GR	AVEL (wet, me	dium	5
Solution								stiff)						
(moist, very compact)  (proved of the compact of	3													
(moist, very compact)  (proved of the compact of								L						
Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)   111	4	3	4.0	6.0	SS/18	9-31-35-57					ne cmf SAND, som	e SILT, trace C	LAY	66
Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)   111								(moist, ver	y compac	t)				
8 5 8.0 10.0 SS/18 21-28-32-27 Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard) 60  10 11 12 13 14 6 13.5 14.3 SS/18 59-100 /4" Grey SILT and GRAVEL, trace CLAY (moist, hard) 100+  15 16 17 18 7 18.5 18.9 SS/5 100/5" Similar as above (moist, hard)  Bottom of Boring at 18.9' 100+	5													
8 5 8.0 10.0 SS/18 21-28-32-27 Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard) 60  10 11 12 13 14 6 13.5 14.3 SS/18 59-100 /4" Grey SILT and GRAVEL, trace CLAY (moist, hard) 100+  15 16 17 18 7 18.5 18.9 SS/5 100/5" Similar as above (moist, hard)  Bottom of Boring at 18.9' 100+	_		- 0											
8   5   8.0   10.0   SS/18   21-28-32-27   Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)   60   10   11   12   13   14   6   13.5   14.3   SS/18   59-100/4"   Grey SILT and GRAVEL, trace CLAY (moist, hard)   100+  15   16   17   18   7   18.5   18.9   SS/5   100/5"   Similar as above (moist, hard)   Bottom of Boring at 18.9'	6	4	6.0	7.9	SS/18	21-41-70-100/4"		Brown SIL	T, little c	mf G	RAVEL, trace cmf	SAND (moist,	hard)	111
8   5   8.0   10.0   SS/18   21-28-32-27   Brown SILT, little cmf GRAVEL, trace cmf SAND (moist, hard)   60   10   11   12   13   14   6   13.5   14.3   SS/18   59-100/4"   Grey SILT and GRAVEL, trace CLAY (moist, hard)   100+  15   16   17   18   7   18.5   18.9   SS/5   100/5"   Similar as above (moist, hard)   Bottom of Boring at 18.9'	_													
9   10   11   12   13   14   6   13.5   14.3   SS/18   59-100/4"   Grey SILT and GRAVEL, trace CLAY (moist, hard)   100+	-/													
9   10   11   12   13   14   6   13.5   14.3   SS/18   59-100/4"   Grey SILT and GRAVEL, trace CLAY (moist, hard)   100+	0	_	0.0	10.0	GG/10	21 20 22 27		D GII	TD 11:01	CO	DANEL	CAND (	1 1	(0)
10	8	5	8.0	10.0	SS/18	21-28-32-27		Brown SIL	I, little c	mt G	RAVEL, trace cmf	SAND (moist,	hard)	60
10	0													
11	9													
11	10	ł												
12	10													
12	11													
13	11													
13	12													
14	12													
14	13													
14	13	6	13.5	14 3	SS/18	59-100 /4"		Grev SILT	and GR A	VFI	. trace CLAY (moi	st. hard)		100+
15	14		13.3	17.5	55/10	37-100/T			and OIL	. , LL	z, auce CLATT (IIIO)	, 11414)		100
16	1 1													
16	15													
17														
17	16													
18 7 18.5 18.9 SS/5 100/5" Similar as above (moist, hard) Bottom of Boring at 18.9' 100+	1.0													
18 7 18.5 18.9 SS/5 100/5" Similar as above (moist, hard) Bottom of Boring at 18.9' 100+	17													
7 18.5 18.9 SS/5 100/5" Similar as above (moist, hard) Bottom of Boring at 18.9'	-													
7 18.5 18.9 SS/5 100/5" Similar as above (moist, hard) Bottom of Boring at 18.9'	18													
Bottom of Boring at 18.9'		7	18.5	18.9	SS/5	100/ 5"		Similar as	above (me	oist, l	hard)			100+
	19													1
20									J					
	20													

				6035 Co	orporate Drive	SI	IBSURF	ACE EX	—— (PL <i>C</i>	ORATION	Boring No.	Page <sub>B</sub> 9	<b>835</b> 154
		IV	Ę	•	racuse, NY 13057			BORII			Page No.	1 (	of 1
		ciates			315-701-0522		1631	DUKI	101	LUG	Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		20/23
Client:		Rambo		_							Date Finished		20/23
Locatio	n:			n Locati		NT.			CP	OTIVIDAN A MER	Surface Elev.		2.5'
D ""				DS OF	INVESTIGATIO		II C A		GR	OUNDWATER	OBSERVAT	IONS	
Driller: Driller:		G. Ricl			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller: Inspecto	r:	A. Sha		IТ	Other:			04/20/23	,	While Drilling	6.4	1	3.5
Drill Ri		CME 5		1.1.	Soil Sampler:	2" OD S	Split Barrel	04/20/23		re Casing Removed	7.2		8.5
Type:	<del>o</del> -	ATV	-		Hammer Wt:	140 lbs.	•	04/20/23		er Casing Removed	1.8		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/20/23		er Casing Removed	caved @ 9.5	C	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	
Depth		Sample	Depth	Tyme /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F	t.)	Type / Sample	Sampler	Change	m -	medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/18	WH-1-1-2		Topsoil &				VEL 4 BOO		2
1	1B	0.5	2.0				Brown SIL Hairs (moi		LAY	, trace fine GRAV	EL, trace ROO	1	
1							110113 (11101	o., 501t <i>)</i>					
2	2	2.0	4.0	SS/24	1-11-22-23		Brown SIL	T, little m	nf GR	AVEL, trace cmf	SAND (moist, h	ard)	33
												•	
3													
	,	4.0		00/2 /	5 11 21 25		g: ''	1 /		1)			22
4	4	4.0	6.0	SS/24	5-11-21-25		Similar as	above (mo	oist, h	ard)			32
5													
6	4A	6.0	7.0	SS/24	20-35-37-74		Similar as	above (we	et, har	rd)			72
7	4B	7.0	8.0				Grey SILT	, some cm	if GR.	AVEL, trace cmf	SAND (moist, h	ard)	
8	5	8.0	10.0	SS/24	22-38-62-72		Grey/Broy	m SII T	ome o	emf GRAVEL, sor	ne cmf SAND		100
	,	0.0	10.0	<i>55/4</i>	22-30-02-12		(moist, har		OHIE C	am GRAVEL, SOI	ne chii sand		100
9								,					
10													
1 1													
11													
12													
] - <del>-</del>													
13													
	6A	13.5	14.5	SS/12	77-65-100/5"		Similar as	above (mo	oist, h	ard)			100+
14	Œ	1.4.	15 ^				D 27-	m 1	C C : -	ID 11:11 0000	ATTENT OF THE	1\	
15	6B	14.5	15.0				Brown SIL	I and cm	1 SAN	ND, little cmf GRA	AVEL (moist, ha	ard)	
13													
16													
17													
18	7	18.5	19.9	SS/12	28-95-100/4"					VEL, little cmf S.	AND (moist, ha	rd)	100+
10							Bottom of	Boring at	19.9'				
19													
20													

ATTAC	HIVIE	VI 10	CEG	REPU	RT NUMBER: 172	E-01-0	124 E)	(HIBIT P	1-5: C	JEO I ECHNICAI	L DATA REPO	JRT - P	HASE 1
				6035 Co	orporate Drive	l gi	IRSHIRE	CFFX	DI (	ORATION	Boring No.	Page <sub>B</sub> 9	936 154
		IV			racuse, NY 13057						Page No.	1 (	of 1
	Asso	ociates	s, Inc.		315-701-0522		IESI	BORI	NG I	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:	Micror	Campi	us, Clay,	New York						Date Started	04/2	20/23
Client:		Rambo	11	-							Date Finished	04/2	20/23
Location	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	4	13'
		ME	THO	DS OF	INVESTIGATIO	N			GR	OUNDWATER	OBSERVAT	IONS	
Driller:		G. Ricl			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		C. O'H			Casing Hammer:						Depth (Ft.)	Casing	At (Ft.)
Inspecto			rma, E.	I.T.	Other:			04/20/23		While Drilling			
Drill Ri	g:	CME 5	55		Soil Sampler:		plit Barrel	04/20/23		ore Casing Removed	4.5		8.5
Type:		ATV			Hammer Wt:	140 lbs.		04/20/23		er Casing Removed	1.3		out
Rod Size		AWJ	DODI		Hammer Fall:	30 in.	X / I (	04/20/23		er Casing Removed	caved @ 5.2		ut
1	LU	ı		ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	DE MIATERIA	L	1
Depth			Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F From		Sample	Sampler	Change		medium			% / some - 20 to 35		or DOD 0/
(Feet)	No.	0.0	To 0.5	Rec. (in.) SS/15	Per 6 Inches WH-WH-2-2	(Ft.)	Topsoil and	- fine	Matt		0% / trace - 0 to 109	/0	RQD %
U	1B	0.5	2.0	33/13	VV11- VV11-2-2					, trace ORGANIC	Materials (mois	et soft)	2
1	110	0.5	2.0				Diowii SiL	i, mace c	<i>L1</i> 1 1	, nace onormie	Waterials (IIIO).	st, 301t)	
•													
2	2	2.0	4.0	SS/10	WH-2-4-6		Brown SIL	T and cm	f SAl	ND, trace mf GRA	VEL, trace CLA	Υ	6
							(moist, med			,	,		
3								•					
4	3	4.0	6.0	SS/13	4-4-4		Brown SIL	T, some c	mf S	AND, trace fine G	RAVEL (wet,		8
							medium sti	ff)					
5													
6	4	6.0	8.0	SS/24	4-11-12-15		Brown SIL	T and mf	SAN	D, trace cmf GRA	VEL (wet, very	stiff)	23
7													
7													
8	5	8.0	10.0	SS/24	11-24-47-85		Drown/Gra	v CII T or	d on	nf SAND, trace cm	f GD AVEL (mc	ist	71
0	3	0.0	10.0	33/24	11-24-47-63		hard)	y SIL1 ai	iu cii	ii SAND, trace cili	I GRAVEL (IIIC	1181,	/ 1
9							nara)						
10													
11													
12													
13		10 -		96/11	25.51.21		G ~== =		~	<b></b>		15	1
1.4	6	13.5	15.0	SS/16	36-61-81		Grey SILT	and cmf	SANI	D, trace cmf GRAV	VEL (moist, har	d)	142
14													
1.5													
15													
16													
10													
17													
1/													
18													
	7	18.5	19.3	SS/-	37-87-100/4"	SS/-	Grey SILT	, some cm	f SA	ND, little cmf GR	AVEL (moist, h	ard)	100+
19							Bottom of						
								-					
20													

						_			_		-	10	0 -1 4 - 4
					orporate Drive	SI	J <b>BSURF</b>	ACE EX	KPL	ORATION	Boring No.		
		IAI	Ę	-	racuse, NY 13057			BORI			Page No.		of 1
	Ass	ociates			315-701-0522		11231	DOM	110	LOG	Report No.	28062B-0	01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo									Date Finished		26/23
Location	n:			n Locati		<b>3</b> .7			C.F.		Surface Elev.		.3.5'
D 311				DS OF	INVESTIGATIO		TI C A		GR	ROUNDWATER	OBSERVAT	IONS	
Driller: Driller:		B. Flet R. Casa			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	ır.	K. Cas	atem		Other:			04/26/23		While Drilling	none noted	1	3.5
Drill Rig		CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	04/26/23	Befo	ore Casing Removed	none noted		3.5
Type:	5,	ATV	0011		Hammer Wt:	140 lbs.	-	04/26/23		er Casing Removed	none noted		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/26/23		er Casing Removed	caved @ 8.4	(	out
	LO	G OF	BORI	ING SA	AMPLES		VI	SUAL C		SSIFICATION C		L	
Depth		Sample	Depth		Blows on		C.	- coarse					SPT "N"
Scale	Sample	(F	-	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109	%	RQD %
0	1	0.0	2.0	SS/7	WH-1-2-2					RAVEL, little cmf	SAND, trace		3
							ORGANIC	C Material	s (mo	oist)			
1													
2	2	2.0	4.0	SS/8	8-7-6-10		Light Drov	m CHT 1	;#1a .	cmf SAND, little m	of CD A VEL (w	ot stiff)	13
2	2	2.0	4.0	33/0	8-7-0-10		Light blow	vii SiL1, i	iiiie (	ciiii sand, iille ii	II GKAVEL (W	ei, siiii)	13
3													
4	3	4.0	6.0	SS/17	7-9-11-8		Light Brow	vn SILT, 1	ittle	cmf SAND, little m	nf GRAVEL (mo	oist,	20
							very stiff)	Í			`	,	
5													
6	4	6.0	8.0	SS/20	7-10-16-21		Similar as	above (m	oist, v	very stiff)			26
7													
7													
8	5	8.0	10.0	SS/19	18-35-48-64		Grev SILT	little cm	f SA1	ND, trace fine GRA	AVEL (moist he	ard)	83
O O	3	0.0	10.0	55/17	10 33 10 01		Giey Silli	, muce em	1 57 1	rd, trace fine Gra	TVEE (moist, in	114)	03
9													
10													
11													
12													
13													
14													
15													
	6	13.5	15.0	SS/18	31-57-63		Grey SILT	, trace mf	GR/	AVEL, trace cmf SA	AND (moist, har	rd)	120
16													
17							Bottom of	Boring at	15.0'	ı			1
								<i>5</i>					
18													
4.0													
19													
20													

				6035 Cd	orporate Drive	SI	JBSURF A	ACE EX	(PL	ORATION	Boring No.	age <u>f</u> o	138 154
		IV		-	racuse, NY 13057			BORII			Page No.	1	of 1
		ociates		I moner.	315-701-0522		11231	DOM	10	LOG	Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo									Date Finished		26/23
Locatio	n:			on Locati		NI			CE		Surface Elev.		2.4'
Driller:		B. Flet		DS OF	INVESTIGATIO	N 3 ¼" ID	ПСА		GK	ROUNDWATER	UBSEKVAT	1UNS	
Driller:		R. Cas			Casing: Casing Hammer:	3 % ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:	rc. Cus	atom		Other:			04/26/23		While Drilling	11.3	1	3.5
Drill Ri		CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	04/26/23		ore Casing Removed	11.3		3.5
Type:		ATV			Hammer Wt:	140 lbs.	-	04/26/23		er Casing Removed	4.3	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/26/23		er Casing Removed	caved @ 9.5		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	OF MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	<i>5</i>		20% / trace - 0 to 109	2/6	RQD %
0	1A	0.0	1.0	SS/19	WH-WH-1-2		Topsoil &	Organic N	/latte	r			1
1	1B	1.0	2.0				Light Brow	n SII T 1	ittle (	emf SAND, little fi	ne GRAVEL (n	noist	<del> </del>
1	מו	1.0	2.0				very soft)	, 11 DIL I , I	illic (	am sand, nuc n	IIC GIVAVEL (II	10151,	
2	2	2.0	4.0	SS/17	1-2-2-3			n SILT, 1	ittle o	emf SAND, trace f	ine GRAVEL (v	vet,	4
							medium sti			,		,	
3													
4	3	4.0	6.0	SS/24	WH-1-5-10		Similar as	above (we	et, me	edium stiff)			6
5													
6	4	6.0	8.0	SS/16	21-29-47-88		Light Brow	m SII T	ome	cmf SAND, little r	nf GP AVEL (m	oist	76
0	7	0.0	8.0	33/10	21-29-47-00		hard)	vii SiL1, s	onic	ciii sand, iiiic i	III OKAVEL (III	10151,	70
7							iiai a)						
8	5	8.0	9.5	SS/14	42-85-95-100/0'		Grey SILT	, little cm	f SAl	ND, little mf GRA	VEL (moist, har	d)	180
9													
10													
10													
11													
11													
12													
13													
	6	13.5	15.0	SS/15	47-33-32		Grey SILT	, little cm	f SAl	ND, trace mf GRA	VEL (moist, har	:d)	65
14													
15							Bottom of	Roring of	15 0'				-
13							DOUGHI OF	Doring at	13.0				
16													
17													
18													
1.0													
19													
20													

		6035 Corporate Drive SUBSURFACE EXPLORA							ORATION	Boring No.	age <u>1</u> 80	2 <sub>2</sub> 0f 154	
		IV	Ę		racuse, NY 13057			Γ BORI			Page No.	1	of 2
	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		1691	DUKI	<b>1G</b> 1	LUG	Report No.	28062B-0	01-0523-R1
Project	Name:			us, Clay,	New York						Date Started	04/	19/23
Client:		Rambo									Date Finished	04/	19/23
Locatio	n:		•	n Locati				ı			Surface Elev.		00.1'
				DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	IONS	
Driller: Driller:		B. Flet R. Cas			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect		K. Cas	atem		Other:			04/19/23		While Drilling	none noted	2	3.0
Drill Ri		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	04/19/23		ore Casing Removed	none noted		3.0
Type:	<b>5</b> .	ATV	.5011		Hammer Wt:	140 lbs.	-	04/19/23		er Casing Removed	none noted		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/19/23		er Casing Removed	caved @ 9.0		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C		SIFICATION C		L	
Depth		1	Depth		Blows on			- coarse					SPT "N"
Scale	Sample	(F		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		f - fine		little - 10 to 2	0% / trace - 0 to 109	%	RQD %
0	1	0.0	2.0	SS/18	WH-3-4			•	SIL	T, little CLAY, trac	ce fine SAND (1	noist,	7
1							medium stip $PP=1.5, 1.5$						
2	2	2.0	4.0	SS/20	3-5-5-5			vn/Grey S	ILT a	and CLAY, trace m	f SAND (moist	,	10
2							stiff)	20 175					
3							PP=2.25, .	2.0, 1.75					
4	3	4.0	6.0	SS/20	3-4-3-3		Light Brov	vn SILT, t	race (	CLAY, trace fine S	SAND (wet, med	dium	7
							stiff)						
5													
6	4	6.0	8.0	SS/21	3-4-5-5		Light Dagg	CII T 4		CIAV (wat atiff)			9
6	4	0.0	8.0	55/21	3-4-3-3		Light Brov	vn Sili, i	race	CLAY (wet, stiff)			9
7													
8	5	8.0	10.0	SS/21	3-4-4-5		Similar as	above (we	et, stif	ff)			8
0													
9													
10													
10													
11													
12													
13													
	6	13.5	15.0	SS/18	2-2-3		Similar as	above (we	et, me	edium stiff)			5
14								`	,	,			
15						1							
16													
17													
18													
	7	18.5	20.0	SS/15	6-3-3	1			tle fin	ne SAND, trace find	e GRAVEL		6
19						1	(wet, medi	um stiff)					
20													

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

CNE Associates, Inc

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. 2 of 2

Report No. 28062B-01-0523-R1

	Ass	ociates	s, Inc.	Phone: 3	15-701-0522		TEST BORING LO	JG	<b>Report No.</b> 28062	B-01-0523-R1
	_				MPLES		VISUAL CLASSI	FICATION (		
Depth Scale (Feet)	Sample No.	Sample	e Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)		and - 35 to 50	0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
21										
22										
23	8	23.0	23.0	SS/0	100/0"		Auger Refusal at 23.0' Bottom of Boring at 23.0'			100+
24										
26										
27										
28										
29										
30										
32										
33										
34										
35										
36 37										
38										
39										
40	1									
41										
42										
44										
45										

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

		R/		6035 Co	orporate Drive	SI	JBSURF A	ACE EX	(PL	ORATION	Boring No.	age Bu	2207 134
		IV			racuse, NY 13057			BORI			Page No.		of 2
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		1691	DUKI	NG.	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:	Micron	Campi	us, Clay,	New York						Date Started	04/1	7/23
Client:		Rambo	11	-							Date Finished	04/1	17/23
Location	1:	See Ex	ploratio	n Locati	on Plan						Surface Elev.		9.3'
			•		INVESTIGATIO	N			GR	ROUNDWATER			
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.						
Driller:		R. Casa			Casing Hammer:	0 /4 12		Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	A. Ana		P.E.	Other:	NQ Cor	e	04/17/23		While Drilling	8.5	2.	4.0
Drill Ri		CME 5			Soil Sampler:	-	Split Barrel	04/17/23		ore Casing Removed	4.2 (Remark 1)		4.0
Type:	<b>-</b> '	ATV	.5011		Hammer Wt:	140 lbs.	•	04/17/23		er Casing Removed	5.8 (Remark 1)		ut
Rod Size	p.•	AWJ			Hammer Fall:	30 in.		04/17/23		er Casing Removed	caved @ 15.0		ut
Ttou SIZ			R∩RI	NG S	AMPLES	Jo III.	VI			SSIFICATION C	)		
	LO	1		110 57			V 1)	JUAL C	LAS		TWATERIA		
Depth			Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	n		0% / trace - 0 to 109	<b>%</b>	RQD %
0	1	0.0	2.0	SS/17	1-1-3-4					ne CLAY, trace RC	OOTS		4
							(moist, med	dium stiff	()				
1													
2	2	2.0	4.0	SS/19	4-5-5-5				ILT,	little CLAY (moist	, stiff)		10
							PP=0.75, 1	1.25, 1.0					
3													
4	3	4.0	6.0	SS/14	3-3-3-3		_	-	ILT,	little CLAY, trace	ROOT Hairs (w	et,	6
							medium, st	iff)					
5													
6	4	6.0	8.0	SS/18	5-4-4-6				ILT,	trace fine SAND (v	wet, stiff)		8
							PP=0.75, (	0.75, 1.0					
7													
8	5	8.0	10.0	SS/23	4-4-4		Light Brow	n SILT, t	race	CLAY (wet, stiff)			8
							PP=1.25, I	1.0, 1.25					
9													
10													
11													
12													
13													
	6	13.5	15.0	SS/18	1-2-3		Grey SILT	, trace CL	AY.	trace fine SAND (v	wet, medium sti	ff)	5
14	-						Soil is dila		- ,	(	,	,	
15													
16													
10													
17													
1 /													
18													
10	7	18.5	20.0	SS/15	3-7-12		Grev SII T	little mf	SAN	D, trace cmf GRA	VEL (moist ver	v stiff)	19
19	,	10.5	20.0	55/15	5 /-12			, 111110 11111	J. 11 V	, auce eim GRA	. LL (1110131, VCI	, 50111)	17
20													
_0													

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

CM	E
Associates,	Inc.

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age **B25.27** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Associates, Inc. Phone: 315-701-0522						TEST BORING	LOG	Report No. 28062	B-01-0523-R
LOG OF BORING SAMPLES							VISUAL CLAS	SIFICATION	OF MATERIAL	
Depth Scale (Feet)	Sample No.	Sample (F From	Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		50% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N' or RQD %
21 22 23										
24	8 9	23.5 24.0	23.5 29.0	SS/0 C/59	100/0"		Sampler refusal at 23.5', and Grey DOLOSTONE, slig bedded, hard, thin layers throughout core run.	htly weathered, m	edium to thickly	100+ 95%
<ul><li>26</li><li>27</li></ul>							Recovery: 59"/60"=98% RQD: 57"/60"=95% 5 pieces, 0" Chips and Fra			
28 29							0.0-1.0', 1:45 min/ft., 1.0' loss, Coring conduction is down pressure  Bottom of Boring at 29'	-5.0', 1:00 to 1:15 n 5 <sup>th</sup> gear, 2,500	5 min/ft., No water RPM, 500 PSI	
30										
31										
33 34										
35 36										
37 38										
39										
40										
42 43										
44										

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

		N		6035 Cc	orporate Drive	SI	IRSURF	ACE EX	PI.	ORATION	Boring No.	age <u></u>	6205 154
		IV	Ę		racuse, NY 13057	SUBSURFACE EXPLORATION TEST BORING LOG					Page No.		of 2
Associates, Inc. Phone: 315-701-0522					TEST BURING LUG					Report No.	28062B-0	1-0523-R1	
•			n Camp	us, Clay,	New York						Date Started	04/19/23	
Client:		Rambo									Date Finished	04/19/23	
Locatio	n:			n Locati				1			Surface Elev.		1.9'
				DS OF	INVESTIGATIO				GR	ROUNDWATER	OBSERVAT	TONS	
Driller: Driller:			B. Fletcher R. Casatelli		Casing: Casing Hammer:		H.S.A.	Date		Time	Depth (Ft.)	Casing At (Ft	
	nspector:				Other:			04/19/23		While Drilling	15.7	23.5	
Drill Ri	Orill Rig:		CME 550X		Soil Sampler:		Split Barrel	04/19/23	Befo	ore Casing Removed	12.7	2	7.4
Гуре:		ATV		Hammer Wt:		140 lbs.				er Casing Removed	5.8	C	out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/19/23		er Casing Removed	caved @ 11.8		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	DF MATERIA	L	
Depth		Sample Depth Type / Blows on		Depth of	c -	c - coarse					SPT "N"		
Scale	Sample		t.)	Sample	Sampler	Change	m - medium and - 35 to 50			% / some - 20 to 35		or DOD 0/	
(Feet)	No.	From 0.0	To 2.0	Rec. (in.) SS/18	Per 6 Inches WH-WH-3-3	(Ft.)	f - fine little - 10 to 2  Light Brown/Grey SILT, little CLAY, trace				60% / trace - 0 to 100		RQD %
U	1	0.0	2.0	33/10	W11-W11-3-3		ORGANIC				ilic SAND, uad	C	3
1							ORG/II VIC	o iviateriai	5 (IIIC	5150, 5010)			
2	2	2.0	4.0	SS/19	4-5-5-4		Light Brov	vn/Grey S	ILT,	some CLAY, trace	cmf SAND (me	oist,	10
							stiff)						
3							PP=0.75,	0.75, 1.0					
	2	4.0		00/15			T 1 1 . D	3.61	1 011	m that or extra	C CAND		
4	3	4.0	6.0	SS/17	4-4-4	Light Brown Mottled SILT, little CLAY, trace fine SAND							8
5	ł						(wet, stiff) $PP=0.5, 0.5$						
3							FF = 0.5, 0.	./3, 1.0					
6	4	6.0	8.0	SS/19	3-4-5-7	Light Brown SILT, trace CLAY (wet, stiff)							9
		PP=2.5, 2.0, 2.25											
7													
	_		400	~ ~ / <b>^</b> ^			a: "						
8	5	8.0	10.0	SS/20	5-7-7-7		Similar as	above (mo	oist, s	st1ff)			14
9													
9													
10													
11													
12													
12													
13	6	13.5	15.0	SS/18	3-3-3		Light Gray	7 CII T +	co Cl	LAY (wet, medium	s stiff)		6
14	0	13.3	13.0	35/16	3-3-3		Light Grey	SIL1, tra	ce C	LAY (wei, medium	1 Still)		0
17													
15	1												
16													
17													
11													
18							<u> </u>						
10	7	18.5	20.0	SS/16	4-8-11			SILT, litt	le mi	f GRAVEL, trace f	ine SAND (moi	st	19
19							very stiff)	ery stiff)					
20	1												

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

CME Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page 807 20 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

Associates, Inc. Phone: 315-701-0522						TEST BORING LOG  Report No. 28062B-01-0523-R1							
LOG OF BORING SAMPLES							VISUAL CLASSIFICATION OF MATERIAL						
Depth Scale (Feet)	Sample No.		e Depth Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %			
21													
22													
23 24	8	23.5	25.0	SS/10	12-15-17		Light Grey SILT, little cmf ROCK fragments (wet, har		fine SAND, trace	32			
25	-												
26													
27	9	27.4	27.4	SS/0	100/1"		Auger Refusal at 27.4'			100+			
28 29							Bottom of Boring at 27.4'						
30													
31													
32													
33													
34													
35													
36													
37													
39													
40	1												
41													
42													
43													
44													
45													

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

ATTAC	וםואוחי	VI IO	CEG	REPU	ORT NUMBER: 172	2E-01-0	1124 E	KHIBIT A	-5: C	3EO I ECHINICAI			
		N/		6035 Co	orporate Drive	SI	IRSURF	CE EX	PI.	ORATION	Boring No.	age <u>f</u>	<b>33</b> f 154
		IV		East Sy	racuse, NY 13057		SUBSURFACE EXPLORATION TEST BORING LOG					1 0	of 1
	Asso	ciates	, Inc.	Phone:	315-701-0522		1621	LUG	Report No.	28062B-0	1-0523-R1		
Project Name: Micron Campus, Clay, New York										04/2	25/23		
Client: Ramboll									Date Finished	04/25/23			
Location: See Exploration Location Plan									Surface Elev.	. 391'			
		ME	THO	DS OF	INVESTIGATIO	N			GR	OUNDWATER	OBSERVAT	IONS	
Driller: G. Richard Casing:				Casing:	3 ¼" ID	H.S.A.	Data		Time	Donth (E4)	Casina	A4 (E4.)	
Driller:		C. O'Hara			Casing Hammer:			Date		1 ime	Depth (Ft.)	Casing	At (Ft.)
Inspector:		A. Sharma, E.I.T.		I.T.	Other:			04/25/23		While Drilling			
		CME 55			Soil Sampler:	2" OD Split Barrel		04/25/23	_		15.2	18	3.5
• •		ATV			Hammer Wt:	140 lbs.		04/25/23	$\mathbf{c}$		5.5	O	ut
Rod Siz		AWJ			Hammer Fall:	30 in.		04/25/23		er Casing Removed	caved @ 7.9	out	
	LO	G OF BORING S			AMPLES		VISUAL CLASSIFICATION (			F MATERIA	L		
Depth		Sample Depth		Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 100	%	RQD %
0	1A	0.0	0.5	SS/14	WH-WH-1-2		Topsoil and					. — - — .	1
	1B	0.5	2.0				Brown SIL	T, little fi	ne SA	AND, trace CLAY	(moist, very sof	t)	
1													
2	2	2.0	4.0	SS/17	4-5-6-6		Brown SIL	T, trace fi	ne Sa	AND, trace CLAY	(moist, stiff)		11
3													
		4.0		~~ <b>/</b>			D 677	<b></b>					_
4	3	4.0	6.0	SS/24	4-3-2-3		Brown SIL	T, trace C	LAY	(moist, medium s	tiff)		5
5													
	4	( 0	0.0	00/24	1 1 1 1		G 1	( )	C)				2
6	4	6.0	8.0	SS/24	1-1-1-1		Same as ab	ove (wet,	soit)				2
7													
/												. — - — :	
8	5	8.0	10.0	SS/14	2-2-4-3		Drown om	S A NID or	nd m	f GRAVEL, little S	CII T trace CI A	v	6
0	3	8.0	10.0	33/14	2-2-4-3		(wet, loose		iiu iiii	I GRAVEL, IIIIC	oili, nace Cla	LI	U
9							(wci, 100sc	,					
9													
10													
10													
11													
12													
13													
	6A	13.5	14.0	SS/18	49-27-40					, trace cmf SAND			67
14	6B	14.0	15.0					•	fragn	nents mixed with c	mf SAND, mf		
							GRAVEL	(wet)					
15													
16													
17													
10	_	10.5	20.0	00/10	15.05.41		<u></u>	COAND:	.,,1 -	DOCK C	CORATT	r.	
18	7	18.5	20.0	SS/18	15-25-41				ittle I	ROCK fragments, t	race mt GRAV	EL	66
10							(wet, very	compact)					
19													
20							Bottom of	Doring at	20'				
					1	1	TOULOID OF	DOLING AL	∠U				

20 Bottom of Boring at 20'
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

		N/		6035 Co	orporate Drive	SUBSURFACE EXPLORATION					Boring No.	age <u>f</u>	<b>23</b> f 154
		IV			racuse, NY 13057	TEST BORING LOG					Page No.	1 0	of 2
		ociates			315-701-0522		1691	DUKI	16.	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:	Micror	Campi	us, Clay,	New York						Date Started	04/2	25/23
Client:		Rambo									Date Finished		25/23
Locatio	n:			n Locati		<b>N</b> T		1	CD		Surface Elev.		8.2'
D 311				DS OF	INVESTIGATIO		TI C A		GK	COUNDWATER	OBSERVAI	IONS	
Driller: Driller:		G. Ricl			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect			rma, E.	LT.	Other:			04/25/23		While Drilling	5.9	13	3.5
Drill Ri		CME 5			Soil Sampler:	2" OD S	Split Barrel	04/25/23		ore Casing Removed	9.2		1.6
Type:	•	ATV			Hammer Wt:	140 lbs.	-	04/25/23		er Casing Removed	2.5		ut
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/25/23	Afte	er Casing Removed	caved @ 9.4	0	ut
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change	m -	medium			% / some - 20 to 35°		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		f - fine	3.6.4		0% / trace - 0 to 109	<del>%</del>	RQD %
0	1A 1B	0.0 0.5	0.5 2.0	SS/12	WH-1-1-2		Topsoil an			ter (moist) AND, trace CLAY	(soft moist)		2
1	110	0.5	2.0				DIOWII SIL	71, IIIIIE C	AND, HACE CLAT	(SOIL, IIIOISL)			
2	2	2.0	4.0	SS/24	3-3-3-3		Brown SIL	T, trace C	oist)		6		
								,					
3													
4	3	4.0	6.0	SS/20	2-2-1-3		Same as ab	ove (soft,	wet)				3
-	ŀ												
5													
6	4	6.0	8.0	SS/24	3-4-3-4		Same as ab	ove (wet.	med	ium stiff)			7
Ü		0.0	0.0				PP=0.5, 1.		1110 0				,
7													
8	5	8.0	10.0	SS/24	3-5-6-7		Brown SIL	T, trace c	mf S	AND, trace CLAY	(moist, stiff)		11
0													
9													
10	1												
11													
12													
12													
13	6	13.5	15.0	SS/18	2-4-10		Brown/Gra	T II2 ve	race t	mf SAND, trace CI	AV (wet stiff)		14
14	0	13.3	13.0	33/10	2-4-10		DIOWII/GIC	Jy SIL1, t	iacc i	iii SAND, trace Ci	ZAT (wei, siiii)		14
1.							Augered H	lard at 15	,				
15	1												
16													
1.7													
17													
18													
10	7	18.5	20.0	SS/15	7-5-3		Grey cmf S	SAND and	l mf (	GRAVEL, little SII	LT (wet, mediur	n stiff)	8
19										.,	, ,	,	
20				ı	ı								

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

CME Associates, Inc 6035 Corporate Drive
East Syracuse, NY 13057

### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age **B123** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Associates, Inc. Phone: 315-701-0522						TEST BORING I	LOG	<b>Report No.</b> 280621	3-01-0523-R1
					AMPLES		VISUAL CLASS	SIFICATION (		
Dep Sca (Fee	le Sample		e Depth	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20					2 33 \$ 233332	(= 11)				
21	8	21.6	22.1	SS/6	100/6"		Grey cmf SAND and mf C (wet, very compact)	GRAVEL, trace R	OCK fragments	100+
23	i						Bottom of Boring at 22.1'			-
24										
25										
26	i									
27	,									
28										
29										
30	)									
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
45										

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

				6035 Cd	orporate Drive	SI	UBSURF	ACE EX	KPLOF	RATION	Boring No.	age <u><b>ß</b>1</u>	2392 15	
		IV	Ę	East Syr	racuse, NY 13057			ΓBORI			Page No.		of 1	
					315-701-0522		ILGI	DOM	NG LC	<i>,</i>	Report No.	28062B-0		
roject l	Name:	Micror	Camp	us, Clay,	New York						Date Started	04/2	25/23	
lient:		Rambo	oll								Date Finished	04/2	25/23	
ocatio	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	38	7.8'	
					INVESTIGATIO	N			GRO	UNDWATER	OBSERVAT	TONS		
riller: riller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.	
ispecto	or:	A. Sha		I.T.	Other:			04/25/23	Wł	nile Drilling	4.5	1	3.5	
rill Ri		CME 5	55		Soil Sampler:	2" OD S	Split Barrel	04/25/23		Casing Removed	5.9	1	9.2	
ype:	_	ATV			Hammer Wt:	140 lbs.	-	04/25/23		Casing Removed	1.5	(	out	
od Siz	e:	AWJ			Hammer Fall:	30 in.		04/25/23		Casing Removed	caved @ 8.4	(	out	
			BOR	ING S	AMPLES	T	VI				OF MATERIA			
	LO			1100	I						<b>71</b> 1/11111111111		anm	
Depth	G 1		e Depth t.)	Type /	Blows on	Depth of		- coarse		1 25 / 50	20 / 25	0./	SPT "N	
Scale	Sample			Sample	Sampler	Change		medium			0% / some - 20 to 35		or	
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/18	Per 6 Inches WH-WH-2-2	(Ft.)	Topsoil an	f - fine	Mattan		20% / trace - 0 to 10°	70	RQD 9	
U				33/10	W П- W П-2-2						(i.t(t)			
1	1B	0.5	2.0				Brown SILT, trace CLAY, trace cmf SAND (moist, soft)  PP=0.75, 0.5, 1							
2	2	2.0	4.0	SS/21	2-3-2-3		Similar as above (moist, medium stiff)							
3						Similar as above (vest soft)								
4	3	4.0	6.0	SS/12	1-1-1-2	Similar as above (wet, soft)								
5	4	6.0	8.0	SS/24	2.2.4.5		Brown SILT, trace CLAY (moist, medium stiff)							
6 7	4	6.0	8.0	35/24	2-3-4-5		Brown SIL	1, trace C	LAY (II	noist, meatum s	stiii)		7	
8	5	8.0	10.0	SS/24	5-5-4-5		Brown SIL	LT, trace (	CLAY, tı	race fine GRAV	VEL (moist, stiff	)	9	
9														
11 12														
13	6	13.5	15.0	SS/18	1-2-2		Grey SILT	, trace CL	AY (we	t, soft)			4	
14														
15														
16														
17 18	7	19.5	19.2	SS/8	4-100/2"		Dark Grey ROCK chips, fragments & flour (wet)					100-		
19	,	10.3	17.4	33/0	<del>7-</del> 100/2		Auger refusal at 19.2'				100			
20							Bottom of	Boring at	19.2'				1	

						1								
				6035 C	orporate Drive	SI	IBSHRF	ACE EX	 (PL	ORATION	Boring No.	age <u>f§1</u>	233 154	
		IV			racuse, NY 13057						Page No.		of 1	
	Ass	ociates	s, Inc.	Phone:	315-701-0522		IESI	<b>BORI</b>	NG	LUG	Report No.	28062B-0	01-0523-R1	
Project	Name:	Micror	n Camp	us, Clay	, New York						Date Started		26/23	
Client:		Rambo									Date Finished		26/23	
Locatio	n:			on Locat		- T		Ī	C.F.	O LINID WALEER	Surface Elev.		39.9'	
D 311				DS OF	INVESTIGATIO		II C A		GR	ROUNDWATER	OBSERVAT	TONS		
Driller: Driller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspect		A. Sha		LT.	Other:			04/26/23		While Drilling	7.8	1	3.5	
Drill Ri		CME 5			Soil Sampler:	2" OD S	Split Barrel	04/26/23	Befo	ore Casing Removed			5.5	
Type:		ATV			Hammer Wt:	140 lbs.	-	04/26/23		er Casing Removed	3.4		out	
Rod Siz	æ:	AWJ			Hammer Fall:	30 in.		04/26/23	Aft	er Casing Removed	caved @ 4.8	(	out	
	LO	G OF	BOR	ING S	AMPLES		VI	SUAL C	LAS	SSIFICATION (	OF MATERIA	L		
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"	
Scale	Sample		t.)	Sample	Sampler	Change	m -	medium			0% / some - 20 to 35		or	
(Feet)	No.	From	To 0.5	Rec. (in.)	Per 6 Inches	(Ft.)		fine		20% / trace - 0 to 10°	%	RQD %		
0	1A 1B	0.0	0.5 2.0	SS/12	WH-1-2-3		Topsoil an	(moist, soft)		3				
1	ТВ	0.3	2.0											
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								
3						PP=1.5, U.S, 1.8								
4	3	4.0	6.0	SS/14	3-3-2-2		Similar as	above (we	et, me	edium stiff)			5	
5	-													
3														
6	4	6.0	8.0	SS/16	2-3-3-4		Brown SIL	T. little c	mf S	AND, trace CLAY	. trace mf GRA	VEL	6	
							(moist, me			,	,			
7														
_	_													
8	5	8.0	10.0	SS/16	3-2-3-2		Brown SIL	T, little C	LAY	(moist, medium s	tiff)		5	
9														
9							Augered h	ard at 10'						
10							mgerea ne	ara ai 10					-	
11														
12														
13														
13	6	13.5	15.0	SS/18	19-31-42		Brown SII	T and cm	f S A	ND, trace fine GR	AVEL (wet har	d)	73	
14		13.3	15.0	55/10	17-31-72		DIOWII DIL	. 1 und Oill	. JA	1.2, made fine OK	wot, nar	~ <i>)</i>	, ,	
15	1						Auger refu					. — - —		
	7	15.5	17.0	SS/18	55-20-25		Grey ROC	K chips, f	ragm	ents & flour (mois	t)		45	
16														
17							Datt- C	Dominio	17.0	•			1	
17							Bottom of	Boring at	1 / .0'					
18														
19														
	]													
20	1	1		1	Ī	1	1							

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

		6035 Corporate Drive					IBSURE.	ACE EX	 ХРГ.С	ORATION	Boring No.	age <u></u> §1	339 <u>f</u> 15
		IV	Ę		racuse, NY 13057			F BORI			Page No.	1	of 1
		ociates			315-701-0522		ILSI	DUKI	NGL	AUG	Report No.	28062B-	01-0523-1
Project l	Name:			us, Clay,	New York						Date Started	04/	26/23
Client:		Rambo									Date Finished	04/	26/23
Location	1:			n Locati				1			Surface Elev.		39.9'
					INVESTIGATIO				GR	OUNDWATER	OBSERVAT	TIONS	
Oriller:		G. Rich			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft
Oriller:		C. O'H			Casing Hammer:			04/26/22		M. 1 D. 111.			
nspecto		A. Sha		1.1.	Other: Soil Sampler:	2" OD 6	Sulit Damal	04/26/23		While Drilling	none noted 4.6		e noted 8.6
Orill Rig Type:	g:	ATV	)3		Hammer Wt:	140 lbs.	Split Barrel	04/26/23		re Casing Removed	3.8		out
rype. Rod Size	ρ•	AWJ			Hammer Fall:	30 in.		04/26/23		r Casing Removed	caved @ 13.9		out
tou Size			ROR		MPLES	30 m.	VI			SIFICATION C			Jui
	LO			110 51					LITTOL	on rentitor c	or with the last	111	T
Depth Scale	Sample	_	Depth	Type /	Blows on	Depth of		- coarse medium		and 25 to 50	% / some - 20 to 35	0/	SPT "
(Feet)	No.	From	То	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		- fine			10% / some - 20 to 33 10% / trace - 0 to 10		or RQD
0	1A	0.0	0.5	SS/12	WH-1-2-3	(1 t.)	Topsoil an		Matte		.o,o, trace o to 10	7.0	3
Ŭ	1B	0.0	2.0	20/12						ND, trace CLAY	. trace ORGAN	IC	1
1							Materials (				,		
								, ,	,				
2	2	2.0	4.0	SS/24	3-3-3-4		Brown SILT, trace CLAY (moist, medium stiff)						6
							Brown SIL1, trace CLA1 (moist, medium stiff)						
3													
4	3	4.0	6.0	SS/16	3-2-3-2		Brown SILT, little mf GRAVEL, trace CLAY, trace ROOT Hairs						
							(wet, medi	um stiff)					
5													
6	4	6.0	8.0	SS/24	5-5-5-4		Brown SIL	T, trace C	CLAY	(moist, stiff)			10
_													
7													
_	۔		100	GG /C 1	2 2 2 5		, .	,		.: 00			
8	5	8.0	10.0	SS/24	3-3-3-5		Same as al	ove (wet,	, medi	um stiff)			6
0													1
9													1
10													
10													1
11													
11													
12													
12													
13													
	6	13.5	15.0	SS/18	3-3-3-3		Same as al	ove (wet.	, mediı	um stiff)			6
14		-5.0						(30,	,	,			
15													1
													1
16													1
17													
18						<u> </u>	<u> </u>						]
	7	18.5	19.8	SS/14	11-9-100/4"		Grey SILT, some mf GRAVEL, with ROCK fragments & flour			our	100		
19							(wet, hard)	)					
				i		1	1						1
20					ıbe, C - Core, WH -		Auger refu	ised at 20.	.1'				

ATTAC	HIVIEN	11 10	CEG	REPU	RT NUMBER: 172	E-01-0	124 E)	HIBIT A	1-5: C	3EO I ECHINICAI				
				6035 Co	orporate Drive	ÇI	IDCIIDE	CF FV	DI 4	ORATION	Boring No.	age <u><b>6</b>1</u>	<b>139</b> 154	
		IV			racuse, NY 13057	SU					Page No.		of 2	
	Asso	ciates	, Inc.		315-701-0522		TEST	BORI	NG I	LOG	Report No.	28062B-0		
Project	Name:	Micror	Campi		New York						Date Started		26/23	
Client:		Rambo		, ,,							Date Finished		26/23	
Location	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	0.4'	
					INVESTIGATIO	N			GR	OUNDWATER		IONS		
Driller:		G. Ricl	nard		Casing:	3 ¼" ID	H.S.A.	ъ.		m:	B (1 (T())	<i>a</i> .	A ( (T) )	
Driller:		C. O'H	ara		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspecto	r:	A. Sha	rma, E.	I.T.	Other:			04/26/23		While Drilling	10.3	1.	3.5	
Drill Ri	g:	CME 5	55		Soil Sampler:	2" OD S	plit Barrel	04/26/23		re Casing Removed	16.6	20	).9	
Type:		ATV			Hammer Wt:	140 lbs.		04/26/23		er Casing Removed	5.1	C	ut	
Rod Siz		AWJ			Hammer Fall:	30 in.		04/26/23		er Casing Removed	caved @ 7.0		ut	
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	OF MATERIA	L		
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"	
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium		and - 35 to 50	% / some - 20 to 35	%	or	
(Feet)	No.	From		Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109	<b>%</b>	RQD %	
0	1A	0.0	0.5	SS/14	1-3-5-6		Topsoil and					. — - — .	8	
	1B	0.5	2.0				Brown SIL	T, trace C	CLAY	, trace fine SAND	(moist, stiff)			
1														
2	2	2.0	4.0	GG /1.5	4.4.4.2		G: '1	1 /		20			8	
2	2	2.0	4.0	SS/15	4-4-4-3		Similar as above (wet, stiff)							
2							Sililiar as above (wet, still)							
3														
4	3	4.0	6.0	SS/24	2-2-2-2		Gray/Prov	5 CII T 6	rooo o	emf SAND, trace fi	ina CDAVEL t	rago	4	
7	3	4.0	0.0	33/24	2-2-2		CLAY (we				ilic GRAVEL, il	iacc	7	
5							CLAT (WC	ı, mcarum	1 51111	)				
6	4	6.0	8.0	SS/20	2-3-3-3		Brown SIL	T. trace fi	ine G	RAVEL, trace CL	AY (wet, mediu	m stiff)	6	
								,		,	,	,		
7														
8	5	8.0	10.0	SS/24	3-2-3-3		Brown SIL	T, trace c	mf S	AND, trace CLAY	(wet, medium s	tiff)	5	
9														
10														
1.1														
11														
12														
12														
13														
13	6	13.5	15.0	SS/15	6-21-42		Brown emf	SANDa	nd m	f GRAVEL, trace S	SILT (wet_verv		63	
14		15.5	15.0	22,13	3 21 12		compact)	u	11l.		(, very			
•							1							
15														
16														
17														
18								_			<u>.</u>			
10	7	18.5	20.0	SS/11	3-3-3		Grey/Brow	n cmf SA	ND a	and mf GRAVEL,	trace SILT (wet	, loose)	6	
19														
20														
20				I										

ATTA	CHMEN	NT TO	CEG	REPO	RT NUMBER: 172	E-01-0	124 EXHIBIT A-5: GE	OTECHNICA	L DATA REPORT	
		N A		6035 Co	orporate Drive	ÇI	JBSURFACE EXPLO	RATION	Boring No. Page	<u> <b>61535</b></u> 154
		IV		East Sy	racuse, NY 13057				Page No.	2 of 2
					315-701-0522		TEST BORING LO		Report No. 28062	B-01-0523-R1
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLASSI	FICATION (	OF MATERIAL	
Depth			Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m - medium		0% / some - 20 to 35%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Auger refusal at 20.7'	little - 10 to	20% / trace - 0 to 10%	RQD %
20	8	20.9	21.0	SS/1	100/1"		Grey ROCK chips & flour (	wet)		100+
21							, in the second	,		
							Bottom of Boring at 21'			
22										
23										
23										
24										
2.5	1									
25										
26										
27										
28										
29										
30	-									
31										
32										
22										
33										
34										
35										
36										
37										
38										
39										
40	1									
4.1										
41										

		N/		6035 C	orporate Drive	SI	IBSURF	ACE EX	PI.	ORATION	Boring No.	age <u><b>1</b>8</u> 1	<b>23</b> f 154
		IV	Ę	East Sy	racuse, NY 13057			BORI			Page No.	1	of 2
					315-701-0522		ILSI	DOKI	.10	LOG	Report No.		01-0523-R
roject l	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo									Date Finished		26/23
Location	1:			n Locati		NT.	ı		CD	OUNDWATE	Surface Elev.		94'
<b>.</b>				DS OF	INVESTIGATIO		TT C A		GK	OUNDWATE	R OBSERVAT	IONS	
Driller: Driller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
nspecto	r:		rma, E.	IТ	Other:			04/26/23		While Drilling	5.5	5	3.0
Drill Rig		CME 5			Soil Sampler:	2" OD S	Split Barrel	04/26/23		re Casing Removed			3.4
Гуре:	•	ATV			Hammer Wt:	140 lbs.	-	04/26/23		er Casing Removed		(	out
Rod Size		AWJ			Hammer Fall:	30 in.	•	04/26/23	Afte	er Casing Removed	caved @ 6.3	(	out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION	OF MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N'
Scale	Sample	(F	t.)	Sample	Sampler	Change		medium		and - 35 to 5	0% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 10°	%	RQD %
0	1A	0.0	0.5	SS/16	WH-1-2-4	Topsoil and Organic Matter (moist)  Brown SILT, trace fine SAND, trace CLAY (moist, soft)							
1	1B	0.5	2.0				Brown SIL	T, trace f	ine S	AND, trace CLAY	(moist, soft)		
1													
2	2	2.0	4.0	SS/18	5-5-4-4		Brown SIL	T trace (	LAY	(wet, stiff)			9
_	_	2.0	1.0	55/10	3311		Brown SIE	i, auce c	<i>.</i>	(wet, still)			
3													
4	3	4.0	6.0	SS/15	2-4-4-5		Brown SIL	T and cm	f SAl	ND, little fine GR	AVEL (wet, stiff	<u> </u>	8
5													
_	4.4		7.0	GG /1.0	0.10.60.10		D GII	<b></b>	6.6		DATES (	1 1	0.1
6	4A	6.0	7.0	SS/18	9-12-69-12		Brown SIL	T, trace c	mf Sz	AND, trace fine C	RAVEL (moist,	hard)	81
7	4B	7.0	8.0				Grey mf G	RAVEL 2	ınd cr	nf SAND, trace S	II T (wet)		
,	-D	7.0	0.0				Olcy III O	KA V LL a	ina ci	iii SAND, trace S	illi (wet)		
8	5	8.0	10.0	SS/18	18-27-20-21		Grev/Redd	ish mf GF	RAVE	EL and cmf SANI	D. trace SILT (we	et.	47
	-						compact)				,	,	
9													
							Augered ho	ard at 10.0	0'				
10													
11													
12													
12													
13						1							
	6	13.5	15.0	SS/14	16-10-12	1	Brown cmf	f SAND a	nd m	f GRAVEL, little	SILT (wet, medi	um	22
14						1	compact)			,	, ,		
							- /						
15						1							
						1							
16						1							
1.7						1							
17						1							
18						1							
10	7	18.5	20.0	SS/-	8-14-18	1	Grev cmf S	SAND 1in	tle fin	ne GRAVEL, trac	e SILT (wet_con	nnact)	32
19	,	10.5	20.0	55/-	0-17-10	1		الا بريد بريد بريد بريد بريد بريد بريد بريد	.10 111	ic Givi v EL, naci	c SILI (wei, coll	paci)	34
						1							
20													
		n, U - 1	Undist	urbed T	ube, C - Core, WH -	Weight o	of Hammer	+ Rod, W	R - W	eight of Rod			
emarl	ks:												

EXHIBIT A-5: GEOTECHNICAL DATA REPORT - PHASE 1 ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 Boring No. Page **B1736** 15 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-01-0523-R1 **LOG OF BORING SAMPLES** VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or (Feet) No. From To Rec. (in.) Per 6 Inches (Ft.) f - fine little - 10 to 20% / trace - 0 to 10% RQD % 20 21 22 Auger refusal at 23.3' 23 8 23.4 23.5 100/1" Grey ROCK fragments & flour (wet) 100+ Bottom of Boring at 23.5' 24 25 26 27 28 29 30 31 32 33 34 35

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

Remarks:

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ATTA		VI IO	CEG	KEPU	RT NUMBER: 172	∠E-01-0	1124 E	KHIRII A	1-5: C	3EO I ECHNICA					
		N/		6035 Co	orporate Drive	SI	IRSHRE	CEFY	PI 4	ORATION	Boring No.	age <u><b>1</b></u>	<b>83</b> 154		
		IV		East Sy	racuse, NY 13057			BORI			Page No.		of 2		
	Asso	ciate	s, Inc.	Phone:	315-701-0522		1651	BUKII	NG	LUG	Report No.	28062B-0	01-0523-R1		
Project	Name:			us, Clay,	New York						Date Started	04/2	26/23		
Client:		Rambo	oll								Date Finished	04/2	26/23		
Locatio	n:			on Locati							Surface Elev.		93'		
		ME	THO	DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	TONS			
Driller:		G. Ric			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casino	At (Ft.)		
Driller:		C. O'H			Casing Hammer:						• ` `				
Inspect			rma, E.	I.T.	Other:			04/26/23		While Drilling	none noted		8.5		
Drill Ri	g:	CME 5	55		Soil Sampler:		Split Barrel	04/26/23		re Casing Removed	4.5		3.5		
Type:		ATV			Hammer Wt:	140 lbs.		04/26/23		er Casing Removed	3.6 caved @ 3.9		out		
Rod Siz		AWJ	DOD	INC C	Hammer Fall:	30 in.	1/16			er Casing Removed	)		out		
	LU	ı		ING SA	AMPLES	<u> </u>	VIX	SUAL C	LAS	SIFICATION C	JF MIATERIA	L	1		
Depth			Depth	Type /	Blows on	Depth of		coarse					SPT "N"		
Scale	Sample		t.)	Sample	Sampler	Change		medium			0% / some - 20 to 35		or		
(Feet)	No.	From	To 0.5	Rec. (in.) SS/16	Per 6 Inches WH-1-1-3	(Ft.)	Topsoil and	- fine	Matt		20% / trace - 0 to 10°	<del>%</del> 0	RQD %		
U	1A	0.0	2.0	55/16	WH-1-1-3					AND, trace CLAY	(maint anft)		2		
1	1B	0.5	2.0				Brown SIL	1, trace ii	(moist, soit)						
1															
2	2	2.0	4.0	SS/22	4-4-4-4		Same as ah	ove (wet	medi	ium stiff)			8		
2		2.0	7.0	55/22	7-7-7-7		Same as above (wet, medium stiff)								
3															
3															
4	3	4.0	6.0	SS/24	2-3-2-2		Brown SIL	T. trace C	LAY	(wet, medium stif	ff)		5		
								-,		(,	)				
5															
6	4	6.0	8.0	SS/24	2-2-2-3		Same as ab	ove (wet,	medi	ium stiff)			4		
7															
						<u>  </u>	<b>_</b>					. — - — .			
8	5	8.0	10.0	SS/21	2-2-5-13					AND, trace cmf G	RAVEL, trace C	CLAY	7		
							(moist, med	dium stiff	)						
9															
10															
10															
11															
11															
12															
12															
13															
13	6	13.5	15.0	SS/6	11-11-8		Grev ROC	K fragmei	nts an	nd ROCK flour, litt	tle SILT, trace n	nf	19		
14			-2.0	]			GRAVEL					-			
								, ,		1 /					
15	1														
16															
17															
18															
	7	18.5	20.0	SS/5	3-6-9		Grey SILT	and cmf	SANI	D, little mf GRAV	EL (wet, stiff)		15		
19															
20	I			I			Ī						1		

CVE Associates, Inc.
LOC OF BOR

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

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **§1939** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Associates, Inc. Phone: 315-701-0522						TEST BORING L	OG	Report No. 28062	B-01-0523-R1
	LOG OF BORING SAMPLES						VISUAL CLASS	IFICATION C	OF MATERIAL	
Depth Scale (Feet)	Sample No.	Sample (F From	Depth t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		% / some - 20 to 35% 0% / trace - 0 to 10%	SPT "N" or RQD %
21										
22 23							Augered hard at 23.4' and a	refused at 23.5'		-
24	8	23.5	23.5	SS/0	100/0"		Grey ROCK fragments at to Bottom of Boring at 23.5'	ip of spoon		100+
25										
26										
27										
28 29										
30	_									
31										
32										
33										
34										
36										
37										
38										
39										
41										
42										
43										
44										
45										

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

ATTAC	PHIME	VI 10	CEG	REPU	DRT NUMBER: 172	2E-01-0	1124 E	KHIBIT A	b: (	JEO I ECHNICAI			
				6035 Co	orporate Drive	SI	IRSHRE	ACE EX	PI (	ORATION	Boring No.	age <u></u>	<b>9</b> 40 154
		IV			racuse, NY 13057	50					Page No.		of 2
	Asso	ciates	, Inc.	Phone:	315-701-0522		1621	BORI	NG.	LUG	Report No.	28062B-0	01-0523-R1
Project	Name:	Micror	Campi	us, Clay,	New York						Date Started	04/2	27/23
Client:		Rambo	11								Date Finished	04/2	27/23
Location	n:	See Ex	ploratio	on Locati	ion Plan						Surface Elev.	39	1.4'
		ME	THO	DS OF	INVESTIGATIO	N			GR	ROUNDWATER	OBSERVAT	IONS	
Driller:		G. Ricl	nard		Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Cosina	At (Ft.)
Driller:		C. O'H			Casing Hammer:							_	
Inspecto		A. Sha		I.T.	Other:			04/27/23		While Drilling	10.8		8.5
Drill Ri	g:	CME 5	5		Soil Sampler:		Split Barrel	04/27/23		ore Casing Removed	5.1	2:	3.5
Type:		ATV			Hammer Wt:	140 lbs.		04/27/23		er Casing Removed	3.8		out
Rod Siz		AWJ			Hammer Fall:	30 in.		04/27/23		er Casing Removed	caved @ 4.1		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C.	LAS	SIFICATION C	DF MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	3.5		0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/17	WH-2-3-5		Topsoil and						5
1	1B	0.5	2.0				Brown SIL	1, trace fi	ne S.	AND, trace CLAY	(moist, medium	i stiff)	
1													
2	_	2.0	4.0	SS/15	4-4-4-3		Dansara CII	T +==== C	T A X	/ (vvot stiff)			8
2	2	2.0	4.0	33/13	4-4-4-3		Brown SIL	1, trace C	(wet, stiff)			8	
3													
3													
4	3	4.0	6.0	SS/23	2-3-3-3		Similar as	ahove (we	t me	edium stiff)			6
7	3	7.0	0.0	33/23	2-3-3-3		Sillilai as	above (we	ι, πι	alum sum)			
5	1												
3													
6	4	6.0	8.0	SS/24	3-3-2-3		Similar as	above (we	t. me	edium stiff)			5
		0.0							-,				
7													
8	5	8.0	10.0	SS/24	WH-2-3-3		Brown SIL	T, trace fi	ne S	AND, trace CLAY	(wet, medium s	stiff)	5
9													
10													
11													
12													
12													
13													
13	6	13.5	15.0	SS/14	8-8-10		Brown CII	T come a	mf c	AND, little mf GR	AVEL (moist r	erv	18
14		13.3	13.0	14 /66	0-0-10		stiff)	,, some C	шэ	AND, HUICHH UK	AT V DE (IIIOISI, V	Ci y	10
17							Suii)						
15	1						Augered ha	ard at 16	)' (no	ssible cobbles)			
15							gorou m	10.	P				
16													
17													
18													
	7	18.5	20.0	SS/13	4-3-7		Grey cmf S	SAND and	l mf (	GRAVEL, some SI	LT (wet, mediu	m	10
19						compact)							
20				Ī								1	

CME Associates, Inc 6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **B2240** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

					315-701-0522		TEST BURING I		Report No. 28062	B-01-0523-R1
LOG OF BORING SAMPLES  Depth   Sample Depth   Type / Blows on   Depth of   C - coarse   C - coar									OF MATERIAL	
Depth Scale (Feet)	Sample No.			Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20										
21										
22										
23	8	23.5	24.8	SS/14	44-63-100/4"		Grey cmf SAND and mf (	GRAVEL, trace S	ILT. trace ROCK	100+
24					.,		fragments & flour (moist,		,	
25							Bottom of Boring at 24.8'			
26										
27										
28										
29										
30										
31										
32										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
	1:4 C	. II 1	Tanalia ta	ula ad Ta	sha C Cara WII V	Maialet a	f Hammer + Rod WR - W	alaht af Dad		

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

				6035 Co	orporate Drive	SI	UBSURFA	ACE EX	XPLO1	RATION	Boring No.	rage <u>i</u> g₂	<b>240</b> 154
		IV	Ę	East Sy	racuse, NY 13057			Γ BORI			Page No.	1	of 2
					315-701-0522		11231	L DOKI	110 L(		Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		27/23
Client:		Rambo									Date Finished	04/	27/23
Locatio	n:			on Locati							Surface Elev.		93.5'
		ME	THO	DS OF	INVESTIGATIO				GRO	UNDWATER	R OBSERVAT	TIONS	
Driller:		G. Ric			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Driller:		C. O'H			Casing Hammer:								
Inspecto			rma, E.	I.T.	Other:			04/27/23		hile Drilling	6.8		3.5
Drill Ri	g:	CME 5	55		Soil Sampler:		Split Barrel	04/27/23		Casing Removed	13.0		25.5
Type: Rod Siz		ATV AWJ			Hammer Wt: Hammer Fall:	140 lbs.	•	04/27/23		Casing Removed	3.9 caved @ 5.1		out
Rou Siz			DOD	INC C		30 in.	1/1			Casing Removed			out
	LU			ING SA	AMPLES		V 1	SUAL C	LASSI	IFICATION (	OF MATERIA	<b>L</b>	1
Depth		_	e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			0% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/22	Per 6 Inches 1-1-1-5	(Ft.)	Topsoil an	f - fine	Motton		20% / trace - 0 to 10	%	RQD %
U	1B	0.0	2.0	33/22	1-1-1-3					ID, trace CLAY	(moist soft)		1 2
1	10	0.5	2.0				DIOWII SIL	.1, mme 1	ille SAN	D, Hace CLA I	(IIIOISI, SOII)		
1													
2	2	2.0	4.0	SS/13	5-4-4-4		Brown SII	T trace o	emf SAN	ND trace fine G	RAVEL, trace C	LAY	8
_	_	2.0	1.0	55/15			(moist, me			vib, trace fine G	Id I v EE, tidee C	<i>2</i> <b>L</b> 111	
3							(moist, me	aram star	·• <i>)</i>				
Ü													
4	3	4.0	6.0	SS/18	WH-WH-WH-1		Brown SIL	T and cm	nf SANI	D. trace mf GRA	VEL (wet, very	soft)	0
										,	(,)	,	
5													
6	4	6.0	8.0	SS/20	6-15-9-9		Brown cm	f SAND,	some m	f GRAVEL, littl	e SILT (wet, me	dium	24
							compact)				·		
7													
8	5	8.0	10.0	SS/15	28-19-19-36		Brown cm	f SAND a	and mf C	GRAVEL, trace	SILT (moist, co	mpact)	38
9													
10													
11													
10													
12													
12													
13	6	13.5	15.0	SS/17	12-10-13		Similar ac	ahova (m	at madi	um compact)			23
14	U	13.3	13.0	SS/1/	12-10-13		Similar as	above (We	ci, meai	um compact)			23
14													
15													
13													
16													
10													
17													
1,													
18													
	7	18.5	20.0	SS/-	48-73-53		Grey/Redd	lish mf Gl	RAVEL	and cmf SAND	, trace SILT, tra	ce	126
19	,	- 5.5	= 3.3	]			ROCK fra				,,	-	-20
-								- (	, <b>j</b>	1 /			
20													

CME Associates, Inc.

6035 Corporate Drive
East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Ass	ciates	, Inc.	Phone: 3	315-701-0522		TEST BORING I	LOG	<b>Report No.</b> 28062B-0	1-0523-R1
					AMPLES		VISUAL CLASS	SIFICATION C	OF MATERIAL	
Depth			Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)	m - medium f - fine		% / some - 20 to 35% 20% / trace - 0 to 10%	or RQD %
20							•			
21										
22										
23	8	23.5	25.5	SS/13	WH-1-19-38		Grey cmf SAND and mf G	GRAVEL (wet, me	edium compact)	20
24										
25	9	25.5	26.7	SS/14	53-84-100/2"		Grey cmf SAND and mf G	GRAVEL, trace RO	OCK fragments & flour	100+
26							(wet, very compact)  Auger refusal at 26.7'		J	
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

ATTAC	ו אואורי.	VI IO	CEG	KEPU	RT NUMBER: 172	E-01-0	124 E	VUIDII A	1-0: (	GEOTECHNICA			
				6035 Co	orporate Drive	SI	JBSURFA	ACE EX	KPI.	ORATION	Boring No.	age <u>B12</u>	<b>99</b> 1154
		IV			racuse, NY 13057			BORI			Page No.		of 2
					315-701-0522			DUKI	NG	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:			us, Clay,	New York						Date Started	05/0	)4/23
Client:		Rambo									Date Finished		04/23
Location	n:			on Locati							Surface Elev.		7.7'
				DS OF	INVESTIGATIO				GF	ROUNDWATER	OBSERVAT	IONS	
Driller:		G. Ric			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		C. O'H			Casing Hammer:						- ' '	_	
Inspecto			cDough	all	Other:			05/04/23		While Drilling	none noted		2.0
Drill Ri	g:	CME 5	55		Soil Sampler:		Split Barrel	05/05/23		ore Casing Removed	7.3		2.3
Type:		ATV			Hammer Wt:	140 lbs.		05/05/23 05/05/23		er Casing Removed	none noted	C	out
Rod Siz		AWJ	DAD	INC C	Hammer Fall: AMPLES	30 in.	3716			er Casing Removed SSIFICATION C	NE MATERIA	T	
	LU			ING SA	AMPLES		VIX	SUAL C	LAS	SIFICATION C	JF MIATERIA	L	
Depth		_	Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			0% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/18	Per 6 Inches WH-1-2-3	(Ft.)	Topsoil and	- fine	Mat		20% / trace - 0 to 109	70	RQD %
U	1A 1B	0.0	2.0	33/18	νν Π-1-Δ-3					AND, trace CLAY	(moist modium	ctiff	3
1	ΙĎ	0.5	∠.0				DIOMII SIL	1, some n	ш 5/	AND, HACE CLAY	(moist, mealum	51111 <i>)</i>	
1													
2	2	2.0	4.0	SS/24	2-3-2-2		Brown SII	T some (	CLA	Y, trace fine SAND	) (wet_medium (	stiff)	5
	_	2.0		55,27	2322					ined from 3 to 5 fee		,	
3							borehole a				a separate		
							LL=28 P1			V <sub>0</sub>			
4	3	4.0	6.0	SS/24	2-3-3-4					AND (wet, mediun	n stiff)		6
'								,	~	(,	,		
5													
6	4	6.0	8.0	SS/24	3-4-4-5		Brown SIL	T, trace c	mf S	AND (wet, medium	n stiff)		8
7													
8	5	8.0	10.0	SS/16	4-8-9-5		Brown SIL	T, trace c	mf S	AND, trace CLAY	(wet, very stiff)	)	17
_													
9													
1.0	_	100	12 ^	ac /2 +	2 4 2 2		D /~	OTT 75		CCANT			
10	6	10.0	12.0	SS/24	3-4-2-3			y SILT, tı	race	mf SAND, trace Cl	LAY (wet, medi	um	6
1.1							stiff)						
11													
12	7	12.0	14.0	SS/24	WHOID		Croy CIL T	gama CI	A 37	trace fine CAND	(wet soft)		,
12	7	12.0	14.0	33/24	WH-2-1-2		LL=20 P1			trace fine SAND (	wei, son)		3
13							LL-20 PI	−5 MC=2	Z / 7/0				
13													
14	8	14.0	16.0	SS/24	1-1-1-5		Grev CLA	Y and SII	T to	race fine SAND (w	et soft)		2
1-7	U	17.0	10.0	00/2 <b>7</b>	1-1-1-3					empted from 14 to1			
15										et offset - No Recov			
							LL=30 P1						
16	9	16.0	18.0	SS/7	7-8-5-6					SILT, trace fine GR	AVEL (wet, me	dium	13
				'			compact)	, 50	2	, 2 310	- ( z., me		
17													
18													
	10	18.5	20.0	SS/10	WH-2-2				e SII	LT, trace fine GRA	VEL, trace CLA	ΑY	4
19							(wet, medi	um stiff)					
20							[						

ATTAC	CHMEN	IT TO CE	G
	C Asso	Ciates, In	C
	LO	G OF BO	R
Depth		Sample Dept	th

6035 Corporate Drive East Syracuse, NY 13057

### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Asso	ciate	, Inc.	Phone: 3	315-701-0522		TEST BORING L	LOG	Report No. 28062	B-01-0523-R1
	LO	G OF	BOR	ING SA	MPLES		VISUAL CLASS	SIFICATION (		
Depth Scale (Feet)	Sample No.		Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
21							Augered hard at 21.5'			-
22 23	11	22.3	22.3	SS/1	100/0"		Grey ROCK fragments (wo	et)		100+
24							Bottom of Boring at 22.3'			
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

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	ZPI.	ORATION	Boring No.	age <u>1</u> 82	<b>605</b> 154
		IV			racuse, NY 13057			Γ BORI			Page No.		of 2
	Ass	ociates	s, Inc.	Phone:	315-701-0522		1691	I DUKI	NG.	LUG	Report No.	28062B-0	01-0523-R1
Project	Name:	Micror	n Camp	us, Clay,	New York						Date Started	05/	04/23
Client:		Rambo									Date Finished		04/23
Locatio	n:			n Locati		N T		ı	CE		Surface Elev.		38.1'
Driller:				DS OF	INVESTIGATIO		TI C A		GR	COUNDWATER	OBSERVAT	IONS	
Driller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID	н.з.А.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto			ara cDough	all	Other:			05/04/23		While Drilling	none noted	1	8.5
Drill Ri		CME 5	_		Soil Sampler:	2" OD S	Split Barrel	05/04/23		ore Casing Removed	4.9		3.5
Type:	_	ATV			Hammer Wt:	140 lbs.		05/04/23	Aft	er Casing Removed	none noted	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		05/04/23		er Casing Removed			
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change	m -	medium			% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/12	Per 6 Inches WH-WH-2-3	(Ft.)	Topsoil an	f - fine d Organic	Mat		20% / trace - 0 to 109	<del>//</del> 0	RQD %
U	1B	0.5	2.0	55/12	W11-W11-2-3		-	_		ND, trace CLAY (	(moist, soft)		2
1	12	0.0					PP = 1.75,			(2)	(11101011, 0011)		
2	2	2.0	4.0	SS/21	4-5-4-5		Brown SIL	T, trace C	CLAY	, trace mf SAND (	(moist, stiff)		9
3													
4	3A	4.0	5.0	SS/24	4-6-6-7		Brown SII	T come t	nf S A	AND, trace CLAY	(wat stiff)		12
7	JA	4.0	5.0	33/24	4-0-0-7		Diowii SiL	zi, some i	III SF	IND, HACE CLAT	(wet, still)		12
5	3B	5.0	6.0				Brown SIL	T, little n	nf SA	ND, trace CLAY (	wet, stiff)		
								,					
6	4	6.0	8.0	SS/20	4-5-4-6		Brown SIL	T, trace n	nf SA	ND (wet, stiff)			9
-													
7													
8	5	8.0	10.0	SS/18	4-5-6-5		Brown SII	T little c	mf S	AND, trace CLAY	(wet_stiff)		11
O		0.0	10.0	55/10	1505		Brown SIE	31, 111110	51	in (B), made CE/11	(1100, 50111)		11
9													
10	6	10.0	12.0	SS/22	5-4-4-4		Grey SILT	, trace CL	AY (	(wet, stiff)			8
11													
11													
12	7	12.0	14.0	SS/20	1-4-7-5		Grev SILT	. trace fin	e GR	AVEL, trace cmf S	SAND (moist, st	iff)	11
								,		,	(,	)	
13													
14													
15	-												
13													
16													
17													
10													
18	o	10.5	20.0	00/10	WII 2 11		Cmarr CII T	` +ua = -	.co.v.	NID tropp CI ASZ	tua a a fin - CD A 3	/EI	12
19	8	18.5	20.0	SS/18	WH-2-11		(wet, moist		ır SA	ND, trace CLAY, t	race line GKAV	/ EL	13
17							(wet, mois	·)					
20	1												

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

CME Associates, Inc
LOG OF BOR

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Ass	ociate	s, Inc.	Phone:	315-701-0522		LEST BURING	LUG	<b>Report No.</b> 280621	B-01-0523-R1
					AMPLES		VISUAL CLAS	SIFICATION (	OF MATERIAL	
Depth Scale (Feet)	Sample No.		e Depth Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50 little - 10 to 2	0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20 21										
22 23										
24	9	23.5	24.8	SS/15	8-29-100/3"		Grey ROCK fragments, tr Bottom of Boring at 24.8'			100+
25										
26										
27 28										
29										
30										
31										
32										
33										
34										
36										
37										
38										
39										
40										
41										
42										
44										
45	-									

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

		NA		6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.	age 🎉	2 <b>8 p</b> f 154
		IV		-	racuse, NY 13057			BORII			Page No.	1	of 1
		ociates			315-701-0522		1231		., (7)	200	Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		/27/23
Client:		Rambo		T ·	on Dlaw						Date Finished		/27/23
Location	11:			on Locati	ion Plan ' INVESTIGATIO	N	<del> </del>	1	CD	  ROUNDWATER	Surface Elev.		92.9'
Driller:		G. Ricl		UU UI	Casing:	3 ¼" ID	H.S.A		GK				
Driller:		C. O'H			Casing Hammer:	J /4 11D	11.0./1.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto			rma, E.	I.T.	Other:			04/27/23	$\vdash$	While Drilling	none noted		4.0
Drill Ri		CME 5			Soil Sampler:		Split Barrel	04/27/23	Befo	ore Casing Removed	2.9		11.6
Type:		ATV			Hammer Wt:	140 lbs.		04/27/23		er Casing Removed	3.3		out
Rod Siz		AWJ	T	F3. 7 - 7 - 7	Hammer Fall:	30 in.		04/27/23		er Casing Removed	caved @ 7.6		out
ļ,	LO	1		ING SA	AMPLES		VIS	SUAL C	LAS	SSIFICATION C	OF MATERIA	<u>L</u>	
Depth	[		e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Fact)	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35°		or
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/18	Per 6 Inches WH-1-2-3	(Ft.)	Topsoil and	f- fine d Organic	Mott		20% / trace - 0 to 109	/0	RQD %
	1A 1B	0.0	2.0	20/18	vv11-1-2-3					(moist, soft)		. — - —	,
1	''	3.5	2.0					_, (	-411	(			
	1												
2	2	2.0	4.0	SS/19	3-4-4-3		Similar as	above (we	t, stit	ff)			8
	1												
3	1												
	,	40	(0	00/04	2 4 2 2		C::1	a <b>h</b> ===	.+	vdines etico			7
4	3	4.0	6.0	SS/24	3-4-3-2		Similar as	auove (We	ει, m€	edium stiff)			7
5	1												
	1												
6	4	6.0	8.0	SS/23	2-2-1-2		Brown SIL	T, trace fi	ine S	AND, trace CLAY	(wet, soft)		3
	[		1								,		
7	[		1										
0	ا ہے ا	0.0	10.0	00/00	2116		C 1 5.	1. OTT T		ome ECLAND	f CD ATTER	<b>10</b> C :	
8	5	8.0	10.0	SS/22	2-1-1-6		Greyish Pin		some	cmf SAND, trace	ını GKAVEL, tı	race	2
9	<b>[</b> 1						CLAI, (W	ci, soit)					
	<b>[</b> 1												
10	1												
	1						L		_				]
11	[		1				Auger refu				<b></b>		
	6	11.6	11.7	SS/1	100/1"					nents & flour (wet)			100+
12	[		1				Bottom of	Boring at	11.7'	•			
12	<b>[</b> 1												
13	<b>[</b> 1												
14	<b>[</b> 1												
•	<b>[</b> 1												
15	<b>1</b> 1												
	1												
16	1												
1	<b> </b>												
17	<b>[</b> 1												
18	<b>[</b> 1												
10	<b>[</b> 1												
19													
						1							
20	l i	l		1	1	1							1

6035 Corporate Drive

Boring No. Page 1829 33 154

		RA		6035 Cc	orporate Drive	SI	<b>IBSURF</b>	ACE EX	CPL (	ORATION	Boring No.	age B	333 107
		IV	Ę	-	racuse, NY 13057			BORI			Page No.		of 1
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		TEST	DOKI	1101	LOG	Report No.	28062B-0	1-0523-R1
Project	Name:	Micror	n Camp	us, Clay,	New York						Date Started	05/0	)2/23
Client:		Rambo	oll								Date Finished	05/0	)2/23
Location	n:			on Locati							Surface Elev.		4.9'
		ME	THO	DS OF	INVESTIGATIO	N			GR	OUNDWATER	OBSERVAT	IONS	
Driller:		G. Rich			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller: Inspecto	or:	C. O'H	ara		Casing Hammer: Other:			05/02/23		While Drilling	13.8	1	8.5
Drill Ri		CME 5	55		Soil Sampler:	2" OD S	Split Barrel	05/02/23		re Casing Removed	none noted		8.5
Type:	<b>.</b>	ATV			Hammer Wt:	140 lbs.	-	05/02/23		er Casing Removed	none noted		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		05/02/23		er Casing Removed			
		G OF	BOR	ING SA	AMPLES		VIS			SIFICATION C	F MATERIA	L	
D 1			e Depth										GDT ID III
Depth Scale	Sample	Sample (F		Type /	Blows on Sampler	Depth of		coarse medium		and 25 to 50	% / some - 20 to 35	0/.	SPT "N" or
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1A	0.0	0.5	SS/10	WH-WH-1-4	(1)	Topsoil and		Matt		0 10 10		1
	1B	0.5	2.0	55/10						ND, trace ROOTS	(moist_very so	ft)	1 1
1	12	0.5	2.0				Brown Sil	, i i i i i i i i i i i i i i i i i i i	571	110, 1100 1100 12	(moist, very so	10)	
2	2	2.0	4.0	SS/14	4-5-4-4		Similar soi	l as above	e (moi	st, stiff)			9
	_			55/11					(11101	.50, 50111)			
3													
4	3	4.0	6.0	SS/8	2-2-2-2		Brown SII	T trace n	nf SA	ND (wet, medium	stiff)		4
	3	1.0	0.0	55/0	2222		Brown SIL	71, mace n	III 57 I	(wet, medium	Still)		' I
5													
6	4	6.0	8.0	SS/17	1-1-5-3		Brown SII	T little m	nf SAl	ND, trace mf GRA	VEL (wet_med	ium	6
0		0.0	0.0	55/17	1133		stiff)	, muic n	11 57 11	, uuce iii Gid	VEE (wet, mea	IGIII	
7							Juli j						
,													
8	5	8.0	10.0	SS/19	2-12-34-23		Brown cm	f SAND. s	some	mf GRAVEL, little	e SILT (wet, cor	npact)	46
								,		,	,	1 /	
9													
10													
11													
12													
13	6A	13.5	15.0	SS/14	11-21-36				ILT aı	nd cmf SAND, tra	ce mf GRAVEL	, trace	57
							CLAY (we						
14	6B	18.5	20.0					SAND, lit	tle SII	LT, trace fine GRA	AVEL (wet, very	/	
							compact)						
15							Drilled thr	ough COI	BBLE	from 15.9' to 16.4	,		
16													
17													
4.0													
18	_	4.0 -							~	GB 177 /			
10	7	18.5	20.0	SS/18	7-24-41		Grey cmf S	SAND, tra	ice fir	ne GRAVEL (wet,	very compact)		65
19													
- 20							D 2	D :	20.0:				
20						<u> </u>	Bottom of	Boring at	20.0'				

20 Bottom of Boring at 20.0'
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

		N		6035 Co	orporate Drive	SI	URSURF	ACE EX	<b>XPLORATION</b>	Boring No.	age B30	301 154
		IV		East Syr	racuse, NY 13057				NG LOG	Page No.		of 2
					315-701-0522		11231	DOM	110 100	Report No.		
Project	Name:			us, Clay,	New York					Date Started	05/0	
Client:		Rambo								Date Finished	05/0	
Locatio	n:		•	on Locati		N T			CDOLINDAYATE	Surface Elev.	39'	7.8'
				DS OF	INVESTIGATIO		** * .		GROUNDWATE	R OBSERVAT	TONS	
Driller:		G. Ric			Casing:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		C. O'H	ara		Casing Hammer:			05/02/22		• ` ` ′		. ,
Inspecto		CME 4			Other:	211 OD (	212. D1	05/02/23	While Drilling	1 1.0	22	
Drill Ri	g:	CME 5	))		Soil Sampler: Hammer Wt:	2" OD S	Split Barrel	05/02/23 05/02/23	Before Casing Removed			3.5
Гуре: Rod Siz	0.	AWJ			Hammer Fall:	30 in.		05/02/23	After Casing Removed After Casing Removed		0	ut
XUU SIZ			DΩD	INC S	AMPLES	30 III.	VI		LASSIFICATION		T	
	LU	I		ING SE	AMILES		V 1	SUAL C	LASSIFICATION	OF MATERIA	\L	
Depth			Depth	Type /	Blows on	Depth of		- coarse				SPT "N"
Scale	Sample No.	(F From	To	Sample	Sampler	Change		medium - fine		50% / some - 20 to 35		or
(Feet)	1A	0.0	0.5	Rec. (in.) SS/15	Per 6 Inches WH-WH-3-3	(Ft.)			Matter (moist)	20% / trace - 0 to 10	70	RQD %
U	1B	0.5	2.0	55/13	W11-W11-3-3				nf SAND (moist, soft)			5
1	1.0	0.5	2.0				Diown Sil	i, trace i	iii 57111D (moist, soit)			
•												
2	2	2.0	4.0	SS/21	3-4-4-5		Similar as	above (m	oist, stiff)			8
									, ,			
3												
4	3	4.0	6.0	SS/13	3-2-2-4		Similar as	above (we	et, medium stiff)			4
5												
6	4	6.0	8.0	SS/24	2-3-3-3		Similar as	above (we	et, medium stiff)			6
7												
	_	0.0	400	~~ /2 /			a: '1	• .	0)			•
8	5	8.0	10.0	SS/24	1-2-1-3		Similar as	above (we	et, soft)			3
0												
9												
10	ł											
10												
11												
11												
12												
13						L_	1					
	6	13.5	15.0	SS/18	14-18-19		Brown SII	T, some 1	mf SAND, trace mf GF	RAVEL (wet, har	d)	37
14												
15												
16												
17												
10												
18	_	10.5	20.0	99.45	26.12.60		D 1 ~	OH	d construct	004377		1.0
10	7	18.5	20.0	SS/12	26-43-69			SILT, litt	tle cmf GRAVEL, trac	e cmf SAND (mo	oist,	112
19							hard)					
20												
20				I		1						

CME Associates, Inc 6035 Corporate Drive
East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **B3334** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Asso	ciates	, Inc.	Phone: 3	315-701-0522		TEST BORING L	OG	<b>Report No.</b> 280621	3-01-0523-R1
		G OF	BOR	ING SA	AMPLES		VISUAL CLASS	IFICATION C		
Depth Scale (Feet)	Sample No.		Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20							-			
21										
22 23										
	8	23.5	24.3	SS/10	41-100/2"		Similar as above (moist, har	rd)		100+
24							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	1									

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

ATTAC	ו IVIEI	VI IO	CEG	KEPU	RT NUMBER: 172	E-01-0	124 E	ZUIRLI E	1-5: C	SEO I ECHNICA			
		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	PI 4	ORATION	Boring No.	age <u><b>1</b>83</u>	<b>33</b> f 154
		IV			racuse, NY 13057			BORI			Page No.	1	of 2
		ociates			315-701-0522		ILSI	DUKI	10	LUG	Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		02/23
Client:		Rambo									Date Finished		02/23
Locatio	n:			on Locati		<b>.</b> T	1		- CP	OLINIDAL AND	Surface Elev.		)3.9'
				DS OF	INVESTIGATIO		TT G .		GR	OUNDWATER	OBSERVAT	TONS	
Driller: Driller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r.	С. Оп	ага		Other:			05/02/23		While Drilling	7.9	2	3.5
Drill Ri		CME 5	55		Soil Sampler:	2" OD S	Split Barrel	05/02/23		re Casing Removed	6.1		8.8
Type:	ь.	ATV			Hammer Wt:	140 lbs.	-	05/02/23		er Casing Removed	none noted		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		05/02/23		er Casing Removed			
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C		SIFICATION O	F MATERIA	L	
Depth		Sample	Depth	l	Blows on		C -	coarse					SPT "N"
Scale	Sample	(F		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	8-				0% / trace - 0 to 10°	%	RQD %	
0	1A	0.0	0.5	SS/10	WH-1-WH-1								1
	1B	0.5	2.0				Brown SIL	T, trace C	, trace fine SAND	(moist, soft)			
1													
		2.0	4.0	GG /0.1	2 2 2 2		G: '1	1 /		1:			
2	2	2.0	4.0	SS/21	3-3-3-3		Similar as	above (mo	nedium stiff)			6	
3													
3													
4	3	4.0	6.0	SS/24	3-4-6-6		Similar as	ahove (m	siet e	tiff)			10
_	3	4.0	0.0	33/24	3-4-0-0		Sillillal as	above (III	J151, 5	1111)			10
5													
6	4	6.0	8.0	SS/15	4-4-5-6		Similar as	above (we	et, stif	f)			9
7													
8	5	8.0	10.0	SS/24	4-5-8-11		Similar as	above (we	et, stii	1)			13
0													
9													
10													
11													
12													
13		12.5	15.0	00/10	4.2.2		G /D	OH TO		CCAND : C			
1.4	6	13.5	15.0	SS/12	4-3-3			n SILT, t	race r	nf SAND, trace Cl	LAY (wet, medi	um	6
14							stiff)						
15													
1.5													
16													
17													
18		l					<u> </u>					. <u></u>	
10	7	18.5	20.0	SS/6	7-10-12			SAND, 1	ittle 1	nf GRAVEL, trace	e SILT (wet, me	dium	22
19							compact)						
20													
- /1/	•												

CME Associates, Inc 6035 Corporate Drive
East Syracuse, NY 13057

### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **B3336** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Associates, Inc. Phone: 315-701-0522						TEST BORING I	LOG	Report No. 28062B	-01-0523-R1				
					AMPLES		VISUAL CLAS	SIFICATION (						
Depth		Sample	e Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"				
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)	m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	or RQD %				
20	140.	Tiom	10	Rec. (III.)	1 cr o menes	(11.)	1 - IIIC	ntic - 10 to 2	20707 trace - 0 to 1070	KQD 70				
21														
22														
23	8	23.5	25.0	SS/10	17-13-17		Grey/Brown cmf SAND, s	some SII T trace i	mf GRAVEL (moist	30				
24		23.3	23.0	55/10	17-13-17		compact)	some SIL1, trace i	mi GRAVEL (moist,	30				
25														
26														
27														
28	9	28.8	29.2	SS/5	100/5"		Grey cmf SAND same m	fGRAVEL trace	SII T (wat vary	100+				
29		26.6	29.2	33/3	100/3		Grey cmf SAND, some mf GRAVEL, trace SILT (wet, very compact) <i>ROCK fragments, ROCK flour noted</i> Bottom of Boring at 29.2'							
30						Bottom of Boring at 27.2								
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

ALIAC	ואואו <u>חי</u>	VI IO	CEG	KEPU	RT NUMBER: 172	E-01-0	124 E)	KHIRLL A	1-5: C	SEO LECHINICAI			
		N/		6035 Co	orporate Drive	T2	IRSURE	CEFY	PI 4	ORATION	Boring No.	age <u><b>6</b>3</u>	<b>4</b> 38 154
		IV			racuse, NY 13057						Page No.		of 2
		ociates			315-701-0522		IESI	BORI	NG	LUG	Report No.	28062B-0	01-0523-R1
Project	Name:	Micror	n Camp	us, Clay,	New York						Date Started		03/23
Client:		Rambo	oll								Date Finished	05/0	03/23
Location	n:			on Locati							Surface Elev.		4.4'
				DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	IONS	
Driller:		C. O'H			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		G. Rich			Casing Hammer:								
Inspecto		D.Mac	_	1	Other:	211 OD 6	114 D 1	05/03/23		While Drilling	none noted		8.5
Drill Rig	g:	CME 5	)5		Soil Sampler: Hammer Wt:	2" OD S	plit Barrel	05/03/23		re Casing Removed	none noted		3.5
Type: Rod Size	•	AWJ			Hammer Fall:	30 in.		05/03/23		er Casing Removed er Casing Removed	none noted	(	out
Kou Siz			DΩD		MPLES	30 III.	VI			SIFICATION C	E MATEDIA	T	
	LU	ı		ING SE	AMILLES		VIS	SUAL C.	LAS	SIFICATION	) F MIA I EKIA	L	1
Depth		_	Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale (Feet)	Sample No.	(F From		Sample Rec. (in.)	Sampler Per 6 Inches	Change		medium - fine			% / some - 20 to 35 0% / trace - 0 to 109		or RQD %
0	1A	0.0	0.5	SS/15	WH-1-2-3	(Ft.)	Topsoil and		Matt		.0767 trace - 0 to 10:	/0	3
O	1B	0.5	2.0	55/13	W11-1-2-3					ND, trace ROOTS	(moist soft)		
1	110	0.5	2.0				Diown SiL	i, trace ii	11 571	IVD, uuce Roots	(moist, sort)		
1													
2	2	2.0	4.0	SS/16	2-2-3-3		Brown SIL	T. trace C	LAY	, trace fine SAND	, (moist, mediur	n stiff)	5
								,		,	, ,	,	
3													
4	3	4.0	6.0	SS/22	4-4-5-6		Similar as a	above (mo	oist, s	tiff)			9
5													
6	4	6.0	8.0	SS/16	4-3-3-4		Brown SIL	T, trace C	LAY	, trace fine SAND	(wet, medium s	stiff)	6
7													
0	_	0.0	10.0	GG/2.4	5.5.4.2		C CILT		C C . 1	ID ( CLAY)			0
8	5	8.0	10.0	SS/24	5-5-4-3		Grey SILT	, trace cm	i SA	ND, trace CLAY (	moist, stiff)		9
0													
9													
10													
10													
11													
12	6	12.0	15.0	SS/28	2-2-2		Grey SILT	, some CL	AY.	trace mf SAND (w	vet, medium stif	f)	4
				-			, ==1		.,	:- (	, <b></b>	,	
13													
14													
15													
16													
17													
10													
18	7	10 5	20.0	SS/18	10-27-45		Gray CII T	tross	f C A 7	ND, trace mf GRA	VEL (maint 1	<u></u>	72
10	7	18.5	20.0	35/18	10-27-45		Grey SIL1	, irace cm	ı SAl	אט, trace mi GRA	vel (moist, ha	ru)	72
19													
20													

CME Associates, Inc 6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		TEST BORING L	WG	Report No. 28062	B-01-0523-R1
					AMPLES		VISUAL CLASS	SIFICATION O		
Depth Scale (Feet)	Sample No.		Depth t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20 21 22										
23	8	23.5	23.9	SS/5	100/5"		Grey cmf SAND, little cmf	f GRAVEL, trace	SILT (wet, very	100+
24							compact) Bottom of Boring at 23.9'			
26										
27										
28 29										
30										
31										
32										
34										
35 36										
37										
38										
39										
41										
42										
43										
45							f Hammar + Pad WP Wa			

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

				6035 Co	orporate Drive	SUBSURFACE EXPLORATION					Boring No.	age <u></u>	<b>340</b> 154
		IV	Ę		racuse, NY 13057			F BORII			Page No.		of 2
		ciates			315-701-0522		TEST	DOKI	101	LOG	Report No.	28062B-0	
Project	Name:			us, Clay,	New York						Date Started		03/23
Client:		Rambo									Date Finished		)3/23
Locatio	n:			n Locati		<b>N</b> T		ı	CD	OLINDAY ATER	Surface Elev.		1.4'
D 311				DS OF	INVESTIGATIO		II C A		GK	COUNDWATER	OBSERVAI	IONS	
Driller: Driller:		C. O'H G. Ricl			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect	or:				Other:			05/03/23		While Drilling	none noted	13	3.5
Drill Ri	g:	CME 5	55		Soil Sampler:	2" OD S	Split Barrel	05/03/23		ore Casing Removed	3.8	22	2.5
Type:		ATV			Hammer Wt:	140 lbs.		05/03/23		er Casing Removed			
Rod Siz		AWJ	D O D I	7100	Hammer Fall:	30 in.	T 7T.	05/03/23		er Casing Removed	E LE LEEDE	-	
	LO	T		ING SA	AMPLES	1	VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium - fine			% / some - 20 to 35		or DOD 0/
(Feet)	No.	From 0.0	To 0.5	Rec. (in.)	Per 6 Inches WH-1-3-3	(Ft.)	Topsoil an		Matt		0% / trace - 0 to 109	<b>%</b> 0	RQD %
U	1B	0.5	2.0		W11-1-3-3					, trace mf SAND (	moist medium	stiff)	4
1	110	0.5	2.0				Brown SiL	i, nace C	LAI	, trace in SAND (	moist, medium	suii)	
2	2	2.0	4.0	SS/14	2-3-2-2		Brown SIL	T, trace n	nf SA	ND, trace CLAY (	moist, medium	stiff)	5
3													
5													
4	3	4.0	6.0	SS/24	3-4-5-7		Same as ab	ove (wet,	stiff)	)			9
5						Same as above (wet, stiff)							
3													
6	4	6.0	8.0	SS/20	5-5-5-5		Same as at	ove (wet,	stiff)	)			10
7													
,													
8	5	8.0	10.0	SS/21	4-5-6-5		Grey SILT	, trace fin	e SAl	ND (wet, stiff)			11
9													
10													
11						 	<u> </u>	. — - — -				. — - — .	
12													
13													
13	6	13.5	15.0	SS/24	3-1-2		Grey CLA	Y, trace S	ILT (	(wet, soft)			3
14								•	`				
1.5													
15													
16													
17													
18							<del> </del>					. — - —	
	7	18.5	20.0	SS/-	4-5-7		Grey mf G	RAVEL,	some	cmf SAND, trace	SILT (wet, med	ium	12
19							compact)						
20													

ATTA	CHME	OT TV	CEG	REPO	RT NUMBER: 172	E-01-0	124 EXHIBIT A-5: G	SEOTECHNICA	L DATA REPO	DRT - PH	IASE 1
		N A		6035 Co	orporate Drive	ÇT	JBSURFACE EXPLO	DRATION	Boring No.	age <u><b>63</b></u> 3,	<b>40</b> 154
		IV		East Sy	racuse, NY 13057	50			Page No.	2 of	
					315-701-0522		TEST BORING I	LUG	Report No.	28062B-01-	-0523-R1
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLAS	SIFICATION (	OF MATERIA	L	
Depth		_	e Depth	Type /	Blows on	Depth of	c - coarse				SPT "N"
Scale	Sample No.	(F From	t.) To	Sample	Sampler	Change	m - medium		0% / some - 20 to 35° 20% / trace - 0 to 10°		or
(Feet)	NO.	FIOIII	10	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine	ittle - 10 to	20% / trace - 0 to 10	70	RQD %
21											
22							1 - 1 - 1 - 22 - 4			. — - —	100+
22	8	22.5	22.9	SS/5	100/5"		Augered Hard at 22.4' Grey ROCK chips and fra	aments (wet)			100+
23	0	22.3	22.7	33/3	100/3		Grey ROCK emps and na	gments (wet)			
							Bottom of Boring at 22.9'				
24											
25											
23											
26											
2.7											
27											
28											
29											
30	ł										
31											
22											
32											
33											
34											
35	1										
36											
27											
37											
38											
39											
40	1										
41											
1	Ī	1		Ī	ĺ	Ī					

6035 Corporate Drive						SI	JBSURF	ACE EX	PI.	ORATION	Boring No.	age <u><b>§</b>3</u>	8 <sub>4</sub> 0± 154
		IV	Ę	•	racuse, NY 13057			F BORI			Page No.	1	of 1
		ciates			315-701-0522		11231	DOM	.10	LUU	Report No.		01-0523-R1
Project	Name:			us, Clay,	New York						Date Started		04/23
Client:		Rambo									Date Finished		04/23
Locatio	n:			n Locati		N.T.		1	Cr	OIMBINATES	Surface Elev.		1.5'
D '''				DS OF	INVESTIGATIO		II C A		GR	COUNDWATER	OBSERVAT	IONS	
Driller: Driller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r.		ara cDough	a11	Other:			05/04/23		While Drilling	3.2	S	3.0
Drill Ri		CME 5		an	Soil Sampler:	2" OD S	Split Barrel	05/04/23		ore Casing Removed	2.5		8.5
Type:	ь.	ATV	, ,		Hammer Wt:	140 lbs.	_	05/04/23		er Casing Removed	2.8		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		05/04/23		er Casing Removed	caved @ 6.5	C	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	e Depth		Blows on		c.	- coarse					SPT "N"
Scale	Sample	(F		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/17	WH-1-2-2		Topsoil an						3
	1B	0.5	2.0				Brown SIL	T, trace C	CLAY	, trace mf SAND (	(moist, soft)		
1													
,	2	2.0	4.0	SS/22	3-5-5-4		Drown CII	T tracas	of C A	ND trace CLAV	(majet etiff)		10
2		2.0	4.0	33/22	3-3-3-4		DIOMII SIL	., uace n	ш 5А	ND, trace CLAY (	moist, still)		10
3													
4	3	4.0	6.0	SS/17	2-1-1-2		Brown SIL	T, trace C	CLAY	, trace mf SAND (	(wet, soft)		2
								•					
5													
6	4	6.0	8.0	SS/24	3-4-4-5		Brown SIL	T, trace C	CLAY	(wet, stiff)			8
7													
8	5	8.0	10.0	SS/18	2-4-7-6		Grev SII T	little om	FSAN	ND, trace CLAY, t	race fine GRAV	ΈI	11
	,	3.0	10.0	55/10	2-7-1-0		(wet, stiff)		· DAI	, uace CLAT, t	race fine GRAV	LL	11
9													
10	6	10.0	12.0	SS/18	3-2-2-3		Grey SILT	, trace CL	AY (	(wet, medium stiff)			4
11													
1.0	_	12 ^	14.	00/2 /	*****			. 111	C C · -				
12	7	12.0	14.0	SS/24	WH-WH-WH-4		Grey SILT	, little cm	t SAl	ND, trace CLAY (v	wet, very soft)		0
12													
13													
14	8	14.0	16.0	SS/8	5-10-8-7		Grev SILT	and mf C	RAV	/EL, little CLAY, t	race cmf SAND	(wet.	18
' '		1	10.0	25/0	2 10 0 /		very stiff)	IIII C			5/1110	(,	10
15													
16													
17													
10		10.0	10.5	aa /1 .	5 (2 100/2"		DI I DO	OTZ C					100:
18	9	18.0	19.7	SS/14	5-63-100/2"		Black ROC	K tragme	ents, t	trace cmf SAND, tr	race SILT (wet)		100+
19							Auger refu	sal at 10	Q <i>'</i>				
19							Bottom of						1
20							Domoin of	Joining at	17.0				

				6035 Cd	orporate Drive	SI	IBSURF	ACE EX	KPLORATION	Boring No.	age <u></u> §3	<b>9</b> ₄0⁄1 154	
		IV	Ę	-	racuse, NY 13057				NG LOG	Page No.	1	of 2	
		ociates			315-701-0522		11291			Report No.		01-0523-R1	
Project	Name:			us, Clay,	New York					Date Started		03/23	
Client:		Rambo								Date Finished		03/23	
Location	n:			on Locati		N.T		ı	CDOINDEN	Surface Elev.		5.8'	
D ""				DS OF	INVESTIGATIO		II.C. t		GROUNDWATE	K OBSERVAT	IONS		
Driller: Driller:		C. O'H			Casing:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.)	
Driller: Inspecto		G. Rich		11	Casing Hammer: Other:			05/03/23	While Duilling	none noteed		3.5	
Drill Ri		CME 5	cDouga 55	111	Soil Sampler:	2" OD 9	Split Barrel	05/03/23				5.8	
Type:	<b>5</b> •	ATV			Hammer Wt:	140 lbs.	-	05/03/23		25.8		5.9	
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		05/03/23		25.0			
			BOR	ING SA	AMPLES		VI		LASSIFICATION (	OF MATERIA	L		
Depth		1	e Depth		Blows on			- coarse				SPT "N"	
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		- coarse medium	and - 35 to 5	0% / some - 20 to 35	%	or	
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f	f - fine	little - 10 to	20% / trace - 0 to 10		RQD %	
0	1A	0.0	0.5	SS/18	WH-1-3-3				Matter (moist)			4	
	1B	0.5	2.0				Brown SIL	T, trace C	CLAY, trace mf SAND	(moist, medium	stiff)		
1													
		20	4.0	00/17	2 2 2 4		D CII	т, т	DT AX7 ( 1 1' 1'	:co		4	
2	2	2.0	4.0	SS/16	3-2-2-4	Brown SILT, trace CLAY (wet, medium stiff)							
3													
3													
4	3	4.0	6.0	SS/19	2-6-4-5	Same as above (wet, stiff)							
l .					20.5	Same as above (wet, stiff)							
5	1												
6	4	6.0	8.0	SS/24	2-6-5-4		Brown SIL	T, trace f	ine SAND, trace CLAY	Y (moist, stiff)		11	
_													
7													
	_	9.0	10.0	SS/16	4 1 4 0		Carre CII T	tucas C.	a CAND (***** 1).	atiff		_	
8	5	8.0	10.0	33/10	4-1-4-8		Grey SIL1	, trace iin	e SAND (wet, medium	sull)		5	
9													
10	1												
11													
12													
1.2													
13		12.5	15.0	00/17	33/11 2 4		Decree	CAND	one CHT to a C	DAVEL ( + 1			
14	6	13.5	15.0	SS/17	WH-2-4		Brown mf	SAND, tr	race SILT, trace fine Gl	KAVEL (wet, loo	ose)	6	
14													
15	1												
16													
17													
18													
	7	18.5	20.0	SS/19	9-5-4		Same as ab	ove (wet,	, loose)			9	
19													
20													
20	I	1	I	1	I								

CME Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **649.44** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Ass	ociate	s, Inc.	Phone: 3	315-701-0522		TEST BORING I	L <b>OG</b>	Report No. 28062	B-01-0523-R
					AMPLES		VISUAL CLAS	SIFICATION	OF MATERIAL	
Depth Scale (Feet)	Sample No.		e Depth	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		50% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
21										
22										
<ul><li>23</li><li>24</li></ul>	8	23.5	25.0	SS/14	23-28-50		Grey mf GRAVEL and crompact)	nf SAND, trace S	SILT (wet, very	78
25							(compact)			
26										
27										
28	9	28.5	28.6	SS/1	100/1"		Grey ROCK chips and fra	gments (wet)		
29							Bottom of Boring at 28.6'			$\dashv$
30										
32										
33										
34										
35										
36										
37										
38 39										
40										
41										
42										
43										
44										
45	1	Ī				1	1			

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

ATTAC	וםואוחי	VI IO	CEG	KEPU	RT NUMBER: 1/2	2E-01-0	124 E	KHIBIT P	1-5: (	JEO I ECHNICA				
6035 Corporate Drive						SI	IRSHIRE	ACE EX	ZDI (	ORATION	Boring No.	age <u></u> 64	<b>340</b> f 154	
		IV		East Sy	racuse, NY 13057	30					Page No.		of 2	
	Asso	ciates	s, Inc.	Phone:	315-701-0522		IESI	BORI	NG	LOG	Report No.	28062B-0	1-0523-R1	
Project	Name:	Micror	Campi	us, Clay,	New York						Date Started	04/2	28/23	
Client:		Rambo									Date Finished	04/2	28/23	
Location	n:	See Ex	ploratio	n Locati	on Plan						Surface Elev.	40	3.9'	
					INVESTIGATIO	N			GF	ROUNDWATER				
Driller:		G. Ricl			Casing:	3 ¼" ID	H.S.A.	-						
Driller:		C. O'H			Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspecto	or:	A. Sha	rma, E.	I.T.	Other:			04/27/23		While Drilling	none	noted		
Drill Ri	g:	CME 5	55		Soil Sampler:	2" OD S	plit Barrel	04/28/23	Befo	ore Casing Removed	19.1	2	1.7	
Type:	_	ATV			Hammer Wt:	140 lbs.		04/28/23	Aft	er Casing Removed	4.2	C	out	
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/28/23	Aft	er Casing Removed	caved @ 4.5	C	out	
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION O	OF MATERIA	L		
Depth		Sample	. Denth		Blows on			- coarse					SPT "N"	
Scale	Sample	(F	-	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	0% / some - 20 to 35	2/0	or	
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.) f - fine little - 10					20% / trace - 0 to 109		RQD %	
0	1A	0.0	0.5	SS/15	WH-WH-2-2		Topsoil (m			2				
	1B	0.5	2.0			Brown SILT, trace fine SAND, trace CLAY (moist, soft)							1	
1						Brown SIL1, trace line SAND, trace CLAY (moist, soit)								
2	2	2.0	4.0	SS/18	3-3-3-3	Brown SILT, trace CLAY (moist, medium stiff)								
						Brown SILT, trace CLAY (moist, medium stiff)								
3						Brown Sill I, trace Clart (moist, medium stiff)								
4	3	4.0	6.0	SS/24	3-2-3-4		Same as ab	ove (wet,	med	ium stiff)			5	
5														
6	4	6.0	8.0	SS/14	6-6-5-6		Same as ab	ove (wet,	stiff	)			11	
7														
8	5	8.0	10.0	SS/24	5-7-6-6		Brown SIL	T, trace C	CLAY	, trace fine SAND	(wet, stiff)		13	
_														
9														
4.0														
10														
1.1														
11														
12														
12														
12														
13	6	13.5	15.0	SS/15	8-7-5	<u> </u>	Gray amf	SAND ~~	mc E	ILT, trace mf GRA	WEL (wat wad		12	
14	0	13.3	13.0	33/13	8-7-3			DAND, SO	me S	ili, uace mi GRA	vel, med	ıuııl	12	
14							compact)							
15														
13														
16														
10														
17														
1 /														
18														
10	7	18.5	20.0	SS/4	12-13-13		Grev SILT	and mf G	RAN	/EL, some cmf SA	ND (wet, very s	tiff)	26	
19	,	10.5	20.0	20/7	12 13 13		510, 5111	3114 III U	1	. LL, some om sA	(, very s	)	20	
20														

		<b>N</b> /		6035 Co	orporate Drive		JBSURFACE EXPLORATION	Boring No. Page 1	4 <b>3</b> 46 154
		IV			racuse, NY 13057		TEST BORING LOG	Page No.	2 of 2
		ciates			315-701-0522			Report No. 28062E	3-01-0523-R1
	LO			ING SA	AMPLES		VISUAL CLASSIFICATION	OF MATERIAL	
Depth Scale (Feet)	Sample No.		Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)		50% / some - 20 to 35% o 20% / trace - 0 to 10%	SPT "N" or RQD %
21	8	21.7	21.7		100/0"		ROCK chips and fragments in tip of spoor	1	100+
22							Bottom of Boring at 21.7'		
24									
25									
26									
27 28									
29									
30									
31									
32									
33 34									
35									
36									
37									
38 39									
40	_								
41									
42									
43									

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

ATTAC	HIVIE	VI 10	CEG	REPU	ORT NUMBER: 172	E-01-0	124 E	KHIBIT P	1-5: C	JEO I ECHINICAI	L DATA REPU	JR I - P	HASE I	
				6035 Co	orporate Drive	SI	IRSURF	ACE EX	PI (	ORATION	Boring No.	age <u>164</u>	3 <b>₄of</b> 154	
		IV			racuse, NY 13057	SUBSURFACE EXPLORATION TEST POPING LOG			Page No.		of 2			
	Asso	ciates	, Inc.	Phone:	315-701-0522	TEST BORING LOG					Report No.	No. 28062B-01-0523-R1		
Project	Name:	Micror	Campi	us, Clay,	New York						Date Started	04/2	28/23	
Client:		Ramboll									Date Finished	04/2	28/23	
Location	n:	See Ex	ploratio	on Locati	ion Plan					Surface Elev.	ev. 401.7'			
METHODS OF INVESTIGATION GROUNDWATER OBSERVATIONS														
Driller: G. Richard Casing:					Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Cosina	At (Ft.)	
		C. O'Hara			Casing Hammer:						- ' '			
-		A. Sharma, E.I.T.		I.T.	Other:	2" OD Split Barrel 140 lbs. 30 in.		04/28/23		While Drilling		e noted		
U		CME 55			Soil Sampler:			04/28/23		re Casing Removed	7.4		8.5	
Type:		ATV			Hammer Wt:			04/28/23		er Casing Removed	2.0		out	
Rod Size:		AWJ		DIC C	Hammer Fall:			04/28/23			caved @ 3.0		out	
	LO	G OF BORING SA			AMPLES	V		SUAL CLASSIFICATION (			OF MATERIA	L		
Depth			Sample Depth		Blows on	Depth of	c - coarse					SPT "N"		
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35		or	
(Feet)	No.	From	To 0.5	Rec. (in.)	Per 6 Inches	(Ft.)			0% / trace - 0 to 109	%	RQD %			
0	1A	0.0	2.0	SS/13	WH-1-2-4		Topsoil and Organic Matter (moist)			(maist soft)		3		
1	1B	0.3	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	
2		2.0	7.0	55/17	3-0-0-7		Similar as above (wet, stiff)						12	
3														
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) Brown SILT, trace CLAY (wet, very stiff)						19	
-														
5	3B	5.0	6.0											
										•				
6	4	6.0	8.0	SS/17	5-11-14-14		Same as ab	ove (mois	st, vei	ry 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														
10														
11														
11														
12														
12														
13														
10	6	13.5	15.0	SS/15	1-1-2		Grev SILT	, trace CL	AY (	(moist, soft)			3	
14								,	. (	, ,				
15														
16														
17														
18	_	4											_	
10	7	18.5	20.0	SS/14	5-8-6		Grey SILT	, trace fin	e GR	AVEL, trace CLA	Y (moist, stiff)		14	
19														
20														
20			1	I	I	1	Ī						I	

CME Associates, Inc 6035 Corporate Drive East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. 2 of 2

Report No. 28062B-01-0523-R1

Associates, Inc. Phone: 315-701-0522						TEST BORING LOG  Report No. 28062B-01-05					
LOG OF BORING SAMPLES							VISUAL CLASSIFICATION OF MATERIAL				
Depth			Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"	
Scale (Feet)	Sample No.	(F From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)	m - medium and - 35 to 50% / some - 20 to 3: f - fine little - 10 to 20% / trace - 0 to 10		0% / some - 20 to 35%	or RQD %	
20	110.	TIOIII	10	rec. (III.)	1 cr o menes	(1 t.)	1 - Inic	nttle - 10 to 2	0707 Hace - 0 to 1070	RQD 70	
21											
22											
23	0	22.5	25.0	GG/0	W/I W/I 1		C CHT ( CCA)	ID 4 C CD	ANTEL ( )	1	
24	8	23.5	25.0	SS/8	WH-WH-1		Grey SILT, trace cmf SAN	ND, trace fine GR	AVEL (wet, very soπ)	1	
25											
26											
27											
28	9	28.5	29.2		78-100/2"	  -	Grey ROCK chips, fragme	ents & flour (wet)		100+	
29											
30							Auger refusal at 29.6' Bottom of Boring at 29.6'			1	
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

				6035 Cc	orporate Drive	SUBS	SURF	ACE EX	KPLO	RATION	Boring No.	age <u>164</u>	550 <u>f</u> 15
	U	IV		-	racuse, NY 13057			BORI			Page No.		of 2
		ciates		T Hone: c	315-701-0522		11591	DOM	III L		Report No.		
roject I	Name:	Micror	Camp	us, Clay,	New York						Date Started	05/0	)4/23
lient:		Rambo									Date Finished	05/0	)4/23
ocation	1:		•	n Locati							Surface Elev.		8.7'
					INVESTIGATIO				GRO	DUNDWATER	OBSERVAT	IONS	
Oriller: Oriller:		G. Rich			Casing: Casing Hammer:	3 ¼" ID H.S	.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.
nspecto	r:	D. Mac	Dough	all	Other:			05/04/23	7	Vhile Drilling	none noted	13	8.5
Prill Rig	g:	CME 5	55		Soil Sampler:	2" OD Split	Barrel	05/04/23	Befor	e Casing Removed	2.5	2	8.5
ype:		ATV			Hammer Wt:	140 lbs.		05/04/23	After	Casing Removed	none noted	C	ut
od Size		AWJ			Hammer Fall:	30 in.		05/04/23		Casing Removed			
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASS	SIFICATION O	OF MATERIA	L	
Depth		Sample	Depth	Tyme /	Blows on	Donth of	c -	coarse					SPT "N
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 10%	<b>%</b>	RQD 9
0	1A	0.0	0.5	SS/17	WH-WH-2-3			d Organic					2
	1B	0.5	2.0						nf SAl	ND, trace CLAY	(moist, soft)		
1						PP	P=1.5, 1.	25, 1.25					
2	2	2.0	4.0	SS/22	3-5-6-4	Bro	own SIL	T, little m	nf SAN	ID, trace CLAY (	moist, stiff)		11
3													
,	_			00/50				m it it	00:	m . ~		00	_
4	3	4.0	6.0	SS/19	3-3-2-4	Bro	own SIL	T, little m	nt SAN	ID, trace CLAY (	wet, medium sti	11)	5
5													
	4		0.0	00/10	4 2 2 4			7	4.	.: 00			_
6	4	6.0	8.0	SS/19	4-3-3-4	Sai	me as ab	ove (wet,	medii	ım stiff)			6
, l													
7													
8	5	8.0	10.0	SS/22	3-5-5-5	D	own CII	T trace =	nf C A N	ND (wet, stiff)			10
0	3	0.0	10.0	33/22	3-3-3-3	Bro	own SIL	i, uace n	ш ЭАГ	MCI, SIIII)			10
9													
9													
10													
10													
11													
12													
13													
	6	13.5	15.0	SS/20	2-2-2-2	Gre	ey CLA	Y, some S	SILT (v	vet, medium stiff	)		4
14							-		`	,			
15													
16													
17													
18						1					— - — - — -		
	7	18.5	20.0	SS/16	WH-WH-6				GRAV	/EL, little cmf SA	$\frac{1}{1}$ ND, trace $\frac{1}{1}$	Y (wet	6
19						me	dium sti	iff)					
20													
	- ~ _	II 1	Indian	urhad Ti	ıbe, C - Core, WH -	Waight of H		. D 1 TTT	D 117	. 1 . 0 . 1			

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-5: GEOTECHNICAL DATA REPORT - PHASE 1

CME	603
CIVIL	Eas
Associates, Inc.	Pho

6035 Corporate Drive East Syracuse, NY 13057

### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **B4552** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

	Asso	ciate	, Inc.	Phone:	315-701-0522		TEST BORING I	LOG	Report No. 28062H	3-01-0523-R1
					AMPLES		VISUAL CLASS	SIFICATION C	OF MATERIAL	
Depth Scale (Feet)	Sample No.		Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		% / some - 20 to 35% 10% / trace - 0 to 10%	SPT "N" or RQD %
21										
22 23										
24	8	23.5	24.4	SS/9	60-100/3"		Grey ROCK fragments, lit (wet)	tle cmf GRAVEL	, trace cmf SAND	100+
25 26							Auger refusal at 24.4' Bottom of Boring at 24.4'			
27										
28 29										
30										
31										
33										
34										
36 37										
38										
39										
41										
42										
43										
45			T 1' 4				CH + D 1 WD W			

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

ATTAC	ושואוחי	NI IO	CEG	KEPU	RT NUMBER: 172	<u> </u>	124 E	/LIBIT A	1-5: (	JEO I ECHNICA			
				6035 Co	orporate Drive	SI	JBSURF	CE EX	PL	ORATION	Boring No.	age <u>164</u>	39f 154
		IV	Ę		racuse, NY 13057			BORII			Page No.	1 (	of 2
	Asso				315-701-0522		11231	DOKI	NG	LUG	Report No.	28062B-0	1-0523-R1
Project	Name:			us, Clay,	New York						Date Started		)2/23
Client:		Rambo									Date Finished		)2/23
Location	n:			on Locati							Surface Elev.		2.8'
				DS OF	INVESTIGATIO				GR	ROUNDWATER	R OBSERVAT	IONS	
Driller:		G. Ric			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		C. O'H	ara		Casing Hammer:						. , ,	_	
Inspecto		~ ~			Other:			05/02/23		While Drilling	8.9		3.5
Drill Rig	g:	CME 5	55		Soil Sampler:		Split Barrel	05/02/23		ore Casing Removed	12.1		3.4
Type:		ATV			Hammer Wt:	140 lbs.		05/02/23 05/02/23		er Casing Removed	none noted		out
Rod Size		AWJ	DOD	INC C	Hammer Fall:	30 in.	371			er Casing Removed	caved @		out
	LU	T		ING SA	AMPLES		VIX	SUAL C.	LAS	SIFICATION (	JF MIATERIA	L	ı
Depth		Sample	_	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			0% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/14	Per 6 Inches WH-1-1-2	(Ft.)	Topsoil and	- fine	Mot		20% / trace - 0 to 109	<del>//</del> 0	RQD %
U	1B	0.0	2.0	33/14	WΠ-1-1-2					ND, trace ORGA	VIC Meterial		2
1	110	0.5	2.0				(moist, soft		III SA	IND, HACE ORGAI	NIC Material		
1							(1110151, 501)	.)					
2	2	2.0	4.0	SS/15	3-4-3-4		Brown SII	T trace m	nf SA	ND, trace CLAY	(moist medium	stiff)	7
_	_	2.0	1.0	55/15	3 1 3 1		Brown Sil	i, nace n	III 57	ind, indee CErri	(moisi, medium	Still)	,
3													
4	3	4.0	6.0	SS/24	4-5-6-6		Brown SIL	T, trace n	nf SA	ND, trace CLAY,	trace ROOTS (1	noist,	11
							stiff)	,		,	`	,	
5							,						
6	4	6.0	8.0	SS/19	4-4-6-5		Brown SIL	T, trace n	nf SA	ND, trace CLAY	(moist, stiff)		10
7													
_	_												
8	5	8.0	10.0	SS/24	5-8-8-7		Similar as	above (we	et, ve	ry stiff)			16
0													
9													
10													
10													
11													
11													
12													
13													
	6A	13.5	14.5	SS/18	3-1-3		Similar soi	l as above	(we	t, medium stiff)			4
14	6B	14.5	15.0							T, little mf GRAV	EL, trace CLAY	(wet,	]
							loose)						
15													
16													
17													
18	_												
	7	18.5	20.0	SS/10	6-10-6			cmf SAN	D, li	ttle SILT, little mf	GRAVEL (wet,	medium	16
19							compact)						
20													
20	i	ı	i	I	Ī	i	1						

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

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-5: GEOTECHNICAL DATA REPORT - PHASE 1

CM	E
Associates	, Inc

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **b43.90** 154

Page No. 2 of 2

Report No. 28062B-01-0523-R1

					315-701-0522		TEST BORING L		<b>Report No.</b> 280621	B-01-0523-R1
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLASS	IFICATION C	F MATERIAL	
Depth Scale (Feet)	Sample No.	Sample (F From		Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		% / some - 20 to 35% 0% / trace - 0 to 10%	SPT "N" or RQD %
20 21										
22										
23	8	23.4	23.6	SS/1	100/2"		Grey ROCK chips & fragm	ents (wet)		
24		23.1	23.0	55/1	100/2		Bottom of Boring at 23.6'	ients (wet)		100
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35 36										
37										
38										
39										
40										
41										
42										
43										
44										
45							f Hammar + Pad WP Wa			

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

ATTAC	HIVIE	11 10	CEG	KEPU	RT NUMBER: 172	E-01-0	124 E	KHIBITA	1-5: C	3EO I ECHINICAI			
				6035 Co	orporate Drive	ÇI	IDCIIDE	CEEV	DI (	ORATION	Boring No.	age <b>1</b> 84	<b>999</b> 154
		IV			racuse, NY 13057	50					Page No.		of 2
	Asso	ciates	, Inc.		315-701-0522		TEST	BORI	NG 1	LOG	Ü	28062B-0	
Project					New York	1					Date Started		27/23
Client:		Rambo		, 01,,	1000 1000						Date Finished		28/23
Location	n:			n Locati	on Plan						Surface Elev.		3.5'
					INVESTIGATIO	N			GR	OUNDWATER			
Driller:		G. Ricl		- 10 0 -	Casing:	3 ¼" ID	H.S.A.						
Driller:		C. O'H			Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	A. Sha	rma, E.l		Other:			04/27/23		While Drilling	1.2	13	3.5
Drill Ri		CME 5			Soil Sampler:	2" OD S	plit Barrel	04/28/23		re Casing Removed	5.4		3.5
Type:	-	ATV			Hammer Wt:	140 lbs.	•	04/28/23		er Casing Removed	3.6	0	ut
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		04/28/23	Afte	er Casing Removed	caved @ 6.5	O	ut
	LO	G OF	BORI	NG SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth		Blows on		C -	coarse					SPT "N"
Scale	Sample	(F	_	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 100		RQD %
0	1A	0.0	0.5	SS/11	WH-WH-2-2		Topsoil and	d Organic	Matt	er (moist)			2
	1B	0.5	2.0				Brown SIL	T, trace fi	ne Sa	AND, trace CLAY	(moist, soft)		
1													
2	2	2.0	4.0	SS/20	4-4-3-4		Brown SIL	T, trace C	LAY	(wet, medium stif	f)		7
_													
3													
	2	4.0		GG/ <b>3.4</b>	2 2 11 10		D G11	<b>T</b>	c a	137D			10
4	3	4.0	6.0	SS/24	2-2-11-10		Brown SIL	T, some c	mt S.	AND, trace CLAY	(wet, stiff)		13
-													
5													
6	4	6.0	8.0	SS/24	4-4-4		Drown CII	T troco (	TAV	(wet, stiff)			8
O	4	0.0	0.0	33/24	4-4-4-4		DIOWII SIL	i, uace C	LAI	(wet, still)			0
7													
,													
8	5	8.0	10.0	SS/24	2-2-2-2		Grey/Brow	n SILT aı	nd CL	AY (wet, medium	stiff)		4
											,		
9													
10													
11													
10													
12													
13													
13	6	13.5	15.0	SS/13	11-11-9		Dark Grey	cmf GP A	VEI	and cmf SAND, to	race SII T trace	ROCK	20
14	U	13.3	13.0	33/13	11-11-7		fragments (				iace Sili, nace	NOCK	20
17							iraginents (	(wet, med	iuiii C	ompact)			
15													
16													
17													
18													
	7	18.5	20.0	SS/18	17-51-61					little cmf SAND, t	race SILT, trace	ROCK	112
19							fragments			pact)			
							Augered ho	ard at 22.	<i>4'</i>				
20					l								

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

ATTAC	CHMEN	NT TO	CEG	REPO	RT NUMBER: 172	E-01-0	124 EXHIBIT A-5: G	<b>EOTECHNICA</b>	L DATA REPORT	- PHASE 1
		N/		6035 Co	orporate Drive	SI	JBSURFACE EXPLO	RATION	Boring No. Page	<u><b>1</b>65</u> 999 <u>7</u> 154
		IV	Ę		racuse, NY 13057		TEST BORING L		Page No.	2 of 2
			s, Inc.		315-701-0522				Report No. 2806	52B-01-0523-R1
	LO				AMPLES		VISUAL CLASS	SIFICATION (	OF MATERIAL	
Depth Scale (Feet)	Sample No.		e Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 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, fragme	nts & flour (wet)		100+
							Bottom of Boring at 24.0'			
25										
26										
27										
28 29										
30										
31										
32										
33										
34										
35										
36 37										
38										
39										
40										

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

Remarks:

42

43



### 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 Weight of Hammer + Rod or Weight of Rod, 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**.

Page 1 of 4 KEY 112619



- 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.

T	ABLE 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
<b>f</b> - fine	and	35 to 50%
<b>m</b> - medium	some	20 to 35%
c - coarse	little	10 to 20%
	trace	0 to 10%

		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		

Page 2 of 4 KEY 112619



Primary Soil Type	Descriptive Term of Compactness	Range of Standard Penetration Resistance (N)
COARSE GRAINED SOILS	Very Loose	less than 4 blows per foot
	Loose	4 to 10
(More than half of Material	Medium Compact	10 to 30
is larger than No. 200 sieve size)	Compact	30 to 50
	Very Compact	Greater than 50
FINE GRAINED SOILS	Descriptive Term of Consistency	Range of Standard Penetratio Resistance (N)
	Very Soft	less than 2 blows per foot
(More than half of material is	Soft	2 to 4
smaller than No. 200 sieve size)	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	Greater than 30

<sup>\*</sup>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	n Terms	Field Test or Meaning of Term							
Hardness	Soft	Scratched by fingernail. Crumbles under firm blows with a geologic pick.							
		Shallow indentations (1 to 3 mm) can be made by firm blows of a geologic pick. Can be peeled with a pocketknife with difficulty.							
		Scratched distinctly by penknife or steel nail. Can't be peeled or scraped with knife.							
		Scratched with difficulty by penknife or steel nail. Requires more than one blow with a geologic hammer to break it							
		Cannot be scratched by penknife or steel nail. Breaks only by repeated heavy blows with a geologic hammer.							
Bedding	Thinly Laminated	less than 1/8 <sup>th</sup> inch							
	Laminated	1/8 <sup>th</sup> to 1 inch							
(Divisional planes	Thinly Bedded	1 inch to 4 inches							
and/or surfaces	Medium Bedded	4 inches to 12 inches							
separating it from layers	Thickly Bedded	12 inches to 48 inches							
above and below)	Massive	greater than 48 inches							

Relation of Ro	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								

Page 3 of 4 KEY 112619



	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.

	C	M	E	East Syr	orporate Drive racuse, NY 13057	SU			XPLORATION ING LOG	Boring No. Page No.	100	3-2 of 1
	Asso	ciates	, Inc.	Phone:	315-701-0522		ILOI	DUKI	ING LOG	Report No.		
Project Na	ame:									Date Started		
Client:										Date Finished		
Location:									-,7.0 - 27.0 (0.00 - 1.0	Surface Elev.		
METHODS OF INVESTIGATION GROUNDWATE									ROBSERVAT	IONS		
Driller: Driller:		10			Casing: Casing Hammer:	10		Date Time		Depth (Ft.)	Casing At (Ft.)	
Inspector:						While Drilling	9	9				
Drill Rig					Soil Sampler:		- 4		Before Casing Removed			
Type:					Hammer Wt:		1 1		After Casing Removed			
Rod Size:					Hammer Fall:		1.1		After Casing Removed			
^	LO	GOF	BOR	ING SA	AMPLES		VISU	VISUAL CLASSIFICATION OF MATERIAL				
Depth Scale S (Feet)	Sample No.	Sample (Fi From		Type/ Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - cc m - me f - f	edium		0% / some - 20 to 35' 20% / trace - 0 to 109		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:

Page 4 of 4 KEY 112619



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.

CME Report No.: 28062B-03-1223

Page 2 of 4



### 2.2 Test Borings

A total of 119 Test Borings (in addition to the first phase 60 Test Borings<sup>1</sup>) 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 3-½" 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<sup>2</sup> 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.

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> **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 Report No.: 28062B-03-1223** 

Page 3 of 4



#### 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.

CME Report No.: 28062B-03-1223

Page 4 of 4

Respectfully Submitted, CME Associates, Inc.



Reviewed by:

**CME** Associates, Inc.

Chumilia.

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

Christopher R. Paolini, PE, MPS, EXW<sup>SM</sup> 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)

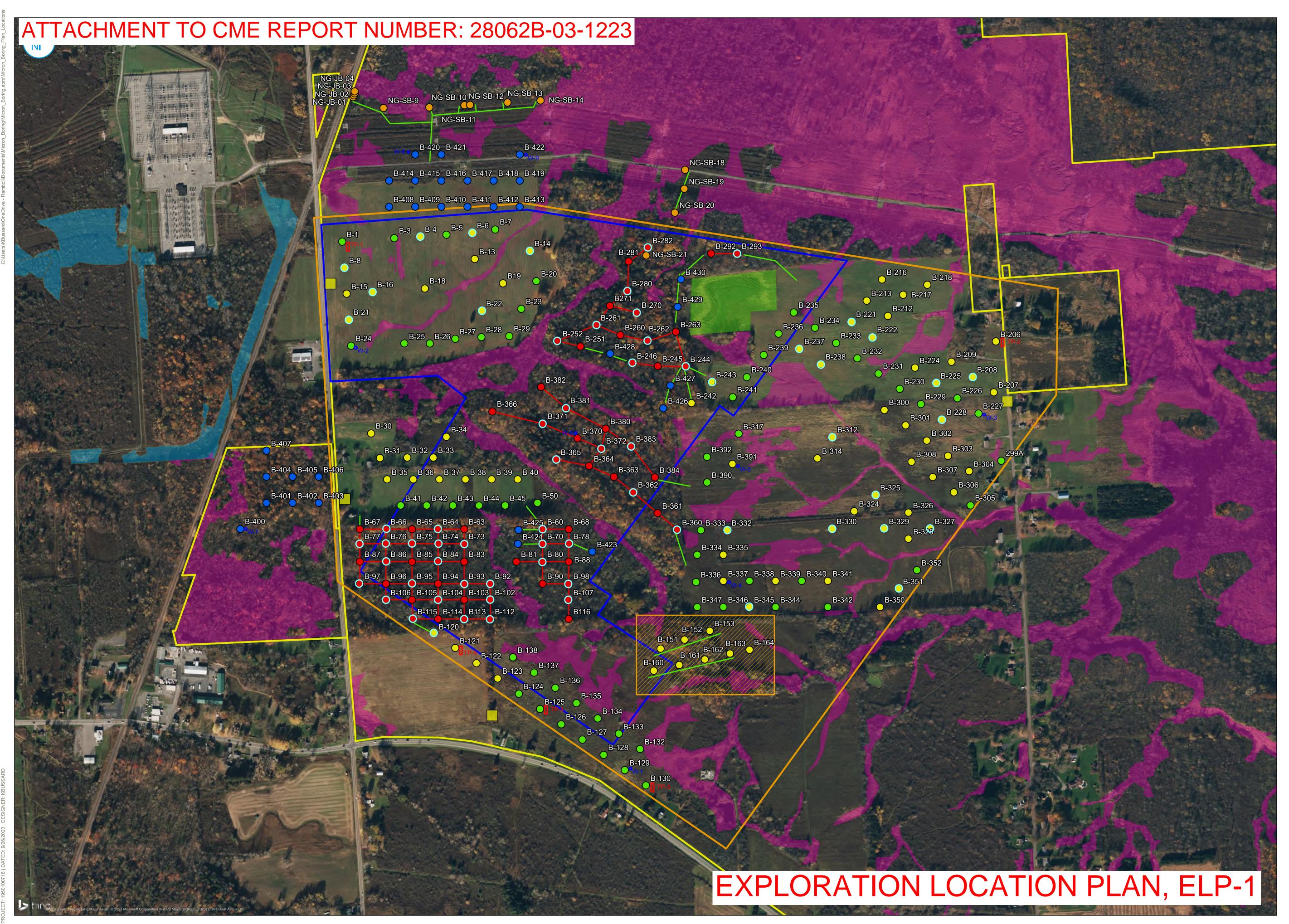
Geotechnics Laboratory Test Summary Report (5 of 5)

Test Boring Logs (193 of 193)

ConeTec CPT Report (263 of 263)

General Information & Key to Test Boring Logs (4 of 4)

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2



Phase A (Completed Spring 2023) Phase B (Scheduled to be Completed in September-October 2023) ase 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

Additional Paths for Brush Clearing National Grid Wetland Mitigation Area Ramboll-Delineated Wetlands

Fisher-Delineated Wetlands

CPT Location

Test Pit Location

Ground Water Monitoring Wells

Avoid All Activity Until October 15, 2023

IT IS A VIOLATION OF LAW FOR ANY PERSON, 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

**BORING PLAN LOCATIONS** 

**Micron White Pine** 

**D-107** 

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



Page 6 of 536 COORDINATES AND ELEVATION TABLE

PAGE 1 OF 6

Exploration ID	Latitude		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	393.2	Test Boring - First Phase
B 6	43.19619	-76.16278	1164861.8	932349.9	391.2	Cone Penetration Test
B 7						
B 8	43.19628	-76.16215 76.16646	1164895.2	932518.1	391.2	Test Boring - First Phase
В 13	43.19548	-76.16646 -76.16272	1164596.4	931369.0	393.7 391.1	Cone Penetration Test
	43.19565		1164662.6	932366.8		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
В 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
В 36	43.19102	-76.16452	1162975.4	931896.0	394.7	Test Boring - Second Phase
В 37	43.19102	-76.16377	1162975.3	932096.1	394.3	Test Boring - Second Phase
В 38	43.19102	-76.16302	1162975.4	932296.0	397.2	Test Boring - Second Phase
В 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

PAGE 2 OF 6

<b>Exploration ID</b>	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
В 70	43.18966	-76.16081	1162482.3	932886.9	403.6	Cone Penetration Test
В 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
В 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
В 78	43.18965	-76.16006	1162482.2	933086.8	402.1	Cone Penetration Test
В 80		Survey D	Data Not Provide	d 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
В 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
В 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
В 97	43.18884	-76.16607	1162175.8	931486.7	406.0	Cone Penetration Test
В 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			Data Not Provide	•		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

PAGE 3 OF 6

Page 8 of 536 COORDINATES AND ELEVATION TABLE ATTACHMENT TO CME REPORT NO. 28062B-03-1223

<b>Exploration ID</b>	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
В 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
В 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 1163479.6	936062.9	390.1	Test Boring - First Phase
B 227	43.19235	-76.14828		936225.2	389.3	Test Boring - First Phase
B 228	43.19223	-76.14932 76.14003	1163434.4	935945.9	392.4	Cone Penetration Test Test Boring - First Phase
B 229 B 230	43.19255 43.19287	-76.14993 -76.15054	1163551.3 1163668.3	935783.8 935621.5	391.9 391.0	Test Boring - First Phase
B 230	43.19287	-76.15034	1163785.3	935459.3	388.2	Test Boring - First Phase
B 232	43.19352	-76.15114	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

Page 9 of 536 COORDINATES AND ELEVATION TABLE

PAGE 4 OF 6

Exploration ID	Latitude	Longitude	Northing (ft)	Easting (ft)	Elevation (ft)	Exploration Phase and Type
В 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
В 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
В 305	43.19042	-76.14852	1162775.9	936163.8	388.1	Test Boring - First Phase
В 306	43.19069	-76.14899	1162875.9	936036.6	388.3	Test Boring - Second Phase
В 307	43.19102	-76.14960	1162992.9	935874.3	388.7	Test Boring - Second Phase
В 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
В 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
В 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
В 329	43.18994	-76.15100	1162597.4	935503.6	389.8	Cone Penetration Test
В 330	43.19000	-76.15249	1162618.6	935104.6	390.8	Cone Penetration Test
В 332	43.18992	-76.15552	1162585.9	934298.8	393.7	Cone Penetration Test
В 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
В 336	43.18884	-76.15641	1162188.6	934062.2	403.9	Test Boring - First Phase
В 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
В 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

PAGE 5 OF 6

<b>Exploration ID</b>	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
В 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
В 346	43.18831	-76.15563	1161997.5	934271.1	403.9	Test Boring - First Phase
В 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
В 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
В 362	43.19072	-76.15820	1162872.2	933582.0	395.2	Cone Penetration Test
В 363	43.19106	-76.15874	1162995.9	933435.6	395.8	Test Boring - Second Phase
В 364	43.19129	-76.15948	1163078.8	933238.5	395.8	Test Boring - Second Phase
В 365	43.19138	-76.16042	1163111.1	932988.0	404.8	Cone Penetration Test
В 366	43.19244	-76.16223	1163495.2	932502.4	393.0	Test Boring - Second Phase
В 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
В 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
В 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 76.16517	1163148.1	930779.9	397.0	Test Boring - Second Phase
B 408	43.19675	-76.16517 -76.16442	1165063.0	931711.3	392.3	Test Boring - Second Phase Test Boring - Second Phase
B 409 B 410	43.19675	-76.16442 -76.16367	1165062.9 1165062.9	931911.3	393.5	Test Boring - Second Phase
B 410	43.19675 43.19675	-76.16367 -76.16292	1165062.9	932111.3 932311.3	393.3 393.2	Test Boring - Second Phase
B 411	43.19673	-76.16292 -76.16217	1165062.9	932311.3	393.2	Test Boring - Second Phase
B 412	43.19674	-76.16217	1165062.9	932711.2	386.5	Test Boring - Second Phase
B 413	43.19074	-76.16142	1165225.2	931711.3	392.0	Test Boring - Second Phase
B 414 B 415	43.19720	-76.16442	1165224.3	931711.3	392.0	Test Boring - Second Phase
B 415	43.19719	-76.16367	1165262.9	931911.2	392.3	Test Boring - Second Phase
B 410	43.19729	-76.16292	1165262.9	932311.3	388.8	Test Boring - Second Phase
B 417	43.19729	-76.16217	1165263.0	932511.3	385.4	Test Boring - Second Phase
D 410	43.13/23	-/0.1021/	1103203.0	JJZJ11.Z	303.4	Treat porning - Decond Filase

Page 11 of 536 COORDINATES AND ELEVATION TABLE

PAGE 6 OF 6

Northing (ft) Elevation (ft) **Exploration Phase and Type Exploration ID** Latitude Longitude Easting (ft) B 419 43.19729 -76.16142 1165263.0 932711.2 386.1 Test Boring - Second Phase B 420 -76.16441 Test Boring - Second Phase 43.19785 1165462.9 931911.3 390.9 B 421 43.19785 -76.16366 932111.2 386.0 Test Boring - Second Phase 1165462.8 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 401.1 Test Boring - Second Phase B 425 43.18995 -76.16151 1162587.9 932701.6 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

ATTA	CHMEN	OT TI	CEG	REPOF	RT NUMBER: 172E	-01-0124 EX	XHIBIT A-6: (	GEOTECHN	ICAL DATA RE	EPORT - PHASE 2
				6035 C	orporate Drive	SUI	BSURFAC	E	Test Pit ID	Pagep121of 536
		IV			racuse, NY 13057	EXP	LORATIO	N	Page No.	1 of 1
	Asso	ciate	s, Inc.	-	315-701-0522		ST PIT LO		Report No.	28062B-03-1223
Project	Name:	Micro	n Camp	us, Clay,	New York		7111111	3	Date Started	11/08/23
Client:		Rambo						Date Finished	11/08/23	
Locatio	n:	See Ex	ploration	on Locati	ion Plan				Surface Elev.	392.7'
METH	HOD O	F INV	VEST:	IGATI	ON		GROUND	WATER O	BSERVATIO	NS
Operato	r:	Daryl S	Sherma	n		Date	Time	Depth (Ft.)	Co	omment
Inspecto			a Sharn			11/8/2023	8:55	None Noted	See	Remark 3
Equipm	ent:			del LNK	27					
Type:			ed Buck	cet						
Bucket	Width:	24"			TITOTIAT OF		N. OF MAR			
	ı	ı		1	VISUAL CLA	ASSIFICATIO	N OF MAT	ERIAL		
Depth Scale	Sample				c - coarse m - medium	and - 35 to 50% / so little - 10 to 20% /				
(Feet)	No.	From	То	(Ft.)	f - fine	<b>1</b>	1	<u> </u>		
0					Topsoil and Organic	Materials (moist	, easy digging	<b>(</b> )		
1										
2	S-1	2.0	4.0	2.0	Brown mottled SILT	, little CLAY, tra	nce mf GRAV	EL, trace cmf	SAND (moist, e	asy digging)
3										
4				4.0	Brown SILT, some (	CLAY, trace cmf	SAND (moist	t, easy digging	<u>;</u> )	
5										
6										
				7.0						
7					Grey/Brown SILT, s	ome CLAY, trace	e cmf SAND (	(moist, easy di	gging)	
8					Bottom of Test Pit @	9 8'				
9										
10										
11										
12										
13										
14										
15										

- 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.

ATTA	CHMEN	OT TI	CEG	REPOF	RT NUMBER: 172E	-01-0124 E	XHIBIT A-6: (	GEOTECHN	ICAL DATA RE	EPORT - PHASE 2
				6035 C	orporate Drive	SU	<b>BSURFAC</b>	E	Test Pit ID	Pagep13 <sub>2</sub> of 536
		IV			racuse, NY 13057	EXF	PLORATIO	N	Page No.	1 of 1
	Asso	ciate	s, Inc.	-	315-701-0522		ST PIT LO		Report No.	28062B-03-1223
Project	Name:	Micro	n Camp	us, Clay,	New York	113,	<u> </u>	3	Date Started	11/08/23
Client:		Rambo						Date Finished	11/08/23	
Locatio	n:	See Ex	plorati	on Locati	ion Plan				Surface Elev.	390.7'
METH	O dol	F INV	VEST	IGATI	ON		GROUND	WATER O	<b>BSERVATIO</b>	NS
Operato	r:	Daryl S	Sherma	n		Date	Time	Depth (Ft.)	Co	omment
Inspecto		Astitw	a Sharn	na, EIT		11/8/2023	10:20	None Noted	Water Seeping	at 2'. See Remark 3
Equipm	ent:			del LNK	27					
Type:			ed Buck	cet						
Bucket	Width:	24"			TITOTIAT OF	A GGIELG A FRIO	N. OF MAR			
		1			VISUAL CLA	ASSIFICATIO	ON OF MAT	ERIAL		
Depth Scale	Sample	(F	e Depth	Depth of Change	c - coarse m - medium	and - 35 to 50% / s little - 10 to 20% /				
(Feet)	No.	From	То	(Ft.)	f - fine Topsoil and Organic	Matariala (maiat	t accrediacina	<u> </u>		
U					Topson and Organic	Materials (moisi	i, easy digging	5)		
1				1.5						
2	S-1	2.0	4.0		Brown mottled SILT	, little CLAY, tra	ace mf GRAV	EL, trace mf S	SAND (wet, easy	digging)
3										
4				4.0	Brown SILT, some C	CLAY, trace cmf	SAND (moist	t, easy digging	<u>;</u> )	
5										
6										
7				7.0	Grey/Brown mottled	SILT little CLA	Y fine cmf S	AND (moist		
8					Grey, Brown motifed	SILT, IIIIC CLI	rr, mie emi S	THE (MOISE,	cusy digging)	
				9.0						
9				<u> </u>	Brown/Reddish SILT	Γ and CLAY, tra	ce fine SAND	(wet, easy dig	gging)	
10					Bottom of Test Pit @	010.5'				
11					Bottom of Test Fit &	210.3				
12										
13										
14										
15										

- 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.

#### ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Pagep143of 536 **SUBSURFACE Test Pit ID** 6035 Corporate Drive **EXPLORATION** East Syracuse, NY 13057 Page No. 1 of 1 Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 **TEST PIT LOG** Project Name: Micron Campus, Clay, New York **Date Started** 11/08/23 Client: Ramboll **Date Finished** 11/08/23 See Exploration Location Plan 418.8' Location: Surface Elev. METHOD OF INVESTIGATION **GROUNDWATER OBSERVATIONS Operator:** Daryl Sherman **Date** Time Depth (Ft.) Comment Water Seeping at 2' Inspector: Astitwa Sharma, EIT 11/8/2023 11:30 6.5' **Equipment:** Link Belt Model LNK 27 Toothed Bucket Type: **Bucket Width:** 24" VISUAL CLASSIFICATION OF MATERIAL Sample Depth Depth c - coarse Depth of and - 35 to 50% / some - 20 to 35% (Ft.) Scale Sample m - medium Change little - 10 to 20% / trace - 0 to 10% (Ft.) (Feet) No. From То f - fine 0 Topsoil and Organic Materials, some COBBLES (moist, moderate digging) 1 1.5 Black/Dark Grey cmf SAND and cmf GRAVEL, some COBBLES, some BOULDERS (wet, hard digging) 2 Brown Grey SILT, some cmf SAND, some cmf GRAVEL, little COBBLES (wet, hard digging) S-1 2.0 4.0 3 4.0 Grey/Brown cmf SAND and cmf GRAVEL, some BOULDERS, some COBBLES, little SILT 4 (wet, hard digging) 5 6 7.0 Grey cmf SAND and SILT, some cmf GRAVEL, some COBBLES (moist, hard digging) Possible Till 7 Bottom of Test Pit @ 7.5' 8 9 10 11 12 13 14 15

- 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.

ATTA	ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2											
				6035 C	orporate Drive	SU	BSURFACI	E	Test Pit ID	Pagep15₄of 536		
		IV			racuse, NY 13057	EXP	LORATIO	N	Page No.	1 of 1		
	Asso	ciates	s, Inc.	Phone:	315-701-0522	TES	ST PIT LO	G	Report No.	28062B-03-1223		
Project	Name:	Micror	n Camp	us, Clay,	New York				Date Started	11/08/23		
Client:		Rambo	oll	-					Date Finished	11/08/23		
Location				on Locati					Surface Elev.	422.1'		
METH					ON		GROUND	WATER O	BSERVATIO	NS		
Operato		-	Sherma			Date	Time	Depth (Ft.)		omment		
Inspecto			a Sharn			11/8/2023	12:30	None Noted	See	Remark 3		
Equipm	ent:			lel LNK	27							
Type:	1372 Jal		d Buck	et								
Bucket	wiatn:	24"			VISITAL CLA	ASSIFICATIO	N OF MAT	FRIAI				
Daniel		Sample	Denth					LKIAL				
Depth Scale	Sample	Sample Depth of Change c - coarse m - medium		c - coarse m - medium	and - 35 to 50% / s							
(Feet)	No.	From	То	(Ft.)	f - fine	little - 10 to 20% /	trace - 0 to 10%					
0					Topsoil and Organic	Materials (moist	, easy digging	)				
				1.0			— - — - —					
1					Brown SILT and cmf	f SAND, little cn	nf GRAVEL, t	race COBBL	ES (moist, medi	um digging)		
	0.1	2.0	4.0									
2	S-1	2.0	4.0	3.0								
3					Brown cmf SAND ar	and cmf GRAVEL, some SILT, little COBBLES (moist, medium to hard digging)						
						io viii Oluli Bl	, 501110 5121,		22 (1110130, 111001	um to mara argging)		
4												
5												
6												
6				7.0								
7				<u> </u>	Grey SILT and cmf S	SAND, some cm	GRAVEL, lit	tle COBBLE	S (moist, hard di			
					Possible Till	, , , , , , , , , , , , , , , , , , , ,	,			66 67		
8												
					Bottom of Test Pit 8.	5'						
9												
10												
10												
11												
12												
13												
1.4												
14												
15												
16												
Remar												
1. See 7												
2. Test	Pit exca	vated a	and bac	ekfilled	by a subcontractor to	CME, utilizing a	Link Belt Mo	del LNK 27 e	excavator, equip	ped 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.

#### ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 **SUBSURFACE** Page 16 of 536 **Test Pit ID** 6035 Corporate Drive **EXPLORATION** East Syracuse, NY 13057 Page No. 1 of 1 Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 **TEST PIT LOG** Micron Campus, Clay, New York Project Name: **Date Started** 11/08/23 Client: Ramboll **Date Finished** 11/08/23 414.8' Location: See Exploration Location Plan Surface Elev. METHOD OF INVESTIGATION **GROUNDWATER OBSERVATIONS Operator:** Daryl Sherman Date Time Depth (Ft.) Comment Inspector: Astitwa Sharma, EIT 11/8/2023 13:28 None Noted See Remark 3 Link Belt Model LNK 27 **Equipment:** Toothed Bucket Type: Bucket Width: 24" VISUAL CLASSIFICATION OF MATERIAL Sample Depth Depth c - coarse Depth of and - 35 to 50% / some - 20 to 35% (Ft.) Scale Sample m - medium Change little - 10 to 20% / trace - 0 to 10% (Feet) No. From То (Ft.) f - fine 0 Topsoil and Organic Materials (moist, easy digging) 1.0 Brown cmf SAND and SILT, some cmf GRAVEL, little COBBLES (moist, medium digging) 1 2 2.5 4.0 Brown SILT, some cmf SAND, little cmf GRAVEL, little COBBLES (moist, medium to hard digging) S-1 3 4.0 Brown cmf SAND and cmf GRAVEL, some COBBLES, some SILT (moist, medium to hard digging) 4 5 6 7.0 Grey SILT and cmf SAND, some cmf GRAVEL, little COBBLES (moist, hard digging) 7 Possible Till 8 Bottom of Test Pit @ 9.0' 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. Groundwater did not collect and accumulate in the test pit during the short time the test pit was left open.

Test Pit Photographs

Page **1** of **5** 





Figure 1: Test Pit TP-1



Figure 2: Materials excavated from TP-1

Test Pit Photographs

Page **2** of **5** 





Figure 3: Test Pit TP-2



Figure 4: Materials excavated from TP-2

Test Pit Photographs

Page 3 of 5





Figure 5: Test Pit TP-3



Figure 6: Materials excavated from TP-3

Test Pit Photographs

Page **4** of **5** 





Figure 7: Test Pit TP-4



Figure 8: Materials excavated from TP-4

Test Pit Photographs

Page 5 of 5





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**

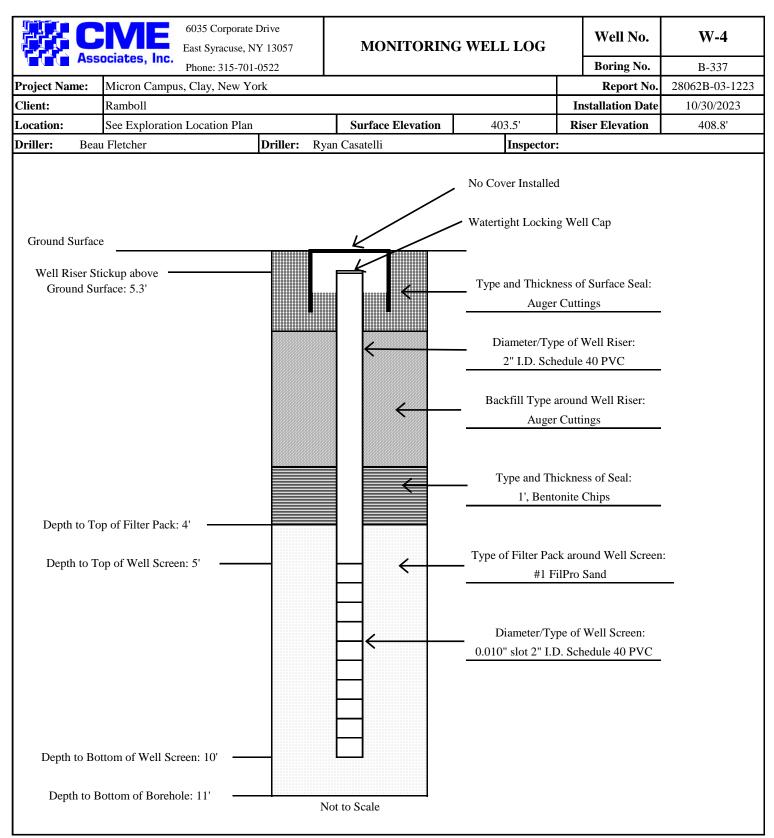
		TEST 1		TEST 2		TEST 3	
	Depth		Residual		Residual		Residual
TESP PIT ID	(ft)	Peak (psf)	(psf)	Peak (psf)	(psf)	Peak (psf)	(psf)
TP -1	2	3,675	1,420	2,589	1,336	3,341	1,754
	3	793	251	1,420	585	1,002	418
	4	167	84	501	84	418	251
TP -2	2	2,547	1,253	2,255	626	2,714	1,587
	3	1,462	585	1,670	585	1,295	418
	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**

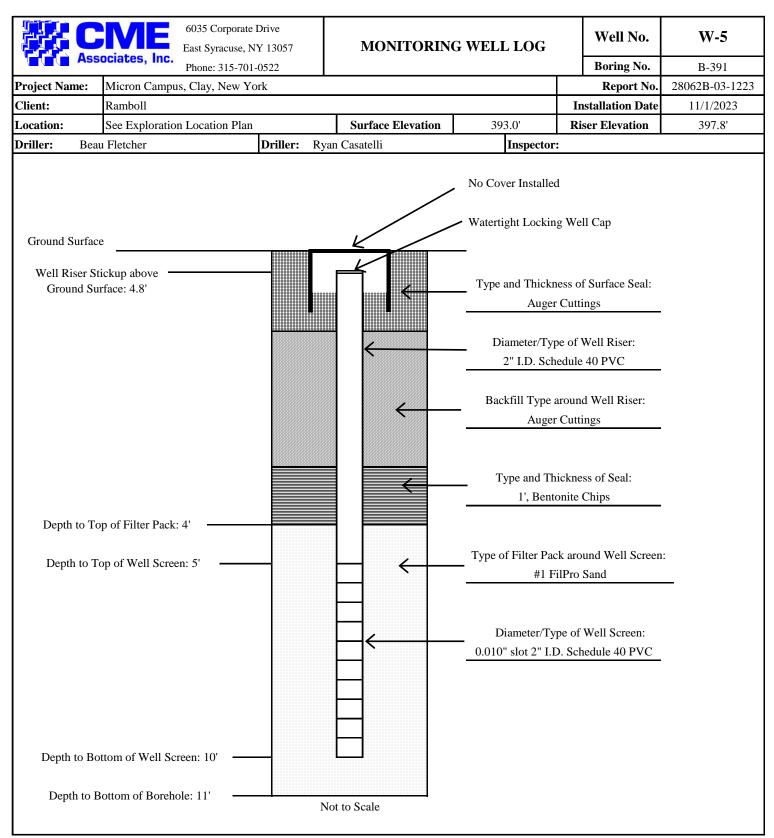
	Depth			
TEST PIT ID	(ft)	TEST 1 (tsf)	TEST 2 (tsf)	TEST 3 (tsf)
TP-1	2	1.9	2.2	3.0
	3	1.3	1.3	1.5
	4	0.8	0.5	0.8
TP-2	2	3.8	3.5	2.8
	3	1.3	1.3	1.3
	4	0.8	0.5	0.5
TP-4	2	0.8	0.5	0.8
TP-5	2.5	0.5	0.8	0.5

**Groundwater Observation Summary Table** 

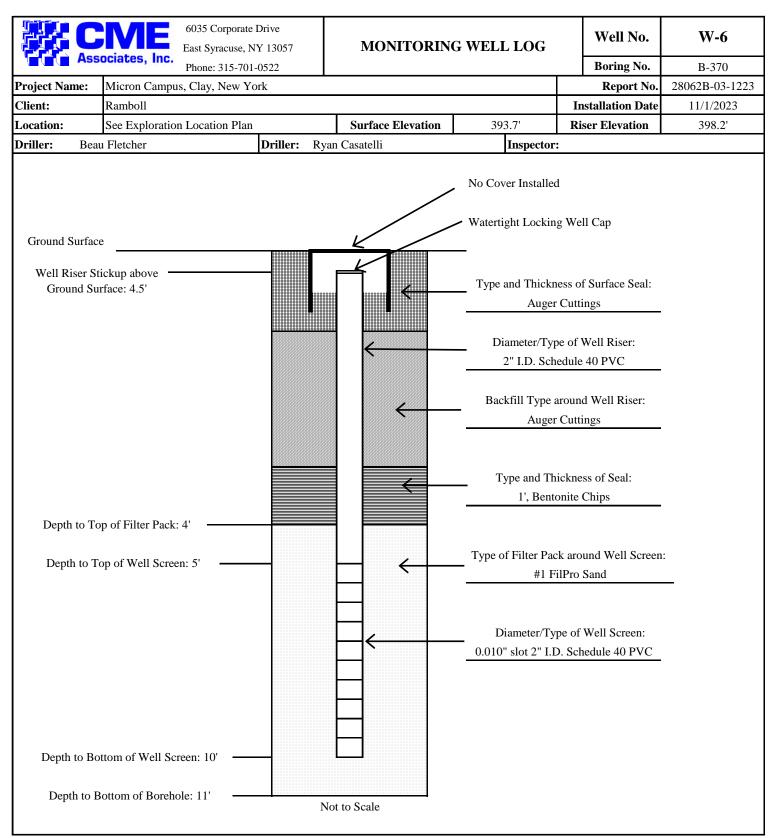
Observed Groundwater Elevation (Feet)									
	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9
Date	B-129	B-24	B-227	B-337	B-391	B-370	B-400	B-420	B-422
04/19/23	418.7		385.5						
04/21/23		393.8							
05/16/23	416.1	392.5	385.7						
05/17/23	416.0	391.8	386.4						
06/12/23	414.6	386.8	385.3						
10/05/23	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



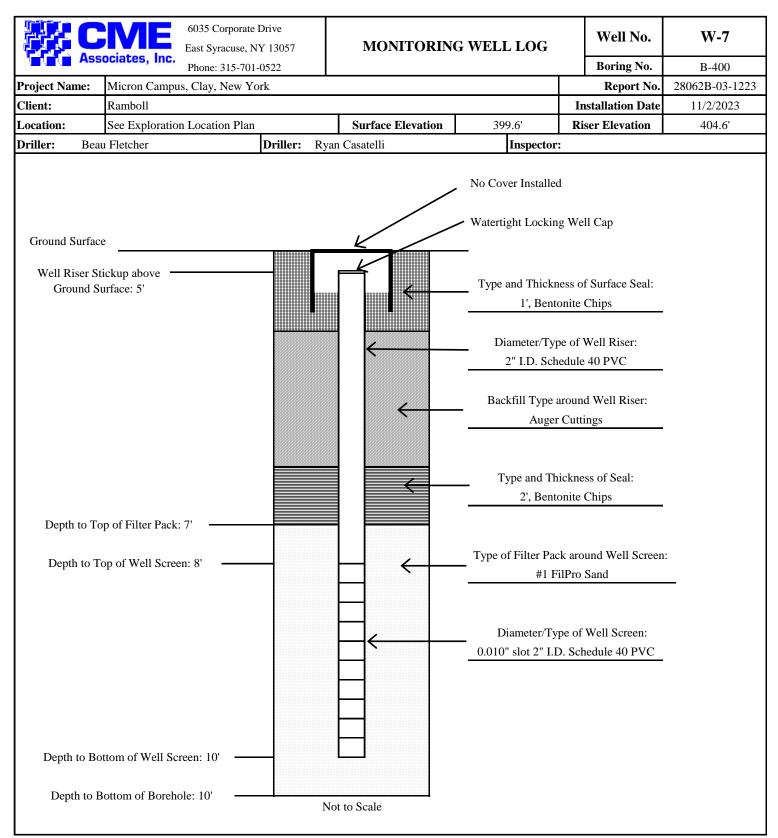
1. See Test Boring Log B-337 for soil information.



1. See Test Boring Log B-391 for soil information.

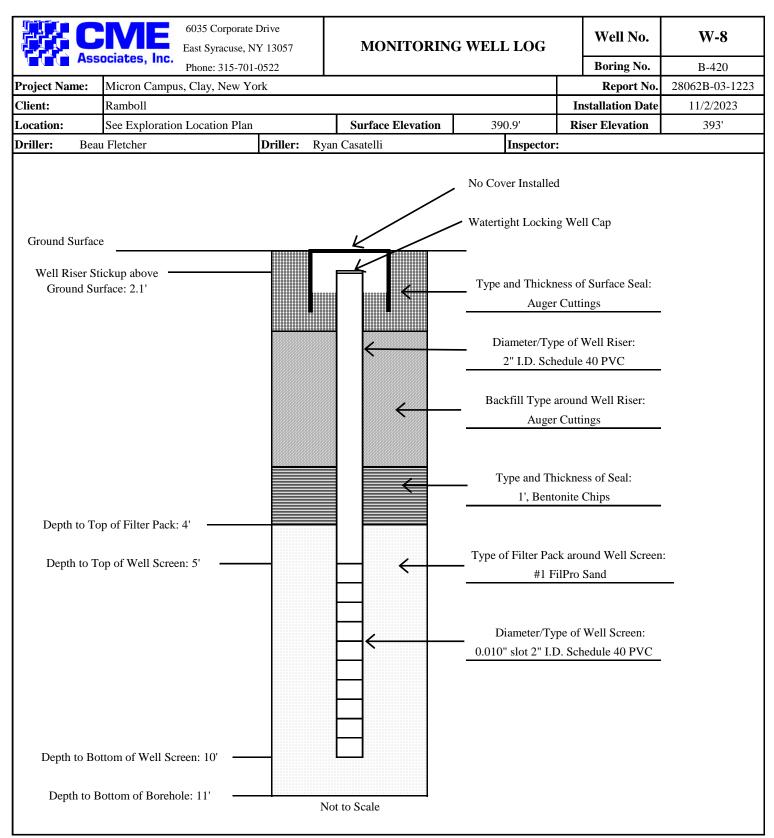


1. See Test Boring Log B-370 for soil information.



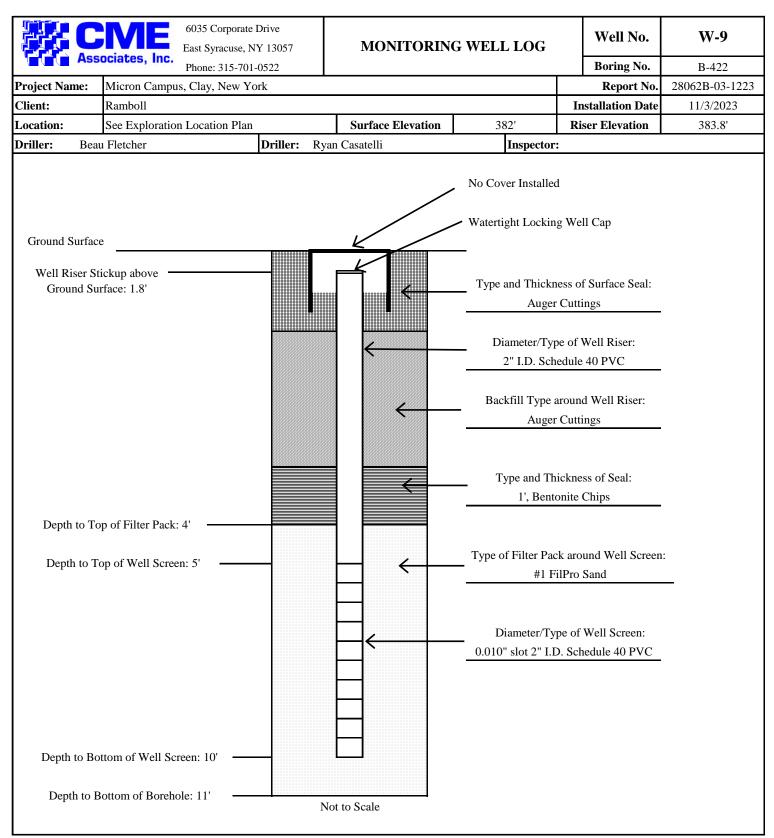
### Remarks:

1. See Test Boring Log B-400 for soil information.



### Remarks:

1. See Test Boring Log B-420 for soil information.



### Remarks:

1. See Test Boring Log B-422 for soil information.



Photograph 1

Boring:

B-13

Run 1

Depth

See Photographs Nos. 2 and 3 for detailed views.



23.8'-28.8'

Photograph 2

B-13

Run 1

1

Top

Depth

23.8'-26.3'



Photograph 3

B-13

Run 1

Bottom

Depth

26.3'-28.8'

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

F

Run 1

Тор

Depth

23.8'-26.3'



Photograph 6

B-15

Run 1

Bottom

Depth

26.3'-28.8'



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'

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'

Attachment to CME Report No: 28062B-03-1223



4.0'-9.0'

Photograph 13

Boring:

B-35

Run 1

Depth

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'

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'



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'

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'



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

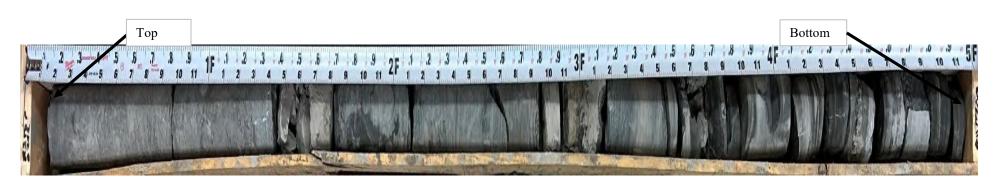
B-292

Run 1

Bottom

Depth

21.0' - 23.5'



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'

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'



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'

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

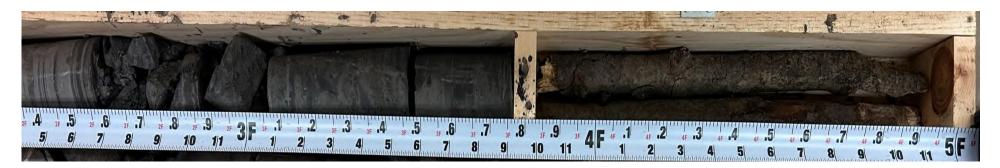
Run 1

1 7

Top

Depth

17.3' - 19.8'



Photograph 39

B-366

Run 1

Bottom

Depth

19.8' - 22.3'

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'



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'

Bottom Top 1F 1 2 3 4 5 6 7 8 9 10 11 2F 1 2 3 4 5 6 7 8 9 10 11 2F 1 2 3 4 5 6 7 8 9 10 11 3 4 -- 5 6 7 8 9 10 11

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'

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

Тор

Depth 27.5' - 30.0'



Photograph 51

B-426

Run 2

Bottom

Depth

30.0' - 32.5'



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

www.cmeassociates.com

### 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<sup>1</sup> 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

<sup>&</sup>lt;sup>1</sup>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. <a href="https://www.AASHTOresource.org">www.AASHTOresource.org</a>.

Page 2 of 19



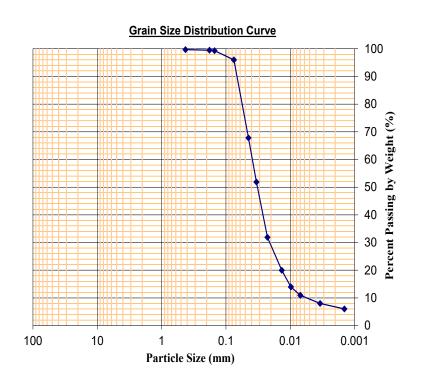
# II. Atterberg Limits Testing (ASTM D4318)

			Plasticity	Natural Moisture
Sample ID	Liquid Limit	<b>Plastic Limit</b>	Index	(%)
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)

<u>Sample #</u> B-13; S-6 <u>Classification</u>
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



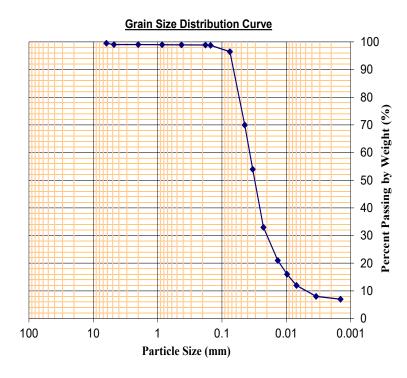
**Page 3 of 19** 



<u>Sample #</u> B-88; S-3

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

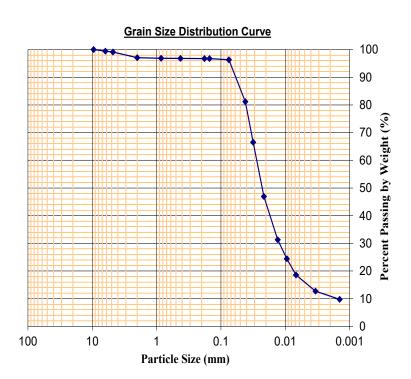
Í		Percent
Sieve	Size	Passing by
<b>Designation</b>	(mm)	Weight (%)
1/4"	6.25	100
No.4	4.75	99
No.10	2.00	99
No.20	0.850	99
No.40	0.425	99
No.80	0.180	99
No.100	0.150	99
No.200	0.075	96
Hydrometer	0.044	70
	0.033	54
	0.023	33
	0.014	21
	0.010	16
	0.007	12
	0.003	8.0
	0.001	7.0



Sample # B-207; S-6

## Classification Grey SILT, little CLAY, trace cmf SAND, trace fine GRAVEL

B 201, 5		Percent
Sieve	Size	Passing by
<b>Designation</b>	<u>(mm)</u>	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



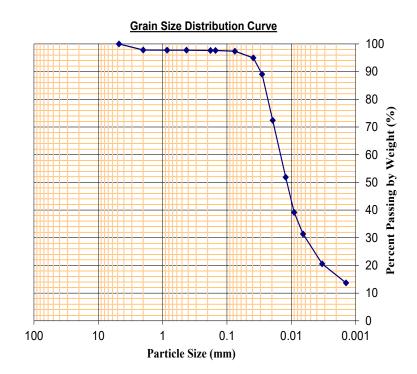
Page 4 of 19



<u>Sample #</u> B-212; S-3

D-212, 5-	9	
		Percent
Sieve	Size	Passing by
<b>Designation</b>	(mm)	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

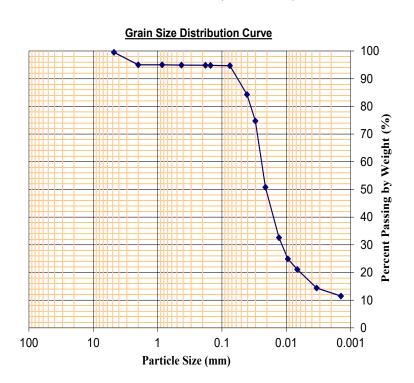
Classification Brown SILT, some CLAY, trace cmf SAND



Sample # B-303; S-3

,		Percent
Sieve	Size	Passing by
<b>Designation</b>	(mm)	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

Classification Brown SILT, little CLAY, trace cmf SAND



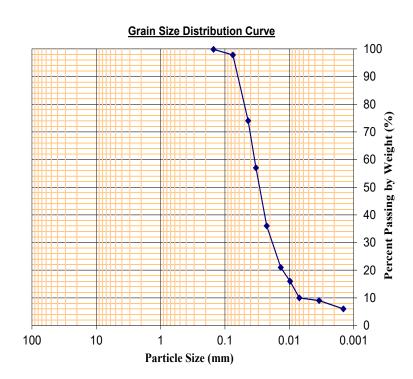
Page 5 of 19



<u>Sample #</u> B-412; S-4

Sieve	Size	Percent Passing by
<b>Designation</b>	(mm)	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

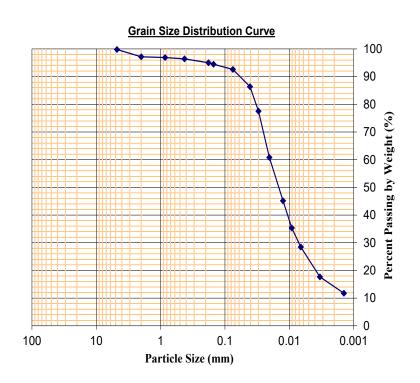
Classification Brown SILT, trace CLAY, trace fine SAND



Sample # B-421: S-6

D-421; S-0	O	
		Percent
Sieve	Size	Passing by
<b>Designation</b>	<u>(mm)</u>	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

Classification Light Grey SILT, some CLAY, trace cmf SAND



Page 6 of 19

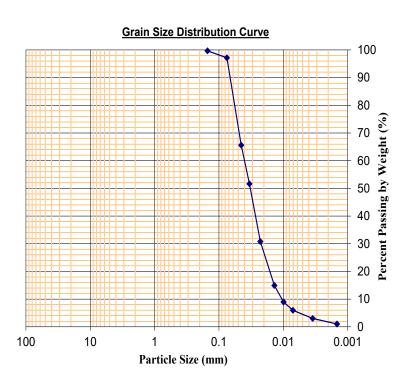


### <u>Sample #</u> B-428; S-6

D-420; S-	O	
		Percent
Sieve	Size	Passing by
<b>Designation</b>	(mm)	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

## **Classification**

Light Brown SILT, trace CLAY, trace fine SAND



# IV. Rock Core Compression (ASTM D7012 Method C)

# **A) Testing Conditions:**

Tested by:	H.K.	Mo	isture Condition:	Laboratory air-dry	Equipment:	Forney QC-400-DR
Date of Test:	11/16	/23	Load Direction:	Generally	perpendicula:	r 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./ft³)
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

**Page 7 of 19** 



# **D) Compression Test Results:**

Core ID	Specimen Area (inch²)	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. <u>DIPRA Test (Appendix A of ANSI/AWWA C105/A21.5)</u>

	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)	pН	Sulfides	Moisture	<b>DIPRA Points</b>				
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.

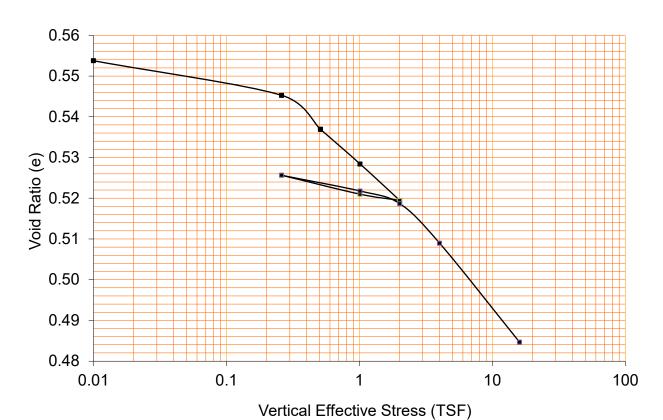
Page 8 of 19



## VI. One-Dimensional Consolidation Test (ASTM D2435)

1) Boring: B-206A Sample: ST-1; S-1 (Depth = 14.3')

Vertical Effective Stress vs. Void Ratio



**Pre-consolidation Pressure (P')** = N/A (Normally Consolidated)

Compression Index (Cc) = 0.04Re-compression Index (Cr) = 0.01Initial Void Ratio (eo) = 0.55Initial Water Content (Wn) = 21.6%Dry Unit Weight Before Testing ( $\gamma$ <sub>d</sub>) = 108.3 pcf Specific Gravity = 2.70

**Classification:** = Grey SILT and CLAY

**Coefficient of Consolidation (Cv):** 

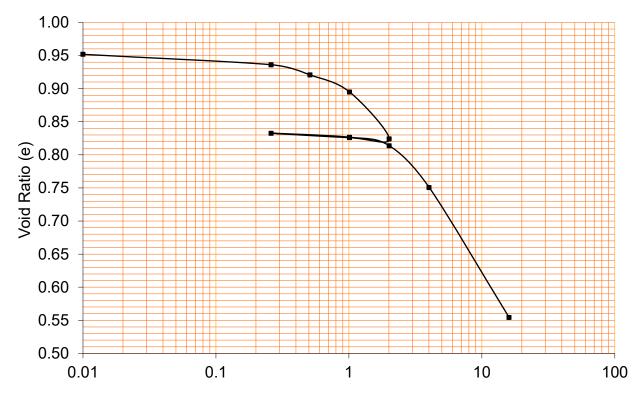
Vertical Effective Stress	Coefficient of Consolidation (Cv, ft <sup>2</sup> /month)								
(tsf)	Log of Time Method	Square Root of Time Method	Average						
0.26	4.01	6.86	5.44						
0.51	28.09	36.27	32.18						
1.01	21.07	16.12	18.60						

Page 9 of 19



1) Boring: B-206A Sample: ST-1; S-2 (Depth = 15.7')

## Vertical Effective Stress vs. Void Ratio



Vertical Effective Stress (TSF)

**Pre-consolidation Pressure (P')** = N/A (Normally Consolidated)

 $\begin{array}{lll} \textbf{Compression Index (Cc)} & = 0.33 \\ \textbf{Re-compression Index (Cr)} & = 0.01 \\ \textbf{Initial Void Ratio (eo)} & = 0.95 \\ \textbf{Initial Water Content (Wn)} & = 32.8\% \\ \textbf{Dry Unit Weight Before Testing } (\gamma_d) & = 88.3 \text{ pcf} \\ \textbf{Specific Gravity} & = 2.76 \\ \end{array}$ 

Specific Gravity = 2.76

Classification: = Grey CLAY and SILT

Coefficient of Consolidation (Cv):

Vertical Effective Stress	Coefficient of Consolidation (Cv, ft <sup>2</sup> /month)									
(tsf)	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							

Page 10 of 19



#### 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,	SAMPLE NO.:	S-1
	trace cmf SAND		

## Moisture - Density Relationship Curve

### Particle Size Analysis ASTM D422

			1110							<u> </u>			_							0 2110 111101.js	15 115 1111 121
																				Sieve Size	% Passing
																				2"	100
	135 -	1				MITT		ПП		ПП										1-1/2"	100
																				1"	100
						++++	$\bigvee$												+	3/4"	100
	130 -																			1/2"	99
	130							N		Ш		+++							Ш	3/8"	97
								+++	$\forall \exists$			+++							+++	1/4"	90
						Ш		Ш		Щ									Ш	No.4	90
	125 -							++++											+	No.10	90
						ш		ш	ш										Ш	No.20	89
								Ш		++++	+	₩							+	No.40	88
Ë	120 -							Ш											Ш	No.80	87
(PCF)	120							Ш		Ш			$\mathbb{N}$						Ш	No.100	87
																				No.200	86
DRY DENSITY																					
Ħ	115 -							<b>.</b>				+++				$\forall$			+		
⊱																			Ш		
																	+	$\longleftrightarrow$	+		
	110 -																		<b>S</b>		
	110							+++											$\mathbb{H}$		
												+++									
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	105 -					ННН	++++	++++	++++		++++		++++		++++				+++		
							-	y Dens											Ш		
							<b>1</b> 00	0% Sa	turatio	n Cur	ve, Gs	* = 2.	7		+				+		
	100 -				<u> </u>		▲ M E	D,OM	C**										Ш		
		5 6	7	8	9	10	) 1	11	12	13	1	4	15	16	17	1	8	19	20		
							IVI	01511	URE (	JUNI		(%)									

Tes	st Procedure				Test Results
Test Method	ASTM D-:	1557 (Modifie	<u>ed)</u> ASTM D-698	(Standard)	
Procedure Used	□ A	□ B	<b>☑</b> C		MDD (PCF) = 114.7
Preparation Method	Dry	✓ Moist			OMC(%) = 11.4
Description of Rammer	☐ Manual	✓ Mechar	nical		
Oversize Fraction by Dry Weigh	t 0 % Retained o	n 🗌 No	o.4 Sieve 🔲 3/8" :	Sieve 🗹 3/4" Sieve	
* Specific Gravity, estimated	o rolledamied c	-			
detains and the second	0110 0	3.5	α		

<sup>\*\*</sup> MDD = Maximum Dry Density, OMC = Optimum Moisture Content

Page 11 of 19



SAMPLE LOCATION:	Test Pit TP-2	DATE SAMPLED:	11/8/23
SOIL CLASSIFICATION:	Brown Mottled SILT, little CLAY, trace mf GRAVEL,	SAMPLE NO.:	S-1
	trace mf SAND		

## **Moisture - Density Relationship Curve**

## Particle Size Analysis ASTM D422

	Wosture - Density Relationship Curve	ticle Size Alialys	15 ASTNID422
		Sieve Size	% Passing
		2"	100
135	<b>-</b>	1-1/2"	100
		1"	100
		3/4"	100
	<del> </del>	1/2"	99
130		3/8"	97
		1/4"	92
		No.4	92
125		No.10	92
0		No.20	92
_		No.40	92
120	<del> </del>	No.80	92
		No.100	92
115		No.200	91
115			
5 113			
ξ			
•			
110	<b>/</b>	$\forall$	
405			
105	• Dry Density		
	□ 100% Saturation Curve, Gs* = 2.6		
100	▲ MDD,OMC**	Щ	
	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	18	
	MOISTURE CONTENT (%)		
	11.0101012 00111211 (70)		

Te	est Procedure				Test Results
Test Method	✓ ASTM D-	·1557 (Modifie	ed) ASTM D-0	598 (Standard)	
Procedure Used	□ A	□ B	<b>✓</b> C		MDD (PCF) = 115.6
Preparation Method	☐ Dry	✓ Moist			OMC (%) = 11.9
Description of Rammer	☐ Manual	Mechar	nical		
Oversize Fraction by Dry Weig	ht		_		
	0 % Retained	on $\square$ No	o.4 Sieve 📙 3/	8" Sieve 🗹 3/4" Sieve	
* Specific Gravity, estimated					
** MDD = Maximum Dry Dens	ity, OMC = Opti	mum Moistu	re Content		

Page 12 of 19



SAMPLE LOCATION:	Test Pit TP-3	DATE SAMPLED:	11/8/23
SOIL CLASSIFICATION:	Brown/Grey SILT, some cmf SAND, some cmf	SAMPLE NO.:	S-1
	GRAVEL, little COBBLES		

## Moisture - Density Relationship Curve

## Particle Size Analysis ASTM D422

																																			Sieve	<b>Size</b> 6" 5"	% Passin 100 100
	150	П	H	Ш	П				П	H	٩	$\Box$	П	П	П	П	П	H	П	П		П					П		П		П					3 4"	90
			Ħ	Ш	$\pm$				$\pm$	Ħ	Ш			$\pm$		#		Ħ		#		Ħ				#	Ħ		Ш		Ħ		Ш			3"	82
	145	$\perp$	Н	Ш	Н			$\blacksquare$	Н	Н		$\parallel$		V		$^{+}$		Н		$^{+}$		H					H		Ш		H					2"	77
	170	H	$^{+}$	Н	+		Н		$^{+}$	$^{+}$	+	$^{+}$	$\Box$	$^{\rm H}$		+		$^{\rm H}$	+	$^{+}$		$^{+}$			+	+	Н		+		$^{+}$				1	-1/2"	73
			H	Н	$\blacksquare$				$\blacksquare$	H		$\blacksquare$	Н	$\blacksquare$		$\rightarrow$		H		$\blacksquare$		$\blacksquare$					H		$\blacksquare$		H					1"	71
	140	Ш	Ħ	Ш	Ш				$\parallel$	Ш		Ш	П	Ш		#		V		Ш		ш					Ħ		Ш		Ш		Ш			3/4"	68
		$\blacksquare$	$^{+}$	Н	$\pm \pm$		Н	$\blacksquare$	$\pm$	$^{\rm H}$	$\pm$	$\pm$	Н	$\pm$	Н			Н	$\setminus$	$\forall$		Н			$\pm$	+	Н		$\pm \pm$	+	$^{\rm H}$					1/2"	65
			H	Н	$\blacksquare$				H	H		H		$\blacksquare$		$\blacksquare$		H			V	H					H		$\blacksquare$		H					3/8"	63
	135	H	Ħ	Ш			Ш		Ħ	Ħ		Ħ		П		#		Ħ		Ħ		A					Ħ		Ш		Ħ					1/4"	61
Ü		H	Ш	Ш	Ш		Ш	Ш	Ш	Н	Ш	Ш	Н	Ш	Н	Ш		Н	Н	Ш		Ш	$\setminus$				Н		Ш		Ш					No.4	59
(PCF)		H	$^{+}$	Н	+		Н	+	$^{+}$	Н	+	$^{+}$	Н	$^{++}$	Н	₩	H	Н	$^{+}$	$^{+}$	+	$^{+}$	Н		$\forall$	+	Н		+	+	₩		+++		1	No.10	56
	130	H	H	Ш	$\blacksquare$		Ш		$\blacksquare$	H	$\blacksquare$	$\blacksquare$	Н	$\blacksquare$		#		H		$\blacksquare$		H				Na.	$\coprod$		$\blacksquare$		H				1	No.20	52
DRY DENSITY			Ħ	Ш	$\pm$		Ш		$\pm$	Ш	#	#	Н	#	Н	#		Ħ	Ш	Ц		۲		`	J	#			$\pm$		#				1	No.40	50
		$\vdash$	$^{+}$	Н	+		Н	+	$^{+}$	Н	+	$^{+}$	+	+	+	$^{+}$		Н		4		Н	Н		+				$\lor$	+	$^{+}$		НН		1	No.80	42
~	125	$\blacksquare$	H	Н	$\blacksquare$		Н		H	H		H	Н	Н		H		,		H		H				-									N	o.100	40
			Ħ	Ш					Ħ	П		Ħ				#	/	1				Ħ					Ħ					V			N	o.200	32
			$^{+}$	Н	$\pm$				$\pm$	$^{+}$	$\pm$	$^{+}$		+				Н		$^{+}$		Н					Н		$\pm$		•		$\mathbb{N}$				
	120	+	$\mathbb{H}$	Ш	$\blacksquare$				$\mathbb{H}$	Н	$\blacksquare$	$\mathbb{H}$	Н	Н	Н	$\mathbb{H}$	H	Н	Н	$\mathbb{H}$		$\mathbb{H}$			$\blacksquare$	Н	Н		Н		$\mathbb{H}$						
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			$^{+}$	Н	$\pm$		Н		$\pm$	$^{+}$		$^{+}$		+		$^{+}$		Н		$^{+}$		Н					Н		Н		Н						
	115	+	$^{+}$	Н	$\mathbb{H}$		Н	+	+'		П		11	l Ir		rrec	hat	Dr	/ D	one.	itv		111		11		Н,		$^{+}$	+	$^{+}$		Ш				
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		H	Ħ	Ш	$\pm$		Ш	$\pm$	‡							cte							۷.,	•					$\parallel$	∄	Ħ	Ш	Ш				
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		0		1		2		3	,		4		5			6		7			8		9		10	)	1	1		12		13	14	4			
														М	OIS	STL	JRI	E C	O	NTI	EΝΊ	Γ ('	%)														

Te	est Procedure	Informati	on		Test Results
Test Method	ASTM D-:	1557 (Modifie	d) 🗌 ASTM I	D-698 (Standard	
Procedure Used	□ A	□ B	<b>✓</b> C		Corrected MDD (PCF) = 138.9
Preparation Method	Dry	✓ Moist			Corrected OMC (%) = $6.1$
Description of Rammer	☐ Manual	✓ Mechan	nical		
Oversize Fraction by Dry Weig	tht 32 % Retained o	n 🗌 No	.4 Sieve	3/8" Sieve 🗹	3/4" Sieve
* Specific Gravity, estimated					
** MDD = Maximum Dry Dens	ity $OMC = Optin$	nım Maietu	re Content		

\*\* MDD = Maximum Dry Density, OMC = Optimum Moisture Content

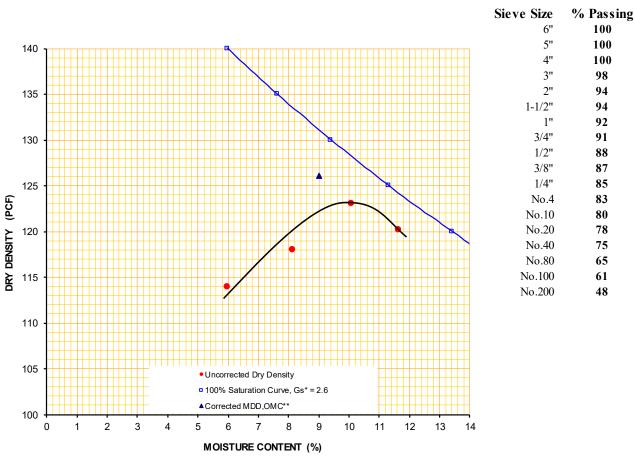
Page 13 of 19



SAMPLE LOCATION:	Test Pit TP-4	DATE SAMPLED:	11/8/23
SOIL CLASSIFICATION:	Brown SILT and cmf SAND, little cmf GRAVEL,	SAMPLE NO.:	S-1
	trace COBBLES		

## Moisture - Density Relationship Curve

## Particle Size Analysis ASTM D422



<u>Test</u>	Proce dure				<b>Test Results</b>			
Test Method	✓ ASTM D-	1557 (Modifie	d) 🗌 ASTM D	-698 (Standard)	-			
Procedure Used	□ A	□ B	<b>✓</b> C		Corrected MDD (PCF) = 126.1			
Preparation Method	Dry	✓ Moist			Corrected OMC (%) = $9.0$			
Description of Rammer	☐ Manual	✓ Mechan	nical					
Oversize Fraction by Dry Weight  9 % Retained on  No.4 Sieve 3/8" Sieve 3/4" Sieve								
* Specific Gravity, estimated								
** MDD = Maximum Dry Density, OMC = Optimum Moisture Content								

Page 14 of 19



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

			1110151411	Dens	ity itel	utionsi	преш	<u> </u>			1 41 (10)	Sieve Size
												2"
	140	_			<u> </u>							1-1/2"
						$\backslash\!\!\!\backslash\!\!\!\!\backslash\!$						1"
												3/4"
						+++						1/2"
	135	+										3/8"
												1/4"
							+++					No.4
	130							Na.				No.10
								$+$ $\setminus$				No.20
												No.40
Œ									$\mathbb{N}$			No.80
2	125											No.100
_							<u> </u>			$\bigvee$		No.100 No.200
DRY DENSITY (PCF)						سر ا				+N		NO.200
Ä	120										<b>A</b>	
											+	
쭘									<b>\</b>			
										$\longrightarrow$		
	115											
	110											
					<ul><li>Uncorre</li></ul>	cted Dry D	ensity		+++			
					□ 100% S	aturation (	Curve, Gs* =	2.6				
					▲ Correct	ed MDD,O	MC**		+++			
	105	0 1	2 3	4 5	6	7	8 9	10	11 12	13	14 15	
		0 1	2 3	7 0					11 12	13	17 13	
					MOIS	TURE CC	ONTENT (9	%)				

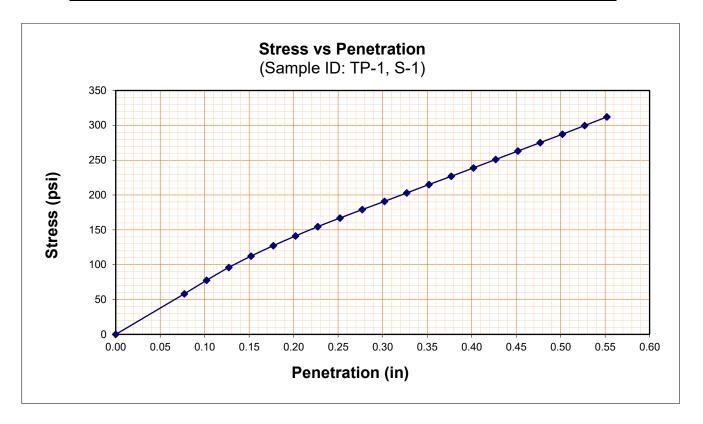
<u>T</u>	est Procedure	Informa	tion		<b>Test Results</b>
Test Method	✓ ASTM D-	1557 (Modit	fied) ASTM D-6	98 (Standard)	
Procedure Used	□ A	□ B	<b>☑</b> C		Corrected MDD (PCF) = 123.5
Preparation Method	☐ Dry	✓ Moist			Corrected OMC (%) = $9.1$
Description of Rammer	☐ Manual	✓ Mech	anical		
Oversize Fraction by Dry Wei	ght 3 % Retained o	,	No.4 Sieve 3/8	8" Sieve 🗹 3/4"	Sieve
* Specific Gravity, estimated					
** 1 (DD 11 ' D D	. 0110 0	3.6 '			

<sup>\*\*</sup> MDD = Maximum Dry Density, OMC = Optimum Moisture Content

Page 15 of 19



## VIII. CBR (California Bearing Ratio) of Laboratory-Compacted Soils (ASTM D1883)



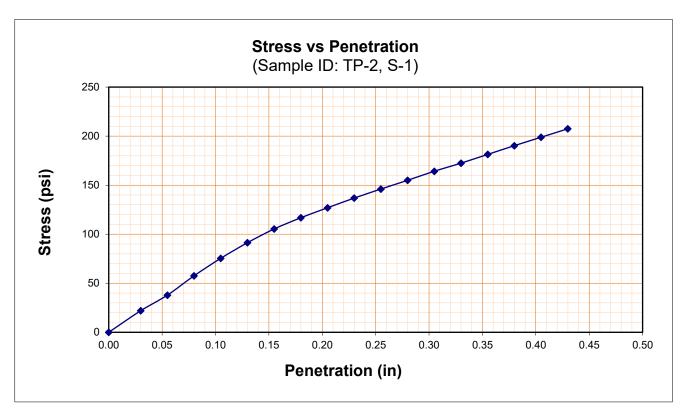
Burmister Classification: Brown Mottled SILT, little CLAY, trace mf GRAVEL, trace cmf SAND

**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

Page 16 of 19





Burmister Classification: Brown Mottled SILT, little CLAY, trace mf GRAVEL, trace mf SAND

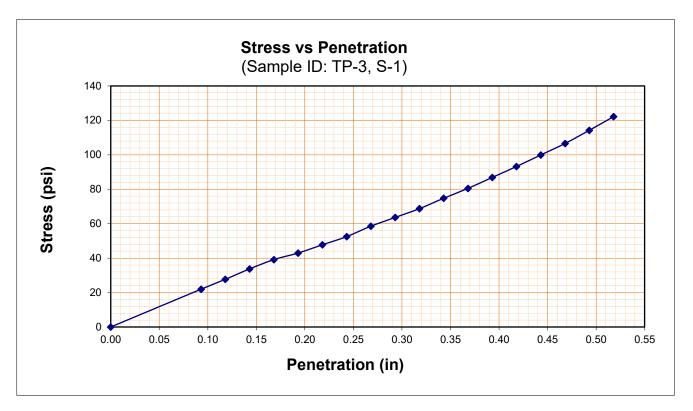
**Sample Depth:** 2' – 4'

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

Laboratory Test Summary Report CME Report No.: 28062L-03-1123

Page 17 of 19





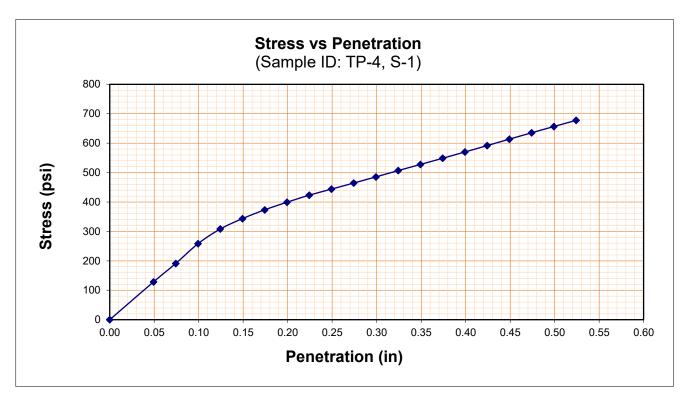
**Burmister Classification:** Brown/Grey SILT, some cmf SAND, some cmf GRAVEL, little COBBLES **Sample Depth:** 2' - 4'

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

Laboratory Test Summary Report CME Report No.: 28062L-03-1123

Page 18 of 19





Burmister Classification: Brown SILT and cmf SAND, little cmf GRAVEL, trace COBBLES

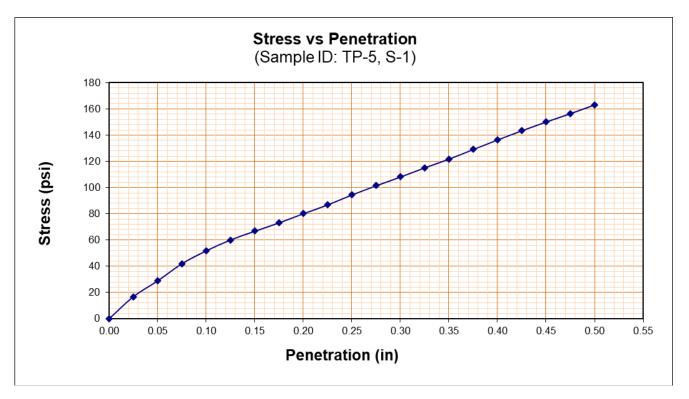
Sample Depth: 2'-4'

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

Laboratory Test Summary Report CME Report No.: 28062L-03-1123

Page 19 of 19





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.

Hannah Kloiber for

Laboratory Supervisor

#### Attachments:

Rock Core Photographs (2 of 2)

Soil Test Evaluation for Ductile Iron Pipe; 10-Point System (1 of 1)

CME Report No.: 28062L-03-1123 Rock Core Photographs

Page 1 of 2





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')

CME Report No.: 28062L-03-1123

**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')

Attachment to CME Report No.: 28062L-03-1123



# Soil Test Evaluation for Ductile Iron Pipe (10-Point System)\*

Soil Characteristics	Points	
Resistivity (ohm-cm)**		Moisture
<1,500	10	Poor drainage,
$\geq 1,500-1,800$	8	continuously wet
>1,800-2,100	5	Fair drainage,
>2,100-2,500	2	generally moist
>2,500-3,000	1	Good drainage,
>3,000	0	generally dry
pH		2 , ,
0-2	5	
2-4	3	*Ten points-corrosive to Ductile Iron Pipe.
4-6.5	0	Protection is indicated.
6.5-7.5	0***	**Based on water-saturated soil box. This
7.5-8.5	0	method is designed to obtain the lowest-
>8.5	3	and most accurate-resistivity reading.
Redox potential		***If sulfides are present; and low (<100mv)
>+100mv	0	or negative redox-potential results are
+50 to +100mv	3.5	obtained, 3 points should be given for
0 to +50mv	4	this range.
Negative	5	Note: DIPRA recommends that the soils sample used
Negative	3	in the 10-point evaluation to be taken at pipe depth
Sulfides		rather than at the surface. Soil corrosivity readings
Positive	3.5	can vary substantially from the surface to pipe depth.
Trace Negative	2 0	



#### The groundwork for success.

Micron Campus	File Number:	2328700
Clay, NY	Date:	7-Dec-23
CME Associates, Inc.	CMT I. D. No.:	18436
	Clay, NY	Clay, NY Date:

#### 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 <sub>3</sub> )	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%

CMT Laboratories, Inc.

CMT Laboratories, Inc.

2701 Carolean Industrial Drive, State College, PA 16801 Phone: (814) 231-8845 www.cmtlabsinc.com



#### 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

Date Tested:

5-Dec-23

Sample Location:

B-35, R-1, 4.0'-4.5'

Test	Test Method	Result
Neutralization Potential (%CaCO <sub>3</sub> )	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%

CMT Laboratories, Inc.

CMT Laboratories, Inc.

2701 Carolean Industrial Drive, State College, PA 16801 Phone: (814) 231-8845 www.cmtlabsinc.com

#### 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 <sub>3</sub> )	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%

CMT Laboratories, Inc.

CMT Laboratories, Inc.

2701 Carolean Industrial Drive, State College, PA 16801 Phone: (814) 231-8845 www.cmtlabsinc.com



November 20, 2023

Project No. 2023-294-003

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

#### **Transmittal** aboratory 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.



### **CHLORIDE ION CONTENT IN SOILS**

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

Client:CME Associates, Inc.Boring No.:RambollClient Reference:Micron 28062Depth (ft):NAProject No.:2023-294-003Sample No.:TP-1Lab ID:2023-294-003-001Description:Brown Soil

( - # 10 Sieve material )

#### **CHLORIDE STANDARD: CALIBRATION CURVE**

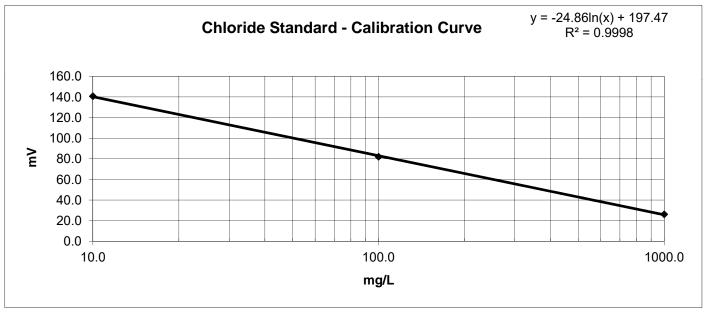
STANDARD		M <u>ILLIVOL</u> TS (mV)
10.0	mg/L	140.7
100.0	mg/L	82.0
1000.0	mg/L	26.2

#### **MEASUREMENT OF CHLORIDES**

Sample Weight (g):	100.0	CONCENTRATION	CONCENTRATION
Water added to Sample (ml):	100.0	(mg/L)	(mg/kg)
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<sub>3</sub> solution (1:1 volume).

2) Samples were dried for a minimum of 12 hours at 110 <sup>+</sup>/<sub>-</sub> 5°C.



Notes:

Tested By JAM Date 11/17/23 Checked By NJM Date 11/17/23



## 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<sub>2</sub>·2H<sub>2</sub>O)

Sample Weight (g): 100.0 <u>Sample Moisture Content</u>

Water added to Sample (mL):300.0Tare Number:872Size of Sample Aliquot (mL):50.0Weight of Tare & Wet Sample (g):270.09Sample Reading (FAU):47Weight of Tare & Dry Sample (g):261.19

Weight of Tare (g): 109.88

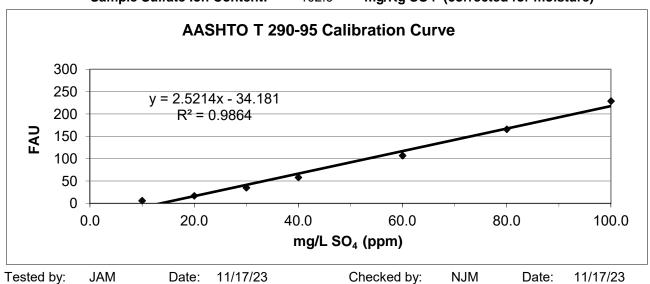
**Sample Diluted:** No Weight of Water (g): 8.90 Weight of Dry Sample (g): 151.31

Moisture Content (%): 5.88

Sulfate Solution Added (ml): 0

Sample Sulfate Ion Concentration: 32.20 mg/L SO<sub>4</sub> (ppm)

Sample Sulfate Ion Content: 96.6 mg/Kg SO<sub>4</sub> (not corrected for moisture)
Sample Sulfate Ion Content: 102.6 mg/Kg SO<sub>4</sub> (corrected for moisture)



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



#### **CHLORIDE ION CONTENT IN SOILS**

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

Client:CME Associates, Inc.Boring No.:RambollClient Reference:Micron 28062Depth (ft):NAProject No.:2023-294-003Sample No.:TP-2Lab ID:2023-294-003-002Description:Brown Soil

( - # 10 Sieve material )

#### **CHLORIDE STANDARD: CALIBRATION CURVE**

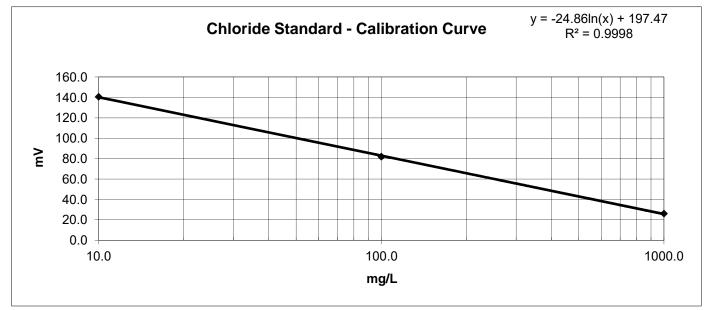
STANDAR	<u>D</u>	M <u>ILLIVOL</u> TS
		(mV)
10.0	mg/L	140.7
100.0	mg/L	82.0
1000.0	mg/L	26.2

#### **MEASUREMENT OF CHLORIDES**

Sample Weight (g):	100.0	CONCENTRATION	CONCENTRATION
Water added to Sample (ml):	100.0	(mg/L)	(mg/kg)
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<sub>3</sub> 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

page 1 of 1 DCN: CT-S63A DATE: 6/2/14 REVISION: 1



## 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**

|--|

0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0
			Spectroph	otometer Re	adings (FAL	<u>J)</u>		
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<sub>2</sub> 2H<sub>2</sub>O)

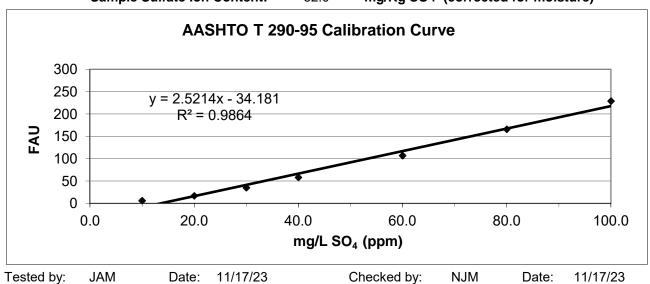
Sample Weight (q): **Sample Moisture Content** 100.0 Water added to Sample (mL): 300.0 Tare Number: 1717 Size of Sample Aliquot (mL): 50.0 Weight of Tare & Wet Sample (g): 227.88 Sample Reading (FAU): Weight of Tare & Dry Sample (g): 8 222.91 Weight of Tare (g): 82.60 Weight of Water (g): Sample Diluted: No 4.97

Weight of Dry Sample (g): 140.31 Moisture Content (%): 3.54

Sulfate Solution Added (ml): 0

Sample Sulfate Ion Concentration: 16.73 mg/L SO<sub>4</sub> (ppm)

Sample Sulfate Ion Content: 50.2 mg/Kg SO<sub>4</sub> (not corrected for moisture)
Sample Sulfate Ion Content: 52.0 mg/Kg SO<sub>4</sub> (corrected for moisture)



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

				6035 C	orporate Drive	SI	JBSURF	ACE EX	PI.	ORATION	Boring No.	Page	7 <sub>1</sub> 9f 536
		IV	Ę		racuse, NY 13057			S BORII			Page No.		of 2
		ociates	N LINE CO.	1 mone.	315-701-0522				10.1	LOG	Report No.		3-03-1223
Project	Name:			us, Clay,	, New York						Date Started		06/23
Client:		Rambo									Date Finished		06/23
Location	<u>n:</u>			on Locati		·NT			<u> </u>	OLIVIDAN + man	Surface Elev.		91.1'
Detii				NS OF	INVESTIGATIO	3 ¼" ID	нсл		GR	OUNDWATER	UBSEKVAT	IUNS	
Driller: Driller:		B. Flet Chris C			Casing: Casing Hammer:	3 1/4" ID	п.э.А.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto			Sharm	a, EIT	Other:	NQ-Cor	·e	09/06/23	,	While Drilling	8.2	1	8.5
Drill Ri		CME 5		,	Soil Sampler:	_	Split Barrel	09/06/23		re Casing Removed	9.0		3.8
Type:	_	ATV			Hammer Wt:	140 lbs.	-	09/06/23	Afte	er Casing Removed	5.1 *	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		09/06/23		er Casing Removed	caved @ 5.5		out
	LO			ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	1
Depth			e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change	m -	medium			0% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 2.0	Rec. (in.) SS/20		(Ft.)		- fine ttled SILT	` trac	e fine SAND, trace	20% / trace - 0 to 109 e CLAY trace R		RQD %
	1	0.0	2.0	55/20	1233		(moist, me			c inic bin ib, naci	c CLiii, nacc r	.0010	3
1									,				
2	2	2.0	4.0	SS/19	5-5-4-3		Brown mo	ttled SILT	', trac	e fine SAND, trace	e CLAY (wet, st	iff)	9
2		<b> </b>	<b> </b>										
3		<b> </b>											
4	3	4.0	6.0	SS/16	2-3-5-6		Similar as	above (we	et, stif	f)			8
'			5.0						, ., .,	,			
5	1	[	[										
								_					
6	4	6.0	8.0	SS/15	6-7-6-7		Similar as	above (we	et, stif	T)			13
7		[	[										
,													
8	5	8.0	10.0	SS/12	4-5-7-6		Brown SII	T, trace fi	ine S	AND, trace fine Gl	RAVEL, trace C	LAY	12
			1		1		(wet, stiff)			. 3.	,		
9		[	[										
10	1												
10		[	[										
11		[	[										
- 1		[	[										
12			1										
		[	[										
13	_	10.5	150	00/12	224		C C	· ~-	A 37	two as Et . C . 3	(mat : 1"	ecc.	
1.4	6	13.5	15.0	SS/12	3-2-4		Grey SILT	, trace CL	AY, 1	trace fine SAND (	wet, medium sti	III)	6
14													
15	1	[	[										
-		[	[										
16													
		[	[										
17		[	[										
18		[	[				Augered ho	ard from	18 0'				
10	7	18.5	20.0	SS/10	13-5-6		-	-		nf SAND, little SI	LT, little CLAY	(wet.	11
19	<u> </u>	-5.5		~~, 10			medium co		01	, muo bii	, CL/11	50,	
20		ļ i					Continued	on Page 2	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 to borehole during coring process.

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

					orporate Drive		UBSURFACE EXPLORATION  Boring No. Page B 919						
		IV	Ę		racuse, NY 13057		TEST ROPING LOC Page No. 2 of 2						
		ciates			315-701-0522		<b>Report No.</b> 28062B-03-	-1223					
	LO			ING SA	AMPLES		VISUAL CLASSIFICATION OF MATERIAL						
Depth Scale	Sample	Sample (F	e Depth et.)	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium and - 35 to 50% / some - 20 to 35%	PT "N" or					
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		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		+	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	1												
41													
42													
43													

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

Remarks:

44

				6035 C	orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.	Page	9 <b>1g</b> f 536
		IV		•	racuse, NY 13057			BORI			Page No.		of 2
		ociates	20 1100		315-701-0522		1 12(3)	DOM	.,,,,,		Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		05/23
Client:		Rambo		т	DI								05/23
Locatio	n:			n Locati	on Plan INVESTIGATIO								94.0'
Driller:		B. Flet		US UF	Casing:	3 ¼" ID	H.S.A		GK				
Driller:		Chris C			Casing Hammer:	374 12	11.0.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect	or:	Asitwa	Sharm	a, EIT	Other:	NQ-Cor	e	09/05/23		While Drilling	None Noted	1	8.5
Drill Ri	g:	CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	09/05/23		ore Casing Removed	2.7 *	2	3.8
Type:		ATV			Hammer Wt:	140 lbs.		09/05/23		er Casing Removed	5.0 *	(	out
Rod Siz		AWJ	<b>DOD</b>	210 0	Hammer Fall:	30 in.	***	09/05/23		er Casing Removed	caved @ 27.2		out
	LO			ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	1
Depth			Depth	Type /	Blows on	Depth of		- coarse			a	.,	SPT "N"
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 35 0% / trace - 0 to 109		or RQD %
0	1	0.0	2.0	SS/24	1-2-3-4	(11.)			ittle n	of SAND, little CL			5 5
							(moist, me			, , , , , , , , , , , , ,	,		
1													
									_				_
2	2	2.0	4.0	SS/15	4-4-5-5		Brown mo	ttled SILT	, trac	e fine SAND, trace	e CLAY (wet, st	111)	9
3													
4	3	4.0	6.0	SS/17	5-5-7-9		Brown SIL	T, little C	LAY	, trace fine SAND	(wet, stiff)		12
5													
	4		0.0	00/11	<b>5.000</b>		D 277	m that of	17 4			17F1	1.77
6	4	6.0	8.0	SS/14	5-9-8-9				LAY	, trace fine SAND,	trace fine GRA	VEL	17
7							(wet, very	suii)					
′													
8	5	8.0	10.0	SS/15	6-8-11-14		Brown SIL	T, little c	mf SA	AND, trace fine GF	RAVEL (wet, ve	ry stiff)	19
9													
10													
10													
11													
12													
12													
13	6	13.5	15.0	SS/9	2-3-2		Grey CII T	some CI	ΛV	little fine SAND (v	wat madium seid	ff)	5
14	0	13.3	13.0	33/9	2-3-2		Oley SIL1	, some CI	∠A I ,	nuic inic SAND (	wet, medium sui	11)	3
'													
15													
16													
17													
17													
18													
	7	18.5	20.0	SS/18	1-1-1		Grey/Brow	n CLAY,	some	e SILT, little fine C	GRAVEL, trace	cmf	2
19							SAND (we						
									_				
20	Ī		1		I	1	Continued	on Page 2	,				ī

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.

## ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

TOGOTRODI	NTO OIL
Associates, Inc.	Phone: 3
CIVIE	East Syr
CRAE	6035 Co

6035 Corporate Drive East Syracuse, NY 13057

### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page **BO15** 536

Page No. 2 of 2

Report No. 28062B-03-1223

		aciato			cuse, NY 13057		<b>TEST BORING LOG</b>	-	8	of 2		
					15-701-0522			TON O	•	3-03-1223		
	LO	I		ING SA	MPLES		VISUAL CLASSIFICATION OF MATERIAL					
Depth Scale	Sample		e Depth t.)	Type /	Blows on Sampler	Depth of	c - coarse m - medium and -	35 to 50%	6 / some - 20 to 35%	SPT "N' or		
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)			% / some - 20 to 35% 9% / trace - 0 to 10%	RQD %		
20							Continued from Page 1					
21												
22												
23	8	23.5	23.5	SS/0	100@0"		No Recovery. See Remark 1			100+		
24	R-1	23.8	28.8	C/60	NQ-Core		Auger refusal @ 23.8' Dark Grey/Black SHALE with interb		OLOSTONE, slightly	87%		
25							weathered, thinly bedded, medium ha Broken zone @ 24.1' to 24.5'.					
26							Recovery: 60"/60" = 100%   RQD = 15 pieces, 2" Chips and fragments	52"/60"	= 87%			
27							1:45 min/ft, no water loss Coring conducted in 5th grear, 2000	rpm, 50	0 psi down pressure.			
28				G. 150								
29	R-2	28.8	33.8	C/60	NQ-Core		Dark Grey/Black DOLOSTONE with weathered, thinly to medium bedded,			95%		
30							Recovery: 60"/60" = 100% RQD = 57"/60" = 95%					
31							13 pieces, 1" Chips and fragments  1:32 min/ft, no water loss	500				
32							Coring conducted in 5th gear, 2000 r	rpm, 500	psi down pressure.			
33							D					
34							Bottom of Boring @ 33.8'					
35	-											
36												
37												
38												
39												
40												
41												
42												
43												
44												
45	1											

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

		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	Page <b>B</b>	1 <sub>1</sub> <b>g</b> f 536
		IV	Ę		racuse, NY 13057						Page No.	1	of 2
		ociates	N 1116 C 1	i none.	315-701-0522	TEST BORING LOG Re							3-03-1223
Project	Name:			us, Clay,	New York						Date Started		05/23
Client:		Rambo									Date Finished		05/23
Location	n:			n Locati					- C T		Surface Elev.		1.9'
D 33				DS OF	INVESTIGATIO		TT C A		GR	ROUNDWATER	OBSERVAT	TONS	
Driller: Driller:		B. Flete Chris C			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto		Asitwa		a FIT	Other:			09/05/23		While Drilling	12.7	1	8.5
Drill Ri		CME 5		u, LII	Soil Sampler:	2" OD S	Split Barrel	09/05/23		ore Casing Removed	5.7		22
Type:	9	ATV			Hammer Wt:	140 lbs.	-	09/05/23		er Casing Removed	4.6		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		09/05/23	Afte	er Casing Removed	caved @ 4.8'	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/20	1-2-4-4		medium sti		ine Sz	AND, trace CLAY	, trace ROOTS	(moist,	6
1							meaium su	111)					
1													
2	2	2.0	4.0	SS/17	5-6-6-8		Brown mo	ttled SILT	', trac	e fine SAND, trace	e CLAY (moist,	stiff)	12
											, .	,	
3													
4	3	4.0	6.0	SS/18	5-5-5		Similar as	above (we	et, stif	ff)			10
-													
5													
6	4	6.0	8.0	SS/15	6-5-7-9		Similar as	above (we	et. stif	ff)			12
									,	,			
7													
8	5	8.0	10.0	SS/20	5-6-7-7		Similar as	above (we	et, stif	ff)			13
0													
9													
10													
11													
12													
13													
13	6	13.5	15.0	SS/11	2-3-4		Grev SII T	little CI	ΔV t	trace fine SAND, (	wet medium sti	ff)	7
14	U	13.3	13.0	55/11	2-3-4		GICY SIL1	, IIIIC CL	Α1, ι	race fine SAND, (	wet, meatum str	11)	'
15													
16							], .	•• -	<b>.</b>				
17							Augered g	ravelly @	16.5'	,			
17													
18													
	7	18.5	20.0	SS/10	5-7-8		Grey cmf S	SAND, so	me fii	ne GRAVEL, little	SILT (wet, med	lium	15
19							compact)	,		,			
20							Continued	on Page 2	2				

20 Continued on Page 2
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

			F		orporate Drive	SU	JBSURFACE EXPLO	RATION	Boring No.		
	Ass	ociates	Inc		racuse, NY 13057	TEST RORING LOC Page No. 2					of 2
					315-701-0522 <b>MPLES</b>		VISUAL CLASS				-03-1223
Depth Scale (Feet)	Sample No.	Sample		Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50	0% / some - 20 to 35' 20% / trace - 0 to 109	%	SPT "N" or RQD %
20							Continued from Page 1				
21							Auger refusal @ 22.0'	_			
22	8	22.0	22.0	SS/0	100@0"		No Recovery. See Remark I Bottom of Boring @ 22.0'	<u>l</u>			100+
23							2011011 01 201111g © <b>22</b> 10				
24											
25 26											
27											
28											
29											
30	-										
31											
32											
33											
34											
35											
36											
37											
38 39											
40											
41											
42											
43											
44											

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

				6035 Co	orporate Drive	SI	JBSURF4	ACE EX	PLO	ORATION	Boring No.	Page <b>B</b>	3 <b>19</b> f 536
	Acre	IV	lu-		racuse, NY 13057			BORI			Page No.		of 2
		ciates	70	T Hone.	315-701-0522				., .		Report No.		-03-1223
Project 1 Client:		Micror Rambo		us, Clay,	New York						Date Started Date Finished		06/23
Location				n Locati	on Plan						Surface Elev.		1.8'
Location	1.				INVESTIGATIO	N			GR	OUNDWATER			1.0
Driller:		B. Flet	cher	20 01	Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)		At (Ft.)
Driller: Inspecto		Chris C	)'Hara Sharm	o EIT	Casing Hammer: Other:			09/06/23		While Drilling	None Noted		1.0
Drill Rig		CME 5		a, E11	Soil Sampler:	2" OD S	Split Barrel	09/06/23		re Casing Removed	8.5		3.5
Type:	••	ATV			Hammer Wt:	140 lbs.	-	09/06/23		er Casing Removed	10.3		out
Rod Size		AWJ			Hammer Fall:	30 in.		09/06/23		er Casing Removed	caved @ 22.1	(	out
	LO	G OF	BORI	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	COA		0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/13	1-4-4-6			T, trace n	nt SA	ND, trace CLAY,	trace ROOTS (r	noist,	8
1							stiff)						
2	2	2.0	4.0	SS/21	4-5-5-5		Brown mot	tled SILT	', trac	e mf SAND, trace	CLAY (moist, s	tiff)	10
3													
4	3	4.0	6.0	SS/20	4-3-4-3								7
5													
6	4	6.0	8.0	SS/15	3-4-4-5		Similar as a	above (we	et, stif	f)			8
7													
8	5	8.0	10.0	SS/22	4-5-6-7		Similar as a	above (we	et, stif	f)			11
9													
10													
11													
12													
13	_	12.7	150	00/1	T 10 12		g;	1		.:00			22
14	6	13.5	15.0	SS/16	7-10-12		Similar as a	above (we	et, ver	y stiff)			22
15													
16													
17													
18	_			~						~~			
19	7	18.5	20.0	SS/5	3-4-2		Grey cmf S loose)	SAND and	i mf (	GRAVEL, little SII	LT, trace CLAY	(wet,	6
20							Continued	on Page 2	<u> </u>				
SS - Spl Remark		n, U - I	Undist	ırbed Tı	ıbe, C - Core, WH - `	Weight o	of Hammer +	⊦ Rod, WI	R - W	eight of Rod			

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

age**ß4<sub>1</sub>o**f 536 Boring No. 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 Augered gravelly @ 21.0' 22 23 8 23.5 24.8 SS/513-23-100@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

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

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

									_		D 1 N	Dago-8	5-of 536
		$\mathbf{R}\mathbf{A}$		6035 Co	orporate Drive	SU	JBSURFA	ACE EX	<b>CPL</b>	ORATION	Boring No.	age	530f 536
		IV		East Syr	racuse, NY 13057						Page No.	1	of 1
	Asso	ociates	s, Inc.	Phone:	315-701-0522		IESI	BORI	NG	LUG	Report No.	28062B	3-03-1223
Project 1	Name	Micron	Campi	ıs Clay	New York	<u> </u>					Date Started		07/23
Client:	vaine.	Rambo		us, Ciay,	TOTAL TOTAL						Date Finished		07/23
Location	n:		•	n Locati					~-		Surface Elev.	-	2.3'
				DS OF	INVESTIGATIO				Gŀ	ROUNDWATER	OBSERVAT	TONS	
Driller:		B. Flet	cher		Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Cocino	At (Ft.)
Driller:		Chris C	)'Hara		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	(FL)
Inspecto	r:	Asitwa	Sharm	a, EIT	Other:	NQ-Cor	e	09/07/23		While Drilling	2.8	۷	1.0
Drill Rig	g:	CME 5	50X		Soil Sampler:	2" OD S	plit Barrel	09/07/23	Befo	ore Casing Removed	3.9 *		7
Type:	,	ATV			Hammer Wt:	140 lbs.	•	09/07/23		ter Casing Removed	3.0 *	(	out
Rod Size	۵•	AWJ			Hammer Fall:	30 in.		09/07/23		ter Casing Removed	caved @ 7.8		out
TOU DIE			DODI	NC C	AMPLES	30 m.	3/1			SSIFICATION C			, at
	LU			ING SE	AMILLES		V 1,	SUAL C	LAS	SIFICATION C	JE WIA LEKIA	LL	1
Depth		Sample		Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample			Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 10°	%	RQD %
0	1A	0.0	1.0	SS/24	1-1-4-6	L ¯	Topsoil and	d Organic	Mat	ter (moist)			5
													]
1	1B	1.0	2.0				Brown SIL	T, trace f	ine S	SAND (moist, media	um stiff)		
2	2	2.0	4.0	00/14	5 2 2 4		D 011	TT.	co	NAME THE C		1.	
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
						Similar as above (wet, stiff)							
5						Similar as above (wet, stiff)							
						Similar as above (wet, stiff)							
6	4	6.0	6.9	SS/11	34-100@5"	Similar as above (wet, stiff)  Dark Grey cmf SAND and cmf GRAVEL, trace SILT, some ROCK fragments (wet, very compact) Auger refusal @ 7.0'							
	7	0.0	0.7	DD/11	31-100@3				NOCK	100+			
7	R1	7.0	12.0	C/60	NO Como							1/4" +0	20%
7	KI	7.0	12.0	C/60	NQ-Core								20%
									-	eathered, laminated	to thinly beaded	1,	
8							medium so						
										ones throughout cor			
9										%   RQD = 12''/60'	" = 20%		
							21 pieces,			•			
10							1:45 min/ft	, no wate	r loss	S			
										gear, 2000 rpm, 50	0 psi down pres	sure.	
11									. (	. r	, F		
12							Bottom of	Boring @	12.0	)'			
12								Doring @	12.0	,			
13													
13													
1.4													
14													
15													
16													
17													
] -													
18													
10													
10													
19													
20					l								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod Remarks: \* Water added for coring.

, , , , , , ,				- 1	INT NOMBER. 172		121 -	KI IIDI I I	٠ ٥. ٠	GEOTEOTIMOA			
				6035 C	orporate Drive	SI	IRSURE	ACE EX	PI.	ORATION	Boring No.	Page	639t 536
		IV			racuse, NY 13057						Page No.	1	of 1
	Asso	ociate	s, Inc.	Phone:	315-701-0522		1691	r BORI	NG.	LOG	Report No.	28062E	3-03-1223
Project 1	Name:	Micror	1 Camp	us, Clay,	New York						Date Started	09/	08/23
Client:		Rambo									Date Finished		08/23
Location	n:	See Ex	ploratio	n Locati	on Plan						Surface Elev.	39	94.8'
					INVESTIGATIO	N			GR	ROUNDWATER			
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	<b>.</b>					
Driller:		Chris (	O'Hara		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	Asitwa	Sharm	a, EIT	Other:			09/08/23		While Drilling	None Noted	4	1.0
Drill Rig	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	09/08/23	Befo	ore Casing Removed	None Noted	4	5.8
Type:		ATV			Hammer Wt:	140 lbs.		09/08/23	Afte	er Casing Removed	None Noted	(	out
Rod Size	e:	AWJ			Hammer Fall:	30 in.		09/08/23	Afte	er Casing Removed	caved @ 2.5	Ó	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	L	
Depth	-	Sample	e Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample		łt.)	Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/14	1-1-3-4					AND, trace mf GR.	AVEL, trace RC	OTS	4
							(moist, me	dium stiff	)				
1													
	_	2.0	4.0	00/00	4 2 2 4		D	41. 1 OT 7	L CAND	CD ATTE	( ·		
2	2	2.0	4.0	SS/20	4-3-3-4				le cmf SAND, trace	e fine GRAVEL	(wet,	6	
3							medium st	111)					
3													
4	3	4.0	5.8	SS/16	3-3-3-100@4"		Brown SII	T some o	mf S	SAND, some mf GF	PAVEL some R	OCK	6
	3	7.0	3.0	55/10	3-3-3-100@4		fragments				CA VLL, SOME K	OCK	U
5							Auger refu			Suii)			
							Bottom of						
6								8					
7													
8													
9													
10													
1.1													
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

7	J		0_0		INT NOMBER. 172	_ 0. 0	,	(1112117		GEOTEOTIMOA			TIAOL Z
				6035 C	orporate Drive	SI	IRCURE	ACE EX	ZDI	ORATION	Boring No.	Page 👸	73 <b>9</b> f 536
	U	IV		East Sy	racuse, NY 13057	30					Page No.		of 1
	Ass	ociate	s, Inc.		315-701-0522		TEST	BORI	NG	LOG	Report No.		3-03-1223
Project 1	Name:	Micror	Camp		New York	<u> </u>					Date Started		07/23
Client:	vanic.	Rambo		us, Ciay,	11CW TOIR						Date Finished		07/23
Location				n I oaati	on Dlan						Surface Elev.		2.3'
Location				on Locati	INVESTIGATIO	NT .			CI	ROUNDWATER			2.3
Driller:		B. Flet		DS OF		3 ¼" ID	II C A		Gr	MOUNDWAIEN	ODSERVAI	IONS	
Driller:		Chris (			Casing: Casing Hammer:	3 /4 ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto			Sharm	o EIT	Other:			09/07/23		While Drilling	3.6	,	1.0
Drill Rig		CME 5		a, EH	Soil Sampler:	2" OD 9	Split Barrel	09/07/23	Dof		3.7		5.7
	g.	ATV	)JUA		Hammer Wt:	140 lbs.	-	09/07/23		ore Casing Removed er Casing Removed	4.2		
Type: Rod Size		AWJ			Hammer Fall:	30 in.		09/07/23		er Casing Removed	4.2 caved @ 4.3		out
Kou Size			DAD	INIC C		30 III.	X7T(			SSIFICATION C			out
	LU			ING SA	AMPLES		V 15	SUAL C	LAS	SIFICATION C	JE MIATERIA	L	1
Depth		_	e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample		řt.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	٠		0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/14	1-2-3-3					ce cmf SAND, trace	e rine GRAVEL	, trace	5
							ROOTS (n	noist, med	lium	stiff)			
1													
	2	2.0	4.0	00/12	1 4 7 7		C /D	CII T	CCAND 1'41	CODAVEL (		1.1	
2	2	2.0	4.0	SS/13	1-4-7-7		Grey/Brow	'n Sili ai	nf SAND, little cm	GRAVEL (wei	, sum)	11	
2													
3													
4	2	4.0	5.0	SS/11	17-21-10-100@1"		Dl - C	DOCK 6		CAND (	4)	21	
4	3	4.0	5.6	33/11	17-21-10-100@1		Dark Grey	KOCK II	agme	ents, trace SILT, tra	ice ciii sand (	wet)	31
-							A	1@57	.,				
5							Auger refu						-
6							Bottom of	Boring @	3.7				
0													
7													
/													
8													
0													
9													
,													
10													
10													
11													
11													
12													
12													
13													
1.5													
14													
17													
15													
16													
10													
17													
- '													
18													
10													
19													
20													

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

				6035 C	orporate Drive	SI	JBSURFA	ACE EX	(PL	ORATION	Boring No.	Page <b>B</b>	839f 536
					racuse, NY 13057			BORI			Page No.		of 1
		ociates	S. Land		315-701-0522		11001	DOM			Report No.		3-03-1223
Project	Name:			us, Clay,	, New York						Date Started		08/23
Client:		Rambo									Date Finished		08/23
Location	n:			n Locati							Surface Elev.		95.8'
- ···				DS OF	INVESTIGATIO		** ~ .		GR	COUNDWATER	OBSERVAT	TONS	
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Driller: Inspecto		Chris C		. EIT	Casing Hammer: Other:			09/08/23		While Drilling	None Noted		4.0
Drill Ri		CME 5	Sharm	a, EH	Soil Sampler:	2" OD \$	Split Barrel	09/08/23		ore Casing Removed	11.0		1.8
Type:	g•	ATV	JUA		Hammer Wt:	140 lbs.	-	09/08/23		er Casing Removed	7		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		09/08/23		er Casing Removed	caved @ 8.0		out
1104 512			BOR	NG S	AMPLES		VI			SIFICATION C			-
-		1	e Depth						1110		ZI WIZITERIA		GDT IIN III
Depth Scale	Sample		t.)	Type / Sample	Blows on Sampler	Depth of		coarse medium		and - 35 to 50	0% / some - 20 to 359	0/2	SPT "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/20		( .,	Brown SIL	T, little c	mf SA	AND, trace ROOT			2
1													
2	2	2.0	4.0	SS/18	2-4-5-7	Brown SILT, trace fine SAND, trace CLAY (wet, stiff)							9
						Brown SIL1, trace fine SAND, trace CLA1 (wet, suit)							
3						Similar as above (wet, stiff)							
1	2	4.0	6.0	SS/13	5 6 5 1	Similar as above (wet, stiff)							11
4	3	4.0	6.0	33/13	5-6-5-4	Similar as above (wet, stiff)							11
5						Similar as above (wet, stiff)							
						Similar as above (wet, stiff)  Grey/Brown SILT, trace fine SAND, trace mf O							
6	4	6.0	8.0	SS/12	2-3-4-3		Grey/Brow	n SILT, t	ine SAND, trace n	nf GRAVEL (we	et,	7	
							medium sti			,	`	,	
7								,					
8	5	8.0	10.0	SS/10	2-2-1-2				ome (	cmf SAND, some f	fine GRAVEL, t	race	3
							CLAY (we	et, soft)					
9													
10													
10					1								
11					1		Auger refu	sal @ 11	Q'				
'11	6	11.8	11.8	SS/0	100@0"		Grey ROC			noments			100+
12		11.0	11.0	00/0	100@0		Bottom of						1001
1 12							20ttom of	2011115	11.0				
13					1								
					1								
14													
15													
1.5													
16													
17													
1 /													
18													
19													
20	I			I									

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

					INT NOMBER. 172	0. 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(11101117	١٠٠.	OLO I LOI II VIOA			
				6035 C	orporate Drive	SI	IRSURF	ACE EX	PI	ORATION	Boring No.	Page	93 <b>0</b> t 536
		IV		East Sy	racuse, NY 13057						Page No.	1	of 1
	Ass	ociate	s, Inc.	Phone:	315-701-0522		1691	BORI	NG	LUG	Report No.	28062B	-03-1223
Project	Name:	Micror	1 Camp	us, Clay,	New York	1					Date Started	09/0	07/23
Client:		Rambo									Date Finished	09/0	07/23
Location	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	4.2'
					INVESTIGATIO	N			Gl	ROUNDWATER			
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	<b>.</b>					(774.)
Driller:		Chris (	O'Hara		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	Asitwa	Sharm	a, EIT	Other:			09/07/23		While Drilling	None Noted	4	1.0
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	09/07/23		ore Casing Removed	6.5	ç	0.3
Type:		ATV			Hammer Wt:	140 lbs.		09/07/23		ter Casing Removed	6.7	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		09/07/23		ter Casing Removed	caved @ 9.0		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	L	
Depth		_	e Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m -	medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	: ^		0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/18	1-2-2-3		Brown SIL	I, trace f	ine S	SAND, trace ROOT	S (moist, mediu	m stiff)	4
1													
1													
2	2	2.0	4.0	SS/19	3-2-2-2		Dark Grev	/Brown S	п.т.	little cmf SAND, tr	ace CLAY (moi	st.	4
	_						medium st				,		
3								,					
4	3	4.0	6.0	SS/13	3-2-2-2		Dark Grey	Brown S	ILT,	little cmf SAND, tr	ace CLAY, trac	e fine	4
							GRAVEL	(wet, med	lium	stiff)			
5													
6	4	6.0	8.0	SS/9	3-2-1-1		1	SILT, so	me c	mf SAND, little mf	GRAVEL, trace	e CLAY	3
							(wet, soft)						
7													
8	5	8.0	8.8	SS/8	5-100@3"		Dork Grov	SII T and	IDΩ	CK fragments, trace	mf CD AVEI	traca	100+
0	3	0.0	0.0	33/0	3-100@3		cmf SAND			CK fragments, trace	illi GKAVEL,	uace	100+
9							Auger refu						
							Bottom of						
10													
11													
12													
13													
14													
14													
15													
13													
16													
17													
18													
19													
20				Ī	ĺ	1							

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

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

7 1 1 7 1 1	O1 1111E1	••••	0_0		INT NOMBER. 172	0. 0	121 -	THE IT	ι ο.	GEOTEOTHIOA						
				6035 Co	orporate Drive	SI	IRSURF	ACE EX	ζPΙ.	ORATION	Boring No.	Page 8	3gf 536			
		IV			racuse, NY 13057	Y 13057 TEST RORING LOG Page No. 1 of 1										
	Ass	ociates	s, Inc.	Phone:	315-701-0522		IESI	DUKI	NG	LUG	Report No.	28062B	-03-1223			
Project	Name:	Micror	ı Camp	us, Clay,	New York	-					Date Started	09/0	)7/23			
Client:		Rambo	oll								Date Finished	09/0	07/23			
Location	n:			on Locati							Surface Elev.		7.4'			
		ME	THO	DS OF	INVESTIGATIO	N			GI	ROUNDWATER	OBSERVAT	IONS				
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)			
Driller:		Chris C			Casing Hammer:						_					
Inspecto			Sharm	a, EIT	Other:	NQ-Cor		09/07/23	- C	While Drilling	None Noted		0.0			
Drill Rig	g:	CME 5	50X		Soil Sampler:		Split Barrel	09/07/23		ore Casing Removed	2.4 *		.0			
Type: Rod Size		ATV AWJ			Hammer Wt: Hammer Fall:	140 lbs. 30 in.		09/07/23		ter Casing Removed ter Casing Removed	2.8 * caved @ 4.0		ut			
Kou Siz			BUD.	INC S	AMPLES	30 III.	1/1			SSIFICATION C			out			
	LU			ING SE			V 1	SUAL C	LAS	SSIFICATION C	JE WIA LEKIA	L				
Depth		_	e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"			
Scale (Feet)	Sample No.	From	t.) To	Sample	Sampler Per 6 Inches	Change		medium - fine			% / some - 20 to 359 0% / trace - 0 to 109		or POD %			
0	1	0.0	2.0	Rec. (in.)	1-3-3-9	(Ft.)			ine S	SAND, trace fine GI			RQD %			
		0.0	1 2.0	55/0	1337		(moist, me									
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)										
						trace cmf SAND (wet, very stiff)										
3						trace cmf SAND (wet, very stiff)  Auger refusal @ 4.0'										
						trace cmf SAND (wet, very stiff)  Auger refusal @ 4.0'  Dark Grey DOLOSTONE with interbedded SHALE (1/8" to 1 1/4"),										
4	R1	4.0	9.0	C60	NQ-Core	Auger refusal @ 4.0'  Dark Grey DOLOSTONE with interbedded SHALE (1/8" to 1 1/4"),										
						Auger refusal @ 4.0'										
5									and S	SILT layers @ 4.4' t	to 4.5', 5.1' to 5.2	2', 6.8' to				
6							6.9' and 8.		100	0/   DOD   20"/50"	" <i>65</i> 0/					
6							17 pieces,			RQD  = 39''/50'	= 63%					
7							1:05 min/fi									
,										s gear, 2200 rpm, 60	0 nsi down pres	sure				
8							coring cor	iancica in	, 5111	gear, 2200 rpm, 00	o psi do mi presi	,				
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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				6035 C	orporate Drive	SI	IRSURE	ACE EX	PI.	ORATION	Boring No.	Page	130t 536
		IV			racuse, NY 13057						Page No.	1	of 1
	Ass	ociate	s, Inc.	Phone:	315-701-0522		1691	BORI	NG	LUG	Report No.	28062E	3-03-1223
Project	Name:	Micror	1 Camp	us, Clay,	New York	•					Date Started	09/	08/23
Client:		Rambo									Date Finished	09/	08/23
Location	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	4.7'
					INVESTIGATIO	N			GI	ROUNDWATER			
Driller:		B. Flet			Casing:	3 ¼" ID	H.S.A.	<b>.</b>					
Driller:		Chris (	O'Hara		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	Asitwa	Sharm	a, EIT	Other:			09/08/23		While Drilling	None Noted	2	2.0
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	09/08/23	Befo	ore Casing Removed	None Noted	4	1.2
Type:		ATV			Hammer Wt:	140 lbs.		09/08/23	Aft	ter Casing Removed	None Noted	(	out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		09/08/23	Aft	ter Casing Removed	caved @ 3.8	Ó	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	F MATERIA	L	
Depth		Sample	e Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F	- t.)	Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/12	1-1-2-3				emf S	SAND, trace fine G	RAVEL, trace R	ROOTS	3
							(moist, sof	t)					
1													
		•		GG /4 6			~ ~						
2	2A	2.0	3.7	SS/12	4-4-4-100@5"				T, some cmf SAND	), some mf GRA	VEL	8	
2							(moist, stif	1)					
3	2D	3.7	3.9				Carry DOC						
4	2B 3	4.0	4.2	SS/0	100@2"		No Recove		ragments (moist)			100+	
7	3	4.0	4.2	33/0	100@2		Bottom of					100+	
5							Dottom of	Doring &					
6													
7													
8													
9													
10													
10													
11													
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

												<b>–</b>	
					orporate Drive	SI	J <b>BSURF</b>	ACE EX	KPL	ORATION	Boring No.		239f 536
		IV	Ę		racuse, NY 13057			BORI			Page No.		of 1
		ciates	No.		315-701-0522		11201	DOM	110	LOG	Report No.		3-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		07/23
Client:		Rambo									Date Finished		07/23
Location	1:			n Locati	on Plan INVESTIGATIO	NI			CT	OTINDWATED	Surface Elev.		94.3'
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	нсл		Gr	ROUNDWATER	ODSERVAI	IONS	
Driller:		Chris C			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto	r:	Asitwa		a, EIT	Other:			09/07/23		While Drilling	None Noted	(	0.0
Drill Rig		CME 5		,	Soil Sampler:	2" OD S	Split Barrel	09/07/23	Befo	ore Casing Removed	None Noted		3.0
Type:		ATV			Hammer Wt:	140 lbs.		09/07/23	Aft	er Casing Removed	7.4	(	out
Rod Size		AWJ			Hammer Fall:	30 in.		09/07/23		er Casing Removed	caved @ 7.5		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	From	t.) To	Sample	Sampler	Change		medium - fine			% / some - 20 to 35		or DOD 0/
(Feet)	No.	0.0	2.0	Rec. (in.) SS/14	Per 6 Inches 1-2-2-3	(Ft.)			ine S	AND, trace ROOT	S (moist_soft)	%0	RQD %
Ü	•	0.0	2.0	55/11			Brown SIL	, i , i i i i i i i i i i i i i i i i i	ine B	7 II (B), II II C I I C C I	b (moist, sort)		•
1													
2	2	2.0	4.0	SS/18	4-7-7-7		Brown mo	ttled SILT	, trac	ce fine SAND (moi	st, stiff)		14
2													
3													
4	3	4.0	6.0	SS/20	4-5-2-2		Brown SII	T. trace f	ine S	AND (wet, mediun	n stiff)		7
								-,		(,			
5													
6	4	6.0	8.0	SS/5	4-WH-WH-2		Brown SIL	T, little n	nf SA	AND, little CLAY (	wet, very soft)		0
7													
,													
8	5	8.0	8.8	SS/7	3-100@4"		Grey/Brow	n SILT, l	ittle (	CLAY, little ROCK	fragments, trac	e mf	100+
							SAND (we						
9							Auger refu						
10							Bottom of	Boring @	9.1				
10													
11													
12													
12													
13													
14													
1.													
15													
16													
17													
1 /													
18													
19													
20		i		ı	Ī	1							

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

				6035 C	orporate Drive	SI	JBSURFA	ACE EX	PLO	ORATION	Boring No.	Page <b>ß</b>	3 <b>38</b> f 536	
					racuse, NY 13057			G BORI			Page No.		of 1	
		ociates	20		315-701-0522		1202	DOM			Report No.		3-03-1223	
Project	Name:			us, Clay,	, New York						Date Started		08/23	
Client:		Rambo									Date Finished		08/23	
Location	n:			n Locat		NT			CD		Surface Elev.		7.2'	
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	псл		GK	COUNDWATER	OBSERVAI	IONS		
Driller:		Chris (			Casing Hammer:	3 /4 ID	п.э.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspecto	or:		Sharm	a. EIT	Other:			09/08/23		While Drilling	None Noted		1.0	
Drill Ri		CME 5		, 221	Soil Sampler:	2" OD S	Split Barrel	09/08/23		re Casing Removed	None Noted		7.4	
Type:	9	ATV			Hammer Wt:	140 lbs.	-	09/08/23		er Casing Removed	None Noted	(	out	
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		09/08/23		er Casing Removed	caved @ 12.8	(	out	
	LO	G OF	BOR	ING S	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L		
Depth		Sample	Depth	m /	Blows on	D 1 6	C-	- coarse					SPT "N"	
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or	
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	_	- fine			20% / trace - 0 to 109	%	RQD %	
0	1	0.0	2.0	SS/20	1-1-1-2		FILL; Brow	wn silt, fir	ne san	d, roots (moist)			2	
					1									
1					1									
2	2	2.0	4.0	SS/21	5-5-5		FILL; Brov	ailt fin	d (maist)			10		
2	2	2.0	4.0	33/21	3-3-3-3		FILL; BIO			10				
3						Miscellaneous FILL; Brown mottled silt, fine sand, rock fra								
						Miscellaneous FILL; Brown mottled silt, fine sand, rock roots, metal (wet)								
4	3	4.0	5.2	SS/14	4-5-100@2"								100+	
5						roots, metal (wet)								
						I	T							
6	4	6.0	8.0	SS/10	6-8-11-12		Brown SIL	T and cm	AVEL (wet, ver	y stiff)	19			
_														
7														
8	5	8.0	10.0	SS/15	10-10-11-13		Brown SII	T and DC	OK f	ragments, some cn	of SAND little 1	mf	21	
0	3	0.0	10.0	33/13	10-10-11-13		GRAVEL				ili SAND, little i	111	21	
9							GRAVEL	(wct, vci	y Stiii	1)				
10														
11														
12														
13														
13	6	13.5	15.0	SS/13	38-37-100		Grey CII T	and DOC	'K fra	igments, some cmf	SAND little	f	137	
14	U	13.3	13.0	33/13	30-37-100		GRAVEL			igments, some cilli	SAND, HUIC III	L	13/	
1 17								, wee, mare	•)					
15														
16														
17					1		_		2'. A	uger refusal @ 17.	4'.			
1.0	7	17.4	17.4	SS/0	100@0"		No Recove		1=				100+	
18							Bottom of	Boring @	17.4	•				
19														
19														
20					1									

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

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				6035 Co	orporate Drive	ÇT	IRSTIRE	ACE EX	TPI 4	ORATION	Boring No.	Page 8	43 <b>9</b> f 536
		IV		East Sy	racuse, NY 13057	30					Page No.	1 (	of 2
	Ass	ociates	s, Inc.	Phone:	315-701-0522		IESI	BORI	NG	LUG	Report No.	28062B	-03-1223
Project	Name:			us, Clay,	New York	-					Date Started		)7/23
Client:		Rambo									Date Finished	09/0	)7/23
Locatio	n:			n Locati					~-		Surface Elev.		7.0'
<b>D</b> 111				DS OF	INVESTIGATIO		** ~ .		GR	COUNDWATER	OBSERVAT	IONS	
Driller: Driller:		B. Flet Chris C			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	ar•	Asitwa		a FIT	Other:	NQ-Cor	e	09/07/23		While Drilling	16.1	19	9.0
Drill Ri		CME 5		u, LII	Soil Sampler:	-	plit Barrel	09/07/23		ore Casing Removed	2.9 *		19
Туре:	<b>0</b> .	ATV			Hammer Wt:	140 lbs.	1	09/07/23		er Casing Removed	4.5 *	C	out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		09/07/23	Afte	er Casing Removed	caved @ 14.7	C	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change	m -	medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	6.61		0% / trace - 0 to 109	6	RQD %
0	1	0.0	2.0	SS/24	1-1-4-6				it SA	ND, trace ROOTS	(moist,		5
1							medium sti	111)					
1													
2	2	2.0	4.0	SS/16	4-5-3-2		Brown mot	ttled SILT	, little	e cmf SAND, trace	fine GRAVEL	(wet,	8
							stiff)			•			
3													
4	3	4.0	6.0	SS/14	2-4-7-12		Brown cmf	f SAND a	nd SI	LT, trace fine GRA	AVEL (wet, stiff	)	11
	ļ												
5													
6	4	6.0	8.0	SS/15	10-8-10-12		Brown cmt	f SAND. s	ome	SILT, trace fine G	RAVEL (wet. m	edium	18
Ü		0.0	0.0	55,10	10 0 10 12		compact)		.01110	2121, uuee 1111e O			10
7							1 /						
8	5	8.0	10.0	SS/12	13-12-13-8			y cmf SA	ND,	some SILT, trace f	ine GRAVEL (v	vet, very	25
0							stiff)						
9													
10													
11													
12													
13													
13	6	13.5	15.0	SS/11	8-17-24		Dark Grey	cmf SAN	D tre	ace cmf GRAVEL,	trace SII T (we	f	41
14		15.5	15.0	00/11	J-17-2 <del>4</del>		compact)	ciii baiv	₽, u	acc chii GRAVEL,	, dace SILT (WE	٠,	71
15													
16													
17													
17							Augered ho	ard @ 17	5′				
18							лидетей П	ли ₩ 1/.	J				
	7	18.5	18.7	SS/2	100@2"		Dark Grev	ROCK cl	nips a	nd fragments (wet)	) Auger refusal	@ 19.0'	100+
19	R1	19.0	24.0		NQ-Core		Dark Grey	SHALE,		ly weathered, lami			83%
							medium ha						
20							Continued	on Page 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.

## ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

age **§539**f 536 Boring No. 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From То Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 Horizontal fractures with weathering at 20.3', 21.2' and 23.2'. Recovery: 60"/60" = 100% 21 ROD = 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. Bottom of Boring @ 24.0' 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

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

				6035 Co	orporate Drive	SI	IRSURE	ACE EX	PI.	ORATION	Boring No.	Page 199	54 <b>9</b> f 536
		IV	Ę		racuse, NY 13057			F BORI			Page No.		of 1
	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		11231	DOKI	101	LUG	Report No.	28062B	-03-1223
Project	Name:	Micror	n Camp	us, Clay,	New York	=					Date Started	09/0	08/23
Client:		Rambo	oll								Date Finished	09/0	08/23
Locatio	n:		_	on Locati				1			Surface Elev.		6.5'
				DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	IONS	
Driller: Driller:		B. Flet Chris (			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect	or:	Asitwa	Sharm	a, EIT	Other:			09/08/23		While Drilling	18.3	18	3.5
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	09/08/23	Befo	re Casing Removed	17.6	19	9.9
Type:		ATV			Hammer Wt:	140 lbs.		09/08/23		er Casing Removed	None Noted	0	ut
Rod Siz		AWJ			Hammer Fall:	30 in.		09/08/23		er Casing Removed	caved @ 8.0		ut
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth Scale	Sample		e Depth t.)	Type /	Blows on Sampler	Depth of		- coarse medium		and 25 to 50	% / some - 20 to 35	0/	SPT "N"
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine			0% / some - 20 to 33 0% / trace - 0 to 109		or RQD %
0	1	0.0	2.0	SS/15	1-2-3-7	(1)			mf SA	AND, trace fine GF			5
1							(moist, me						
2	2	2.0	4.0	SS/19	5-4-4-4		Brown SIL	T, some c	mf S	AND, trace mf GR	AVEL (wet, sti	ff)	8
3													
4	3	4.0	6.0	SS/19	3-5-9-11		Brown mo GRAVEL			e cmf SAND, trace	e CLAY, trace fi	ne	14
5 6	4	6.0	8.0	SS/14	11-13-17-18		Similar as	abova (wa	st vor	ny otiff)			30
7	4	0.0	8.0	33/14	11-13-17-16		Sillilai as	above (we	i, vei	y stiir)			30
8	5	8.0	10.0	SS/24	11-19-19-52		Grey/Brow	n SILT ar	nd cm	nf SAND, little fine	e GRAVEL (wet	t, very	38
9							stiff)					-	
10	-												
11													
12													
13	6	13.5	14.8	SS/16	30-71-100@4"		Grev SILT	' some cm	of SAI	ND, little mf GRA	VEL trace CLA	Y (wet	100+
14		15.6		22,10	20 /1 100 0 1		hard)	, 501110 011			, 22, 4400 021	(,,,,,	1001
15	]												
16													
17													
18	7	18.5	19.3	SS/10	30-100@4"		Grey SILT	and ROC	K fra	gments, trace mf C	GRAVEL (wet, l	hard)	100+
19							Auger refu Bottom of	sal @ 19.	9'				
20	1							<i>U</i> -					

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

#### EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 Boring No. age**<sub>19</sub>7<sub>6</sub>9**f 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 1 of 1 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 Project Name: Micron Campus, Clay, New York **Date Started** 10/23/23 Ramboll **Date Finished** 10/23/23 Client: Location: See Exploration Location Plan **Surface Elev.** 400.5' **GROUNDWATER OBSERVATIONS** METHODS OF INVESTIGATION Driller: 3 ¼" ID H.S.A. H. Lyon Casing: Date Time Depth (Ft.) Casing At (Ft.) Driller: K. Crandall **Casing Hammer:** While Drilling 10/23/23 None Noted Inspector: A. Sharma, EIT Other: Drill Rig: 2" OD Split Barrel 10/23/23 Before Casing Removed None Noted CME 45 Soil Sampler: After Casing Removed Type: Track **Hammer Wt:** 140 lbs. 10/23/23 8.9 out After Casing Removed **Rod Size:** AW **Hammer Fall:** 30 in. 10/23/23 caved @ 9.6 out LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35%or Sample Change From То Per 6 Inches RQD % No. (Ft.) f - fine little - 10 to 20% / trace - 0 to 10% (Feet) Rec. (in.) 1A 0.0 0.7 SS/12 1-2-5-7 Dark Brown Topsoil and Organic Material (moist) 0 Brown cmf SAND, little SILT, little fine GRAVEL (moist, loose) 1B 0.7 2.0 1 2 2 2.0 SS/15 7-14-9-14 Brown SILT and cmf SAND, little mf GRAVEL (wet, very stiff) 23 4.0 3 3 SS/22 4 4.0 6.0 7-8-9-7 Grey/Brown SILT and cmf SAND, some mf GRAVEL (wet, very 17 stiff) 5 4 6.0 8.0 SS/15 11-12-14-16 Similar as above (moist, very stiff) 26 6 7 Dark Brown/Grey SILT and mf GRAVEL, some cmf SAND (moist, 8 5 8.0 8.7 **SS/8** 9-50@2" 50 +hard) 9

Auger refusal @ 10.6'

Bottom of Boring @ 11.5'

50 +

No Recovery

See Remark 1

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

10

11

12

13

14

15

16

17

18

19

6

10.6

10.6

SS/0

50@0"

**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'.

ATTACHMENT TO DECKET ON THOMBEN. 172E OF 0124 EXHIBIT A 0. DECTEORING A EXTRACT ON THACE													
				6035 C	orporate Drive	CI	IDCLIDE	A CE EX	<b>7DI</b>	ODATION	Boring No.	Page 👂	8 <sub>6</sub> gf 536
		IV			racuse, NY 13057	SUBSURFACE EXPLORATION				Page No.		of 1	
	Ass	ociates	s. Inc.		315-701-0522	TEST BORING LOG							3-03-1223
Project			2000000	i none.		<u> </u>					Date Started		
	Name:			us, Ciay,	New York								
Client:		Rambo									Date Finished		
Location: See Exploration Location Plan											Surface Elev. 402.5'		)2.5'
				DS OF	INVESTIGATIO							TONS	
Driller:		H. Lyon			Casing:	3 ¼" ID H.S.A.		Date	Time		Denth (Ft.)	Depth (Ft.) Casing	
Driller:		K. Crandall			Casing Hammer:						_	cusing fit (1 ti)	
_		A. Sharma, EIT		T	Other:			10/24/23		While Drilling	None Noted		-
Drill Rig:		CME 45			Soil Sampler:	2" OD Split Barrel		10/24/23	Bef	fore Casing Removed			-
Type:		Track			Hammer Wt:	140 lbs.		10/24/23	Af	fter Casing Removed None Noted		(	out
Rod Siz	e:	AW			Hammer Fall:	30 in.		10/24/23	Af	After Casing Removed caved @ 4.3			out
	LO	G OF BORING SA			AMPLES	VIS		SUAL C	LAS	SSIFICATION C	F MATERIA	L	
Depth		Sample	e Depth		Blows on								SPT "N"
Scale	Sample	_	t.)	Type / Sample	Sampler	Depth of Change		- coarse - medium and - 35 to		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)					0% / trace - 0 to 109		RQD %
0	1A	0.0	0.4	SS/8	2-5-6-14	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			and	Organic Material (1			11
	1B	0.4	2.0					Grey/Brown mf GRAVEL and cmf SAND, s				st.	
1							medium compact)						
1							incurum co	puct)					
2	2	2.0	4.0	SS/9	3-2-2-5		Brown SII	T and cm	f SA	ND some mf GRA	VEL (moist me	dium	4
1 -	1 -	2.0	1.0	BB/ >	3223		Brown SILT and cmf SAND, some mf GRAVEL (moist, medium stiff)						'
3							suii)						
]													
4	3	4.0	5.1	SS/14	5-30-50@1"		Cray/Dlast	, CH T on	d am	nf SAND, some mf	CDAVEL (mois	t hand)	50+
4	)	4.0	3.1	33/14	3-30-30@1		Grey/Braci	X SIL1 all	u CII.	ii SAND, some iii v	JKA VEL (IIIOIS	t, naru)	30+
							A	1@50	,				
5							Auger refu			1			
6						Bottom of Boring @ 5.0'							
6													
7													
/													
0													
8													
9													
10													
10													
11													
11													
10													
12													
12													
13													
1 4													
14													
1.7	4												
15													
1													
16													
1.7													
17													
1.0													
18													
1.0													
19													
	4												
20	I	I	l	I	1	1	1						1

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.

Continue													<b>-</b>	0 ( 500		
Page						=	SI	UBSURF	ACE EX	KPL	ORATION	Ů				
New   New			IV	Ę								Ŭ	1	of 1		
Circum   C				20 1100				11201	DOM	110	LOG	_				
Decision   See Experience Location Plan   See Experience   See England   See England		Name:			us, Clay,	New York										
METHORS OF INVESTIGATION   GROUNDWATER OBSERVATIONS   Delther   Losing   SW   Delther   K. Craskell   Casing Rammer: Other   Solf Sampler   Casing Rammer   Color   Casing Rammer																
He   He   No   Casing   Say   ID   H. A.   Sharman, ET   Casing Hammer;	Location	1:					N.T.		1	- CI				)5.1'		
Definition   Colorado   Colorad	Duillou				DS OF			II C A		GI	ROUNDWAIER	OBSERVAI	IONS			
Name			-			_	3 % ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)		
Dotal Right   CMF - 15   Now Note   Now		r:			Т	_			10/24/23	1	While Drilling	None Noted		_		
Track   Note	_				•		2" OD S	Split Barrel								
Depth   Sample   Per   Blows on   Sample   Per   Ingression   Per	_	,	Track			_		_					(	out		
Depth   Scale   Sample   Ceres   No.   Ceres   Ceres	Rod Size	e:	AW			Hammer Fall:	30 in.		10/24/23	Aft	ter Casing Removed	caved @ 6.6	(	out		
Scale   Sumple   GP-3   Sumple   GP-3   Sumple   Sumple		LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	F MATERIA	L			
Sample   First   Form   To   Form	Depth		Sample	Depth	Type /	Blows on	Depth of	c ·	- coarse					SPT "N"		
1	_	-				Sampler		m -	medium		and - 35 to 50	% / some - 20 to 35	%			
1							(Ft.)			6.6						
1	0	1	0.0	2.0	SS/9	1-1-3-4				SAND, little mf GR	AVEL, trace RO	OOTS	4			
2	1							(moist, soi	τ)							
3	1															
3	2	2	2.0	4.0	SS/16	5-7-9-12		Brown SII	T and cm	f SA	ND, little mf GRA	VEL (moist, ver	v stiff)	16		
Solution   Solution																
medium stiff)   medium stiff)   medium stiff)   Grey/Brown cmf GRAVEL and mf SAND, trace SILT (moist, medium compact)   Auger refusal @ 7.9'     Bottom of Boring @ 7.9'     10	3															
medium stiff)   medium stiff)   medium stiff)   Grey/Brown cmf GRAVEL and mf SAND, trace SILT (moist, medium compact)   Auger refusal @ 7.9'     Bottom of Boring @ 7.9'     10																
S   6	4	3	4.0	6.0	SS/19	5-3-3-9				, son	me cmf SAND, som	e mf GRAVEL	(moist,	6		
6	_							medium st	iff)							
medium compact) Auger refusal @ 7.9'  Bottom of Boring @ 7.9'  10  11  12  13  14  15  16  17  18  19	5															
medium compact) Auger refusal @ 7.9'  Bottom of Boring @ 7.9'  10  11  12  13  14  15  16  17  18  19	6	4	6.0	77	CC/7	19 9 10 50@2"		Croy/Proy	m amf CI	) A 3/I	EL and mf SAND 4	maaa CII T (mai	o.t	10		
Auger refusal @ 7.9'  Bottom of Boring @ 7.9'  Bottom of Boring @ 7.9'  10  11  12  13  14  15  16  17  18  19	U	4	0.0	7.7	33//	16-6-10-30@2				(AVI	EL aliu IIII SAND, I	race SIL1 (IIIOI	δι,	10		
Bottom of Boring @ 7.9'  10 11 12 13 14  15 16 17 18 19	7								_	,						
8       9       10       11       12       13       14       15       16       17       18       19								Bottom of	Boring @	7.9'						
10 11 12 13 14 15 16 17 18	8															
10 11 12 13 14 15 16 17 18																
11	9															
11	1.0															
12         13         14         15         16         17         18         19	10															
12         13         14         15         16         17         18         19	11															
13         14         15         16         17         18         19	11															
13         14         15         16         17         18         19	12															
14       15       16       17       18       19																
15 16 17 18 19	13															
15 16 17 18 19																
16         17         18         19	14															
16         17         18         19	1.5															
17 18 19	15															
17 18 19	16															
18 19	10															
18 19	17															
19																
	18															
	19															
	20															

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	PLORATION	Boring No.	age 10	<u>0</u> 6 <b>8</b> f 536
		IV	Ę		racuse, NY 13057				NG LOG	Page No.	1	of 1
	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		11231	DOKI	NG LUG	Report No.	28062E	3-03-1223
Project	Name:	Micron	Campi	us, Clay,	New York	•				Date Started	10/	20/23
Client:		Rambo	11							Date Finished	10/2	20/23
Locatio	n:			n Locati				ı		Surface Elev.		98.5'
				DS OF	INVESTIGATIO				GROUNDWATE	ROBSERVAT	IONS	
Driller: Driller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.)
Inspect		A. Sha	rma, EI	Т	Other:			10/20/23	While Drilling	None Noted		-
Drill Ri	g:	CME 4	5		Soil Sampler:	2" OD S	Split Barrel	10/20/23	Before Casing Removed	None Noted		-
Type:		Track			Hammer Wt:	140 lbs.		10/20/23	After Casing Removed	11.6	(	out
Rod Siz		AW			Hammer Fall:	30 in.		10/20/23	After Casing Removed	caved @ 15.6		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of		- coarse				SPT "N"
Scale	Sample	(F From	To	Sample	Sampler	Change		medium - fine		0% / some - 20 to 35		or DOD %
(Feet)	No.	0.0	0.6	Rec. (in.) SS/13	Per 6 Inches 1-2-3-4	(Ft.)			nd Organic Matter (mo	20% / trace - 0 to 109	<u>%</u> 0	RQD %
	1B	0.6	2.0	33/13	1-2-3-4		Brown mo	ttled SILT	, little fine SAND, trac		moist,	- 3
1							medium sti	111)				
2	2	2.0	2.9	SS/7	3-50@5"				SILT, some cmf SANI	O (moist, hard)		50+
_							Possible O					
3							Augered g	ravelly be	ginning @ 3.0'			
4	3	4.0	6.0	SS/13	21-6-5-6		Brown SIL	T, some c	emf SAND, trace mf GI	RAVEL (wet, sti	ff)	11
5	1											
6	4	6.0	8.0	SS/17	7-9-7-7		Brown SIL	T and cm	f SAND, some mf GRA	AVEL (wet, very	stiff)	16
_										, <b>.</b>	,	
7												
8	5	8.0	10.0	SS/17	4-9-14-16		Grey SILT	, some CL	AY, trace cmf SAND	moist, very stiff	)	23
9												
10												
11												
12												
13	6	13.0	14.4	SS/12	34-35-50@5"				LT, some cmf GRAVEI	L, some cmf SAI	ND	50+
14							(moist, har	rd)				
15												
16												
17							Augered h	ard begini	ning @ 17.3'			
18	7	18.0	19.2	SS/7	24-44-50@2"				thly weathered ROCK f	ragments, trace	emf	50+
19							Auger refu	sal @ 18.				
20	-						Bottom of	Boring @	19.2'			
	i					1						

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.

				6035 Co	orporate Drive	SI	UBSURF	ACE EX	PL	ORATION	Boring No.	age 10	189f 536	
		IV	L	•	racuse, NY 13057			BORI			Page No.		of 2	
		ociates			315-701-0522		1 120 1	DOM	.,,	200	Report No.		3-03-1223	
Project	Name:			us, Clay,	New York						Date Started		19/23	
Client:		Rambo		т.	. Di						Date Finished		19/23	
Location	n:			n Locati	on Plan INVESTIGATIO	N		1	CT	ROUNDWATER	Surface Elev.		)4.4'	
Driller:		H. Lyo		DS OF	Casing:	3 ¼" ID	HSA		Gr	COUNDWATER				
Driller:		K. Cra			Casing Hammer:	3 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspecto	r:	A. Sha		T	Other:			10/19/23		While Drilling	8.4	7	7.5	
Drill Ri	g:	CME 4	15		Soil Sampler:	2" OD S	Split Barrel	10/19/23	Befo	ore Casing Removed	None Noted	2	1.7	
Type:		Track			Hammer Wt:	140 lbs.		10/19/23		er Casing Removed	19.6	(	out	
Rod Siz		AW			Hammer Fall:	30 in.		10/19/23		er Casing Removed	caved @ 20.7		out	
	LO			ING SA	AMPLES	1	VI	SUAL C	LAS	SSIFICATION O	OF MATERIA	L		
Depth			Depth	Type /	Blows on	Depth of		- coarse					SPT "N"	
Scale (Feet)	Sample No.	From	t.) To	Sample	Sampler Per 6 Inches	Change		medium - fine			% / some - 20 to 359		or RQD %	
(reet)	1A	0.0	0.7	Rec. (in.) SS/13	Per 6 Inches 1-1-4-7	(Ft.)			Mate	erial (moist)	0% / trace - 0 to 109	/0	5 KQD %	
	1B	0.7	2.0	55/15						AND, trace CLAY	(moist, medium	stiff)	1	
1								,		•		,		
						, , , , , , , , , , , , , , , , , , , ,								
2	2	2.0	4.0	SS/16	4-6-6-7	Brown cmf SAND and SILT, little mf GRAVEL (moist, medium compact)								
						compact)								
3						Augered gravelly beginning @ 4.0'								
4	3	4.0	6.0	SS/5	20-10-15-9	Augered gravelly beginning @ 4.0'								
] '	,		3.0	55/5	20 10 13-7									
5						Grey/Brown mf GRAVEL, little SILT, trace fine SAND (moist,								
6	4	6.0	8.0	SS/8	4-4-7-9					ne CLAY, little cm	f SAND, trace n	nf	11	
7							GRAVEL	(wet, stiff	)					
7														
8	5	8.0	10.0	SS/20	3-6-8-10		Grey/Brow	n SILT at	ıd cn	nf SAND, some mf	GRAVEL, trace	e CLAY	14	
		3.0	-0.0	20,20			(wet, stiff)		11	, 55mc mi	, uac			
9							PP=2.75, 2							
10														
11														
11														
12														
13	6	13.0	15.0	SS/12	6-12-12-18				T, lit	ttle cmf SAND (we	t, very stiff)		24	
							PP=1, 1.5,	1.25						
14														
15														
13														
16														
							Augered h	ard begin	ning	@ 16.8'				
17														
10		10.0	10.4	00/1/	21.40.5005"		G GH 75		O A 3.77	D (* CD.)		<b>3</b> 7 ( )	50	
18	7	18.0	19.4	SS/16	21-40-50@5"			and cmf	SAN	D, some fine GRA	VEL, little CLA	Y (wet,	50+	
19							hard)							
1)														
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

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 1**6289**f 536 Boring No. Page 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 Auger refusal @ 21.7' 22 8 21.7 SS/0 50@0" No Recovery. See Remark 1 50+ 21.7 Bottom of Boring @ 21.7' 23 24 25 26 27 28 29 30 31 32 33 34 35 36

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

37

38

39

40

41

42

43

44

						<del></del>							0 ( 500		
					orporate Drive	SI	UBSURF	ACE EX	KPL	ORATION	Boring No.				
					racuse, NY 13057			BORI			Page No.		of 1		
		ociates	S. Linkson	i none.	315-701-0522		1101	DOM			Report No.		3-03-1223		
Project	Name:			us, Clay,	New York						Date Started		24/23		
Client:		Rambo		<u> </u>	71						Date Finished		24/23		
Location	n:			n Locati	INVESTIGATIO	NI			CI	ROUNDWATER	Surface Elev.		)4.8'		
Driller:		H. Lyo		DS OF	Casing:	3 ¼" ID	НСА		Gr	COUNDWATER	ODSERVAI	IONS			
Driller:		K. Crai			Casing Hammer:	3 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)		
Inspecto	or:	A. Sha		Т	Other:			10/24/23		While Drilling	None Noted		-		
Drill Ri		CME 4			Soil Sampler:	2" OD 5	Split Barrel	10/24/23	Befo	ore Casing Removed	None Noted		-		
Type:		Track			Hammer Wt:	140 lbs.		10/24/23	Aft	er Casing Removed	None Noted	(	out		
Rod Size		AW			Hammer Fall:	30 in.		10/24/23		er Casing Removed	caved @ 8.5		out		
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	ī		
Depth		_	Depth	Type /	Blows on	Depth of	c ·	- coarse					SPT "N"		
Scale	Sample		t.)	Sample	Sampler	Change	m -	medium			% / some - 20 to 35		or		
(Feet)	No.	From 0.0	To 2.0	Rec. (in.) SS/17	Per 6 Inches 1-1-3-3	(Ft.)		T little o	AND, trace fine GI	20% / trace - 0 to 109		RQD %			
	1	0.0	2.0	33/1/	1-1-3-3		LAI,	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)									
3						CLAY (wet, medium stiff)									
4	3	4.0	6.0	SS/13	3-6-10-8		Brown movery stiff)	ttled SILT	and	cmf SAND, some	cmf GRAVEL (	wet,	16		
5	4	6.0	8.0	SS/17	7-9-16-24		Daoren CH	Т сото	····· f C	SAND some mf CI	AVEL (wet we	at:ff	25		
6 7	4	0.0	8.0	33/1/	7-9-10-24		DIOWII SIL	71, some C	illi S	SAND, some mf GF	KAVEL (wei, ve	iy suii)	23		
8	5	8.0	10.0	SS/12	12-22-24-33		Brown SII	T. some r	nf Gl	RAVEL, little cmf	SAND (wet, har	rd)	46		
9			10.0		12 22 2 1 00			, 55	0.		21112 (	,			
10															
11	6	11.3	11.3	SS/0	50@0"		No Recove	ry		eg @ 10.8'. Auger i	refusal @ 11.3'.		50+		
12							Bottom of	Boring @	11.3	<b>;</b> '					
13															
14															
15															
16															
17															
18															
19															
20				I		Ī	1								

						1						10	4 - 5 500
		NA		6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.	age in	4891 536
		IV	Ę		racuse, NY 13057			BORI			Page No.	1	of 1
	Ass	ociates	s, Inc.	Phone:	315-701-0522		1691	DUKI	NG I	LUG	Report No.	28062B	3-03-1223
Project	t Name:	Micron	Camp	us, Clay,	New York	-					Date Started	10/2	24/23
Client:		Rambo	oll								Date Finished	10/2	24/23
Locatio	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	40	4.7'
		ME	THO	DS OF	INVESTIGATIO	N			GR	ROUNDWATER	OBSERVAT	IONS	
Driller		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casina	At (Ft.)
Driller		K. Crai			Casing Hammer:						_	Casing	At (Ft.)
Inspect		A. Sha		T	Other:			10/24/23		While Drilling	None Noted		-
Drill R	ig:	CME 4	15		Soil Sampler:		plit Barrel	10/24/23		ore Casing Removed	None Noted		-
Type:		Track			Hammer Wt:	140 lbs.		10/24/23		er Casing Removed	None Noted		out
Rod Si		AW	DOD	INIC C	Hammer Fall:	30 in.	X7T(	10/24/23		er Casing Removed	caved @ 6.5		out
	LO			ING SA	AMPLES		V 13	SUAL C	LAS	SIFICATION C	DE MIATERIA	L	1
Depth		_	Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale (Feet)	Sample No.	(F From	To	Sample	Sampler Per 6 Inches	Change		medium - fine			% / some - 20 to 35 0% / trace - 0 to 109		or RQD %
0	1A	0.0	0.5	Rec. (in.) SS/20	1-1-2-3	(Ft.)			Mate	erial (moist)	.0% / trace - 0 to 10	70	3
	1B	0.5	2.0	55/20	1-1-2-3					AND, trace mf GR	AVEL (moist, so	oft)	
1	12	0.5	2.0				Brown Sil	, , , , , , , , , , , , , , , , , , , ,	52	in (B), trace in Gra	TVEE (moist, s.	310)	
2	2	2.0	4.0	SS/14	2-4-5-5		Brown SIL	T, little c	mf SA	AND, trace mf GR	AVEL (moist, st	iff)	9
3													
4	3	4.0	6.0	SS/18	4-4-10-14		_		SIL	T, some mf GRAV	EL, trace cmf S.	AND	14
	_						(moist, stif	f)					
5								11 1		@ 5.51			
6	4	6.0	7.4	SS/12	12-20-50@5"		Augered gr			ng @ 3.3' AVEL, little cmf S	AND (wat hard	I)	50+
0	4	0.0	7.4	33/12	12-20-30@3		DIOWII SIL	a and cin	II GK.	AVEL, IIIIIE CIIII S	AND (wei, hard	1)	30+
7							Auger refu	sal @ 74	,				
,							Bottom of						
8								8					
9													
10													
11													
12													
1.2													
13													
15													
14													
L													
15													
16													
17													
10													
18													
1							1						
10													1
19													

				6035 C	orporate Drive	Şī	JBSURF	ACE EX	(PL	ORATION	Boring No.	age 10	5 <b>89</b> f 536		
		IV	Ę		racuse, NY 13057			Γ BORI			Page No.	1 (	of 1		
	Ass	ociates	s, Inc.	Phone:	315-701-0522		ILOI	DOM	NG I	LOG	Report No.	28062B	-03-1223		
Project	Name:	Micror	n Camp	us, Clay,	New York	-					Date Started	10/2	24/23		
Client:		Rambo	oll								Date Finished	10/2	24/23		
Location	n:			on Locati				_			Surface Elev.		3.8'		
				DS OF	INVESTIGATIO				GR	ROUNDWATER	OBSERVAT	IONS			
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)		
Driller:		K. Cra			Casing Hammer:							Cusing	(110 (100)		
Inspecto			rma, El	T	Other:	<b>2</b> 11 O.D. (		10/24/23		While Drilling	None Noted		-		
Drill Ri	g:	CME 4	15		Soil Sampler:		Split Barrel	10/24/23		ore Casing Removed	None Noted		-		
Type: Rod Siz		Track AW			Hammer Wt: Hammer Fall:	140 lbs. 30 in.		10/24/23 10/24/23		er Casing Removed er Casing Removed	None Noted caved @ 8.5		out		
Kou Siz			DOD.	INC C	AMPLES	30 III.	1/1			SSIFICATION C			out		
	LU	1		ING SA	AMITLES		V 1	SUAL C	LAS	SIFICATION C	JE WIA LEKIA	LL	1		
Depth			e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"		
Scale (Fact)	Sample No.	From	t.) To	Sample	Sampler Per 6 Inches	Change		medium - fine			9% / some - 20 to 35 20% / trace - 0 to 109		or RQD %		
(Feet)	1A	0.0	0.7	Rec. (in.) SS/15	1-2-4-10	(Ft.)			and	Organic Material (		70	6		
	1B	0.7	2.0	55/13	12110					e cmf SAND, trace		moist.			
1	12	0.,					medium st		, 11001	5 111 (2) 0140	om om ver	,1110100,			
								,							
2	2	2.0	4.0	SS/14	5-7-4-3			ttled cmf	SILT	and SAND, little n	mf GRAVEL (m	oist,	11		
3							stiff)								
							Augered g	ravelly be	ginni	ng @ 3.5'					
4	3	4.0	6.0	SS/18	1-3-5-6						e mf GRAVEL,	trace	8		
						Brown mottled cmf SILT and SAND, little mf GRAVEL (moist, stiff)  Augered gravelly beginning @ 3.5' Brown mottled SILT, some cmf SAND, little mf GRAVEL, trace CLAY (wet, stiff)									
5	1						Ì								
6	4	6.0	8.0	SS/15	6-7-1-2		Brown mo	ttled SII T	and	cmf SAND, little n	nf GRAVEL (w	et stiff)	8		
	_	0.0	0.0	00/13	0-7-1-2		Brown mo	tiled SIL1	ana	emi Szard, ittie i	in GRAVEE (w	ct, stiii)	0		
7							<b> </b>		. <b></b> .						
8	5	8.0	9.9	SS/12	5-7-10-50@5"		Gray west	harad PO		hips and fragments	little mf GP AV	/FI	17		
0	3	0.0	9.9	33/12	3-7-10-30@3		trace SILT		CKC	mps and fragments	, iittie iiii GKA v	V LL,	1 /		
9							Auger refu		,						
							Bottom of								
10								υ							
11															
12															
13															
14															
15	1														
16															
17															
18															
19															
20	1														

				6035 Co	orporate Drive	SI	IBSURF	ACE EX	PL(	ORATION	Boring No.	age 10	68 <b>8</b> f 536
		IV	Ę	•	racuse, NY 13057			BORII			Page No.	1 (	of 2
		ociates	20 1100	i none.	315-701-0522		11231	DOKI	101	LOG	Report No.		-03-1223
Project	Name:			us, Clay,	New York						Date Started		20/23
Client:		Rambo									Date Finished		20/23
Locatio	n:			n Locati		NT.			CD		Surface Elev.		4.6'
Driller:				DS OF	INVESTIGATIO	3 ¼" ID	II C A		GK	COUNDWATER	OBSERVAT	IONS	
Driller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 % ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto		A. Sha		Т	Other:			10/20/23		While Drilling	12.5	1	3.0
Drill Ri		CME 4		-	Soil Sampler:	2" OD S	Split Barrel	10/20/23		ore Casing Removed	16.5		33
Type:		Track			Hammer Wt:	140 lbs.	-	10/20/23		er Casing Removed	11.5	C	out
Rod Siz	e:	AW			Hammer Fall:	30 in.		10/20/23	Afte	er Casing Removed	caved @ 25.2	C	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35%		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	3.4		0% / trace - 0 to 10%	ó	RQD %
0	1A 1B	0.0	0.5 2.0	SS/16	1-2-4-6					erial (moist) e fine SAND, trace	CI AV trace P	2TOO	6
1	110	0.5	2.0				(moist, me		-	e fille SAND, trace	CLAT, trace K	0013	
1							(moist, me	didili stili,	,				
2	2	2.0	4.0	SS/19	8-7-5-4		Brown mot	ttled SILT	e fine SAND, trace	CLAY (wet, sti	ff)	12	
3													
						-4 Brown SILT, little CLAY, trace cmf SAND, trace fine GRAVEL							
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
~	4												
5						(wet, soft)							
6	4	6.0	8.0	SS/19	4-6-6-8		Brown SII	T some (	LAY	, trace fine SAND	(wet_stiff)		12
		0.0	0.0	55,19	. 0 0 0			, 501110	,	, , , , , , , , , , , , , , , , , , , ,	( 01, 5111)		1-
7													
8	5	8.0	10.0	SS/20	5-8-9-11		Similar as	above (we	t, ver	ry stiff)			17
0													
9													
10													
10													
11													
12							Augered gr	ravelly be	ginnir	ng @ 12.0'			
12		12.0	15.0	00/0	20 5 2 0		Case OH T	وع - المسما	ר א זא יו	D. soms CI AX	ma fin - CD ANE	YI ( '	0
13	6	13.0	15.0	SS/8	32-5-3-8		Grey SILT stiff)	and cmf	SANL	D, some CLAY, so	me fine GRAVE	L (wet,	8
14							Suii)						
177													
15	1												
16													
							Augered gr	ravelly be	ginnir	ng @ 16.5′			
17													
18	7	18.0	18.8	SS/4	23-50@3"		Grey/Dad	emf GD A	VEI	little cmf SAND, t	race SII T (mois	t verv	50+
10	'	10.0	10.0	J J J J J	23-30@3		compact)	JIII UKA	v ĽĽ,	nuic cini SAND, l	Tace SILT (IIIOIS	i, very	30+
19							(Compact)						
20							Continued	on Page 2	,				

20 Continued on Page 2
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

6035 Corporate Drive East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST RORING LOG

Boring No. Page 18788 536 Page No. 2 of 2

	Ass	ciates	, Inc.	Phone: 3	315-701-0522		TEST BORING I	LOG		B-03-1223
	LO	G OF	BOR	ING SA	MPLES		VISUAL CLASS	SIFICATION (		2 03 1225
Depth			Depth		Blows on		c - coarse			SPT "N"
Scale	Sample	(F	t.)	Type / Sample	Sampler	Depth of Change	m - medium	and - 35 to 50	0% / some - 20 to 35%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine	little - 10 to 2	20% / trace - 0 to 10%	RQD %
20							Continued from Page 1			
21										
22										
23	8	23.0	24.5	SS/10	19-25-35		Grey SILT, some CLAY, t	trace mf SAND (r	noist hard)	60
23	Ü	25.0	21.3	55/10	17 23 33		Grey Sier, some Cerri,	iruce iii srii (b	noist, nara)	
24										
25										
23										
26										
27										
27										
28	9	28.0	29.5	SS/10	18-26-50		Grey SILT and CLAY, litt	le fine SAND, tra	ce mf GRAVEL (wet,	76
							hard)			
29										
30										
31								@ 21.7I		
32							Augered gravelly beginning	ig @ 31./		
32										
33	10	33.0	33.7	SS/5	53-50@2"		Similar as above (wet, har	d)		50+
34							Augered to 34.2' Bottom of Boring @ 34.2'			
34							Bottom of Boring & 54.2			
35										
26										
36										
37										
20										
38										
39										
40										
41										
42										
43										
1 73										
44										
45	ļ									
45										

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

والتقي الكرابك				6035 Co	orporate Drive	SU	JBSURF A	ACE EX	<b>CPLO</b>	RATION	Boring No.	age ig	LIGHT SC
		IV	Ę	East Syr	racuse, NY 13057			Γ BORI			Page No.	1	of 1
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		11231	DOKI	NG L	AUG	Report No.	28062E	3-03-1223
roject N	Name:	Micror	Camp	us, Clay,	New York	•					Date Started	10/	23/23
lient:		Rambo									Date Finished		23/23
ocation	٠.			n Locati	on Plan						Surface Elev.		06.0'
ocation	1.				INVESTIGATION	ON			GRO	OUNDWATER			0.0
riller:		H. Lyo		0.01	Casing:	3 ¼" ID	H.S.A.	D 4	021				A 4 (TE4
riller:		K. Cra	ndall		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	g At (Ft.
nspecto		A. Sha		T	Other:			10/23/23		While Drilling	8.0		8.0
rill Rig	<b>g:</b>	CME 4	15		Soil Sampler:		plit Barrel	10/23/23		e Casing Removed	None Noted		8.5
ype:		Track			Hammer Wt:	140 lbs.		10/23/23		Casing Removed	9.5		out
od Size		AW	DAD	INIC C	Hammer Fall:	30 in.	371	10/23/23		Casing Removed	caved @ 14.5		out
I	LU	T		ING SE	MPLES		VI	SUAL C	LASS	SIFICATION (	JE MIATERIA	L	1
Depth		_	Depth	Type /	Blows on	Depth of		- coarse					SPT "I
	Sample	(F		Sample	Sampler	Change		medium			0% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109	6	RQD
0	1A	0.0	0.5	SS/16	2-2-3-4					organic Material (			5
	1B	0.5	2.0				•		SILT,	trace fine SAND	, trace CLAY (r	noist,	
1							medium st	iff)					
2	2	2.0	4.0	SS/15	5-5-5-4		Brown SIL	T, little C	LAY,	trace fine SAND	(wet, stiff)		10
3													
4	3	4.0	6.0	SS/17	8-17-29-33		Brown/Gre	ey SILT, to	race cr	nf SAND, trace C	CLAY (wet, hard	1)	46
								•		,	` '	•	
5													
6	4	6.0	8.0	SS/21	5-6-9-11		Brown SII	T. some o	emf SA	ND (wet, very st	iff)		15
	•	0.0	0.0	55/21	0 0 7 11		210 1111 212	, , , , , , ,			,		10
7													
,													
8	5	8.0	10.0	SS/14	5-10-40-40		Grev/Redd	lich Brown	n cmf (	GRAVEL and cm	of SAND, some S	тп	50
0	3	0.0	10.0	55/14	3 10 40 40		(moist, ver			SICTVEL and Cin	ii 57 ii 1D, some i	)IL1	
9							(moist, vei	y compac	ι)				
9													
10													
10							. 11	11 .		10.51			
1.1							Augered h	ara begini	ning @	10.5			
11													
,										0.12.6			
12	_									ng @ 12.6'			
	6	12.6	12.9	SS/2	50@3"		•	SAND and	i SILT	, little mf GRAV	EL (moist, very		50-
13							compact)						
14	7	14.0	14.2	SS/2	50@2"		Grey cmf S	SILT and	SAND	, trace fine GRA	VEL (moist, hard	d)	50+
15													
16													
17													
18	8	18.0	18.4	SS/4	50@5"		Grev SILT	and cmf	SAND	, little fine GRAV	VEL (wet, hard)		50+
-~	~	-0.0	- 0	~~.			Auger refu			, Ime Olul	(, nard)		
19							Bottom of						
.,							2000III OI	2011115	10.0				
20													

						T					_		0 . / = 0 -			
					orporate Drive	SU	UBSURF	ACE EX	KPL	ORATION	Boring No.					
					racuse, NY 13057			BORI			Page No.		of 1			
		ociates	Name of the last o		315-701-0522		1201	DOIL			Report No.		3-03-1223			
Project 1	Name:			us, Clay,	New York						Date Started		24/23			
Client:		Rambo		т .:	DI						Date Finished		24/23			
Location	n:		•	n Locati	INVESTIGATIO	N			CI	ROUNDWATER	Surface Elev.		)6.8'			
Driller:		H. Lyo		DS OF	Casing:	3 ¼" ID	НСА		GI	KOUNDWAIEK	ODSERVAI	IONS				
Driller:		K. Cra			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)			
Inspecto	r:	A. Sha		Т	Other:			10/24/23		While Drilling	None Noted		-			
Drill Rig		CME 4			Soil Sampler:	2" OD S	Split Barrel	10/24/23	Bef	ore Casing Removed	None Noted		-			
Type:		Track			Hammer Wt:	140 lbs.		10/24/23	Aft	ter Casing Removed	None Noted	(	out			
Rod Size		AW			Hammer Fall:	30 in.		10/24/23		ter Casing Removed	caved @ 7.7		out			
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	L				
Depth			Depth	Type /	Blows on	Depth of	c ·	- coarse					SPT "N"			
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or			
(Feet)	No.	From 0.0	To 2.0	Rec. (in.) SS/14	Per 6 Inches 1-2-2-2	(Ft.)		- fine	ittla t				RQD %			
U	1	0.0	2.0	33/14	1-2-2-2	Dark Brown SILT, little fine SAND, trace ROOTS (moist, medium stiff)										
1							Still)									
2	2	2.0	4.0	SS/15	2-2-3-4	Brown mottled SILT, little mf SAND, trace CLAY (moist, medium										
						Brown mottled SILT, little mf SAND, trace CLAY (moist, medium stiff)										
3																
	_	4.0		GG /1.4	201111		_	. 1 . 1 . 7 . 7	,	COLUMN 11-1	C CD A LIEI		20			
4	3	4.0	6.0	SS/14	3-9-11-14					ne cmf SAND, little	e mf GRAVEL,	trace	20			
5							CLAT (WE	et, very su	11)							
3							Augered g	ravelly he	oinn	ing @ 60'						
6	4	6.0	8.0	SS/9	12-11-7-14	Dark Brown SILT, little fine SAND, trace ROOTS (moist, medium stiff)  Brown mottled SILT, little mf SAND, trace CLAY (moist, medium										
											, ,					
7																
8	5	8.0	8.9	SS/7	18-50@5"					and mf GRAVEL, t	trace SILT (moi	st, very	50+			
0							compact)									
9							Bottom of	Boring @	8.9							
10																
10																
11																
12																
10																
13																
14																
1-7																
15																
16																
17																
10																
18																
19																
'																
20		I		Ī		1										

												000 11	O-of E2C			
		$\mathbf{N}I$		6035 Co	orporate Drive	St	J <b>BSURF</b>	ACE EX	PL	ORATION	Boring No.	age in	<u>uyai 536</u>			
		IV		East Sy	racuse, NY 13057			BORI			Page No.	1	of 1			
	Asso	ciates	s, Inc.	Phone:	315-701-0522		1691	DOKI	NG.	LUG	Report No.	28062E	3-03-1223			
<b>Project</b>	Name:	Micron	Campi	us, Clay,	New York						Date Started	10/	24/23			
Client:		Rambo	11								Date Finished	10/	24/23			
Location	n:	See Ex	ploratio	n Locati	on Plan						Surface Elev.	40	)7.8'			
		ME	THO	DS OF	INVESTIGATIO	N			GF	ROUNDWATER	OBSERVAT	IONS				
Driller:		H. Lyo	n		Casing:	3 ¼" ID	H.S.A.	Data		Time	Donth (Et.)	Cogina	- A 4 (TE4.)			
Driller:		K. Crai	ndall		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	g At (Ft.)			
Inspecto	or:	A. Sha	rma, EI	T	Other:			10/24/23		While Drilling	None Noted		-			
Drill Ri	g:	CME 4	5		Soil Sampler:	2" OD S	plit Barrel	10/24/23	Befo	ore Casing Removed	None Noted		-			
Type:		Track			Hammer Wt:	140 lbs.		10/24/23	Aft	er Casing Removed	None Noted	(	out			
Rod Size		AW			Hammer Fall:	30 in.		10/24/23		er Casing Removed	caved @ 9.1		out			
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L				
Depth		Sample		Type /	Blows on	Depth of	c -	coarse				SPT "N"				
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium	% / some - 20 to 35	%	or					
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f	20% / trace - 0 to 109	%	RQD %						
0	1A	0.0	0.5	SS/17	1-WH-1-1		Topsoil an			1						
	1B	0.5	2.0			Brown SILT, trace cmf SAND, trace CLAY, trace fine GRAVEL (moist, very soft)										
1						(moist, very soft)										
2	2	2.0	4.0	SS/13	2-2-3-5	(moist, very soft)  Brown mottled SILT, little cmf SAND, trace mf GRAVEL (wet,										
2	2	2.0	4.0	33/13	2-2-3-3											
3																
3																
4	3	4.0	6.0	SS/19	2-2-4-6		Brown mot	tled SILT	and	cmf SAND, little n	nf GRAVEL (w	et	6			
		1.0	0.0	55/17	22.0		medium sti		una	om Sin D, mac	in Grait EE (w	· · · ·				
5								,								
							Augered gr	ravelly be	ginni	ing @ 6.0'						
6	4	6.0	8.0	SS/15	12-12-12-14					ne mf GRAVEL, so	ome cmf SAND	(wet,	24			
							very stiff)									
7							<u> </u>									
8	5	8.0	10.0	SS/10	14-28-35-35					agments, some cmf	GRAVEL, little	ecmf	63			
							SAND, tra	ce SILT (	moist	t)						
9																
10		10.0	10.6	00/4	20.500.11		G: '1	1 /	•				50			
10	6	10.0	10.6	SS/4	20-50@1"		Similar as	,	,				50+			
11							Auger refu	sai @ 10.	10.6	71						
11							Bottom of	DOTING @	10.0	)						
12																
12																
13																
14																
15																
16																
17																
18																
10																
19																
20																
20				I	I	1	I									

				6035 C	orporate Drive	ÇT	IRSURF	ACF FY	PI 4	ORATION	Boring No.	age <b><u>1</u>81</b>	<b>105</b> 536		
		IV	Ę		racuse, NY 13057			BORI			Page No.		of 1		
	Ass	ociates	s, Inc.	Phone:	315-701-0522		1691	DUKI	100	LUG	Report No.	28062B	-03-1223		
Project	Name:	Micror	n Camp	us, Clay,	New York						Date Started	10/2	24/23		
Client:		Rambo	oll								Date Finished	10/2	25/23		
Location	n:			on Locati							Surface Elev.		8.5'		
				DS OF	INVESTIGATIO				GR	ROUNDWATER	OBSERVAT	IONS			
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)		
Driller:		K. Cra		T.	Casing Hammer:						_				
Inspecto Drill Ri		A. Sha		11	Other: Soil Sampler:	2" OD 9	Split Barrel	10/24/23 10/25/23		While Drilling ore Casing Removed	None Noted  None Noted		-		
Type:	g.	Track	13		Hammer Wt:	140 lbs.	рип бапет	10/25/23		er Casing Removed	None Noted		out		
Rod Siz	e:	AW			Hammer Fall:	30 in.		10/25/23		er Casing Removed	caved @ 8.2		out		
2100 510			BOR	ING SA	AMPLES		VI			SIFICATION C					
Donath			e Depth						2110				SPT "N"		
Depth Scale	Sample		t.)	Type / Sample	Blows on Sampler	Depth of Change		coarse medium		and - 35 to 50	% / some - 20 to 359	%	or		
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	f	- fine		little - 10 to 2	0% / trace - 0 to 109	%	RQD %		
0	1	0.0	2.0	SS/8	1-3-3-5					ine SAND, trace C	LAY, trace RO	OTS	6		
							(moist, me	dium stiff	)						
1															
2	2	2.0	4.0	SS/6	5-5-6-9		Droven and	f CD A VIE	I ~~	ma SII T 1;441a a4	CAND (maint	madina	11		
2	2	2.0	4.0	33/0	3-3-0-9	Brown cmf GRAVEL, some SILT, little cmf SAND (moist, medium compact)									
3							(Compact)								
4	3	4.0	6.0	SS/18	2-3-4-5	compact)									
							stiff)			,	, , ,				
5						<b> </b> _	L					. <b></b>			
						compact)  Brown SILT and cmf SAND, some mf GRAVEL (moist, medium									
6	4	6.0	8.0	SS/21	7-19-15-23	Brown SILT and cmf SAND, some mf GRAVEL (moist, medium stiff)									
7															
7															
8	5	8.0	9.8	SS/12	25-25-34-39		Grey/Brow	n cmf GR	AVF	EL and SILT, some	cmf SAND (mc	oist, verv	59		
			7.0	55/12	25 25 51 57		compact)	0 01	V L	and 5121, 50110	tim State (inc	, voi y			
9							Auger refu	sal @ 9.8	,						
							Bottom of								
10															
11															
12															
12															
13															
14															
15															
1.0															
16															
17															
1/															
18															
19															
20	<u> </u>														

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.

7111710	J	••••	0_0	1121 0	INT NOMBER. 172	0. 0	127 6	KI IIDII 7	١ ٥.	GEGTEGITATOAL			
				6035 Co	orporate Drive	SI	IRSURF	ACE EX	(PI	ORATION	Boring No.	age <u>1</u> 81	<b>4 05</b> 536
		IV			racuse, NY 13057						Page No.		of 1
	Ass	ociates	s, Inc.	Phone:	315-701-0522		1E51	BORI	NG	LUG	Report No.	28062B	3-03-1223
Project 1	Name:	Micror	ı Camp	us, Clay,	New York	-8					Date Started	10/2	25/23
Client:		Rambo	oll								Date Finished	10/2	25/23
Location	n:	See Ex	ploration	on Locati	on Plan						Surface Elev.	40	6.4'
		ME	THO	DS OF	INVESTIGATIO				GI	ROUNDWATER	OBSERVAT	IONS	
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casino	At (Ft.)
Driller:		K. Cra			Casing Hammer:						_	Casing	, At (Ft.)
Inspecto		A. Sha		T	Other:			10/25/23		While Drilling	None Noted		-
Drill Rig	g:	CME 4	15		Soil Sampler:		Split Barrel	10/25/23		ore Casing Removed	None Noted		-
Type:		Track			Hammer Wt:	140 lbs.		10/25/23		ter Casing Removed	None Noted		out
Rod Size		AW	DOD	INIC C	Hammer Fall:	30 in.	<b>171</b>	10/25/23		ter Casing Removed SSIFICATION O	caved @ 5.6		out
	LU	T		ING SE	AMPLES		VI	SUAL C	LA	SIFICATION O	F MAIEKIA	\L	
Depth		_	e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 35 0% / trace - 0 to 109		or RQD %
0	1	0.0	2.0	SS/14	1-1-1-2	(Гі.)			ittle t				2
Ů	1	0.0	2.0	55/11	1112	Grey/Brown SILT, little fine SAND, trace (wet, soft)					Ziri, uucc ito	015	_
1							(,)						
2	2	2.0	4.0	SS/16	2-2-6-12		Brown mot	ttled SILT	, sor	ne cmf SAND, little	e mf GRAVEL (	(wet,	8
							stiff)						
3													
4	3	4.0	6.0	SS/10	4-7-4-5		Brown/Gre	ey SILT aı	nd cr	mf SAND, little mf	GRAVEL (wet,	stiff)	11
5													
6	4	6.0	6.4	SS/5	50@5"		Dark Brow	n/Grev cr	nf S	AND and mf GRAV	/FI_some SILT	(moist	50+
0	-	0.0	0.4	33/3	30@3		very compa	-	III 57		LL, some SIL1	(moist,	301
7							Augered gr		ginn	ing @ 6.3'			
							Bottom of						
8								C					
9													
10													
11													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.	age <b>f</b> 1	3 pá 536
		IV			racuse, NY 13057			F BORI			Page No.	1 (	of 1
		ociates	20 00000		315-701-0522		11001	DOM	.10	200	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		25/23
Client:		Rambo			DI.						Date Finished		25/23
Location	n:			n Locati		NT .		1	CT		Surface Elev.		9.8'
Driller:		H. Lyo		DS OF	INVESTIGATIO	3 ¼" ID	НСА		GN	ROUNDWATER	ODSEKVAT	TON2	
Driller:		K. Crai			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:	A. Sha		Т	Other:			10/25/23		While Drilling	None Noted		-
Drill Ri		CME 4			Soil Sampler:	2" OD S	plit Barrel	10/25/23		ore Casing Removed	None Noted		-
Type:		Track			Hammer Wt:	140 lbs.		10/25/23	Afte	er Casing Removed	None Noted	C	out
Rod Siz		AW			Hammer Fall:	30 in.		10/25/23		er Casing Removed	caved @ 7.8		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	)F MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35°		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		fine	1/1-4		20% / trace - 0 to 109	%	RQD %
0	1A 1B	0.0 0.5	0.5 2.0	SS/14	1-2-2-3					erial (moist) AND (moist, mediu			4
1	110	0.5	2.0				DIOWII SIL	71, mue n	ine si	AND (moist, medit	iiii suii <i>)</i>		
1													
2	2	2.0	4.0	SS/16	2-3-2-8		Brown SIL	T, little c	mf SA	AND, trace CLAY,	trace mf GRAV	/EL	5
							(moist, me						
3													
4	3	4.0	6.0	SS/14	4-8-14-20							22	
							(moist, ver	y stiff)					
5													
6	4	6.0	8.0	SS/15	14-20-21-25		Similar as	ahove (mo	nist h	ard)			41
	7	0.0	0.0	55/13	14 20 21 23		Sillina as	above (III	J15t, 1.	iara)			71
7													
8	5	8.0	8.6	SS/5	40-50@1"			n cmf GF	RAVE	EL and SILT, little	cmf SAND (mo	ist, very	50+
							compact)						
9													
10							Auger refu Bottom of	sal @ 9.5	0.51				
10							DOUGHI OF	Burnor	7.3				
11													
12													
13													
,.													
14													
15													
13													
16													
17													
18													
10													
19													
20													

		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	age BL	196536
		IV		East Syr	acuse, NY 13057			BORI			Page No.	1	of 2
	Asso	ociates	, Inc.	Phone: 3	315-701-0522		1691	DUKI	NG I	LUG	Report No.	28062B	3-03-1223
Project 1	Name:	Micron	Campi	ıs, Clay,	New York						Date Started	10/	19/23
Client:		Rambo	11	-							Date Finished	10/2	20/23
Location	1:	See Ex	ploratio	n Locatio	on Plan						Surface Elev.	40	06.3'
					INVESTIGATIO	N			GR	ROUNDWATER		IONS	
Driller: Driller:		H. Lyo K. Crai	n		Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto	· • •	A. Sha			Other:			10/20/23		While Drilling	23.1	2	3.0
Drill Rig		CME 4			Soil Sampler:	2" OD S	Split Barrel	10/20/23		ore Casing Removed	32.6		3.5
Type:	<b>5•</b>	Track	.5		Hammer Wt:	140 lbs.	-	10/20/23		er Casing Removed	None Noted		out
Rod Size	۵•	AW			Hammer Fall:	30 in.		10/20/23		er Casing Removed	caved @ 32.4		out
Rou Sizi			R∩DI		MPLES	30 m.	VI			SSIFICATION O			Jut
	LO	T		110 52	WII LES		V 1,	SUAL C	LAS	I	TWATERIA	IL.	1
Depth		Sample	-	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/17	2-6-7-7					erial (moist)		. —	13
1	1B	0.5	2.0				Brown/Gre stiff)	ey mottled	SILT	Γ, little fine SAND,	trace ROOTS (	moist,	
2	2	2.0	4.0	SS/12	5-7-8-8	Brown SILT, little fine SAND, trace CLA				AND, 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						Augered gravelly @ 4.0'							
6	4	6.0	8.0	SS/17	17-30-35-32	2 Similar as above (moist, hard)					65		
7													
8	5	8.0	10.0	SS/14	8-4-4-7		Grey SILT (wet, stiff)	, some cm	of SA	ND, some CLAY, t	trace fine GRAV	VEL	8
9													
10							Augered gr	ravelly be	ginnii	ng @ 10.0' to 11.0'			
11													
12 13	6	13.0	14.8	SS/18	4-17-47-50@3"		Grev SII T	some on	nf S A	ND, little CLAY, to	race fine GRAV	ÆL.	64
14	O	13.0	17.0	55/10	111713083		(moist, har Augered ha	d)			THE SICA V	JI.	
15							- moored m		8 \				
16													
17													
18	7	18.0	18.3	SS/3	50@3"		Grey cmf (	GRAVEL,	, some	e cmf SAND (mois	t, very compact	)	50+
19													
20							Continuad	on Daga 1	,				
20						<u> </u>	Continued	on Page 2					

CME Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page 815 pc 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Ass	ociates	, Inc.	Phone:	315-701-0522		TEST BORING I	LOG		B-03-1223
					AMPLES		VISUAL CLASS	SIFICATION (		
Depth		Sample	Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m - medium		0% / some - 20 to 35%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Continued from Page 1	little - 10 to 2	20% / trace - 0 to 10%	RQD %
21 22 23	8	23.0	25.0	SS/12	12-29-25-27		Grey SILT, some cmf SAI	ND, some mf GRA	AVEL, some CLAY	54
24 25 26	-						(moist, hard)			
27 28 29	9	28.5	30.0	SS/16	33-75-41		Grey cmf SAND and SILT	Γ, little mf GRAV	EL (wet, very compact)	116
30										
32 33 34	10	33.5	33.5	SS/0	50@0"		Auger refusal @ 33.5' No Recovery			50+
35 36 37							Bottom of Boring @ 33.5'			
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

						1						000 44	G of EOC
					orporate Drive	SU	J <b>BSURF</b>	ACE EX	KPL	ORATION	Boring No.		
	Acce	noistor	Inc		racuse, NY 13057		TEST	BORI	NG	LOG	Page No.		of 1
		ociates	20	i none.	315-701-0522						Report No.		-03-1223
Project 1 Client:	Name:			us, Clay,	New York						Date Started		11/23
		Rambo		m T acati	on Dlon						Date Finished		11/23
Location	1:			on Locati	INVESTIGATIO	N			Cl	ROUNDWATER	Surface Elev.		4.8'
Driller:		Brian S		DS OF	Casing:	4 ¼" ID	HSA		Gi	ROUNDWATER	ODSERVAI	IONS	
Driller:		Jason E			Casing Hammer:	774 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:		_	na, EIT	Other:			09/11/23		While Drilling	None Noted	(	0.0
Drill Rig	g:	CME I	LC 55		Soil Sampler:	2" OD S	Split Barrel	09/11/23	Bef	ore Casing Removed	None Noted	1	4.6
Type:		Track			Hammer Wt:	140 lbs.		09/11/23	Aft	ter Casing Removed	None Noted	(	out
Rod Size		NWJ			Hammer Fall:	30 in.		09/11/23		ter Casing Removed	caved @ 7.8		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	L	1
Depth			Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample			Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 2.0	Rec. (in.) SS/17	Per 6 Inches WH-1-2-3	(Ft.)		- fine	mf S	AND, trace fine GF	20% / trace - 0 to 109		RQD %
U	1	0.0	2.0	33/17	W11-1-2-3		(moist, sof		AND, trace fille Of	KA VEL, trace K	0013	3	
1							(moist, sor	-,					
2	2	2.0	4.0	SS/12	4-6-6-7		Brown mo	ttled SILT	, sor	me cmf SAND, little	e mf GRAVEL (	(moist,	12
						stiff)							
3													
4	2	4.0	6.0	00/14	2 2 2 0	Similar as above (wet, medium stiff)							
4	3	4.0	6.0	SS/14	3-3-3-8	Similar as above (wet, medium stiff)							6
5													
3													
6	4	6.0	8.0	SS/13	11-20-18-26		Grey/Brow	n cmf SA	ND	and SILT, little mf	GRAVEL (mois	st,	38
							compact)				`		
7							_						
8	5	8.0	9.7	SS/13	21-39-79-100@2"			cmf SAN	D ar	nd mf GRAVEL, lit	tle SILT (moist,	very	118
0							compact)						
9													
10													
10													
11													
12													
10		12.0	12.0	00/7	27 100 0 211		G 60	I A NID	1 6	CDANEL Pol CH	TT I'M DOCK	C	100
13	6	13.0	13.8	SS/7	37-100@3"					GRAVEL, little SII	L1, little ROCK	rragmer	100+
14							(moist, ver Auger refu						
14							Bottom of			<u> </u>			
15									- 1.0	=			
16													
17													
10													
18													
19													
12													
20													

	_					1						000 44	7 05 500
					orporate Drive	SU	UBSURF	ACE EX	KPL	ORATION	Boring No.		
	1		luc		racuse, NY 13057		TEST	BORI	NG	LOG	Page No.		of 1
		ociates	20 11/15/11		315-701-0522	<u> </u>	1201			200	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		11/23
Client:		Rambo		m I acati	on Dlon						Date Finished		11/23
Location	1:		•	n Locati	INVESTIGATIO	N			CI	ROUNDWATER	Surface Elev.		.8.8'
Driller:		Brian S		DS OF	Casing:	4 ¼" ID	H.S.A.						
Driller:		Jason I			Casing Hammer:	.,, 12	11.0.11	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:		_	na, EIT	Other:			09/11/23		While Drilling	None Noted	:	3.0
Drill Ri	g:	CME I	LC 55		Soil Sampler:	2" OD S	Split Barrel	09/11/23	Befo	ore Casing Removed	None Noted		13
Type:		Track			Hammer Wt:	140 lbs.		09/11/23		er Casing Removed	None Noted		out
Rod Siz		NWJ	<b>DOD</b>	210.0	Hammer Fall:	30 in.	***	09/11/23		er Casing Removed	caved @ 7.5		out
	LO	1		ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	<u>L</u>	
Depth			Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Feet)	Sample No.	From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 35 0% / trace - 0 to 109		or RQD %
0	1	0.0	2.0	SS/18	WH-1-2-3	(Ft.)			`, littl	le cmf SAND, trace			3
							ROOTS (n			, , , , , , , , , , , , , , , , , , , ,		, <b>.</b>	
1							Ì						
2	2	2.0	4.0	SS/14	10-12-23-36			ttled SILT	`, littl	le cmf SAND, trace	fine GRAVEL	(moist,	35
3						hard)							
3													
4	3	4.0	6.0	SS/18	20-25-36-33	Brown SILT, some cmf SAND, little mf GRAVEL (moist, hard)							61
			0.0	55,10	20 20 00 00	Brown SILT, some cmf SAND, little mf GRAVEL (moist, hard)							01
5													
6	4	6.0	8.0	SS/15	36-38-43-40			d cmf SAI	ND, s	some mf GRAVEL,	little SILT (mo	ist, very	81
7							compact)						
,													
8	5	8.0	10.0	SS/16	39-50-57-59		Grey/Brow	n cmf SA	ND,	some SILT, some r	nf GRAVEL, lit	ttle	107
										very compact)	ŕ		
9													
10													
11													
11													
12													
13	6	13.0	13.3	SS/2	100@3"					GRAVEL, little SII	LT, little ROCK		100+
1.4							fragments			ompact)			
14							Auger refu Bottom of			<u> </u>			
15							DOUGHI OF	Doming @	13.0	)			
16													
17													
10													
18													
19													
20													

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	 (PL/	ORATION	Boring No.	age <u>f</u> 81	<b>9 25</b> 536
		IV			racuse, NY 13057			BORI			Page No.	1	of 2
		ociates		i none.	315-701-0522		1131	DOM	.101		Report No.		-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		11/23
Client:		Rambo									Date Finished		11/23
Location	1:			on Locati		NT.			CD		Surface Elev.		8.3'
Driller:		Brian S		DS OF	INVESTIGATIO Casing:	4 ¼" ID	псч		GK	OUNDWATER	OBSERVAI	IONS	
Driller:		Jason I			Casing Hammer:	4 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:		_	na, EIT	Other:			09/11/23		While Drilling	3.8		1.0
Drill Rig		CME I		,	Soil Sampler:	2" OD S	plit Barrel	09/11/23		re Casing Removed	None Noted	2	0.2
Type:		Track			Hammer Wt:	140 lbs.		09/11/23	Afte	er Casing Removed	4	(	out
Rod Size		NWJ			Hammer Fall:	30 in.		09/11/23		er Casing Removed	cave @ 6.4		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATION (	F MATERIA	L	
Depth		Sample	e Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m -	medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	201		0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/6	WH-WH-1-4		Brown SIL	T, little m	nf SAl	ND, trace ROOTS	(moist, very sof	t)	1
1													
1													
2	2	2.0	4.0	SS/14	7-11-13-16		Brown SII	T some	mf S A	AND (wet, very sti	ff)		24
۷	2	2.0	7.0	00/14	7-11-13-10		DIOWII SII	21, SOME	m or	in to (well, very sti	,		
3													
4	3	4.0	6.0	SS/15	6-17-23-27		Brown SIL	T, some f	ine S	AND (wet, hard)			40
										,			
5													
6	4	6.0	8.0	SS/24	34-32-41-44		Brown SIL	T, some f	ine S	AND (wet, hard)			73
7													
7													
8	5	8.0	10.0	SS/19	19-31-38-43		Gray/Broys	n SII T aı	nd cm	of SAND, little fine	GPAVEL (wet	hard)	69
0	5	0.0	10.0	33/19	19-31-30-43		GICY/DIOW	ii SiLi ai	iiu ciii	ii SAND, iittie iiit	CKAVEL (WEI	, naru)	09
9													
10													
11													
12													
12													
13	6	13.0	13.8	SS/9	41-100@3"		Grey/Pad	emf S A NII	)	ne SILT, little cmf	GRAVEI (wat	VATU	100+
14	O	15.0	15.6	33/9	41-100@3		compact)	JIII SAINI	J, SOII	ne Sill, nuie cini	GRAVEL (WEL	, very	100+
14							compact)						
15													
1.5													
16													
17													
18	7	18.0	19.4	SS/11	31-61-100@5"		-	cmf SAN	D, so	me mf GRAVEL,	little SILT (wet,	very	100+
4=							compact)						
19													
20							Com 41: 1	am D 2	,				
20 SS Sp	it Spac	n II 1	Indiat	urbod T	ube, C - Core, WH - V	Waight a	Continued f Hammer			aight of Dod			
ss - spi <b>Remarl</b>		, U - 1	Onaisti	arocu 11	400, C - COIC, WII -	,, eigilt O	i i i allillille i	i itou, WI	YV	orgin of Rou			

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

8025 Compared Drive

					orporate Drive	SI	JBSURFACE EXPLO	<b>PRATION</b>	Boring No.		
		IV	Ę	East Syr	racuse, NY 13057		TEST BORING I		Page No.	2 of 2	
					315-701-0522				Report No.	28062B-03-1	1223
	LO	1		ING SA	AMPLES		VISUAL CLASS	SIFICATION (	OF MATERIA		
Depth Scale	Sample		e Depth et.)	Type /	Blows on Sampler	Depth of	c - coarse m - medium	and 25 to 50	0% / some - 20 to 35		T "N"
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)	f - fine		20% / some - 20 to 33 20% / trace - 0 to 109		or QD %
20							Continued from Page 1				
21							Auger refusal @ 20.2' Bottom of Boring @ 20.2'				
21							Bottom of Boring & 20.2				
22											
23											
23											
24											
25	ł										
25											
26											
27											
28											
29											
30											
31											
32											
32											
33											
34											
34											
35											
36											
37											
38											
39											
40	1										
4 1											
41											
42											
43											
43											
44											
15	-										

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

				6035 Co	orporate Drive	SI	JBSURF	CE EX	(PL	ORATION	Boring No.	age <u></u>	9 <b>9</b> § 536
		IV			racuse, NY 13057			BORI			Page No.		of 2
			s, Inc.	i none.	315-701-0522		1101	DOM	.,,,	200	Report No.		-03-1223
Project I	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo		n I ac-t'	on Dian						Date Finished		26/23
Location	1;			n Locati	ON PIAN INVESTIGATIO	N			CP	ROUNDWATER	Surface Elev. OBSERVAT		3.5'
Driller:		B. Flet		DO OF	Casing:	3 ¼" ID	H.S.A.	_	GI				
Driller:		R. Cas	atelli		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto					Other:	NQ-Cor		10/26/23		While Drilling	None Noted		3.9
Drill Rig	g:	CME 5	550X		Soil Sampler:		Split Barrel	10/26/23		ore Casing Removed	None Noted		3.9
Type:		ATV			Hammer Wt:	140 lbs.		10/26/23		er Casing Removed	None Noted		out
Rod Size		AWJ	DΩDI	INIC S	Hammer Fall: AMPLES	30 in.	1/10	10/26/23		er Casing Removed SSIFICATION C	caved @ 13.8		out
1	LU			ING SE	AMPLES	1	V 15	SUAL C	LAS	SIFICATION C	F MAIERIA	. <b>L</b>	l
Depth	C1 -		e Depth t.)	Type /	Blows on	Depth of		coarse		1 25 (- 50	0/ / 20.4- 250	v	SPT "N"
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 359 0% / trace - 0 to 109		or RQD %
0	1	0.0	2.0	SS/7	1-3-6-8	(1)			ILT,	trace fine SAND, t			9
							stiff)	,	ĺ	,	`	ŕ	
1													
_													
2	2	2.0	4.0	SS/15	9-8-8-7		Light Brow	n SILT, t	race	fine SAND (moist,	very stiff)		16
2													
3													
4	3	4.0	6.0	SS/19	5-8-12-12		Light Brow	n SILT t	race i	fine SAND (moist,	very stiff)		20
	3	1.0	0.0	55/17	3 0 12 12		Light Brow	in Silli, t	iucc	ime by it vib (moist,	very suit)		20
5													
6	4	6.0	8.0	SS/18	10-11-9-10		_	n SILT, t	race	fine SAND, trace c	mf GRAVEL (n	noist,	20
_							very stiff)						
7													
8	5	8.0	10.0	SS/20	5-10-8-11		Light Grey	SILT fro	ce fir	ne SAND (moist, v	ery stiff)		18
	5	3.0	10.0	55,20	3 10 0 11		Light Gicy	~i, ua	111	S. II ID (IIIOISI, V	or y court		
9													
10													
11													
11													
12													
12													
13													
	6	13.5	15.0	SS/18	12-12-6		Similar as	above (mo	oist, v	very stiff)			18
14													
1.7													
15													
16													
10													
17													
·													
18													
	7	18.5	20.0	SS/18	5-12-14		Grey SILT	, little cm	f GR	AVEL, trace fine S	AND (moist, ve	ry stiff)	26
19													
20							Continue	on Poss 2	)				
20 SS - Spl	it Spoo	n II - 1	Indien	irhed Ti	ube, C - Core, WH - V	L Weight o	Continued of Hammer	on Page 2	2 - W	Jeight of Rod			
Remarl		, 🔾 - '	o mansti		, 0 0010, 1111-	,, orgin 0	. Humilio	100, 111	. , , ,	or Rou			

Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age B215 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		TEST BORING L	,OG	Report No. 2806	2B-03-1223
	LO	G OF	BOR	ING SA	MPLES		VISUAL CLASS	SIFICATION C		
Depth Scale	Sample	Sample (F	e Depth	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium	and - 35 to 50	0% / some - 20 to 35%	SPT "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Continued from Page 1	little - 10 to 2	20% / trace - 0 to 10%	RQD %
20							Continued from Page 1			
22										
23	8	23.5	23.9	SS/5	100@5"		Grey SILT, trace mf GRA	VEL trace fine S	AND (moist_hard)	100+
24		23.3	23.9	55/5	10003		Bottom of Boring @ 23.9'	EE, truce Time St	in (D (moist, nard)	1001
25										
26 27										
28										
29										
30	1									
31										
32										
33										
34										
35 36										
37										
38										
39										
40	1									
41										
42										
43										
44	-									

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

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	<b>CPLORATION</b>	Boring No.	age <u>1</u> 22	<b>35</b> 536
		V	L		racuse, NY 13057				NG LOG	Page No.		of 2
		ociates	20 1165		315-701-0522		11001	DOM		Report No.		-03-1223
Project	Name:			us, Clay,	New York					Date Started		24/23
Client:		Rambo		<b>,</b> .	DI.					Date Finished		24/23
Location	n:			n Locati		N		1	CDOUNDMATE	Surface Elev.		2.9'
Driller:		B. Flet		DS OF	INVESTIGATIO	3 ¼" ID	нсл		GROUNDWATE	A UDSEKVAT.	10112	
Driller:		R. Cas			Casing: Casing Hammer:	3/4 ID	11.3.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:	r. Cas	uw111		Other:	NQ-Cor	·e	10/24/23	While Drilling	23.2	2:	3.5
Drill Ri		CME 5	550X		Soil Sampler:	_	Split Barrel	10/24/23	Before Casing Removed			0.8
Type:	-	ATV			Hammer Wt:	140 lbs.	-	10/24/23	_	None Noted	C	out
Rod Siz		AWJ			Hammer Fall:	30 in.		10/24/23	After Casing Removed	caved @		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIA	L	
Depth		Sample	e Depth	Type /	Blows on	Depth of	c -	- coarse				SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m -	medium		0% / some - 20 to 35%		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine		20% / trace - 0 to 10%	Ď	RQD %
0	1A	0.0	1.0	SS/17	1-4-8-8		Topsoil an	d Organic	Material (moist)			4
1	1B	1.0	2.0				Light Brov	vn SILT, t	race fine SAND (moist	, medium stiff)		
2	2	2.0	4.0	SS/18	7-8-7-7		Light Brov	vn SILT, t	crace fine SAND (moist	, very stiff)		15
3												
4	3	4.0	6.0	SS/20	4-7-10-13		Light Brow	vn SILT, t	race fine SAND (moist	, very stiff)		17
5												
6	4	6.0	8.0	SS/19	13-12-12-8		Similar as	above (mo	oist, very stiff)			24
7												
8	5	8.0	10.0	SS/23	3-6-6-8		Light Brov	vn/Light C	Grey SILT, trace fine SA	AND (moist, stiff)	)	12
9												
10												
11												
12												
13	6	13.5	15.0	SS/18	4-7-16		Light Grev	SILT, tra	ace fine SAND (wet, ve	ry stiff)		23
14								,	, , , ,	• /		
15												
16												
17												
18												
19	7	18.5	20.0	SS/15	6-4-5		Light Grey	SILT, litt	tle cmf GRAVEL, little	fine SAND (moi	st, stiff)	9
20							Continued	on Page 2	2			

20 Continued on Page 2 SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

CVE Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age B23 52 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		TEST BORING L	UG	<b>Report No.</b> 28062	B-03-1223
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLASS	IFICATION C		
Depth Scale (Feet)	Sample No.	Sample	Depth (t.)	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% 0% / trace - 0 to 10%	SPT "N" or RQD %
20	110.	TTOIII	10	Acc. (III.)	r er o menes	(Fl.)	Continued from Page 1	nue - 10 to 2	00/0 / Hace - 0 to 10%	KQD %
21										
22										
23	8	23.5	25.0	SS/7	15-15-18		Light Grey SILT and cmf C	DAVEL/CODDI	E nigoga little fine	33
24		23.3	23.0	33/7	13-13-16		SAND (moist, hard)	JKA V EL/CODDI	LE pieces, fittle fille	33
25										
26										
27										
28	9	28.5	30.0	SS/10	31-45-58		Dark Grey SILT, some high	nly weathered RO	OCK fragments, trace	103
29							fine SAND (moist, hard)	,		
30							Auger refusal @ 30.8'			
31							Bottom of Boring @ 30.8'			
32										
33										
34										
35										
36										
37										
38										
39										
40	1									
41										
42										
43										
44										
45	Ī	1								1

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

				6035 Co	orporate Drive	SI	JBSURFA	ACE EX		ORATION	Boring No.	age <u>1</u> 24	<b>5</b> 536
		IV	L		racuse, NY 13057			BORI			Page No.	1 (	of 2
		ociates		T Hone.	315-701-0522		1101	DOM	. 10 1	200	Report No.		-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo		T '	on Dlon						Date Finished		26/23
Location	1;			n Locati	on Plan INVESTIGATIO	N			CP	ROUNDWATER	Surface Elev.		4.4'
Driller:		B. Flet		DO OF	Casing:	3 ¼" ID	H.S.A.	Date	O.K	Time	Depth (Ft.)		At (Ft.)
Driller:		R. Cas	atelli		Casing Hammer:	NO Com			,		_		
Inspecto Drill Rig		CME 5	550X		Other: Soil Sampler:	NQ-Cor	e Split Barrel	10/26/23		While Drilling ore Casing Removed	10.6 10.6		3.5 3.5
Type:	••	ATV	3021		Hammer Wt:	140 lbs.	-	10/26/23		er Casing Removed	6.5		ut
Rod Size	e <b>:</b>	AWJ			Hammer Fall:	30 in.		10/26/23		er Casing Removed	caved @ 6.2		ut
		G OF	BOR	ING SA	AMPLES		VI			SIFICATION C		L	
Depth			e Depth		Blows on			coarse					SPT "N"
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35%	6	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 10%		RQD %
0	1	0.0	2.0	SS/17	2-4-5-6		Light Brow	n SILT, t	race f	fine SAND, trace F	ROOTS (moist, s	tiff)	9
1													
2	2	2.0	4.0	SS/15	5-5-5-5		Light Brow	n SILT, t	race f	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 (mo	oist, v	very stiff)			17
7													
8	5	8.0	10.0	SS/22	4-7-6-6		Similar as	above (mo	oist, s	stiff)			13
9													
10													
11													
12													
13	_			ac.				arr ==		g.13-75 :			
14	6	13.5	15.0	SS/16	3-5-4		Light Grey	SILT, tra	ce fin	ne SAND (moist, st	tiff)		9
15													
16													
17													
18													
19	7	18.5	20.0	SS/14	4-15-4		Grey SILT	, little cm	f GRA	AVEL, little fine S.	AND (moist, ver	y stiff)	19
20	•			, ,=	1 0 0 2		Continued						
SS - Spl <b>Remarl</b>		n, U - 1	∪ndistı	arbed Ti	ube, C - Core, WH - V	Weight o	t Hammer -	⊦ Kod, WI	≺ - W	eight of Rod			

Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age B25 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Asso	ciates	s, Inc.	Phone:	315-701-0522		TEST BORING L	.OG	Report No. 2806	2B-03-1223
					AMPLES		VISUAL CLASS	SIFICATION C		
Depth Scale (Feet)	Sample No.	Sample	e Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 00% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1			
21										
22										
23	0	22.5	24.0	00/10	7 42 100 @ 211		D 1 C 4 1DOC	NZ C	OH TO ( )	100.
24	8	23.5	24.8	SS/12	7-43-100@3"		Dark Grey weathered ROC	K fragments, littl	e SIL1 (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	1									

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

	C	V	E		orporate Drive	SU	J <b>BSURF</b>	ACE EX	<b>XPLORATION</b>	-	Boring No.		
	Ass	ciate	. Inc.	•	racuse, NY 13057 315-701-0522		TEST	BORI	NG LOG		Page No. Report No.		of 2
roject l				r momer c	New York						Date Started		3-03-1223 30/23
lient:	vaine.	Rambo		us, Ciay,	New Tork					$\dashv$	Date Started  Date Finished		30/23
ocation	1:			on Location	on Plan						Surface Elev.		)5.1'
ocurior			•		INVESTIGATIO	N			GROUNDWA	TER			,5.1
Priller:		B. Flet			Casing:	3 ¼" ID	H.S.A.						A 4 (754
Priller:		R. Cas	atelli		Casing Hammer:			Date	Time		Depth (Ft.)	Casing	At (Ft.
nspecto					Other:	NQ-Cor		10/30/23	While Drilling		21.7		8.5
Prill Rig	g:	CME 5	50X		Soil Sampler:		Split Barrel	10/30/23	b		21.7		8.5
ype:		ATV			Hammer Wt:	140 lbs.		10/30/23	After Casing Remo		None Noted		out
lod Size		AWJ	DAD		Hammer Fall: AMPLES	30 in.	1/1	10/30/23	After Casing Remo		caved @ 6.0		out
1	LU	T		ING SA	AMIPLES		V 1	SUAL C	LASSIFICATIC	<u>M U</u>	F MATERIA	L	I
Depth	a .	_	Depth	Type /	Blows on	Depth of		- coarse		<b>.</b>	20. 25	.,	SPT "N
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 359 0% / trace - 0 to 109		or RQD 9
0	1	0.0	2.0	SS/15	WH-1-2-3	(1 t.)			race fine SAND, tr				3
-					-		8	,	,,,			,	
1													
2	2	2.0	4.0	SS/17	5-5-5-5		Light Brov	vn SILT, t	race fine SAND (m	ıoist,	stiff)		10
3													
1	3	4.0	6.0	SS/24	5-6-7-10		Light Dron	m CHT 4	roog fing SAND (m	noist	atiff)		13
4	3	4.0	0.0	33/24	3-0-7-10		Light blov	vii SiL1, t	race fine SAND (m	ioist,	suii)		13
5													
3													
6	4	6.0	8.0	SS/20	7-8-8-12		Similar as	above (mo	oist, very stiff)				16
								`	,				
7													
8	5	8.0	10.0	SS/16	10-11-10-11		Light Brov	vn/Light C	Grey SILT, trace fin	ie SA	ND (moist, very	stiff)	21
0													
9													
10													
10													
11													
12													
13		12.5	150	00/10	10 11 14		C CH T	1561	COLUMN C	C	ANID		25
1.4	6	13.5	15.0	SS/12	10-11-14		Grey SILT	, little cm	f GRAVEL, trace f	ine S	AND (moist, ve	ry stiff)	25
14													
15													
1.5													
16													
17													
18													
	7	18.5	20.0	SS/17	27-28-34		Similar as	above (mo	oist, hard)				62
19													
20							Continual	on Docc ?	,				
/11					ıbe, C - Core, WH -		Continued	on rage 2					j .

CME Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age \$27.66 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		TEST BURING I	20G	Report No.	28062B-03-1223
	LO	G OF	BORI	ING SA	AMPLES		VISUAL CLASS	SIFICATION C	F MATERIAL	L
Depth Scale (Feet)	Sample No.	Sample (F		Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	
20	110.	TIOIII	10	Rec. (III.)	Ter o menes	(1 t.)	Continued from Page 1	10 to 2	2070 / Hace - 0 to 1070	RQD /0
21										
22										
23	8	23.5	25.0	SS/18	20-30-44		Similar as above (wet, har	d)		74
24		23.3	25.0	55/10	20-30-44		Similar as above (wet, mar	u)		/-
25										
26										
27										
28	9	28.5	30.0	SS/15	20-40-100@5"		Similar as above (moist, ha	ard)		100+
29										
30							Bottom of Boring @ 30.0'			
31										
32										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45				1 17				: 1. CD 1		

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

LOC	Rambo See Ex ME B. Fleto R. Casa CME 5 ATV	Campu II ploratio THOI cher	Phone: 3 us, Clay, on Location DS OF	acuse, NY 13057 815-701-0522 New York on Plan			BORI		RATION OG	Page No. Report No. Date Started	28062B 10/2	of 2 -03-1223 25/23	
LOC	Micron Rambo See Ex ME B. Fleto R. Casa CME 5 ATV	Campu II ploratio THOI cher	on Location DS OF	New York on Plan					00	Date Started	10/2	25/23	
LOC	Rambo See Ex ME B. Fleto R. Casa CME 5 ATV	ll ploration THOI wher	on Location DS OF	on Plan									
LOC	See Exp ME B. Fleto R. Casa CME 5 ATV	ploratio THOI cher	DS OF										
LOG	ME B. Fleto R. Casa CME 5 ATV	THO cher	DS OF							Date Finished		25/23	
LOG	B. Fleto R. Casa CME 5 ATV	cher			)NI			CDC	<u> </u>	Surface Elev.		4.6'	
LOG	R. Casa CME 5 ATV			Casing:	3 ¼" ID	H.S.A.		GKC					
LOG	ATV			Casing Hammer:			Date	į	Time	Depth (Ft.)	Casing	At (Ft.)	
LOG	ATV			Other:	NQ-Cor		10/25/23		Vhile Drilling	None Noted	33.8		
LOG		50X		Soil Sampler:		Split Barrel	10/25/23		Casing Removed	None Noted		-	
LOC				Hammer Wt:	140 lbs. 30 in.		10/25/23		Casing Removed	None Noted caved @		out out	
	AWJ	R∩R1		Hammer Fall: MPLES	30 III.	10/25/23 After Casing Removed caved @ VISUAL CLASSIFICATION OF MATERIAL							
Sample Depth Type / Blows on													
Sample (Ft.) Sample Sampler						of c - coarse m - medium and - 35 to 50% / some - 20 to 35%							
nipie No.	From	To	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine			% / some - 20 to 33% 0% / trace - 0 to 10%		or RQD %	
1	0.0	2.0	SS/11	2-4-6-8				race fir	ne SAND, trace R			10	
			a a := :				a		G.1375				
2	2.0	4.0	SS/20	7-7-8-8		Light Brow	n SILT, t	race fir	ne SAND (moist,	very stiff)		15	
3	4.0	6.0	SS/24	4-6-9-12		Light Brow	n SILT ±	race fir	ne SAND (moist,	very stiff)		15	
	1.0	3.0	55/27	. 0 > 12		Light Diow		-400 111	Sin ib (moist,	. 513 54111)		1.5	
4	6.0	8.0	SS/23	12-12-13-10		Similar as a	above (mo	oist, ver	ry stiff)			25	
_	8.0	10.0	SS/23	5-7-8-7		Cimilar as	abova (m.	oiet ve	my stiff)			15	
5	0.0	10.0	33/23	3-1-8-1		Similar as a	mone (mo	ля, vei	ry surr <i>)</i>			15	
6	13.5	15.0	SS/16	5-4-7		Light Grev	SILT, tra	ce fine	SAND (moist, st	iff)		11	
				- •		<i>J</i> = 223 <i>j</i>	,		( 12-23, 50	,			
	18.5	20.0	SS/7	15-4-8		Light Grey	/Light Bro	own SI	LT, little cmf GR	AVEL, little fine	SAND	12	
7													
7					1	1						Ī	
7						Continued							
6							18.5   20.0   SS/7   15-4-8   Light Grey.		18.5   20.0   SS/7   15-4-8   Light Grey/Light Brown SI	18.5   20.0   SS/7   15-4-8   Light Grey/Light Brown SILT, little cmf GR	18.5   20.0   SS/7   15-4-8   Light Grey/Light Brown SILT, little cmf GRAVEL, little fine	18.5   20.0   SS/7   15-4-8   Light Grey/Light Brown SILT, little cmf GRAVEL, little fine SAND	

CVE Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age B29 6 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Asso	ciates	s, Inc.	Phone: 3	315-701-0522		TEST BORING I	.OG	Report No. 28062E	3-03-1223
					AMPLES		VISUAL CLASS	SIFICATION O	F MATERIAL	
Depth Scale (Feet)	Sample No.	Sample (F		Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		% / some - 20 to 35% 0% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from Page 1			
21 22										
23	0	22.5	25.0	00/14	1.2.0		I : I : C	CODANEL PAL	C CLAND ( : / CCC	1.1
24	8	23.5	25.0	SS/14	1-2-9		Light Grey SILT, little cm	I GRAVEL, IIIIIe I	ine SAND (moist, stiff)	11
25	1									
26										
27										
28	9	28.5	29.8	SS/15	95-72-100@4"		Augers harder beginning (Light Grey SILT, little cm		fine SAND (moist	100+
29		20.3	29.0	33/13	93-72-100@4		hard)	TORAVEL, trace	ime SAND (moist,	100+
30										
31										
32										
33	10	33.5	33.8	SS/9	100@3"		Similar as above (moist, ha	ard)		100+
34				22.7			Bottom of Boring @ 33.8'			
35										
36										
37										
38										
39										
40										
41 42										
43										
44										
45	ļ									

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

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PLO	ORATION	Boring No.	age <b><u>1</u>3</b>	<b>96</b> 2 536
		IV			racuse, NY 13057			BORI			Page No.	1	of 2
		ociates	2 00000	i none.	315-701-0522						Report No.		3-03-1223
Project I	Name:			us, Clay,	New York						Date Started		26/23
Client: Location	٠.	Rambo		n Locati	on Plan						Date Finished Surface Elev.		26/23
Location	1.				INVESTIGATIO	N			GR	ROUNDWATER			11.3
Driller:		B. Flet		<u> </u>	Casing:	3 ¼" ID	H.S.A.						A 4 (754 )
Driller:		R. Cas	atelli		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto					Other:	NQ-Cor		10/26/23		While Drilling	22.1		3.5
Drill Rig	g:	CME 5	550X		Soil Sampler:		Split Barrel	10/26/23		ore Casing Removed	22.1		3.5
Type: Rod Size	٠.	ATV AWJ			Hammer Wt: Hammer Fall:	140 lbs. 30 in.		10/26/23		er Casing Removed er Casing Removed	None Noted caved @ 9.0		out
Rou Size			RORI	ING SA	MPLES	30 III.	VI			SIFICATION (			out
D (1	LO		e Depth						LIID		or white the		CDT IINIII
Depth Scale	Sample		t.)	Type / Sample	Blows on Sampler	Depth of Change		coarse medium		and - 35 to 50	0% / some - 20 to 35°	%	SPT "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f	- fine		little - 10 to 2	20% / trace - 0 to 109		RQD %
0	1A	0.0	1.0	SS/16	1-2-4-7		Topsoil and	d Organic	Mate	erial (moist)			6
								a =		C	,		
1	1B	1.0	2.0				Light Brow	/n SILT, t	race f	fine SAND (moist,	, medium stiff)		
2	2	2.0	4.0	SS/24	8-7-8-7		Light Brow	m SII T t	raca f	fine SAND (moist,	vary stiff)		15
	<i>L</i>	2.0	4.0	33/24	0-7-0-7		Light Diow	ու ծու 1, ե	iact I	ime SAND (IIIOISI,	, very suir)		13
3													
4	3	4.0	6.0	SS/20	4-6-8-9		Light Brow	n SILT, t	race f	fine SAND (moist,	, stiff)		14
5													
6	4	6.0	8.0	SS/20	8-9-8-16		Light Decr	m/Light C	Iros, C	SILT, trace fine SA	ND (moist vor	, ctiff)	17
U	4	0.0	0.0	JSS/20	0-7-0-10		Light Brow	ni/Light C	леу S	oili, nace fille SA	MAD (IIIOISI, Ver)	suii)	1/
7													
8	5	8.0	10.0	SS/17	3-3-3-6		Light Grey	SILT, tra	ice fir	ne SAND (moist, n	medium stiff)		6
9													
10													
10													
11													
12													
12													
13	6	13.5	15.0	SS/15	6-6-5		Similar as	ahove (m	nist e	etiff)			11
14	U	13.3	15.0	נו /ממ	0-0-3		Similal as	uoove (III	oist, 8	,			11
.													
15													
16													
17													
17													
18													
10	7	18.5	20.0	SS/7	3-3-3		Light Grey	SILT, tra	ce fir	ne GRAVEL, trace	e fine SAND (mo	oist,	6
19							medium sti			,		•	
20	., С		1. 1.	1 7 2	1 0 0 7777	17	Continued			7 1 4 CD 1			
SS - Spl Remark		n, ∪ - l	∪ndıstı	urbed Ti	ibe, C - Core, WH - V	weight o	or Hammer -	⊦ Kod, WI	K - W	eignt of Rod			

EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 6035 Corporate Drive S East Syracuse, NY 13057 Associates, Inc. Phone: 315-701-0522

SUBSURFACE EXPLORATION
TEST BORING LOG

Boring No. Page **13** 162 536 Page No. **Report No.** 28062B-03-1223

					315-701-0522		TEST DOMING			28062B-03-1223
	LO	G OF	BOR	ING SA	MPLES		VISUAL CLAS	SIFICATION (	OF MATERIA	L
Depth Scale (Feet)	Sample No.		Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	
20							Continued from Page 1			
21										
22										
23	8	23.5	25.0	SS/12	17-52-65		Dark Grey weathered ROG	CK fragments, littl	le SILT (moist)	117
24							D (D : 0.25.0)			
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										
		Ц.,	<u> </u>	ليبيا		1	f Hammar   Dod WD W	11. (5) 1		

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

		M	F		orporate Drive	SU	UBSURF	ACE EX	KPLO	RATION	Boring No.		
	Assi	ciates	Inc	•	racuse, NY 13057		TEST	BORI	NG L	$\mathbf{OG}$	Page No.		of 2
			20	i none. s	315-701-0522						Report No.		3-03-1223
Project N	Name:			us, Clay,	New York						Date Started		25/23
Client:		Rambo		T .:	DI						Date Finished		25/23
ocation_	1:		•	n Location	INVESTIGATIO	)NI			CDC	UNDWATER	Surface Elev.		00.5'
Oriller:		B. Flet			Casing:	3 ¼" ID	нсл		GNC	ONDWAIEN	ODSERVAI	IONS	
Oriller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.
inspector	· ·	K. Cas	atciii		Other:	NQ-Cor	re	10/25/23	W	hile Drilling	5.6	1	8.5
Drill Rig		CME 5	550X		Soil Sampler:	_	Split Barrel	10/25/23		Casing Removed	None Noted	•	-
Гуре:	,-	ATV			Hammer Wt:	140 lbs.	•	10/25/23		Casing Removed	None Noted	(	out
Rod Size	e:	AWJ			Hammer Fall:	30 in.		10/25/23		Casing Removed	caved @		out
			BOR		MPLES		VI			IFICATION C		L	
Donth		T	e Depth										CDT "N
Depth Scale	Sample	_	t.)	Type / Sample	Blows on Sampler	Depth of Change		coarse medium		and - 35 to 50	% / some - 20 to 35	%	SPT "N or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD 9
0	1A	0.0	1.0	SS/16	WH-WH-2-4		Topsoil and		Matter		-		2
							T						
1	1B	1.0	2.0				Light Brov	vn SILT, t	trace fir	ne SAND (moist,	soft)		
2	2	2.0	4.0	SS/18	4-6-5-5		Light Brov	vn SILT, t	trace fir	ne SAND (moist,	stiff)		11
3													
4	3	4.0	6.0	SS/17	3-4-5-7		Light Brov	vn SILT, t	trace fir	ne SAND (moist,	stiff)		9
5													
				ac /: -				GH	~	GANE :			
6	4	6.0	8.0	SS/19	4-5-12-12		Light Grey	SILT, tra	ace fine	SAND (moist, v	ery stiff)		17
_													
7													
0	F	0.0	10.0	00/17	2 1 4 4		Light Co	CII T 4	£	CAND (	andinan etite		_
8	5	8.0	10.0	SS/17	2-1-4-4		Light Grey	SIL1, tra	ice tine	SAND (moist, n	ieaium stiff)		5
0													
9													
10													
10													
11													
11													
12													
13													
	6	13.5	15.0	SS/13	5-3-3		Light Grev	SILT. tra	ace fine	SAND (moist, n	nedium stiff)		6
14	-							,		,,	/		
15													
16													
17													
18													
	7	18.5	20.0	SS/16	8-15-20		Dark Grey	weathere	d ROC	K fragments, littl	e SILT (wet)		35
19													
20			Ī				Continued	on Door ?	•				1

Boring No. Page **133** 65 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 Auger refusal @ 22.0' 22 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

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

Remarks:

44

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	PLO	ORATION	Boring No.	age <u></u>	<b>464</b> 536
		V	Lu-		racuse, NY 13057			BORI			Page No.		of 2
		ociates	The same of	i none.	315-701-0522		1101	DOM			Report No.		3-03-1223
Project I	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo		T =	on Dlon						Date Finished		26/23
Location	1;			n Locati	on Plan  INVESTIGATIO	N			CP	ROUNDWATER	Surface Elev. ORSERVAT		)2.6'
Driller:		B. Flet		<b>D</b> B <b>O</b> 1	Casing:	3 ¼" ID	H.S.A.	Data	GI.				A 4 (E4.)
Driller:		R. Cas	atelli		Casing Hammer:			Date		Time	Depth (Ft.)		At (Ft.)
Inspecto		CME	50W		Other:	NQ-Cor		10/26/23		While Drilling	13.9		3.5
Drill Rig	<b>;:</b>	CME 5	50X		Soil Sampler: Hammer Wt:	2" OD S	Split Barrel	10/26/23		ore Casing Removed er Casing Removed	None Noted		3.5 out
Rod Size	·•	AWJ			Hammer Fall:	30 in.		10/26/23		er Casing Removed	caved @ 5.0		out
2100 5120			BOR	ING SA	AMPLES	1	VIS			SIFICATION (			, , ,
Domth			e Depth									<del></del>	CDT "N"
Depth Scale	Sample		t.)	Type / Sample	Blows on Sampler	Depth of Change		coarse medium		and - 35 to 50	0% / some - 20 to 35°	%	SPT "N" or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/16	1-2-2-4		Light Brow	/n SILT, t	race f	fine SAND, trace I	ROOTS (moist, 1	nedium	4
							stiff)						
1													
2	2	2.0	4.0	SS/17	4-4-4-3		Light Brow	m SII T t	race f	fine SAND (moist,	stiff)		8
-	2	2.0	1.0	1/66	, , , , , , , , , , , , , , , , , , ,		Light Diow		·ucc I	ime of it to (illoist,	. J		
3													
4	3	4.0	6.0	SS/15	1-2-4-6		Light Brow	n SILT, t	race 1	fine SAND (moist,	medium stiff)		6
5													
6	4	6.0	8.0	SS/23	6-6-7-9		Light Brow	m SII T t	raca f	fine SAND, trace o	om GPAVEL (m	oist	13
0	4	0.0	8.0	33/23	0-0-7-9		very stiff)	/II SIL1, t	race i	ille SAND, trace c	III GKAVEL (III	ioist,	13
7							very sum)						
8	5	8.0	10.0	SS/24	4-6-13-16		_	n SILT, t	race f	fine SAND, trace r	nf GRAVEL (m	oist,	19
							very stiff)						
9													
10													
10													
11													
12													
13													
13	6	13.5	15.0	SS/18	3-2-2		Light Grey	SILT tra	ce fir	ne SAND (moist, n	nedium stiff)		4
14	U	13.3	13.0	35/10	J-Z <b>-</b> Z		Light Oley	DILI, ua	111	ic same (moist, ii	nearum sum)		
-													
15													
16													
17													
17													
18													
	7	18.5	20.0	SS/7	4-11-13		Dark Grey	weathere	d RO	CK fragments, littl	e SILT (wet)		24
19										,	• •		
20	:4 C		T., 1'		-l- C C 3777 3	N7-11	Continued	on Page 2	7 117	7-1-1-4 - CD - 1			<u> </u>
SS - Spi <b>Remarl</b>		11, U - I	∪naisti	urbed 11	ube, C - Core, WH - V	weignt o	n mammer -	⊦ Koa, WI	x - W	eigni of Kod			

Boring No. Page **1835** 64 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 VISUAL CLASSIFICATION OF MATERIAL LOG OF BORING SAMPLES Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 SS/7 18-100@3" Dark Grey weathered ROCK fragments, little SILT (moist) 100 +23.5 24.3 24 Bottom of Boring @ 24.3' 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42

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

Remarks:

43

		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	age <u></u>	<b>60</b> £ 536
		IV	Ę		racuse, NY 13057			F BORI			Page No.	1	of 2
		ociates	N LINE C	1 moner :	315-701-0522		11691	DOKI	101	LOG	Report No.	28062B	3-03-1223
Project	Name:			us, Clay,	New York	-					Date Started		14/23
Client:		Rambo									Date Finished		14/23
Location	n:			n Locati		•		ı	<u> </u>		Surface Elev.		0.7'
D "				DS OF	INVESTIGATIO		TT C .		GR	COUNDWATER	OBSERVAT	IONS	
Driller: Driller:		Brian S			Casing:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	ì.	Jason E Astitwa	_	a FIT	Casing Hammer: Other:			09/14/23		While Drilling	None Noted		
Drill Ri		CME I		ia, Lii	Soil Sampler:	2" OD S	plit Barrel	09/14/23		ore Casing Removed	11.9	2.	4.3
Type:	9.	Track			Hammer Wt:	140 lbs.	piit Builti	09/14/23		er Casing Removed	6.9		out
Rod Siz	e:	NWJ			Hammer Fall:	30 in.		09/14/23		er Casing Removed	caved @ 8.6		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C		SIFICATION O	F MATERIA	L	
Depth		Sample			Blows on		C	- coarse					SPT "N"
Scale	Sample	(F		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	f	- fine			0% / trace - 0 to 10%		RQD %
0	1	0.0	2.0	SS/10	WH-1-3-5				, little	e fine SAND, trace	ROOTS (moist	.,	4
							medium st	iff)					
1													
,	2	2.0	4.0	SS/19	5551		Danarra man	и асп т	1:441.	o CLAV tuono fino	CAND (wat at	:ce)	10
2	2	2.0	4.0	33/19	5-5-5-4		Brown mo	ttied SIL i	, 111116	e CLAY, trace fine	SAND (wet, st	111)	10
3													
4	3	4.0	6.0	SS/15	1-1-3-4		Similar as	above (we	et. me	dium stiff)			4
									-,	,			
5													
6	4	6.0	8.0	SS/18	4-3-5-7		Similar as	above (we	et, stif	ff)			8
_													
7													
8	5	8.0	10.0	SS/21	2-3-3-10		Brown SII	T little C	IAV	(wet, medium stiff	-)		6
0	3	0.0	10.0	55/21	2-3-3-10		DIOWII SIL	71, IIIIC C	LAI	(wet, medium sum	.)		0
9													
10													
11													
10													
12													
13	6	13.0	15.0	SS/24	WH-WH-WH-2		Grev CLA	Y and SII	T (w	et, very soft)			0
13		15.0	15.0	55/24	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Sic, CLA	I und DIL	. 1 ( ***	on, vory 5011)			
14													
15													
16													
17													
18	7	18.0	20.0	SS/17	10-11-10-13		Grey omf	SAND so	me fii	ne GRAVEL, trace	SII T trace CI	$\Delta V$	21
10	′	10.0	∠0.0	SS/1/	10-11-10-13		(wet, medi			ne UNAVEL, trace	sili, uace CL	<i>I</i> 1	Δ1
19							wet, medi	am compa	)				
-													
20						<u></u>	Continued	on Page 2	<u>;                                    </u>				

Boring No. Page **132.06** 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 8 23.8 SS/16 63-65-72-100@4" Grey ROCK chips and fragments, little SILT (wet) 137 22.0 23 24 Auger refusal @ 24.3' Bottom of Boring @ 24.3' 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

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

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	PI.	ORATION	Boring No.	age <mark>gl_320,6f4</mark> 536
		IV	Ę		racuse, NY 13057			F BORI			Page No.	1 of 1
		ociates	N LINE OF	I momer :	315-701-0522		11201	DOKI	10.1	LOG	Report No.	28062B-03-1223
Project	Name:			us, Clay,	New York						Date Started	10/11/23
Client:		Rambo		*	DI .						Date Finished	10/11/23
Location	1:			n Locati	INVESTIGATIO	N			CR	ROUNDWATER	Surface Elev.	390.7'
Driller:		A. Lins		DO OF	Casing:	3 ¼" ID	H.S.A.		GIV			
Driller:		J. Win			Casing Hammer:			Date		Time	Depth (Ft.)	Casing At (Ft.)
Inspecto	r:				Other:			10/11/23		While Drilling		
Drill Ri	g:	CME I	LC 55		Soil Sampler:		plit Barrel	10/11/23		ore Casing Removed		
Type:		ATV			Hammer Wt:	140 lbs.		10/11/23		er Casing Removed	1.0	out
Rod Siz		AWJ	<b>P</b> ∩D1	INIC SA	Hammer Fall: MPLES	30 in.	1/1	10/11/23		er Casing Removed SSIFICATION O	caved @	out
	LU	1		ING SE					LAS		F WAIEKIA	
Depth Scale	Sample	Sample (F		Type /	Blows on Sampler	Depth of		- coarse medium		and 35 to 50	% / some - 20 to 35%	SPT "N"
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine			% / some - 20 to 33% 0% / trace - 0 to 10%	
0												
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	1	12.0	14.0	SS/12			No Recove See Remar					
13												
14	2	14.0	16.0	U/23			Shelby Tul	be Sample				
15												
16												
17 18												
19												

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

Project 1		ociates	N LINE C	East Syr Phone: 3	orporate Drive racuse, NY 13057 315-701-0522 New York	SU		ACE EX BORI		ORATION LOG	Page No. Report No. Date Started	28062B	of 2 -03-1223
Client:	Name:	Rambo		us, Clay,	New TOIK						Date Started  Date Finished		13/23
Location	n:			n Locati	on Plan						Surface Elev.		9.9'
					INVESTIGATIO	N			GR	ROUNDWATER			
Driller:		Brian S			Casing:	4 ¼" ID	H.S.A.	ъ.					A ( (TC( )
Driller:		Jason E	Ersing		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	Astitwa	a Sharn	na, EIT	Other:			09/13/23		While Drilling	13.0	1	8.0
Drill Rig	g:	CME I	LC 55		Soil Sampler:		Split Barrel	09/13/23		ore Casing Removed	1.0	2	3.1
Гуре:		Track			Hammer Wt:	140 lbs.		09/13/23		er Casing Removed	7.7		out
Rod Size		NWJ	DOD	DIG G	Hammer Fall:	30 in.	¥77	09/13/23		er Casing Removed	caved @ 20.0		out
1	LO	1		ING SA	MPLES	-	VI	SUAL C	LAS	SSIFICATION C	OF MIATERIA	L	l
Depth	_	Sample	_	Type /	Blows on	Depth of		- coarse					SPT "N
Scale (Fact)	Sample	(F From	t.) To	Sample	Sampler	Change		medium - fine			% / some - 20 to 359 0% / trace - 0 to 109		or POD %
(Feet)	No.	0.0	2.0	Rec. (in.) SS/17	Per 6 Inches WH-WH-2-3	(Ft.)			littl	e CLAY, trace fine			RQD %
1 2	2	2.0	4.0	SS/24	5-5-5-6		(wet, soft)			ce CLAY, trace cm			10
3	3	4.0	6.0	SS/23	1-1-3-3		GRAVEL		ŕ	e CLAY, trace fine	SAND (moist	medium	4
5	3	4.0	0.0	33/23	1-1-3-3		stiff)	med SIL I	, 11111	e CLAT, trace fine	SAND (moist,	medium	4
6 7	4	6.0	8.0	SS/14	5-8-7-8		Similar as $PP = 1, 0.7$ .	•	et, stit	ff)			15
8 9	5	8.0	10.0	SS/10	1-4-4-5		Brown SIL (wet, stiff)	T, little C	LAY	, trace fine SAND,	trace fine GRA	VEL	8
10 11 12 13 14	6	13.0	15.0	SS/9	1-1-2-3		Grey SILT (wet, soft)	, little CL	AY, t	trace cmf SAND, t	race fine GRAV	EL	3
16 17 18 19	7	18.0	20.0	SS/6	27-69-14-3		Grey CLA hard) Continued			ome cmf SAND, so	me mf GRAVE	L (wet,	83
	cket Pei			arbed Tu sults in	ube, C - Core, WH - tsf	Weight o	of Hammer -	+ Rod, WI	R - W	eight of Rod			

Boring No. Page **B420** 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 23.0 23.1 SS/1100@1" Grey ROCK chips and fragments, little SILT (wet) 100 +Auger refusal @ 23.1' Bottom of Boring @ 23.1' 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42

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

Remarks:

43

				6035 C	orporate Drive	SI	JBSURFA	ACE EX	(PL	ORATION	Boring No.	age <u>f</u>	<b>20</b> 536
					racuse, NY 13057			BORI			Page No.		of 1
		ociates	S DAY		315-701-0522		1201	DOM			Report No.		-03-1223
Project	Name:			us, Clay,	New York						Date Started		13/23
Client:		Rambo									Date Finished		13/23
Locatio	n:			n Locati	INVESTIGATIO	NT			CI	ROUNDWATER	Surface Elev.		1.0'
Driller:		Brian S		DS OF	Casing:	4 ¼" ID	АРИ		Gr	COUNDWATER	ODSERVAI	IONS	
Driller:		Jason I			Casing Hammer:	7/4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect	or:			na, EIT	Other:			09/13/23		While Drilling	None Noted		1.0
Drill Ri		CME I		,	Soil Sampler:	2" OD S	Split Barrel	09/13/23		ore Casing Removed	None Noted	1	7.1
Type:		Track			Hammer Wt:	140 lbs.		09/13/23	Afte	er Casing Removed	None Noted	(	out
Rod Siz		NWJ			Hammer Fall:	30 in.		09/13/23		er Casing Removed	caved @ 12.5		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	7T A T		0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/19	WH-2-3-5		medium sti		LAY	, trace fine SAND	, trace ROOTS	(moist,	5
1							illediulli su	111)					
1													
2	2	2.0	4.0	SS/15	4-3-3-3		Brown SIL	T, trace c	mf S.	AND, trace CLAY	, trace fine GRA	VEL	6
							(wet, medi	um stiff)					
3													
4	3	4.0	6.0	SS/14	2-2-6-12			n mottled	SIL	Γ, some cmf SAND	o, little mf GRA	VEL	8
	ł						(wet, stiff)						
5													
6	4	6.0	8.0	SS/9	11-22-27-23		Grev/Brow	n cmf SA	ND a	and mf GRAVEL,	some SII T little	CLAY	49
		0.0	0.0	DD/ 2	11 22 27 23		(wet, comp		110	ind im Gid i v LL,	ome one, mu	CLITI	17
7							(,						
8	5	8.0	10.0	SS/10	16-20-21-22			n cmf GF	RAVE	EL, some cmf SAN	D, little SILT (n	noist,	41
							compact)						
9													
10	ł												
10													
11													
``													
12													
13	6	13.0	15.0	SS/13	39-29-51-61				d mf (	GRAVEL, little SII	LT, little CLAY	(wet,	80
							very compa	act)					
14													
15													
13													
16													
17	7	17.0	17.1	SS/1	100@1"		Grey ROC	K chips a	nd fra	agments			100+
							Bottom of						
18													
19													
20													

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	age <u>164</u>	<b>2 p</b> 536
		IV	Ę		racuse, NY 13057			Γ BORI			Page No.	1	of 2
		ociates	N LINE C	I momer :	315-701-0522		TESI	DOKI	10 1	LOG	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		13/23
Client:		Rambo									Date Finished		13/23
Location	n:			n Locati		<b>.</b>		ı	C D		Surface Elev.		36.8'
D 33				DS OF	INVESTIGATIO		TT C A		GR	ROUNDWATER	OBSERVAT	IONS	
Driller: Driller:		Brian S Jason E			Casing: Casing Hammer:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto		Astitwa	_	na FIT	Other:			09/13/23		While Drilling	17.5	2	3.0
Drill Ri		CME I		iu, Lii	Soil Sampler:	2" OD S	Split Barrel	09/13/23		ore Casing Removed	12.8		25
Type:	9.	Track			Hammer Wt:	140 lbs.	-	09/13/23		er Casing Removed	8.5		out
Rod Siz	e:	NWJ			Hammer Fall:	30 in.		09/13/23		er Casing Removed	caved @ 23.3	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/18	WH-1-2-3			T, little C	LAY	, trace fine SAND,	trace ROOTS (	wet,	3
1							soft)						
1													
2	2	2.0	4.0	SS/24	2-3-3-4		Brown mo	ttled SILT	`. little	e CLAY, trace fine	SAND (wet, m	edium	6
				22.2			stiff)		,		~ (···,		
3							,						
4	3	4.0	6.0	SS/20	WH-1-1-3		Brown SIL	T, some C	CLAY	, trace cmf SAND	(wet, soft)		2
5													
6	4	6.0	8.0	SS/15	4-5-6-6		Drown mo	ttlad SII T	1;++1/	e CLAY (wet, stiff	`		11
0	4	0.0	8.0	33/13	4-3-0-0		DIOWII IIIO	med SIL I	, 111110	e CLAT (wei, siiii)	,		11
7													
8	5	8.0	10.0	SS/17	1-2-3-4		Brown mo	ttled SILT	and (	CLAY (wet, mediu	ım stiff)		5
9													
10													
10													
11													
12													
10	_	12.	15 ^	00/11	1000		G 67 11	<b>.</b>	m /				
13	6	13.0	15.0	SS/11	1-2-2-3		Grey CLA	Y and SIL	T (w	et, medium stiff)			4
14													
14													
15													
16													
17													
10	7	19.0	20.0	SS/12	1-2-3-5		Similar ac	abova (xxx	at ma	dium stiff)			5
18	/	18.0	∠0.0	SS/12	1-2-3-3		Similar as	above (We	ı, me	zurum Stiff)			3
19													
20							Continued	on Page 2	2				

Boring No Page 1843 pt 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10% 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 62 SAND, trace mf GRAVEL (wet) 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

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

Remarks:

., St				6035 Co	orporate Drive	SI	JBSURFA	ACE EX	(PLO	RATION	Boring No. P		
		IV			racuse, NY 13057			BORI			Page No.		of 2
		ociates	20 1100	i none.	315-701-0522		1121	DOM	IIG L		Report No.	28062B	-03-1223
Project N				us, Clay,	New York						Date Started		04/23
Client:		Rambo									Date Finished	10/0	)4/23
ocation	:			n Locati					~		Surface Elev.		7.3'
. •11				DS OF	INVESTIGATIO		TI C A		GRO	DUNDWATER	OBSERVAT	IONS	
riller: riller:		A. Lins		1	Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
rmer: ispecto		D. Mac	_		Other:			10/04/23	72	Vhile Drilling	15.8	1	8.5
rill Rig		CME 5		ia, EH	Soil Sampler:	2" OD S	Split Barrel	10/04/23		e Casing Removed	23.4		4.4
ype:	,•	Track			Hammer Wt:	140 lbs.	-	10/04/23		Casing Removed	None Noted		out
od Size	<b>:</b>	AWJ			Hammer Fall:	30 in.		10/04/23		Casing Removed	caved @ 9.0		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C		SIFICATION C	F MATERIA	L	
Depth		T	Depth		Blows on	Design 1		coarse					SPT "N
	Sample	_	_	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35%	ó	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f	- fine		little - 10 to 2	0% / trace - 0 to 10%	)	RQD %
0	1	0.0	2.0	SS/16	1-3-6-7		Grey/Brow	n SILT, t	race fir	ne SAND, trace R	OOTS (moist, st	iff)	9
1													
_	2	2.0	4.0	00/17	4 6 5 5		D OII	Tr 4 .	0 4	ND 4 CLASS	(		11
2	2	2.0	4.0	SS/15	4-6-5-5		Brown SIL	T, trace f	ine SA	ND, trace CLAY	(wet, stiff)		11
3													
J													
4	3	4.0	6.0	SS/24	4-3-3-3		Similar as	above (we	et, med	ium stiff)			6
	5	1.0	0.0	55/21	1333		Sillina as		ot, moa	idiii stiii)			
5													
6	4	6.0	8.0	SS/22	4-3-4-4		Brown SIL	T, trace f	ine SA	ND (wet, mediun	n stiff)		7
7													
	_	0.0	100	00/10	2 4 4 5		D ~~-	<b>m</b>	COLT	ID (			
8	5	8.0	10.0	SS/19	3-4-4-6		Brown SIL	T, trace n	nt SAN	ND (wet, stiff)			8
0													
9													
10													
10													
11													
12													
13	_	10 =					G 6= 1	.,	<b></b>				_
,	6	13.5	15.0	SS/16	2-2-3		Grey CLA	Y and SIL	LT (wet	t, medium stiff)			5
14													
15													
13													
16							Augered gi	ravelly he	tween	16' to 17'			
10							Ingereu gr	arcity De	incen.	10 10 17			
17													
18													
	7	18.5	20.0	SS/5	5-3-4			SAND, so	me SIL	T, some mf GRA	VEL, trace CLA	Y (wet,	, 7
19							loose)						
								_					
20		I	l		1		Continued	on Page 2	)				

Boring No Page 1845 pt 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From То Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 23.5 SS/6 23-100@4" Grey cmf SAND, some SILT, some mf GRAVEL (wet, very 100 +24.3 24 compact). Auger refusal @ 24.4' Bottom of Boring @ 24.4' 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41

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

Remarks:

42

43

				6035 Co	orporate Drive	SI	IBSURF	ACE EX	PLORATION	Boring No.	age 184	21653
		IV		East Syr	racuse, NY 13057				NG LOG	Page No.		of 2
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		ILS	DUKI	NG LUG	Report No.	28062B	3-03-1223
roject 1	Name:	Micron	Campi	us, Clay,	New York	=				Date Started	09/	12/23
Client:		Rambo	11							Date Finished	09/	12/23
ocation	n:	See Ex	ploratio	n Locati	on Plan					Surface Elev.	38	35.8'
		ME	THO	DS OF	INVESTIGATIO	ON			GROUNDWATE	R OBSERVAT	IONS	
Oriller: Oriller:		Brian S Jason H			Casing: Casing Hammer:	4 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.
nspecto	or:		_		Other:			09/07/23	While Drilling	None Noted	ć	5.0
Orill Rig		CME I			Soil Sampler:	2" OD S	Split Barrel	09/07/23			2	0.8
Гуре:	,	Track			Hammer Wt:	140 lbs.	-	09/07/23	After Casing Removed	6.8	C	out
Rod Size	e:	NWJ			Hammer Fall:	30 in.		09/07/23	After Casing Removed	caved @ 17.0	C	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIA	L	
Donath		Sample										SPT "N
Depth Scale	Sample	_	_	Type /	Blows on Sampler	Depth of		- coarse - medium	and - 35 to 5	0% / some - 20 to 35%	4	or
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		finedium f - fine		20% / trace - 0 to 10%		RQD
0	1	0.0	2.0	SS/19	WH-1-2-3	(11.)			, little mf SAND, trace			3
1 2 3	2	2.0	4.0	SS/22	6-4-5-5		Brown SIL	.T, little C	LAY, trace fine SANE	(wet, stiff)		9
4	3	4.0	6.0	SS/20	1-2-3-4		Brown SIL	LT, little C	LAY, trace fine SAND	(wet, medium sti	iff)	5
5												
6	4	6.0	8.0	SS/14	3-4-4-6		Brown mo	ttled SILT	, trace CLAY, trace fir	ne SAND (wet, sti	ff)	8
7 8 9	5	8.0	10.0	SS/16	2-4-5-4		Brown mo stiff)	ttled SILT	, trace fine SAND, trac	ce mf GRAVEL (v	wet,	9
10 11 12 13 14	6	13.0	15.0	SS/21	WH-1-1-1		Grey CLA	Y and SIL	T (wet, soft)			2
16 17 18 19	7	18.0	20.0	SS/8	5-4-17-11		Grey cmf s medium co Continued	ompact)	I mf GRAVEL, trace S	ILT, trace CLAY	(wet,	21
			İ		ube, C - Core, WH -	1	- Communeu	JII I UZU Z				

Boring No Page 1842 16 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 Auger refusal @ 20.8' 100@3" 8 20.8 21.0 SS/3 Grey ROCK chips and fragments, trace SILT, trace cmf SAND, 100 +21 trace fine GRAVEL (wet) 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

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

				6035 Co	orporate Drive	SI	J <b>BS</b> URF	CE EX	PLC	RATION	Boring No.	age <u></u> 164	<b>2<sub>1</sub>07</b> 536
		IV	Ę	•	acuse, NY 13057			BORI			Page No.	1	of 2
		ciates	A 100 C	r momer c	315-701-0522		11231	DOM	10 1	700	Report No.	28062B	3-03-1223
roject l				us, Clay,	New York						Date Started	10/0	04/23
lient:		Rambo	11								Date Finished	10/0	04/23
ocatior	1:			n Location							Surface Elev.		37.8'
					INVESTIGATIO				GR	OUNDWATER	OBSERVAT	IONS	
riller:		A. Lins			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
riller:		D. Mac	_		Casing Hammer:						_		
nspecto					Other:	NQ-Cor		10/04/23		While Drilling	11.3		8.5
rill Rig	<b>g:</b>	CME 5	5		Soil Sampler:		plit Barrel	10/04/23		e Casing Removed	8.7		1.9
ype: lod Size		Track AWJ			Hammer Wt: Hammer Fall:	140 lbs. 30 in.		10/04/23		Casing Removed Casing Removed	8.0 caved @ 12.0		out
ou Size			D/D1		MPLES	30 III.	1/1			SIFICATION (			out
	LU			ING SA	MIPLES		V 18	SUAL C	LASS	BIFICATION C	JE MIATERIA	L	1
Depth		Sample	-	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 359		or DOD 0/
(Feet)	No.	From 0.0	To 0.6	Rec. (in.) SS/16	Per 6 Inches 1-1-4-5	(Ft.)		- fine	Motto	r (moist, medium	20% / trace - 0 to 109	<b>%</b> 0	RQD %
U	1A 1B	0.6	2.0	33/10	1-1-4-3					fine SAND, trace		- — - —	1 3
1	מו	0.0	2.0				medium sti		, uace	inie SAND, IIac	Sloiii) CTOON	ι,	
1							inculum su	11)					
2	2	2.0	4.0	SS/19	3-4-5-4		Brown mot	tled SII T	` little	CLAY, trace fine	SAND (wet et	iff)	9
-		2.0	1.0	55/17	2127		DIOWII IIIO	area pilli	, 111110	CLITT, HACCIIII	Simile (wei, st	,	´
3													
٦													
4	3	4.0	6.0	SS/24	1-2-3-3		Brown mot	tled SILT	'. trace	CLAY, trace fine	e SAND (wet. m	edium	5
·			0.0	22/2:	1200		stiff)		,	02111, 111100 1111	5 51 H (5 (W 66, H		
5							, ,						
-													
6	4	6.0	8.0	SS/24	4-5-4-6		Brown mot	tled SILT	`, trace	fine SAND (wet	, stiff)		9
										,	,		
7													
8	5	8.0	10.0	SS/24	2-3-5-6		Brown SIL	T, some (	CLAY	trace fine SAND	(wet, stiff)		8
9													
10													
11													
10													
12													
12													
13	6	12.5	15.0	SS/18	222		Gray CLA	V ond ou	Т (т-	t madium stiff			Α
1.4	6	13.5	15.0	33/18	2-2-2		Grey CLA	r and SIL	LI (we	t, medium stiff)			4
14													
15													
15													
16													
10													
17													
1,													
18													
10	7	18.5	20.0	SS/18	7-13-10		Grev mf G	RAVEL	some (	CLAY, trace cmf	SAND, trace SII	LT (wet.	23
19	•			,10	, 10 10		medium co			, auto omi		_ (,	
								r/					
/						1	1						I
20							Continued	on Page 2	2				

Boring No. **B**42 P 6035 Corporate Drive SUBSURFACE EXPLORATION East Syracuse, NY 13057 Page No. 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth Depth SPT "N" Blows on c - coarse Depth of Type / Sample m - medium Scale Sampler and - 35 to 50% / some - 20 to 35% Change or Sample (Feet) No. From To Rec. (in.) Per 6 Inches f - fine little - 10 to 20% / trace - 0 to 10% RQD % (Ft.) 20 Continued from Page 1 21 Auger refusal @ 21.9' 100@0" 8 21.9 21.9 SS/0 No Recovery 100 +C/59 Dark Grey/Black DOLOSTONE with interbedded Shale layers 22 R1 21.9 26.9 NQ-Core 37% throughout (<1/8" to 1/2" thick), moderately weathered, laminated 23 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% 24 RQD: 22"/60" = 37% 25 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. 26 R2 26.9 31.9 C/60NQ-Core 26.9' to 29.4'; Dark Grey/Black SHALE, slightly weathered, 50% laminated to thinly bedded, medium hard. 27 Recovery:  $60''/60'' = 100\% \mid RQD: 30''/60'' = 50\%$ 3 min/ft, water loss - no return water 28 Coring conducted in 5th gear, 2100 rpm, 650 psi down pressure. 29.4' to 31.9'; Dark Grey/Black DOLOSTONE with interbedded 29 SHALE layers (<1/8' to 1 1/2" thick). Slightly weathered, thinly 30 bedded, hard. Vertical break from 30.4' to 31.9'. 31 Bottom of Boring @ 31.9' 32 33 34 35 36 37 38 39 40 41 42 43

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

Remarks:

											Davina NaPa	ne 15	<b>2 p</b> § 536
		N	Æ		orporate Drive	SU	J <b>BSURF</b> A	ACE EX	PL	ORATION	0		
	1				racuse, NY 13057		TEST	BORI	NG 1	LOG	Page No.		of 2
		ociates	N LINE C	1 moner.	315-701-0522					200	Report No.		-03-1223
Project	Name:			us, Clay,	New York						Date Started		12/23
Client:		Rambo	11								Date Finished	09/1	12/23
Locatio	n:			n Locati							Surface Elev.		6.4'
		ME	THO	DS OF	INVESTIGATIO				GR	COUNDWATER	OBSERVATI	ONS	
Driller:		Brian S			Casing:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		Jason I	_		Casing Hammer:						_	Casing	At (Ft.)
Inspect				na, EIT	Other:			09/12/23		While Drilling	None Noted		5.0
Drill Ri	g:	CME I	.C 55		Soil Sampler:		Split Barrel	09/12/23		re Casing Removed	8.0	2:	5.5
Type:		Track			Hammer Wt:	140 lbs.		09/12/23		er Casing Removed	7.0	C	out
Rod Siz		NWJ			Hammer Fall:	30 in.		09/12/23		er Casing Removed	caved @ 16.0		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIAI		
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 35%		or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 10%		RQD %
0	1	0.0	2.0	SS/24	WH-1-3-5				LAY	, trace mf SAND, t	race ROOTS (mo	oist,	4
							medium sti	iff)					
1													
	_	•	4.0	~~ ~			_			GT 1 TT 01 6			
2	2	2.0	4.0	SS/24	1-5-6-7		Brown mot	ttled SILT	and	CLAY, trace fine S	SAND (wet, stiff)		11
2													
3													
	2	4.0	- 0	GG /0.1	1 2 2 2		G: 11	• .		11 .100			
4	3	4.0	6.0	SS/21	1-2-2-2		Similar as	above (we	t, me	edium stiff)			4
~	ł												
5													
6	4	6.0	8.0	SS/17	4-4-4-3		Drown CII	T little C	IAV	, trace cmf SAND	(wat stiff)		8
U	+	0.0	6.0	33/17	4-4-4-3		DIOWII SIL	i, nuie C	LAI	, trace clin SAND	(wet, still)		8
7													
,													
8	5	8.0	10.0	SS/15	2-3-4-5		Brown SIL	T. little fi	ne SA	AND (wet, medium	stiff)		7
								-,		( • •, •			,
9													
10	1												
11													
12													
										_			
13	6	13.0	15.0	SS/14	1-1-1		Grey CLA	Y and SIL	T, tra	ace fine SAND (we	et, soft)		2
14													
1-													
15													
1.0													
16													
17													
17													
18	7	18.0	20.0	SS/6	5-5-5-6		Gray omf	SAND oo	me m	of GRAVEL, little S	SII T trace CLAN	V (wat	10
10	′	10.0	∠∪.∪	აა/0	J-J-J-0		medium co		me in	u OKAVEL, IIIIIe S	oili, nace CLA	ı (wei,	10
19							See Remar						
1)							See Remai	N 1					
20	1						Continued	on Page 2					

**Remarks:** 1. Sampling not feasible between 23.0' and 25.0' due to blowing sand conditions.

Boring No Page \$52.28 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches little - 10 to 20% / trace - 0 to 10% RQD % (Feet) No. Rec. (in.) (Ft.) f - fine 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

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

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	age <b><u>f</u>5</b>	<b>2</b> 24 536
		IV	Ę		racuse, NY 13057			BORII			Page No.	1	of 2
		ociates	20 1100	i none.	315-701-0522		11231	DOKI	10 1	LOG	Report No.		3-03-1223
Project	Name:			us, Clay,	New York	•					Date Started		03/23
Client:		Rambo									Date Finished	10/0	03/23
Locatio	n:			n Locati							Surface Elev.		39.5'
				DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	IONS	
Driller:		A. Lins			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		D. Mac	_		Casing Hammer:								
Inspecto				na, EIT	Other:	0" OD 6	1 1' D 1	10/03/23		While Drilling	12.5		3.5
Drill Ri	g:	CME 5	13		Soil Sampler: Hammer Wt:	2 OD S	Split Barrel	10/03/23		ore Casing Removed er Casing Removed	6.3		2.9
Type: Rod Siz	۵•	AWJ			Hammer Fall:	30 in.		10/03/23		er Casing Removed	caved @ 7.9		out
Kou Siz			RAR1	NC S/	AMPLES	30 m.	VI			SIFICATION O			out
		T		LING SE			V 1.	SUAL C	LAS		TWATERIA	LL .	
Depth	G 1	Sample (F		Type /	Blows on	Depth of		- coarse		1 25 . 50	20 . 25	2/	SPT "N"
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 359 0% / trace - 0 to 109		or RQD %
0	1A	0.0	0.5	SS/16	1-2-5-6	(11.)			Matt	er, trace Roots (mo		0	7
	1B	0.5	2.0							e fine SAND (moi		, - — - <u> </u>	1
1										`	,		
2	2	2.0	4.0	SS/21	4-5-6-6		Similar as	above (mo	oist, s	tiff)			11
3													
4	3	4.0	6.0	SS/17	7-4-4			ttled SILT	`, little	e mf GRAVEL, tra	ce cmf SAND (	wet,	8
							stiff)						
5													
6	4	6.0	8.0	S/11	2-4-5-6		Danaryan an ad	41ad CH T		o ame CAND 1:441	mf CD AVEL		9
6	4	0.0	8.0	5/11	2-4-3-0		stiff)	med SIL1	, som	ne cmf SAND, little	HII GRAVEL (	wei,	9
7							Suii)						
<b>'</b>													
8	5	8.0	10.0	SS/17	3-14-23-14		Brown mot	ttled SILT	and	cmf SAND, little n	nf GRAVEL (m	oist.	37
							hard)				(	,	
9							,						
10													
11													
10													
12													
13													
13	6A	13.5	14.5	SS/18	10-17-18		Brown mot	ttled SII T	and a	cmf SAND, little n	of GRAVEL (m.	oist	35
14	UA	13.3	14.5	33/10	10-17-18		hard)	illed SIL1	anu	ciii SAND, iittie ii	II OKA VEL (III	oist,	33
17	6B	14.5	15.0					and cmf	SANI	D, little fine GRAV	EL (moist hard	D	
15	O.D	1 1.5	15.0				Giej BiEi	una cimi i	J1 11 11	s, muc ime orar,	ZZ (moist, marc	-)	
16													
17													
18		10.7	20.0	00/10	24.40.47		G: '7	1 /	. , .	1)			07
10	7	18.5	20.0	SS/18	34-40-47		Similar as	above (mo	oist, h	iard)			87
19													
20							Continued	on Page 2					
		1											

Boring No. Page \$53.24 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Rec. (in.) Per 6 Inches RQD % (Feet) No. (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 Auger refusal @ 22.9 100+ 8 22.9 22.9 SS/0 100@0" No Recovery 23 Bottom of Boring @ 22.9' 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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

**Remarks:** 

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				6025 =	. P.:						Boring No.	age 45	4.01.536
		M			orporate Drive	SU	J <b>BSURF</b> A	ACE EX	<b>CPL</b>	ORATION			
	Acc	ciates	Inc	•	racuse, NY 13057		TEST	BORI	NG :	LOG	Page No.		of 2
			S. DVC		315-701-0522	<u> </u>					Report No.		3-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		15/23
Client:		Rambo		т .:	DI .						Date Finished		15/23
Location	1:			n Locati	INVESTIGATIO	NT			CT	OLINDWATED	Surface Elev.		92.7'
Driller:		G Ric		DS OF	Casing:	3 ¼" ID	шсл		Gr	ROUNDWATER	ODSERVAI	IONS	
Driller:		C. O'H			Casing Hammer:	3 /4 ID	11.3.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto	r:	C. O 11	ara		Other:	NQ-Cor	·e	11/15/23		While Drilling	4.7	1	9.0
Drill Rig		CME 5	5		Soil Sampler:	_	Split Barrel	11/15/23		ore Casing Removed	8.0		4.7
Type:	•	ATV			Hammer Wt:	140 lbs.	-	11/15/23		er Casing Removed	4.5		out
Rod Size	e:	AWJ			Hammer Fall:	30 in.		11/15/23		er Casing Removed	caved @ 7.2		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C		SIFICATION O	F MATERIA	L	
Depth		Sample			Blows on			- coarse					SPT "N"
Scale	Sample	_		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f	- fine		little - 10 to 2	20% / trace - 0 to 109	%	RQD %
0	1	0.0	2.0	SS/14	WH-1-2-4			-	ittle (	CLAY, trace mf SA	ND, trace ROO	TS	3
							(moist, sof	t)					
1													
2		2.0	4.0	99/10	4242		D (G	CTT TO 1		ST 4 T7 / 1			
2	2	2.0	4.0	SS/18	4-3-4-3		Brown/Gre	ey SILT, I	ittle (	CLAY (moist, med	ium stiff)		7
3													
3													
4	3	4.0	6.0	SS/15	3-3-4-4		Brown SII	T trace (	Ή Δ <b>Υ</b>	7 (wet medium stif	f)		7
7	3	4.0	0.0	55/13	3344	Brown SILT, trace CLAY (wet, medium stiff)							
5													
6	4	6.0	8.0	SS/13	3-4-4-7		Similar as	above (we	et, sti	ff)			8
7													
8	5	8.0	10.0	SS/14	3-3-5-5		Similar as	above (we	et, sti	ff)			8
0													
9													
10													
10													
11													
12													
13													
	_			<b></b>				a					
14	6	14.0	16.0	SS/10	4-7-5-3			•		CLAY, little cmf SA	AND, trace fine		12
1.7							GRAVEL	(wet, stiff	()				
15													
16													
10													
17													
1,													
18							† —						1
19	7	19.0	21.0	SS/10	4-8-3-7				AVEI	L, some cmf SAND	, trace SILT (w	et,	11
							medium co						
20							Continued	on Page 2	2				

Boring No. Page \$55.40 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches little - 10 to 20% / trace - 0 to 10% RQD % (Feet) No. Rec. (in.) (Ft.) f - fine 20 Continued from Page 1 21 22 23 24 SS/150@1" Grey ROCK fragements 50+ 8 24.7 24.9 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

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

**Remarks:** 

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				6035 Co	orporate Drive	SI	JBSURFA	ACE EX	KPL (	ORATION	Boring No.	age 155	<b>6</b> 40 <b>5</b> 536
		IV	Lu-		racuse, NY 13057			BORI			Page No.	1	of 2
		ociates	The same of	i none.	315-701-0522		11001	DOM	. 10 1		Report No.		3-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		23/23
Client:		Rambo		T =	on Dlon						Date Finished		23/23
Location	1;			n Locati	on Plan INVESTIGATIO	N			CP	OUNDWATER	Surface Elev. ORSERVAT		92.4'
Driller:		B. Flet		DO OF	Casing:	3 ¼" ID	H.S.A.	_					
Driller:		R. Cas	atelli		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto					Other:	NQ-Cor		10/23/23		While Drilling	23.0		3.5
Drill Rig	g:	CME 5	550X		Soil Sampler:		Split Barrel	10/23/23		re Casing Removed	23.0		4.1
Type:		ATV			Hammer Wt:	140 lbs.		10/23/23		er Casing Removed	None Noted		out
Rod Size		AWJ	DΩDI	INIC S	Hammer Fall:  MPLES	30 in.	3/10	10/23/23		er Casing Removed SIFICATION (	caved @ 2.0'		out
	LU			ING SE	AMPLES	1	V 1)	SUAL C	LAS	SIFICATION (	JF WIATERIA	L	1
Depth	G 1		e Depth t.)	Type /	Blows on	Depth of		coarse		1 25 . 50	20 / 25/	0./	SPT "N"
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			0% / some - 20 to 359 20% / trace - 0 to 109		or RQD %
0	1A	0.0	0.5	SS/16	11-2-3-4	(11.)			Mate	erial (moist)	20707 Hace 0 to 107		5
	1B	0.5	2.0							CLAY (moist, med	dium stiff)		
1													
2	2	2.0	4.0	SS/17	4-5-6-5		Light Brow	vn SILT, t	trace (	CLAY, trace fine S	SAND (moist, st	iff)	11
2							-	,			, ,	•	
3													
4	3	4.0	6.0	SS/24	3-6-7-7		Light Brow	vn SILT, t	trace f	ine SAND (moist,	stiff)		13
5													
6	4	6.0	8.0	SS/19	5-7-6-6		Light Brow	vn SILT, t	trace f	ine SAND (moist,	stiff)		13
7													
0	-	0.0	10.0	gg/20	4 4 5 7		G: '1	1 /	• , .				0
8	5	8.0	10.0	SS/20	4-4-5-7		Similar as	above (mo	01St, S1	tiff)			9
9													
10													
11													
12													
13													
	6	13.5	15.0	SS/16	1-2-2		Light Grey	SILT, tra	ace fin	e SAND (wet, me	dium stiff)		4
14													
15													
16													
17													
18	7	10.5	20.0	00/10	2.60		Cas CH T	1:441	CD 4	VEL 1:41- C C	ND (	r:ee	1.5
19	7	18.5	20.0	SS/10	3-6-9		Grey SILT	, little mf	GKA	VEL, little fine SA	AND (wet, very s	stiff)	15
20							Continued	on Page 3	,				
	it Spoo	n. [] - 1	Undist	ırbed Tı	ube, C - Core, WH - V	Weight o				eight of Rod			<u> </u>
S - Spl <b>temarl</b>		n, U - I	Undist	arbed Ti	ıbe, C - Core, WH - V	Weight o	of Hammer -	⊦ Rod, WI	R - W	eight of Rod			

Boring No. Page \$5245 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 23.5 SS/6 14-100@1" Grey SILT and weathered ROCK fragments, little cmf GRAVEL, 100 +24.1 24 trace fine SAND (wet, hard) 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

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

Remarks:

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		N/		6035 Co	orporate Drive	SUBSURFACE EXPLORATION B				Boring No.	age <b><u>f</u>5</b>	<b>89∮</b> 536		
		IV	Ę		racuse, NY 13057		TEST BORING LOG					1	of 2	
		ociates	N LINE OF	I momer :	315-701-0522		11231	DOKI	101	LOG	Report No.		-03-1223	
Project	Name:			us, Clay,	New York								19/23	
Client:		Rambo				Date Finished							19/23	
Locatio	n:			n Locati			GROUNDWATER OBSERVATIONS							
				DS OF	INVESTIGATIO				GR	ROUNDWATER	OBSERVAT	IONS		
Driller:		J. Winl			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Driller:		R. Casa	atelli		Casing Hammer: Other:			10/19/23		While Duilling	11.3		3.5	
Inspecto Drill Ri		CME 5	50 <b>V</b>		Soil Sampler:	2" OD \$	Split Barrel	10/19/23		While Drilling ore Casing Removed	17.9		23	
Type:	g.	ATV	30A		Hammer Wt:	140 lbs.	-	10/19/23		er Casing Removed	10.0		out	
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		10/19/23		er Casing Removed	caved @ 13.3		out	
Itou DIE			RORI		AMPLES	Jo III.	VI			SIFICATION O			,	
Sample Donth														
Depth Scale	Sample	Sample (F		Type /	Blows on Sampler	Depth of		coarse medium		and 25 to 500	% / some - 20 to 359	0/	SPT "N"	
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine			% / some - 20 to 33 0% / trace - 0 to 109		or RQD %	
0	1	0.0	2.0	SS/14	2-3-5-8				ILT, 1	trace fine SAND, tr	race ROOTS (m	oist,	8	
							stiff)	J			`			
1														
2	2	2.0	4.0	SS/19	7-8-11-12		Light Brow	vn/Grey S	ILT, 1	trace fine SAND (n	noist, very stiff)		19	
3														
	2	4.0	- 0	00/16										
4	3	4.0	6.0	SS/16	5-4-3-3		Light Brown SILT, trace fine SAND (moist, medium stiff)							
-														
5														
6	4	6.0	8.0	SS/20	2-3-4-4		Light Brow	vn SILT. t	race f	fine SAND (moist,	medium stiff)		7	
				22.20				, .		,	,			
7														
8	5	8.0	10.0	SS/19	4-5-10-8		Similar as	above (mo	oist, v	very stiff)			15	
9														
10	ł													
10														
11														
12														
13		1.2 -		ac :: =				a =			o			
1.4	6	13.5	15.0	SS/15	4-3-3				race 1	fine GRAVEL, trac	ce tine SAND (v	vet,	6	
14							medium sti	111)						
15	ł													
13							Augered gi	ravellv he	gjnni	ng @ 150'				
16							Ingereu gr	arcity De	5	6 15.0				
10														
17														
18														
	7	18.5	20.0	SS/14	7-5-7		Grey SILT	, little mf	GRA	VEL, little mf SAN	ND (moist, stiff)		12	
19														
20	ļ						Comt: 1	on D 2	,					
20						<u> </u>	Continued	on Page 2	,					

Associates, Inc. F

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page No. 2 of 2

Report No. 28062B-03-1223

Depth   Sample   Depth   Color   Sample   Depth   Color   Color   Sample   Color   C	Associates, Inc. Phone: 315-701-0522						TEST BORING LOG         Report No.         28062B-03-1223								
Scale   Sumple   Feet   Sumple   Sumple   Sumple   Charge   Feet   Feet   Sumple   Charge   Feet								VISUAL CLASSII	FICATION O	N OF MATERIAL					
21	Scale (Feet)		(F	t.)	Sample	Sampler	Change	m - medium f - fine			or				
22   8   23.0   23.0   88.0   23.0   23.0   88.0   100@0"   Auger refusal @ 23.0'	20							Continued from Page 1							
23 8 23.0 23.0 SS/0 100@0" No Recovery Bottom of Boring @ 23.0"  No Re	21														
23	22														
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 41 42 43 44 44	23	8	23.0	23.0	SS/0	100@0"		No Recovery			100+				
26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   43   44   45	24							Bottom of Bornig @ 25.0							
27	25														
28	26														
29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	27														
30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45															
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	29														
32 33 34 35 36 37 38 39 40 41 42 43 44 45	30														
33 34 35 36 37 38 39 40 41 42 43 44 45	31														
34       35       36       37       38       39       40       41       42       43       44       45	32														
35 36 37 38 39 40 41 42 43 44 45	33														
36 37 38 39 40 41 42 43 44 45	34														
37 38 39 40 41 42 43 44 45	35														
38       39       40       41       42       43       44	36														
39       40       41       42       43       44	37														
40       41       42       43       44       45	38														
41 42 43 44 45	39														
42 43 44 45	40														
43 44 45	41														
44 45	42														
45	43														
45	44														
OO O I'O TI TI I'O I IN I O O WII WI'IO OIL DONN WI'I ON I	45														

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

	6035 Corporate Drive					SUBSURFACE EXPLORATION Boring No. Page 1							<b>96</b> 53
		IV		East Syr	acuse, NY 13057			F BORI	Page No.				
	Asso	ciates	s, Inc.	Phone: 3	315-701-0522		IESI	DUKI	Report No.	<b>[0.</b> 28062B-03-122			
Project N	Name:	Micror	Camp	us, Clay,	New York						Date Started	10/	19/23
lient:		Rambo	11								Date Finished	d 10/19/23	
ocation	ı:	See Ex	ploratio	n Location	on Plan		Surface Elev.						
		ME	THO	DS OF	INVESTIGATIO	ON GROUNDWATE					<b>OBSERVAT</b>	IONS	•
Oriller: Oriller:		J. Winl R. Cas			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.
nspecto	r:	r. cas	шстт		Other:			10/19/23	Wł	nile Drilling	19.2		24.1
Orill Rig		CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	10/19/23		Casing Removed	19.2		24.1
Гуре:		ATV		Hammer Wt:		140 lbs.	-	10/19/23		asing Removed	12.2	(	out
Rod Size	e:	AWJ		Hammer Fall:		30 in.		10/19/23	After C	asing Removed	caved @ 12.9	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSI	FICATION (	F MATERIA	L	
Depth		Sample	Depth		Blows on		C	- coarse					SPT "N
	Sample	(F		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	0% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD 9
0	1A	0.0	0.5	SS/19	1-4-5-8	0.5	Topsoil an						9
	1B	0.5	2.0				Light Brov	vn/Light C	Grey SIL	T, trace CLAY,	trace fine SAN	D	
1							(moist, stif	f)					
2	2	2.0	4.0	SS/17	7-8-8-6				Grey SIL	T, trace CLAY,	, trace fine SAN	D	16
							(moist, ver	y stiff)					
3													
4	3	4.0	6.0	SS/18	5-5-4-4		_	_	Grey SIL	T, trace fine SA	ND, trace CLA	Y	9
							(moist, stif	f)					
5													
				96.				a =		G.1375 ( )			_
6	4	6.0	8.0	SS/19	4-4-4		Light Brown SILT, trace fine SAND (moist, stiff)						8
_													
7													
0	_	0.0	10.0	00/17	2667		I dalah D	СП Т	tuo ac.	CAND	atiff)		10
8	5	8.0	10.0	SS/17	3-6-6-7		Light Brov	vn SILT, t	trace fine	e SAND (moist,	, smii)		12
0													
9													
10													
10													
11													
11													
12													
12													
13													
	6	13.5	15.0	SS/19	2-3-3		Light Brov	vn SILT. t	trace fine	SAND (moist,	medium stiff)		6
14	-						J 2151	, •		_ (110150)			
15													
16													
17													
18													
	7	18.5	20.0	SS/12	WH-4-10		Light Grey SILT, little cmf SAND, little weathered ROCK					14	
19							fragments			•			
20							Continued	on Page 2	2				

Boring No. Page \$6260 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 23.5 SS/6 6-100@1" Dark Grey highly weathered ROCK fragments, little SILT (wet) 100 +24.1 24 Auger refusal @ 24.1' Bottom of Boring @ 24.1' 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42

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

Remarks:

43

				6005 C	D :						Boring No.	age 166	2 of 536
6035 Corporate Drive						SU	J <b>BSURF</b> A	ACE EX	ORATION				
	Acc	ociates	Inc		racuse, NY 13057		TEST	BORI	Page No.		of 2		
			A LINE OF		315-701-0522						Report No.		3-03-1223
Project	Name:			us, Clay,	New York	Date Started         10           Date Finished         10							
Client:		Rambo		т .:	n n								
Location	n:			n Locati		NT .			CD	OLINDWATED	Surface Elev.		92.2'
Driller:		G. Rich		DS OF	INVESTIGATIO Casing:	3 ¼" ID	нсл		GK	COUNDWATER	ODSERVAI	IONS	
Driller:		R. Casa			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto	or:	R. Cas	atti		Other:			10/18/23		While Drilling	None Noted	2	4.8
Drill Ri		CME 5	50X		Soil Sampler:	2" OD S	plit Barrel	10/18/23		ore Casing Removed	10.6		4.8
Type:	5.	ATV			Hammer Wt:	140 lbs.	1	10/18/23		er Casing Removed	12.2		out
Rod Size	e:	AWJ			Hammer Fall:	30 in.		10/18/23		er Casing Removed	caved @ 17.0	(	out
LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL													
Depth		Sample	Depth		Blows on	B 1 6	C -	coarse					SPT "N"
Scale	Sample			Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/16	1-2-7-7		Light Brow	n SILT, t	race	fine SAND, trace I	ROOTS (moist, s	stiff)	9
1													
2	2	2.0	4.0	SS/18	6-6-6-6		Light Brow	n SILT, t	race	fine SAND (moist,	stiff)		12
3													
4	3	4.0	6.0	SS/17	3-4-5-5		Similar as	above (mo	oist, s	tiff)			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		Cimilan oa	a <b>h</b> ayya (ma	.i	nedium stiff)			4
8	3	8.0	10.0	33/17	1-2-2-4		Sillillai as	above (III	J15t, 1	neurum sum)			4
9													
10													
11													
12													
13													
14	6	14.0	16.0	SS/12	7-9-12-9		Light Brow SAND (mo			SILT, little cmf GR	AVEL, trace fir	ne	21
15							, (III	.10t, 101 y	)				
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)					ne	20
20							Continued	on Page 2	2				I

Boring No. Page 1626 536 6035 Corporate Drive SUBSURFACE EXPLORATION 2 of 2 Page No. East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 Grey weathered ROCK fragments, little SILT (wet) 100+ 24 8 24.0 24.8 SS/7 45-100@3" 25 24.8' Auger refusal @ 24.8' Bottom of Boring @ 24.8' 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

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

		N/		6035 Co	orporate Drive	SUBSURFACE EXPLORATION Boring No. age					age <b><u>16</u>6</b>	<b>∮ pf</b> 536	
		IV	Ę	East Syr	racuse, NY 13057			BORI			Page No.	1	of 2
		ociates			315-701-0522	<u> </u>	11231	DOM	101	LOG	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		23/23
Client:		Rambo									Date Finished		23/23
Location	n:			n Locati		<b>X</b> 7		1	CD		Surface Elev.		3.1'
D 31				DS OF	INVESTIGATIO		TT C. A		GR	COUNDWATER	OBSERVAT	IONS	
Driller: Driller:		J. Winl R. Casa			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto		K. Casa	atem		Other:			10/20/23		While Drilling	22.0	2	3.5
Drill Ri		CME 5	50X		Soil Sampler:	2" OD S	plit Barrel	10/23/23		re Casing Removed	22.0		3.5
Type:	9	ATV			Hammer Wt:	140 lbs.	1	10/23/23		er Casing Removed	None Noted		out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		10/23/23	Afte	er Casing Removed	caved @ 5.3	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change	m -	medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	3.5		0% / trace - 0 to 109	%	RQD %
0	1A	0.0	1.0	SS/16	1-2-4-7		Topsoil an	d Organic	Mate	erial (moist)			6
1	1B	1.0	2.0					vn SILT, t	race f	fine SAND, trace C	CLAY (moist, m	edium	
							stiff)						
2	2	2.0	4.0	SS/20	6-7-7-7		Light Brow	vn SILT, t	race 1	fine SAND, trace C	CLAY (moist, st	itt)	14
3													
4	3	4.0	6.0	SS/15	4-5-6-5		Light Brow	vn SILT, t	race f	fine SAND, trace C	CLAY (moist, sti	iff)	11
5													
6	4	6.0	8.0	SS/21	5-5-5-3		Light Brow	ın SII T t	race f	fine SAND (moist,	ctiff)		10
	7	0.0	0.0	55/21	3-3-3-3		Light Diow	vii SiL1, t	race i	inic SAND (moist,	suii)		10
7													
8	5	8.0	10.0	SS/20	1-1-2-1		Light Brow	vn SILT, t	race 1	fine SAND (wet, so	oft)		3
9													
9													
10													
11													
12													
12													
13													
	6	13.5	15.0	SS/14	8-12-11		Light Brow	vn SILT, l	ittle c	emf GRAVEL, trac	e fine SAND (n	noist,	23
14							very stiff)						
15													
16													
17													
10													
18	7	18.5	20.0	SS/12	3-8-12		Light Grey	SILT litt	le cm	of GRAVEL, little	fine SAND (wet	verv	20
19	,	10.5	20.0	55/12	5-0-12		stiff)	51121, III	.10 011	n GRAVEL, muc	ime britio (wei	., vc1 y	20
20						<u> </u>	Continued	on Page 2	2				

Boring No. Page 165.7 1 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1123 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 23.5 SS/8 33-100@4" Grey weathered ROCK fragments, some SILT (moist) 100+ 24.3 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

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

Remarks:

42

43

				6035 Co	orporate Drive	SUBSURFACE EXPLORATION					Boring No.	age <b><u>16</u>0</b>	<b>68f</b> 536
		IV			racuse, NY 13057			BORI	Page No. 1		of 2		
		ociates	The same of	T Hone.	315-701-0522		11231	DOM	Report No.		-03-1223		
Project 1	Name:			us, Clay,	New York						Date Started		20/23
Client:		Rambo								Date Finished	23/23		
Location	1;			n Locati		N.T			CD	OLINIDAY A TEL	Surface Elev.		3.7'
Driller:		J. Win			INVESTIGATIO Casing:	3 ¼" ID H.S.A.			OUNDWATER	COBSERVAI	IONS		
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	rt. Cus	atem		Other:			10/20/23		While Drilling	6.4	1	8.0
Drill Rig		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	10/23/23		re Casing Removed	5.6		9.0
Type:		ATV			Hammer Wt:	140 lbs.		10/23/23	Afte	er Casing Removed	6.0	2	1.0
Rod Size								10/23/23		er Casing Removed	caved @ 8.0		out
	LO	G OF	BOR	ING SA	MPLES		VIS	SUAL C	LAS	SIFICATION (	OF MATERIA	L	
Depth		Sample	e Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change		medium		and - 35 to 50	0% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/12	1-1-2-6		_		race (	ORGANIC MATE	ERIAL, trace fine	e SAND	3
1							(moist, stif	f)					
1													
2	2	2.0	4.0	SS/19	3-4-5-5		Light Brow	m SII T t	race f	fine SAND, trace of	emf GRAVEL (r	moist	9
2	2	2.0	7.0	00/17	J- <del>T</del> -J-J		stiff)	, ii () IL I , l	iace 1	inc braid, nace	AM OKA VEL (I	110131,	
3							Still)						
Ü													
4	3	4.0	6.0	SS/13	7-20-12-7		Grey/Light	Brown c	mf GI	RAVEL, little SIL	T, trace fine SAI	ND	32
5													
						G (D) (CDAVEL IV) OHT							
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		Croy/Droys	m CH T	omo o	emf GRAVEL, tra	aa fina CAND (x	vot.	45
0	3	0.0	10.0	33/10	12-17-20-10		hard)	II SIL1, S	ome c	IIII GKAVEL, IIA	ce fille SAND (V	wei,	43
9							naru)						
10													
11													
12													
10													
13	_	12.5	15.0	00/15	17.16.07		Cms/D	CII T	:441 -	mf CD AMEL 111	o fino CANID	aist	42
1.4	6	13.5	15.0	SS/15	17-16-27			'n SILT, li	ittle c	mf GRAVEL, littl	e fine SAND (m	ioist,	43
14							hard)						
15													
13													
16													
10													
17													
18													
	7	18.5	19.9	SS/16	25-48-100@5"		Grey SILT	, little cm	f GRA	AVEL, trace fine S	SAND (moist, ha	ırd)	100+
19													
•													
20	1:4 C		T., 1' /		L. C. C. WILL	X7-: 1 ·	Continued			11-14 - CD - 1			
SS - Spl <b>Remarl</b>		n, ∪ - \	∪naisti	urbea Ti	ibe, C - Core, WH - V	weight o	n Hammer -	⊦ Koa, WI	K - W	eignt of Kod			

Boring No Page 16281 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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

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

				6035 Co	orporate Drive	SU	JBSURF	SURFACE EXPLORATION Boring No. Bo						
		IV	Ę	East Syr	racuse, NY 13057			BORI	Ü		of 2			
					315-701-0522		11231	DOM	NO LC	<del></del>	Report No.			
roject l	Name:			us, Clay,	New York						Date Started	10/2	24/23	
lient:		Rambo	oll								Date Finished	10/2	24/23	
ocation	n:			n Locati							Surface Elev.		35.5'	
		ME	THO	DS OF	INVESTIGATIO				GRO	UNDWATER	R OBSERVAT	IONS		
Oriller: Oriller:		B. Flet R. Cas			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
nspecto	or:				Other:	NQ-Cor	e	10/24/23	Wl	nile Drilling	7.0	1	8.0	
rill Rig		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	10/24/23	Before	Casing Removed	None Noted	1	8.5	
ype:		ATV			Hammer Wt:	140 lbs.		10/24/23	After C	Casing Removed	None Noted	(	out	
Rod Size	e:	AWJ			Hammer Fall:	30 in.		10/24/23	After C	Casing Removed	caved @	(	out	
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSI	FICATION (	OF MATERIA	L		
Depth		Sample	Depth		Blows on			coarse					SPT "N	
Scale	Sample	(F	_	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	0% / some - 20 to 359	%	or	
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %	
0	1	0.0	2.0	SS/14	2-1-3-4	( .,			rev SIL		, trace ROOTS (		4	
1 2	2	2.0	4.0	SS/20	3-6-4-6		medium st	ff)			, trace ROOTS (		10	
3	2	2.0	4.0	33/20	3-0-4-0		stiff)	/II/Light C	ncy SIL	i, trace CLAT	, trace ROOTS (	moist,		
5	3	4.0	6.0	SS/18	2-2-2-2		Light Brov	n SILT, t	race fine	e SAND (moist,	, medium stiff)		4	
6 7	4	6.0	8.0	SS/16	2-4-4-5		Light Brown SILT, trace fine SAND (moist, stiff)						8	
8	5	8.0	10.0	SS/17	3-3-3-4		Light Brov	n SILT, t	race fine	e SAND (moist,	, medium stiff)		6	
10 11 12 13 14	6	13.5	15.0	SS/19	3-2-3-2		Light Grey	SILT, tra	ce fine s	SAND (wet, me	dium stiff)		5	
16 17 18 19	7 R1	18.0 18.5	18.5 23.5	SS/6 C/60	100@6" NQ-Core		Augered harder beginning @ 18.0' Dark Grey weathered ROCK fragments, trace SILT (wet)  Auger refusal @ 18.5. Set up to core.  Dark Grey/Black DOLOSTONE with interbedded Shale layers (<1/8" thick) throughout.  Continued on Page 2						100- 83%	

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Boring No. age **<u>f6</u>9,o∮** 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 VISUAL CLASSIFICATION OF MATERIAL LOG OF BORING SAMPLES Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / (Ft.) Sample Scale Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or RQD % (Feet) No. From To Rec. (in.) Per 6 Inches f - fine little - 10 to 20% / trace - 0 to 10%(Ft.) 20 Continued from Page 1 Horizontal fractures with iron staining @ 19.1' and 19.3'. Recovery: 60''/60'' = 100%21 ROD: 50"/60" = 83% 8 Pieces, 1" Chips and fragments 22 1:30 min/ft, water loss @ 19.5' 23 Coring conducted in 5th gear, 2400 rpm, 400 psi down pressure. R2 Dark Grey/Black DOLOSTONE with interbedded Shale layers 47% 23.5 28.5 C/60NQ-Core 24 (<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'. 25 Weathered and broken zone from 27.0' to 28.5' with breaks along Shale seams. 26 Recovery:  $60''/60'' = 100\% \mid RQD$ : 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 27 Coring conducted in 5th gear, 2400 rpm, 400 psi down pressure. 28 Bottom of Boring @ 28.5' 29 30 31 32 33 34

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

Remarks:

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											D . N P	ana 47	A ant 536
					orporate Drive	SU	J <b>BSURF</b>	ACE EX	Boring No. Page 1873				
					racuse, NY 13057		TEST	BORI	<b>Page No.</b> 1 of 2		of 2		
	Ass	ociates	s, Inc.	Phone:	315-701-0522		11201	DOM	101	200	Report No.	28062E	3-03-1223
Project	Name:			us, Clay,	New York	•					Date Started	10/	06/23
Client:		Rambo	11			<b>Date Finished</b> 10/							
Locatio	n:			on Locati							Surface Elev.		93.6'
		ME	THO	DS OF	INVESTIGATIO	N GROUNDWATER OBSERVATIONS							
Driller:		A. Lins	struth		Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Coging	At (Ft.)
Driller:		D. Mac	_		Casing Hammer:						Depth (Ft.)	Casing	At (FL)
Inspect		Astitwa	a Sharn	na, EIT	Other:	NQ-Cor		10/06/23		While Drilling	15.1	18.5	
Drill Ri	g:	CME :	55		Soil Sampler:	2" OD S	Split Barrel	10/06/23		re Casing Removed	12.7	2	8.0
Type:		Track			Hammer Wt:	140 lbs.		10/06/23		er Casing Removed	11	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		10/06/23		er Casing Removed	caved @ 18.5		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/14	1-2-3-5				', little	e fine SAND, trace	e ROOTS (moist	·,	5
							medium sti	iff)					
1													
		2.0	4.0	GG /0.1	4 2 2 2		D 011	TT . C		AND CLAY	1.		
2	2	2.0	4.0	SS/21	4-3-3-3		Brown SIL	T, trace f	ine Sz	AND, trace CLAY	(wet, medium s	tiff)	6
2													
3													
4	3	4.0	6.0	SS/24	2-2-1-2		Danaram CII	Т зата (	71 A X	/ tuo oo fina CAND	(vyot aaft)		3
4	3	4.0	0.0	33/24	2-2-1-2		Brown SIL	1, some C	LA I	7, trace fine SAND	(wet, soit)		3
5	1												
3													
6	4	6.0	8.0	SS/22	3-3-10-15		Brown SILT, some cmf SAND, little fine GRAVEL (wet, stiff)						
		0.0	0.0	55/22	3 3 10 13		Brown SIL	i, some c	AIII S.	in (D), indic inic G	ter vee, se	111)	13
7													
8	5A	8.0	9.5	SS/20	10-15-12-24		Brown SIL	T, some C	CLAY	, trace fine SAND	(wet, very stiff)	)	27
9													
	5B	9.5	10.0				Grey SILT	and cmf	SANI	D, some mf GRAV	EL (wet)		
10													
11													
12													
1.0													
13		10.5	150	00/2	10.12.22			NA NID	1 011 1	T			]
1.4	6	13.5	15.0	SS/2	10-12-23				ı SIL'	T, some mf GRAV	EL (wet, compa	ict)	35
14							See Remar	K I					
1.5	1												
15													
16													
10													
17													
''													
18													
	7	18.5	20.5	SS/12	WR-WR-2-7	Brown fine SAND, trace SILT, trace fine GRAVEL (wet, very					ery	2	
19						loose)							
	]												
20	1		Continued on Page 2										

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.

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

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age **B-300** 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Ass	ociate	s, Inc.		315-701-0522		TEST BORING I	LOG	Ŭ	3-03-1223
					MPLES		VISUAL CLAS	SIFICATION C	_	05 1225
Depth		1	e Depth		Blows on		c - coarse			SPT "N"
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change	m - medium	and - 35 to 50	0% / some - 20 to 35%	or or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine	little - 10 to 2	20% / trace - 0 to 10%	RQD %
20							Continued from Page 1			
21										
22										
23	8	23.5	25.0	SS/13	9-10-13		Grey cmf SAND, trace fin	e GRAVEL (wet.	medium compact)	23
24					,			,		
25										
26							Augered gravelly beginnir	ıg @ 26.5'		
27							Auger refusal @ 28.0'			
28	9	28.0	28.0	SS/0	100@0"		No Recovery. See Remark			100+
29	R1	28.0	33.0	C/60	NQ-Core		28.0' to 29.3'; Dark Grey/I laminated to thinly bedded	l, medium hard.		87%
30							29.3' to 33.0'; Dark Grey/I SHALE layers (<1/8" to 3			
31							laminated to thinly bedded in Shale @ 35.7' to 35.9'.			
32							Recovery: 60"/60" = 100% 15 Pieces, 3" Chips and fr			
33	R2	33.0	38.0	C/60	NQ-Core		Coring conducted in 5th g Dark Grey/Black DOLOS	TONE with interb	edded Shale layers	100%
34							(<1/8" to 2" thick) through hard.		ated to thickly bedded,	
35							Recovery: 60"/60" = 100% RQD: 60"/60" = 100%			
36							6 Pieces, 0" Chips and frag 3 min/ft, no water loss		O noi dovve procesure	
37							Coring conducted in 5th g	еш, 2500 грт, 05	o psi aowii pressure.	
38							Bottom of Boring @ 38.0'			
39										
40										
41										
42										
43										
44										
45						1				

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

											_		
					orporate Drive	SU	JBSURF	ACE EX	(PL	ORATION	Boring No.	age <u>B/</u>	<b>301</b> 536
		IV	Ę		racuse, NY 13057			BORI			Page No.	1	of 1
	Asso	ociates	s, Inc.	Phone:	315-701-0522		TEST	DOM	110	LOG	Report No.	28062E	3-03-1223
Project 1	Name:			us, Clay,	New York	•					Date Started		20/23
Client:		Rambo									Date Finished	09/	20/23
Location	n:		•	on Locati							Surface Elev.		2.6'
				DS OF	INVESTIGATIO				GF	ROUNDWATER	OBSERVAT	IONS	
Driller:		Brian S			Casing:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		Jason I	_	DIT	Casing Hammer:			00/20/22		Wilds Dalling			, , ,
Inspector Drill Rig		CME I		na, EIT	Other: Soil Sampler:	2" OD 9	Split Barrel	09/20/23 09/20/23	Dof	While Drilling ore Casing Removed	None Noted  None Noted		9.4
Type:	<b>g.</b>	Track	LC 33		Hammer Wt:	140 lbs.	•	09/20/23		er Casing Removed	7.2		out
Rod Size	e:	NWJ			Hammer Fall:	30 in.		09/20/23		er Casing Removed	Caved @ 7.7		out
			BOR	ING S	AMPLES		VI			SSIFICATION C			
Donath		ı	e Depth		I								SPT "N"
Depth Scale	Sample	_	t.)	Type / Sample	Blows on Sampler	Depth of Change		coarse medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/18	WH-2-5-6		Brown SIL	T, trace f	ine S	AND, trace ORGA	NIC MATTER	(moist,	7
							medium st	iff)					
1													
2	•	2.0	4.0	GG /20	7.5.4.5		D	1 1 011 11		C' CAND	CI AND		0
2	2	2.0	4.0	SS/20	7-5-4-5		Brown mo	ttiea SIL i	, trac	ce fine SAND, trace	e CLAY (wet, st	111)	9
3													
3						Brown SILT, little CLAY, trace fine S							
4	3	4.0	6.0	SS/21	1-1-1-2	Brown SILT, little CLAY, trace fine S					(wet, soft)		2
								,	,	` , ,			
5													
6	4	6.0	7.4	SS/10	3-17-100@5"		Brown SIL	T and cm	f SA	ND, some mf GRA	VEL (wet, hard	)	100+
7													
7													
8	5	8.0	8.3	SS/4	100@4"		Grev/Brow	n mf GR	AVE	L and cmf SAND, I	ittle SILT (wet.	verv	100+
Ü		0.0	0.5	55/ 1	10001		compact)	ii iii Gid		E una cim Si ii (E), i	ittie BIET (wet,	very	1001
9							Auger refu	sal @ 9.4	,				
							Bottom of	Boring @	9.4'				
10													
11													
12													
12													
13													
14													
15													
1.6													
16													
17													
1													
18													
19													
20													
20	i	I	1	1	Ī	1	I						1

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

						1						4-	0 . ( 500
				6035 C	orporate Drive	SU	JBSURF	ACE EX	KPL	ORATION	Boring No.	age B	302 536
				•	racuse, NY 13057			BORI			Page No.	1	of 1
		ociates	20 00000		315-701-0522		11201	DOM	110	<u> </u>	Report No.		3-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		21/23
Client:		Rambo									Date Finished		21/23
Location	n:		•	n Locati		<b>.</b>			O.T.		Surface Elev.		92.3'
D 311				DS OF	INVESTIGATIO		TT 0 4		Gh	ROUNDWATER	OBSERVAT	TONS	
Driller:		Brian S			Casing:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Driller: Inspecto		Michae		no na, EIT	Casing Hammer: Other:			09/21/23		While Drilling	9.3	1	0.3
Drill Rig		CME I		ia, EII	Soil Sampler:	2" OD S	Split Barrel	09/21/23	Refe	ore Casing Removed	12.3		3.2
Type:	5•	Track	JC 33		Hammer Wt:	140 lbs.	-	09/21/23		ter Casing Removed	11.2		out
Rod Size	e:	NWJ			Hammer Fall:	30 in.		09/21/23		ter Casing Removed	Caved @ 12.2		out
			BOR	ING SA	AMPLES		VI			SSIFICATION C			
Domth			e Depth		Blows on								SPT "N"
Depth Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		coarse medium		and - 35 to 50	% / some - 20 to 35	%	or or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/20	WH-2-3-5				,	ce fine SAND, trace	e ORGANIC M.	ATTER	5
							(moist, me	dium stiff	)				
1													
		•	4.0	99/1-			_		_	a. a	1.00		4.0
2	2	2.0	4.0	SS/16	6-6-4-4		Brown mo	ttled SILT	ce fine SAND (wet	, stiff)		10	
3													
3						Deciver CHT trace fine SAND trace CLAV							
4	3	4.0	6.0	SS/13	1-1-3-3		Brown SII	T trace f	AND trace CLAY	(wet_soft)		4	
'	3	1.0	0.0	55/13	1133		Diown Sil	i, irace i	THIE, HACE CETT	(wet, sort)			
5						Brown SILT, trace fine SAND, trace (							
6	4	6.0	8.0	SS/15	4-7-8-9		Brown SIL	T, little c	mf S	AND, trace fine GI	RAVEL (wet, sti	iff)	15
7													
0	5 A	8.0	9.5	SS/16	15 10 10 25		Cimilan as	ala avva (ma		war stiff			30
8	5A	8.0	9.3	33/10	15-12-18-35		Similar as	above (iii	oist, '	very suii)			30
9													
	5B	9.5	10.0				Grev mf G	RAVEL.	some	e SILT, some cmf S	AND (moist, mo	edium	
10	0.2	7.0	10.0							beginning @ 10.3'.	111 (2) (1110100, 1111	0 010111	
	6	10.3	12.3	SS/10	36-31-36-54					GRAVEL, little SI	LT (moist, very		67
11							compact)				•		
							Augered h						
12	7	12.3	14.3	SS/6	13-60-43-30			kish weath	nered	ROCK chips and f	ragments, some	SILT	103
10							(moist)	10.10	21				
13							Auger refu	sai @ 13.	Z'				
14							Bottom of	Roring @	14 3'	1			
14							DOUGHI OI	Doming @	17.3				
15													
16													
17													
10													
18													
19													
17													
20													

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

4, 5, 2				6035 Co	orporate Drive	SU	JBSURF A	ACE EX	(PL	ORATION	Boring No.	age Br	30300
		IV	Ę	East Sy	racuse, NY 13057			Γ BORI			Page No.	1	of 1
					315-701-0522		11201	DOM	10 1		Report No.	28062B	3-03-1223
Project	Name:			us, Clay,	New York						Date Started		21/23
Client:		Rambo									Date Finished		21/23
Location	n:			n Locati							Surface Elev.		0.8'
		ME	THO	DS OF	INVESTIGATIO	N			GR	OUNDWATER	R OBSERVAT	IONS	
Oriller: Oriller:		Brian S Michae		no	Casing: Casing Hammer:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
nspecto	r:	Astitwa	a Sharn	na, EIT	Other:			09/21/23		While Drilling	10.0	1	8.0
Orill Ri		CME L	.C 55		Soil Sampler:	2" OD S	Split Barrel	09/21/23		re Casing Removed	14.4	1	9.8
Гуре:		Track			Hammer Wt:	140 lbs.		09/21/23	Afte	er Casing Removed	11.6	(	out
Rod Size	e:	NWJ			Hammer Fall:	30 in.		09/21/23	Afte	er Casing Removed	Caved @ 16.1	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION (	OF MATERIA	L	
Б		Sample											CDT III
Depth	C 1 -	_		Type /	Blows on	Depth of		- coarse		1 25 50	20/ / 20 / - 25/	0/	SPT "N
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			0% / some - 20 to 35° 20% / trace - 0 to 10°		or RQD %
0	1	0.0	2.0	SS/18	WH-1-4-5	(Ft.)			ina S	AND, trace ORGA			5 5
1	1	0.0	2.0	33/10	W II-1-4-3		medium st		ille 37	AND, Hace ORGA	ANIC MATTER	(IIIOISI,	3
2	2	2.0	4.0	SS/20	5-6-6-5		Brown mo	ttled SILT	', trac	e CLAY, trace find	e SAND (wet, st	iff)	12
3	3	4.0	6.0	SS/17	WH-1-1-1		Brown SIL	T, little C	LAY	, 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 9	5	8.0	10.0	SS/11	10-13-11-10		Brown/Gremedium co	-	ND a	nd mf GRAVEL,	some SILT (wet.	,	24
10 11 12 13 14	6	13.0	15.0	SS/17	16-16-16-21		Grey SILT	, some cm	of SA	ND, little mf GRA	VEL (moist, har	rd)	32
16 17 18 19	7	18.0	19.8	SS/13	18-16-30-100@3"		Similar as  Auger refu  Bottom of	sal @ 19.	8'				46
		i	Ì		Ī	1	TOURUIT OF	$\alpha$	17.0				i

												000 47	E of EOC
		N/		6035 C	orporate Drive	SU	J <b>BSURF</b>	ACE EX	(PL	ORATION	Boring No.	age <u>Br</u>	3(1)4 536
		IV	Ę		racuse, NY 13057			BORI			Page No.	1 (	of 1
	Asso	ociates	s, Inc.	Phone:	315-701-0522		1691	DOKI	NG.	LUG	Report No.	28062B	-03-1223
Project	Name:	Micron	Camp	us, Clay,	New York	-					Date Started	09/2	21/23
Client:		Rambo	11								Date Finished	09/2	21/23
Location	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	0.5'
		ME	THO	DS OF	INVESTIGATIO	N			GF	ROUNDWATER	OBSERVAT	IONS	
Driller:		Brian S			Casing:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casino	At (Ft.)
Driller:		Jason E	_		Casing Hammer:						_		
Inspecto				na, EIT	Other:			09/21/23		While Drilling	6.3		3.0
Drill Ri	g:	CME L	LC 55		Soil Sampler:		plit Barrel	09/21/23		ore Casing Removed	3.0		9
Type:		Track			Hammer Wt:	140 lbs.		09/21/23		er Casing Removed	4.2		out
Rod Siz		NWJ	DAD	INIC C	Hammer Fall:	30 in.	X/T(	09/21/23		er Casing Removed	Caved @ 7.8		out
	LO			ING SA	AMPLES		V 13	SUAL C	LAS	SSIFICATION C	JF MIATERIA	L	1
Depth		Sample		Type /	Blows on	Depth of		coarse					SPT "N"
Scale (Feet)	Sample No.	(F From	To	Sample	Sampler Per 6 Inches	Change		medium - fine			% / some - 20 to 35 0% / trace - 0 to 109		or RQD %
0	1A	0.0	0.8	Rec. (in.) SS/21	WH-2-3-4	(Ft.)	Topsoil and		Matt		.0% / trace - 0 to 10	70	5 5
	1B	0.8	2.0	55/21	W11 2 3 4					AND (moist, mediu	m stiff)		
1	12	0.0	2.0				Brown Sil	i, iracc i	51	ii (B (moist, meara	( )		
2	2	2.0	4.0	SS/20	4-4-7-7		Brown SIL	T, trace f	ine S	AND (wet, stiff)			11
3													
4	3	4.0	6.0	SS/15	2-5-4-3		Brown SII	LT, trace	CLA'	Y, trace fine SAND	(wet, stiff)		9
5													
6	4	6.0	8.0	SS/20	3-4-5-4		Drown CII	T little n	of C A	ND, trace CLAY,	traca fina CDAV	/EI	9
0	-	0.0	0.0	33/20	3-4-3-4		(wet, stiff)	i, muc n	пъл	ind, trace CLAT,	race fine GRA	VLL	9
7							(wet, stiff)						
8	5	8.0	9.1	SS/7	36-61-100@1"		Brown/Gre	y mf GR	AVE	L, some SILT, little	e cmf SANDT (v	wet, very	100+
							compact)						
9							Auger refu						
							Bottom of	Boring @	9.1'				
10													
1.1													
11													
12													
12													
13													
14													
15													
16													
1													
17													
10													
18													
19													
19													
20													

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

ATTAC	,⊓IVI⊏I	VI IO	CEG	KEPU	ORT NUMBER. 172	2E-01-0	124 =/	AUIDII <i>F</i>	1-0. G	BEUTEUNIUA			
				6035 Co	orporate Drive	SI	IRSURF	ACE EX	XPL C	ORATION	Boring No.	age <b>g</b> l.7	<b>6)4</b> 4530
		IV			racuse, NY 13057						Page No.	1 (	of 2
	Ass	ociates	s, Inc.	Phone:	315-701-0522		IESI	BORI	NGI	JUG	Report No.	28062B	-03-1223
Project I	Name:	Micror	Camp	us, Clay,	New York	•					Date Started	10/0	06/23
Client:		Rambo	oll								Date Finished	10/0	06/23
Location	ı:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	0.5'
		ME	THO	DS OF	INVESTIGATIO	N			GR	OUNDWATER	OBSERVAT	TONS	
Driller:		A. Lins	struth		Casing:	3 ¼" ID	H.S.A.	D 4		m·	D 41 (E(1)	<i>a</i> .	A A (TEA.)
Driller:		J. Win	ks		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:				Other:	NQ-Cor	re	10/06/23	7	While Drilling	8.5	1	3.5
Drill Rig	<b>;:</b>	CME 5	55		Soil Sampler:	2" OD S	Split Barrel	10/06/23	Befor	re Casing Removed	8.7	2	8.6
Гуре:		ATV			Hammer Wt:	140 lbs.		10/06/23		r Casing Removed	6.0	C	out
Rod Size		AWJ			Hammer Fall:	30 in.		10/06/23		r Casing Removed	caved @ 11.7		out
•	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASS	SIFICATION (	OF MATERIA	L	
Depth		Sample	e Depth	T/	Blows on	Donatori	c-	- coarse					SPT "N'
Scale	Sample	(F		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	0% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	f	- fine		little - 10 to 2	20% / trace - 0 to 109	%	RQD %
0							See Remar	ks	-				
1													
2													
3													
4													
5													
6													
_													
7													
0													
8													
0													
9													
10													
10													
11													
11													
12													
14													
13													
13	1A	13.5	14.1	SS/17	3-6-6		Brown emi	f SAND 4	trace f	ine GRAVEL, tra	ce SILT (wet m	edium	12
14	171	13.3	1 7.1	33/1/	5-0-0		compact)	COMIND, I	u act 1	me OKA VEL, ud	cc SiLi (wei, iii	Cululli	12
17	1B	14.1	15.0				Grey mf S	AND and	тпэ	(wet)			
15	ID	17.1	13.0				Gicy iii 52	AND and	SILI	(well)			
13													
16													
10													
17													
- '													
18													
10	2	18.5	19.2	SS/6	14-100@2"		Grev cmf S	SAND and	d cmf	GRAVEL, little S	ILT (wet. verv	compact)	100+
19	_	15.5	17.2		11.100@2			12 um	VIIII	21.1 , <b>22</b> , indic 5	(, vory C	. ompact)	1001
-/													
20							Continued	on Page	,				

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.

CME Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age 3044 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Ass	ociate	s, Inc.	Phone:	315-701-0522		TEST BORING I	<b>LOG</b>	Report No. 2806	2B-03-1223
	LO	G OF	BOR	ING SA	MPLES		VISUAL CLASS	SIFICATION (		23 03 1223
Depth Scale (Feet)	Sample No.	Sample	e Depth	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine  Continued from Page 1	and - 35 to 50	0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
21							Continued from Fage 1			
22										
23 24	3	23.5	24.8	SS/10	18-47-100@3"		Grey cmf SAND, some cm fragments (moist, very con		e SILT, little ROCK	100+
25	4 R1	25.2 25.2		SS/0	NQ-Core		Auger refusal @ 25.2' Cored 8" COBBLE, then in	nto SOIL. Stoppe	d @ 28.0'.	
26 27										
28	5	28.0	28.6	SS/6	34-100@1"		Black ROCK fragments, tr Bottom of Boring @ 28.6'	race SILT (moist)		100+
30	-									
31										
32										
34										
35	-									
36 37										
38										
39										
41										
42										
43										
45	-									

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

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	PLO	ORATION	Boring No.	age <b>1</b> 57	<b>306</b> 536
		IV		•	racuse, NY 13057			BORI			Page No.	1	of 2
		ociates	20	I none.	315-701-0522	<u> </u>	1101	DOM	101		Report No.		3-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		03/23
Client:		Rambo									Date Finished		03/23
Location	1:			on Locati		NT.			CD	OLINDWATED	Surface Elev.		38.3'
Driller:		A. Lin		DS OF	INVESTIGATIO Casing:	3 ¼" ID	цсл		GK	OUNDWATER	OBSERVAI	IONS	
Driller:		D. Mac		all	Casing Hammer:	3 /4 ID	11.5.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto	r:		_	na, EIT	Other:			10/03/23	,	While Drilling	9.7	2	3.5
Drill Rig		CME 5			Soil Sampler:	2" OD S	Split Barrel	10/03/23		re Casing Removed	9.8	2	3.5
Type:		Track			Hammer Wt:	140 lbs.		10/03/23	Afte	er Casing Removed	11.5	(	out
Rod Size		AWJ			Hammer Fall:	30 in.		10/03/23		er Casing Removed	caved @ 15.9		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION (	OF MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m -	medium			0% / some - 20 to 359		or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/10	5-7-7-7		Grey/Brow	n SILT, t	race f	ine SAND, trace F	ROOTS (moist, s	stiff)	14
1													
2	2	2.0	4.0	SS/20	4-4-7-7		Brown mot	tled SILT	', trace	e fine SAND (wet	, stiff)		11
3													
4	3	4.0	6.0	SS/17	4-5-7-4		Brown/Gre	м <b>С</b> П Т 1 <del>1</del>	ittle C	CLAY, trace fine S	AND (wet stiff)	١	12
	3	4.0	0.0	55/17	4-3-7-4		Diowii/ Oic	y SIL1, I	ittic C	LAT, trace file 5	AND (wet, suii)	,	12
5													
6	4	6.0	8.0	SS/19	4-4-6-6		Brown mot	tled SILT	', trace	e CLAY, trace fin	e SAND (wet, st	iff)	10
7													
8	5	8.0	10.0	SS/20	3-4-4-5		Similar as	above (we	et, stif	f)			8
9													
10													
11													
12													
13	6	13.5	15.0	SS/12	3-2-2		Grey CLA	V and SII	Т (127	et, medium stiff)			4
14	U	13.3	13.0	JOJ/12	J-2-2		GICY CLA	i and SIL	л (W	ci, medium sum)			+
15													
16													
17													
18							Augered gi	ravelly be	ginnir	ıg @ 18.0'			
	7	18.5	20.0	SS/12	2-2-2		Grey/Brow	n CLAY,	some	SILT, little cmf S	SAND, little fine		4
19							GRAVEL			u11 <i>)</i>			
20 SS - Spl	lit Spoo	n. II - 1	Indist	urbed Ti	ube, C - Core, WH - '	Weight o	Continued of Hammer -	on Page 2  Rod Wi	? ? - W	eight of Rod			
Remarl		, -	_ 1141011		, 0 0010, 1111	Orgin o		1100, 111	- '''	2.5 01 1100			

Boring No. Page 1873 06 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Rec. (in.) Per 6 Inches RQD % (Feet) No. (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 23.5 SS/9 13-37-100@2" Grey ROCK chips and fragments, little mf GRAVEL, trace SILT 100 +24.7 24 Auger refusal @ 25.3' Bottom of Boring @ 25.3' 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

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

Remarks:

41

42

43

44

				6035 C	orporate Drive	CT	IDCLIDE	A CE EX	DT 4	ORATION	Boring No.	age 🕵	<b>30</b> 536
		IV	Ę		racuse, NY 13057	50		T BORI			Page No.		of 2
	Ass	ociates	s, Inc.	Phone:	315-701-0522			DUKI	116		Report No.	28062E	3-03-1223
Project	Name:	Micror	n Campi	us, Clay,	New York	-					Date Started	09/	21/23
Client:		Rambo									Date Finished		21/23
Location	n:			n Locati		.,		ī	~-	OTTO TO 1	Surface Elev.		88.7'
D				DS OF	INVESTIGATIO		II C A		GR	ROUNDWATER	OBSERVAT	IONS	
Driller: Driller:		Brian S Jason I			Casing: Casing Hammer:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	ìr•			ıa FIT	Other:			09/21/23		While Drilling	3.4	2	3.0
Drill Ri		CME I		.iu, L11	Soil Sampler:	2" OD S	Split Barrel	09/21/23		ore Casing Removed	5.5		3.5
Type:	<b>5</b> .	Track			Hammer Wt:	140 lbs.	•	09/21/23		er Casing Removed	9.0		out
Rod Siz	e:	NWJ			Hammer Fall:	30 in.		09/21/23		er Casing Removed	Caved @ 12.3		
	LO	G OF	<u>BO</u> R	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L_	
Depth		Sample	e Depth	Type /	Blows on	Depth of	c-	- coarse					SPT "N"
Scale	Sample	(F	t.)	Type / Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/18	1-3-5-7				ine S.	AND, trace ORGA	NIC MATTER	(moist,	8
1							medium st	III)					
1													
2	2	2.0	4.0	SS/22	3-6-5-6		Brown mor	ttled SILT	`. trac	ce fine SAND, trace	e CLAY (moist	stiff)	11
1 ~	~			25,22					,uc		(moist,	~····)	**
3													
4	3	4.0	6.0	SS/17	2-5-5-6	Similar as above (wet, stiff)							10
						Similar as above (wet, stiff)							
5													
6	4	6.0	8.0	SS/18	4-5-4-6		Similar as	abova (m	at ati	ff)			9
0	4	0.0	0.0	33/18	4-3-4-0		Simmar as	above (We	zı, Stll	11)			9
7													
]													
8	5	8.0	10.0	SS/12	2-4-3-4		Grey SILT	and CLA	Y (w	vet, medium stiff)			7
9													
10													
10													
11													
11													
12													
13	6	13.0	15.0	SS/13	1-3-2-2		Grey CLA	Y and SIL	T (w	et, medium stiff)			5
14													
1.5													
15													
16													
10													
17													
18	7	18.0	20.0	SS/12	WH-WH-4-6				T, so	ome cmf SAND, lit	tle mf GRAVEL	(wet,	4
							medium sti	iff)					
19													
20							Continued	on Page 3	)				

20 Continued on Page 2 SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

71117101	IWIEITI TO OEC
	<b>CME</b>
	Associates, Inc.
	LOG OF BOR

6035 Corporate Drive East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age **183.67** 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Δος	ociate	s. Inc	East Sy	315-701-0522		TEST BORING L	<b>OG</b>	Page No.	2 OI 2
	ΙΛ	COF	RODI	Phone:	AMPLES		VISUAL CLASS			062B-03-1223
	LU			LING SA				DIFICATION (	Jr WIA I CKIAL	
Depth Scale	Sample	(F	e Depth	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium		0% / some - 20 to 35%	SPT "N"
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Continued from Page 1	little - 10 to 2	20% / trace - 0 to 10%	RQD %
20							Continued from Fage 1			
21										
22										
22										
23	8	23.0	23.0	SS/0	100@0"		No Recovery. See Remark	1		100+
							Auger refusal @ 23.5'			
24							Bottom of Boring @ 23.5'			
25										
26										
27										
28										
29										
20										
30										
31										
22										
32										
33										
34										
34										
35										
36										
30										
37										
20										
38										
39										
40										
40										
41										
42										
42										
43										
4.4										
44										
45	1									

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

				6035 Co	orporate Drive	SI	IBSURF	ACE EX	PLORATION	Boring No.	age 188	30853
		IV		East Syr	racuse, NY 13057				NG LOG	Page No.		of 2
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		ILS	DUKI	NG LUG	Report No.	28062B	3-03-1223
roject l	Name:	Micror	Campi	us, Clay,	New York					Date Started	09/2	20/23
lient:		Rambo	11							Date Finished	09/2	20/23
ocation	1:	See Ex	ploratio	n Locati	on Plan					Surface Elev.	38	39.5'
		ME	THO	DS OF	INVESTIGATIO	N			GROUNDWATER	R OBSERVATI	ONS	
Oriller: Oriller:		Brian S Jason I			Casing: Casing Hammer:	4 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.
nspecto	r:		_	na, EIT	Other:			09/20/23	While Drilling	14.0	2:	3.0
rill Rig	g:	CME I	C 55		Soil Sampler:	2" OD S	Split Barrel	09/20/23	Before Casing Removed	6.0	2:	5.2
Type:		Track			Hammer Wt:	140 lbs.		09/20/23	After Casing Removed	5.9	C	out
Rod Size	e:	NWJ			Hammer Fall:	30 in.		09/20/23	After Casing Removed	Caved @ 13.6		
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIAL	L	
Depth		Sample	Depth	m /	Blows on	D 1 6	C	- coarse				SPT "N
Scale	Sample	_	_	Type / Sample	Sampler	Depth of Change		medium	and - 35 to 50	0% / some - 20 to 35%	,	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine		20% / trace - 0 to 10%		RQD 9
0	1	0.0	2.0	SS/9	1-3-4-5		Dark Brow	n SILT, t	race fine SAND, trace (	ORGANIC MAT	ΓER	7
							(moist, me	dium stiff	)			
1												
2	2	2.0	4.0	SS/5	5-4-5-5		Dark Brow	n SILT, t	race fine SAND, trace (	CLAY (moist, stif	f)	9
3												
4	3	4.0	6.0	SS/17	WH-3-3-3		Brown SII	T, trace f	ine SAND, trace CLAY	(wet, medium sti	iff)	6
5												
6	4	6.0	8.0	SS/15	3-4-4-5		Brown SIL	T, little C	LAY, trace fine SAND	(wet, stiff)		8
7												
8	5	8.0	10.0	SS/14	2-3-4-4		Grey/Brow	vn SILT aı	nd CLAY (wet, medium	n stiff)		7
_												
9												
10												
10												
1.1												
11												
12												
12												
13	6	13.0	15.0	SS/11	2-5-4-4		Grev CLA	Y and SII	T (wet, stiff)			9
1.3	U	15.0	15.0	DD/11	∠-J- <del>+-4</del>		Oley CLA	ı anu sıl	i (wet, suii)			"
14												
14												
15												
13												
16												
17												
- '												
18	7	18.0	20.0	SS/22	WH-WH-WH-1		Grev CLA	Y and SII	T, trace cmf SAND, tra	ace fine GRAVEI	رwet.	0
	,	-3.0					very soft)		,,,		,	
19							125 0020)					
-												
20							Continued	on Page 2				
20				•	ube, C - Core, WH -							

CVE 6035
East
Associates, Inc. Phon

6035 Corporate Drive
East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age \$23.06 536

Page No. 2 of 2

Report No. 28062B-03-1223

Associates, Inc. Phone: 315-701-0522  LOG OF BORING SAMPLES					racuse, NY 1505/		TEST BORING I	LOG	Page No.	2 OI 2
	IA	COF	RODI	Pnone:	MPI.FC	1	VISUAL CLASS			62B-03-1223
Б .	LU	1	Depth					SIFICATION (	'E NIATERIAL	GDT 13.71
Depth Scale	Sample		t.)	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium	and - 35 to 50	0% / some - 20 to 35%	SPT "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine		20% / trace - 0 to 10%	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 C	GRAVEL, little SI	LT (wet, loose)	10
							,			
24										
25							Auger refusal @ 25.2'			
	9	25.2	25.4	SS/2	100@3"		ROCK chips and fragment		O, trace SILT (wet)	100+
26							Bottom of Boring @ 25.4'			
27										
20										
28										
29										
20										
30										
31										
32										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45	_									
43	1	1	I	I	Ī	1	Ī			1

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

						1					D . 37 D	ano 40	A of 526	
		$\mathbf{N}$			orporate Drive								age 184 pt 536	
					racuse, NY 13057		TEST	BORI	N(	GLOG	Page No.		of 2	
		ciates	No.	i none.	315-701-0522						Report No.		3-03-1223	
Project	Name:			us, Clay,	New York						Date Started		20/23	
Client:		Rambo									Date Finished		20/23	
Location	n:			on Locati				1		an arminiri i men	Surface Elev.		92.0'	
				DS OF	INVESTIGATIO				(	GROUNDWATER	OBSERVAT	TONS		
Driller:		Brian S			Casing:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)	
Driller:		Jason I	_	EIT	Casing Hammer:			00/20/22	_	Mil. 1 D. 111.	_			
Inspecto				na, EIT	Other:	2" OD 6	mlit Domal	09/20/23		While Drilling	None Noted		22	
Drill Rig	g:	CME I Track	JC 33		Soil Sampler: Hammer Wt:	2 OD S	Split Barrel	09/20/23		Sefore Casing Removed After Casing Removed	21.8 6.5			
Rod Size	۵•	NWJ			Hammer Fall:	30 in.		09/20/23	_	After Casing Removed	Caved @ 13.0		out	
Rou Siz			R∩R1	ING S	AMPLES	30 m.	VI			ASSIFICATION (			Jut	
	LO	ı						SUALC	111	ASSIFICATION	JE WIATEKIA	L		
Depth	a 1	Sample (F	Depth	Type /	Blows on	Depth of		- coarse		1 25 . 56	20 . 25		SPT "N"	
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			0% / some - 20 to 35 20% / trace - 0 to 109		or RQD %	
0	1	0.0	2.0	SS/16	1-3-5-6	(11.)			ine	SAND, trace ORGA			8 8	
· ·	1	0.0	2.0	BB/10	1330		stiff)	zi, trace i	1110	Britte, trace ofter	avie vii i i i i i	(moist,	O	
1														
2	2	2.0	4.0	SS/24	4-5-6-7		Brown mo	ttled SILT	۲, li	ittle 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)								
						Brown mothed SiL1, trace CLA1, trace time SAND (wet, stiff)								
5														
6	4	6.0	8.0	SS/13	8-8-7-8		Brown SIL	T, trace C	CLA	AY (wet, very stiff)			15	
7														
	_	0.0	100	00/15	2222		G GT A							
8	5	8.0	10.0	SS/15	2-2-2-3		Grey CLA	Y and SIL	٦T	(wet, medium stiff)			4	
0														
9														
10														
10														
11														
11														
12														
13														
	6	13.0	15.0	SS/6	5-7-10-9		Grey cmf S	SAND and	d m	nf GRAVEL, little CI	LAY, trace SILT	(wet,	17	
14							medium co			, , , ,	,	` /		
								- ′						
15														
16														
17														
							<u></u>							
18							See Remar	k I						
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: 1. Sampling not feasible between 18.0' to 20.0' due to flowing sand conditions.

Boring No. Page 1885 p4 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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

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

Remarks:

44

711171	OI HVILI	11 10	OLO	INEL	INT NOMBER, 172	01 0	12-7	ATTIOL 7	٠ ٥. ٠	SECTEOTIMOA			TIAOL 2
				6035 C	orporate Drive	SI	JBSURF	ACE EX	EPL	ORATION	Boring No.	age <u>18</u>	<b>624</b> 536
					racuse, NY 13057			Γ BORI			Page No.		of 2
		ociates	S. Land	i none.	315-701-0522		1201	DOM		200	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		19/23
Client:		Rambo		*	, pi						Date Finished		19/23
Location	n:			on Locati	' INVESTIGATIO	NT.		I	CI	ROUNDWATER	Surface Elev.		0.7'
Driller:		Brian S		DS OF	Casing:	4 ¼" ID	нсл		Gr	COUNDWATER	ODSERVAI	IONS	
Driller:		Jason I			Casing Hammer:	4 /4 ID	11.5.7.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:		_	na, EIT	Other:			09/19/23		While Drilling	None Noted		
Drill Ri		CME I		,	Soil Sampler:	2" OD S	Split Barrel	09/19/23	Befo	ore Casing Removed	20.9	2	5.9
Type:		Track			Hammer Wt:	140 lbs.		09/19/23	Aft	er Casing Removed	8.3	(	out
Rod Siz		NWJ			Hammer Fall:	30 in.		09/19/23		er Casing Removed	Caved @ 20.9		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth			e Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No. 1	From 0.0	To 2.0	Rec. (in.) SS/19	Per 6 Inches WH-2-3-3	(Ft.)		T trace f	ina C	AND, trace ORGA	0% / trace - 0 to 109		RQD %
U	1	0.0	2.0	33/19	W II-2-3-3		medium sti		ine S	AND, Hace ORGA	NIC WATTER	(IIIOISt,	3
1							incurum st	111)					
2	2	2.0	4.0	SS/24	7-5-5-5		Brown/Pin	kish SILT	, trac	ce CLAY, trace fine	e SAND (moist,	stiff)	10
3													
	2	4.0	- 0	00/15	WHI 2 2 4		g: :1			11			
4	3	4.0	6.0	SS/15	WH-3-3-4		Similar as	above (we	et, me	edium stiff)			6
5													
3													
6	4	6.0	8.0	SS/13	5-4-6-8		Similar as	above (we	et, sti	ff)			10
								`		,			
7													
								_					
8	5	8.0	10.0	SS/15	1-3-5-5		Brown SIL	T, trace f	ine S	AND (wet, stiff)			8
9													
9													
10													
11													
12													
12													
13	6	13.0	15.0	SS/16	WH-4-5-11		Grey CII T	and CI A	V	ome cmf SAND, lit	tle mf CD AVEI	(wet	9
14	0	13.0	15.0	33/10	W II-4-3-11		stiff)	and CLA	. I , SC	onie cini sand, ni	ue IIII GKAVEL	. (wei,	9
17							Still)						
15													
							See Remar	·k 1					
16													
17													
18													
10													
19													
20		Ī	Ī	I	I	1	Continued	on Dogo	,				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 due to flowing sand conditions encountered at bottom of 15.0'

Boring No. Page 1883 24 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches little - 10 to 20% / trace - 0 to 10% RQD % (Feet) No. Rec. (in.) (Ft.) f - fine 20 Continued from Page 1 21 22 23 24 Auger refusal @ 25.9' 25 Bottom of Boring @ 25.9' 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

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

				6035 Co	orporate Drive	SUBSURFACE EXPLORATION Boring No. age B						age <u>188</u>	826 536
		IV	Ę		racuse, NY 13057			F BORI			Page No.	1	of 2
	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		11231	DOKI	NG L	AUG	Report No.	28062B	3-03-1223
Project	Name:	Micron	Campi	us, Clay,	New York	-					Date Started	09/	19/23
Client:		Rambo	11								Date Finished	09/	19/23
Location	n:	See Ex	ploratio	n Locati	on Plan						Surface Elev.		38.4'
		ME	THO	DS OF	INVESTIGATIO				GR	OUNDWATER	OBSERVAT	IONS	
Driller:		Brian S	Swartz		Casing:	4 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casina	At (Ft.)
Driller:		Jason E			Casing Hammer:						_	Casing	; At (Ft.)
Inspecto		Astitwa		na, EIT	Other:			09/19/23		While Drilling	None Noted		
Drill Ri	g:	CME I	.C 55		Soil Sampler:		Split Barrel	09/19/23		e Casing Removed	19.7	2	2.7
Type:		Track			Hammer Wt:	140 lbs.		09/19/23		Casing Removed	6.2		out
Rod Siz		NWJ			Hammer Fall:	30 in.		09/19/23		Casing Removed	Caved @ 12.3		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASS	SIFICATION C	OF MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35°		or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/16	2-2-2-5		Topsoil an					. — –	4
1	1B	0.5	2.0				Brown mo	ttled SILT	', trace	fine SAND (moi	st, medium stiff)	)	
2	2	2.0	4.0	SS/24	6-7-7-7		Brown mo	ttled SILT	, little	CLAY, trace fine	e SAND (moist,	stiff)	14
3													
4	3	4.0	6.0	SS/17	2-3-5-4		Similar as	above (we	et, stiff	7)			8
5													
6	4	6.0	8.0	SS/16	4-6-5-7		Cimilar oa	a <b>h</b> arya (rrya	:ff				11
6	4	6.0	8.0	55/16	4-0-3-7		Similar as	above (we	et, stiii	()			11
7													
,													
8	5	8.0	10.0	SS/10	WH-3-3-6		Brown SII	T trace n	nf GR	AVEL, trace CLA	Y (wet_medium	stiff)	6
O	3	0.0	10.0	55/10	WH 3 3 0		Diown Sil	71, truce 11	ın Ora	TVEE, trace CEA	i (wei, median	1 31111)	
9													
10													
11													
12													
13													
	6	13.0	15.0	SS/19	WH-1-1-2		Grey CLA	Y and SIL	LT (we	t, soft)			2
14													
15													
1.0													
16													
17													
17													
18	7	18.0	20.0	SS/7	WH-3-3-6		Gray CII T	and CLA	V	ne cmf SAND, lit	tla fina CD AVE	I (wat	6
10	′	10.0	∠∪.∪	33//	vv II-3-3-0		medium sti		i, son	ne chii sand, lit	ue mie GKAVE	L (wei,	0
19							medium st	111)					
13													
20							Continued	on Page 2	)				
20				ļ			Commuca	JII I ugo 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

Dept					6035 Co	orporate Drive	SI	JBSURFACE EXPLO	RATION	Boring No.	ige Bos	326 536
Depth   Second   Property   Pro			IV		East Syr	acuse, NY 13057	50			Page No.	2 c	of 2
Depth   Sample Depth   Sample Depth   Sample		Asso	ciates	s, Inc.	Phone: 3	315-701-0522		TEST BOKING I	JUG .		28062B-	-03-1223
Depth   Sample   Depth   Sample   Depth   Sample   Samp		LO	G OF	BOR	ING SA	AMPLES		VISUAL CLASS	SIFICATION C			
Sample   Property   Sample   Property   Sample   Property   Prop	Donth											CDT "N"
(Feat) No. From 70 Rec. (in) Per 6 Inches (77) I - fine Intle - 10 to 20% / trace - 0 to 10% RQD %  20 21 22 23 24 24 24 25 26 27 36 28 29 29 30 30 31 31 32 32 33 34 34 34 35 35 36 37 38 38 39 39 440 41 42 6 10 10 10 10 10 10 10 10 10 10 10 10 10		Sample			Type /		Depth of		and - 35 to 50	% / some - 20 to 35%		
20   Continued from Page 1   Auger refusal @ 22.7'   See Remark 2   Bottom of Boring @ 22.7'   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42   42   4   4   4   4   4   4							(Ft.)					
22   Auger refusal @ 22.7' See Remark 2   Bottom of Boring @ 22.7' 28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42								Continued from Page 1				
22   Auger refusal @ 22.7' See Remark 2   Bottom of Boring @ 22.7' 28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42												
23   24   25   See Remark 2   Bottom of Boring @ 22.7'   See Remark 2	21											
23   24   25   See Remark 2   Bottom of Boring @ 22.7'   See Remark 2												
23   See Remark 2   Bottom of Boring @ 22.7'   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42   42   4   42   4   4   4   4	22											
24   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42   42   8   8   8   8   8   8   8   8   8	•											
24   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42   42   42   42   4   42   4   4	23							See Remark 2				
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 41 42	24							Bottom of Boring @ 22.7				
26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42   42   42   42   4   42   4   4	24											
26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42   42   42   42   4   42   4   4	25											
27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   42   42   42   4   4   42   4   4												
28 29 30 31 32 33 34 35 36 37 38 39 40 41	26											
28 29 30 31 32 33 34 35 36 37 38 39 40 41												
29       30       31       32       33       34       35       36       37       38       39       40       41       42	27											
29       30       31       32       33       34       35       36       37       38       39       40       41       42												
30 31 32 33 34 35 36 37 38 39 40 41 41	28											
30 31 32 33 34 35 36 37 38 39 40 41 41	20											
31 32 33 34 35 36 37 38 39 40 41 42	29											
31 32 33 34 35 36 37 38 39 40 41 42	30											
32 33 34 35 36 37 38 39 40 41 42	30											
32 33 34 35 36 37 38 39 40 41 42	31											
33 34 35 36 37 38 39 40 41 42												
34       35       36       37       38       39       40       41       42	32											
34       35       36       37       38       39       40       41       42												
35       36       37       38       39       40       41       42	33											
35       36       37       38       39       40       41       42	2.4											
36         37         38         39         40         41         42	34											
36         37         38         39         40         41         42	35											
37       38       39       40       41       42	33											
37       38       39       40       41       42	36											
38       39       40       41       42												
39       40       41       42	37											
39       40       41       42												
40       41       42	38											
40       41       42	20											
41 42 42	39											
41 42 42	40											
42	40											
42	41											
	42											
43												
	43											

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.

6035 Corporate Drive East Syracuse, NY 13057						SUBSURFACE EXPLORATION Boring No. age 18							
	\ \Cor	ciates	L Les					BORI			Page No.		of 2
			2 00000	i none.	315-701-0522				.,5 1/6		Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		19/23
Client:		Rambo		T '	on Dlon						Date Finished		19/23
Location	n:			n Locati	INVESTIGATIO	N			CPO	IINDWATER	Surface Elev. OBSERVAT		39.6'
Driller:		Brian S		DS OF	Casing:	4 ¼" ID	HSA		J	UNDWATER		IONS	
Driller:		Jason I			Casing Hammer:	7/4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto			_	na, EIT	Other:			09/19/23	W	hile Drilling	None	e Noted	
Drill Ri		CME I			Soil Sampler:	2" OD S	Split Barrel	09/19/23			Groundwater read	ling not t	aken due
Type:		Track			Hammer Wt:	140 lbs.		09/19/23	After (	Casing Removed	to flowing sand co	onditions	
Rod Siz		NWJ			Hammer Fall:	30 in.		09/19/23		Casing Removed			
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	CLASSI	FICATION (	)F MATERIA	L	
Depth		Sample	e Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change	m -	medium			0% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109	%	RQD %
0	1	0.0	2.0	SS/22	WH-3-4-5					ine SAND, trac	e CLAY, trace		7
1							ROOTS (n	noist, med	num stif	1)			
1													
2	2	2.0	4.0	SS/19	4-3-4-4		Pinkich Br	own mottl	led SII T	Γlittle CI ΔV +	race fine SAND	(moiet	7
2		2.0	7.0	00/17	T-J-T*#		medium sti		ion DIL I	, nuic CLA1, t	race fine SAND	(moist,	,
3							incarain su	/					
4	3	4.0	6.0	SS/18	1-2-3-4		Pinkish Br	own SILT	Γ, some (	CLAY, trace fin	e SAND (wet, m	nedium	5
							stiff)				•		
5													
6	4	6.0	8.0	SS/17	2-3-4-7			tled SILT	Γ, trace (	CLAY, trace fin	e SAND (wet, m	edium	7
-							stiff)						
7													
8	5	8.0	10.0	SS/10	1-3-3-4		Gray CL A	V and CII	T (wat	medium stiff)			6
o	)	0.0	10.0	33/10	1-3-3-4		Oley CLA	ı anu sil	∠ı (wel,	meululii stiii)			0
9													
,													
10													
11													
12													
13		100	1	99.35			G: 17	•		C:>			
1.4	6	13.0	15.0	SS/15	WH-WH-1-2		Similar as	above (we	et, very	soft)			1
14													
15													
13													
16													
10													
17													
18	7	18.0	20.0	SS/20	WR-WH-1-1		Similar as	above (we	et, very	soft)			1
								`	•	•			
19													
20					ube, C - Core, WH - '	1	Continued	on Page 2	2				<u> </u>
			Indicti	irbad Ti	nne C'-Core WH-	Waight o	T Hammar	1104 11/1					

ATTA	CHME	OT TV	CEG	<b>REPO</b>	RT NUMBER: 172	E-01-0	124 EXHIBIT A-6: G	SEOTECHNICAL	_ DATA REPOR	RT - PHASE 2
				6035 Co	orporate Drive	CI	JBSURFACE EXPLO	DATION	Boring No.Pa	ge <b>1823 26</b> 536
		IV		East Syr	acuse, NY 13057	50			Page No.	2 of 2
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		TEST BORING I	LUG	Report No.	28062B-03-1223
	LO	G OF	BORI	ING SA	MPLES		VISUAL CLAS	SIFICATION C	F MATERIAI	
Depth Scale	Sample	Sample (F		Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium	and - 35 to 50	% / some - 20 to 35%	SPT "N" or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine		0% / trace - 0 to 10%	RQD %
20 21							Continued from Page 1 See Remark 1			
22										
23										
24							Auger refusal @ 25.0'			
25							Bottom of Boring @ 25.0'			
26										
27										
28										
29										
30										
31										
33										
34										
35										
36										

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.

					ermorete Drive					·		ageg <u>l.9</u> 2.8f <u>4</u> 536
		M	Œ		orporate Drive racuse, NY 13057	SU	J <b>BSURF</b> A	ACE EX	(PL	ORATION	Page No.	1 of 1
	Asso	ciates	, Inc.		315-701-0522		TEST	BORI	NG	LOG	Report No.	28062B-03-1223
Project 1			No.	i none.	New York						Date Started	10/12/23
Client:	· · · · · · ·	Rambo		us, Ciuy,	THEW TOTK						Date Finished	10/12/23
Location	n:			n Locati	on Plan						Surface Elev.	389.6'
					INVESTIGATIO	N			GF	ROUNDWATER		
Driller:		A. Lins	struth		Casing:	3 ¼" ID	H.S.A.	D-4-		T:	D4l- (E4.)	C A4 (E4 )
Driller:		J. Winl	ks		Casing Hammer:			Date		Time	Depth (Ft.)	Casing At (Ft.)
Inspecto					Other:			10/12/23		While Drilling	11.6	14.0
Drill Rig	g:	CME 5	55		Soil Sampler:		plit Barrel	10/12/23		ore Casing Removed	11.6	14
Type:		ATV			Hammer Wt:	140 lbs.		10/12/23		ter Casing Removed	None Noted	out
Rod Size		AWJ	DOD	INIC C	Hammer Fall:	30 in.	X/T(	10/12/23		ter Casing Removed	caved @ 5.2	out
	LU			ING SE	AMPLES		V IX	SUAL C	LAS	SSIFICATION O	F MIATERIA	
Depth	G - 1	Sample (F	Depth	Type /	Blows on	Depth of		coarse		1 25 . 52	0/ / 20: 25:	SPT "N"
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 359 0% / trace - 0 to 109	
0	110.	110111	10	rec. (III.)	1 of 0 melles	(1 (.)		11110		Huic - 10 to 2	5,5 / Hace - 0 to 107	, KQD /0
1												
2												
3												
3												
4												
5												
6												
7												
/												
8												
Ü												
9												
10												
1.1												
11												
12												
12												
13												
14	1	14.0	16.0		Shelby Tube		No Recove	•				
							Grey SILT	and fine	SAN	D (wet)		
15												
1.0	2	16.0	10 0		Challey T-1-		No Pare	C P		ul- 1		
16	2	16.0	18.0		Shelby Tube		No Recove Grey fine S					
17							orey fille S	מווג עויגיי	ı SIL	LI (WEL)		
'												
18							Bottom of	Boring @	18.0	)'		
								J				
19												

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.

		N/		6035 Co	orporate Drive	SUBSURFACE EXPLORATION  Boring No. Page 1					age <u>19</u>	<b>335</b> 536	
		IV	Ę		racuse, NY 13057			Γ BORI			Page No.	1 (	of 2
		ociates	N LINE OF	I momer :	315-701-0522		11201	DOKI	110	LOG	Report No.		-03-1223
Project	Name:			us, Clay,	New York	-					Date Started		8/23
Client:		Rambo									Date Finished		8/23
Location	n:			n Locati		N.T.		I	CIT.		Surface Elev.		4.8'
Driller:				DS OF	INVESTIGATIO	N 4 ¼" ID	II C A		GK	COUNDWATER	OBSERVAT	IONS	
Driller:		Brian S Jason E			Casing: Casing Hammer:	4 % ID	н.э.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto		Astitwa	_	na. EIT	Other:			09/18/23		While Drilling	16.5	1:	8.0
Drill Ri		CME I		, 211	Soil Sampler:	2" OD S	plit Barrel	09/18/23		ore Casing Removed	21.3		3.4
Type:		Track			Hammer Wt:	140 lbs.	1	09/18/23		er Casing Removed	5.8	C	ut
Rod Siz	e:	NWJ			Hammer Fall:	30 in.		09/18/23	Afte	er Casing Removed	caved @ 13.3	C	ut
	LO	G OF	BORI	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium			% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		f - fine			0% / trace - 0 to 10%	6	RQD %
0	1A	0.0	0.4	SS/20	WH-2-3-5	<b>├-</b> —			<u> </u>	Matter (moist) e fine SAND (wet,	modium stiff		5
1	1B	0.4	2.0				Brown mo	mea SiLi	, trac	e line SAND (wet,	medium sum)		
1													
2	2	2.0	4.0	SS/18	2-3-3-5		Brown SIL	T, little C	LAY	, trace fine SAND	(wet, medium st	riff)	6
												ŕ	
3													
4	3	4.0	6.0	SS/19	2-3-2-5		Brown SIL	T, trace C	CLAY	(wet, medium stif	f)		5
5													
6	4	6.0	8.0	SS/18	5-8-6-6		Brown mo	ttled SILT	` trac	e CLAY (wet, stiff	)		14
		0.0	0.0	22/10					,	0 02111 (1100, 50111	,		- 1
7													
8	5	8.0	10.0	SS/10	1-2-3-5		Grey CLA	Y and SIL	T (w	et, medium stiff)			5
9													
10													
10													
11													
12													
12		12.0	15.0	00/17			C (	CAND		CODANEL 1941		TT (	0
13	6	13.0	15.0	SS/17	WH-WH-WH		Grey cmf S very loose)		me m	of GRAVEL, little (	LAY, trace SII	LI (wet,	0
14							very roose)	)					
17													
15													
16													
17													
10	7	19.0	20.0		21 27 24 20		Grov CII T	' come o	of C A	ND some of CDA	VEL trace CL	V (mot	51
18	/	18.0	∠0.0		21-27-24-30		hard)	, some cm	п эА	ND, some mf GRA	vel, trace CLA	11 (wet,	31
19							iiaiu)						
20							Continued	on Page 2	2				

20 Continued on Page 2
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 Boring No. Page 1943 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches little - 10 to 20% / trace - 0 to 10% RQD % (Feet) No. Rec. (in.) (Ft.) f - fine 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) 100 +Auger refusal @ 23.4' Bottom of Boring @ 24.1' 24 25 26 27 28 29 30 31 32 33 34 35 36 37

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						SUBSURFACE EXPLORATION  Boring No. Page 189						<b>539</b> 536
	East Syracuse, NY 13057  Associates, Inc. Phone: 315-701-0522							BORI			Page No.	1 (	of 2
			The same of	i none.	315-701-0522	<u> </u>	1101	DOM	.,,,,,		Report No.		-03-1223
Project I	Name:			us, Clay,	New York						Date Started		30/23
Client:		Rambo		n I ac-t'	on Dian						Date Finished		30/23
Location	ı.			n Locati	on Plan INVESTIGATIO	N			CP	OUNDWATER	Surface Elev. ORSERVAT		3.5'
Driller:		B. Flet		<b>D</b> B <b>O</b> 1	Casing:	3 ¼" ID	H.S.A.	D 4	- OK				A 4 (TEV.)
Driller:		R. Cas	atelli		Casing Hammer:			Date		Time	Depth (Ft.)		At (Ft.)
Inspecto		a			Other:	<b>2</b> 11 0 D 0		10/30/23		While Drilling	15.0		8.5
Drill Rig	<b>g:</b>	CME 5	50X		Soil Sampler: Hammer Wt:	2" OD S	Split Barrel	10/30/23		re Casing Removed er Casing Removed	20.0 7.7		7.3
Type: Rod Size	٠.	AWJ			Hammer Fall:	30 in.		10/30/23		er Casing Removed	caved @ 8.0		out out
Itou SIZO			BOR	ING SA	MPLES	30 III.	VIS			SIFICATION C			
D 4	LO		e Depth						2710		) I WITTERE		CDT IINIII
Depth Scale	Sample		t.)	Type / Sample	Blows on Sampler	Depth of		coarse medium		and - 35 to 50	0% / some - 20 to 35	%	SPT "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/12	1-1-2-2		Light Brow	n SILT, t	race f	ine SAND, trace I	ROOTS (moist, s	soft)	3
1													
2 3	2	2.0	4.0	SS/16	4-4-2-2		Light Brow medium sti		ittle f	ine GRAVEL, trac	ce fine SAND (n	noist,	6
4	3	4.0	6.0	SS/12	2-8-7-8		Light Brow	n SILT, l	ittle c	emf GRAVEL, littl	le fine SAND (n	noist,	15
5							very stirry						
6	4	6.0	8.0	SS/10	8-7-6-6		Similar as	above (mo	oist, s	tiff)			13
7													
8	5	8.0	10.0	SS/17	5-6-10-14		Light Brow stiff)	n SILT, l	ittle n	nf GRAVEL, little	mf SAND (moi	st, very	16
9													
10													
11													
12													
13	_	10 -		ac :: -	22.22.22			<i>'</i> 6			r 111 At ~:		
14	6	13.5	15.0	SS/12	23-28-30		Light Brow (moist, har	-	ıLТ, l	little cmf GRAVE	L, little fine SAN	ND	58
15													
16													
17													
18													
19	7	18.5	20.0	SS/17	21-41-36		Grey SILT	, little mf	GRA	VEL, little mf SAl	ND (moist, hard	)	77
20							Continued	on Page 2	),				
SS - Spl <b>Remarl</b>		n, U - 1	Undist	urbed Ti	ıbe, C - Core, WH - '	Weight o	of Hammer -	Rod, WI	₹ - W	eight of Rod			

CVE Associates, Inc. 6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age \$25.7536

Page No. 2 of 2

Report No. 28062B-03-1223

	Associates, Inc. Phone: 315-701-0522 LOG OF BORING SAMPLES						TEST BORING L	OG	Report No. 2	8062B-03-1223
							VISUAL CLASS	IFICATION (		
Depth Scale	Sample	Sample	e Depth	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium		0% / some - 20 to 35%	SPT "N"
(Feet)	No.	From		Rec. (in.)	Per 6 Inches	(Ft.)	f - fine		20% / trace - 0 to 10%	RQD %
20							Continued from Page 1			
21										
22										
23		22.5	25.0	00/14	45.05.46			10		0.1
24	8	23.5	25.0	SS/14	45-35-46		Similar as above (moist, ha	rd)		81
25	1									
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

Associates, Inc. Phone: 315-701-0522  Project Name: Micron Campus, Clay, New York  Client: Ramboll  Location: See Exploration Location Plan  METHODS OF INVESTIGATION  Driller: Brian Swartz  Casing: 4 ½" ID H S A	2339 536
Report No.   2008   Phone:   33-30  1.052	of 2
Clientic   Ramboil   See Exploration Location Plan   Surface Elev	B-03-1223
See Exploration Location Plan	/18/23
Depth   Scale (Peet)   No.   From   To   Rec. (in)   Per 6 inches   No.   From   To   Rec. (in)   Size   To   No.   Si	/18/23
Driller:   Brian Swartz   Casing:   4 %   1D H.S.A.   Date   Time   Depth (Ft.)   Casing Inspector:   Astiva Sharma, EIT   Other:   Track   Hammer Wi:   140 lbs.   George Soil Sample   George Soil Soil Soil Soil Soil Soil Soil Soil	91.9'
Driller:   Brian Swartz   Casing:   4 %" ID H.S.A.   Date   Time   Depth (Ft.)   Casing Hammer:   Driller:   Jason Ersing	
	g At (Ft.)
Drill Rig:   CME LC 55   Soil Sampler:   2" OD Split Barrel   140 lbs.   14	18.0
Type: NW1	28.5
No.   Core   C	
Depth   Scale   Sample   From   To   Rec. (in.)   Sample   Per 6 Inches   Per 6	out
Depth   Scale   (Feet)   No.   From   To   Resc. (in.)   From   To   Resc. (in.)   Per 6 Inches   Per 6 Inche	out
Scale (Feet)   Sample (Feet)	
Sample   CH-1   Sample   CH-1   Sample   Sample   Change   Chang	SPT "N"
1A   1B   0.4   2.0   SS/17   WH-WH-2-2   Grey Topsoil and Organic Matter (moist)	or
18	RQD %
1	2
2 2 2.0 4.0 SS/24 2-4-4-4 Brown mottled SILT, trace fine SAND, trace CLAY (wet, medium stiff)  3 4.0 6.0 SS/17 1-3-5-7 Brown SILT, trace fine SAND (wet, medium stiff)  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 5 8.0 10.0 SS/15 2-3-4-5 Similar as above (wet, medium stiff)  9 10 11 12	
3       4       3       4.0       6.0       SS/17       1-3-5-7       Brown SILT, trace fine SAND (wet, medium stiff)         5       6       4       6.0       8.0       SS/15       6-5-3-4       Grey/Brown SILT and CLAY, trace fine SAND (wet, medium stiff)         7       8       5       8.0       10.0       SS/15       2-3-4-5       Similar as above (wet, medium stiff)         9       10       11       12       10       11       12	
3       4       3       4.0       6.0       SS/17       1-3-5-7       Brown SILT, trace fine SAND (wet, medium stiff)         5       6       4       6.0       8.0       SS/15       6-5-3-4       Grey/Brown SILT and CLAY, trace fine SAND (wet, medium stiff)         7       8       5       8.0       10.0       SS/15       2-3-4-5       Similar as above (wet, medium stiff)         9       10       11       12       10       11       12	
3       4       3       4.0       6.0       SS/17       1-3-5-7       Brown SILT, trace fine SAND (wet, medium stiff)         5       6       4       6.0       8.0       SS/15       6-5-3-4       Grey/Brown SILT and CLAY, trace fine SAND (wet, medium stiff)         7       8       5       8.0       10.0       SS/15       2-3-4-5       Similar as above (wet, medium stiff)         9       10       11       12       10       11       12	8
3	
4 3 4.0 6.0 SS/17 1-3-5-7 Brown SILT, trace fine SAND (wet, medium stiff)  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 5 8.0 10.0 SS/15 2-3-4-5 Similar as above (wet, medium stiff)  9 10 11 12	
5	
5	8
6	0
6	
7	
7 8 5 8.0 10.0 SS/15 2-3-4-5 Similar as above (wet, medium stiff)  10 11 12	
8 5 8.0 10.0 SS/15 2-3-4-5 Similar as above (wet, medium stiff)  10 11 12 12 1	8
8 5 8.0 10.0 SS/15 2-3-4-5 Similar as above (wet, medium stiff)  10 11 12	
9 10 11 12	
9 10 11 12	
10 11 12	7
10 11 12	
10 11 12	
11 12	
11 12	
12	
12	
13 6 13.0 SS/16 1-1-1-1 Grey CLAY and SILT (wet, soft)	
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	19
	19
(wet, very 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:	

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION

Boring No. Page 1823 30 536 Page No.

	Age	ociate	s. Inc.	Dhann	315-701-0522		TEST BORING I	LOG	Report No. 2	2 OF 2 8062B-03-1223
	LO	G OF	BOR	ING S	AMPLES		VISUAL CLASS	SIFICATION C		8002B-03-1223
Depth Scale	Sample	Sample	e Depth	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium		% / some - 20 to 35%	SPT "N"
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Continued from Page 1	little - 10 to 2	0% / trace - 0 to 10%	RQD %
21							Continued from Page 1			
22										
23	8	23.0	25.0	SS/16	14-18-30-40		Dark Grey SILT, some cm CLAY (wet, hard)	f SAND, trace fin	e GRAVEL, trace	48
24										
25	1									
26										
27										
28	9	28.0	28.1	SS/1	100@1"		ROCK chips and fragment Auger refusal @ 28.5'	ts, trace SILT (wet		100+
29							Bottom of Boring @ 28.5'			
30	1									
31										
32										
33										
34										
35	_									
36										
37										
38										
39										
40	]									
41										
42										
44										
45	-									

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

<u>4. 4. 4</u> .		R/		6035 Co	orporate Drive	SI	IBSURF.	ACE EX	<b>KPLORATION</b>	Boring No.	ie Ba	341 53	
		IV	Ę	East Syr	racuse, NY 13057				NG LOG	Page No.	1 c	of 2	
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		ILO	DOKI	NG LOG	Report No.	28062B-	-03-1223	
roject N	Name:			us, Clay,	New York	-5				Date Started	09/1	8/23	
lient:		Rambo	11							Date Finished	09/1	8/23	
ocation	ı:			n Locati				_		Surface Elev.		1.0'	
				DS OF	INVESTIGATION				GROUNDWATE	R OBSERVATIO	ONS		
Oriller: Oriller:		Brian S Jason H			Casing: Casing Hammer:	4 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.	
nspecto	r:		_	na, EIT	Other:			09/18/23	While Drilling	2.9	18	3.0	
orill Rig	g:	CME I	.C 55		Soil Sampler:	2" OD S	Split Barrel	09/18/23	Before Casing Removed	2.9	2.5		
Type:		Track			Hammer Wt:	140 lbs.		09/18/23	After Casing Removed	5.0	0	ut	
Rod Size	e:	NWJ			Hammer Fall:	30 in.		09/18/23	/18/23 After Casing Removed caved @ 19.0				
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLASSIFICATION OF MATERIAL						
Depth		Sample	Depth	Trump /	Blows on	Depth of	c	- coarse				SPT "I	
	Sample	_		Type / Sample	Sampler	Change		medium	and - 35 to 5	0% / some - 20 to 35%		or	
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	Ft.) f - fine			20% / trace - 0 to 10%		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 mo	ttled SILT	, trace fine SAND (mo	ist, medium stiff)			
1													
2	2	2.0	4.0	SS/24	4-5-5-4		Similar as	above (we	et, stiff)			10	
3													
.	_			ac :: -	,,,,,,			<b>.</b>		7 /		_	
4	3	4.0	6.0	SS/15	WH-3-5-5		Brown SII	T, trace f	(wet, stiff)		8		
5													
	4	60	0.0	00/10	2 4 5 5		D /C	CAND (		_			
6	4	6.0	8.0	SS/18	3-4-5-7		Brown/Gre	ey SILT, s	SAND (wet, stiff)		9		
٦													
7													
o	5	0.0	10.0	SS/12	ули ээ г		Croy CI A	Vanden	T (wat madium stiff)			_	
8	5	8.0	10.0	33/12	WH-2-3-5		Grey CLA	i and SIL	LT (wet, medium stiff)			5	
9													
9													
10													
10													
11													
11													
12													
13	6	13.0	15.0	SS/16	1-2-2-3		Similar as	above (we	et, medium stiff)			4	
	-								,,				
14													
15													
16													
17													
18	7	18.0	20.0	SS/9	12-8-7-10		Dark Grey	cmf GRA	VEL and cmf SAND,	trace SILT, trace Cl	LAY	15	
							(wet, medi	um compa	act)				
19								-					
20					ube, C - Core, WH -		Continued	on Page 2	2				

CVE Associates, Inc.
LOG OF BOR

6035 Corporate Drive East Syracuse, NY 13057

#### SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. Page 303.4 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Δee	ociate	s. Inc	East Sy	315-701-0522		TEST BORING I	LOG	Report No. 28	2 of 2 062B-03-1223		
	ΙΛ	COF	ROD	Phone:	315-701-0522 <b>AMPLES</b>		VISUAL CLASSIFICATION OF MATERIAL					
	LU			ш <b>чс 3</b> А				SITICATION (	JE WIA LEKIAL			
Depth Scale	Sample		e Depth t.)	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium	and - 35 to 50	0% / some - 20 to 35%	SPT "N or		
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine		20% / trace - 0 to 10%	RQD %		
20							Continued from Page 1					
2.1												
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												
21												
25												
26												
26												
27												
20												
28												
29												
20	_											
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
37												
40												
41												
71												
42												
43												
43												
44												
4.7												
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

												202 20	4 05 500
		$\mathbf{N}$			orporate Drive	SU	JBSURF	ACE EX	KPL	ORATION	Boring No.		
		IV			racuse, NY 13057			BORI			Page No.	1	of 2
	Asso	ciates	s, Inc.	Phone:	315-701-0522		TEST	DOM	110	LOG	Report No.	28062E	3-03-1223
Project 1	Name:	Micron	Campi	us, Clay,	New York	-					Date Started	04/	28/23
Client:		Rambo	11								Date Finished	04/	28/23
Location	1:	See Ex	ploratio	n Locati	on Plan						Surface Elev.	40	)3.9'
		ME	THO	DS OF	INVESTIGATIO	N GROUNDWATER OBSERVATIONS							
Driller:		Gary R	ichard		Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Cocine	g At (Ft.)
Driller:		Chris C			Casing Hammer:			Date			Depth (Ft.)	Casing	g At (Ft.)
Inspecto				na, EIT	Other:			04/28/23		While Drilling	None Noted		
Drill Ri	g:	CME 5	5		Soil Sampler:		Split Barrel	04/28/23		ore Casing Removed	19.1	2	1.7
Type:		Track			Hammer Wt:	140 lbs.		04/28/23		er Casing Removed	4.2		out
Rod Size		AWJ			Hammer Fall:	30 in.		04/28/23		er Casing Removed	caved @ 4.5		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	)F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change	m - medium				% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	3.6 .		20% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/15	WH-WH-2-2		Topsoil and Organic Material (moist) Brown SILT, trace fine SAND, trace CI						2
1	1B	0.5	2.0				Brown SIL	1, trace i	ine S	(moist, soit)			
1													
2	2	2.0	4.0	SS/18	3-3-3-3		Brown SILT trace CLAV (moist madium stiff)						6
2	2	2.0	4.0	33/10	3-3-3-3		Brown SILT, trace CLAY (moist, medium stiff)						U
3													
3													
4	3	4.0	6.0	SS/24	3-2-3-4		Same as al	ove (wet.	med	ium stiff)			5
			0.0	22/2:			Same as above (wet, medium stiff)						
5													
6	4	6.0	8.0	SS/14	6-6-5-6		Same as at	ove (wet,	med	ium stiff)			11
7													
8	5	8.0	10.0	SS/24	5-7-6-6		Brown SIL	T, trace (	CLAY	Y, trace fine SAND		13	
9													
10													
10													
11													
11													
12													
12	6	13.5	15.0	SS/13	8-7-5		Grey cmf	SAND so	me C	ILT, trace mf GRA	VFI (wet med	ium	12
13	U	13.3	13.0	33/13	0-7-3		compact)	<i>г</i> аны, 80	111C S	ili, uace iii OKA	vel, med	iuiii	12
1.5							compact)						
14													
1 1													
15													
16													
17													
18													
	7	18.5	20.0	SS/4	12-13-13		Gray SILT	and mf C	βRAV	VEL, some cmf SA	ND (moist, very	stiff)	26
19													
20						I	Continued	on Page 2	2				

20 Continued on Page 2 SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

ATTA	CHIVIE	VI 10	UEG		RT NUMBER: 172	( <b>∟-</b> ∪1-0	124 EXHIBIT A-6: G	EUTECHNICA		
			E		orporate Drive	SU	BSURFACE EXPLO	<b>DRATION</b>		age <b>303.45</b> 536
	Assi	ciates	Inc		racuse, NY 13057 315-701-0522		TEST BORING I	LOG	Page No. Report No.	2 of 2 28062B-03-1223
					MPLES		VISUAL CLASS	SIFICATION (		
D(1:			Depth					SIFICATION	T WATERIA	
Depth Scale	Sample	(F		Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium	and - 35 to 50	% / some - 20 to 35%	SPT "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine	little - 10 to 2	20% / trace - 0 to 10%	6 RQD %
20							Continued from Page 1			
21							Augered hard @ 21.3'	_		
22	8	21.7	21.7	SS/0	100@ 0"		No Recovery. See Remark Bottom of Boring @ 21.7'	<u>I</u>		100+
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										

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

43

44

				6035 C	orporate Drive	SI	JBSURFA	ACE EX	(PL	ORATION	Boring No.	age <b>3</b> 0	<b>356</b> 536
		IV		•	racuse, NY 13057			F BORI			Page No.		of 1
		ociates	7.		315-701-0522		11201	DOM			Report No.		-03-1223
Project	Name:			us, Clay,	, New York						Date Started		14/23
Client:		Rambo									Date Finished		14/23
Location	n:			n Locat		N.T.		1	<u> </u>		Surface Elev.		1.4'
Driller:		Brian S		DS OF	CINVESTIGATIO Casing:		нсл		GK	COUNDWATER	OBSERVAI	IONS	
Driller:		Jason I			Casing: Casing Hammer:	4 % ID	D H.S.A. Date Time			Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:			na. EIT	Other:			09/14/23		While Drilling	12		18
Drill Ri		CME I		, 211	Soil Sampler:	2" OD S	Split Barrel	09/14/23		ore Casing Removed	9.5		8.3
Type:		Track			Hammer Wt:	140 lbs.	•	09/14/23		er Casing Removed	5.1	C	out
Rod Siz	e:	NWJ			Hammer Fall:	30 in.		09/14/23	Afte	er Casing Removed	caved @ 16.2	C	out
	LO	G OF	BOR	ING S	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	T /	Blows on	Donth of	c -	- coarse					SPT "N"
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change	m - medium and - 35				% / some - 20 to 35	%	or
(Feet)	No.	From	То	Rec. (in.)		(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/12	WH-1-3-4		Brown SILT, trace fine SAND, trace ROOT				S (moist, mediu	m stiff)	4
1													
2	2	2.0	4.0	SS/16	8-5-5-4		Brown SII	T trace (	TAV	, trace fine SAND	(wet stiff)		10
2	2	2.0	7.0	35/10	0-3-3-4		DIOWII SIL	i, nace C		(wet, still)		10	
3													
4	3	4.0	6.0	SS/15	2-2-3-4		Brown SILT, little CLAY, trace cmf SAND (wet, medium st						5
5													
				~~ /1 ^					~				10
6	4	6.0	8.0	SS/13	3-4-6-4		Brown SIL	T, some (	CLAY	, trace mf SAND	(wet, stiff)		10
7													
/													
8	5	8.0	10.0	SS/15	2-3-4-3		Brown mot	ttled SILT	'. som	ne CLAY, trace fin	e SAND (wet. n	nedium	7
		0.0	10.0	55/15	23.13		stiff)	tilea SILI	, 5011	ic C2711, trace 1111	e Britis (wet, ii	icaraiii	
9							,						
10													
11													
12													
12													
13	6	13.0	15.0	SS/9	WH-3-2-3		Grev CLA	Y. some S	тл	little cmf SAND, t	race fine GRAV	ÆL.	5
13		15.0	15.0	00/)	1111323		(wet, medi		,	maio cim britab,	ince inte ORA v	LL	
14							, st, mean						
15													
16													
17													
10	7	19.0	18.3	SS/3	100@3"		Grov BOC	V obino o	nd for	amonta little CII T	T trace omf CAN	JD	100+
18	/	18.0	18.3	33/3	100@3		trace mf G	-		ngments, little SIL7	, trace cmi SAI	ND,	100+
19							Auger refu						
							Bottom of			1			
20													

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

				6035 Co	orporate Drive	CI	IRCIIDE	ACE EX	PI ORATION	Boring No.	age 20	<b>361</b> 536		
		IV		East Syr	racuse, NY 13057	TEST RORING LOG Page No. 1 of								
	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		IESI	I BOKI	NG LUG	Report No.	28062H	3-03-1223		
Project I	Name:	Micror	Camp	us, Clay,	New York	1				Date Started	10/	12/23		
Client:		Rambo	11	-						Date Finished	10/	12/23		
Location	1:	See Ex	ploratio	on Locati	on Plan					Surface Elev.	39	95.1'		
		ME	THO	DS OF	INVESTIGATIO	N			GROUNDWATEI	R OBSERVAT	IONS			
Driller: Driller:		A. Lins			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	g At (Ft.)		
nspecto	r:				Other:			10/12/23	While Drilling	14.2	1	3.5		
Drill Rig		CME 5	5		Soil Sampler:	2" OD S	Split Barrel	10/12/23		19.2	26.5			
Гуре:		ATV			Hammer Wt:	140 lbs.	•	10/12/23	After Casing Removed	10.5		out		
Rod Size	e:	AWJ			Hammer Fall:	30 in.		10/12/23		caved @ 11.7		out		
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIA	L			
Donth		1	Depth									SPT "N		
Depth Scale	Sample	_	_	Type /	Blows on Sampler	Depth of Change		- coarse - medium	and - 35 to 5	0% / some - 20 to 35	0/2	or		
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	(Ft.)		f - fine		20% / trace - 0 to 109		RQD %		
0	1	0.0	2.0	SS/15	5-5-7-7	(= 11)			ttle SILT (moist, mediu			12		
								,	( 1 11, 1	1,				
1														
1														
2	2	2.0	4.0	SS/17	4-5-5-7		Brown SII	T some f	ine SAND, trace CLAY	(moist stiff)		10		
-	~	2.0	1.0	55/17	1337		Diown Sil	21, some 1	ine Start, adec CErt	(moist, stiff)		10		
3														
3														
4	3	4.0	6.0	SS/20	4-5-5-5		Drown fine	CAND	nome CII T (west stiff)			10		
4	3	4.0	0.0	33/20	4-3-3-3		DIOWII IIII	e sand,	some SILT (wet, stiff)			10		
_														
5														
	4	6.0	0.0	00/10	5 5 7 4		D CII	T 1'44 C	CAND ( CLAN	. ( , , , ; ; ; ; ;		10		
6	4	6.0	8.0	SS/19	5-5-7-4		Brown SIL	ZI, little fi	ne SAND, trace CLAY	(wet, stiff)		12		
_														
7														
												_		
8	5A	8.0	9.5		3-4-3-7			f SAND, l	ittle mf GRAVEL, little	e SILT (wet, med	dium	7		
							compact)							
9									inning @ 9.5'					
	5B	9.5	10.0				Brown cm	f SAND,	little mf GRAVEL, littl	le SILT (wet)				
10														
11														
12														
13														
	6	13.5	15.0	SS/10	7-7-7		Brown cm	f SAND,	some mf GRAVEL, trac	ce SILT (wet, me	edium	14		
14							compact)	,	,	•				
15														
-														
16														
10														
17							Augers mo	ore dense l	peginning @ 17.0'					
1.7							ingers 1110	c acrise l						
18														
10	7	18.5	20.0	SS/11	23-33-36		Brown /C-	av CII T ~	ome mf CAND (wat be	ard)		69		
19	/	16.3	∠0.0	33/11	25-33-30		DIOWII/OR	cy SIL1, S	ome mf SAND (wet, ha	aru)		09		
19														
20							Continue	on Doce of	•					
	·		Ten of ! - '	unde o 4 T	ube, C - Core, WH -	W/oi - 1-4	Continued	on Page 2				<u> </u>		
1C C-1	11 0000						of Hammar	I Dod Wn	Waight of Dod					

Boring No Page 2056 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. VISUAL CLASSIFICATION OF MATERIAL LOG OF BORING SAMPLES Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From То Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 23 8 SS/5 33-100@3" Grey SILT and ROCK fragments, little cmf GRAVEL (moist, hard) 100 +23.5 24.3 24 25 26 Auger refusal @ 26.5' 9 26.5 26.5 SS/0 100@0" 26.5' No Recovery 100+ Bottom of Boring @ 26.5' 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43

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

Remarks:

44

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	KPLO	RATION	Boring No.	age 20	<b>66</b> 5 536
		IV	Lu-		racuse, NY 13057	TEST RORING LOG Page No.							of 2
		ociates	The same of	i none.	315-701-0522		1131	DOM	. 10 L		Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		01/23
Client:		Rambo		T '	on Dlon						Date Finished		01/23
Location	1;			n Locati	on Plan  INVESTIGATIO	N			CRC	OUNDWATER	Surface Elev. ORSERVAT		95.8'
Driller:		B. Flet		DO OF	Casing:	3 ¼" ID	H.S.A.	_	- OKC				
Driller:		R. Cas	atelli		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto					Other:			11/01/23		hile Drilling	21.0		2.5
Drill Ri	g:	CME 5	550X		Soil Sampler:		Split Barrel	11/01/23		Casing Removed	21.0		2.5
Type:		ATV			Hammer Wt:	140 lbs.		11/01/23		Casing Removed	10.3	(	out
Rod Siz		AWJ	<b>P</b> ∩D1	INC S	Hammer Fall: AMPLES	30 in.	3/10	11/01/23		Casing Removed  IFICATION (	caved @ 13.5	T	
	LU			ING SE			V 18	SUAL C	LASS	IFICATION	JE WIATEKIA	L	
Depth	Sample		e Depth et.)	Type /	Blows on	Depth of		coarse		and 25 to 50	9% / some - 20 to 35	0/	SPT "N"
Scale (Feet)	No.	From	То	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			% / some - 20 to 35 20% / trace - 0 to 109		or RQD %
0	1A	0.0	1.0	SS/16	1-1-5-7		Topsoil and		Materi				6
ļ							T						
1	1B	1.0	2.0				Light Brow	n/Grey S	ILT, tra	ace fine SAND (1	moist, medium s	tiff)	
2	2	2.0	4.0	aa /00	67.00		I :-1 / P	(C	11 m ·	and the second			1.5
2	2	2.0	4.0	SS/20	6-7-8-8		Light Brow	/n/Grey S	ılı, tra	ace fine SAND (1	moist, very stiff)		15
3													
5													
4	3	4.0	6.0	SS/18	3-2-3-2		Light Brow	n SILT, t	trace fir	ne SAND (wet, n	nedium stiff)		5
							-			, ,	•		
5													
	4	60	0.0	00/10	2 2 4 4		G::1	-1 <i>(</i>	_:_4	d:			
6	4	6.0	8.0	SS/18	3-3-4-4		Similar as a	above (mo	oist, me	eaium stiff)			7
7													
•													
8	5	8.0	10.0	SS/16	4-5-5-7		Light Brow	n/Grey S	ILT, lit	tle cmf GRAVE	L, little cmf SAN	ND	10
ļ							(moist, stiff	f)					
9													
10													
10													
11													
ļ													
12													
10													
13	6	12 5	15.0	SS/15	505		Cross CII T	1;441	CDAT	ты на е с	ND (maist	din	7
14	6	13.5	15.0	35/15	5-2-5		Grey SILT stiff)	, iittie mf	GKAV	EL, little fine SA	מאט (moist, med	ııum	7
14							3111)						
15													
16													
4 <i>-</i> -													
17													
18													
10	7	18.5	20.0	SS/16	24-21-36		Dark Grev	SILT and	l highlv	weathered ROC	K fragments (m	oist.	57
19	,	-0.5		-2,10	<b>_</b> . <b>_</b> . <b>_</b> . <b>_</b> . <b>_</b> . <b>_</b> . <b>_</b>		hard)	und					
				I		1	<b>1</b>						
20					ube, C - Core, WH -		Continued	on Page 2	2				

Boring No Page 2036 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Rec. (in.) Per 6 Inches little - 10 to 20% / trace - 0 to 10% RQD % (Feet) No. (Ft.) f - fine 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

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

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PLC	ORATION	Boring No.	age 20	<b>864</b> 536		
		IV	Lu-		racuse, NY 13057			BORI			Page No.	1	of 2		
		ociates		I none.	315-701-0522				.,		Report No.		3-03-1223		
Project I	Name:			us, Clay,	New York						Date Started		12/23		
Client:		Rambo		n Locati	on Dlon						Date Finished Surface Elev.		12/23		
Location	1;				INVESTIGATIO	N			GR	OUNDWATER			95.8'		
Driller:		A. Lins		<b>D</b> 01	Casing:	3 ¼" ID	H.S.A.	_	- GR						
Driller:		J. Win	ks		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	g At (Ft.)		
Inspecto					Other:			10/12/23		While Drilling	20.0		2.8		
Drill Rig	<b>;:</b>	CME 5	550X		Soil Sampler:		Split Barrel	10/12/23		re Casing Removed	20.0		2.8		
Type:		ATV			Hammer Wt:	140 lbs.		10/12/23		r Casing Removed	None Noted		out		
Rod Size		AWJ	DΩDI	NC C	Hammer Fall: AMPLES	30 in.	3/1	10/12/23		r Casing Removed SIFICATION (	caved @ 9.9		out		
1	LU			ING SE	AMPLES	1	V 1	SUAL C	LAS	SIFICATION	JF WIATERIA	L			
Depth	C 1		e Depth et.)	Type /	Blows on	Depth of		- coarse		1 25 . 50	20 / 25/		SPT "N"		
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			0% / some - 20 to 359 20% / trace - 0 to 109		or RQD %		
0	1	0.0	2.0	SS/17	1-2-7-9	(1 t.)			ne SA	ND (moist, stiff)	20707 Hace 0 to 107	0	9		
								,		, , ,					
1															
													11		
2	2	2.0	4.0	SS/21	5-6-5-5	Brown SILT, some fine SAND, trace CLAY (wet, stiff)									
2															
3															
4	3	4.0	6.0	SS/12	4-4-6-6		Brown SII	T some r	nf SA	ND (wet_stiff)			10		
	3	1.0	0.0	55/12	1100	Brown SILT, some mf SAND (wet, stiff)									
5															
6	4	6.0	8.0	SS/19	4-7-8-8		Brown fine	e SAND, l	little S	ILT (wet, mediun	n compact)		15		
_															
7															
8	5	8.0	10.0	SS/17	2-2-3-4		Brown emi	FSAND I	little fi	ine GRAVEL, litt	le SII T (wet loc	nce)	5		
0	3	0.0	10.0	55/17	2234		Brown cin	, D. H. I.D., 1	iittic ii	ine GRAVEL, nu	ie BILT (wei, loc	<i>(</i> 30)	3		
9															
10															
11															
12															
12															
13															
	6	13.5	15.0	SS/11	3-3-8		Black/Grey	y SILT, so	ome cn	nf SAND, trace m	of GRAVEL (mo	ist,	11		
14							stiff)								
1.7							ROCK frag	gments no	ted						
15															
16															
10															
17															
18															
	7	18.5	20.0	SS/11	7-28-43		Grey SILT	, some RO	OCK f	ragments, little m	f SAND (moist,	hard)	71		
19															
20							Continued	on Dogo	)						
	it Spoo	n II - 1	Indist	irhed Ti	Lube, C - Core, WH - `	L Weight o	Continued f Hammer -			eight of Rod			<u> </u>		
ss - spi Remark		11, U - (	Unuistl	arocu I	uoc, C - Core, WII -	v cigiii 0	, 11a111111C1 -	i Kou, Wi	VV C	agin of Nou					

Boring No. Page 30364 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. VISUAL CLASSIFICATION OF MATERIAL LOG OF BORING SAMPLES Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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) 100 +Auger refusal @ 22.8' 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

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

				6035 Co	orporate Drive	SI	IRSURFA	ACE EX	XPLO	RATION	Boring No.	age 21	<b>36</b> £536		
		IV			racuse, NY 13057	TEST RORING LOG Page No. 1 of 2									
	Ass	ociates	s, Inc.	Phone:	315-701-0522		IESI	BUKI	NG L	UG	Report No.	28062B	3-03-1223		
Project	Name:	Micror	n Camp	us, Clay,	New York	l .					Date Started	10/	16/23		
Client:		Rambo	oll								Date Finished	10/	16/23		
Locatio	n:			n Locati							Surface Elev.		3.0'		
				DS OF	INVESTIGATIO				GRO	DUNDWATER	OBSERVAT	IONS			
Driller:		G. Ricl			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)		
Driller:		R. Cas	atelli		Casing Hammer:						_				
Inspect		CME 5	50W		Other:	NQ-Cor		10/16/23		While Drilling	None Noted		7.3		
Drill Ri	g:	CME 5	)50X		Soil Sampler: Hammer Wt:	2 OD S	plit Barrel	10/16/23		e Casing Removed Casing Removed	None Noted  None Noted		7.3		
Type: Rod Siz	۵۰	AWJ			Hammer Fall:	30 in.		10/16/23		Casing Removed	caved @		out		
Rou Siz			ROR	NG S	AMPLES	30 III.	VI			SIFICATION (			out		
			e Depth						LITTOD		) WINTERN		an		
Depth Scale	Sample	_	t.)	Type / Sample	Blows on Sampler	Depth of Change		coarse medium		and - 35 to 50	0% / some - 20 to 35°	%	SPT "N" or		
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %		
0	1A	0.0	1.0	SS/14	2-2-4-3		Topsoil and	d Organic	Mater				6		
													]		
1	1B	1.0	2.0			Light Brown SILT, trace fine SAND, trace Organic Material (moist, medium stiff)									
	2	2.0	4.0	00/16	27.60	(moist, medium stiff) Brown SILT, trace fine SAND, trace mf GRAVEL, trace Organic							13		
2	2	2.0	4.0	SS/16	3-7-6-8										
3						•									
3						Material (moist, stiff)  Brown SILT, little CLAY, little cmf GRAVEL, trace fine SAND									
4	3	4.0	6.0	SS/13	2-2-3-2		Brown SII	T little C	LAY	little.cmf GRAV	EL trace fine SA	AND	5		
		1.0	0.0	55/15	2232		(moist, med			nuic emi Grati	EE, trace time st	11 (12			
5	1								,						
6	4	6.0	8.0	SS/18	3-3-6-11				mf GR	AVEL, trace fine	SAND, trace C	LAY	9		
							(moist, stif	f)							
7															
8	5	8.0	10.0	SS/24	8-16-31-40		Provin/Gra	w CHT 1	ittle or	nf GRAVEL, littl	a waatharad PA	CV	47		
0	3	0.0	10.0	33/24	0-10-31- <del>4</del> 0			•		D (moist, hard)	e weathered RO	CK	47		
9							magments,	trace rine	, D1 11 (L	(moist, mara)					
10	1														
11							[	,, .		. 11.71					
10							Augered ho	ard begini	ning @	11.7'					
12															
13															
1.5															
14	6	14.0	16.0	SS/3	30-60-66-45		Grey weath	nered RO	CK chi	ps and fragments	(moist)		126		
15															
16															
17	7	17.2	172	SS/1	100@1"		Grave vysas41	acrod CII	VIE C	agmanta agma Cl	II T (moist)		100+		
17	7	17.2	17.3	33/1	100@1"		Grey weathered SHALE fragments, some SILT (moist)  Spoon and Auger refusal @ 17.3'. Set up to core.								
18	R1	17.3	22.3	C/43						with interbedded		avers	30%		
	***	17.5								y weathered, lami			30,0		
19										and highly broker					
							and 19.8' to			- ·					
20							Continued	on Page 2	2						

Boring No. Page **B136** 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 Recovery:  $43''/60'' = 72\% \mid RQD: 18''/60'' = 30\%$ 3 Pieces, 24" Chips and fragments 21 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

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

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.	age 🚹	<b>376</b> 536
		IV	Ę		racuse, NY 13057			F BORI			Page No.		of 1
	Ass	ociates	s, Inc.	Phone:	315-701-0522		TEST	DOKI	NG I	LUG	Report No.	28062E	3-03-1223
Project	Name:	Micror	Camp	us, Clay,	New York	•					Date Started	11/0	01/23
Client:		Rambo									Date Finished		01/23
Locatio	n:			on Locati		•		ı	~ ~		Surface Elev.		93.7'
D "				DS OF	INVESTIGATIO		TT 0 4		GR	ROUNDWATER	OBSERVAT	TONS	
Driller: Driller:		B. Flet R. Cas			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect	or:	R. Cas	atem		Other:			11/01/23		While Drilling	None Noted	1	5.4
Drill Ri		CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	11/01/23		ore Casing Removed	None Noted		5.4
Type:	0	ATV			Hammer Wt:	140 lbs.	-	11/01/23		er Casing Removed	None Noted	(	out
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		11/01/23		er Casing Removed	caved @ 12.0	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION (	)F MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			0% / some - 20 to 35°		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	3.6.4		20% / trace - 0 to 109	%	RQD %
0	1A	0.0	1.0	SS/14	1-2-4-9		Topsoil an	d Organic	Mate	erial (moist)			6
1	1B	1.0	2.0				medium stiff)						
2	2	2.0	4.0	SS/20	6-7-6-7	Light Brown SILT, trace fine SAND (moist, medium stiff)  Light Brown SILT, trace fine SAND (moist, stiff)							
3													
4	3	4.0	6.0	SS/18	2-2-3-3	Similar as above (moist, medium stiff)							
5													
6	4	6.0	8.0	SS/19	2-3-5-7		Brown/Grestiff)	ey SILT, l	ittle c	emf GRAVEL, littl	e fine SAND (m	oist,	8
7													
8	5	8.0	10.0	SS/18	6-9-9-9		Brown/Grevery stiff)	ey SILT, s	ome	cmf GRAVEL, litt	le fine SAND (n	noist,	18
9													
10							See Remar	·k 1					
11													
12													
13	6	13.5	15.0	SS/12	9-7-38		Dark Grey	/Brown or	nf GI	RAVEL and weath	ered ROCK free	mente	45
14		13.3	13.0	55/12	7-1-30		little SILT  Auger refu	(moist, co	ompa		cicu Kock iiag	inches,	43
15										1			
16						Bottom of Boring @ 15.4'							
17													
18													
19													
20	1												

**Remarks:** 1. Installed well at depth of 10.0' with 5.0' screen and 5.0' riser.

				6035 Co	orporate Drive	SU	JBSURF	ACE EX	<b>XPLO</b>	RATION	Boring No.	age BL	380 00
		IV	Ę	East Syr	racuse, NY 13057			Γ BORI			Page No.	1 (	of 1
	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		IESI	DOM	NG L	OG .	Report No.	28062B	-03-1223
Project I	Name:	Micron	Camp	us, Clay,	New York	=					Date Started	10/1	13/23
Client:		Rambo	11								Date Finished	10/1	13/23
Location	n:	See Ex	ploratio	n Locati	on Plan						Surface Elev.	39	1.0'
					INVESTIGATIO	)N			GRO	UNDWATER			
Oriller:		A. Lins			Casing:	3 ¼" ID	H.S.A.	_					
Oriller:		J. Winl			Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
nspecto	r:				Other:			10/13/23	W	hile Drilling	16.5	19	9.0
Orill Rig		CME 5	55		Soil Sampler:	2" OD S	Split Barrel	10/13/23		Casing Removed	16.5		9.0
Гуре:	•	ATV			Hammer Wt:	140 lbs.	-	10/13/23		Casing Removed	None Noted		out
Rod Size	e:	AWJ			Hammer Fall:	30 in.		10/13/23		Casing Removed	caved @ 9.5		out
			ROR	NG SA	AMPLES		VI			IFICATION C			
	LO	T		I TO DE			V 1	JUAL C	LABB.	IFICATION	T WATEKIA		
Depth		Sample		Type /	Blows on	Depth of		- coarse					SPT "N
Scale	Sample			Sample	Sampler	Change		medium			% / some - 20 to 35°		or
(Feet)	No.	From 0.0	To 2.0	Rec. (in.) SS/17	Per 6 Inches 1-2-2-4	(Ft.)		- fine	of CAN	D (moist, mediu	20% / trace - 0 to 109	6	RQD %
0	1	0.0	2.0	33/1/	1-2-2-4		Brown SIL	a, nuie n	III SAN	D (moist, mediui	n sum)		4
1													
_	2		4.0	00/10	<i></i>		D 077	TD 111 **		ID (	·.co		1
2	2	2.0	4.0	SS/19	5-7-8-9		Brown SIL	T, little fi	ine SAN	ND (moist, very s	st1ff)		15
_													
3													
4	3	4.0	6.0	SS/1	4-5-7-7					e cmf SAND, tra	ce SILT		12
							(moist, me	edium con	npact)				
5													
6	4	6.0	8.0	SS/19	5-4-4-5		Brown SIL	T and fin	e SANI	O (wet, stiff)			8
7													
8	5	8.0	10.0	SS/17	3-9-5-5		Brown fine	SAND a	and SIL	Γ (wet, medium o	compact)		14
											• ,		
9													
10													
11													
12													
13													
10	6	13.5	15.0	SS/8	1-3-5		Grev/Brow	n cmf S A	ND so	me SILT, little n	nf GRAVEL (vii	et loose)	8
14	J	13.3	15.0	55/6	1-3-3		Augers gro				II SIMIVEE (WO	r., 100sc)	
17							zingers gru	ivelly Deg	unning	€ 17.0			
15													
13													
16													
16													
1.7													
17													
18													
	7	18.5	19.0	SS/5	44-100@0"					ments (moist, har	rd)		100+
19						19.0'	Auger refu						
							Bottom of	Boring @	19.0'				
		Ī	l			I							I
20					ube, C - Core, WH -								

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	XPLO	RATION	Boring No.	age 21	<b>38</b> 5 536	
		IV			racuse, NY 13057			F BORI			Page No.		of 1	
	Ass	ociate	s, Inc.	Phone: 3	315-701-0522		11231	DOKI	NG L	UG	Report No.	28062B	-03-1223	
Project	Name:	Micror	n Camp	us, Clay,	New York						Date Started	10/	13/23	
Client:		Rambo	oll								Date Finished	10/	13/23	
Locatio	n:	-	_	on Locati				1			Surface Elev.		6.7'	
				DS OF	INVESTIGATIO				GRC	UNDWATER	OBSERVAT	IONS		
Driller:		A. Lin			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Driller:		J. Win	ks		Casing Hammer:			10/12/22	***	4.1 D.111				
Inspecto Drill Ri		CME 5	55		Other: Soil Sampler:	2" OD 9	Split Barrel	10/13/23		Thile Drilling Casing Removed	13.5 15.9		3.5 8.4	
Біш кі Гуре:	<b>g</b> •	ATV	),)		Hammer Wt:	140 lbs.	-	10/13/23		Casing Removed	6.2		out	
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		10/13/23		Casing Removed	caved @ 7.1			
			BOR	ING SA	AMPLES		VI			IFICATION C		L		
Depth		1	e Depth		Blows on			- coarse					SPT "N"	
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or	
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %	
0	1	0.0	2.0	SS/16	1-1-5-3		Brown SIL	T, some f	ine SA	ND (wet, mediur	n stiff)		6	
1														
2	2	2.0	4.0	SS/19	3-4-4-3	Similar as above (wet, stiff)							8	
2		2.0	4.0	33/19	3-4-4-3	Similar as above (wet, stiff)								
3														
3														
4	3	4.0	6.0	SS/11	3-3-3-2	3-2 Similar as above (wet, medium stiff)								
						Similar as above (wet, medium stiff)								
5						3-2 Similar as above (wet, medium stiff)								
6	4A	6.0	7.5	SS/15	3-2-3-13		Similar as	above (we	et, medi	um stiff)			5	
7														
7	4D	7.5	8.0				Danassan amat	CAND .	como Cl	LT, little mf GR	AVEL (maist)			
8	4B 5A	7.5 8.0	9.5	SS/15	10-12-13-8					GRAVEL, trace		adium	25	
o	JA	0.0	9.5	33/13	10-12-13-6		compact)	i SAND, i	nuic iiii	OKA VEL, trace	SILI (IIIOISI, II	icululli	23	
9							compact)							
	5B	9.5	10.0				Grey cmf S	SAND and	d mf GI	RAVEL, trace SI	LT (moist)			
10														
11														
10														
12														
13														
1.0	6A	13.5	14.5	SS/11	18-23-93		Grev cmf S	SAND, so	me SIL	T, little mf GRA	VEL (wet. verv	compact	116	
14	`			~~, 11				, 50.		, 0141	(, ,)	puot		
	6B	14.5	15.0				Grey SILT	and ROC	CK fragi	ments (wet)				
15	]					Hard drilling from 15.0' to 18.4'								
16														
17														
17														
18							Auger refu	sal @ 12	⊿'					
10	7	18.4	18.4	SS/0	100@0"		No Recove		r				100+	
19	′	10.1	10.1		10000		Bottom of		18.4'				1001	
	]							<i>3</i> -						
20	1													

				6035 Co	orporate Drive	SI	UBSURF	ACE EX	(PLC	RATION	Boring No.	age 🚹	<b>5</b> 84 536
		IV			racuse, NY 13057			F BORI			Page No.	1	of 2
		ociates	20 1110	1 1101101	315-701-0522		11201	DOM	.,,,	200	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		19/23
Client:		Rambo		т	DI						Date Finished		19/23
Locatio	n:			on Locati	on Plan INVESTIGATIO	N			CD	OUNDWATER	Surface Elev.		92.6'
Driller:		J. Win		DO OF	Casing:	3 ¼" ID	H.S.A		GK(				
Driller:		R. Cas			Casing Hammer:	5 /4 ID		Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspect					Other:			10/19/23	7	While Drilling	7.0	1	8.5
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	10/19/23	Befor	e Casing Removed	7.4	2	21.3
Type:		ATV			Hammer Wt:	140 lbs.		10/19/23		Casing Removed	8.0	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		10/19/23		Casing Removed	caved @ 12.7		out
	LO			ING SA	AMPLES		VI	SUAL C	LASS	SIFICATION C	OF MATERIA	L	
Depth			e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 1.0	Rec. (in.) SS/14	Per 6 Inches 1-1-4-5	(Ft.)	Topsoil an	f-fine	Mater		0% / trace - 0 to 109	//0	RQD %
	1A	0.0	1.0	33/14	1-1-4-3		1 Obsolt all	u Organic	iviate	iai (iiioist)			'
1	1B	1.0	2.0				Light Brov	vn SILT, t	race fi	ne SAND (moist,	medium stiff)		
2	2	2.0	4.0	SS/16	9-7-8-7		Light Brov	vn SILT, t	race fi	ne SAND (moist,	very stiff)		15
3													
4	3	4.0	6.0	SS/12	4-4-4-6		Similar as	ahove (m	nist sti	iff)			8
		7.0	0.0	00/12	4-4-4-0		Sililiai as	above (III	J131, 31	111)			o o
5													
6	4	6.0	8.0	SS/19	5-5-4-3		Similar as	above (mo	oist, sti	iff)			9
7													
8	5	8.0	10.0	SS/15	3-4-5-7		Similar as	above (mo	oist, sti	iff)			9
9													
10													
11													
12													
13													
	6	13.5	15.0	SS/16	1-3-4		Light Grey	SILT, tra	ice fine	e SAND (moist, n	nedium stiff)		7
14													
15													
16													
17							<del> </del> -						_
18													
10	7	18.5	20.0	SS/14	1-20-32		Dark Grev	weathere	d ROC	CK fragments, littl	e SILT (wet)		52
19			25.5	22/11	1 20 32		Jam Grey	Junior			()		
20							Continued	on Page 2	2				

Boring No. Page **31.984** 536 6035 Corporate Drive SUBSURFACE EXPLORATION 2 of 2 Page No. East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 Auger refusal @ 21.3' 21 8 SS/0 100@0" 100 +21.3 21.3 No Recovery 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

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

Remarks:

				6035 Co	orporate Drive	SI	TRSTIRE	ACE EX	PI (	ORATION	Boring No.	age 21	<b>39</b> 1 536
		IV			racuse, NY 13057						Page No.		of 1
	Ass	ociates	s, Inc.	Phone: 3	315-701-0522		IESI	r BORI	NG	LUG	Report No.	28062B	3-03-1223
Project	Name:	Micron	Campi	us, Clay,	New York	•					Date Started	10/3	31/23
Client:		Rambo									Date Finished		01/23
Locatio	n:			n Locati				T			Surface Elev.		3.0'
D 111				DS OF	INVESTIGATIO		*** **		GR	OUNDWATER	OBSERVAT	IONS	
Driller: Driller:		B. Flet R. Casa			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect					Other:			10/31/23		While Drilling	4.2	1	3.5
Drill Ri		CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	11/01/23		re Casing Removed	3.0	1	8.5
Type:		ATV			Hammer Wt:	140 lbs.		11/01/23	Afte	er Casing Removed	Well Installed	C	out
Rod Siz		AWJ			Hammer Fall:	30 in.		11/01/23		er Casing Removed	N/A		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change		medium			% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/16	WH-2-3-4					erial (moist)		<u> </u>	5
1	1B	0.5	2.0				medium sti	•	ILI,1	trace fine SAND, t	race CLAY (mo	ıst,	
2	2	2.0	4.0	SS/16	3-5-5-5		_	vn/Grey S	ILT, 1	trace fine SAND, t	race CLAY (mo	ist,	10
3							stiff)						
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 (mo	oist, n	nedium stiff)			7
7													
8	5	8.0	10.0	SS/20	2-3-3-4		Similar as	above (we	et, me	dium stiff)			6
9													
10	1						See Remar	·k 1					
11													
12													
13	6	13.5	15.0	SS/6	4-3-2		Grey CII T	little om	f CP	AVEL, trace fine S	AND (moist m	edium	5
14		13.3	13.0	33/0	T-J-2		stiff) Low Recov		i OIV	ivel, nace fine s	TATE (moist, me	carulli	
15	1						LOW RECOV	чегу					
16													
17													
18													
19	7	18.5	19.8	SS/12	44-68-100@3"		•			CK fragments, littl	e SILT (moist)		100+
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'

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	(PL	ORATION	Boring No.	age <table-cell></table-cell>	<b>406</b> 536	
		East Syracuse, NY 13057  TEST RORING LOG  Page No. 1												
	Ass			I mone.			LESI	DOM	110	LOG	Report No.	28062B	-03-1223	
Project	Name:			us, Clay,	New York						Date Started		02/23	
Client:		Rambo									Date Finished		02/23	
Locatio	n:			on Locati							Surface Elev.		9.6'	
D '''				DS OF	INVESTIGATIO		TT 0 4		GR	ROUNDWATER	OBSERVAT	TONS		
Driller: Driller:		B. Flet R. Cas			Casing Hamman	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspect	ar.	R. Cas	atem		Casing Hammer: Other:	NQ-Cor	•	11/02/23		While Drilling	None Noted	1	8.8	
Drill Ri		CME 5	550X		Soil Sampler:		Split Barrel	11/02/23		ore Casing Removed	None Noted		8.8	
Type:	ь.	ATV	,5011		Hammer Wt:	140 lbs.	-	11/02/23		er Casing Removed	Cored		out	
Rod Siz	e:	AWJ			Hammer Fall:	30 in.		11/02/23		er Casing Removed	N/A		out	
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L		
Depth		Sample	e Depth		Blows on		C	- coarse					SPT "N"	
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or	
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109	%	RQD %	
0	1A	0.0	1.0	SS/15	1-1-4-5	<b> </b>	Topsoil an	d Organic	erial (moist)			5		
1	1B	1.0	2.0			Light Brown/Grey SILT, trace fine SAND, trace ROOTS (moist, medium stiff)  Light Brown SILT, trace fine SAND (moist, stiff)								
2	2	2.0	4.0	SS/17	5-5-5-10	medium stiff)								
2		2.0	4.0	33/17	3-3-3-10	medium stiff)								
3														
						· · · · · · · · · · · · · · · · · · ·								
4	3	4.0	6.0	SS/22	5-6-4-4		Light Brov	vn SILT, l	ittle o	cmf GRAVEL, littl	e cmf SAND (m	noist,	10	
							stiff)				•			
5														
6	4	6.0	8.0	SS/17	5-11-15-16		_	vn SILT, l	ittle o	cmf SAND, trace c	mf GRAVEL (n	noist,	26	
							very stiff)							
7														
8	5	8.0	8.7	SS/6	20-100@2"		Dark Grey	weathere	d RO	CK fragments, littl	e SII T little om	of SAND	100+	
		0.0	0.7	55/0	20-100@2					8'. Set up to core.	e sili, ittie en	11 57 11 10	1001	
9	R1	8.8	13.8	C/59	NQ-Core					STONE with interb	edded Shale lav	ers	63%	
										hout, moderately w				
10	1						to medium	bedded, 1	nediu	ım hard to hard.				
									ith w	eathered Shale lay	ers @ 10.1', 10.4	4',		
11							12.4' and 1			= = = = = = = = = = = = = = = = = =				
10										6   RQD: 38"/60" =	= 63%			
12							16 Pieces, 2.0 min/ft,			ragments				
13										gear, 2400 rpm, 40	0 nsi down nras	suro		
13	R2	13.8	18.8	C/59	NQ-Core					STONE with interb			75%	
14	1,2	15.0	10.0		1.2 5516					hout, slightly weath	•			
							thinly bedo		_					
15										one @ 17.8' to 18.8'				
										RQD: 45"/60" =	75%			
16							8 Pieces, 6							
							1.30 min/ft							
17							_		5th g	gear, 2400 rpm, 40	U psi down pres.	sure.		
10							See Remar	K I						
18							Bottom of	Roring @	18 P	1				
19							DOMOIN OF	Doming @	10.0					
20	1	1	I											

**Remarks:** 1. Installed well at depth of 10.0' with 5.0' screen and 5.0' riser.

7 11 17 11	O1 1111E1	••••	. 0_0		INT NOMBER. 172	0. 0	12-7 67	KI IIDII 7	١٠٠.	GEOTEOTIMOA			
				6035 C	orporate Drive	SI	IRSURF	ACE EX	ZPI	ORATION	Boring No.	age 31	<b>901</b> 536
		IV		East Sy	racuse, NY 13057						Page No.	1	of 1
	Asso	ociate	s, Inc.	Phone:	315-701-0522		1E91	BORI	NG	LOG	Report No.	28062F	3-03-1223
Project	Name:	Micror	1 Camp	us, Clay,	New York	!					Date Started	10/	26/23
Client:		Rambo									Date Finished		26/23
Location	n:	See Ex	ploration	on Locati	on Plan						Surface Elev.	40	0.7'
					INVESTIGATIO	N			Gl	ROUNDWATER		IONS	
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	<b>.</b>					
Driller:		K. Cra	ndall		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:	A. Sha	rma, El	T	Other:			10/26/23		While Drilling	4.9	3	3.5
Drill Ri	g:	CME 4	45		Soil Sampler:	2" OD S	Split Barrel	10/26/23	Bef	ore Casing Removed	5.5	8	3.5
Type:		Track			Hammer Wt:	140 lbs.		10/26/23	Af	ter Casing Removed	4.8	(	out
Rod Siz		AW			Hammer Fall:	30 in.		10/26/23		ter Casing Removed	caved @ 8.3		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	OF MATERIA	L	
Depth		Sample	e Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F	7t.)	Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/16	1-1-3-7	<b> </b>				terial (moist)			4
	1B	0.5	2.0						, tra	ce fine SAND, trace	e CLAY (moist,		
1							medium st	iff)					
		2.0	1.0	00/16	5.6.6.5		D	1 1 CH T	1 114	1 CLANA C	CAND		10
2	2	2.0	4.0	SS/16	5-6-6-5		Brown mo	ttied SIL i	le CLAY, trace fine	e SAND (wet, st	111)	12	
3													
3													
4	3	4.0	6.0	SS/12	3-1-1-10		Brown SII	T some o	emf 9	SAND, trace mf GR	AVEL trace C	ΙΔV	2
-		4.0	0.0	55/12	3-1-1-10		(wet, soft)	i, some c	/1111 K	or and, trace in or	AT VEE, trace C	L/ <b>1</b> 1	_
5							( ,, 5011)						
6	4	6.0	8.0	SS/11	10-17-17-14		Brown SIL	T, some r	nf G	RAVEL, some cmf	SAND (moist, l	hard)	34
							Augered g				,	ŕ	
7								-	_				
8	5	8.0	9.2	SS/8	40-12-50@2"					chips and fragments	, little mf GRAV	VEL,	50+
							trace SILT	*		(wet)			
9							Auger refu						
10							Bottom of	Boring @	9.2'				
10													
1.1													
11													
12													
13													
14													
1 4													
15	1												
16													
17													
18													
19													
20	I	I	1	1	I	1							1

					INT NOMBER. 172			(111121117		OLOTEOTIMOA			TIAOL 2
				6035 C	orporate Drive	SI	IRSURF	ACE EX	ZPI	ORATION	Boring No.	age 22	<b>40)</b> 536
		IV		East Sy	racuse, NY 13057						Page No.		of 1
	Ass	ociates	s, Inc.	Phone:	315-701-0522		TEST	BORI	NG	LOG	Report No.	28062E	3-03-1223
Project	Name	Micror	Camp		New York						Date Started		26/23
Client:	rume.	Rambo		us, Ciuy,	10tk						Date Finished		26/23
Location				on Locati	on Dlon						Surface Elev.		98.3
Location	11;				INVESTIGATIO	NT			CI	ROUNDWATER			70.3
Driller:				DS OF		3 ¼" ID	TI C A		GI	NOUNDWAIEN	ODSERVAI	IONS	
Driller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 /4 ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto				т	Other:			10/26/23		While Drilling	None Noted		_
_		CME 4	rma, El	.1		2" OD (	Split Barrel		D.f		None Noted  None Noted		-
Drill Ri	g:		<del>1</del> 3		Soil Sampler:		•	10/26/23		ore Casing Removed			
Type:		Track			Hammer Wt:	140 lbs.		10/26/23		ter Casing Removed	None Noted		out
Rod Siz		AW	DOD:	DIC C	Hammer Fall:	30 in.	<b>X7T</b>	10/26/23		ter Casing Removed	caved @ 5.1		out
	LO	T		ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	JF MATERIA	L	_
Depth			e Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample		łt.)	Sample	Sampler	Change		medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.8	SS/10	1-1-2-2	l-				erial (moist)	- — - — - — -		3
	1B	0.8	2.0				Brown SIL	T, little c	mf S.	AND (moist, soft)			
1													
2	2	2.0	4.0	SS/19	2-3-4-5					ne cmf SAND, little	e CLAY, trace n	nf	7
							GRAVEL	(moist, m	ediur	m stiff)			
3													
4	3	4.0	5.3	SS/9	2-4-50@3"					cmf SAND, little n	nf GRAVEL, lit	tle	50+
							CLAY (mo						
5							Auger refu						
							Bottom of	Boring @	5.2'				
6													
7													
8													
9													
10													
11													
12													
,_													
13													
14													
1.5	l												
15													
16													
17													
1.0													
18													
10													
19													
20	I		Ī	I		I	1						1 l

				6035 Co	orporate Drive	St	JBSURFA	ACE EX	(PL	ORATION	Boring No.	age 🕰	403 536	
					racuse, NY 13057			BORI			Page No.		of 1	
		ociates	No.	I none.	315-701-0522		11201	DOM		LOG	Report No.		3-03-1223	
Project	Name:			us, Clay,	New York						Date Started		25/23	
Client:		Rambo			<b>7</b> 1						Date Finished		25/23	
Location	n:		•	on Locati	INVESTIGATIO	N			CI	ROUNDWATER	Surface Elev.		00.1'	
Driller:		H. Lyo		DS OF	Casing:	3 ¼" ID	НСА		Gr	COUNDWATER	ODSERVAI	IONS		
Driller:		K. Cra			Casing Hammer:	374 1D	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)	
Inspecto	r:	A. Sha		Т	Other:			10/25/23		While Drilling	None Noted		_	
Drill Rig		CME 4	15		Soil Sampler:	2" OD S	Split Barrel	10/25/23	Befo	ore Casing Removed	None Noted		-	
Type:		Track			Hammer Wt:	140 lbs.		10/25/23		er Casing Removed	None Noted	(	out	
Rod Size		AW			Hammer Fall:	30 in.		10/25/23		er Casing Removed	caved @ 5.6		out	
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L		
Depth		_	Depth	Type /	Blows on	Depth of		- coarse					SPT "N"	
Scale	Sample	From	t.) To	Sample	Sampler	Change		medium - fine			% / some - 20 to 35		or POD %	
(Feet)	No.	0.0	2.0	Rec. (in.) SS/15	Per 6 Inches 1-1-1-5	(Ft.)			cmf SAND, trace R	0% / trace - 0 to 109		RQD %		
Ŭ	1	0.0	2.0	55/15	1113		Light Brov	ioors (moist, i	1011)					
1														
													9	
2	2	2.0	4.0	SS/16	7-5-4-6	Brown SILT, some cmf SAND, trace mf GRAVEL (moist, stiff)								
2														
3														
4	3	4.0	6.0	SS/10	3-2-1-2		Brown mor	ttled SILT	ີ່ເດກ	ne cmf SAND, little	e fine GRAVEI	trace	3	
	3	1.0	0.0	55/10	3212		CLAY (we		, 5011	ne enn sants, nun	o fine Graff EL	, trace		
5								, ,						
6	4	6.0	6.2	SS/2	50@2"			ey mf GR	AVE	L, some SILT, trace	e cmf SAND (w	et, very	50+	
7							compact)	D . ©	<i>c</i> 21					
7							Bottom of	Boring @	6.2					
8														
Ü														
9														
10														
1.1														
11														
12														
13														
14														
1														
15														
16														
17														
18														
19														
20														

											_	-	
					orporate Drive	SU	UBSURF	ACE EX	KPL	ORATION	Boring No.		
		IV	Ę		racuse, NY 13057			BORI			Page No.	1	of 1
	Asso	ciates	No.		315-701-0522		11201	DOM	110	<u> </u>	Report No.	28062E	3-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		26/23
Client:		Rambo									Date Finished		26/23
Location	1:			n Locati					~~		Surface Elev.		9.0'
				DS OF	INVESTIGATIO				GR	ROUNDWATER	OBSERVAT	TONS	
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		K. Crai		т	Casing Hammer: Other:			10/26/23		While Drilling	2.7	,	2 5
Inspector Drill Rig		CME 4		.1	Soil Sampler:	2" OD 9	Split Barrel	10/26/23		ore Casing Removed	2.7		3.5 4.5
Type:	3•	Track	ы		Hammer Wt:	140 lbs.	-	10/26/23		er Casing Removed	3.0		out
Rod Size	e:	AW			Hammer Fall:	30 in.		10/26/23		er Casing Removed	caved @ 5.0		out
			BOR	ING SA	AMPLES	1	VI			SIFICATION C			
Б	20		e Depth						23.10		71 1/1111111111		CDE ID III
Depth Scale	Sample		t.)	Type / Sample	Blows on Sampler	Depth of Change		coarse medium		and - 35 to 50	% / some - 20 to 35	%	SPT "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD %
0	1A	0.0	0.5	SS/15	1-2-4-3		Topsoil an	d Organic	Mate	erial (moist)			6
	1B	0.5	2.0			1	Brown/Red	ddish SIL	Γ, litt	le cmf SAND, little	e mf GRAVEL	(moist,	
1							medium st	iff)					
2	2	2.0	4.0	00/17	4.2.2.2		р сп	TT.	c c	AND Pul COD	ATEL CI	4.37	6
2	2	2.0	4.0	SS/17	4-3-3-3								
3							(wet, mean	um sum)					
3													
4	3	4.0	5.6	SS/9	5-12-30-50@1"		Dark Grev	weathere	d RO	CK fragments, littl	e mf GRAVEL.	little	42
							SILT (wet)			,	,		
5													
							Auger refu						
6							Bottom of	Boring @	5.6				
7													
8													
0													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

											_		
			_	6035 Co	orporate Drive	St	JBSURFA	ACE EX	(PL	ORATION	Boring No.	age 🕰	<b>405</b> 536
		IV	Ę		racuse, NY 13057			BORI			Page No.		of 1
	Asso	ociates	s, Inc.	Phone:	315-701-0522		IESI	DOM	110	LOG	Report No.	28062E	3-03-1223
<b>Project</b>	Name:	Micror	Campi	us, Clay,	New York	-					Date Started	10/	26/23
Client:		Rambo									Date Finished		26/23
Location	1:			on Locati							Surface Elev.		98.3'
				DS OF	INVESTIGATIO				GF	ROUNDWATER	OBSERVAT	IONS	
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casino	At (Ft.)
Driller:		K. Cra			Casing Hammer:						_	Cusing	, 111 (1 1.)
Inspecto		A. Sha		T	Other:			10/26/23		While Drilling	None Noted		-
Drill Ri	g:	CME 4	15		Soil Sampler:		Split Barrel	10/26/23		ore Casing Removed	None Noted		-
Type:		Track			Hammer Wt:	140 lbs.		10/26/23		ter Casing Removed	None Noted		out
Rod Siz		AW	DOD!	DIG G	Hammer Fall:	30 in.	¥77	10/26/23		ter Casing Removed	caved @ 4.2		out
	LO	G OF	BOK	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION O	OF MATERIA	<u>L</u>	
Depth		_	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	3.6.4		0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/13	1-1-1-3					terial (moist)	DANEL (	<b>C</b> ()	2
1	1B	0.5	2.0				Brown SIL	1, some o	emi S	SAND, trace fine Gl	RAVEL (moist,	sort)	
1													
2	2	2.0	3.8	SS/5	2-6-8-50@3"		Brown mo	t II2 belt	con	ne cmf SAND, som	e mf CD AVEI	(moist	14
2	2	2.0	5.0	33/3	2-0-6-30@3		stiff)	illed SIL I	, 5011	ne chii SAND, som	e iii OKAVEL	(IIIOISI,	14
3							suii)						
4	3	4.0	4.8	SS/4	4-50@3"		Grev cmf (	GRAVEL.	som	ne cmf SAND, little	SILT (moist ve	erv	50+
	3		1.0	55, 1	13003		compact)		, 5011	ic chin si ii (b), iittic	SIET (Moist, 1)	-19	301
5							Auger refu	sal @ 4.8	,				
							Bottom of						
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

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				6035 Co	orporate Drive	ST	IRSURF	ACEES	(PI	ORATION	Boring No.	age <u>22</u>	<b>406</b> 536
		IV			racuse, NY 13057						Page No.		of 1
	Asso	ociates	s, Inc.	Phone:	315-701-0522		IESI	<b>BORI</b>	NG.	LUG	Report No.	28062E	3-03-1223
Project	Name:	Micror	ı Camp	us, Clay,	New York	-8					Date Started	10/2	26/23
Client:		Rambo	oll								Date Finished	10/	26/23
Location	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	7.7'
		ME	THO	DS OF	INVESTIGATIO				GF	ROUNDWATER	OBSERVAT	IONS	
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casino	At (Ft.)
Driller:		K. Cra			Casing Hammer:						_	Casing	, At (Ft.)
Inspecto			rma, El	Т	Other:		= .	10/26/23		While Drilling	None Noted		-
Drill Ri	g:	CME 4	15		Soil Sampler:		Split Barrel	10/26/23		ore Casing Removed	None Noted		-
Type:		Track			Hammer Wt:	140 lbs.		10/26/23		er Casing Removed	None Noted		out
Rod Size		AW	DOD	INC C	Hammer Fall:	30 in.	<b>171</b>	10/26/23		er Casing Removed SSIFICATION C	caved @ 4.2		out
	LO	T		ING SA	AMPLES		V I	SUAL C	LAS	SIFICATION C	JF MIATERIA	L	1
Depth			e Depth	Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Feet)	Sample No.	From	To	Sample	Sampler Per 6 Inches	Change		medium - fine			% / some - 20 to 359 0% / trace - 0 to 109		or POD %
0	1A	0.0	0.5	Rec. (in.) SS/10	1-3-3-5	(Ft.)			Mate	erial (moist)	.0% / trace - 0 to 10%	70	RQD %
	1B	0.5	2.0	55/10	1-3 3 3	<b> </b>				RAVEL, little cmf	SAND (moist_n	nedium	1 "
1	12	0.5	2.0				stiff)	zi, some i	0.	id i v EE, indie eini i	or it (D (moist, it	icarain	
1													
2	2	2.0	4.0	SS/15	3-4-5-11		Brown mo	ttled SILT	, son	ne cmf SAND, little	e mf GRAVEL (	(wet,	9
							stiff)						
3													
4	3	4.0	4.1	SS/1	50@1"					nf SAND, trace mf	GRAVEL (wet,	hard)	50+
							Auger refu						
5							Bottom of	Boring @	4.2'				
6													
0													
7													
_ ′													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20	I		l	I		1							1

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				6035 Co	orporate Drive	SI	IRSURF	CF FX	PI (	ORATION	Boring No.	age 22	<b>536 536</b>
		IV		East Sy	racuse, NY 13057						Page No.		of 1
	Asso	ociates	s, Inc.	Phone:	315-701-0522		TEST	BORI	NG	LOG	Report No.	28062E	3-03-1223
Project	Name:	Micror	ı Camp	us, Clay,	New York						Date Started		26/23
Client:		Rambo		,,,							Date Finished		26/23
Location	n:			on Locati	on Plan						Surface Elev.		7.0'
					INVESTIGATIO	N			GF	ROUNDWATER			
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	_					
Driller:		K. Cra			Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:	A. Sha	rma, El	T	Other:			10/26/23		While Drilling	None Noted		-
Drill Ri	g:	CME 4	<b>1</b> 5		Soil Sampler:	2" OD S	Split Barrel	10/26/23	Befo	ore Casing Removed	None Noted		-
Type:		Track			Hammer Wt:	140 lbs.		10/26/23	Aft	er Casing Removed	None Noted	(	out
Rod Size	e:	AW			Hammer Fall:	30 in.		10/26/23	Aft	er Casing Removed	caved @ 4.2	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	F MATERIA	L	
Depth		Sample	e Depth	T/	Blows on	Dt c	c-	coarse					SPT "N"
Scale	Sample		t.)	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/10	1-1-8-4	<u></u>				erial (moist)			9
	1B	0.5	2.0				Brown cm	SAND a	nd m	of GRAVEL, some	SILT (moist, loc	ose)	
1													
	_										0.00		
2	2	2.0	4.0	SS/16	2-3-6-15				`, son	ne cmf SAND, little	e mf GRAVEL,	little	9
							CLAY (mo	oist, stiff)					
3													
	2	4.0	<b>5</b> 0	gg/0	1.6.70.00		D 1 C	.1	100	CIV.C.	CH Tr ( · · · ·		50
4	3	4.0	5.0	SS/9	1-6-50@0"		Dark Grey	weathere	a RO	OCK fragments and	SILT (moist)		50+
- 5	ł						Augan nafu	aal @ 5.5	,				
5							Auger refu Bottom of						
6							<b>B</b> OLIOIII OI	boring @	5.5				
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
17													
20	1												

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	<b>EXPLORATION</b>	Boring No.	age 🕰	<b>408</b> 53
		IV	Ę	East Syr	racuse, NY 13057				NG LOG	Page No.		of 2
					315-701-0522		ILSI	DOKI	NG LOG	Report No.	28062E	3-03-1223
roject l	Name:			us, Clay,	New York	•				Date Started	11/0	02/23
lient:		Rambo								Date Finished	11/	02/23
ocation	1:			n Locati						Surface Elev.		2.3'
					INVESTIGATION				GROUNDWATE	R OBSERVAT	IONS	
Oriller: Oriller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.
nspecto	r:	A. Sha	rma, EI	T	Other:			11/02/23	While Drilling	6.8	2	2.5
Prill Rig	g:	CME 4	5		Soil Sampler:	2" OD S	Split Barrel	11/02/23	Before Casing Removed	8.2	2	4.1
Гуре:		Track			Hammer Wt:	140 lbs.		11/02/23	After Casing Removed	None Noted	(	out
Rod Size		AW			Hammer Fall:	30 in.		11/02/23	•	caved @ 6.0		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c ·	- coarse				SPT "N
Scale	Sample	(F	t.)	Sample	Sampler	Change		medium	and - 35 to 5	0% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		f - fine		20% / trace - 0 to 109		RQD 9
0	1	0.0	2.0	SS/22	1-1-3-4		Brown mo	ttled SILT	, trace mf SAND, trace	CLAY, trace RO	OOTS	4
							(wet, medi	um stiff)				
1												
2	2	2.0	4.0	SS/17	4-3-4-4		Brown SIL	T, little C	LAY, trace fine SAND	(wet, medium st	tiff)	7
3												
4	3	4.0	6.0	SS/18	5-6-7-8		Brown SIL	T, trace f	ine SAND, trace CLAY	(wet, stiff)		13
5												
6	4	6.0	8.0	SS/16	9-10-11-12		Brown SIL	T, trace f	ine SAND (wet, very st	iff)		21
									` '	,		
7												
8	5	8.0	10.0	SS/18	7-9-8-10		Similar as	above (we	et, very stiff)			17
Ŭ	Ü	0.0	10.0	55/10	, , 0 10		Similar us		vi, very surry			- ,
9												
10												
10												
11												
11												
12												
14												
13	6	13.0	15.0	SS/16	5-6-4-6		Grev SII T	Little CI	AY (wet, stiff)			10
13	J	15.0	15.0	25/10	3010			, muc CL	(, 50111)			10
14												
17												
15												
1.5												
16												
10												
17												
1 /												
18	7	18.0	20.0	SS/9	3-4-6-6		Grey CH T	Come CI	AY, little cmf SAND (	(wat stiff)		10
10	1	10.0	∠∪.∪	33/9	3-4-0-0		Giey SIL1	, some CI	LA 1, HUIC CHII SAND (	wei, siiii)		10
10												
19												
							Continued	D 2				
20												

Boring No. Page **32.408** 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1123 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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' Bottom of Boring @ 24.1' 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42

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

Remarks:

43

		R/		6035 Co	orporate Drive	SI	IBSURF	ACE EX	PL (	ORATION	Boring No.	age 🕰	<b>400</b> 536
		IV			acuse, NY 13057			BORI			Page No.	1	of 2
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		1691	DUKI	NG	LUG	Report No.	28062B	3-03-1223
Project	Name:	Micron	Campi	ıs, Clay,	New York	-					Date Started	11/0	02/23
Client:		Rambo	11	-							Date Finished	11/0	02/23
Location	n:	See Ex	ploratio	n Locatio	on Plan						Surface Elev.	39	3.5'
					INVESTIGATIO	N			GR	ROUNDWATER			
Driller: Driller:		H. Lyo K. Cra	n		Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)		At (Ft.)
Inspecto		A. Sha		т	Other:			11/02/23		While Drilling	7.7	9	3.0
Drill Ri		CME 4		1	Soil Sampler:	2" OD S	plit Barrel	11/02/23		ore Casing Removed	4.3		23
Type:	<b>5•</b>	Track	.5		Hammer Wt:	140 lbs.	phi Danci	11/02/23		er Casing Removed	4.9		out
Rod Siz	۰.	AW			Hammer Fall:	30 in.		11/02/23		er Casing Removed	caved @ 5.9		out
Rou SIZ			R∩DI		MPLES	30 m.	VI			SIFICATION O			out
	LO	T		110 52	WII LES		1 V 14	SUAL C	LAS	I	TWATERIA	IL.	1
Depth		Sample	-	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1	0.0	1.0	SS/12	1-2-3-3				CLAY	, trace fine SAND,	trace ROOTS (	(moist,	5
1							medium sti	iff)					
2	2	2.0	4.0	SS/15	3-4-4-5		Brown mot	ttled SILT	, som	ne CLAY, trace find	e SAND (wet, st	tiff)	8
3													
4	3	4.0	6.0	SS/16	3-4-4-5		Brown mot	ttled SILT	`, little	e CLAY, trace fine	SAND (wet, sti	iff)	8
5													
6	4	6.0	8.0	SS/14	4-5-5-5		Brown SIL	T, trace f	ine Sa	AND, trace CLAY	(wet, stiff)		10
7													
8	5	8.0	10.0	SS/20	4-7-6-8		Brown SIL	T, trace n	nf SA	ND, trace CLAY (	wet, stiff)		13
9													
10													
11													
12							Augered ho	ard begini	ning (	@ 11.5'			
13	6	13.0	15.0	SS/12	3-4-5-4		Grey SILT	, little CL	AY, t	trace fine SAND (v	vet, stiff)		9
14													
15													
16													
17													
18	7	18.0	20.0	SS/16	WH-1-2-3		Grey CLA'	Y and SIL	.Т, lit	ttle cmf SAND, littl	e mf GRAVEL	(wet,	3
19							5011)						
20							Continued	on Page 2	2				
						<del> </del>							

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Boring No. Page 22.200 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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+ Bottom of Boring @ 23.4' 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39

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

Remarks:

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				6035 Co	orporate Drive	CI	IRCIIDE	VCE EX	ZDI A	RATION	Boring No.	age 23	<b>4<sub>1</sub>P</b> 53
		IV		East Syr	racuse, NY 13057						Page No.		of 2
	Ass	ociates	s, Inc.	Phone:	315-701-0522		TEST	r BORI	NG L	OG	Report No.	28062B	3-03-1223
roject 1	Name:	Micror	Camp	us, Clay,	New York	-					Date Started	10/3	30/23
lient:		Rambo									Date Finished		30/23
ocation	n:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	3.3'
					INVESTIGATIO	N			GRO	OUNDWATER			
Priller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	<b>-</b>					
Priller:		K. Cra	ndall		Casing Hammer:			Date		Time	Depth (Ft.)	Casing	At (Ft.
nspecto	r:	A. Sha	rma, EI	T	Other:			10/30/23	W	hile Drilling	4.6	7	7.5
Orill Rig	g:	CME 4	15		Soil Sampler:	2" OD S	Split Barrel	10/30/23	Before	Casing Removed	22.4	2	23
Гуре:		Track			Hammer Wt:	140 lbs.		10/30/23	After	Casing Removed	11.5	C	out
Rod Size	e:	AW			Hammer Fall:	30 in.		10/30/23	After	Casing Removed	caved @ 12.0	C	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASS	IFICATION C	F MATERIA	L	
Depth		Sample	Depth		Blows on		C	- coarse					SPT "I
Scale	Sample	_	_	Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			20% / trace - 0 to 109		RQD 9
0	1	0.0	2.0	SS/14	1-1-4-5				ittle mf	SAND, trace CI	AY (wet, mediu	ım	5
1							stiff)	ŕ		,	, ,		
2	2	2.0	4.0	SS/15	5-6-6-5		Brown mo	ttled SILT	, little	CLAY, trace fine	e SAND (wet, sti	iff)	12
3	_												
5	3	4.0	6.0	SS/19	2-3-3-6		Brown SIL	T, trace f	ine SA	ND (wet, mediun	n stiff)		6
6	4	6.0	8.0	SS/17	7-6-7-6		Similar as	above (we	et, stiff)	)			13
7								·					
8	5	8.0	10.0	SS/21	4-6-6-8		Brown mo	ttled SILT	, trace	CLAY, trace fine	e SAND (wet, st	iff)	12
9													
10 11													
12													
13	6	13.0	15.0	SS/20	12-12-8-8		Grey/Brow stiff)	n SILT, l	ittle cm	of SAND, trace fi	ne GRAVEL (w	et, very	20
14							ĺ						
15													
16													
17													
18	7	18.0	20.0	SS/16	2-5-9-5		Grey SILT	, some CI	LAY, tr	race cmf SAND (	wet, stiff)		14
19								<b>.</b>					
20					ube, C - Core, WH -		Continued	on Page 2	2				1

EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 Boring No. Page 234 pt 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler and - 35 to 50% / some - 20 to 35% m - medium Sample Change or From То Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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 16 compact) 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

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

Remarks:

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				6035 Co	orporate Drive	ÇI	IRSIIRE	ACE EX	PLORATION	Boring No. Pag	ge <b>23</b> 2	<b>1PI</b> 530
	L	IV		East Syr	racuse, NY 13057	30				Page No.		of 2
	Asso	ociates	s, Inc.	Phone:	315-701-0522		IESI	BOKE	NG LOG	Report No.	28062B-	-03-1223
roject l					New York					Date Started	10/3	30/23
lient:		Rambo	11	-						Date Finished	10/3	30/23
ocation	1:	See Ex	ploratio	n Locati	on Plan					Surface Elev.	393	3.2'
					INVESTIGATIO	N			GROUNDWATE	R OBSERVATIO	ONS	
Oriller: Oriller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.)
nspecto	r:	A. Sha		Т	Other:			10/30/23	While Drilling	9.3	13	3.0
Orill Rig		CME 4			Soil Sampler:	2" OD S	Split Barrel	10/30/23				2.7
Гуре:		Track			Hammer Wt:	140 lbs.	-	10/30/23	After Casing Removed	9.8	O	ut
Rod Size	e:	AW			Hammer Fall:	30 in.		10/30/23		caved @ 12.1	0	ut
	LO	G OF	BOR	NG SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIAL		
Donth		Sample			Blows on			200702				SPT "N
Depth Scale	Sample	_	_	Type / Sample	Sampler	Depth of Change		- coarse - medium	and - 35 to 50	0% / some - 20 to 35%		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		f - fine		20% / trace - 0 to 10%		RQD %
0	1	0.0	2.0	SS/17	1-1-3-6				, little cmf SAND, trac			4
							medium st	iff)		,		l
1								,				l
2	2	2.0	4.0	SS/15	7-8-9-9		Brown mo	ttled SILT	, little CLAY, little fine	e SAND (moist, ver	ry	17
							stiff)			` '		
3												
4	3	4.0	6.0	SS/22	2-3-2-4		Brown SIL	T, some (	CLAY, trace fine SANI	) (wet, medium stif	ff)	5
								,	,		ĺ	l
5												l
												l
6	4	6.0	8.0	SS/20	5-4-5-6		Brown SII	T. little C	LAY, trace mf SAND	(wet, stiff)		9
								,	,	, , , , ,		
7												l
												l
8	5	8.0	10.0	SS/17	3-5-11-14		Similar as	above (we	et, very stiff)			16
Ü	J	0.0	10.0	55/17	3 3 11 11		Sililiai us	40010 (110	ou, very surry			10
9												l
												l
10												l
10												l
11												l
												l
12												l
												l
13	6	13.0	15.0	SS/14	WH-21-42-46		Brown cm	f SAND a	nd mf GRAVEL, little	SILT (wet, verv		63
-	-						compact)			× · · · · · · · · · · · · · · ·		
14												
- •												
15												
16												
10												
17												l
1,												l
18	7	18.0	20.0	SS/13	17-28-25-32		Grev cmf S	SAND and	d mf GRAVEL, trace S	II.T (wet_verv.com	nact)	53
10	,	10.0	20.0	נו /נוט	17-20-23-32		Grey cilli k	JI XI VID AIR	ann ora vee, nace of	LI (WCL, VCI y COIII	ιρασι)	<i></i>
19												
17												
							L	-				I
20							Continued	On Page 1	1			

Boring No. Page 23.4 pf 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Rec. (in.) Per 6 Inches little - 10 to 20% / trace - 0 to 10% RQD % (Feet) No. (Ft.) f - fine 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

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

Remarks:

43

										-			
				6035 Co	orporate Drive	T2	IRSURF	ACE FY	PI 4	ORATION	Boring No.	age <b>23</b> 4	<b>4 p</b> ∮ 536
		IV			racuse, NY 13057			BORII			Page No.	1 (	of 2
	Ass	ociates	s, Inc.	Phone:	315-701-0522		1651	DUKI	NG	LUG	Report No.	28062B	-03-1223
Project	Name:	Micron	Camp	us, Clay,	New York						Date Started	10/3	30/23
Client:		Rambo	11								Date Finished	10/3	30/23
Locatio	n:			on Locati							Surface Elev.		2.2'
		ME	THO	DS OF	INVESTIGATIO				GR	COUNDWATER	OBSERVATI	IONS	
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller:		K. Cra			Casing Hammer:						- · ·		
Inspect		A. Sha		T	Other:			10/30/23		While Drilling	14.0		3.0
Drill Ri	g:	CME 4	5		Soil Sampler:		Split Barrel	10/30/23		re Casing Removed	26.5		3.0
Type:		Track			Hammer Wt:	140 lbs.		10/30/23		er Casing Removed	11.8		ut
Rod Siz		AW	DOD!	DIG G	Hammer Fall:	30 in.	X 7 T (	10/30/23		er Casing Removed	caved @ 13.7		ut
	LO	T		ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIA	L	
Depth		_	Depth	Type /	Blows on	Depth of		coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35%		or
(Feet)	No.	From 0.0	To 2.0	Rec. (in.)	Per 6 Inches 1-1-1-4	(Ft.)		fine	1;++1,	e mf SAND, trace	0% / trace - 0 to 10%		RQD %
U	1	0.0	2.0	33/2	1-1-1-4		(moist, soft		, 111110	e IIII SAND, ii ace i	CLA1, Hace KO	013	2
1							(IIIOISI, SOI)	ι)					
1													
2	2	2.0	4.0	SS/18	6-8-8-7		Brown mot	tled SILT	'. little	e fine SAND, trace	CLAY (wet, ver	rv stiff)	16
_	_			22/10			210 WH IIIO		, 11001	o 11110 51 11 12 , 11 10 0	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. 5 50111)	10
3													
4	3	4.0	6.0	SS/16	4-4-3-4		Similar as	above (we	et, me	dium stiff)			7
								`		,			
5	1												
6	4	6.0	8.0	SS/18	2-2-1-2		Brown SIL	T, trace C	LAY	, trace fine SAND	(wet, soft)		3
7													
8	5	8.0	10.0	SS/14	1-7-5-10				SAN	D and SILT, some	mf GRAVEL (w	et,	12
							medium co	mpact)					
9													
10	-												
10													
11													
11													
12													
1-													
13	6	13.0	15.0	SS/18	11-12-18-32		Brown cmf	f SAND, s	ome	SILT, little mf GR	AVEL, trace CL	AY	30
							(wet, comp			,	,		
14								•					
15	]						Augered ho	ard begini	ing (	@ 15.2'			
16													
17													
4.0	_	100	16.5	aa /a /	25 40 50 0 45					GD 4 1 151	<b>.</b>		[
18	7	18.0	19.3	SS/21	25-40-50@4"		Grey cmf S	SAND and	i mf (	GRAVEL, some SI	LT (wet, very co	mpact)	50+
10													
19													
20	1						Continued	on Page 2	!				

CVE Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age 334 p2 536
Page No. 2 of 2
Report No. 28062B-03-1223

	Asso	ociates	s, Inc.	Phone:	315-701-0522		TEST BORING L	UG	Report No. 2806	52B-03-1223
					AMPLES		VISUAL CLASS	IFICATION C		
Depth Scale (Feet)	Sample No.	Sample	e Depth ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine	and - 35 to 50	0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20 21							Continued from Page 1			
22										
23 24	8	23.0	24.9	SS/19	30-42-48-50@5"		Grey cmf SAND, some fine compact)	e GRAVEL, some	e SILT (wet, very	90
25										
26 27							Auger refusal @ 27.0' Bottom of Boring @ 27.0'			
28										
29										
30 31										
32										
33 34										
35										
36										
37 38										
39										
40										
42										
43										
44										

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

		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	age <u>23</u>	â <b>p</b> § 536
		IV	Ę	East Syr	racuse, NY 13057			BORI			Page No.	1 (	of 2
		ociates	N LINE C	i none.	315-701-0522	<u> </u>	11201	DOM	10 1	LOG	Report No.		-03-1223
Project	Name:			us, Clay,	New York						Date Started		31/23
Client:		Rambo									Date Finished		31/23
Location	n:			n Locati		NT.			CD		Surface Elev.		6.5'
Driller:		H. Lyo		DS OF	INVESTIGATIO Casing:	3 ¼" ID	цсл		GK	COUNDWATER	OBSERVAI	IONS	
Driller:		K. Crai			Casing Hammer:	3 /4 ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto		A. Sha		Т	Other:			10/31/23	-	While Drilling	7.8	8	3.0
Drill Ri		CME 4			Soil Sampler:	2" OD S	Split Barrel	10/31/23		ore Casing Removed	11.4		3.5
Type:		Track			Hammer Wt:	140 lbs.		10/31/23	Afte	er Casing Removed	None Noted	0	ut
Rod Siz		AW			Hammer Fall:	30 in.		10/31/23		er Casing Removed	caved @ 6.8		ut
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35°		or
(Feet)	No. 1	From	To	Rec. (in.) SS/16	Per 6 Inches 1-1-3-4	(Ft.)		- fine	спл	little - 10 to 2 Γ, trace mf SAND,	0% / trace - 0 to 109		RQD %
U	1	0.0	2.0	33/10	1-1-5-4		ROOTS (n				uace CLA1, ua	ice	4
1							ROOTS (II	ioist, incu	iuiii s	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
2	2	2.0	4.0	SS/16	4-8-6-7		Grey/Brow	n mottled	SILT	Γ, little CLAY, trac	e fine SAND (n	noist,	14
							stiff)						
3													
		4.0	- 0	99/10			_			GT 1.77	g.,,,,,		
4	3	4.0	6.0	SS/19	3-2-2-4			ttled SILT	, som	ne CLAY, trace find	e SAND (moist,	medium	4
5							stiff)						
3													
6	4	6.0	8.0	SS/24	4-6-6-6		Brown SIL	T, little C	LAY	, trace fine SAND	(wet, stiff)		12
											,		
7													
_													
8	5	8.0	10.0	SS/17	3-6-7-9		Similar as	above (we	t, stif	ff)			13
9													
9													
10													
11													
12													
13	6	12.0	15.0	SS/18	WH-2-2-1		Grov CLA	V some o	mf S	AND, little SILT, t	roca fina CDAV	/EI	4
13	U	13.0	13.0	SS/10	vv11-∠-∠-1		(wet, medi		ш 3/	and, iilic sil i , t	iace file GRAV	LiL	+
14							wet, medi	sull <i>)</i>					
15													
16													
17													
17							Augered gi	ravally ba	ainni	na @ 175'			
18	7	18.0	20.0	SS/15	6-8-8-12					ng @ 17.5 GRAVEL, little SII	T. trace CLAY	(wet.	16
	,				20012		medium co		(	,,,,	,	( <b></b> ,	10
19								• ′					
20							Continued	on Page 2					

CVE 60
Ea
Associates, Inc. Ph
LOG OF BORING

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age 324 pg 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Ass	ociates	s, Inc.	Phone:	315-701-0522		TEST BORING L	UG	Report No. 2806	2B-03-1223
					AMPLES	1	VISUAL CLASS	SIFICATION O		
Depth Scale (Feet)	Sample No.		e Depth Ft.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	m - medium f - fine		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
20 21							Continued from Page 1			
22 23	8	23.0	24.2	SS/7	27-40-50@2"		Augered gravelly beginning Grey cmf SAND, some mf compact)		SILT (moist, very	50+
24	-						Auger refusal @ 24.3' Bottom of Boring @ 24.3'			
26										
27										
28 29										
30										
31										
32										
33										
34										
36										
37										
38										
39	<u> </u>									
41										
42										
43										
44										
45										

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

				6035 Co	orporate Drive	CI	IRSTIDE	ACE EX	PLORATION	Boring No. Pag	ge 🚜	4 124 530
		IV		East Syr	racuse, NY 13057					Page No.		of 2
	Asso	ciates	s, Inc.	Phone:	315-701-0522		TEST	ROKI	NG LOG	Report No.	28062B	-03-1223
Project l					New York					Date Started	11/0	)2/23
Client:		Rambo	11	-						Date Finished	11/0	)2/23
Location	ı:	See Ex	ploratio	n Locati	on Plan					Surface Elev.	39	2.0'
					INVESTIGATION	ON			GROUNDWATE	R OBSERVATION	ONS	
Driller: Driller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.)
nspecto	r:	A. Sha		Т	Other:			11/02/23	While Drilling	8.8	13	3.0
Orill Rig		CME 4			Soil Sampler:	2" OD S	Split Barrel	11/02/23				3.0
Гуре:		Track			Hammer Wt:	140 lbs.	•	11/02/23	After Casing Removed	4.9	0	ut
Rod Size	e:	AW			Hammer Fall:	30 in.		11/02/23	_	caved @ 7.0	0	ut
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION (	OF MATERIAL	,	
Donath		Sample										SPT "N
Depth Scale	Sample	(F	_	Type /	Blows on Sampler	Depth of		- coarse medium	and - 35 to 5	0% / some - 20 to 35%		SPI "N or
(Feet)	No.	From	То	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		finedium f - fine		20% / trace - 0 to 10%		RQD %
0	1	0.0	2.0	SS/17	1-1-2-3	(= 1.7)			race CLAY, trace fine		TS	3
							(wet, soft)	,	,	,		
1							, ,					
2	2	2.0	4.0	SS/15	4-7-7-7		Brown SII	T, little C	LAY, trace fine SAND	(wet, stiff)		14
3												
4	3	4.0	6.0	SS/24	2-4-5-6		Brown SIL	T, some (	CLAY, trace fine SANI	O (wet, stiff)		9
								,	,			
5												
6	4	6.0	8.0	SS/16	8-9-7-7		Brown SIL	T, trace C	LAY, trace fine SANI	O (wet, very stiff)		16
7												
8	5	8.0	10.0	SS/21	5-7-9-10		Similar as	above (we	et, very stiff)			16
9												
10												
11												
12												
10		12.0	15.0	00/10	67.11.0		D GH	m	N AN COANT			10
13	6	13.0	15.0	SS/19	6-7-11-9		Brown SIL	1, trace C	CLAY, trace cmf SANI	(wet, very stiff)		18
1 /												
14												
1.5												
15												
16												
16												
17												
1 /												
18	7	18.0	20.0	SS/15	WR-2-3-7		Grev SII T	Some CI	AY, little cmf SAND,	little mf GR AVEI	(wet	5
10	1	10.0	20.0	נו/נט	vv IX-∠-J-/		medium st		arr, muc chii Sand,	muc mi OKAVEL	(wel,	
19							incurum st	,				
1)												
							Continued	on Page 2				
20												•

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Boring No. Page 234 p4 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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

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

Remarks:

36

37

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		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	ZPI.	ORATION	Boring No.	age <u>24</u>	2 p <b>\$</b> 536
		IV	Ę		racuse, NY 13057			Γ BORI			Page No.	1	of 2
Associate			N LINE C	i none.	315-701-0522		11201	DOM	100	LOG	Report No.		-03-1223
Project	Name:			us, Clay,	New York						Date Started		)1/23
Client:		Rambo									Date Finished		)1/23
Locatio	n:			n Locati		NT.		ı	C D		Surface Elev.		1.8'
Driller:				DS OF	INVESTIGATIO Casing:		нсл		GK	COUNDWATER	OBSERVAI	IONS	
Driller:		H. Lyon K. Crandall		Casing Hammer:		3 ¼" ID H.S.A.		Date		Time	Depth (Ft.) Casing		At (Ft.)
Inspector:		A. Sharma, EIT		_						While Drilling	7.1	17.5	
_	Drill Rig:		CME 45		Soil Sampler:	2" OD S	Split Barrel	11/01/23 11/01/23		re Casing Removed	10.6	22.4	
Type:		Track			Hammer Wt:	140 lbs.		11/01/23	Afte	er Casing Removed	None Noted	out	
Rod Size:		AW		Hammer Fall:		30 in.		11/01/23		er Casing Removed	caved @ 5.6		
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	e (Ft.) Sample Sampler		Change	nge m - medium and - 35 to 5			% / some - 20 to 35°		or			
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine little - 10 to 2  Brown mottled SILT, trace CLAY, trace fine				0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/14	1-1-3-5		(wet, medi		, trac	e CLAY, trace fine	e SAND, trace R	0015	4
1							(wet, mear	uiii stiii)					
2	2	2.0	4.0	SS/15	5-5-5-5		Brown mo	ttled SILT	`, little	e CLAY, trace mf	SAND (wet, stif	f)	10
3													
	_	4.0	- 0	a a / <b>a</b> /			-		_	<b>~~</b>			
4	3	4.0	6.0	SS/24	2-3-3-5		Brown mo	ttled SILT	, som	ne CLAY (wet, med	dium stiff)		6
5	ł												
3													
6	4	6.0	8.0	SS/18	7-7-7		Similar as	above (we	et, stif	ff)			14
								`		,			
7													
							-						
8	5	8.0	10.0	SS/18	6-8-10-14		Brown SIL	T, little C	LAY	, trace fine SAND	(wet, very stiff)		18
9													
9													
10													
11													
12													
13	6	13.0	15.0	SS/17	6-5-6-5		Brown/Gra	SUSIIT I	ittle (	CLAY (wet, stiff)			11
13		13.0	13.0	DD/1/	0-5-0-5		OIO /II WOIG	-y энь 1, 1	illic C	LATI (WEL, SHII)			11
14													
15													
16													
17													
1/							Augered g	ravelly he	ojnni	ng @ 179'		. —	
18	7	18.0	20.0	SS/8	6-7-7-9					cmf SAND, little	SILT (wet, med	ium	14
							compact)				, ,		
19													
								_					
20							Continued	on Page 2	2				

Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

## SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age **B44 P5** 536

Page No. 2 of 2

Report No. 28062B-03-1223

Associates, Inc. Phone: 315-701-0522							TEST BORING LO	Report No. 2806	No. 28062B-03-1223		
LOG OF BORING SAMPLES							VISUAL CLASSIFICATION OF MATERIAL				
Depth Scale (Feet)	Sample No.	Sample	e Depth		Blows on Sampler Per 6 Inches	Depth o Change (Ft.)	c - coarse	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	50@0'		Augered refusal @ 22.4' 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	1										

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

				6035 Co	orporate Drive	SI	IRSURF	ACE EX	XPI OR	ATION	Boring No.	age <b>24</b>	<b>4 pt</b> 536
East Syracuse, NY 1305'				acuse, NY 13057	SUBSURFACE EXPLORATION TEST BORING LOG					Page No. 1 or			
Associates, Inc. Phone: 315-701-0522							IESI	I DUKI	Report No. 28062B		-03-1223		
Project 1	Name:	Micror	n Campi	us, Clay,	New York	•					Date Started	11/0	01/23
Client: Ramboll											Date Finished	11/0	01/23
Location	ı:	See Ex	ploratio	on Locati	on Plan						Surface Elev.	39	2.3'
		ME	THO	DS OF	INVESTIGATIO	N			GROU	NDWATER	OBSERVAT	IONS	
Driller: Driller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	A. Sha	rma, EI	T	Other:			11/01/23	Whi	le Drilling	8.5	1	7.5
Drill Rig	g:	CME 4	15		Soil Sampler:	2" OD S	Split Barrel			asing Removed	9.7	1	7.5
Type:		Track			Hammer Wt:	140 lbs.				sing Removed	6.4	out	
Rod Size		AW			Hammer Fall:	30 in.		11/01/23		sing Removed	caved @ 10.5		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIF	ICATION (	OF MATERIA	L	
Depth		Sample	e Depth	Type /	Blows on	Depth of	Depth of C - COATSE						SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change				and - 35 to 50	0% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		f - fine			20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/15	1-1-3-4				CLAY, tra	ce fine SAND	, trace ROOTS	(wet,	4
1							medium st	111)					
ا ر	2	2.0	4.0	00/16	1500		D#077	പിച്ച ന	r 1:41 - Ot	A.V. 4m f"	CAND (+	:cc)	11
2	2	2.0	4.0	SS/16	4-5-6-6		Brown mo	ttiea SIL I	, little CI	AY, trace fine	e SAND (wet, st	11	
3													
4	3	4.0	6.0	SS/21	3-3-2-4		Brown SIL	T, some (	CLAY, tra	ice fine SAND	(wet, medium s	stiff)	5
5													
5													
6	4	6.0	8.0	SS/18	4-5-6-7		Brown SII	T, trace C	CLAY, tra	ce fine SAND	(wet, stiff)		11
7													
8	5	8.0	10.0	SS/17	6-11-12-12		Brown SIL	LT, trace c	mf SANI	), trace fine G	RAVEL (wet, ve	ery stiff)	23
0													
9													
10													
							Augered g	ravelly be	ginning @	0 10.5'			
11													
12													
13	6	13.0	15.0	SS/20	32-48-45-47		Grey/Brow	vn cmf SA	ND and 1	nf GRAVEL,	some SILT (moi	st, very	93
							compact)					-	
14													
15													
16													
17													
10	7	10.0	10.2	00/14	22 40 50 02"		C 75	COD	A 3 / E2	1 (((43)))	I'm OHEN		50
18	7	18.0	19.2	SS/14	22-40-50@2"			vn mf GR	AVEL and	a cmf SAND,	little SILT (wet,	very	50+
19							compact)						
1)							Augered 9	ravellv be	ginning (	9 19.7'. Auger	refusal @ 19.9	,	
20							Bottom of	Boring @	19.9'		., 3 17.7		<u> </u>
	it Spoo	n, U - 1	Undist	urbed Ti	ıbe, C - Core, WH -	Weight o	of Hammer	+ Rod. WI	R - Weigh	t of Rod			<del>!</del>

				6035 Co	orporate Drive	ÇI	IRSTIRE	ACEFY	PLORATION	Boring No.	age <u>24</u>	3 pf 53
	U	IV		East Syr	racuse, NY 13057					Page No.		of 2
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		1 E 5 1	BUKI	NG LOG	Report No.	28062E	3-03-1223
Project N	Name:	Micror	Camp	us, Clay,	New York					Date Started	11/0	01/23
Client:		Rambo	11							Date Finished	11/0	01/23
ocation	1:	See Ex	ploratio	on Locati	on Plan					Surface Elev.	38	38.8'
		ME	THO	DS OF	INVESTIGATIO	N			GROUNDWATE	R OBSERVAT	IONS	
Priller:		H. Lyo	n		Casing:	3 ¼" ID	H.S.A.	Data	Time	Donth (Et.)	Coaina	A 4 (TE4
Oriller:		K. Cra	ndall		Casing Hammer:			Date	Time	Depth (Ft.)	Casing	At (Ft.
nspecto	r:	A. Sha	rma, EI	Т	Other:			11/01/23	While Drilling	6.7	8	3.0
Orill Rig	g:	CME 4	5		Soil Sampler:	2" OD S	Split Barrel	11/01/23	Before Casing Removed	24.1	2	3.5
Гуре:		Track			Hammer Wt:	140 lbs.		11/01/23	After Casing Removed		(	out
Rod Size		AW			Hammer Fall:	30 in.		11/01/23	Ü			out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LASSIFICATION	OF MATERIA	L	
Depth		Sample	Depth	T. /	Blows on	D 1 6	c.	- coarse				SPT "I
	Sample	_	_	Type / Sample	Sampler	Depth of Change		medium	and - 35 to 5	50% / some - 20 to 35°	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)	f	- fine	little - 10 to	20% / trace - 0 to 109	%	RQD
0	1	0.0	2.0	SS/15	1-1-3-5		Brown SIL	T, trace f	ine SAND, trace CLA	Y, trace ROOTS	(wet,	4
							medium st	iff)				
1												
2	2	2.0	4.0	SS/17	4-6-5-5		Brown SIL	T, trace C	CLAY, trace mf SAND	(wet, stiff)		11
3												
4	3	4.0	6.0	SS/20	1-3-5-5		Brown SIL	T, some (	CLAY, trace fine SAN	D (wet, stiff)		8
5												
6	4	6.0	8.0	SS/19	4-5-5-6		Similar as	above (we	et, stiff)			10
7												
8	5	8.0	10.0	SS/20	3-5-6-5		Brown SIL	T, some (	CLAY, trace fine SAN	D (wet, stiff)		11
9												
10												
11												
12												
1.0	_	1.2.	1	00/15	2252		D ~	11:1 0===	n	d 600 :		_
13	6	13.0	15.0	SS/15	3-3-5-8			ddish SIL	Γ, some cmf SAND, lit	tle mt GRAVEL	(wet,	8
l							stiff)					
14												
15												
16							<b>↓</b>	<u></u>		. —	. —	4
							Augered g	ravelly @	16.5'			
17												
10	_	40.	20.5	g g :=	44.45			~	1 OT TO 11 1 2 2 2 2			
18	7	18.0	20.0	SS/8	11-15-9-7			SAND and	d SILT, little mf GRAV	EL (wet, mediun	n	24
, -							compact)					
19												
								_				
20						1	Continued	on Page 2	!			Ī

CME Associates, Inc.

6035 Corporate Drive
East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age **B44 p7** 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Associates, Inc. Phone: 315-701-0522						TEST BORING L	<b>OG</b>	Report No. 2806	2B-03-1223
	LO	G OF	BOR	ING SA	AMPLES		VISUAL CLASS	SIFICATION (		05-1225
Depth Scale	Sample	Sample	e Depth	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium f - fine	and - 35 to 50	0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
(Feet)	No.	rrom	10	Rec. (in.)	Per 6 Inches	(Ft.)	Continued from Page 1	nitie - 10 to 2	20% / trace - 0 to 10%	KQD %
21										
22										
23	8	23.0	25.0	SS/19	35-42-42-42		Grey cmf SAND, some SII compact)	LT, little mf GRA	VEL (moist, very	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										
42										
43										
44										
45										

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

				6035 Co	orporate Drive	SI	JBSURF	ACE EX	PLO	ORATION	Boring No.	age 24	<b>½ p</b> § 536
		IV	L		racuse, NY 13057			F BORI			Page No.	1	of 2
		ociates	S. Land	i none.	315-701-0522		11031	DOM	.101		Report No.		-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		31/23
Client:		Rambo			Di						Date Finished		31/23
Location	1:	-		n Locati	on Plan INVESTIGATIO	N			CD	OUNDWATER	Surface Elev.		5.4'
Driller:		H. Lyo		DS OF	Casing:	3 ¼" ID	H.S.A.		GK				
Driller:		K. Cra			Casing Hammer:	0,4 12	11.0.11.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	A. Sha	rma, EI	T	Other:			10/31/23	,	While Drilling	11.0	1:	2.5
Drill Rig	g:	CME 4	15		Soil Sampler:		Split Barrel	10/31/23		re Casing Removed	13.0	2	7.5
Type:		Track			Hammer Wt:	140 lbs.		10/31/23		er Casing Removed	5.3		out
Rod Size		AW	DOD		Hammer Fall:	30 in.	X7T(	10/31/23		er Casing Removed	caved @ 11.4		out
	LO			ING SA	MPLES		V 13	SUAL C	LAS	SIFICATION (	JF MIATERIA	L	1
Depth	a .		e Depth t.)	Type /	Blows on	Depth of		- coarse			no. / 20 : 27:		SPT "N"
Scale (Feet)	Sample No.	From	To	Sample Rec. (in.)	Sampler Per 6 Inches	Change (Ft.)		medium - fine			9% / some - 20 to 359 20% / trace - 0 to 109		or RQD %
0	1	0.0	2.0	SS/18	1-1-3-5	(1 (.)			LAY	, trace fine SAND			4
1							medium sti					,	
2	2	2.0	4.0	SS/17	3-5-5-5		Brown mot	ttled SILT	, trace	e CLAY, trace find	e SAND (moist,	stiff)	10
3	3	4.0	6.0	SS/22	2-2-3-4		Brown mot	ttled SILT	`, little	e CLAY, trace fine	e SAND (wet, m	edium	5
5							stiff)						
6	4	6.0	8.0	SS/24	5-7-7-6		Brown SIL	T, trace C	CLAY	, trace fine SAND	(wet, stiff)		14
7													
8	5	8.0	10.0	SS/12	4-6-6-6		Brown/Grestiff)	ey mottled	SILT	C, little CLAY, trac	ce fine SAND (w	vet,	12
9													
10													
11 12													
13	6	13.0	15.0	SS/16	8-9-7-4		Grev SILT	and CLA	Y (w	et, very stiff)			16
14										· • /			
15													
16													
17													
18	7	18.0	20.0	SS/20	2-2-1-2		Grey CLA soft)	Y and SIL	T, litt	tle cmf SAND, tra	ce fine GRAVE	L (wet,	3
19													
20							Continued	on Page 2	2	-			
20		n, U - 1	Ündisti	urbed Ti	ube, C - Core, WH - Y	Weight o	Continued	on Page 2 + Rod, WI	<u>2</u> R - W	eight of Rod			

CVE 60
Associates, Inc. p

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age \$44.78 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Associates, Inc. Phone: 315-701-0522						TEST BORING L	ωOG	Report No. 2806	52B-03-1223
					AMPLES		VISUAL CLASS	SIFICATION C		.25 00 1220
Depth		1	e Depth	Type /	Blows on	Depth of	c - coarse			SPT "N"
Scale	Sample	(F	łt.)	Sample	Sampler	Change	m - medium		0% / some - 20 to 35%	or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Continued from Page 1	nttle - 10 to 2	20% / trace - 0 to 10%	RQD %
21							Augered gravelly beginnin	g @ 21.0'		
22										
23	8	23.0	25.0	SS/12	12-9-10-10		Grey cmf SAND and mf G compact)	RAVEL, little SI	LT (wet, medium	19
24										
25							Augered hard beginning @	25.9'		
26										
27	0	27.5	27.0	00/0	50.002"		Auger refusal @ 27.5' Grey weathered ROCK chips and fragments (wet)			
28	9	27.5	27.8	SS/2	50@3"		Grey weathered ROCK chips and fragments (wet) Bottom of Boring @ 27.8'			
29										
30	1									
31										
32										
33										
34										
35										
36										
37										
38										
39										
40	1									
41										
42										
43										
44										
45	1									

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

		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	age <u>24</u>	<b>4<sub>1</sub>0</b> 536
		IV	Ę	-	racuse, NY 13057			BORI			Page No.	1	of 2
		ociates	20 1100	i none.	315-701-0522		11201	DOKI	10 1	LOG	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		31/23
Client:		Rambo									Date Finished		31/23
Locatio	n:			n Locati					C D		Surface Elev.		36.1'
Driller:				DS OF	INVESTIGATIO	3 ¼" ID	псл		GK	OUNDWATER	OBSERVAI	IONS	
Driller:		H. Lyo K. Crai			Casing: Casing Hammer:	3 /4 ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspecto		A. Shar		Т	Other:			10/31/23		While Drilling	9.7	8	3.0
Drill Ri		CME 4			Soil Sampler:	2" OD S	Split Barrel	10/31/23		re Casing Removed	13.9		3.2
Type:		Track			Hammer Wt:	140 lbs.		10/31/23	Afte	er Casing Removed	None Noted	(	out
Rod Siz		AW			Hammer Fall:	30 in.				er Casing Removed	caved @ 9.6		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 35°		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	1:441.	e mf SAND, trace	0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/15	1-2-5-6		(moist, me			e mi SAND, trace (	CLAI, trace RC	0013	/
1							(moist, me	diuiii stiii	,				
_													
2	2	2.0	4.0	SS/16	7-8-8-8		Brown mot	ttled SILT	, little	e CLAY, trace fine	SAND (moist,	very	16
							stiff)						
3													
4	3	4.0	6.0	SS/10	5-5-5-4			-		CLAY, little cmf SA	AND, trace fine		10
5							GRAVEL	(wet, stiff	)				
3													
6	4	6.0	8.0	SS/21	3-5-8-8		Brown mot	ttled SILT	', trac	e fine SAND, trace	e CLAY (wet, st	iff)	13
										,	, ,	,	
7													
8	5	8.0	10.0	SS/20	3-5-6-7		Brown SIL	T, trace f	ine SA	AND, trace CLAY	(wet, stiff)		11
9													
9													
10													
11													
12													
13	6	13.0	15.0	SS/18	1-3-3-3		Grev/Broy	n SII T o	ome (	CLAY, little cmf S	AND trace mf		6
13	U	13.0	13.0	DD/10	1-5-5-5		GRAVEL				and, have ill		
14								( ct, med		······)			
15													
16													
17							Augered gi	ravelly be	ainn:	na @ 170'			
1/							Augerea gi	aveny be	girinii	ng @ 17.0			
18	7	18.0	20.0	SS/15	11-12-10-10		Grev cmf S	SAND and	l mf (	GRAVEL, little SII	LT (wet, mediur	n	22
				, ==			compact)		`	, ,	(		
19													
20							Continued	on Page 2	2				

20 Continued on Page 2
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION

Boring No. Page 244 ph 536 Page No.

	Ass	ociate	s. Inc.	East Sy	315-701-0522		TEST BORING I	LOG	Report No. 2806	2 or 2 52B-03-1223
					AMPLES		VISUAL CLASS	SIFICATION (		02 <b>D</b> -03-1223
Depth Scale	Sample	Sample (F	e Depth t.)	Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium		0% / some - 20 to 35%	SPT "N
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine Continued from Page 1	little - 10 to 2	20% / trace - 0 to 10%	RQD %
21							Continued from Page 1			
<ul><li>22</li><li>23</li></ul>	8	23.0	23.3	SS/3	50@4"		Augered hard beginning @ Dark Grey ROCK fragmer		et)	50+
24							Auger refusal @ 23.2' Bottom of Boring @ 23.2'		,	
25	-									
26										
<ul><li>27</li><li>28</li></ul>										
29										
30										
31										
32										
33										
34	_									
36										
37										
38										
39										
40										
41 42										
43										
44										
45	1									

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

				6025 G	. 5.	1					Boring No.P	age 24	<b>9.26</b> 536
	-( C-	:M	Æ		orporate Drive	SU	J <b>BSURF</b>	ACE EX	PL	ORATION	8		
	Ass	ociates	. Inc.		racuse, NY 13057		TEST	<b>BORI</b>	NG 1	LOG	Page No.		of 2
			No.	i none.	315-701-0522	<u> </u>					Report No.		3-03-1223
Project Client:	Name:	Rambo		us, Clay,	New York						Date Started		02/23
				T a a a 4	on Dlon						Date Finished Surface Elev.		02/23
Locatio	п;			on Locati	INVESTIGATIO	N			CP	ROUNDWATER			0.9'
Driller:		B. Flet		DS OF	Casing:	3 ¼" ID	HSA		GIV	CONDWATER	ODSERVAI	10115	
Driller:		R. Cas			Casing Hammer:	374 ID	11.0.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect					Other:	NQ-Cor	e	11/02/23		While Drilling	18.1	2	3.5
Drill Ri		CME 5	50X		Soil Sampler:		plit Barrel	11/02/23		ore Casing Removed	18.1	2	3.5
Type:		ATV			Hammer Wt:	140 lbs.		11/02/23		er Casing Removed	None Noted	(	out
Rod Siz	æ:	AWJ			Hammer Fall:	30 in.		11/02/23	Afte	er Casing Removed	caved @	(	out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	F MATERIA	L	
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F	t.)	Sample	Sampler	Change	m -	medium		and - 35 to 50	% / some - 20 to 359	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/14	1-2-4-6		-	-		trace fine SAND, t	race ORGANIC		6
1							MATERIA	AL (moist,	medi	ium stiff)			
1													
2	2	2.0	4.0	SS/20	4-4-5-6		Light Brow	un/Grev S	пт	trace fine SAND (1	moiet etiff)		9
	_	2.0	4.0	55/20	7 7 3 0		Light Brow	vii/Gicy b	ıLı,	trace time 57 ft vD (1	noist, stiii)		
3													
4	3	4.0	6.0	SS/16	4-3-3-3	Light Brown SILT, trace fine SAND (wet, medium stiff)							6
						Light Brown SILT, trace fine SAND (wet, medium stiff)							
5													
_				~~!-			a			1.00			
6	4	6.0	8.0	SS/17	6-7-10-10		Similar as	above (mo	oist, v	ery stiff)			17
7													
,													
8	5A	8.0	9.5	SS/19	4-3-4-9		Similar as	above (mo	oist. n	nedium stiff)			7
			,						,				
9													
	5B	9.5	10.0				Red/Brown	n SILT, lit	tle m	f SAND, little mf	GRAVEL (moist	t)	
10													
11													
12													
12													
13													
	6	13.5	15.0	SS/17	10-11-61		Light Brow	vn SILT, l	ittle r	mf SAND, little cm	of GRAVEL (mo	oist,	72
14							hard)	,		,	`	ŕ	
15													
16													
17													
17													
18													
10	7	18.5	20.0	SS/15	3-14-30		Grev SILT	, some cm	f SA	ND, little mf GRA	VEL (moist, har	rd)	44
19								, , ,		,		,	
	]												
20						1	Continued	on Page 2					

20 Continued on Page 2 SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Associates, Inc.

6035 Corporate Drive East Syracuse, NY 13057

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age \$54.20 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Associates, Inc. Phone: 315-701-0522						TEST BORING L	UG	Report No. 2806	52B-03-1223
					AMPLES		VISUAL CLASS	SIFICATION C		
Depth Scale (Feet)	Sample No.		Depth (t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine  Continued from Page 1		0% / some - 20 to 35% 20% / trace - 0 to 10%	SPT "N" or RQD %
21							Commued from Fage F			
22 23		20.5	25.0	ag (10	64 6F 02			. I'ul		140
24	8	23.5	25.0	SS/18	64-67-82		Grey SILT, little mf SAND	), little mf GRAV	EL (moist, hard)	149
25 26							Bottom of Boring @ 25.0'			
27										
28										
30										
31										
32										
34										
35										
36 37										
38										
39										
41										
42										
43										
45							f Hammar   Dad WD Wa			

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

		N/		6035 Co	orporate Drive	SI	IRSURF	ACE EX	PL (	ORATION	Boring No.	age <u>25</u>	1 <sub>2</sub> 9 536
		IV	Ę		racuse, NY 13057			BORII			Page No.	1	of 2
		ociates	N 1116 C 1	I momer :	315-701-0522		11231	DOKI	101	LOG	Report No.		-03-1223
Project	Name:			us, Clay,	New York	<u>-</u>					Date Started		)2/23
Client:		Rambo									Date Finished		)2/23
Locatio	n:			n Locati		N.T.			C D		Surface Elev.		6.0'
Driller:		B. Flet		DS OF	INVESTIGATIO	3 ¼" ID	нсл		GK	OUNDWATER	OBSERVAI	IONS	
Driller:		R. Casa			Casing: Casing Hammer:	3 /4 ID	п.з.А.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect		IX. Case	шстт		Other:	NQ-Cor	e	11/02/23		While Drilling	None Noted	2	2.2
Drill Ri		CME 5	50X		Soil Sampler:	_	plit Barrel	11/02/23		re Casing Removed	None Noted		2.2
Type:		ATV			Hammer Wt:	140 lbs.	•	11/02/23		er Casing Removed	None Noted	C	ut
Rod Siz		AWJ			Hammer Fall:	30 in.		11/02/23		er Casing Removed	caved @ 12.0		ut
	LO	G OF	BOR	ING SA	MPLES		VI	SUAL C	LAS	SIFICATION O	F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample	(F		Sample	Sampler	Change		medium			% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	3.6.44		0% / trace - 0 to 109	%	RQD %
0	1A	0.0	1.0	SS/10	WH-2-3-5		Topsoil and	d Organic	Matt	er (moist)			5
1	1B	1.0	2.0				Light Brow	vn/Grey S	ILT, t	trace fine SAND (r	noist, medium s	tiff)	
2	2	2.0	4.0	SS/20	5-6-6-5		Light Brow	vn SILT, t	race f	fine SAND (moist,	stiff)		12
3													
4	3	4.0	6.0	SS/20	3-4-4-5		Light Brow	vn SILT, t	race f	fine SAND (moist,	stiff)		8
5	-												
6	4	6.0	8.0	SS/18	7-6-7-6		Similar as	ahove (mo	niet e	tiff)			13
	-	0.0	0.0	55/10	7-0-7-0		Siliniai as	above (inc	лы, ы	uii <i>)</i>			13
7													
8	5	8.0	10.0	SS/20	3-4-4-8		Similar as	above (mo	oist, s	tiff)			8
9													
10													
11													
12													
13													
14	6	13.5	15.0	SS/18	WH-WH-1		Light Grey	SILT, so	me Cl	LAY, trace cmf SA	AND (wet, very	soft)	1
15													
16													
17													
18		10.5	20.0	00/10	4.4.6		Lialu C	CHT T	ıla :	A CANID 1941	CDAVEL ( )	- at:E0	10
19	7	18.5	20.0	SS/18	4-4-6		Light Grey	SILI, litt	ne cm	of SAND, little cmf	GKAVEL (Wet	i, suii)	10
20							G	D *					
20							Continued	on Page 2					

20 Continued on Page 2
SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Boring No. Page 25421 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 Auger refusal @ 22.1' 22 8 22.1 22.2 SS/1100@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

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

Remarks:

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Project Na Client: Location: Driller: Oriller: Inspector: Orill Rig: Type: Rod Size:  Depth	ame:	Micron Rambo See Ex ME B. Fleto R. Casa	oll ploration THO cher	Phone: 3 us, Clay, on Location	racuse, NY 13057 B15-701-0522 New York				PLORATION NG LOG	Boring No.  Page No.  Report No.	1 o 28062B	of 2 -03-1223
Project Na Client: Location: Driller: Oriller: Inspector: Orill Rig: Type: Rod Size:  Depth	ame:	Micron Rambo See Ex ME B. Fleto R. Casa	Campu oll ploratio THOI	us, Clay,	New York	<u> </u>	11231	DOM	TO LOU	Report No.		
Client: Location: Driller: Driller: Inspector: Drill Rig: Type: Rod Size:	:	Rambo See Ex ME B. Fleto R. Casa	oll ploration THO cher	n Location						· ·		
Driller: Driller: Driller: Drill Rig: Type: Rod Size:	:	ME B. Fleto R. Casa	ploratio THOl cher							Date Started	11/0	
Oriller: Oriller: Inspector: Orill Rig: Type: Rod Size:	:	ME B. Fleto R. Casa	THO cher		701					Date Finished		3/23
Oriller: (inspector: Orill Rig: Orype: Rod Size:  Depth	:	B. Fleto R. Casa	cher	ひろ ひだ	on Plan INVESTIGATIO	NI			GROUNDWATER	Surface Elev.		2.0'
Oriller: (inspector: Orill Rig: Orype: Rod Size:  Depth	:	R. Casa			Casing:	3 ¼" ID	HSA		GROUNDWATER			
Inspector: Orill Rig: Type: Rod Size:  Depth	:		atelli		Casing Hammer:	3 /4 ID	11.5.71.	Date	Time	Depth (Ft.)	Casing	At (Ft.)
Type: Rod Size:  Depth					Other:	NQ-Cor	e	11/03/23	While Drilling	6.4	18	3.5
Rod Size:		CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	11/03/23	Before Casing Removed	N/A	22	2.4
Depth		ATV			Hammer Wt:	140 lbs.		11/03/23	After Casing Removed	N/A	0	ut
		AWJ			Hammer Fall:	30 in.		11/03/23		N/A		ut
	LO			ING SA	MPLES		VIS	SUAL C	LASSIFICATION (	)F MATERIA	<u>L</u>	
		Sample		Type /	Blows on	Depth of		coarse				SPT "N"
	Sample	(F From	t.) To	Sample Rec. (in.)	Sampler Per 6 Inches	Change		medium - fine		0% / some - 20 to 359 20% / trace - 0 to 109		or RQD %
0	No.	0.0	2.0	SS/14	2-1-2-2	(Ft.)			Brown silt, cmf grave			3
	_							,		-, (	,	
1						<u></u>	L					
						[	T					
2	2	2.0	4.0	SS/18	3-3-4-4		Light Brow	n SILT, t	race fine SAND (moist	, medium stiff)		7
,						1						
3						1						
4	3	4.0	6.0	SS/17	4-3-3-4	1	Light Brow	n SILT +	race fine SAND (moist	medium stiff)		6
	J	۲.0	0.0	DD/11	+ 5 5-4	1	Light DIOW		race fine of trib (moist	, modium sum j		J
5						1						
						1						
6	4	6.0	8.0	SS/19	4-4-5-4	1	Similar as a	above (we	et, stiff)			9
_												
7						1						
8	5	8.0	10.0	SS/14	4-4-3-5	1	Similar ac	ahove (we	et, medium stiff)			7
	5	5.0	10.0	DD/17	1755	1	Similar as a	.50 VC (WC	a, mearain suit)			,
9						1						
						1						
10							See Remar	k 1				
11						1						
12						1						
12												
13												
	6	13.5	15.0	SS/14	2-2-2	1	Light Grey	SILT, tra	ce fine SAND (wet, me	edium stiff)		4
14						1						
						1						
15												
16												
10						1						
17						1						
18												
	7	18.5	20.0	SS/10	4-9-8	1		SILT and	cmf GRAVEL, little c	mf SAND (wet,	very	17
19						1	stiff)					
20							Continued	on Doco 1				
	Spoot	1 I I - I	Indien	irhed Ti	ıbe, C - Core, WH -	Weight o	Continued f Hammer +	on rage 2	R - Weight of Rod			

**Remarks:** 1. Installed well at depth of 10.0' with 5.0' screen.

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Boring No. Page 25422 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%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

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

Remarks:

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				6035 Co	orporate Drive	SI	JBSURF	ACE EX	 (PL:	ORATION	Boring No.	age <u>25</u>	<u>5</u> 25 536
		IV		•	racuse, NY 13057			BORI			Page No.	1	of 1
		ociates	2		315-701-0522		1 120 1	DOM	. 10	200	Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		23/23
Client:		Rambo		т	Dl						Date Finished		23/23
Location	n:			n Locati	on Plan INVESTIGATIO	N			CT	ROUNDWATER	Surface Elev.		01.0'
Driller:		H. Lyo		DS OF	Casing:	3 ¼" ID	HSA		GI	COUNDWATER			
Driller:		K. Crai			Casing Hammer:	3 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	or:	A. Sha		Т	Other:			10/23/23		While Drilling	7.3	8	3.0
Drill Ri		CME 4	15		Soil Sampler:	2" OD S	Split Barrel	10/23/23	Befo	ore Casing Removed	17.9		18
Type:		Track			Hammer Wt:	140 lbs.		10/23/23		er Casing Removed	5.0	(	out
Rod Siz		AW			Hammer Fall:	30 in.		10/23/23		er Casing Removed	caved @ 7.6		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of	c -	- coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 0.7	Rec. (in.) SS/17	Per 6 Inches 1-1-3-3	(Ft.)		- fine	and.	Organic Material (1	0% / trace - 0 to 109	%	RQD %
	1A 1B	0.0	2.0	33/1/	1-1-3-3					I trace fine SAND		stiff)	4
1	110	0.7	2.0				DIOWII SIL	i, mue C	LAI	, trace file SAND	(moist, medium	suii)	
1													
2	2	2.0	4.0	SS/15	4-3-5-7		Brown mo	ttled SILT	`, littl	le CLAY, trace fine	SAND (wet, st	iff)	8
3													
4	3	4.0	6.0	SS/20	6-8-6-9		Brown SIL	T, little C	LAY	, trace fine SAND	(wet, stiff)		14
	l												
5													
6	4	6.0	8.0	SS/24	7-11-15-22		Brown SII	T little (	TAV	, trace fine SAND,	trace mf GP AV	/EI	26
0	_	0.0	0.0	33/24	7-11-13-22		(wet, very		LAI	, trace file SAND,	uace iii GRA	/ LL	20
7							(wet, very	Still)					
8	5	8.0	10.0	SS/19	9-15-10-10		Grey/Brow	n cmf SA	ND a	and mf GRAVEL,	some SILT (wet	,	25
							medium co						
9							Augered g	ravelly be	ginni	ing @ 8.5'			
10	l												
10													
11													
11													
12													
13	6	13.0	13.8	SS/10	23-50@4"		Grey weatl	hered RO	CK fr	ragments, little SIL	T, little cmf GR	AVEL	50+
							(moist)						
14													
<u></u>													
15													
16													
16							Augered h	ard heain	nina	@ 16.8'			
17							zingereu m	ara vegini	ung '	G 10.0			
1													
18	7	18.0	18.4	SS/5	50@5"		Grey weatl	hered RO	CK fr	ragments, some mf	GRAVEL, trace	SILT	50+
							(moist)						
19							Auger refu						
							Bottom of	Boring @	18.6	5'			
20	Ī			Ī	1		1						1

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

# ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 8025 Companie Drive 
				6035 Co	orporate Drive	SI	IRSURF	ACE EX	PI.	ORATION	Boring No.	age <b>2</b> 56	à <b>21</b> 536
		IV	Ę		racuse, NY 13057			Γ BORI			Page No.	1 (	of 2
		ociates	20 1100	T Hone.	315-701-0522		ILSI	DOKI	10	LOG	Report No.		-03-1223
Project	Name:			us, Clay,	New York	=					Date Started		9/23
Client:		Rambo									Date Finished		9/23
Locatio	n:			n Locati				1	<u> </u>		Surface Elev.		3.0'
					INVESTIGATIO				GR	ROUNDWATER	OBSERVAT	TONS	
Driller:		H. Lyo			Casing:	3 ¼" ID	H.S.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Driller: Inspect		K. Crai			Casing Hammer: Other:			10/19/23		While Drilling	12.6	_	2.5
Drill Ri		CME 4			Soil Sampler:	2" OD S	Split Barrel	10/19/23		ore Casing Removed	None Noted		0.3
Type:	<b>6</b> •	Track	.5		Hammer Wt:	140 lbs.	-	10/19/23		er Casing Removed	14.1		ut
Rod Siz	e:	AW			Hammer Fall:	30 in.		10/19/23		er Casing Removed	caved @ 16.0		ut
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C		SIFICATION C	F MATERIA	L	
Depth		T	Depth		Blows on			- coarse					SPT "N"
Scale	Sample	(F		Type / Sample	Sampler	Depth of Change		medium		and - 35 to 50	% / some - 20 to 35	%	or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine			0% / trace - 0 to 109	%	RQD %
0	1A	0.0	0.5	SS/17	1-3-5-5	<b> </b>				erial (moist)			8
	1B	0.5	2.0				Brown SIL	T and fin	e SAl	ND, trace CLAY (r	noist, stiff)		
1													
2	2	2.0	3.6	SS/16	5-5-5-50@1"		Brown em	f SAND	oma	SILT, little mf GR	AVEL (wat ma	dium	10
		2.0	3.0	33/10	3-3-3-30@1		compact)	i sand, s	SOME	SIL1, IIIIe III GK	AVEL (wet, me	ululli	10
3							compact)						
4	3A	4.0	4.0	SS/0	50@0"		No Recove	ry - See R	emar	·k 1			50+
	3B	4.0	6.0	SS/19	3-6-7-7	Brown cmf SAND and SILT, little mf GRAVEL (wet, medium						13	
5							compact)						
							Augered g						
6	4	6.0	8.0	SS/14	4-5-12-10			n cmf SA	ND a	and SILT, little mf	GRAVEL (wet,	medium	17
7							compact)						
7													
8	5	8.0	10.0	SS/21	7-8-9-11		Light Broy	vn SILT s	ome	cmf SAND, little n	nf GRAVEL (w	et verv	17
		0.0	10.0	55/21	, 0 , 11		stiff)	, ii SILI,	ome	onn Sin (B) nedo n	ar Graff EE (w	ci, very	17
9							ĺ						
10													
11													
12													
12													
13	6	13.0	15.0	SS/18	19-29-33-32	1	Grey cmf S	SAND, so	me S	ILT, some mf GRA	VEL, trace CL	AY (wet.	62
						1	very comp			,	,	, <b></b> ,	
14						1							
						1							
15						1							
1.													
16							Augana 11.	and basis	nine '	@ 165'			
17						1	Augered h	ara begini	ung (	w 10.5°			
1/													
18	7	18.0	18.8	SS/10	23-50@4"		Dark Grev	/Black we	ather	ed ROCK fragmen	ts, some SILT. 1	ittle	50+
			2.0		, , , , , , , , , , , , , , , , , , , ,	1	CLAY (we			<b>mg</b>	,		
19						1	Ì	•					
20						1	Continued	on Page 2	<u> </u>				

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'

Boring No. Page 25424 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 Auger refusal @ 20.3' 8 SS/6 23-50@2" 50+ 21 20.3 21.0 Dark Grey weathered ROCK fragments, some cmf SAND, some mf GRAVEL (moist) 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

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

				6035 Co	orporate Drive	SI	IBSURF	ACE EX	<b>EXPLORATION</b>	Boring No.	age 26	<b>425</b> 53
		IV	Ę	East Syr	acuse, NY 13057				NG LOG	Page No.	1 (	of 2
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		TEST	DOKI	NG LOG	Report No.	28062B	-03-1223
roject l	Name:			us, Clay,	New York	•				Date Started	10/	19/23
lient:		Rambo	11							Date Finished	10/	19/23
ocation	1:	See Ex	ploratio	on Location	on Plan					Surface Elev.	40	1.1'
		ME	THO	DS OF	INVESTIGATIO	N			GROUNDWATE	R OBSERVAT	IONS	
Oriller: Oriller:		H. Lyo K. Cra			Casing: Casing Hammer:	3 ¼" ID	H.S.A.	Date	Time	Depth (Ft.)	Casing	At (Ft.
nspecto	r:	A. Sha			Other:			10/19/23	While Drilling	13.7	1	3.0
rill Rig		CME 4			Soil Sampler:	2" OD S	Split Barrel	10/19/23		None Noted	1	9.1
Гуре:		Track			Hammer Wt:	140 lbs.	-	10/19/23	After Casing Removed	17.1	C	out
Rod Size	e:	AW			Hammer Fall:	30 in.		10/19/23	After Casing Removed	caved @ 19.3	C	out
	LO	G OF	BOR	ING SA	MPLES		VI	SUAL C	LASSIFICATION (	OF MATERIA	L	
ъ .:			Depth									apæ u
Depth Scale	Sample	_	_	Type /	Blows on Sampler	Depth of		- coarse medium	and 25 to 5	0% / some - 20 to 359	0/	SPT "N
(Feet)	No.	From	To	Sample Rec. (in.)	Per 6 Inches	Change (Ft.)		- fine		0% / some - 20 to 33 20% / trace - 0 to 109		or RQD 9
0	1A	0.0	0.5	SS/16	1-3-5-9	(1 t.)			Material (moist)	2070 / trace - 0 to 107		8
U	1B	0.5	2.0	55/10	1-3 3-7	<b> </b>			, little fine SAND (moi	et etiff)		1
1	110	0.5	2.0				Drown mo	ilica bili	, inthe time of tive (mor	st, stiii)		
1												
2	2	2.0	4.0	SS/18	7-11-17-17		Brown SII	T some f	ine SAND (moist, very	stiff)		28
4		2.0	7.0	55/10	/-11-1/-1/		TIC MII SIL	, some 1	inc same (moist, very	suii)		20
3												
3												
4	2	4.0	<i>c</i> 0	00/15	7 ( 10 10		D/D	11:-1¢	CAND CHT	CD AVEL	(	1.0
4	3	4.0	6.0	SS/15	7-6-10-10				SAND, some SILT, some	me mi GRAVEL	(wet,	16
-							medium co	ompact)				
5												
_		- 0		~ ~ · · -					ginning @ 6.0'	arr ==		•
6	4	6.0	8.0	SS/17	14-14-14-32			t SAND a	nd mf GRAVEL, little	SILT (wet, medi	um	28
							compact)					
7												
8	5	8.0	10.0	SS/17	6-10-7-9		Grey SILT	and cmf	SAND, little mf GRAV	EL (wet, very sti	ff)	17
9												
10												
11												
12												
13	6	13.0	14.4	SS/13	23-49-50@5"		Dark Grey	SILT and	cmf SAND, some CLA	AY, some mf GR	AVEL	50+
							(moist, har	rd)				
14												
15												
16												
17												
							Augered h	ard begin	ning @ 17.7'			
18	7	18.0	19.9	SS/22	25-40-38-50@5"				d mf GRAVEL, some w	eathered ROCK		78
	,	- 3.0							T (wet, very compact)			
19							114511101110,	Joine DIL	.1 (net, tery compact)			
1)												
							Continued	on Page 3	•			
20												

Boring No Page 25 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches little - 10 to 20% / trace - 0 to 10% RQD % (Feet) No. Rec. (in.) (Ft.) f - fine 20 Continued from Page 1 Auger refusal @ 20.1' Bottom of Boring @ 20.1' 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

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

				6035 Co	orporate Drive	SI	IBSURF	CE EX	(PI O	RATION	Boring No.	age <u>26</u>	<b>4.25</b> 536
		IV	Ę		racuse, NY 13057		SUBSURFACE EXPLORATION TEST BORING LOG						of 2
		ociates	S DAY	i none.	315-701-0522	TEST BORING LOG					Report No.		3-03-1223
Project 1	Name:			us, Clay,	New York						Date Started		16/23
Client:		Rambo									Date Finished		17/23
Location	1:			n Locati		.NT			CD	OLINIDAN A TE	Surface Elev.	-	0.5'
Driller:		G. Ricl		DS OF	INVESTIGATIO Casing:	3 ¼" ID	псч		GK	JUNDWAIE	R OBSERVAT	IONS	
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.3.A.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	rt. Cus	atem		Other:	NQ-Cor	re	10/16/23	V	While Drilling	9.2	1	9.0
Drill Rig		CME 5	550X		Soil Sampler:	_	Split Barrel	10/17/23		e Casing Remove	d 8.3		19
Type:		ATV			Hammer Wt:	140 lbs.		10/17/23		Casing Removed		(	out
Rod Size		AWJ			Hammer Fall:	30 in.		10/17/23		Casing Removed			out
	LO	G OF	BOR	ING SA	MPLES		VIS	SUAL C	LASS	SIFICATION	OF MATERIA	L	r
Depth			e Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			50% / some - 20 to 35		or
(Feet)	No.	From 0.0	To 0.5	Rec. (in.) SS/19	Per 6 Inches 1-4-5-5	(Ft.)	Topsoil and	- fine	Motor		20% / trace - 0 to 109	%	RQD %
U	1A 1B	0.0	2.0	33/19	1-4-3-3		Light Brow	n SILT t	race fi	ne SAND trace	ORGANIC MAT	ΓERIAL.	_
1		0.5					(moist, stif		11	5. 11 .15, 11 400			
,								,					
2	2	2.0	4.0	SS/20	4-4-4-5		Light Brow	n SILT, t	race fi	ne SAND (mois	st, stiff)		8
3													
4	3	4.0	6.0	SS/19	3-6-5-5		I :-1-4 D	CH T 4	c:	CAND (	-4:66)		11
4	3	4.0	0.0	33/19	3-0-3-3		Light Brow	/II SIL1, t	race 11	ne SAND (wet,	Still)		11
5													
6	4	6.0	8.0	SS/16	5-4-3-6		Light Brow	n SILT, t	race fi	ne SAND (wet,	medium stiff)		7
7													
0	_	0.0	10.0	00/17	4.5.6.5		T : 1 : C	CIT TO	c.	GAMB (			1.1
8	5	8.0	10.0	SS/17	4-5-6-5		Light Grey	SIL1, tra	ice fine	e SAND (wet, s	IIII)		11
9													
10													
11													
10													
12													
13													
1.5													
14	6	14.0	16.0	SS/22	2-1-2-1		Light Grey	SILT, tra	ce fine	e SAND (wet, s	oft)		3
							-			, ,			
15													
	_	1	10.0	96.10			~	OTT 55 11		1 1500=		C	
16	7	16.0	18.0	SS/8	1-4-4-13					thered ROCK f	ragments, little cn	nf	8
17							GRAVEL Augered gi			a @ 17 0'			
1 /							Augerea gr	aveny ve	gunun	g w 1/.U			
18													
19	8	19.0	21.0	SS/12	2-2-6-11		Grey/Black	SILT, so	me cn	nf GRAVEL, lit	tle weathered RO	CK	8
							fragments						
20	., С		1 1	1 7 7	1 0 0 7777	X7 : 1 :	Continued			: 1. CD :			
SS - Spl <b>Remarl</b>		n, U - I	∪ndıstı	urbed Ti	ube, C - Core, WH - V	weight o	ı Hammer -	⊦ Kod, WI	ĸ - We	ignt of Kod			

Boring No Page 36426 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Depth of Type / (Ft.) Sample Scale Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or RQD % (Feet) No. From To Rec. (in.) Per 6 Inches (Ft.) f - fine little - 10 to 20% / trace - 0 to 10% 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 20% (<1/8" to 1 1/2" thick) throughout, highly weathered, laminated to 24 thinly bedded, medium hard. Recovery: 60"/60" = 100% RQD: 12"/60" = 20% 25 6 Pieces, 36" Chips and fragments 26 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. 27 32.5 Dark Grey/Black DOLOSTONG with interbedded Shale layers 83% R2 27.5 C/60 NQ-Core (<1/8" to 2") throughout, slightly weathered, laminated to thinly 28 bedded, medium hard to hard. 29 Recovery: 60''/60'' = 100%RQD: 50"/60" = 83% 30 18 Pieces, 1" Chips and fragments 1:50 min/ft, no water loss Coring conducted in 4th gear, 1800 rpm, 500 psi down pressure. 31 32 Bottom of Boring @ 32.5' 33 34 35 36 37 38 39 40 41 42 43

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

Remarks:

44

				6035 Co	orporate Drive	SI	UBSURF	ACE EX	PI.	ORATION	Boring No.	age 26	<b>2</b> 29 536
		IV			racuse, NY 13057			Γ BORI			Page No.	1	of 2
		ociates	20 00000		315-701-0522		1 120 1	DOM	U		Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		16/23
Client:		Rambo		т	Dl						Date Finished		17/23
Locatio	n:			n Locati	ion Plan ' <b>INVESTIGATIO</b>	N			CI	ROUNDWATER	Surface Elev.		90.9'
Driller:		G. Ricl		DO OF	Casing:	3 ¼" ID	H.S.A		GI				
Driller:		R. Cas			Casing Hammer:	5 /4 12	11.0.11	Date		Time	Depth (Ft.)	Casing	g At (Ft.)
Inspect	or:				Other:	NQ-Cor	·e	10/16/23		While Drilling	14.8	1	4.0
Drill Ri	g:	CME 5	550X		Soil Sampler:	2" OD S	Split Barrel	10/17/23		ore Casing Removed	9.3	2	3.9
Type:		ATV			Hammer Wt:	140 lbs.		10/17/23		ter Casing Removed	-		out
Rod Siz		AWJ			Hammer Fall:	30 in.		10/17/23		ter Casing Removed	caved @		out
	LO	1		ING SA	AMPLES		VI	SUAL C	LAS	SSIFICATION C	)F MATERIA	L	
Depth		Sample		Type /	Blows on	Depth of		- coarse					SPT "N"
Scale (Fact)	Sample	From	t.)	Sample	Sampler	Change		medium - fine			% / some - 20 to 35		or RQD %
(Feet)	No.	0.0	To 0.5	Rec. (in.) SS/19	Per 6 Inches 1-3-5-6	(Ft.)			Mat	erial (moist)	20% / trace - 0 to 109	<sup>7</sup> 0	8 8
`	1B	0.5	2.0	55/17	1-3 3-0					fine SAND (moist,	stiff)		
1	-							,		(	,		
2	2	2.0	4.0	SS/19	4-6-6-5		Light Brov	vn SILT, t	race	fine SAND, trace C	CLAY (moist, st	iff)	12
2													
3													
4	3	4.0	6.0	SS/18	1-4-5-6		Light Brow	vn SII T 1	race	fine SAND (moist,	stiff)		9
-	3	4.0	0.0	55/10	1-4-5-0		Light Diov	vii SiL1, t	racc	ille SAND (moist,	suii)		
5													
6	4	6.0	8.0	SS/20	6-5-5-5		Light Brov	vn SILT, t	race	fine SAND (moist,	stiff)		10
_													
7													
8	5	8.0	10.0	SS/20	2-3-4-5		Light Brow	vn SII T 1	raca	fine SAND, trace r	nf CD AVEL (m	oist	7
0	3	0.0	10.0	33/20	2-3-4-3		medium sti		race	Tille SAND, trace i	III OKAVEL (III	oist,	,
9								/					
10													
1.													
11													
12													
12													
13													
14	6	14.0	16.0	SS/19	1-2-2-1		Light Grey	SILT, tra	ice fi	ne SAND (wet, me	dium stiff)		4
1.7													
15													
16													
10													
17													
18													
10		10.0	21.0	00/10	5 0 10 22		Dord- C	CHT	l	thomad DOCK C		, atien	10
19	7	19.0	21.0	SS/12	5-9-10-23		Dark Grey stiff)	SIL1 and	wea	thered ROCK fragi	ments (wet, very	stiff)	19
20	1						Continued	on Page 2	2				

20 Continued on Page 2 SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

ATTACHMENT TO CEG REPORT NUMBER

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

LOG OF BORING SAMPLES

Depth Sample Depth Type / Blows on

# SUBSURFACE EXPLORATION TEST BORING LOG

Boring No. age 36427 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Associates, Inc. Phone: 315-701-0522						TEST BORING LO	G	Report No. 2	28062B-03-1223	
	LO	G OF	BORI	ING SA	MPLES	VISUAL CLASSIFICATION OF MATERIAL					
Depth Scale (Feet)	Sample No.		Depth t.)	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine  Continued from Page 1		% / some - 20 to 35% 0% / trace - 0 to 10%	SPT "N" or RQD %	
20							Continued from Fage 1				
22											
23							Auger refusal @ 23.9'				
24	8	23.9	23.9	SS/0	100@0"		No Recovery Bottom of Boring @ 23.9'			100+	
25											
26											
27											
28											
29											
30											
31											
32											
33 34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45						<u></u>	f Hammar   Dad WD Waigh				

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

				6035 Co	orporate Drive	SI	IBSURF	ACE EX	XPI (	)RATION		Boring No.	age <b>2</b> 6	<b>4<sub>26</sub></b> 536
		IV	Ę	•	racuse, NY 13057		SUBSURFACE EXPLORATION TEST BORING LOG					Page No.		of 2
		ociates	No.	I none.	315-701-0522	Rep						Report No.		-03-1223
Project 1	Name:			us, Clay,	New York							Date Started		23/23
Client:		Rambo										Date Finished		23/23
Location	1;			n Locati		N.T			CD	OLINIDAYAT	TED	Surface Elev.		2.7'
Driller:		B. Flet		DS OF	INVESTIGATIO Casing:	3 ¼" ID	ПСЛ		GK	OUNDWAI	LK	OBSERVAT	IONS	
Driller:		R. Cas			Casing Hammer:	3 /4 ID	11.5.A.	Date		Time		Depth (Ft.)	Casing	At (Ft.)
Inspecto	r:	111 040			Other:	NQ-Cor	e	10/23/23	,	While Drilling		10.5	1	5.0
Drill Rig		CME 5	50X		Soil Sampler:	-						2.2		
Type:		ATV			Hammer Wt:	140 lbs.		10/23/23		r Casing Remov		None Noted	(	out
Rod Size		AWJ			Hammer Fall:	30 in.		10/23/23		r Casing Remov		caved @ 3.0'		out
	LO	G OF	BOR	ING SA	AMPLES		VIS	SUAL C	LAS	SIFICATIO:	N O	F MATERIA	L	
Depth			Depth	Type /	Blows on	Depth of	c -	coarse						SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium				% / some - 20 to 359		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	N - +		0 to 20	0% / trace - 0 to 109	%	RQD %
0	1A 1B	0.0	0.5 2.0	SS/17	7-3-6-7	-				rial (moist) ine SAND (mo	oist	ctiff)		9
1	ıΒ	0.5	2.0				Light Brow	vii SIL1, t	пасе Г	ine sand (me	oist,	Sull)		
1														
2	2	2.0	4.0	SS/17	7-8-8-8		Light Brow	vn SILT, t	trace f	ine SAND, tra	ice C	CLAY (moist, ve	ery stiff)	16
								, -		,			, /	
3														
4	3	4.0	6.0	SS/18	3-3-5-5		Light Brow	vn SILT, t	trace f	ine SAND (mo	oist,	stiff)		8
5														
6	4	6.0	8.0	SS/19	4-4-4-4	Similar as above (moist, stiff)					8			
6	4	0.0	8.0	33/19	4-4-4		Silliliai as	above (III	oist, st	.111)				0
7														
·														
8	5	8.0	10.0	SS/19	4-4-4-6		Similar as	above (mo	oist, st	tiff)				8
9														
1.0														
10														
11														
11														
12														
13														
	6	13.5	15.0	SS/18	1-1-1		Light Brow	vn SILT, t	trace (	CLAY, trace fi	ne S	AND (wet, soft	)	2
14														
1.5	-	1	15.	00/20	NH1 2 2 2		T 1 1 . F	/C =		OT 1. T	••	COPATI		_ ا
15	7	15.0	17.0	SS/20	WH-2-3-8				ILT, s	some CLAY, li	ittle	mf GRAVEL (v	vet,	5
1.4							medium sti	III)						
16														
17														
1/														
18														
-	8	18.5	20.0	SS/9	13-7-18		Grey cmf (	GRAVEL	, some	e SILT, little w	eath	ered ROCK fra	gments	25
19							(wet, medi			•			-	
20		<u> </u>				<u> </u>	Continued							
SS - Spl <b>Remarl</b>		n, U - I	∪ndisti	arbed Ti	ube, C - Core, WH - V	weight o	I Hammer -	⊦ Kod, Wl	K - W	eignt of Rod				

Boring No. Page 26428 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. 2 of 2 East Syracuse, NY 13057 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 Report No. 28062B-03-1223 LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on Depth of c - coarse Type / (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Rec. (in.) Per 6 Inches RQD % (Feet) No. (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 21 22 Auger refusal @ 22.2' 100+ 9 22.2 22.2 SS/0 100@0" No Recovery 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

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

Remarks:

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				6035 Co	orporate Drive	SI	JBSURFA	ACE EX	(PL	ORATION	Boring No.	age <u>26</u>	<b>6<sub>20</sub></b> 536
		IV			racuse, NY 13057			BORI			Page No.		of 2
		ociates	A LINE OF		315-701-0522		1201	DOM	. 10		Report No.		3-03-1223
Project	Name:			us, Clay,	New York						Date Started		18/23
Client:		Rambo									Date Finished		18/23
Locatio	n:			n Locati	INVESTIGATIO	NT			CI	ROUNDWATER	Surface Elev.		0.8'
Driller:		G. Ricl		DS OF	Casing:	3 ¼" ID	НСΑ		GN	COUNDWATER	ODSERVAI	IONS	
Driller:		R. Casa			Casing Hammer:	3 /4 ID	11.5.71.	Date		Time	Depth (Ft.)	Casing	At (Ft.)
Inspect		Ti Cus			Other:			10/18/23		While Drilling	18.2	1	9.0
Drill Ri		CME 5	50X		Soil Sampler:	2" OD S	Split Barrel	10/18/23		ore Casing Removed	13.8	2	1.7
Type:		ATV			Hammer Wt:	140 lbs.		10/18/23		er Casing Removed	13.7	(	out
Rod Siz		AWJ			Hammer Fall:	30 in.		10/18/23		er Casing Removed	caved @ 15.3		out
	LO	G OF	BOR	ING SA	AMPLES		VI	SUAL C	LAS	SIFICATION C	OF MATERIA	L	•
Depth		Sample	Depth	Type /	Blows on	Depth of	c -	coarse					SPT "N"
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine	****	little - 10 to 2 fine SAND, trace I	20% / trace - 0 to 109		RQD %
0	1	0.0	2.0	SS/15	1-2-2-5		stiff)	/II SIL1, t	race.	ime SAND, trace i	KOO13 (moist, i	mearum	4
1							Suii)						
1													
2	2	2.0	4.0	SS/18	5-4-5-5		Light Brow	n SILT, t	race	fine SAND (moist,	stiff)		9
3													
4	3	4.0	6.0	SS/17	2-2-2-3		Light Brow	n SILT, t	race	fine SAND (moist,	medium stiff)		4
5													
6	4	6.0	8.0	SS/18	3-5-4-4		Similar as	above (mo	niet e	tiff)			9
	-	0.0	0.0	55/10	3344		Sililiai as	uoove (III	<i>J</i> 13t, 3	tiii)			
7													
8	5	8.0	10.0	SS/20	2-4-4-6		Similar as	above (mo	oist, s	stiff)			8
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10													
11													
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12													
13													
			4					a== -	••	C CD : ****	a. a.s :	• .	
14	6	14.0	16.0	SS/18	2-5-6-6		_	n SILT, l	ıttle ı	mf GRAVEL, trace	e tine SAND (me	oist,	11
1.5	-						stiff)						
15													
16													
10													
17													
18													
19	7	19.0	21.0	SS/13	7-7-11-18		Dark Grey	weathere	d RO	CK fragments, littl	e SILT (wet)		18
20							Continued	on Page 1	,				

20 Continued on Page 2 SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Boring No. Page 26429 536 6035 Corporate Drive SUBSURFACE EXPLORATION Page No. East Syracuse, NY 13057 2 of 2 **TEST BORING LOG** Associates, Inc. Phone: 315-701-0522 28062B-03-1223 Report No. LOG OF BORING SAMPLES VISUAL CLASSIFICATION OF MATERIAL Sample Depth SPT "N" Depth Blows on c - coarse Type / Depth of (Ft.) Scale Sample Sampler m - medium and - 35 to 50% / some - 20 to 35% Sample Change or From To Per 6 Inches RQD % (Feet) No. Rec. (in.) (Ft.) f - fine little - 10 to 20% / trace - 0 to 10%20 Continued from Page 1 Auger refusal @ 21.7' 21 8 SS/0 100@0" 100 +21.7 21.7 No Recovery. See Remark 1 22 Bottom of Boring @ 21.7' 23 24 25 26 27 28 29 30 31 32 33 34

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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				6035 Co	orporate Drive	ÇT	TRSHDE	CE EX	PLORATION		Boring No.	age 26	<b>2</b> 136 53
		IV		East Syr	acuse, NY 13057		JBSUKF TEST	ļ	Page No.		of 2		
	Asso	ociates	s, Inc.	Phone: 3	315-701-0522		IESI		Report No.	28062E	3-03-1223		
roject l	Name:	Micror	Campi	us, Clay,	New York	· ·					Date Started	10/	19/23
lient:		Rambo	oll								Date Finished	10/	19/23
ocation	1:	See Ex	ploratio	on Location	on Plan						Surface Elev.	39	90.2'
		ME	THO	DS OF	INVESTIGATIO	N			GROUNDWAT	<b>TER</b>	<b>OBSERVAT</b>	IONS	
Priller:		J. Win	ks		Casing:	3 ¼" ID	H.S.A.	Date	Time		Depth (Ft.)	Cocine	g At (Ft.
Priller:		R. Cas	atelli		Casing Hammer:								
nspecto					Other:			10/19/23	While Drilling		18.2		9.0
Prill Rig	g:	CME 5	50X		Soil Sampler:		Split Barrel	10/19/23	Before Casing Remo		13.8	2	1.7
Гуре:		ATV			Hammer Wt:	140 lbs.		10/19/23	After Casing Remov		13.7		out
Rod Size		AWJ			Hammer Fall:	30 in.		10/19/23			caved @ 15.3		out
	LO	G OF	BOR	ING SA	MPLES		VI	SUAL C	LASSIFICATIO	N O	F MATERIA	<u>L</u>	
Depth			Depth	Type /	Blows on	Depth of	c -	coarse					SPT "I
Scale	Sample		t.)	Sample	Sampler	Change		medium			% / some - 20 to 35%		or
(Feet)	No.	From	To	Rec. (in.)	Per 6 Inches	(Ft.)		- fine		0 to 20	% / trace - 0 to 10%	ó	RQD
0	1A	0.0	0.5	SS/14	2-7-6-7				Material (moist)				13
	1B	0.5	2.0				Light Brov	n/Light C	rey SILT, trace fine	e SAl	ND, trace CLA	Y	
1							(moist, stif	f)					
2	2	2.0	4.0	SS/19	2-4-6-7		Light Brov	n/Light C	Frey SILT, trace fine	e SAl	ND, trace CLA	Y	10
							(moist, stif	_					
3													
4	3	4.0	6.0	SS/20	7-3-3-2		Light Brov	vn SILT, t	race fine SAND (m	oist, 1	medium stiff)		6
							8	,		,	,		
5													
٦													
6	4	6.0	8.0	SS/17	4-4-4		Light Brow	n SILT t	race fine SAND (m	oist (	stiff)		8
3		3.0	5.0	55/1/	1117		Zigin Diov		IIII DI II (III				
7													
,													
8	5	8.0	10.0	SS/20	4-4-6-7		Similar as	ahove (m	nist stiff)				10
O	3	0.0	10.0	33/20	<del>+-+-</del> U-/		Sillilai as	above (III	715t, 51111 <i>)</i>				10
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.	6	13.5	15.0	SS/15	1-3-2				ce fine GRAVEL, t	trace 1	tine SAND (mo	oist,	5
14							medium sti	iff)					
15													
16													
17													
18													
	7	18.5	20.0	SS/12	13-22-15		Dark Grey	weathere	d ROCK fragments,	, little	SILT (wet)		37
19									<i>S</i> ,		, ,		
							Continued	on Page 2					
20													-

CIVE 6035 Corp. East Syrac Phone: 31

LOG OF BORING SAI

# 6035 Corporate Drive East Syracuse, NY 13057 Phone: 315, 701, 0522 TEST BORING LOG

Boring No. age 362 36 536

Page No. 2 of 2

Report No. 28062B-03-1223

	Associates, Inc. Phone: 315-701-0522						TEST BORING I	JUG	Report No. 2806	52B-03-1223
	LOG OF BORING SAMPLES					VISUAL CLASSIFICATION OF MATERIAL				
Depth Scale (Feet)	Sample No.	Sample	Depth Ft.)	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% 0% / trace - 0 to 10%	SPT "N" or RQD %
20	110.	110111	10	Acc. (III.)	1 CI O IIICIICS	(11.)	Continued from Page 1	nuic - 10 t0 2	070 / Hace - 0 to 10/0	KÁD ¼
21										
22										
23	8	23.5	25.0	SS/13	18-12-19		Dark Grey weathered ROC	CK fragments, little	e SILT (wet)	31
24										
25										
26		25.2	25.2	ag io	100 0 0 0 0			10.253		100
27	9	27.3	27.3	SS/0	100@0"		No Recovery - Auger refus Bottom of Boring @ 27.3'	sal @ 27.3'		100+
28										
29										
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SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod



# 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

Tel: (856) 767-8600

Toll Free: (800) 504-1116

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 3<sup>rd</sup> 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 (v) was calculated from the shear wave (V <sub>s</sub> ) and compression wave (V <sub>p</sub> ) velocities using the following equation: $v = \frac{\left(V_p/V_s\right)^2 - 2}{2\left(\left(V_p/V_s\right)^2 - 1\right)}$								
Additional Comments	None								

Calculated Geotechnical Parameters									
	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 ( $u_2$ ).								
Additional information	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 <sub>tn</sub> 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**





## **LIMITATIONS**

#### 3<sup>rd</sup> 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 cm² and 15 cm² 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 cm² penetrometers do not require friction reducers as they have a diameter larger than the deployment rods. The 10 cm² 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<sub>2</sub>" 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.



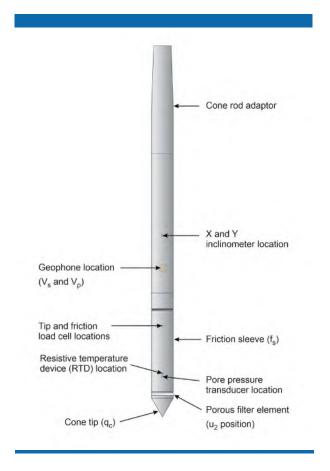


Figure CPTu. Piezocone Penetrometer (15 cm²)

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<sub>c</sub>)
- Sleeve friction (f<sub>s</sub>)
- 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.



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.

#### Non-normalized Classification Chart - Robertson 2010 1000 8 5 00 9 Non-normalized Soil Behavior Type Zone Non-normalized Cone Resistance Sensitive fine-grained 100 Organic soils 2 3 Clays 6 4 Silt Mixtures 5 Sand mixtures 6 Sands Gravelly sand to sand 7 5 Very stiff sand to clayey sand 8 П 10 9 Very stiff fine-grained soil 0.1 10 x 100% Friction Ratio, Rf

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):

$$q_t = q_c + (1-a) \cdot u_2$$

where: q, is the corrected tip resistance

q is the recorded tip resistance

u<sub>2</sub> is the recorded dynamic pore pressure behind the tip (u<sub>2</sub> 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).

#### **REFERENCES**

ASTM D5778-20, 2020, "Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils", ASTM International, West Conshohocken, PA. DOI: 10.1520/D5778-20.

Lunne, T., Robertson, P.K. and Powell, J. J. M., 1997, "Cone Penetration Testing in Geotechnical Practice", Blackie Academic and Professional.

Mayne, P.W., 2013, "Evaluating yield stress of soils from laboratory consolidation and in-situ cone penetration tests", Sound Geotechnical Research to Practice (Holtz Volume) GSP 230, ASCE, Reston/VA: 406-420. DOI: 10.1061/9780784412770.027.

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Robertson, P.K., 2009, "Interpretation of cone penetration tests – a unified approach", Canadian Geotechnical Journal, Volume 46: 1337-1355. DOI: 10.1139/T09-065.

Robertson, P.K., 2010. Soil behavior type from the CPT: an update. 2nd International Symposium on Cone Penetration Testing, CPT'10, Huntington Beach, CA, USA



#### 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).

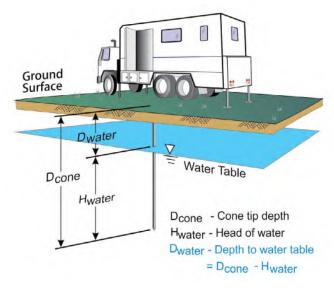


Figure PPD-1. Pore pressure dissipation test setup

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.

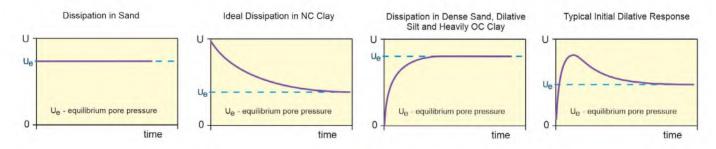


Figure PPD-2. Pore pressure dissipation curve examples

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.

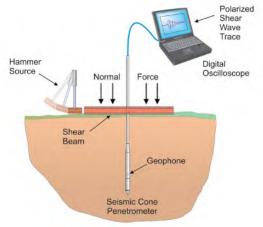


Figure SCPTu-1. Illustration of the SCPTu system

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.



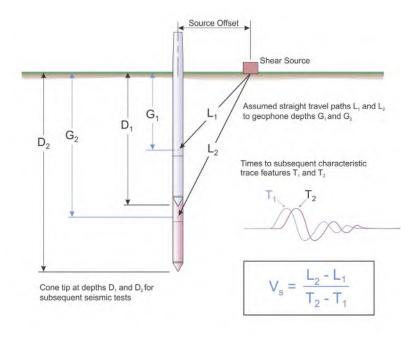


Figure SCPTu-2. Illustration of a seismic cone penetration test

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).



$$v_{s} = \frac{\sum_{i=1}^{n} d_{i}}{\sum_{i=1}^{n} \frac{d_{i}}{v_{si}}}$$

where:  $v_s = average shear wave velocity ft/s (m/s)$ 

d<sub>i</sub> = 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,  $\overline{v}_S$  is also referenced to V<sub>S</sub>100 or V<sub>S</sub>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**

American Society of Civil Engineers (ASCE), 2010, "Minimum Design Loads for Buildings and Other Structures", Standard ASCE/SEI 7-10, American Society of Civil Engineers, ISBN 978-0-7844-1085-1, Reston, Virginia. DOI: 10.1061/9780784412916.

ASTM D5778-20, 2020, "Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils", ASTM International, West Conshohocken, PA. DOI: 10.1520/D5778-20.

ASTM D7400/D7400M-19, 2019, "Standard Test Methods for Downhole Seismic Testing", ASTM International, West Conshohocken, PA. DOI: 10.1520/D7400 D7400M-19.

Robertson, P.K., Campanella, R.G., Gillespie D and Rice, A., 1986, "Seismic CPT to Measure In-Situ Shear Wave Velocity", Journal of Geotechnical Engineering ASCE, Vol. 112, No. 8: 791-803. DOI: 10.1061/(ASCE)0733-9410(1986)112:8(791).



### **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<sub>c</sub>), recorded in units selected by the operator

Column 3: Sleeve (f<sub>s</sub>), 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.

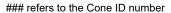
CPT Dissipation files have the same naming convention as the CPT sounding files with a "-PPD" suffix.

#### **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 Tip Capacity Sect. Area (cm²) (bar)		Sleeve Area (cm²)**	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	



<sup>\*\*</sup>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



TTACHMENT TO CEG REPORT NUMBER: 172E-01-0124	EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2
	Page 286 of 536

Cone Penetration Test Summary and Standard Cone Penetration Test Plots





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 (cm²)	Assumed Phreatic Surface <sup>1</sup> (ft)	Final Depth (ft)	Shear Wave Velocity Tests	Compression Wave Velocity Tests	Northing <sup>2</sup> (m)	Easting <sup>2</sup> (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
C Client: CME Associates

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CONE PENETRATION TEST SUMMARY												
Sounding ID	File Name	Date	Rig	Cone	Cone Area (cm²)	Assumed Phreatic Surface <sup>1</sup> (ft)	Final Depth (ft)	Shear Wave Velocity Tests	Compression Wave Velocity Tests	Northing <sup>2</sup> (m)	Easting <sup>2</sup> (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



ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124

Job No: 23-53-26729
Client: CME Associates

**Project:** Proposed Micron Plant, Clay, NY

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	CONE PENETRATION TEST SUMMARY											
Sounding ID	File Name	Date	Rig	Cone	Cone Area (cm²)	Assumed Phreatic Surface <sup>1</sup> (ft)	Final Depth (ft)		Compression Wave Velocity Tests	Northing <sup>2</sup> (m)	Easting <sup>2</sup> (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				

<sup>1.</sup> 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.

<sup>2.</sup> The coordinates were collected using a handheld Garmin GPS MAP 64s receiver. EPSG number: 32618 (WGS84 / UTM Zone 18 North).

<sup>3.</sup> The assumed phreatic surface was based off the dynamic pore pressure data.

<sup>4.</sup> The assumed phreatic surface was based off an adjacent CPT sounding.

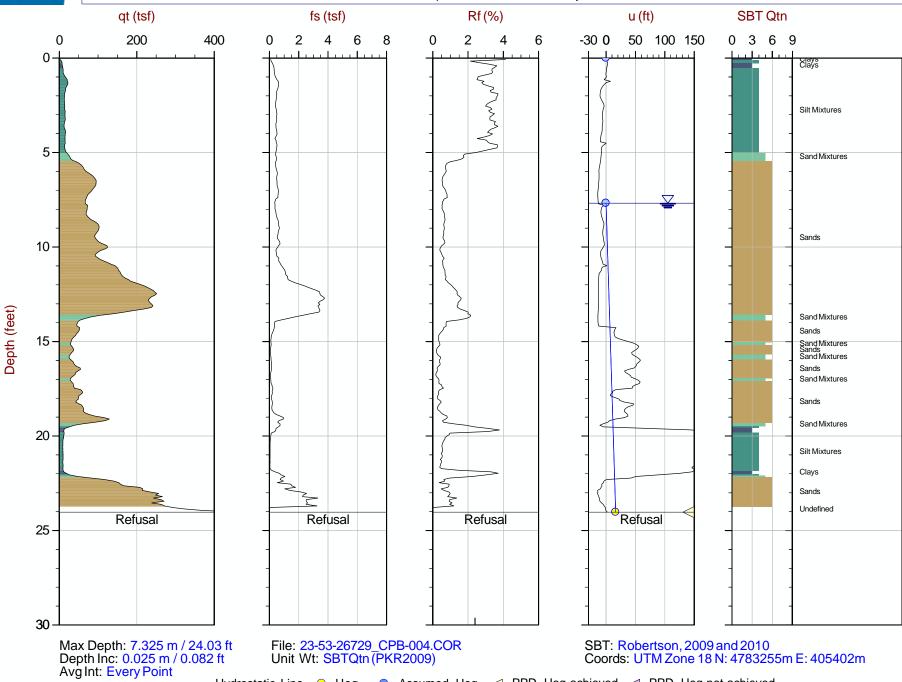
<sup>5.</sup> No phreatic surface detected.



Job No: 23-53-26729 Date: 2023-10-25 12:03

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-004 Cone: 604:T1500F15U35



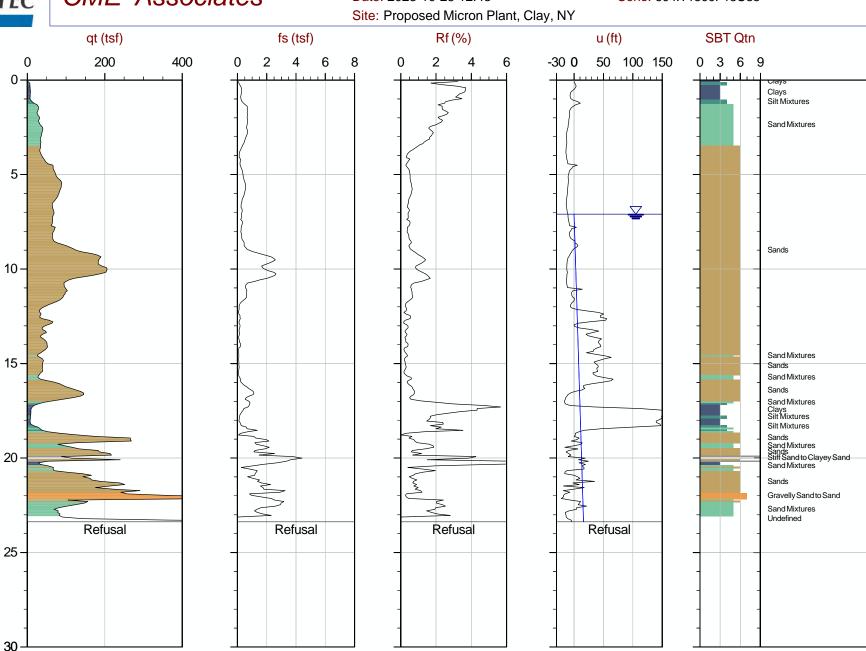
Hydrostatic Line ○ Ueq ○ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved



Depth (feet)

## CME Associates

Job No: 23-53-26729 Date: 2023-10-25 12:43 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)

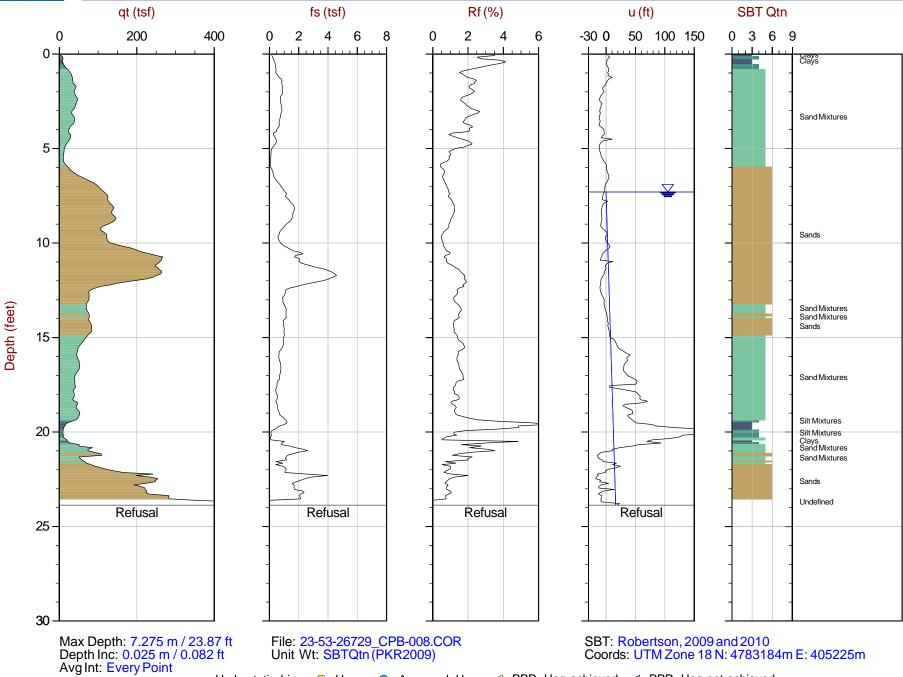
SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4783259m E: 405526m



Job No: 23-53-26729 Date: 2023-10-25 10:45

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-008 Cone: 604:T1500F15U35



Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

Sounding: CPT23-B-014

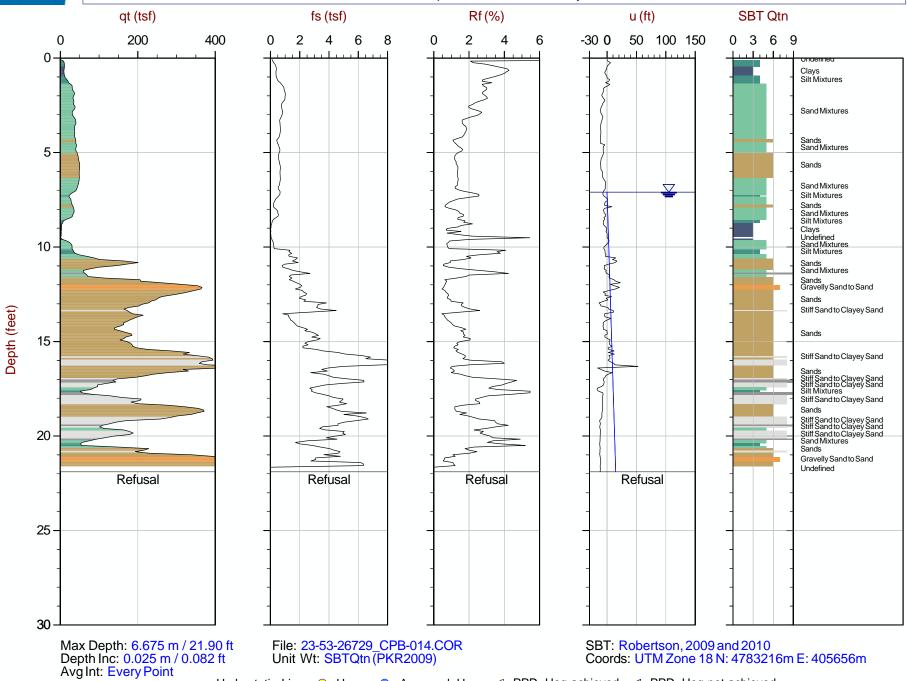


CME Associates

Job No: 23-53-26729

Date: 2023-10-25 15:20 Cone: 604:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



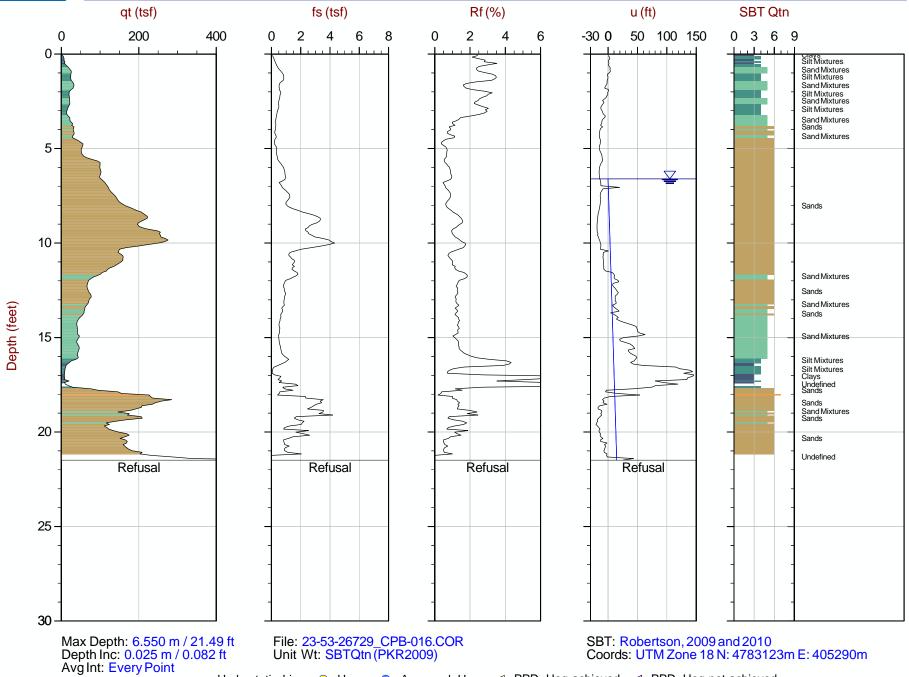
Sounding: CPT23-B-016



CME Associates

Job No: 23-53-26729

Site: Proposed Micron Plant, Clay, NY

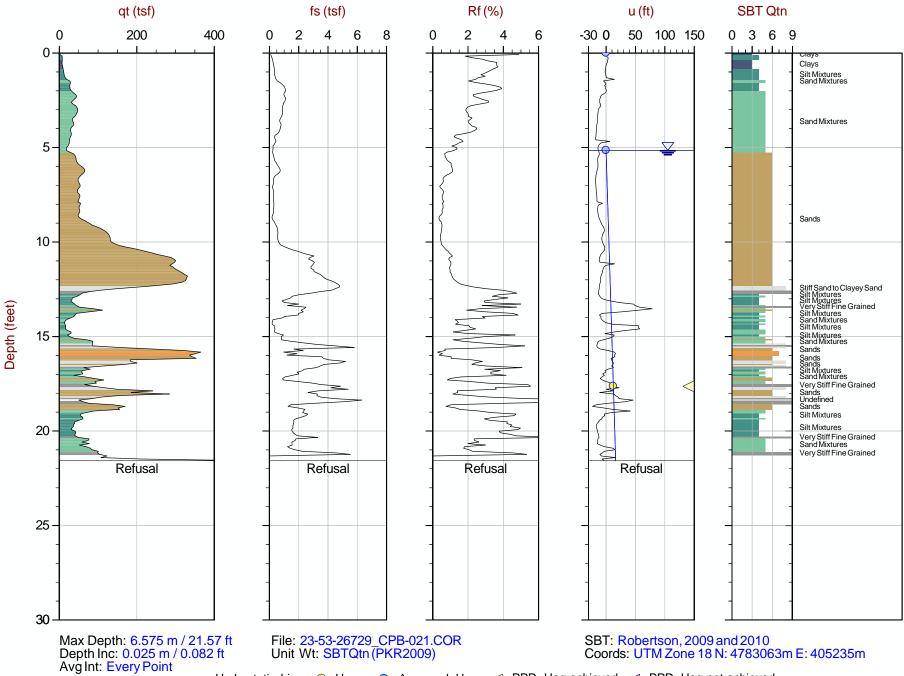




Job No: 23-53-26729

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-021 Cone: 604:T1500F15U35 Date: 2023-10-25 09:58



Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

PPD, Ueq not achieved 

PPD, Ue

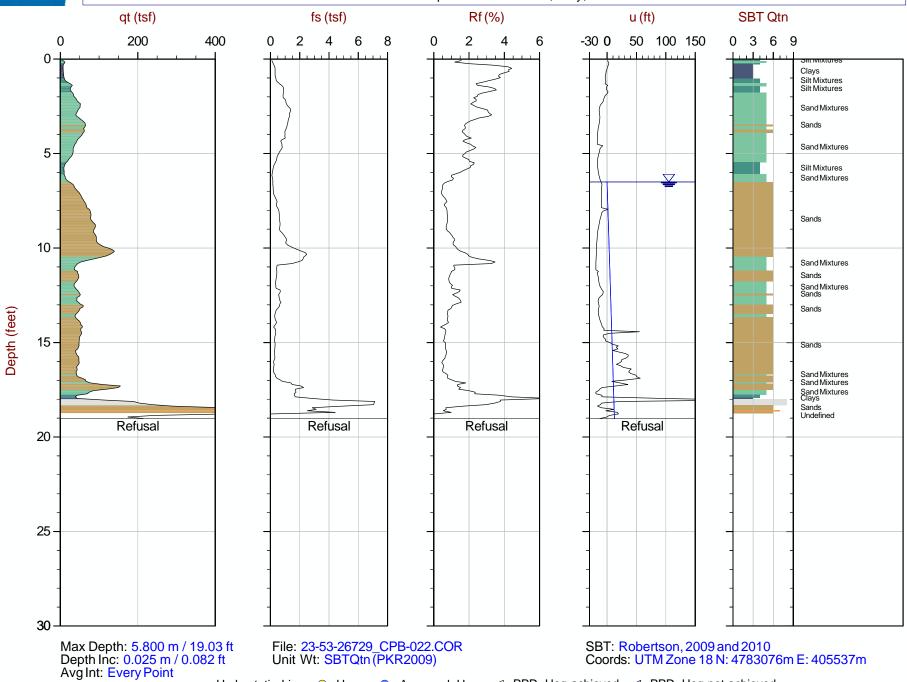
Sounding: CPT23-B-022



CME Associates

Job No: 23-53-26729

Site: Proposed Micron Plant, Clay, NY



Sounding: CPT23-B-060

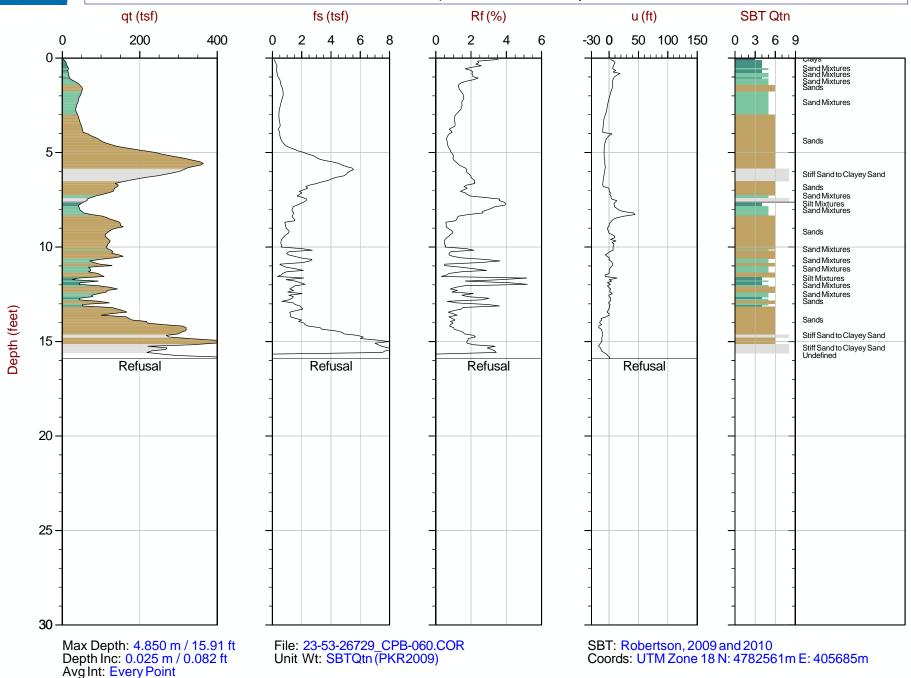


## CME Associates

Job No: 23-53-26729

Cone: 604:T1500F15U35 Date: 2023-10-24 13:10

Site: Proposed Micron Plant, Clay, NY



Avg Int: Every Point



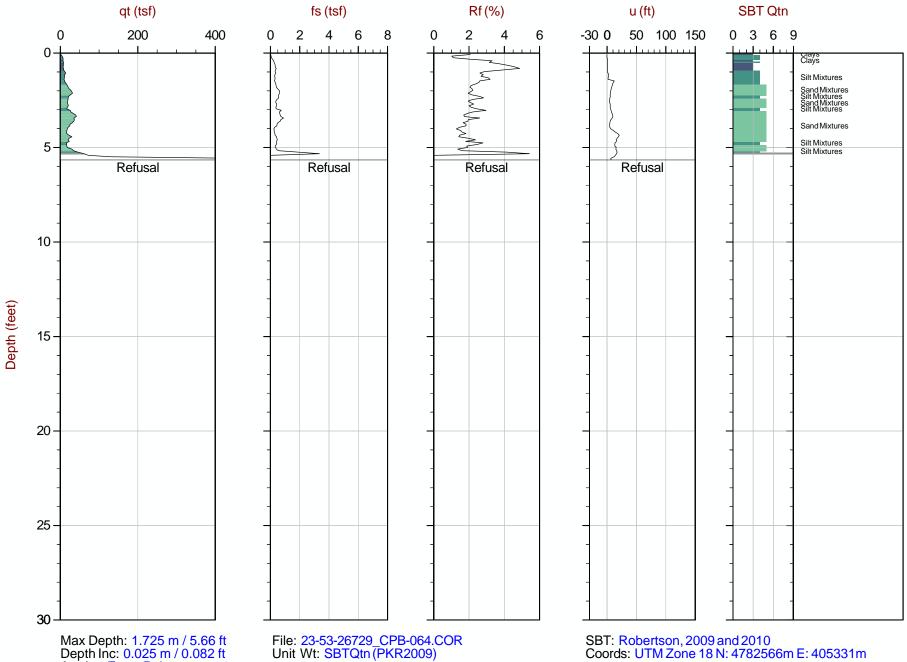
## CME Associates

Job No: 23-53-26729

Date: 2023-10-23 09:05

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-064 Cone: 604:T1500F15U35



◆ Assumed Ueg < PPD, Ueg achieved < PPD, Ueg not achieved</p> Hydrostatic Line O Ueq

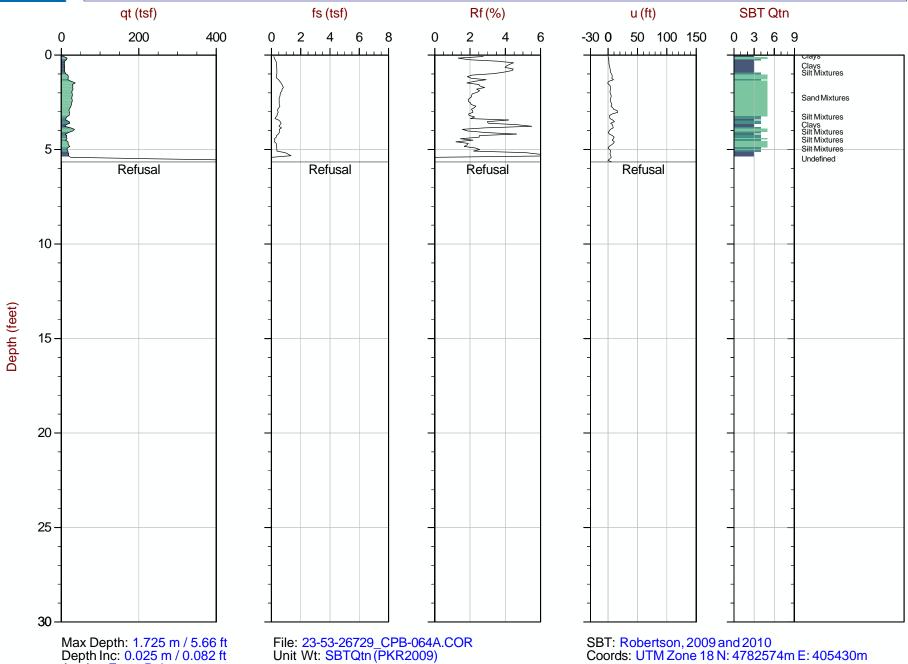
Sounding: CPT23-B-064A



CME Associates

Job No: 23-53-26729 Date: 2023-10-23 09:29

Site: Proposed Micron Plant, Clay, NY

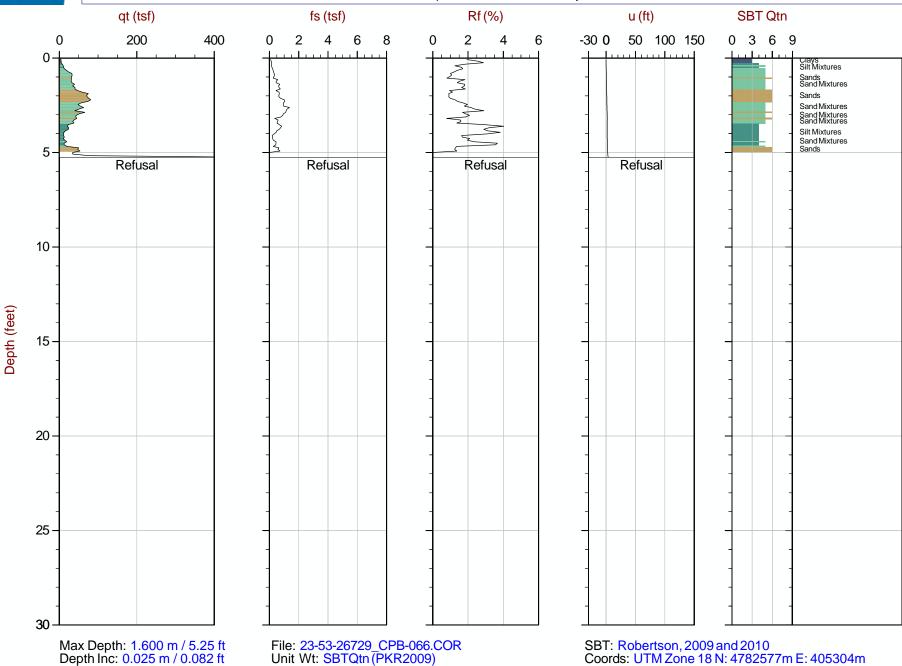




Job No: 23-53-26729 Date: 2023-10-23 07:02

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 ftAvg Int: Every Point

File: 23-53-26729\_CPB-066.COR Unit Wt: SBTQtn (PKR2009)

Avg Int: Every Point



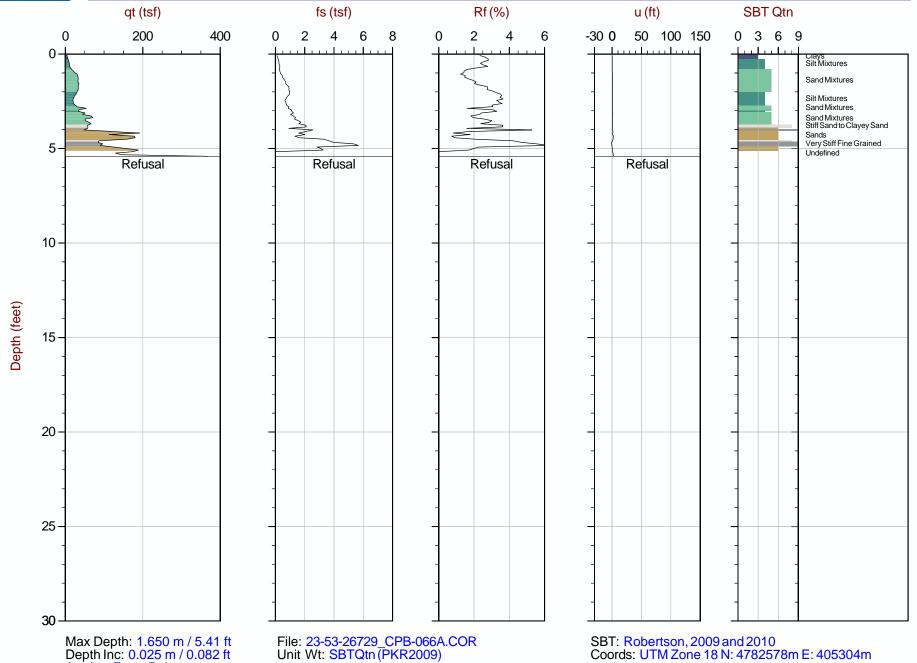
# CME Associates

Job No: 23-53-26729

Date: 2023-10-23 08:36

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-066A Cone: 604:T1500F15U35



◆ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved</p> Hydrostatic Line O Ueq



Depth (feet)

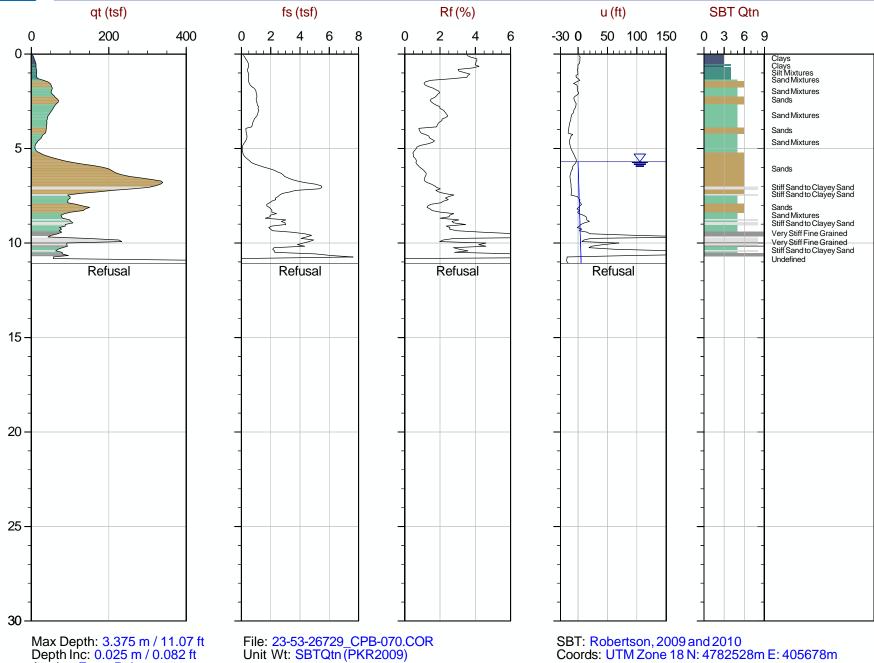
## CME Associates

Job No: 23-53-26729

Date: 2023-10-24 13:47

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-070 Cone: 604:T1500F15U35



Avg Int: Every Point Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

PPD, Ueq not achieved 

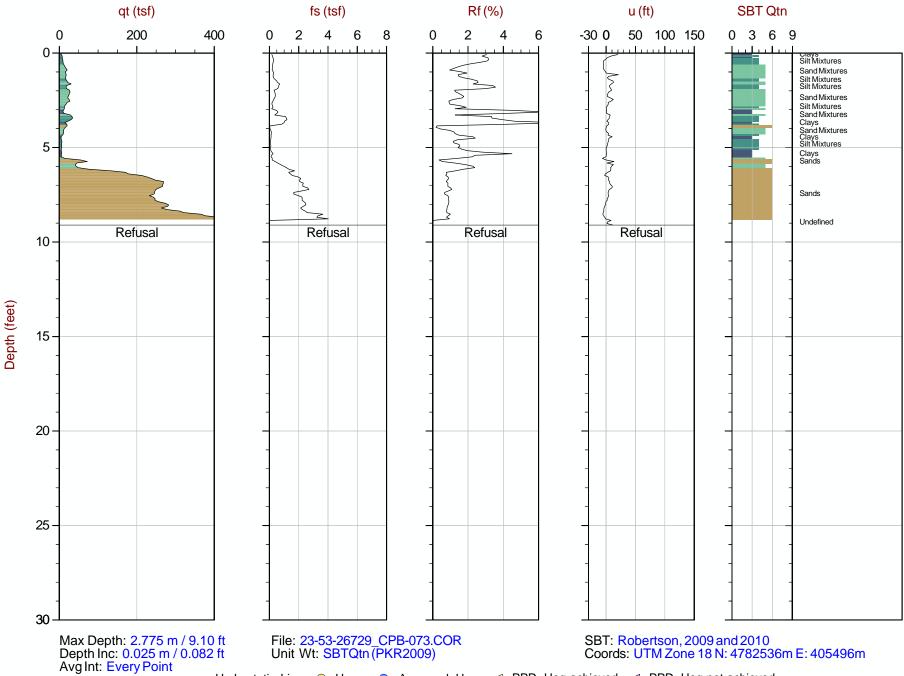
PPD, Ue



Job No: 23-53-26729

Site: Proposed Micron Plant, Clay, NY





Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

PPD, Ueq not achieved 

PPD, Ue

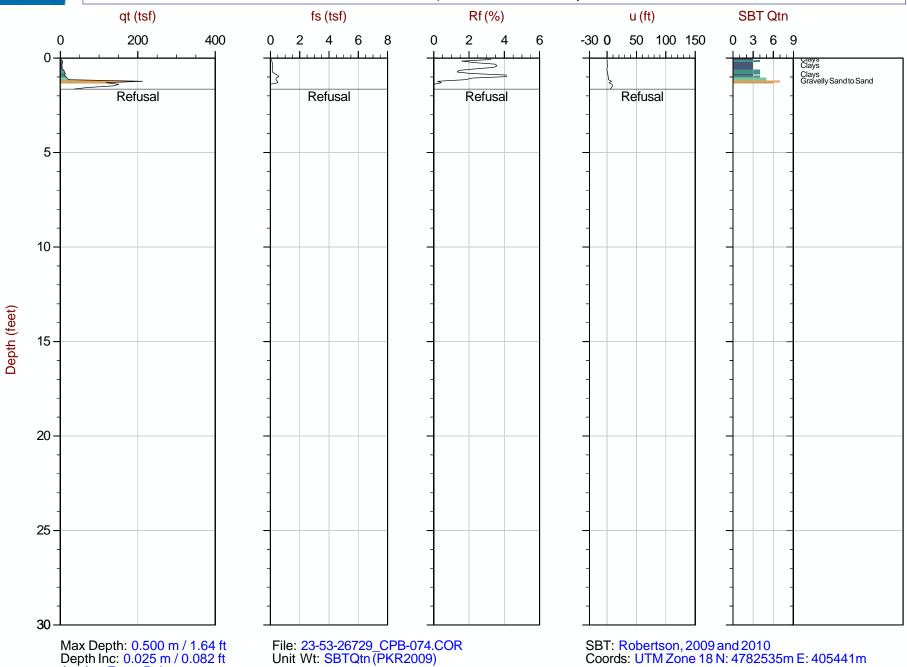
Avg Int: Every Point



## CME Associates

Job No: 23-53-26729 Date: 2023-10-23 09:58 Sounding: CPT23-B-074 Cone: 604:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



Hydrostatic Line ○ Ueq ○ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved



10

15

20

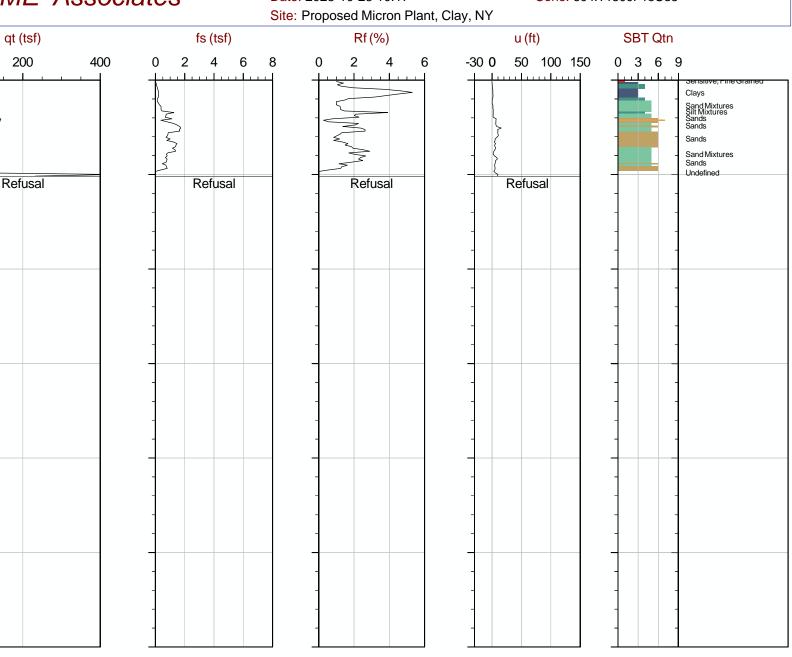
25

30 -

Depth (feet)

# CME Associates

Job No: 23-53-26729 Date: 2023-10-23 10:17 Sounding: CPT23-B-074A Cone: 604:T1500F15U35



Max Depth: 1.550 m / 5.09 ft Depth Inc: 0.025 m / 0.082 ftAvg Int: Every Point

File: 23-53-26729\_CPB-074A.COR Unit Wt: SBTQtn (PKR2009)

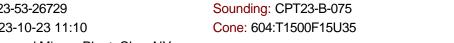
SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4782536m E: 405438m

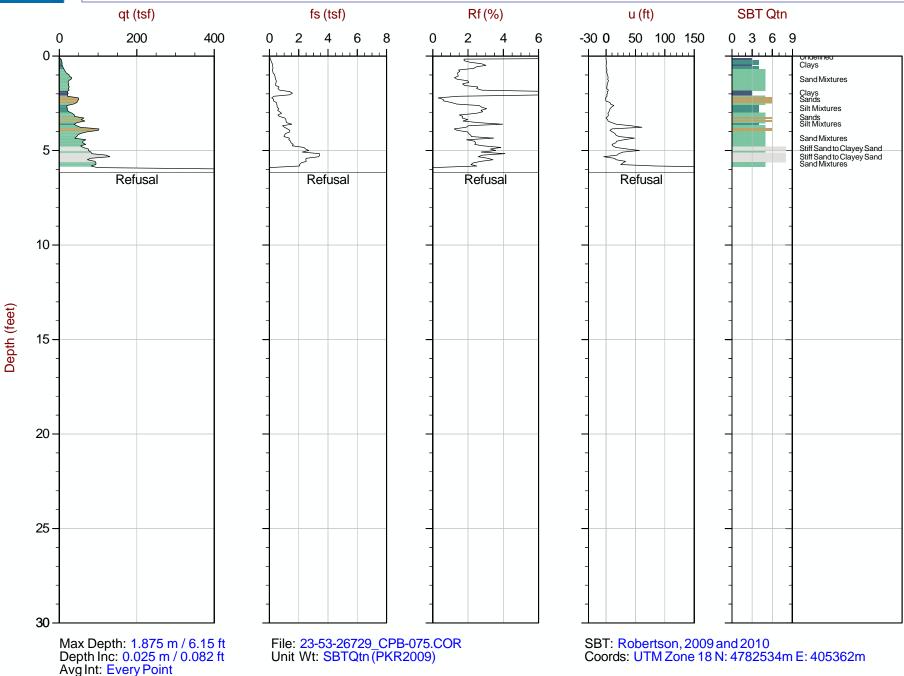
◆ Assumed Ueg < PPD, Ueg achieved < PPD, Ueg not achieved</p> Hydrostatic Line O Ueq The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Job No: 23-53-26729 Date: 2023-10-23 11:10

Site: Proposed Micron Plant, Clay, NY



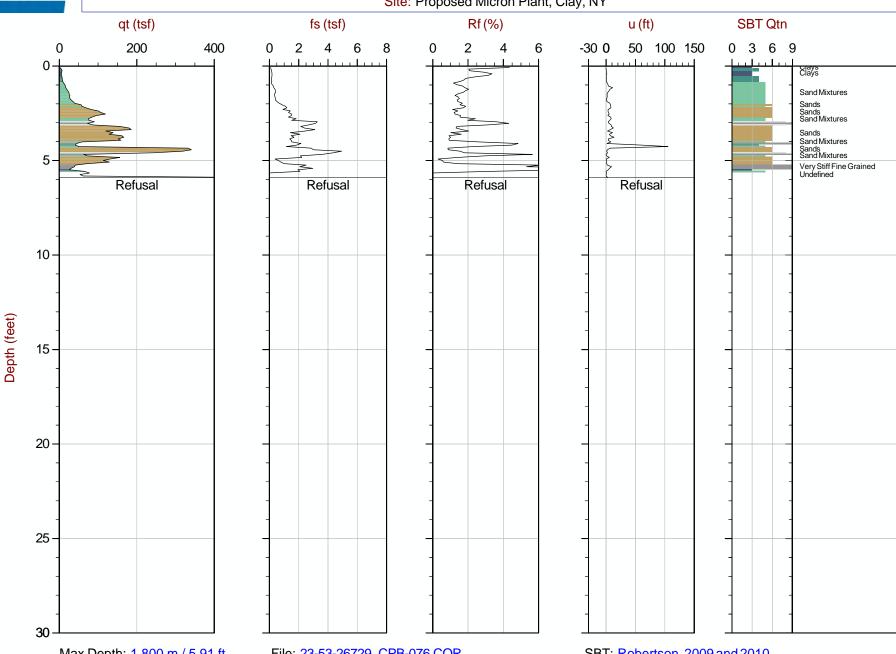




Job No: 23-53-26729 Date: 2023-10-23 11:37

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

Avg Int: Every Point

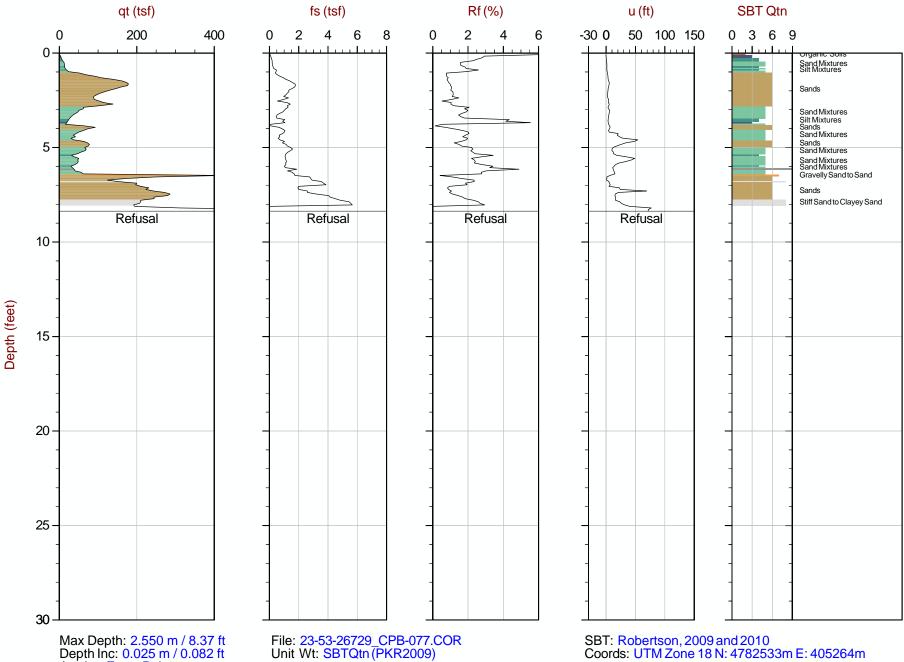


# CME Associates

Job No: 23-53-26729 Date: 2023-10-23 12:06

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-077 Cone: 604:T1500F15U35



- Hydrostatic Line O Ueq O Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved

Avg Int: Every Point

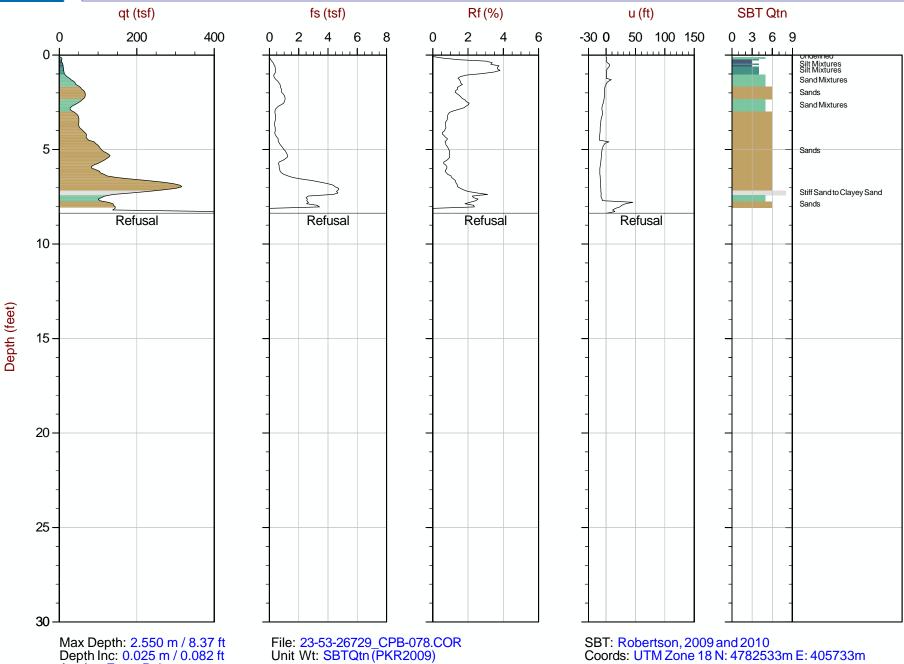


CME Associates

Job No: 23-53-26729 Date: 2023-10-25 07:29

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-078 Cone: 604:T1500F15U35



Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

qt (tsf) 200

Refusal



5-

10

15

20

25

30

Depth (feet)

CME Associates

400

fs (tsf)

Refusal

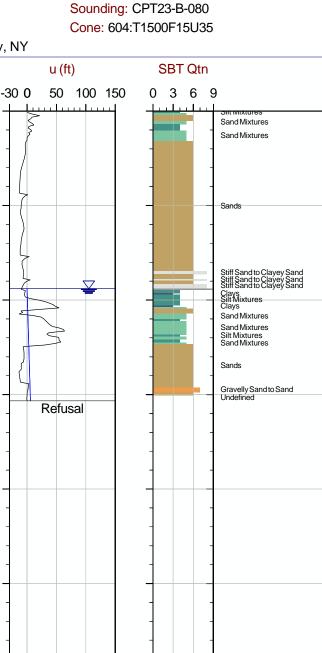
6

Job No: 23-53-26729 Date: 2023-10-24 14:26

Site: Proposed Micron Plant, Clay, NY

Rf (%)

Refusal



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

Coolus. O I W Zone 16 N. 47 82 465 III E. 4030

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.

Avg Int: Every Point

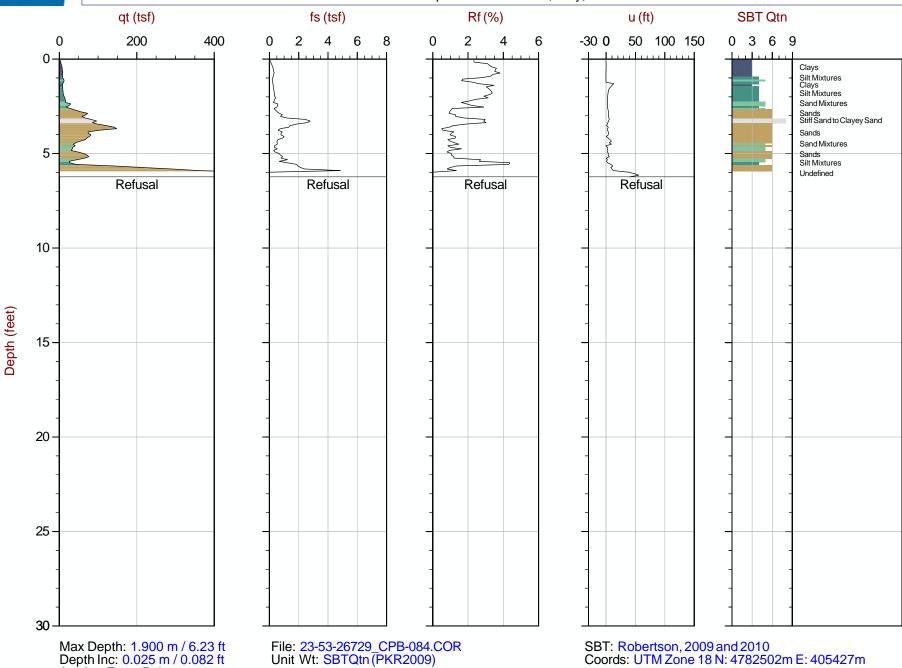


# CME Associates

Job No: 23-53-26729 Date: 2023-10-23 13:38

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-084 Cone: 604:T1500F15U35



Hydrostatic Line ○ Ueq ○ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved

Avg Int: Every Point

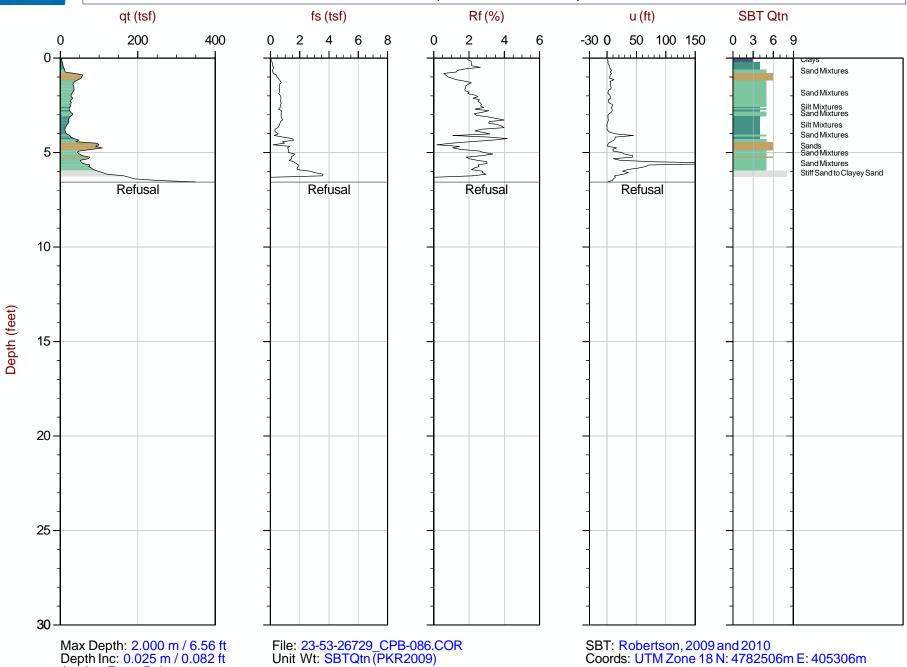


# CME Associates

 Job No: 23-53-26729
 Sounding: CPT23-B-086

 Date: 2023-10-23 12:54
 Cone: 604:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



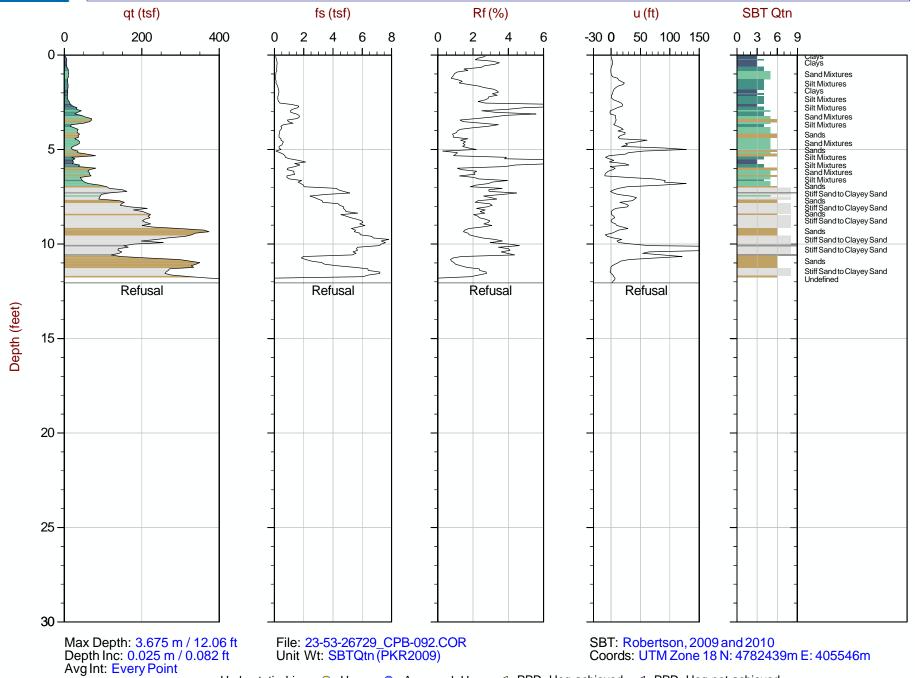
Hydrostatic Line ○ Ueq ○ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved



Job No: 23-53-26729 Date: 2023-10-23 14:25

Sounding: CPT23-B-092 Cone: 604:T1500F15U35

Site: Proposed Micron Plant, Clay, NY

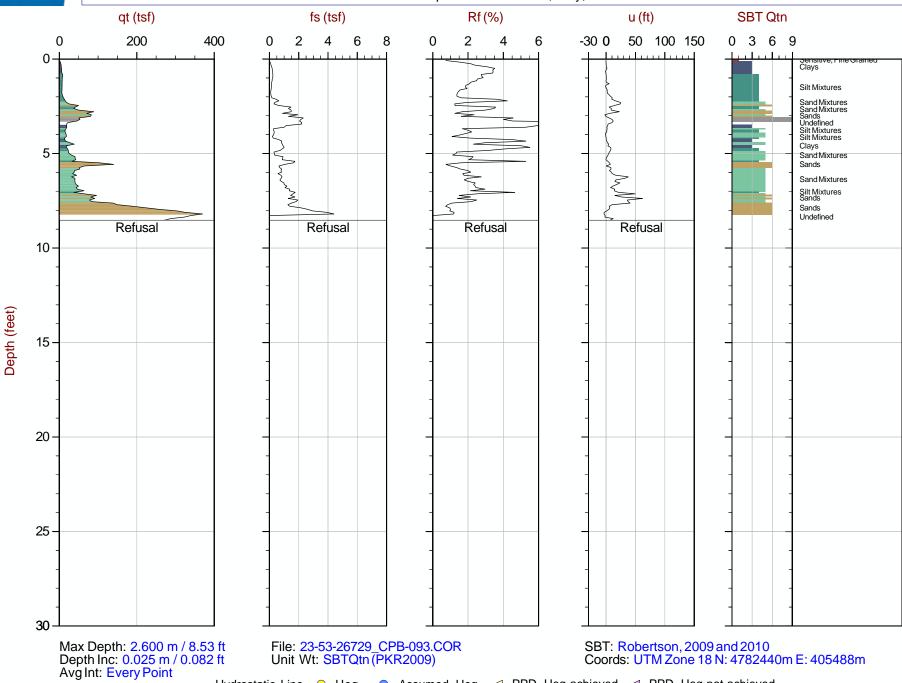




Job No: 23-53-26729 Date: 2023-10-23 14:11

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-093 Cone: 604:T1500F15U35



Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

PPD, Ueq not achieved 

PPD, Ue

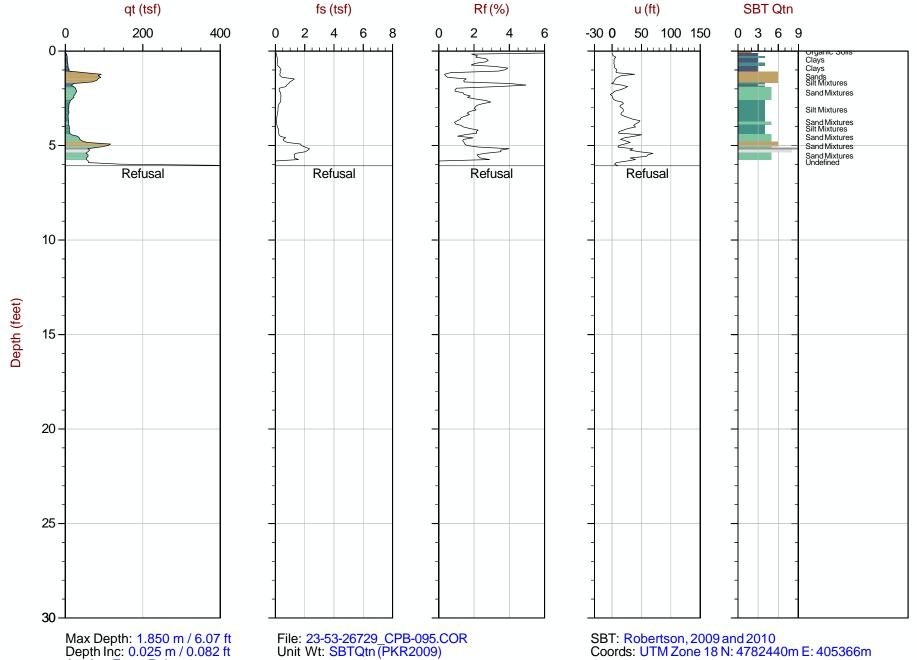
Avg Int: Every Point



# CME Associates

Job No: 23-53-26729 Date: 2023-10-24 07:28





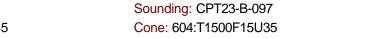
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

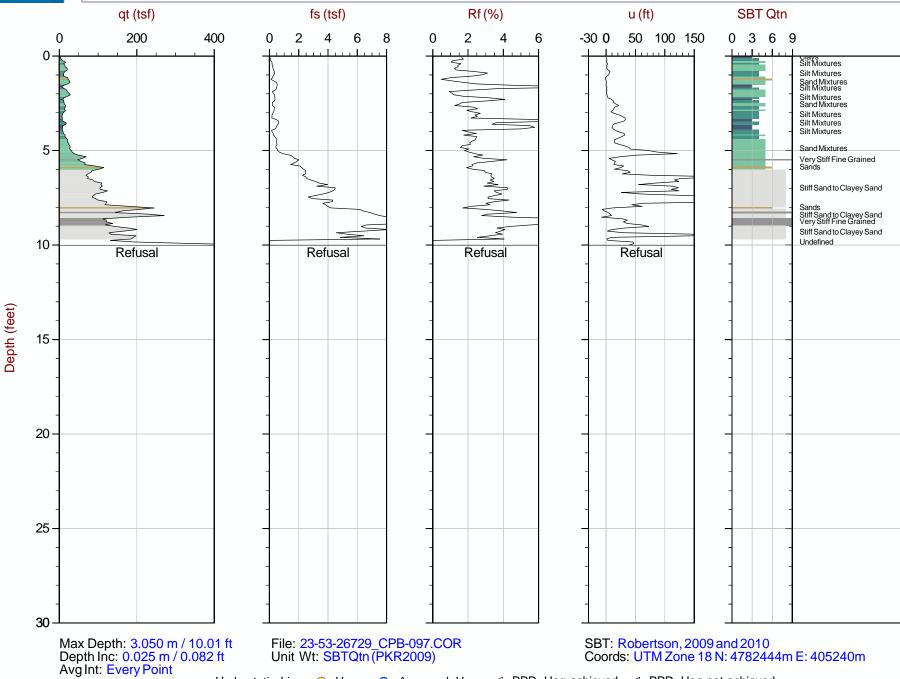


Job No: 23-53-26729

Date: 2023-10-23 12:45

Site: Proposed Micron Plant, Clay, NY





- Hydrostatic Line ○ Ueq ○ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved

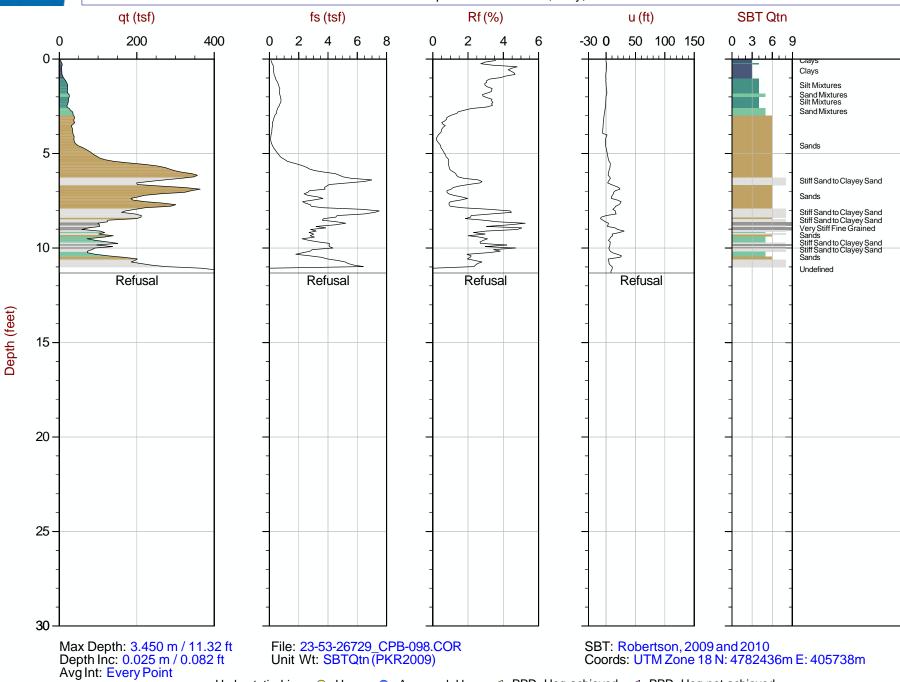


Job No: 23-53-26729

Date: 2023-10-25 08:00

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-098 Cone: 604:T1500F15U35



Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

qt (tsf) 200

Refusal



0

10

15

20

25

30

Depth (feet)

# CME Associates

400

fs (tsf)

Refusal

6

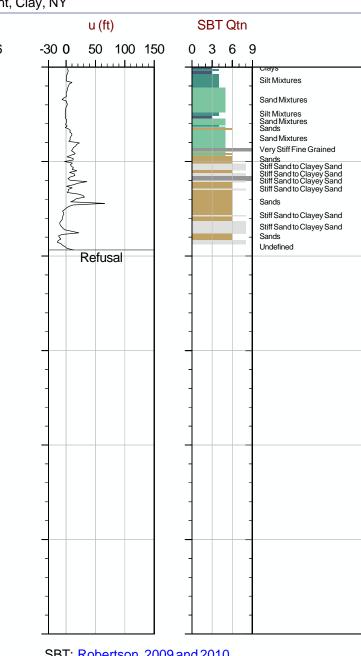
Job No: 23-53-26729 Date: 2023-10-24 11:28

Site: Proposed Micron Plant, Clay, NY

Rf (%)

Refusal

Sounding: CPT23-B-102 Cone: 604:T1500F15U35



Max Depth: 2.950 m / 9.68 ftDepth Inc: 0.025 m / 0.082 ftAvg 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

Avg Int: Every Point

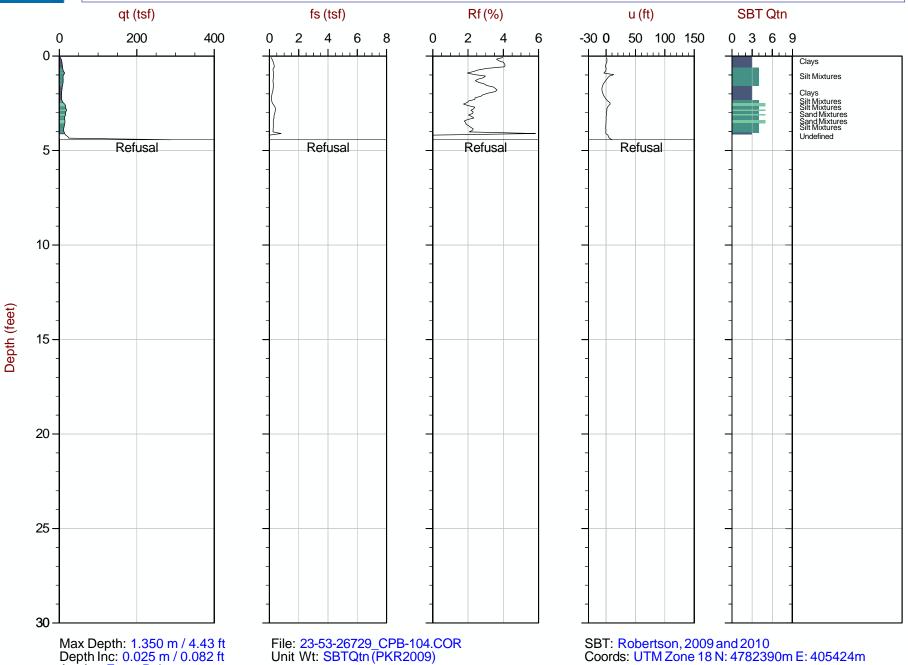


## CME Associates

Job No: 23-53-26729

Date: 2023-10-24 12:09 Cone: 604:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

Avg Int: Every Point

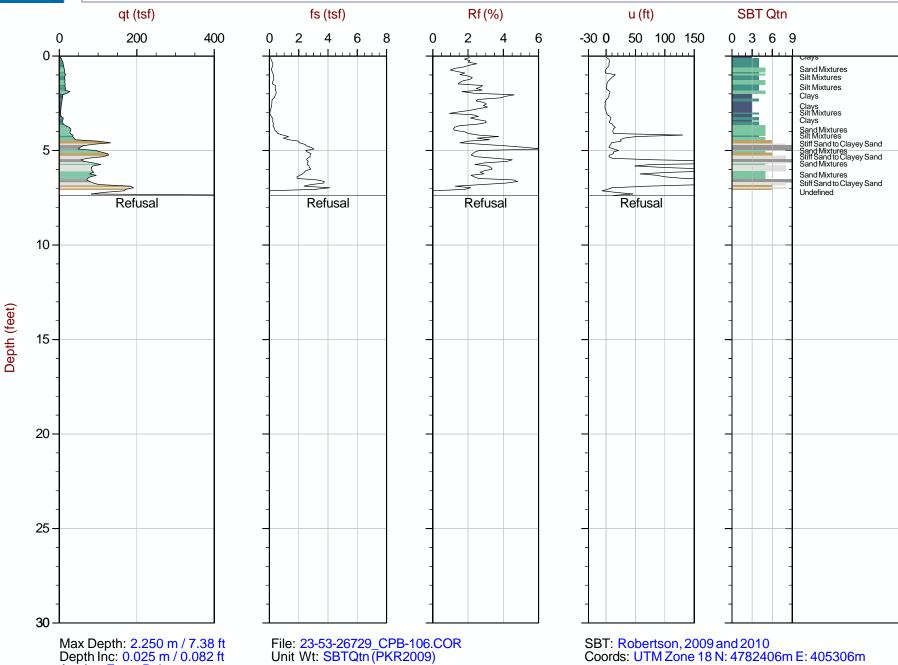


CME Associates

Job No: 23-53-26729 Date: 2023-10-24 08:37

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-106 Cone: 604:T1500F15U35



Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

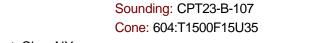
PPD, Ueq not achieved 

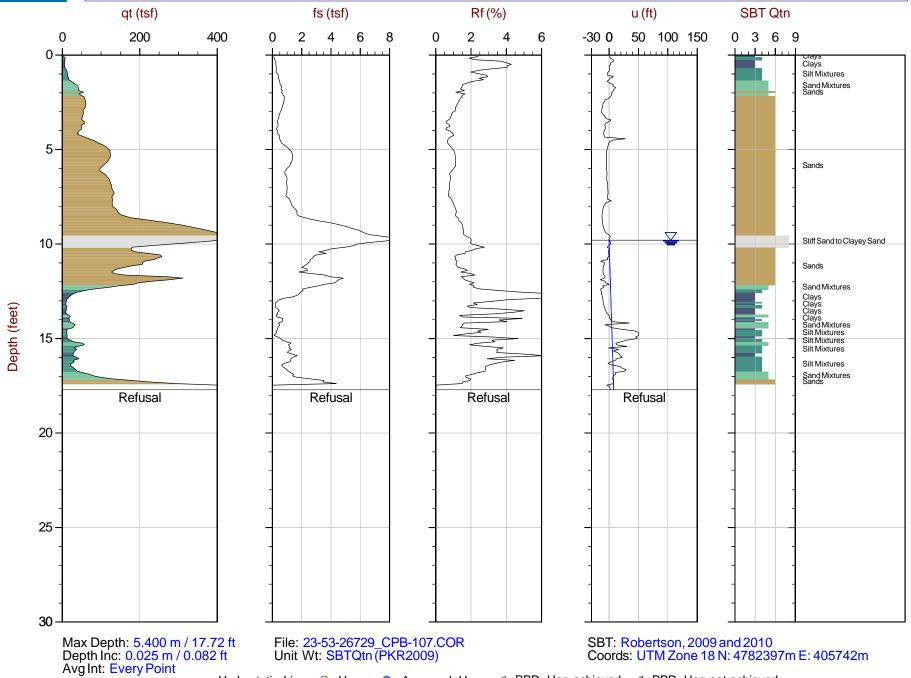
PPD, Ue



Job No: 23-53-26729 Date: 2023-10-25 08:35

Site: Proposed Micron Plant, Clay, NY

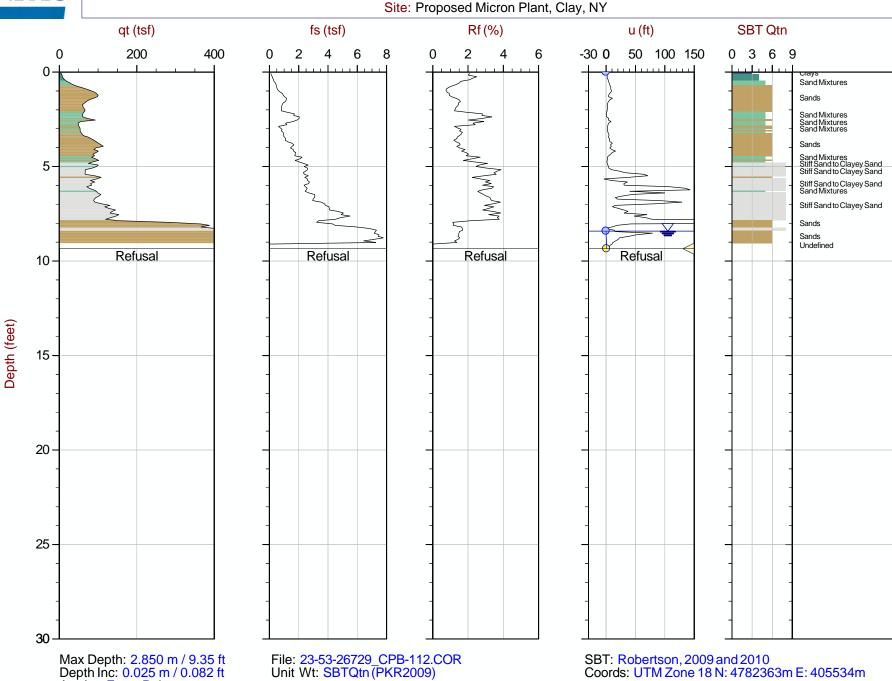






Job No: 23-53-26729 Date: 2023-10-24 10:50

Sounding: CPT23-B-112 Cone: 604:T1500F15U35



Avg Int: Every Point ◆ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved</p> Hydrostatic Line O Ueq

Avg Int: Every Point

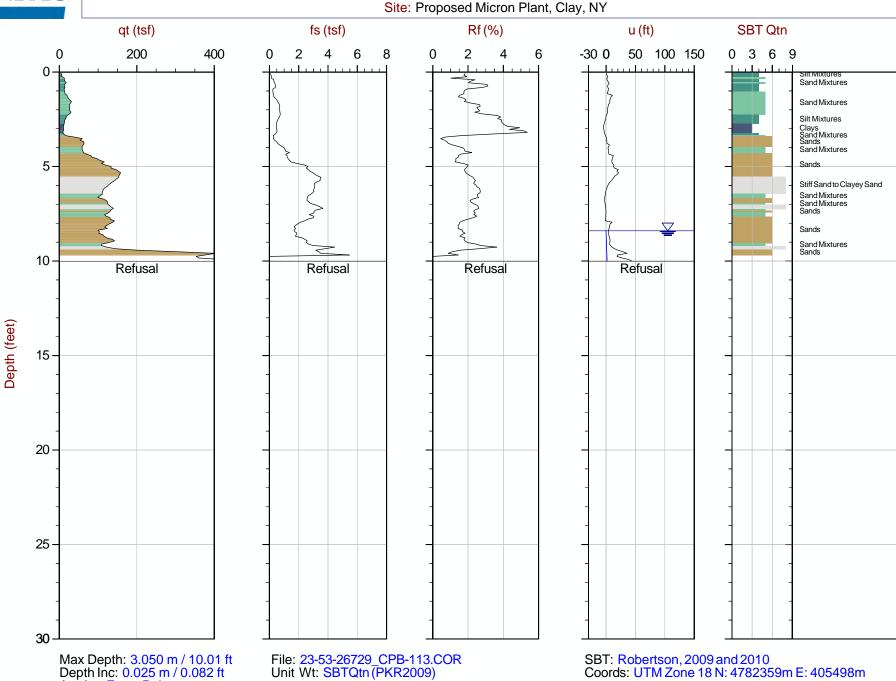


CME Associates

Job No: 23-53-26729 Date: 2023-10-24 09:36

ite: Proposed Micron Plant Clay NV

Sounding: CPT23-B-113 Cone: 604:T1500F15U35



Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

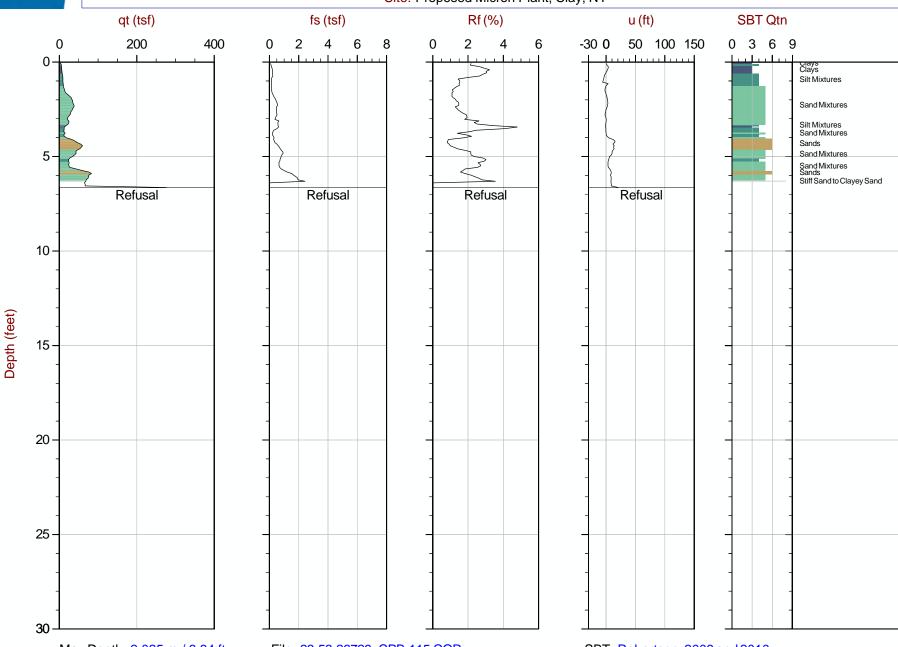


Job No: 23-53-26729

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

Coolus. 0 1 W 2011e 16 N. 47 6233011 E. 403

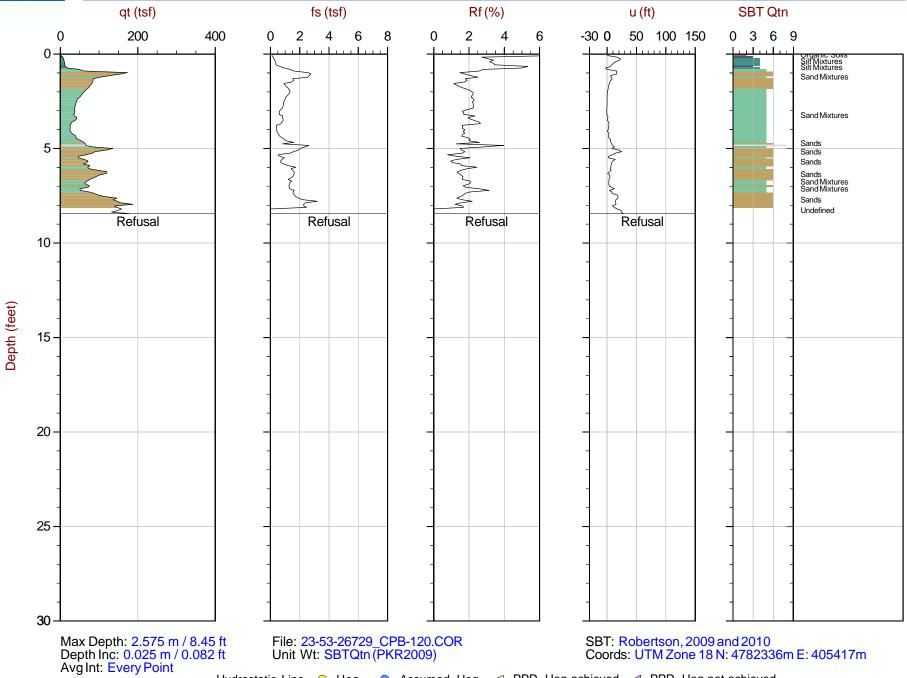


# CME Associates

Job No: 23-53-26729 Date: 2023-10-24 10:14

):14 Cone: 604:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



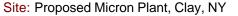
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

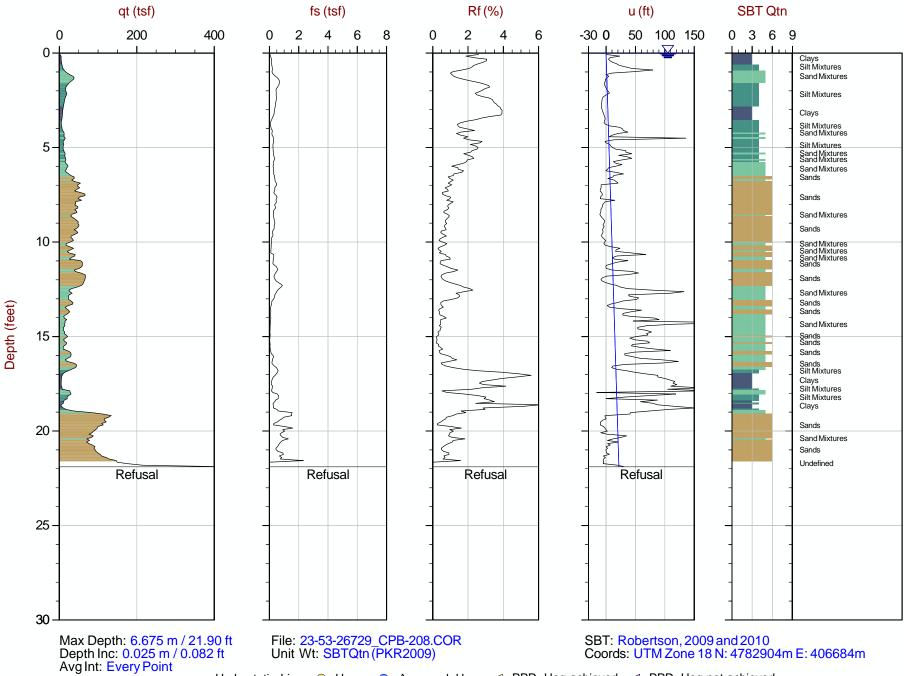


Job No: 23-53-26729

Date: 2023-10-27 14:56

Sounding: CPT23-B-208 Cone: 606:T1500F15U35



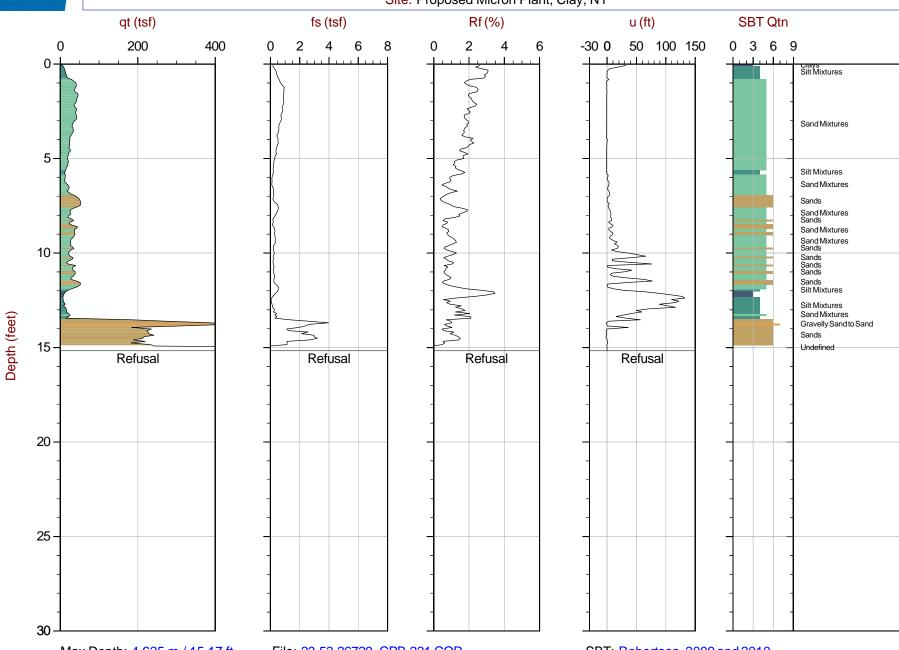




Job No: 23-53-26729 Date: 2023-10-27 10:44

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-221 Cone: 606:T1500F15U35



File: 23-53-26729\_CPB-221.COR Unit Wt: SBTQtn (PKR2009) Max Depth: 4.625 m / 15.17 ft Depth Inc: 0.025 m / 0.082 ftAvg Int: Every Point

SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4783038m E: 406405m

qt (tsf) 200



0

5-

10

15

20

25

30

Depth (feet)

CME Associates

400

fs (tsf)

Refusal

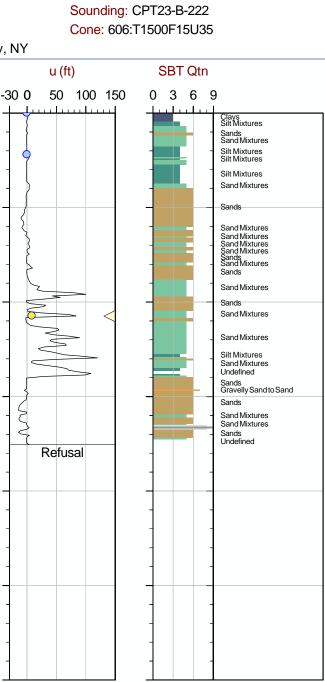
6

Job No: 23-53-26729 Date: 2023-10-27 11:16

Site: Proposed Micron Plant, Clay, NY

Rf (%)

Refusal



Max Depth: 5.350 m / 17.55 ft Depth Inc: 0.025 m / 0.082 ft Avg Int: Every Point

Refusal

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 

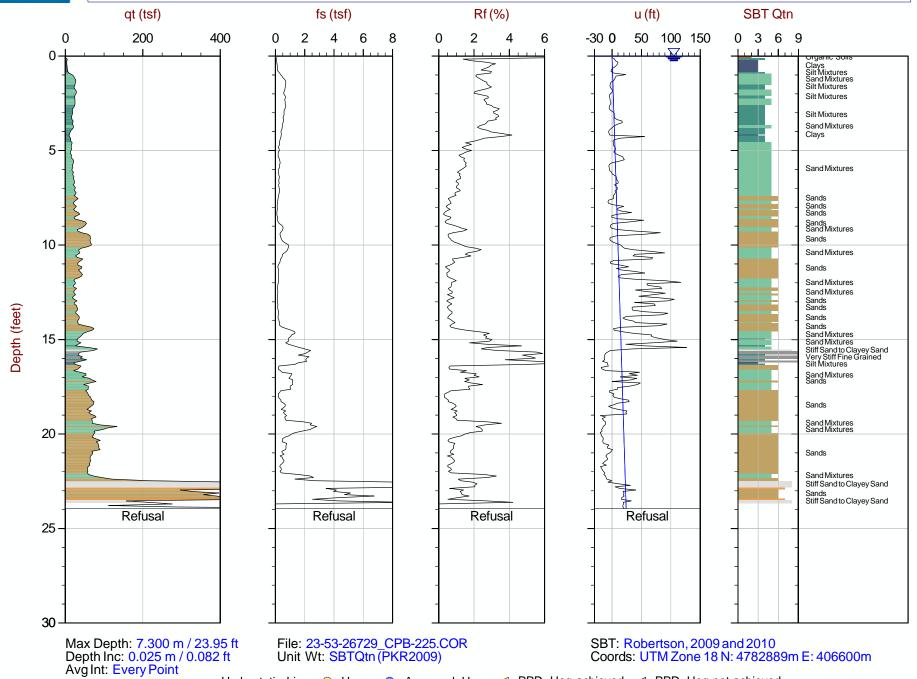
PPD, Ueq not achieved 

PPD, Ue The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Job No: 23-53-26729 Date: 2023-10-27 14:26 Sounding: CPT23-B-225 Cone: 606:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



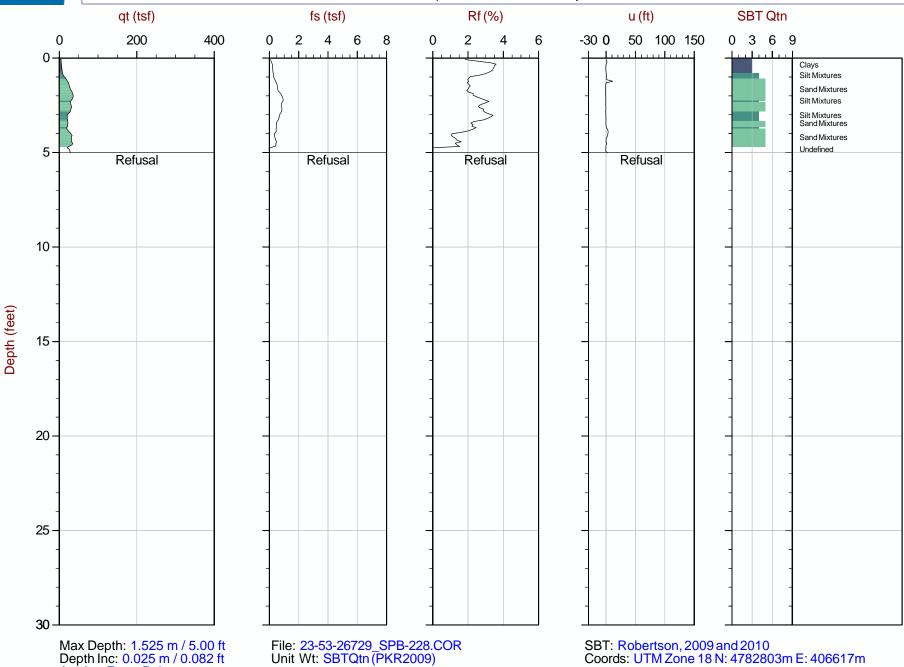


CME Associates

Job No: 23-53-26729

Cone: 606:T1500F15U35 Date: 2023-10-27 12:08

Site: Proposed Micron Plant, Clay, NY



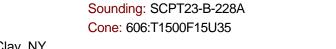
Avg Int: Every Point

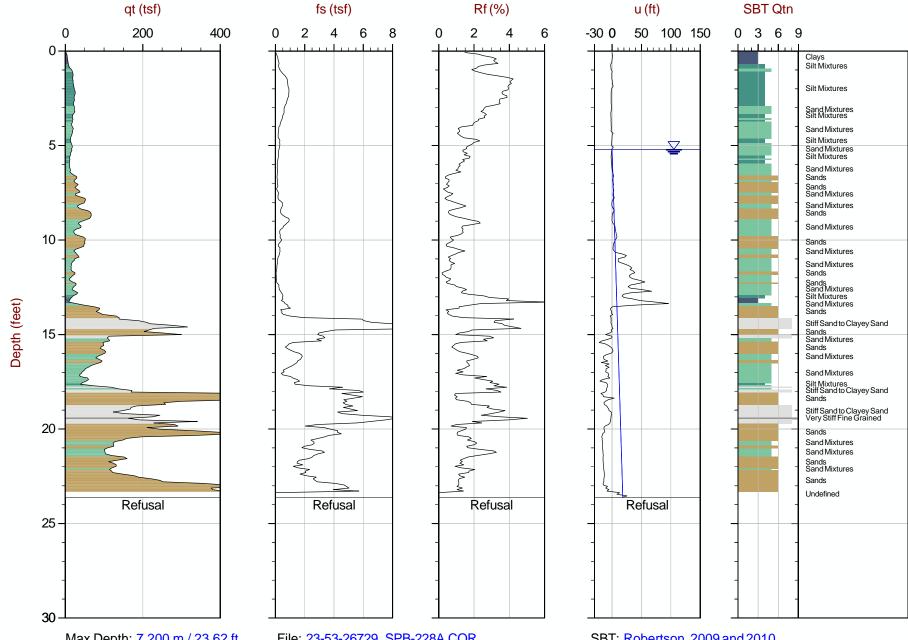


Job No: 23-53-26729

Date: 2023-10-27 13:08

Site: Proposed Micron Plant, Clay, NY





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 

Ueg 

Assumed Ueg 

PPD, Ueg achieved 

PPD, Ueg not achieved

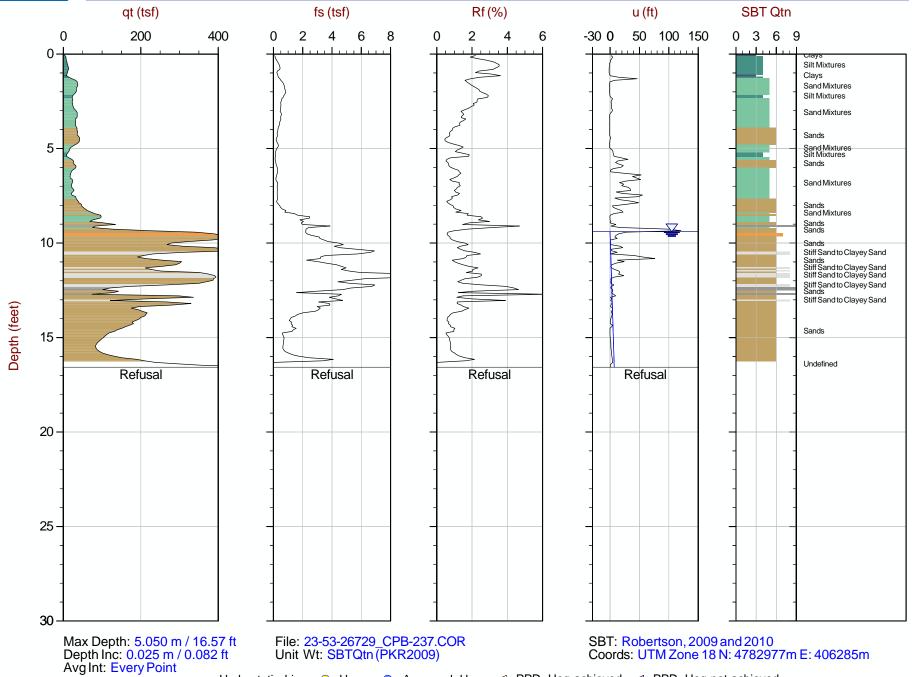


Job No: 23-53-26729

Date: 2023-10-27 09:53

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-237 Cone: 606:T1500F15U35



qt (tsf) 200



5

10

15

20

25

30

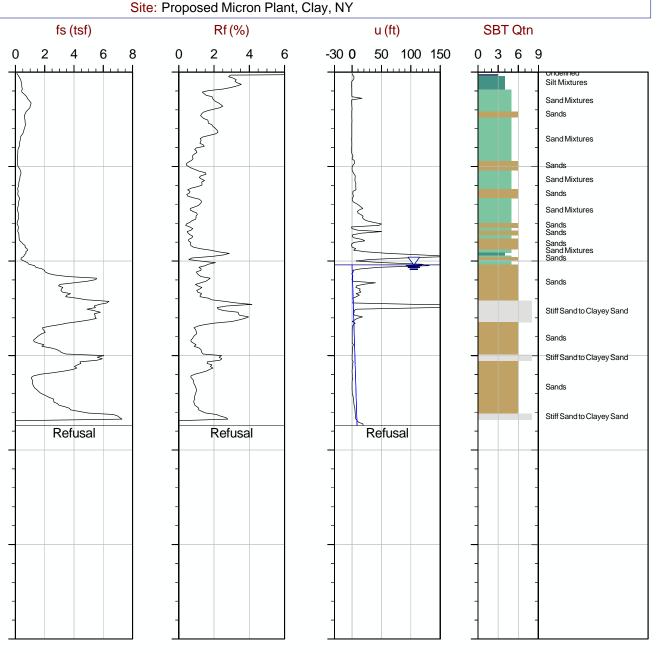
Depth (feet)

CME Associates

400

Job No: 23-53-26729 Date: 2023-10-27 10:16

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

Refusal

File: 23-53-26729\_CPB-238.COR Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4782942m E: 406333m

Avg Int: Every Point

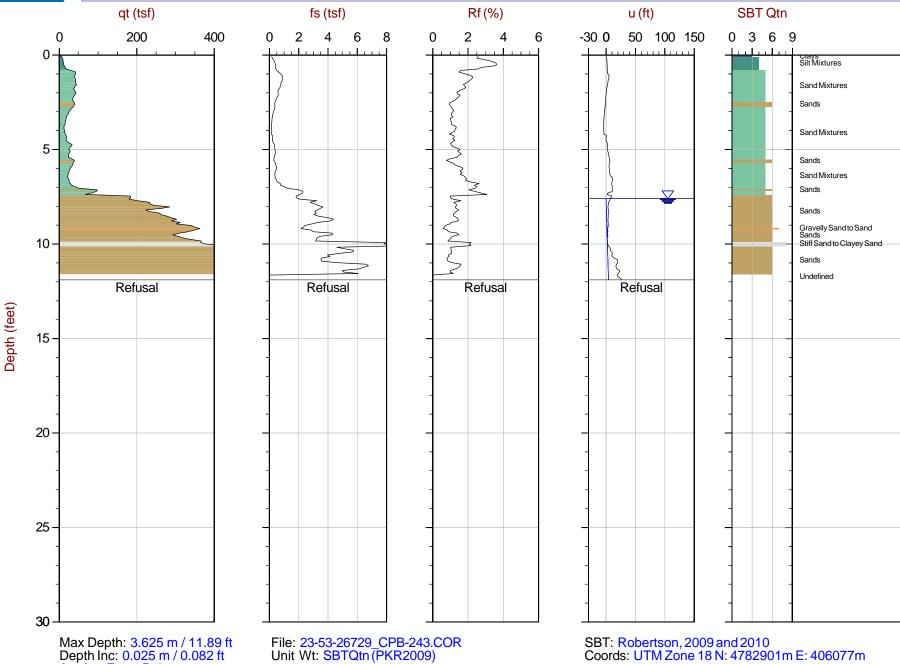


CME Associates

Job No: 23-53-26729 Date: 2023-10-26 07:33

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-243 Cone: 604:T1500F15U35



qt (tsf) 200



0

5-

10

15

20

25

30

Depth (feet)

CME Associates

400

Job No: 23-53-26729

fs (tsf)

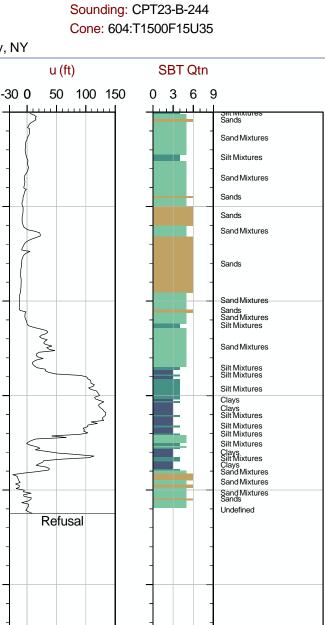
6

Date: 2023-10-26 09:50

Site: Proposed Micron Plant, Clay, NY

Rf (%)

Refusal



Max Depth: 6.475 m / 21.24 ft Depth Inc: 0.025 m / 0.082 ft Avg Int: Every Point

Refusal

File: 23-53-26729\_CPB-244.COR Unit Wt: SBTQtn (PKR2009)

Refusal

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 

PPD, Ue The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

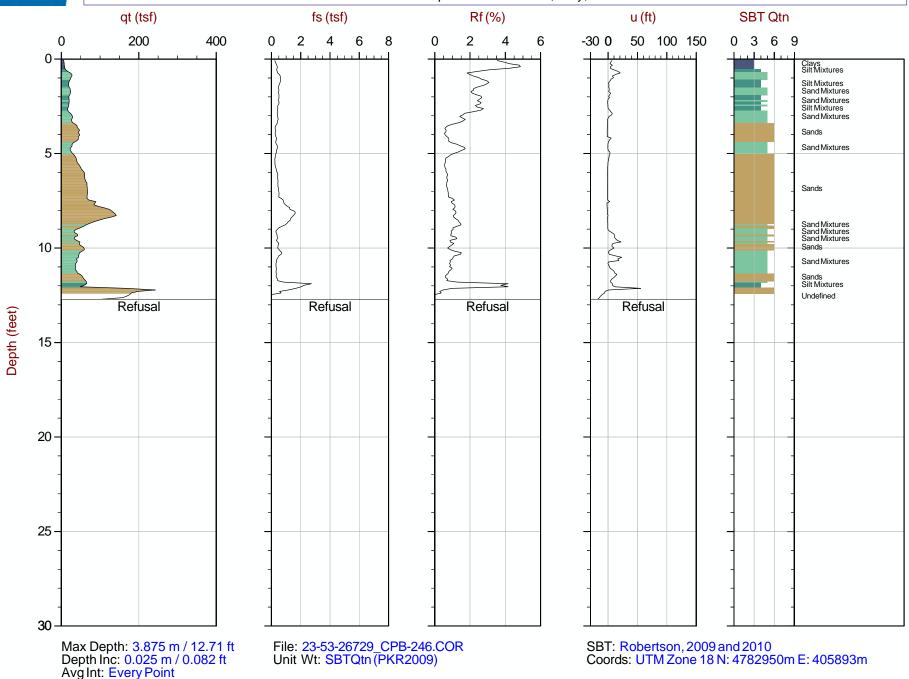


## CME Associates

Job No: 23-53-26729

Date: 2023-10-26 11:06 Cone: 606:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



qt (tsf) 200



5-

10

15

20

25

30

Depth (feet)

# CME Associates

400

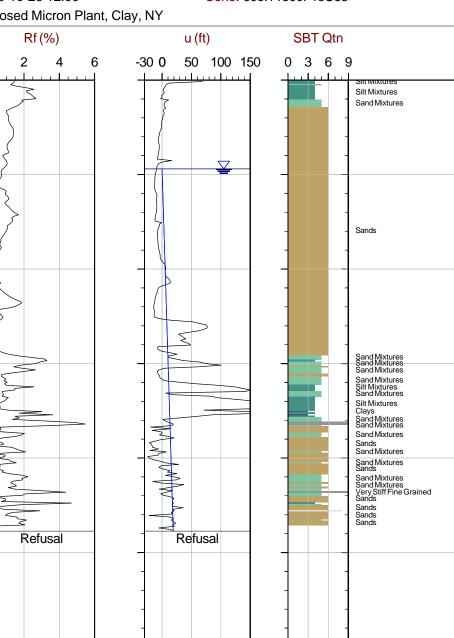
Job No: 23-53-26729

fs (tsf)

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

Refusal

File: 23-53-26729\_CPB-252.COR Unit Wt: SBTQtn (PKR2009)

Refusal

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 

PPD, Ue The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

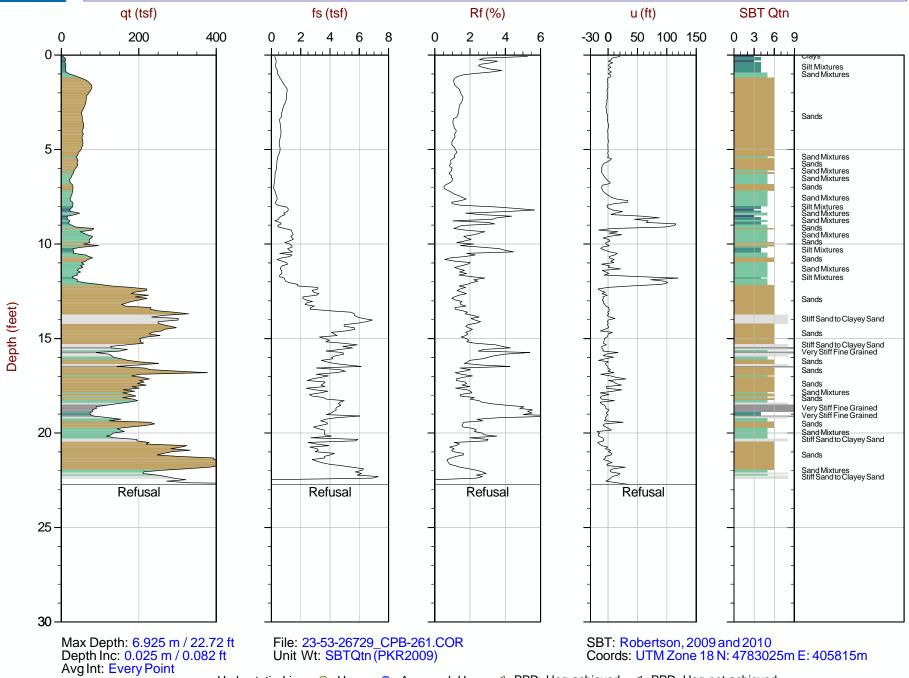


CME Associates

Job No: 23-53-26729

Date: 2023-10-26 12:47 Cone: 606:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



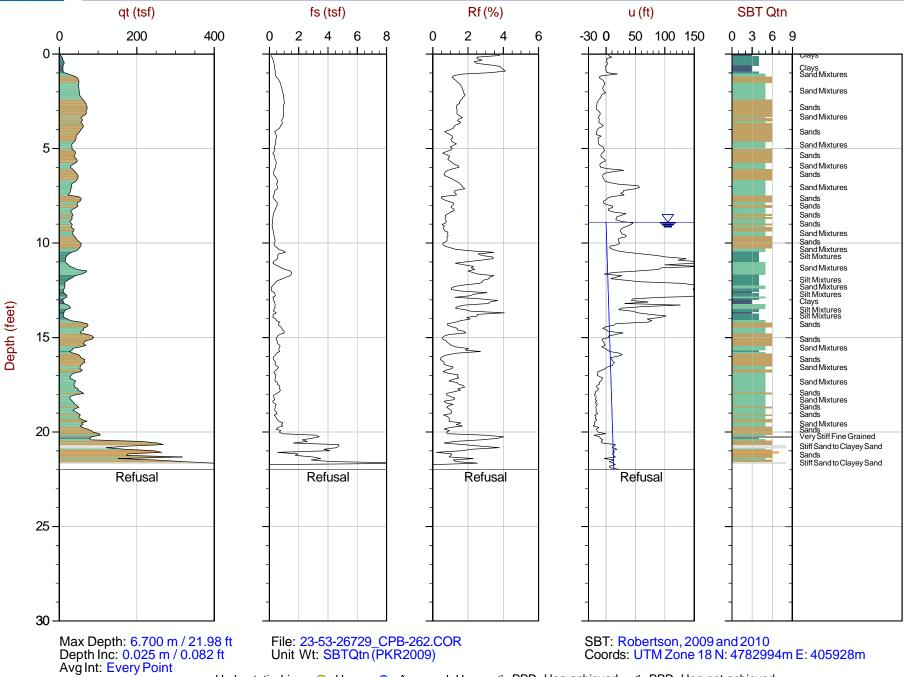
- Hydrostatic Line O Ueq O Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved



CME Associates

Job No: 23-53-26729 Date: 2023-10-26 15:56

Cone: 606:T1500F15U35 Site: Proposed Micron Plant, Clay, NY



Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

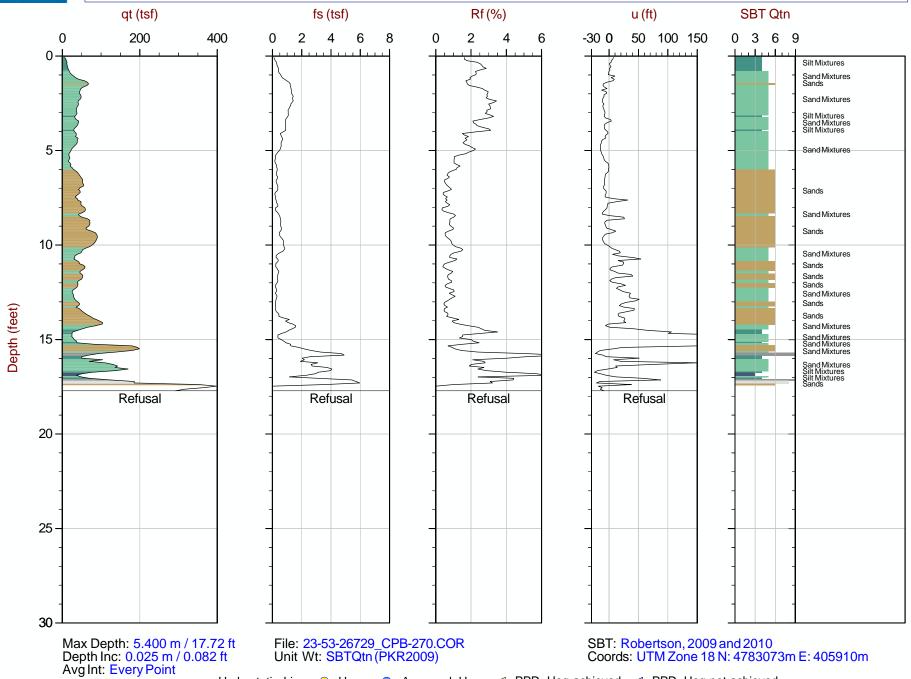
PPD, Ueq not achieved 

PPD, Ue



Job No: 23-53-26729 Sounding: CPT23-B-270
Date: 2023-10-26 13:48 Cone: 606:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



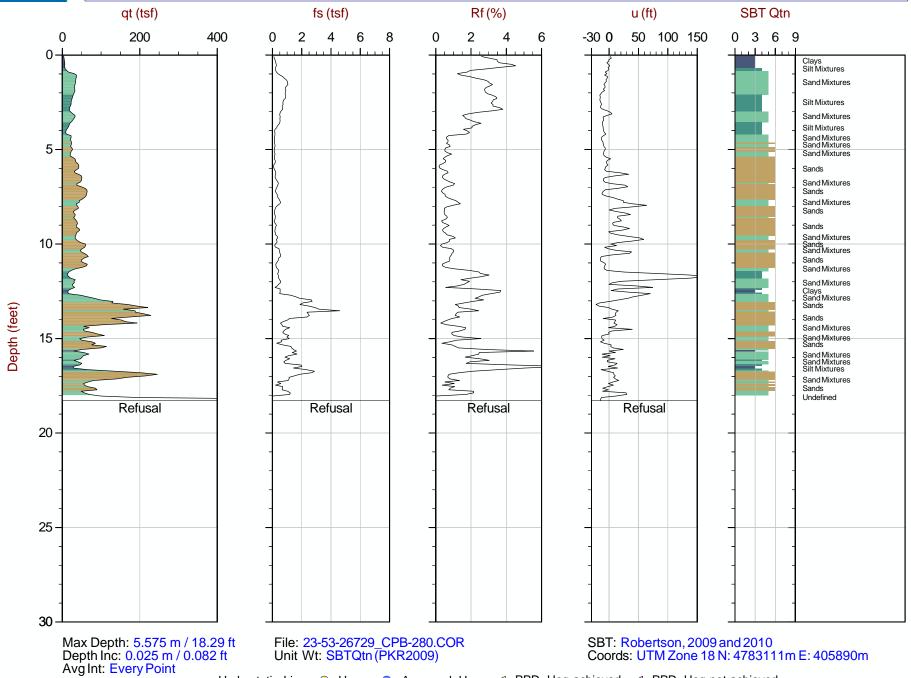
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved



 Job No: 23-53-26729
 Sounding: CPT23-B-280

 Date: 2023-10-26 14:26
 Cone: 606:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



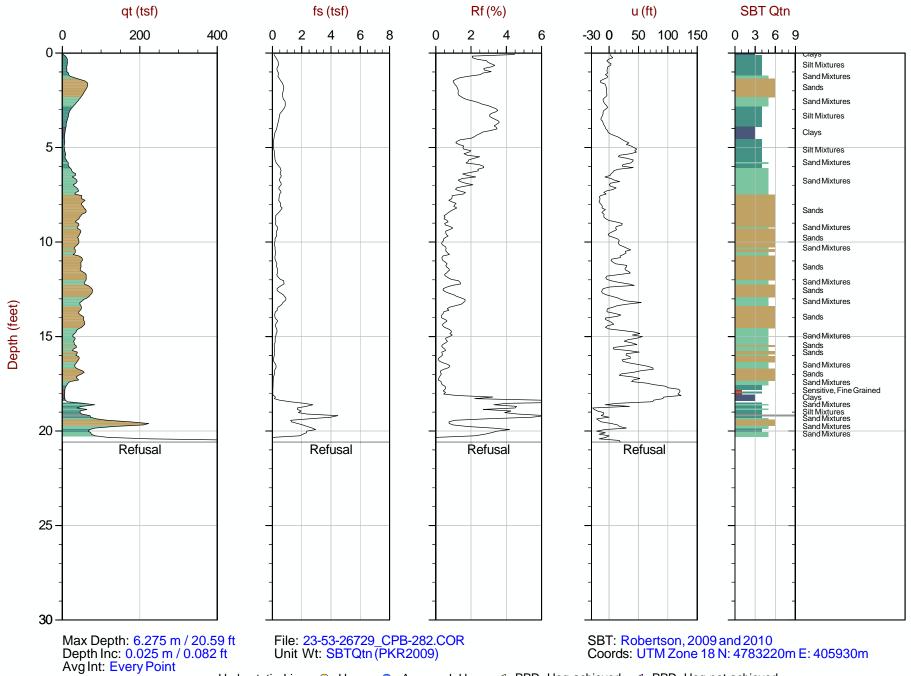
Cone: 606:T1500F15U35



## CME Associates

Job No: 23-53-26729 Date: 2023-10-26 15:06

Site: Proposed Micron Plant, Clay, NY



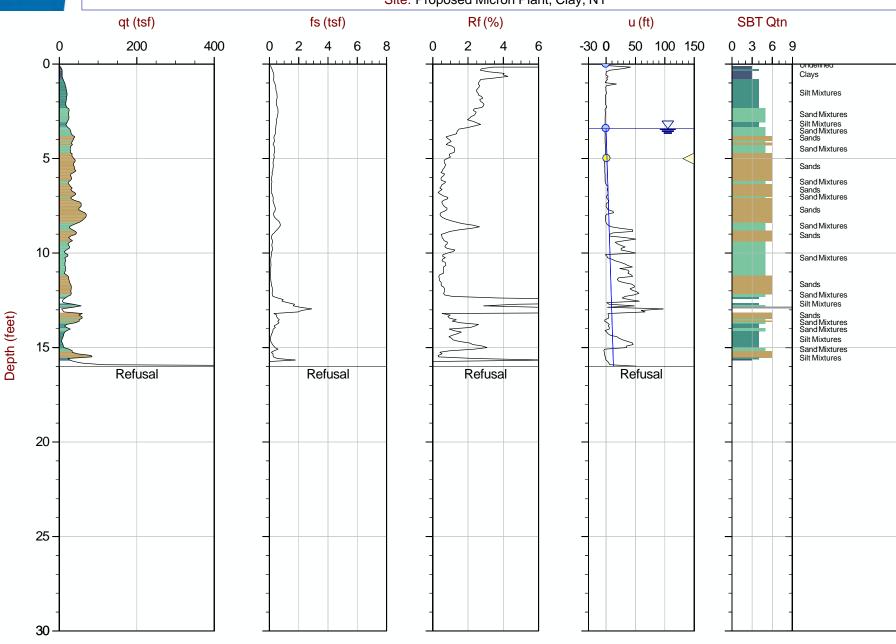


CME Associates

Job No: 23-53-26729

Site: Proposed Micron Plant, Clay, NY

Date: 2023-10-27 08:32 Cone: 606:T1500F15U35



Max Depth: 4.875 m / 15.99 ft Depth Inc: 0.025 m / 0.082 ftAvg 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 

PPD, Ue The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Cone: 604:T1500F15U35

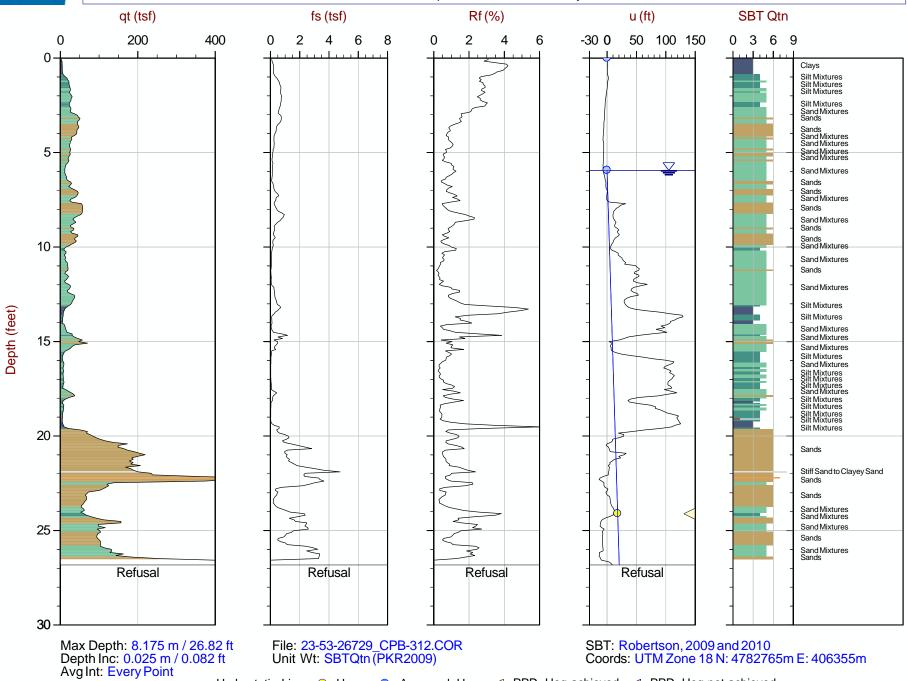


## CME Associates

Job No: 23-53-26729

Date: 2023-10-26 08:32

Site: Proposed Micron Plant, Clay, NY



Hydrostatic Line ○ Ueq ○ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved</li>

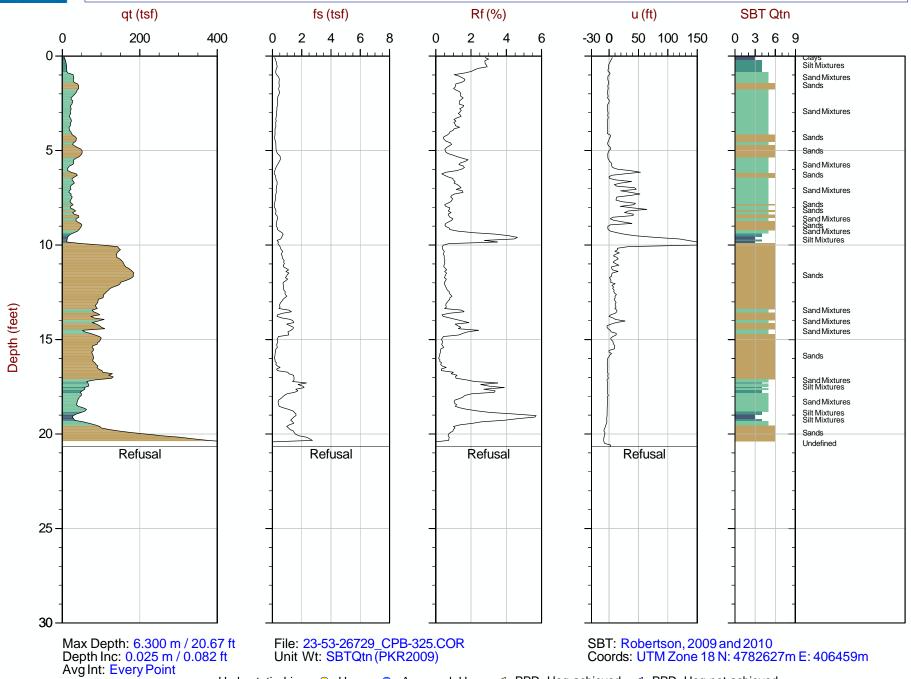
Cone: 606:T1500F15U35



## CME Associates

Job No: 23-53-26729 Date: 2023-10-28 11:06

Site: Proposed Micron Plant, Clay, NY



Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

PPD, Ueq not achieved 

PPD, Ue

qt (tsf)

200



0

5-

10

15

20

25

30

Depth (feet)

CME Associates

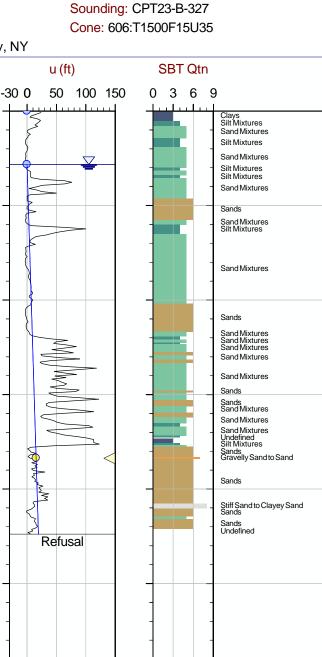
400

fs (tsf)

Job No: 23-53-26729 Date: 2023-10-28 10:06

Site: Proposed Micron Plant, Clay, NY

Rf (%)



Max Depth: 6.825 m / 22.39 ft Depth Inc: 0.025 m / 0.082 ft Avg Int: Every Point

Refusal

File: 23-53-26729\_CPB-327.COR Unit Wt: SBTQtn (PKR2009)

Refusal

SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4782553m E: 406579m

Refusal

qt (tsf) 200



0

5-

10

15

20

25

30

Depth (feet)

CME Associates

400

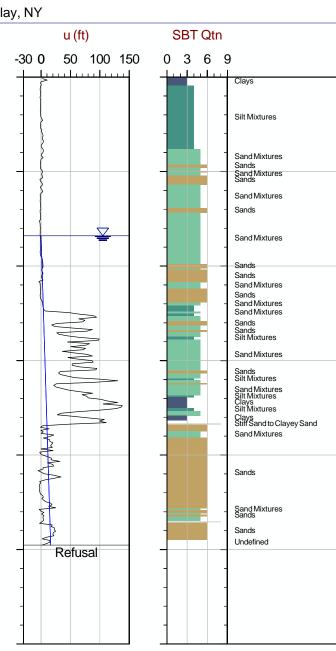
fs (tsf)

Job No: 23-53-26729 Date: 2023-10-28 09:35

Site: Proposed Micron Plant, Clay, NY

Rf (%)

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

Refusal

File: 23-53-26729\_CPB-329.COR Unit Wt: SBTQtn (PKR2009)

Refusal

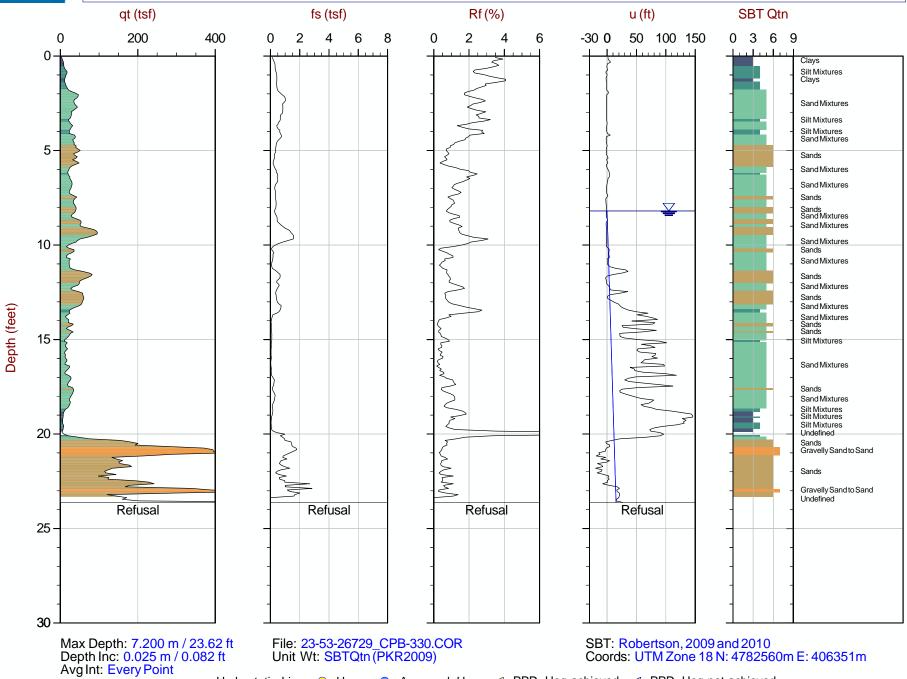
SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4782556m E: 406475m

Refusal



Job No: 23-53-26729 Sounding: CPT23-B-330
Date: 2023-10-28 08:46 Cone: 606:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



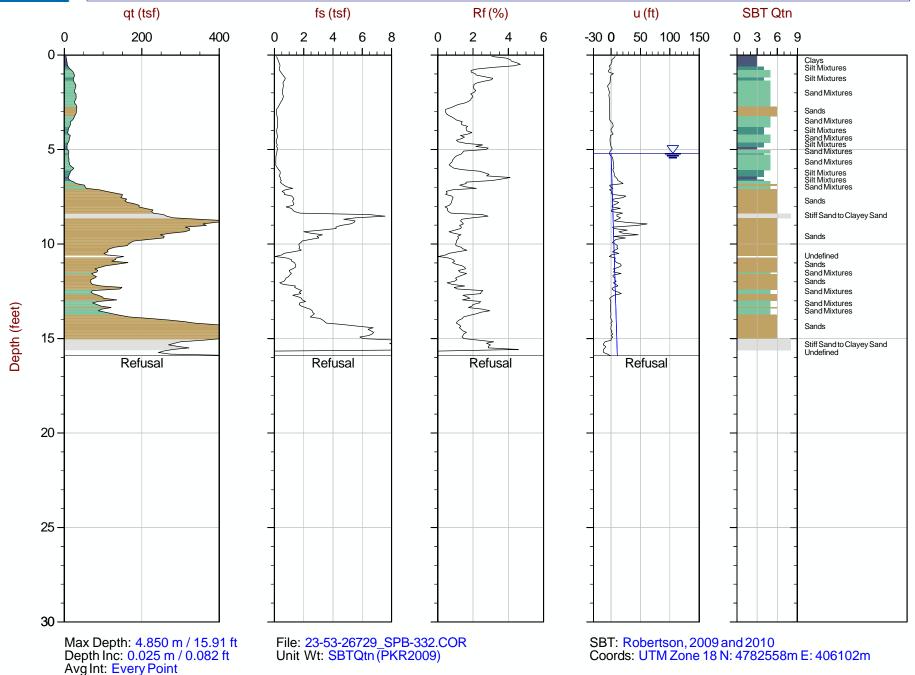
— Hydrostatic Line ● Ueq ● Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved</p>



Job No: 23-53-26729 Date: 2023-10-28 07:24

Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-332 Cone: 606:T1500F15U35



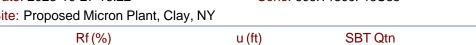
─ Hydrostatic Line ○ Ueq ○ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved</li>

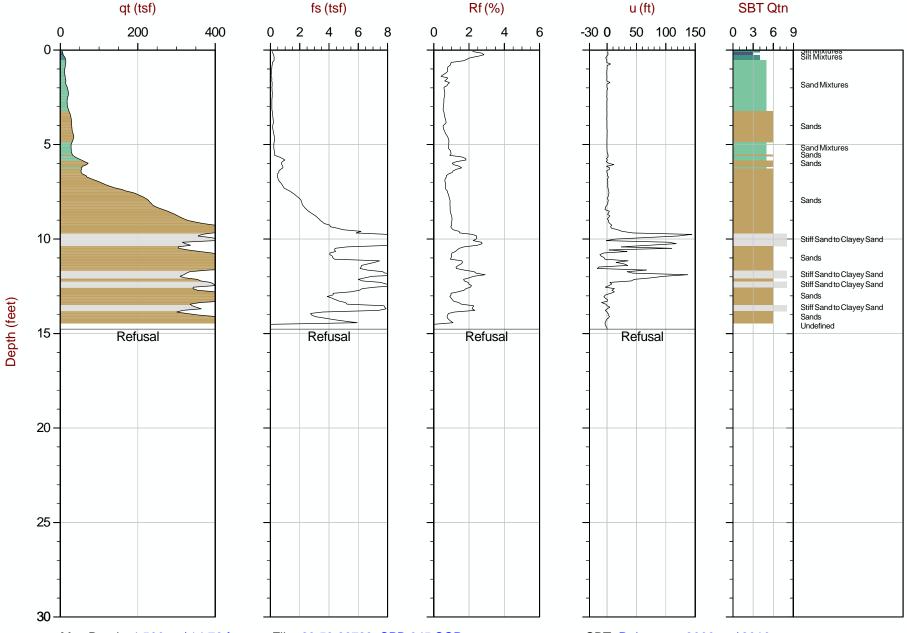


Job No: 23-53-26729 Date: 2023-10-27 16:22

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 ftAvg 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

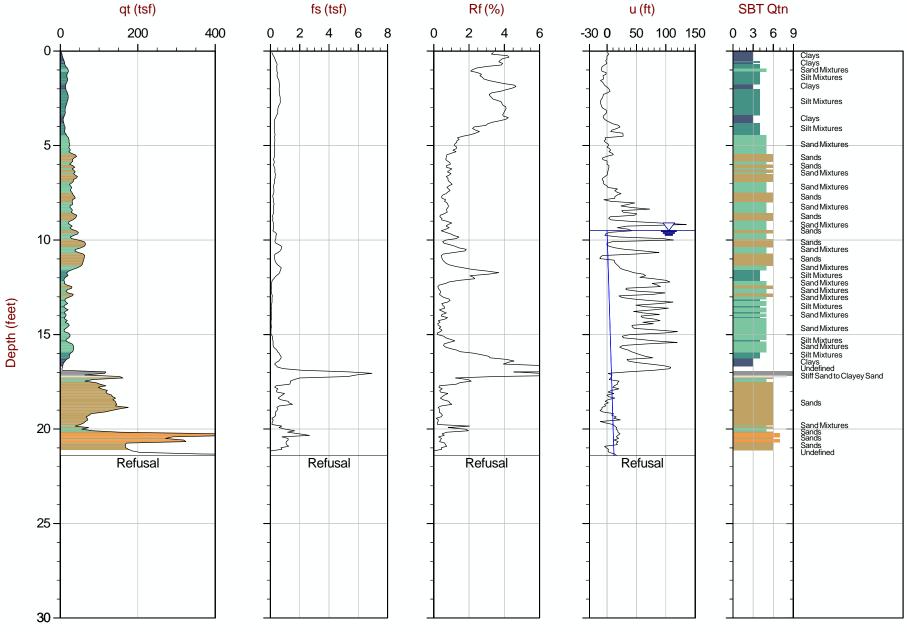
◆ Assumed Ueq < PPD, Ueq achieved < PPD, Ueq not achieved</p> Hydrostatic Line O Ueq



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 

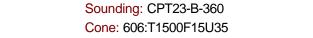
PPD, Ueq not achieved 

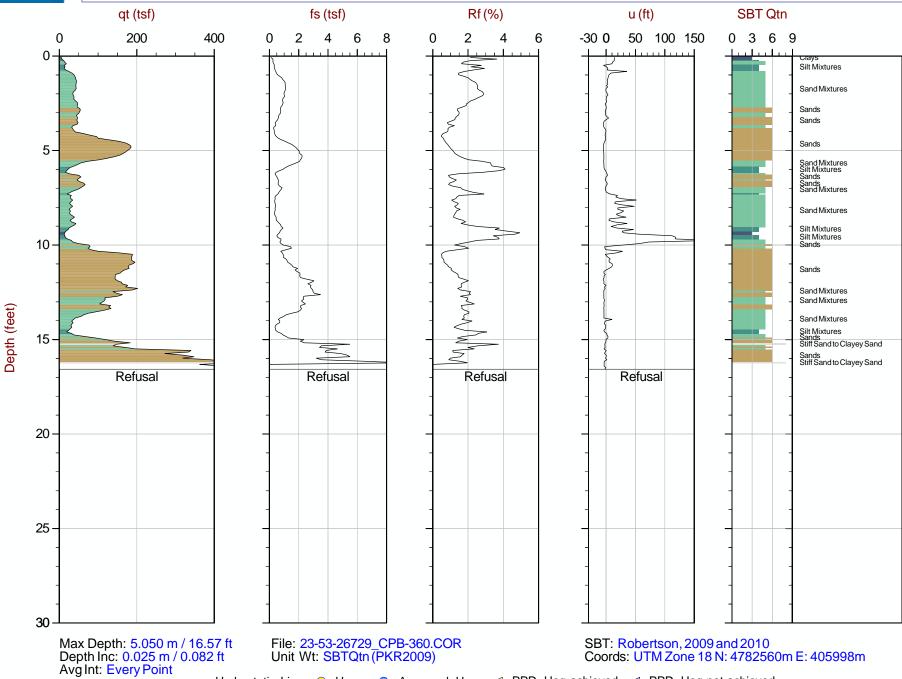
PPD, Ue The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Job No: 23-53-26729

Date: 2023-10-28 15:41





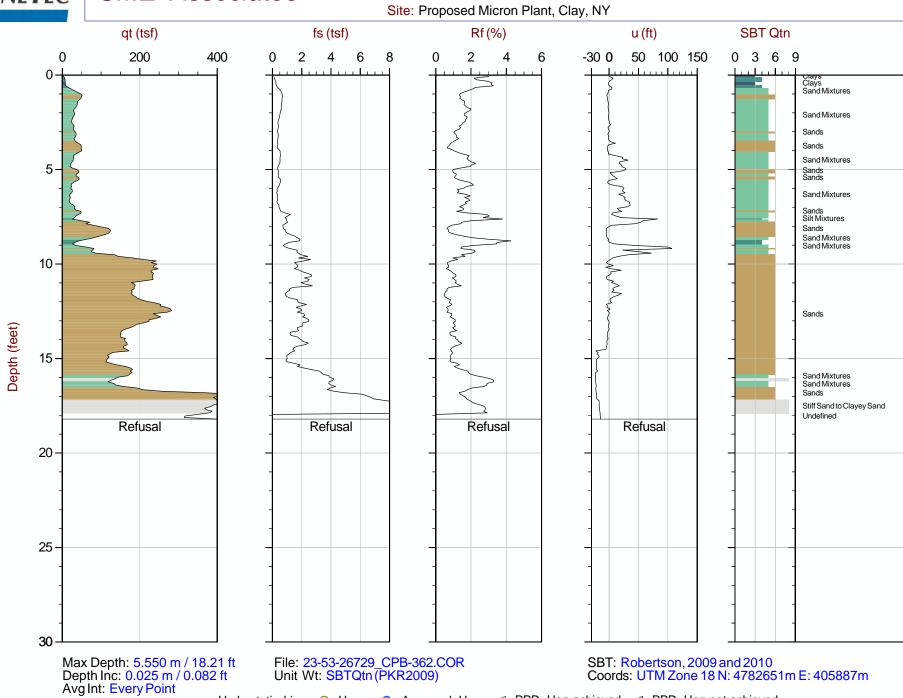
Sounding: CPT23-B-362

Cone: 606:T1500F15U35



CME Associates

Job No: 23-53-26729 Date: 2023-10-28 15:11



Hydrostatic Line 

Ueq 

Assumed Ueq 

PPD, Ueq achieved 

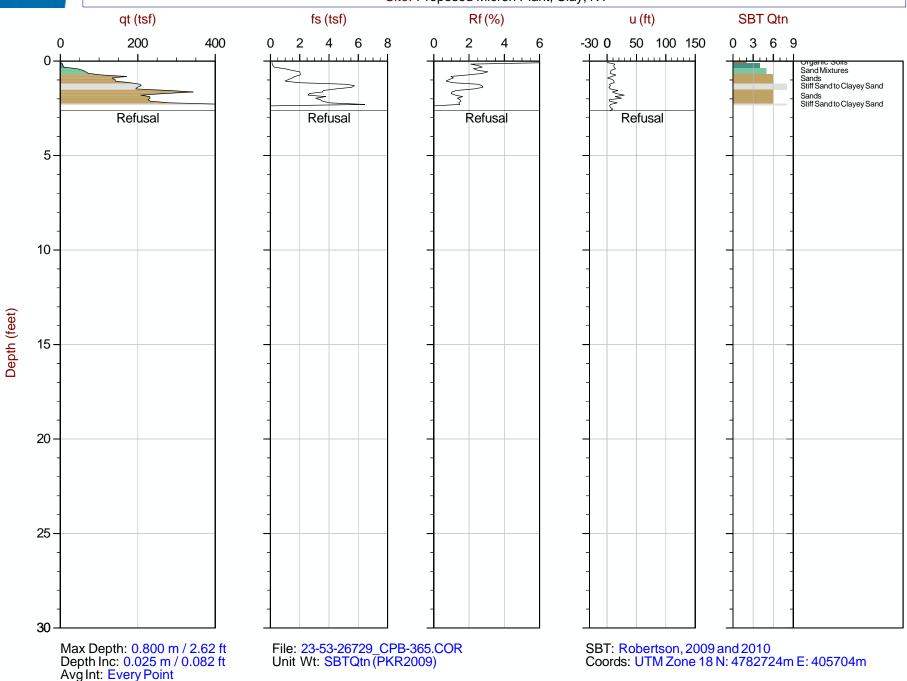
PPD, Ueq not achieved 

PPD, Ue



 Job No: 23-53-26729
 Sounding: CPT23-B-365

 Date: 2023-10-28 14:34
 Cone: 606:T1500F15U35



Sounding: CPT23-B-365A

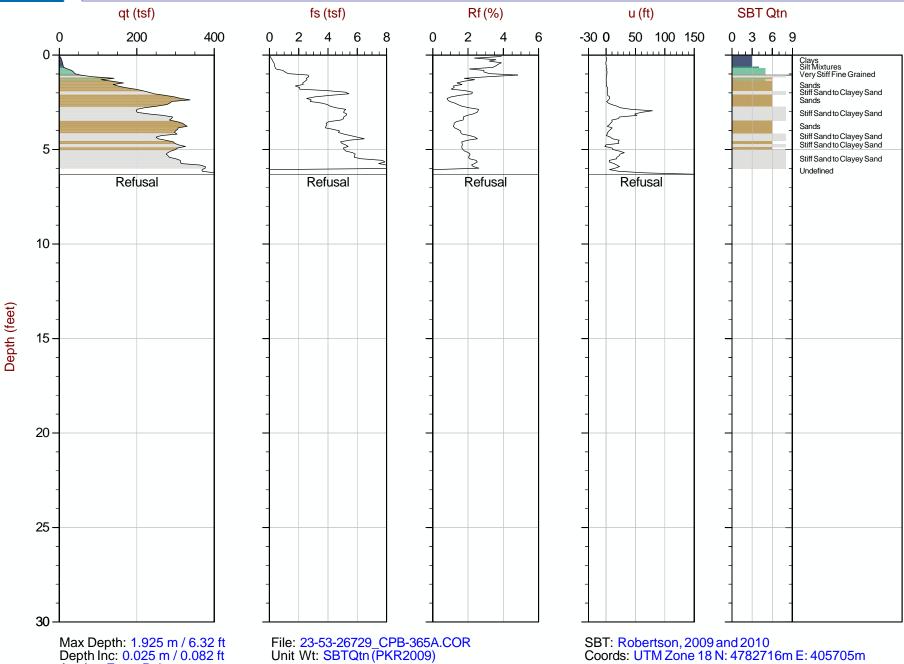
Avg Int: Every Point



# CME Associates

Job No: 23-53-26729 Date: 2023-10-28 14:44

Cone: 606:T1500F15U35

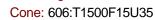


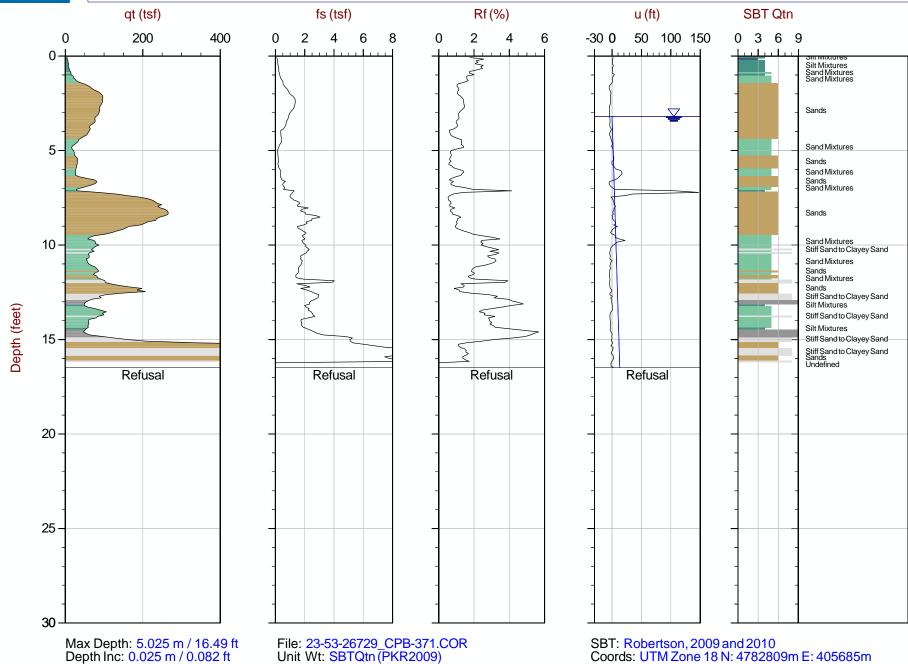


Job No: 23-53-26729 Date: 2023-10-28 12:53

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-371





Max Depth: 5.025 m / 16.49 ft Depth Inc: 0.025 m / 0.082 ftAvg Int: Every Point

File: 23-53-26729\_CPB-371.COR Unit Wt: SBTQtn (PKR2009)

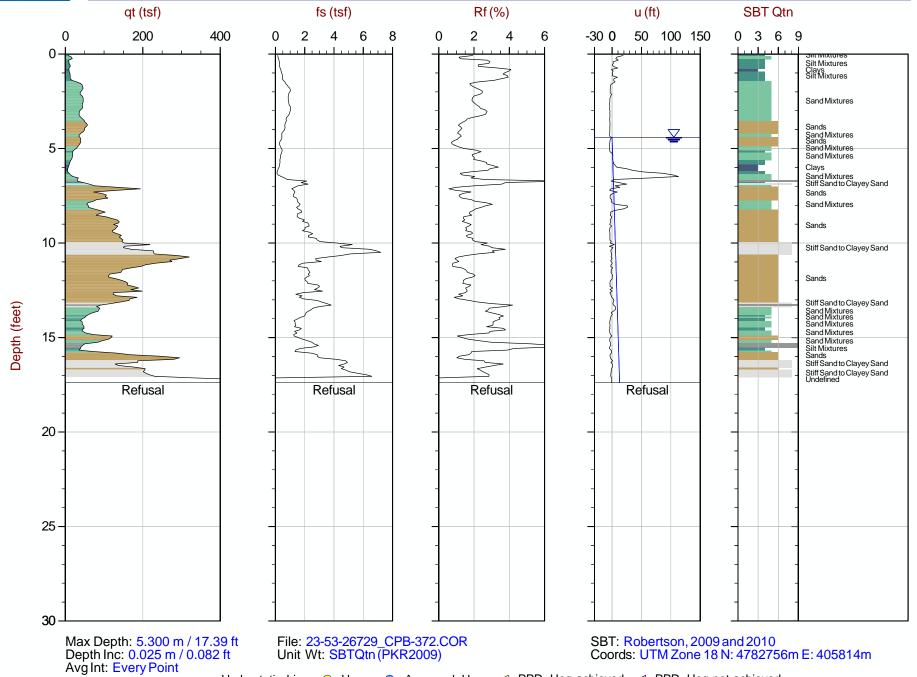
Sounding: CPT23-B-372



# CME Associates

Job No: 23-53-26729

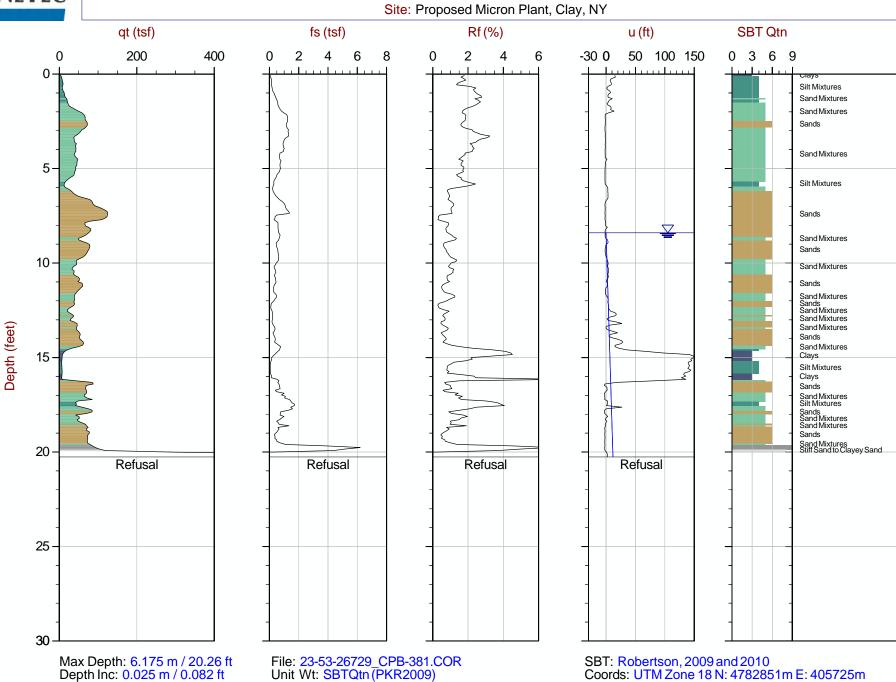
Cone: 606:T1500F15U35 Date: 2023-10-28 13:25





Job No: 23-53-26729 Date: 2023-10-28 12:15

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

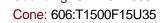
SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4782851m E: 405725m

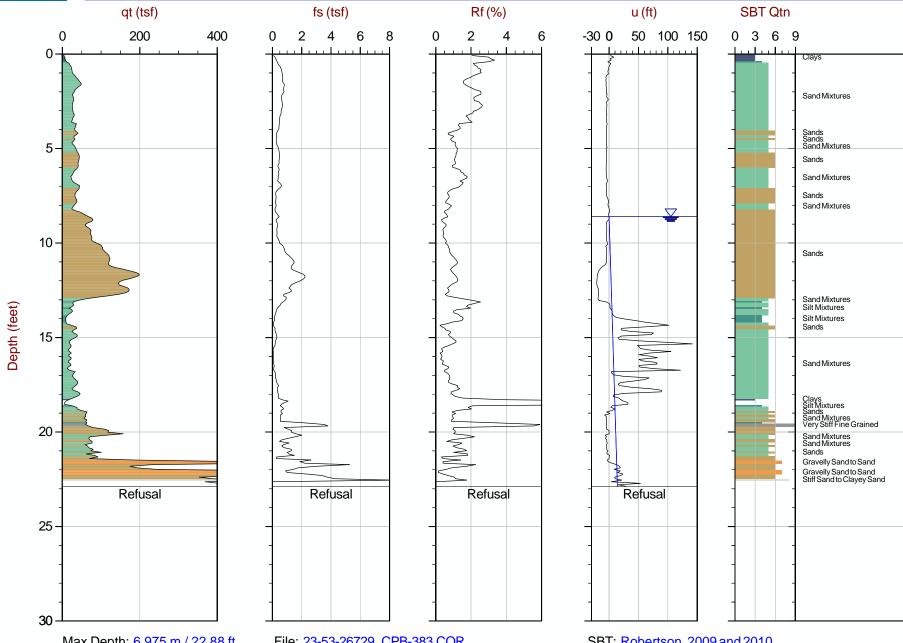


Job No: 23-53-26729 Date: 2023-10-28 13:56

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-383





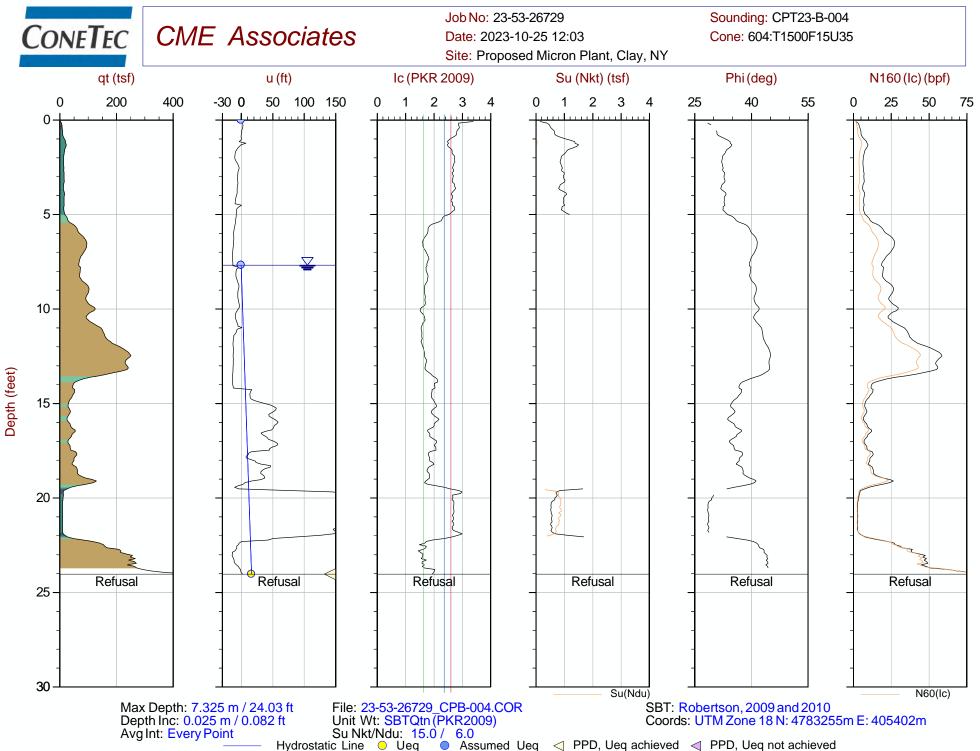
Max Depth: 6.975 m / 22.88 ft Depth Inc: 0.025 m / 0.082 ft Avg Int: Every Point

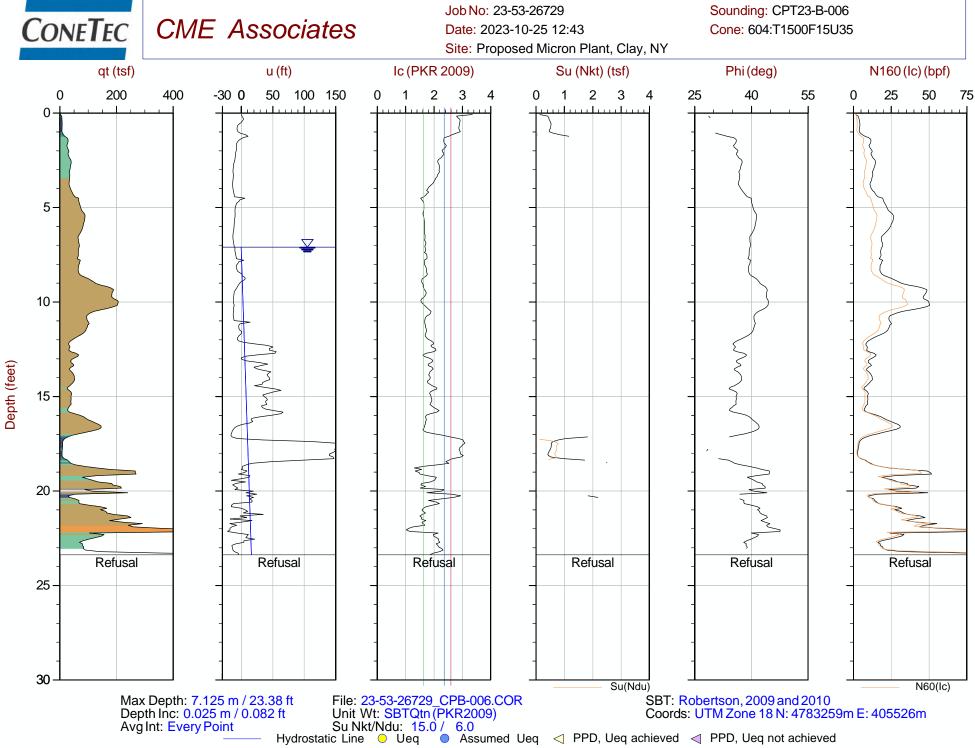
File: 23-53-26729\_CPB-383.COR Unit Wt: SBTQtn (PKR2009)

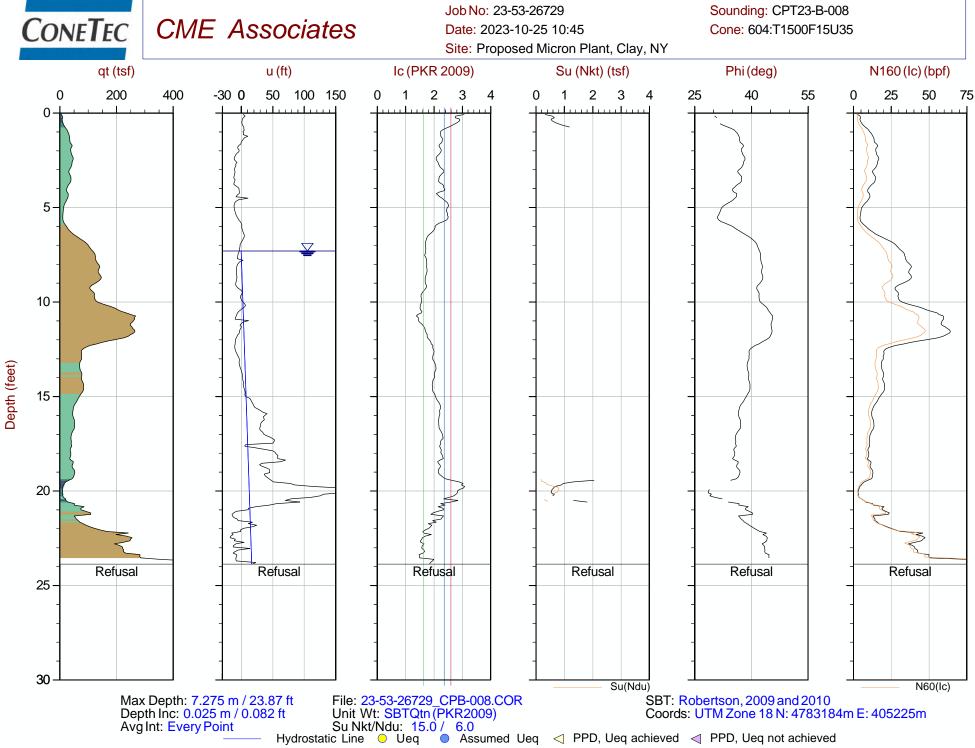
SBT: Robertson, 2009 and 2010 Coords: UTM Zone 18 N: 4782758m E: 405878m

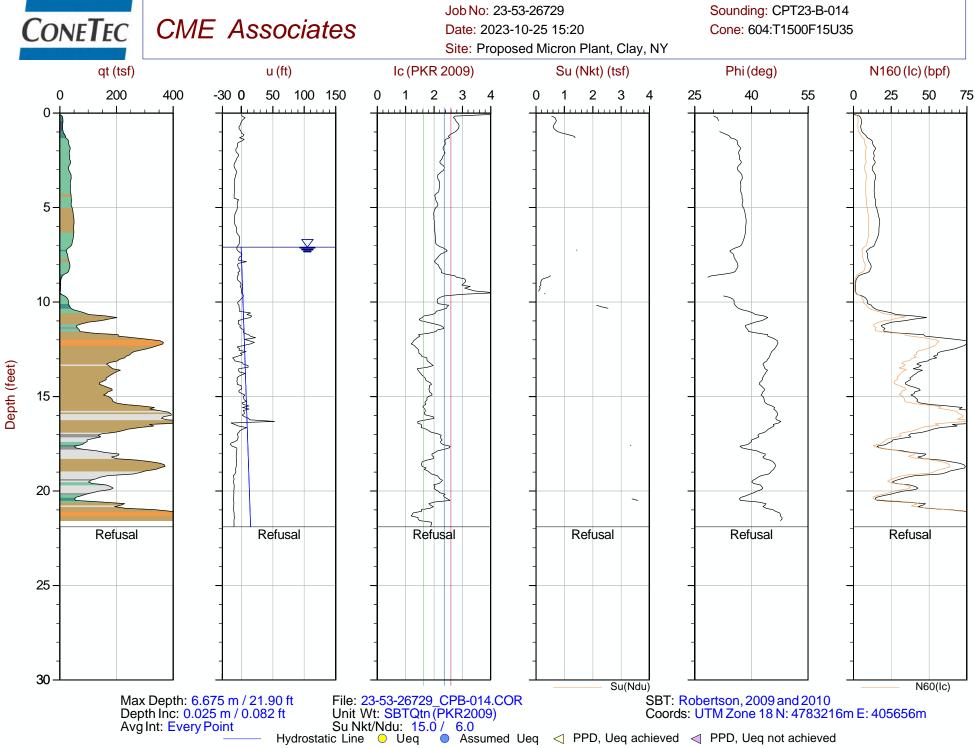
#### **Advanced Cone Penetration Test Plots**

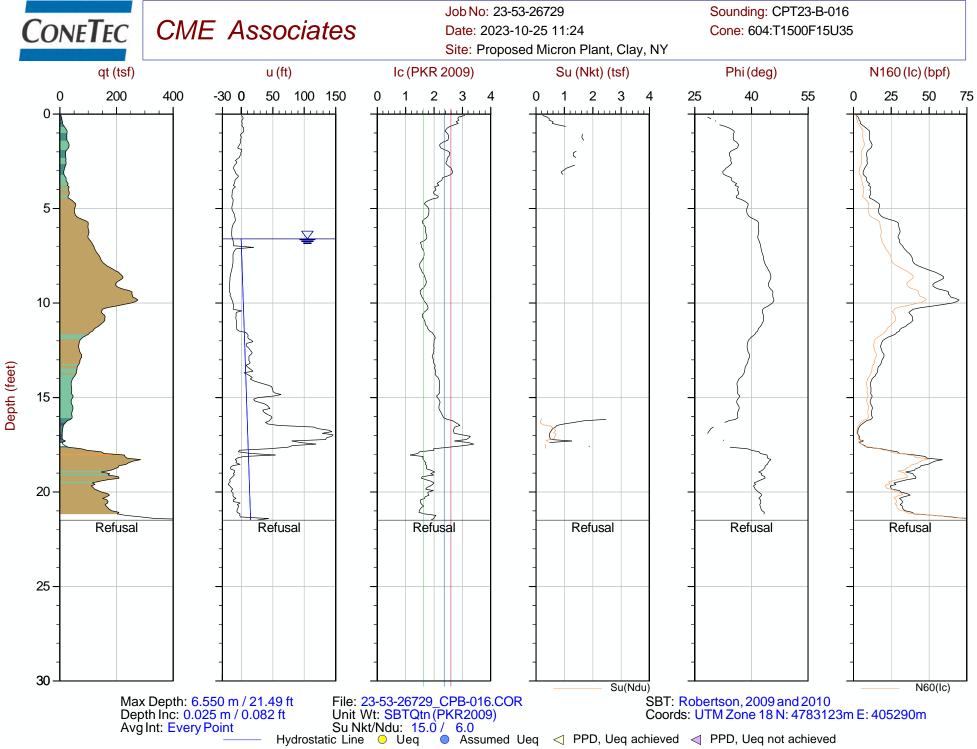


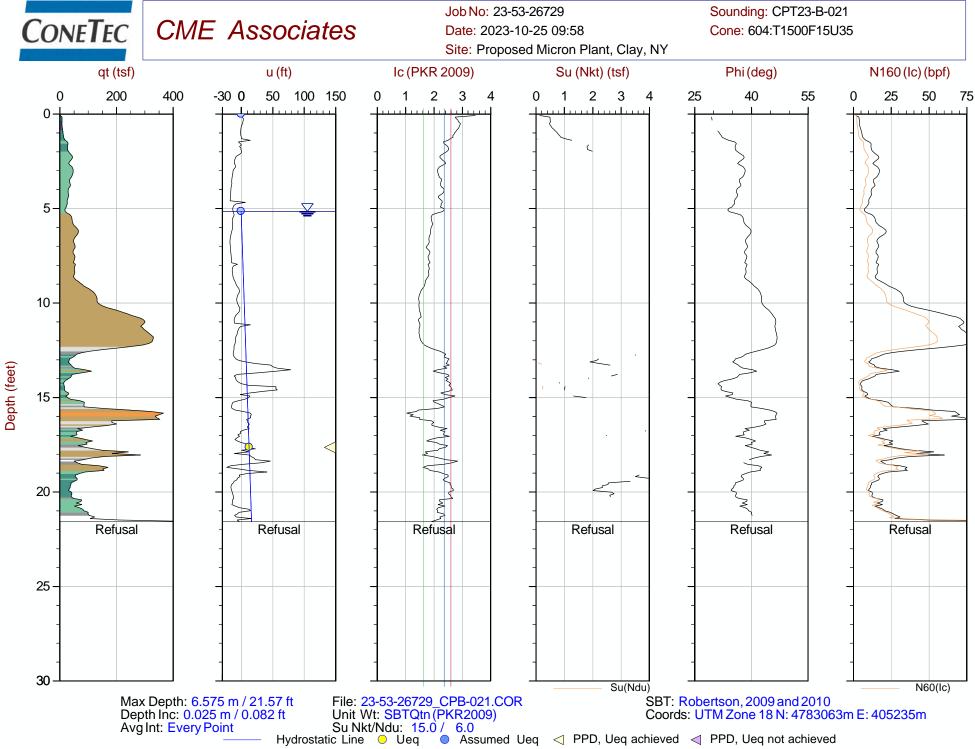


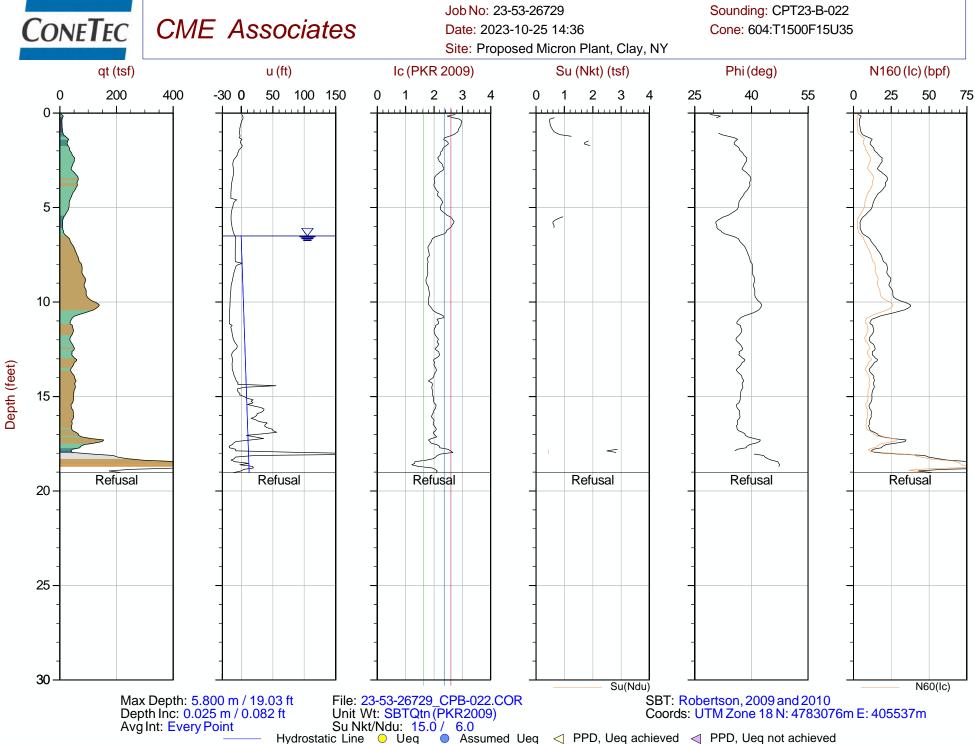


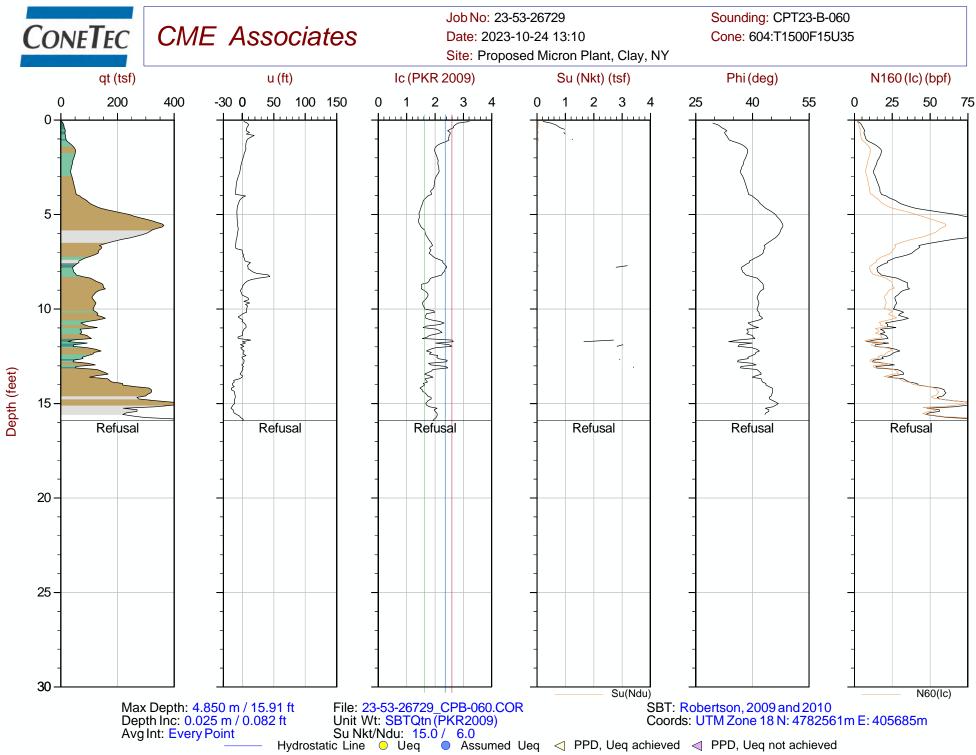


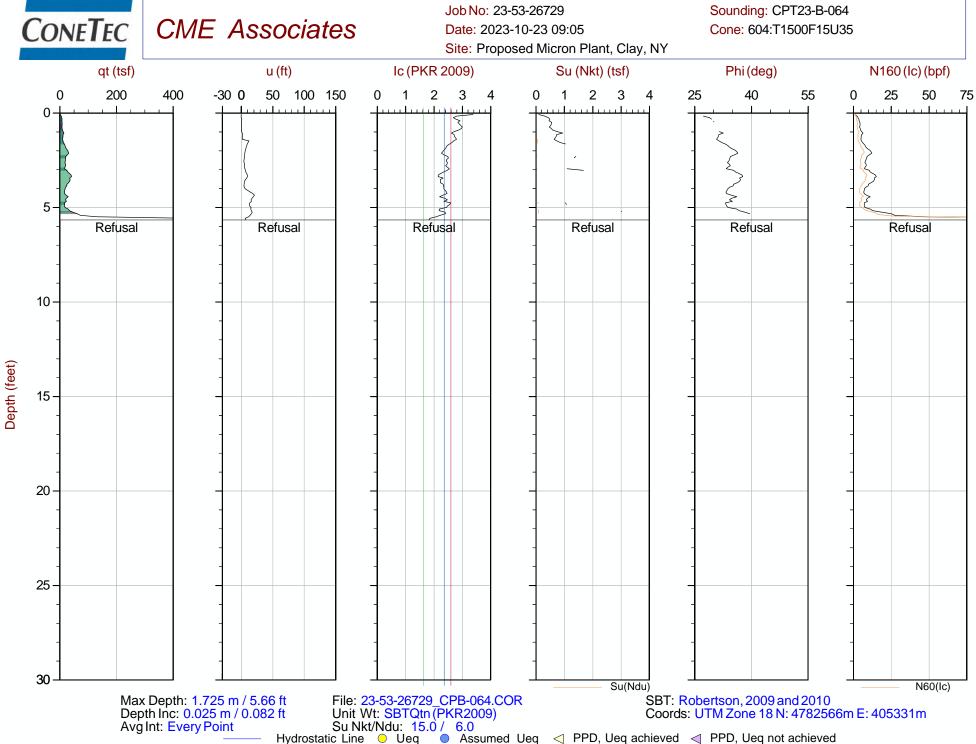


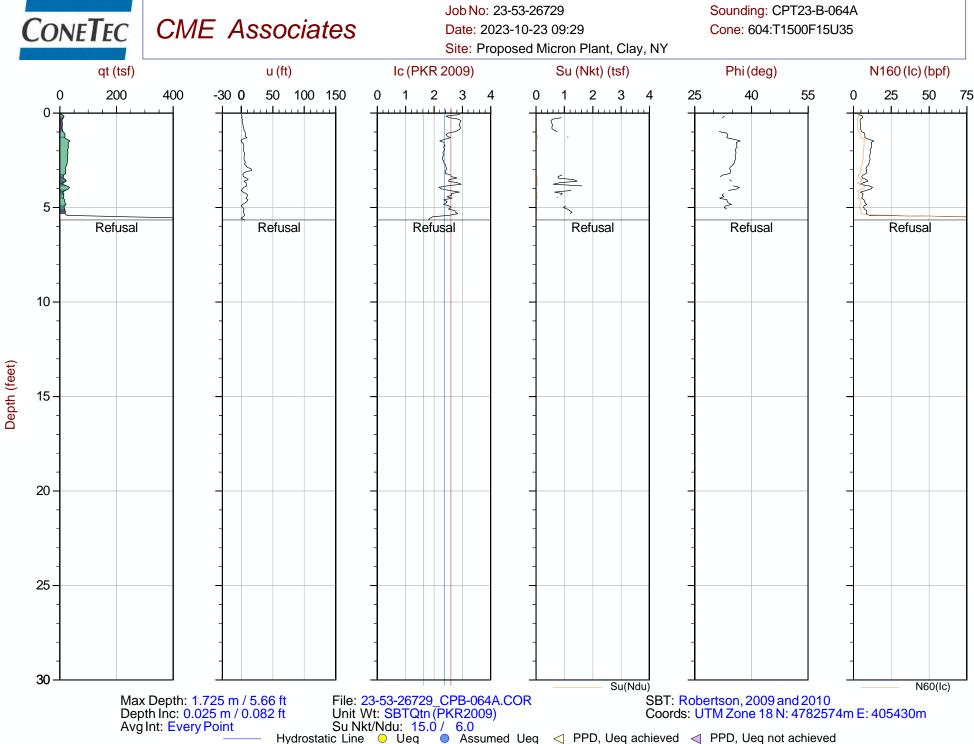


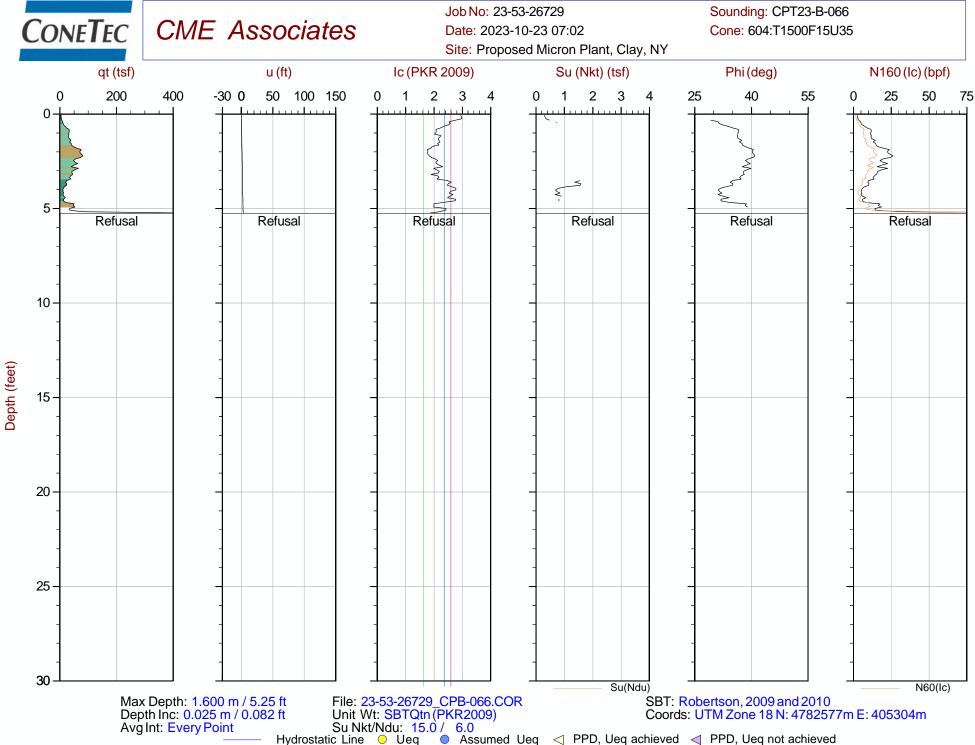


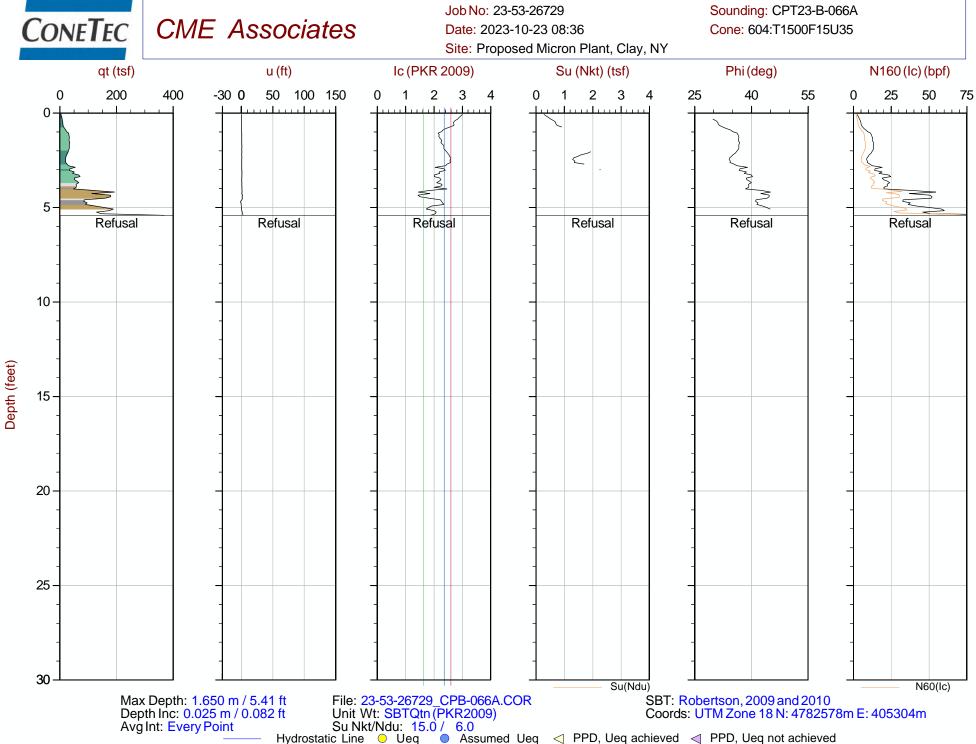


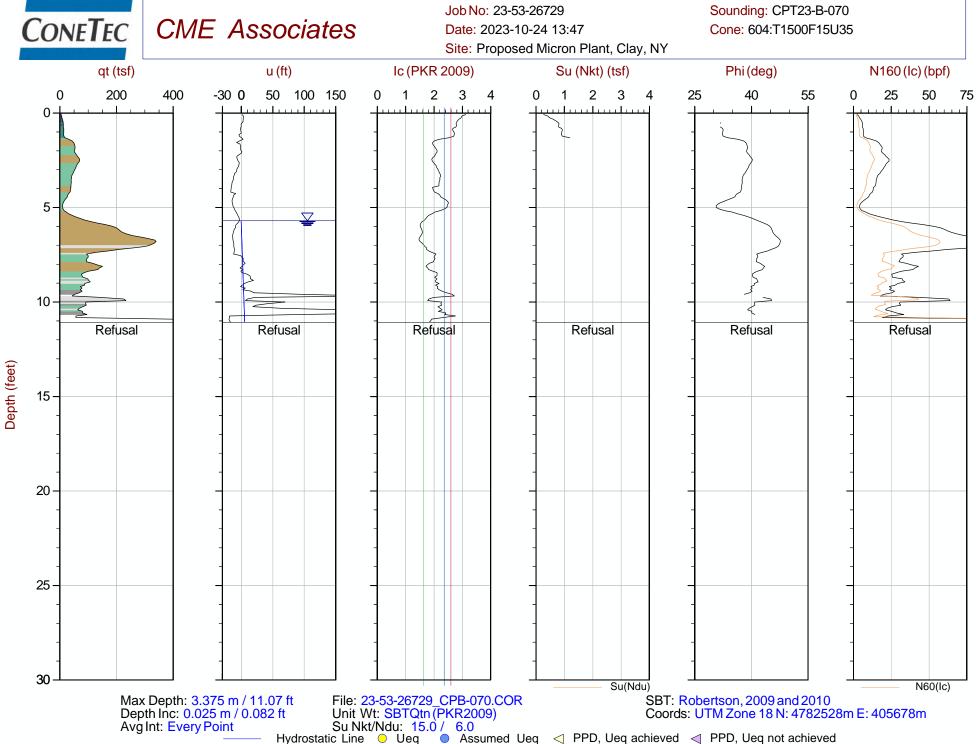


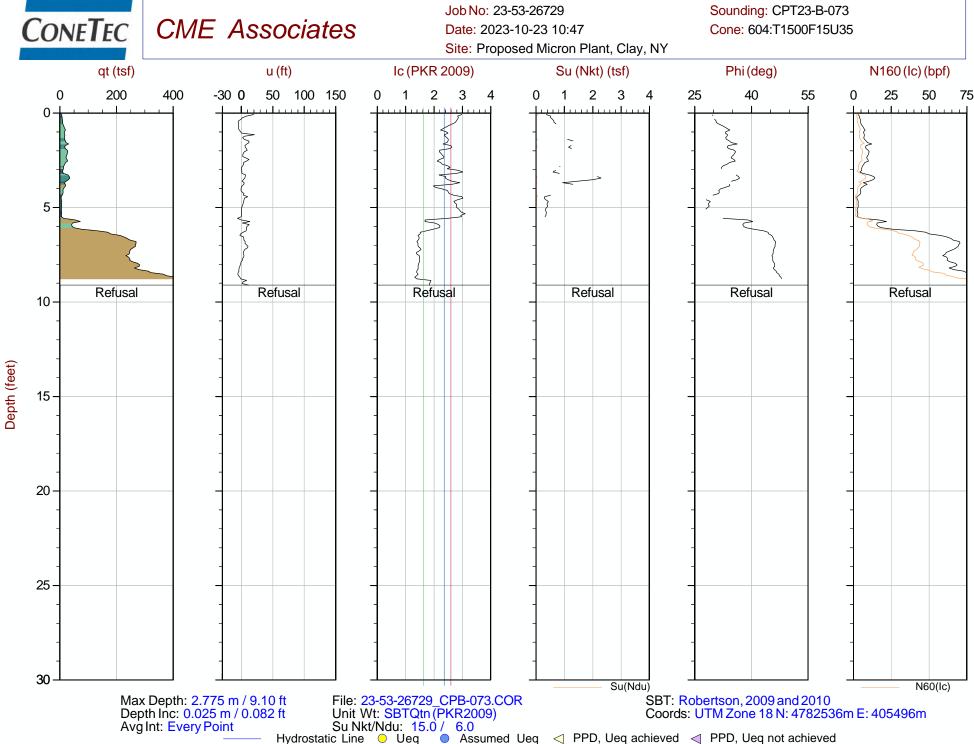


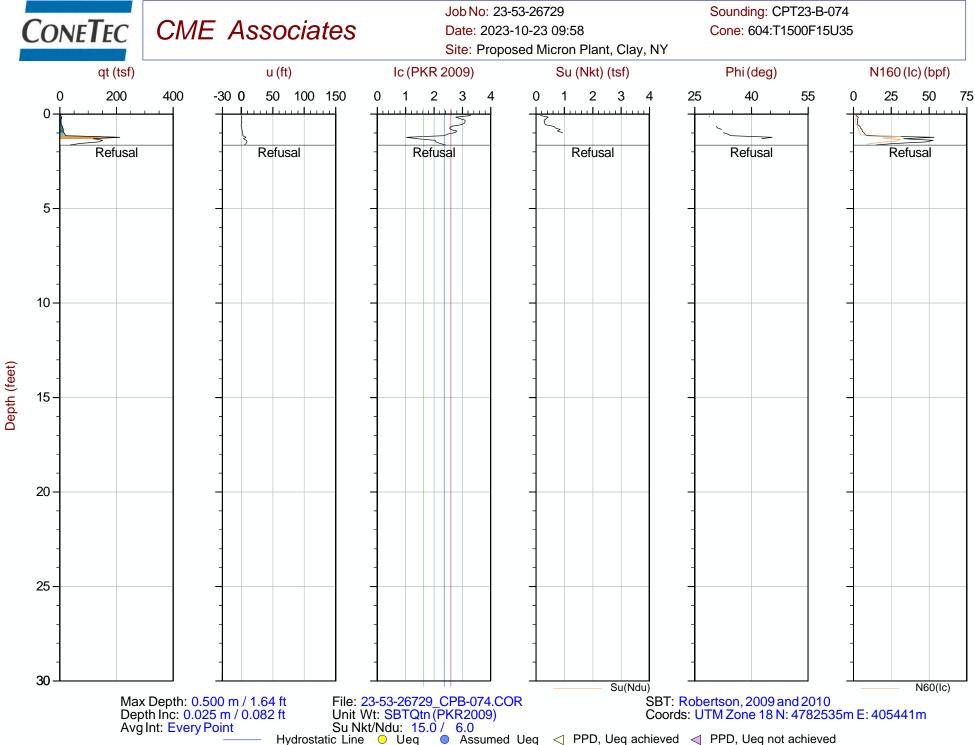


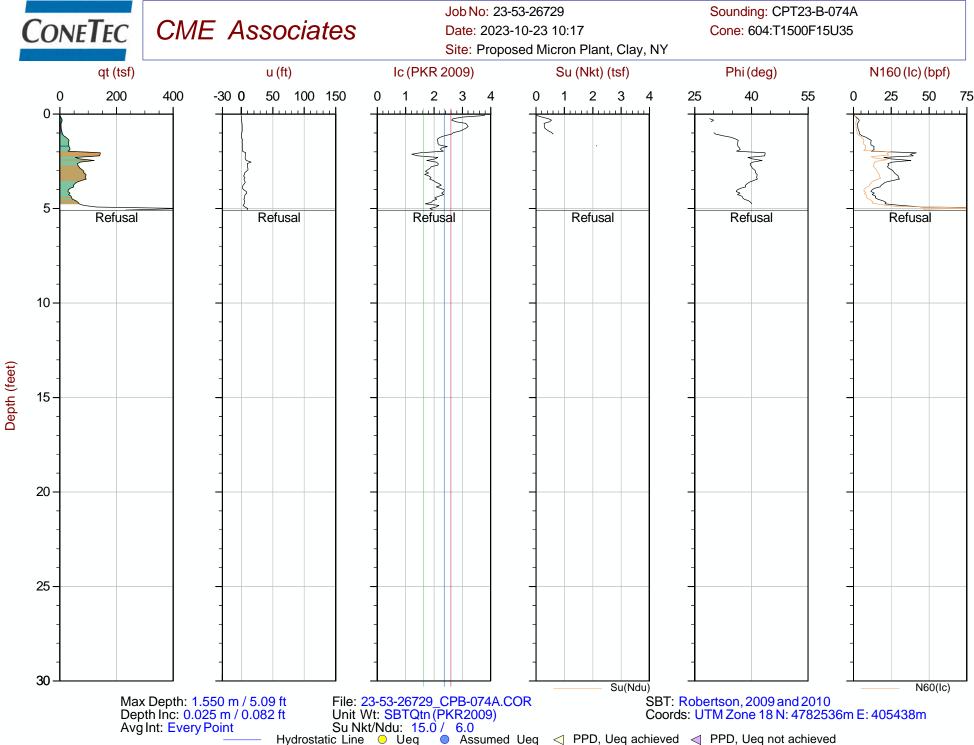


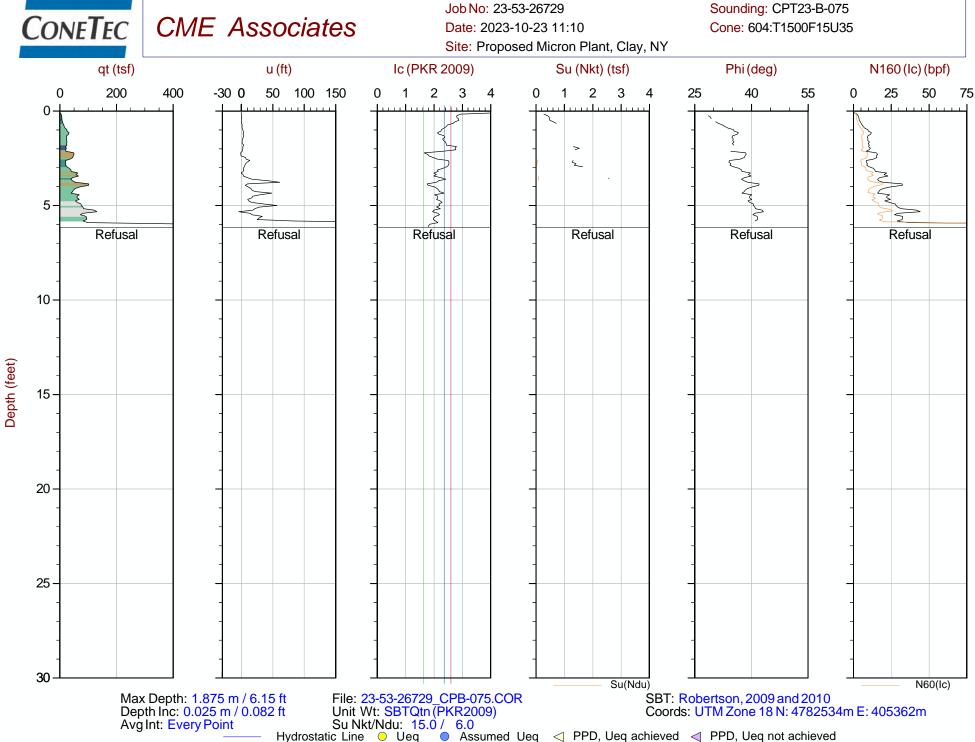


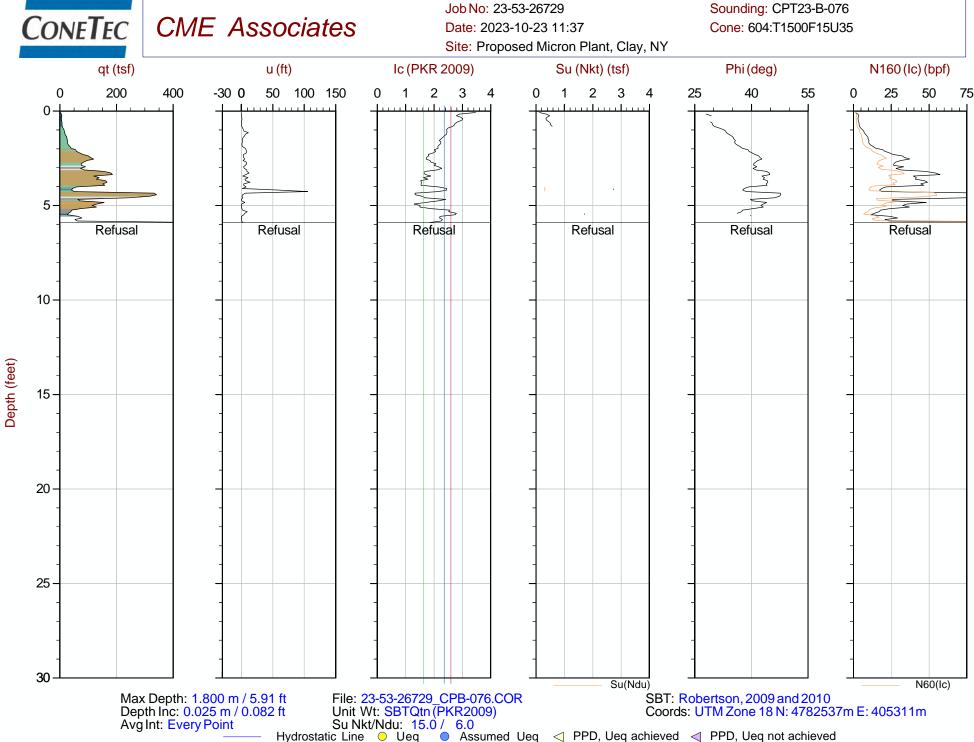


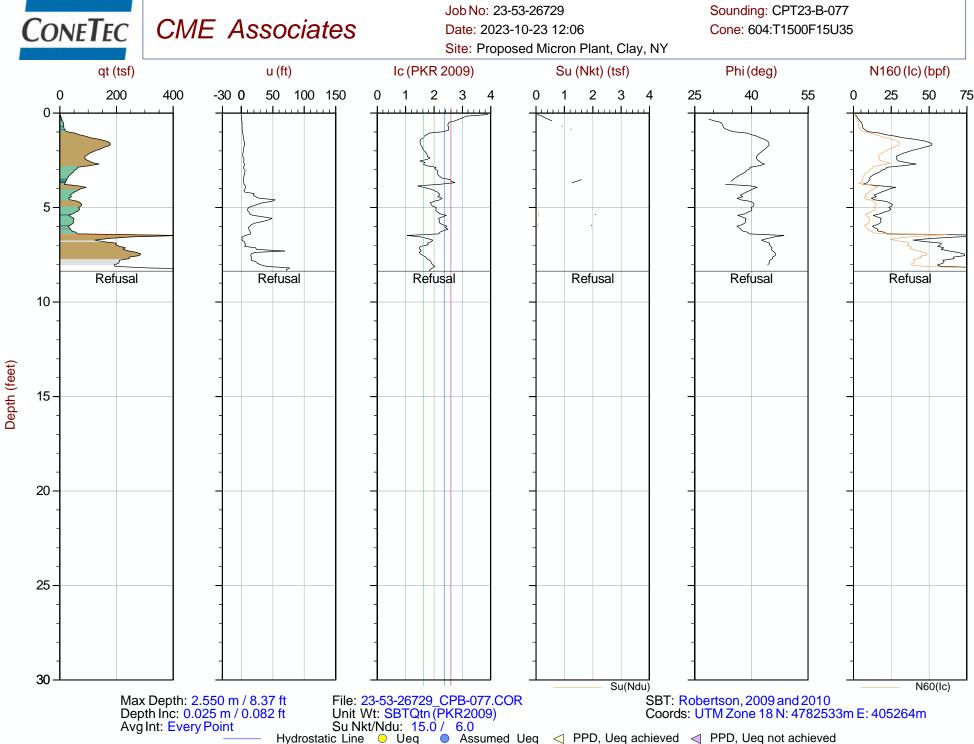


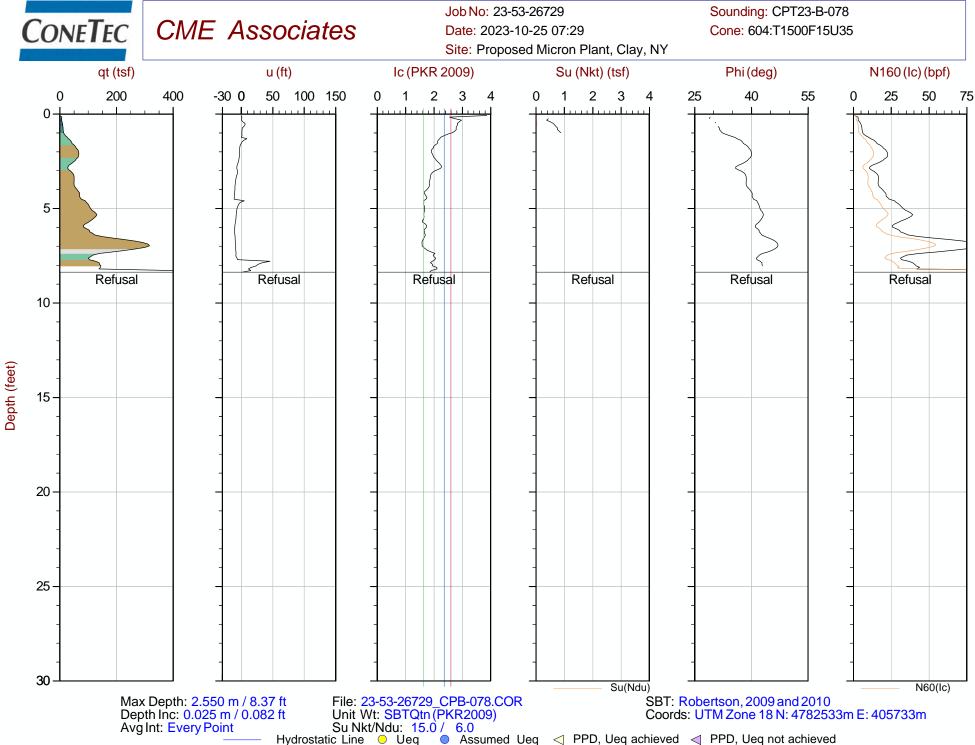


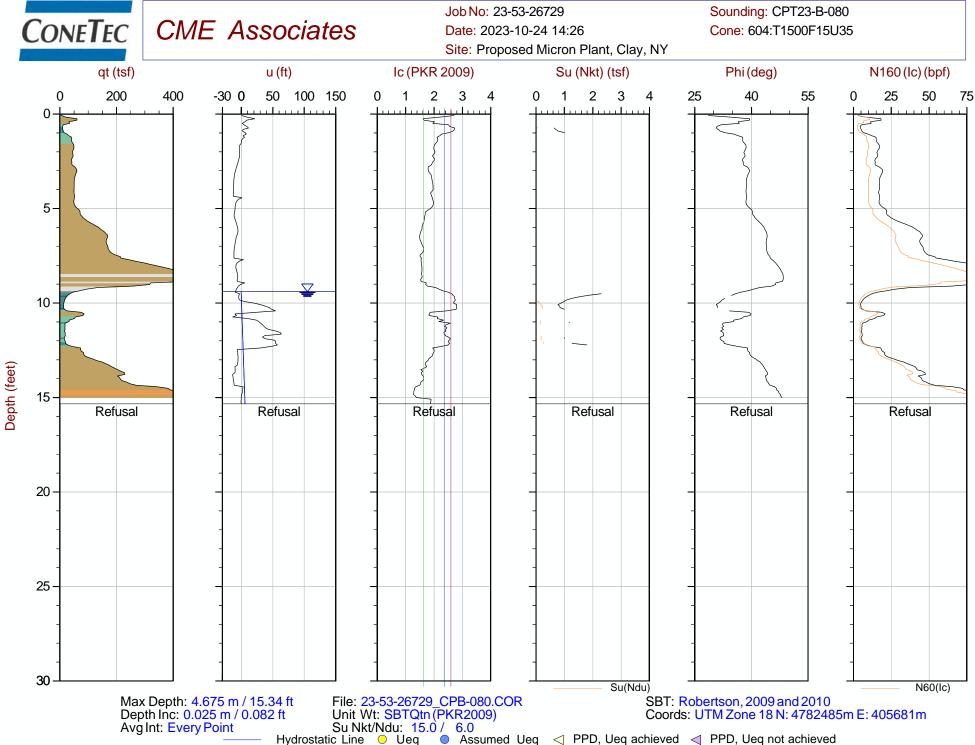


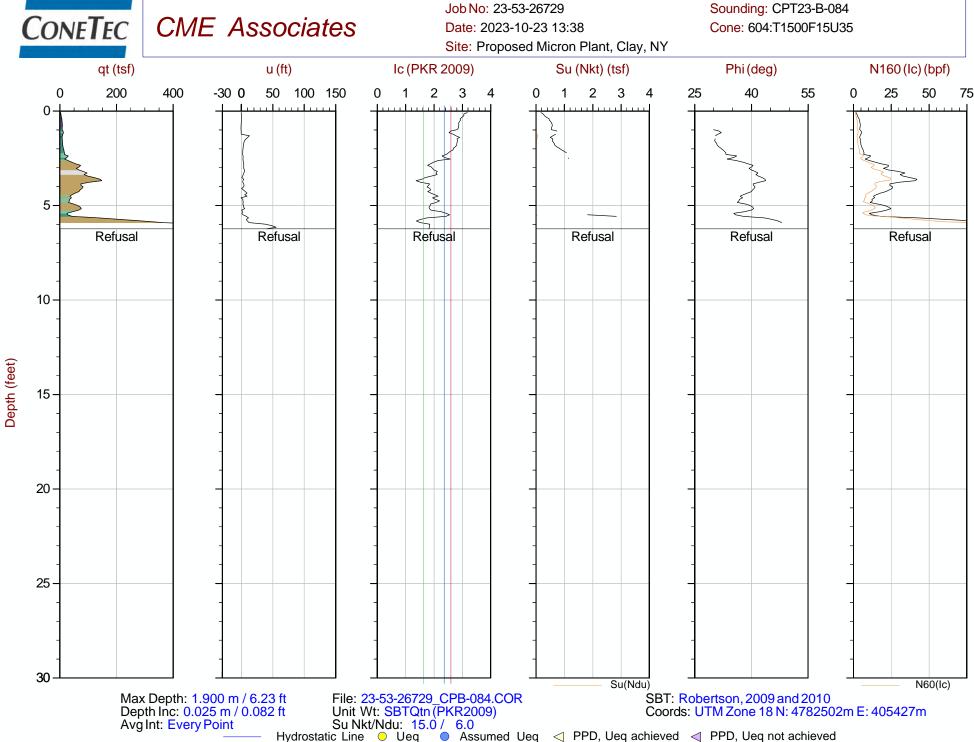


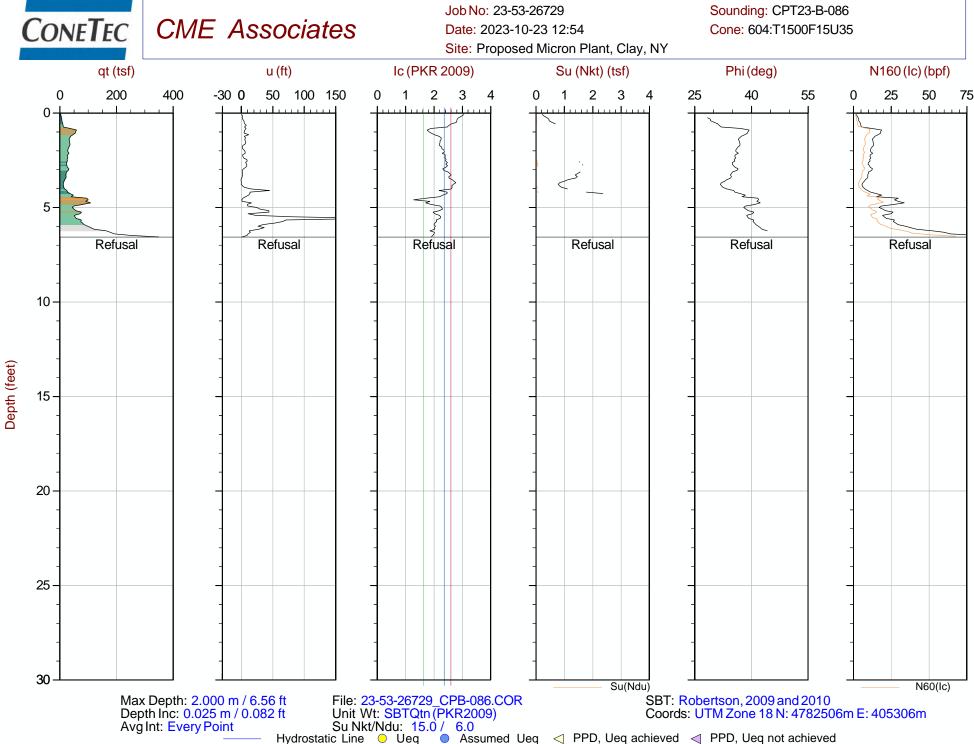


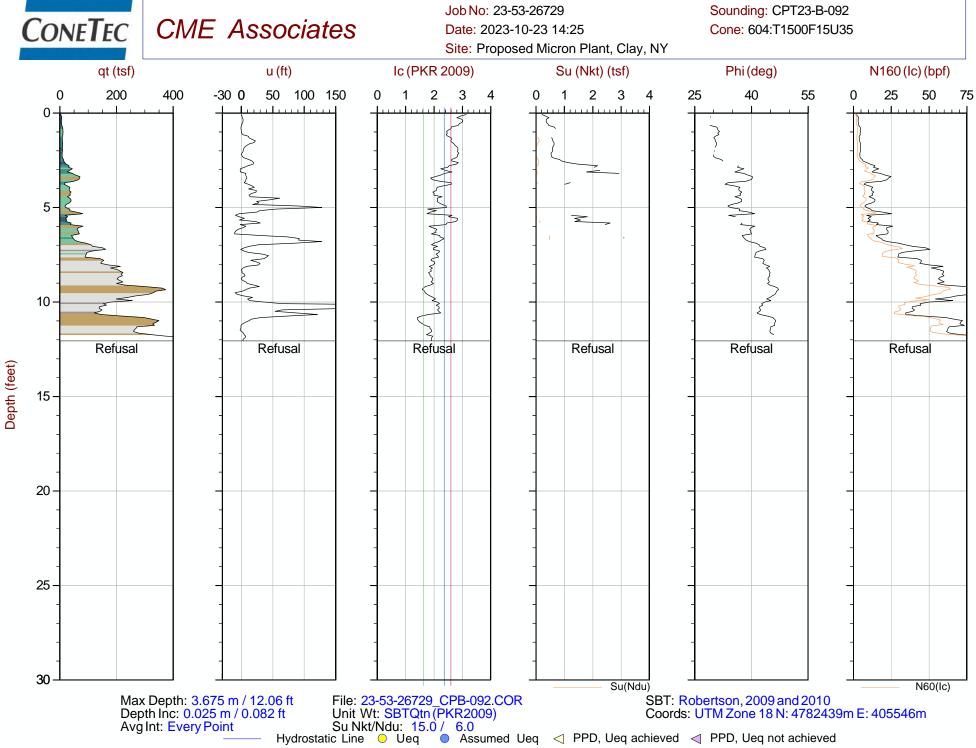


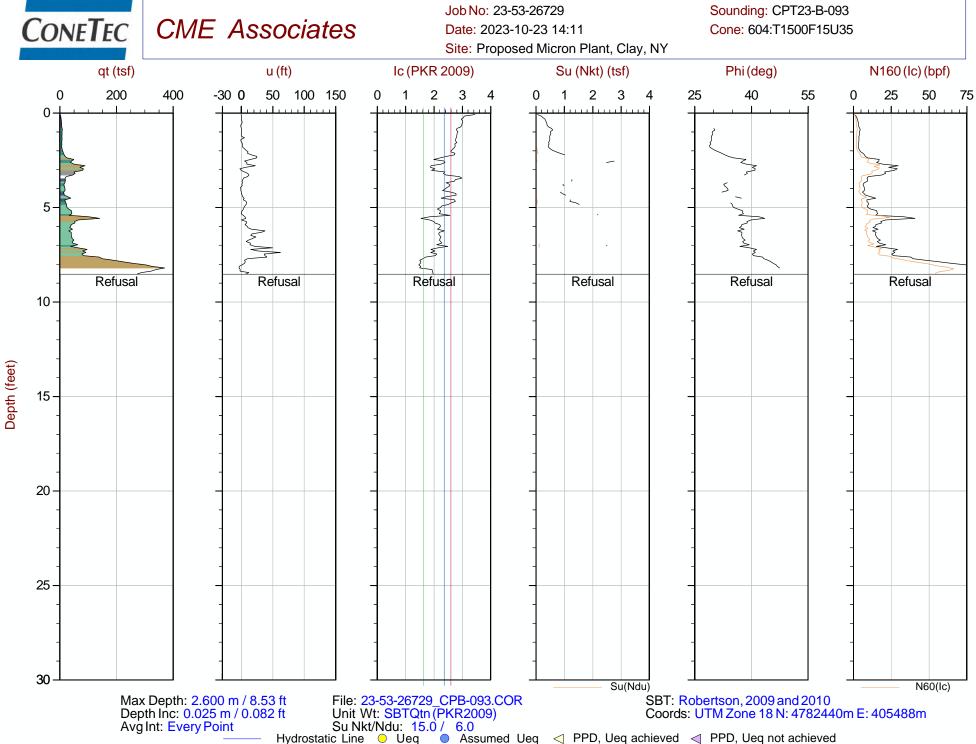


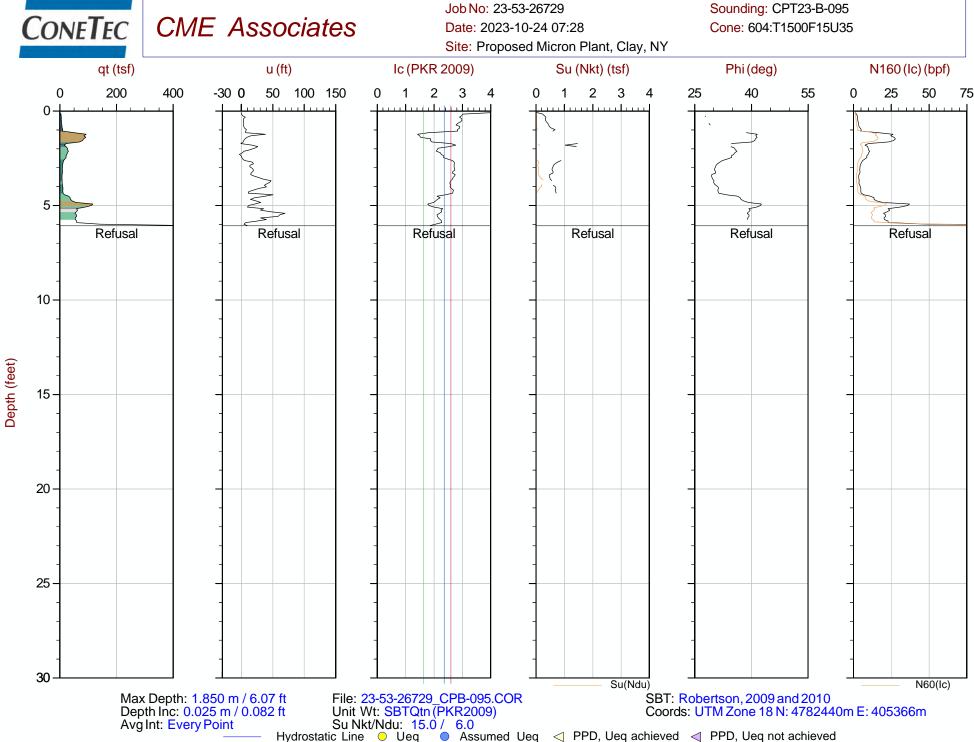


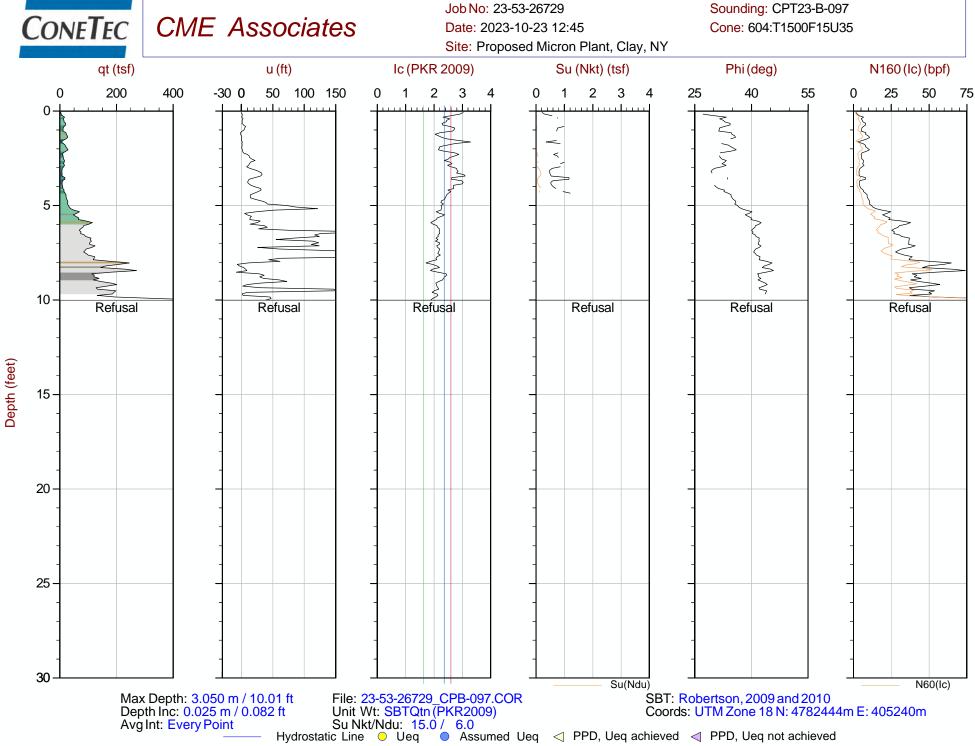


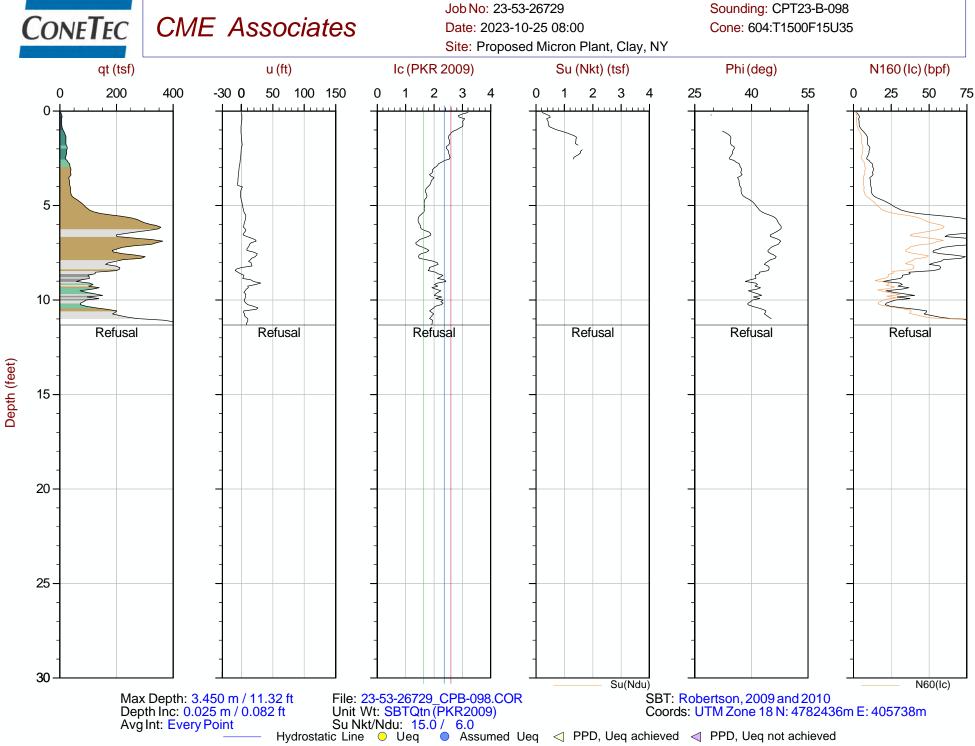


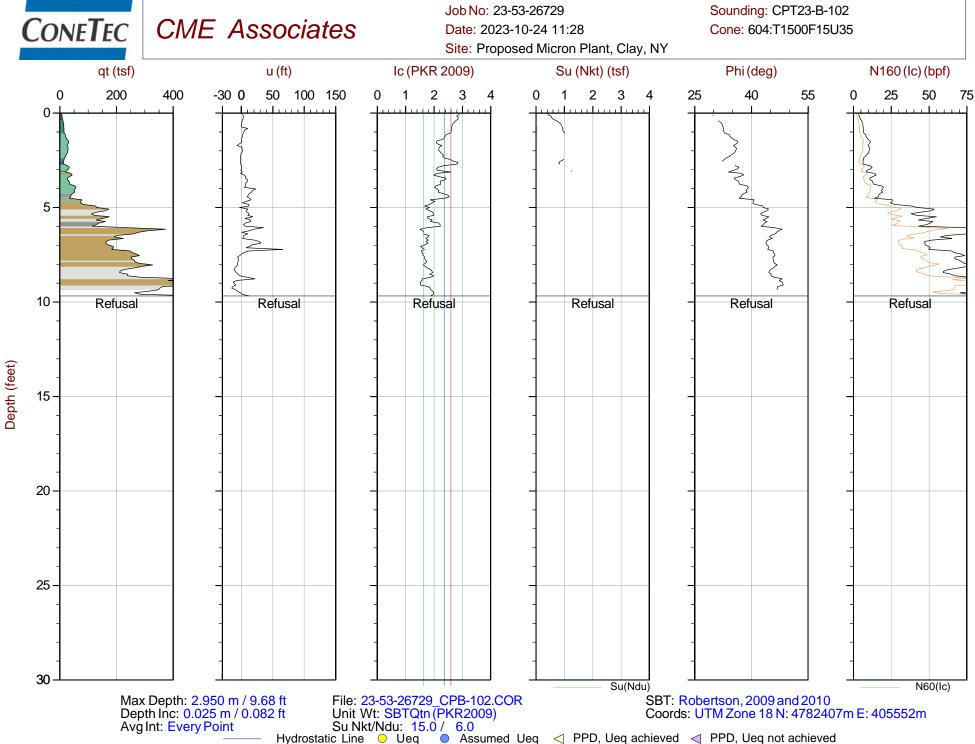


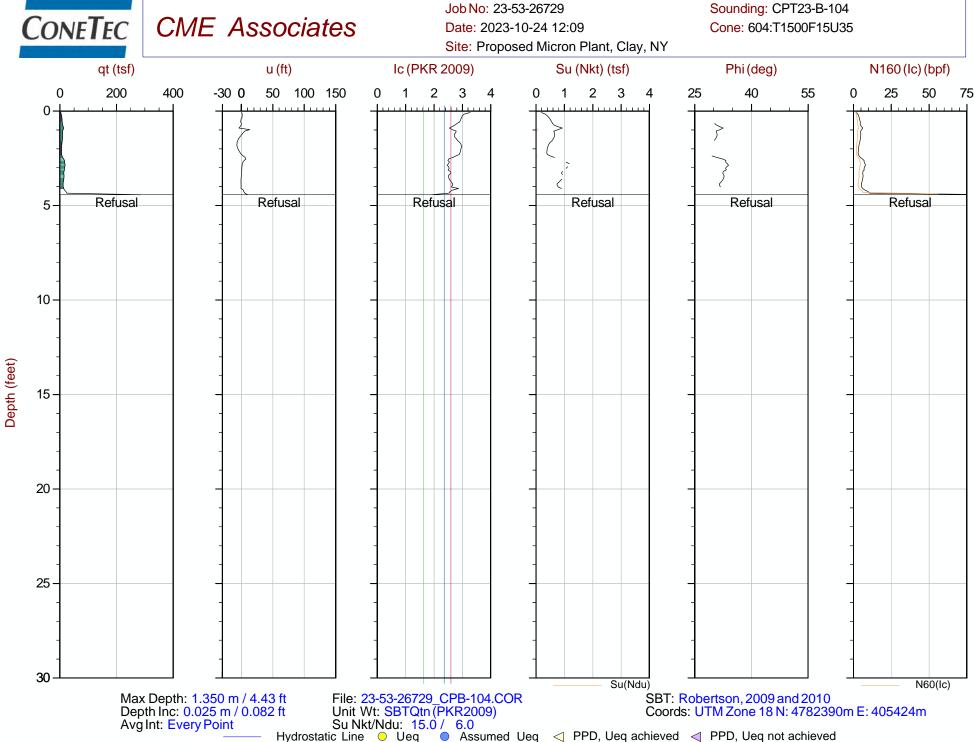


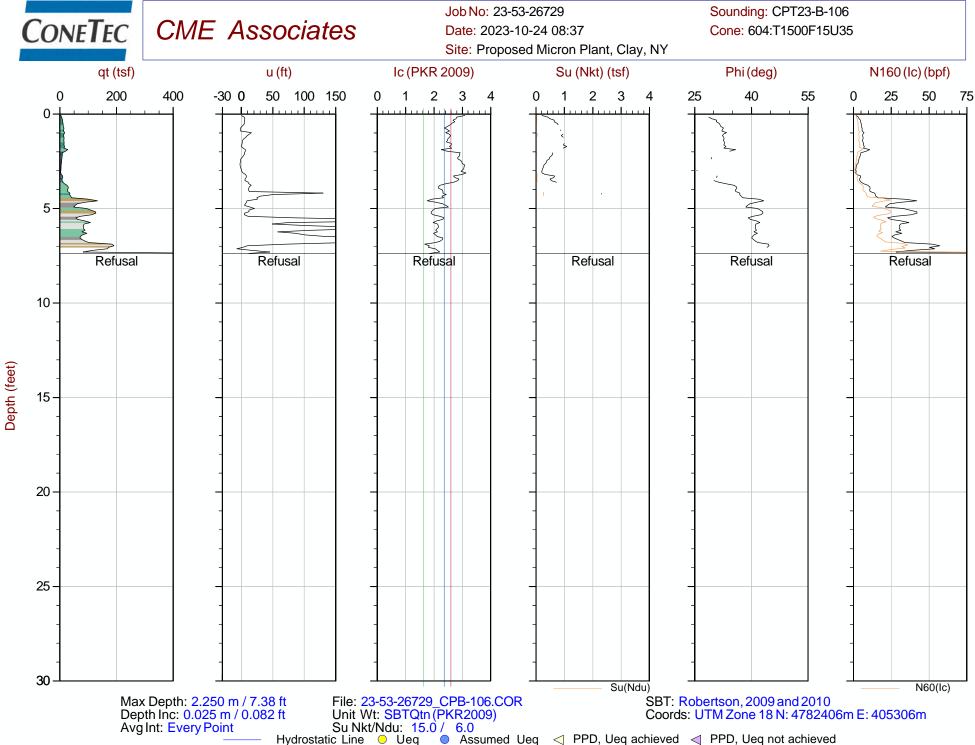




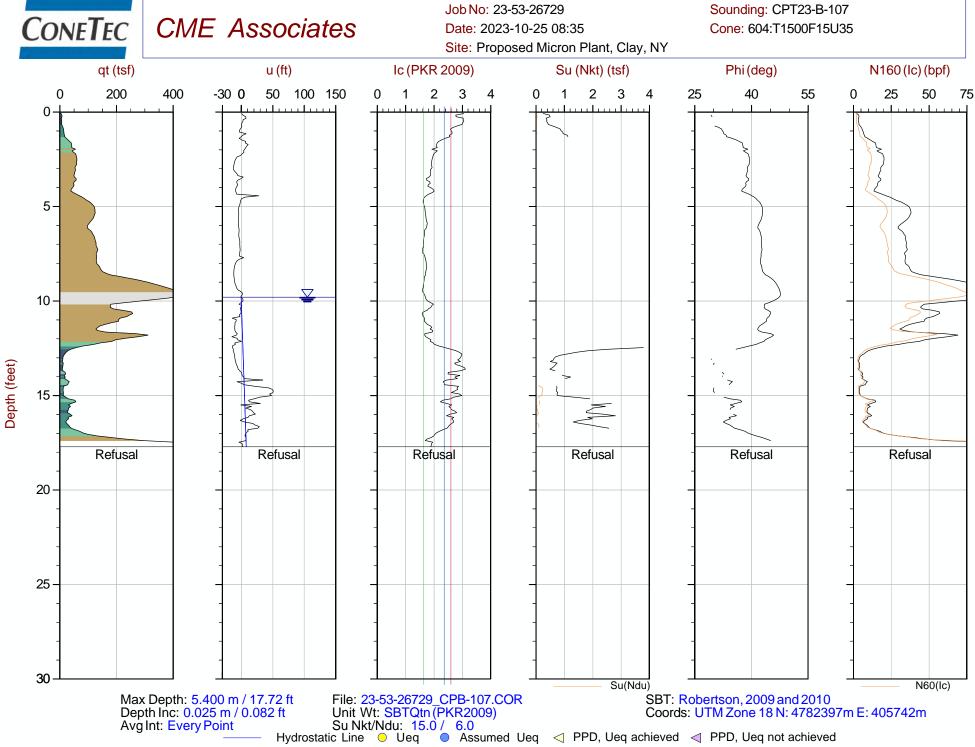


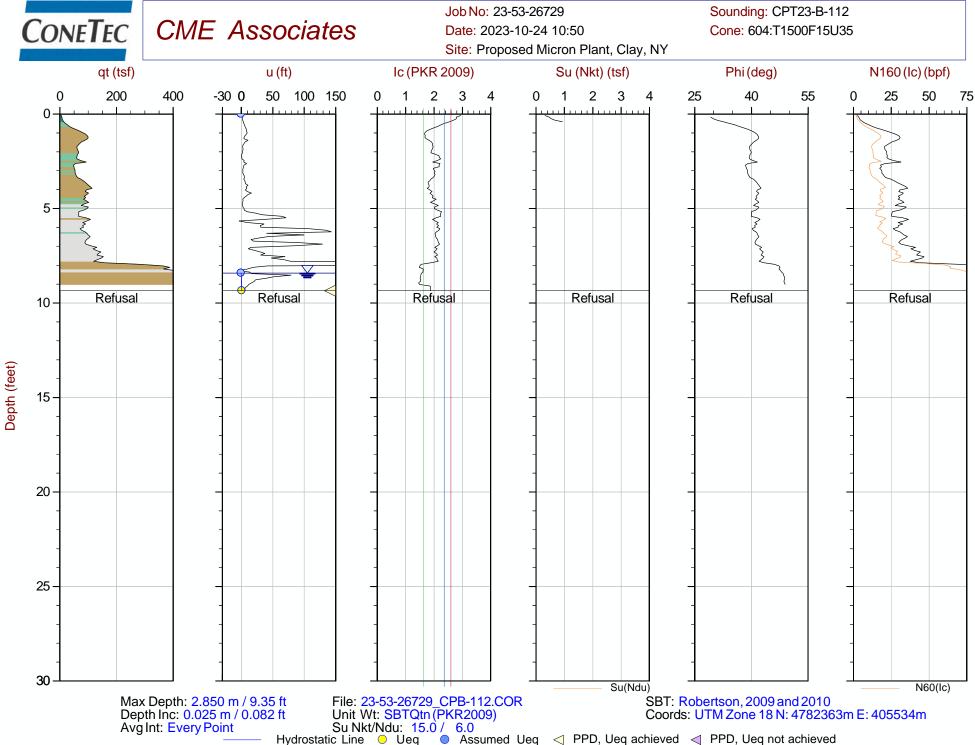


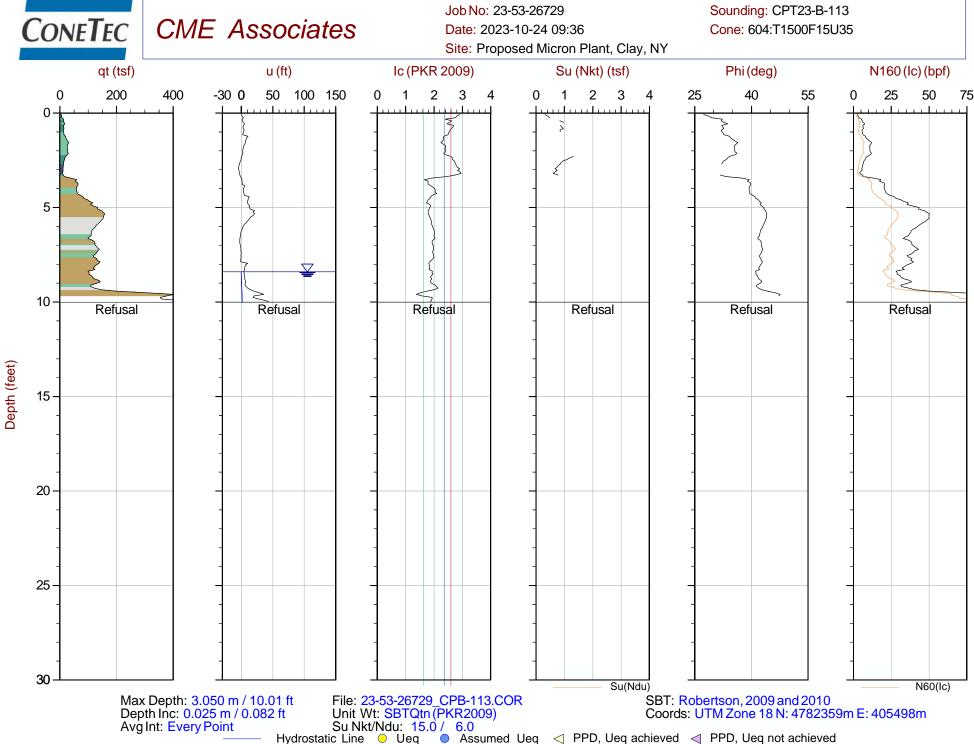


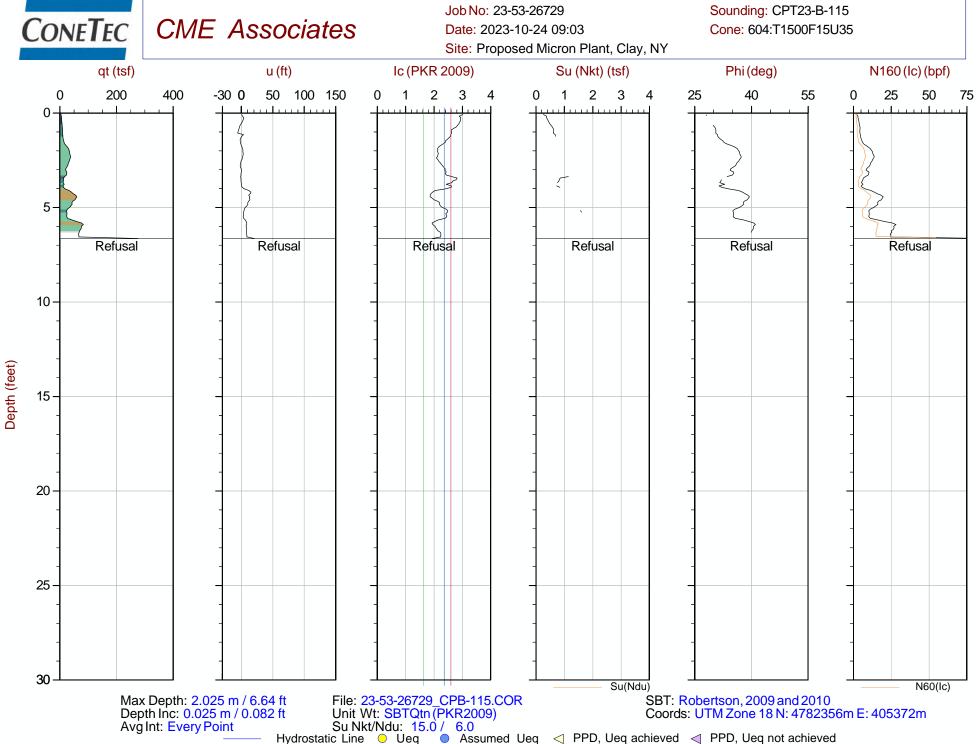


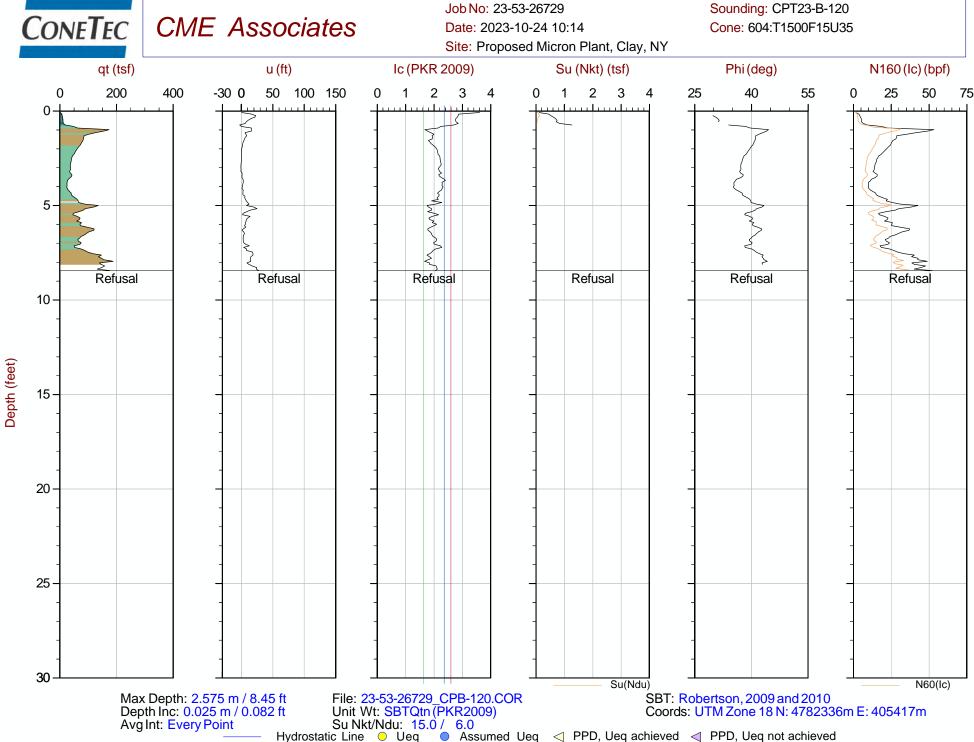
Page 392 of 536

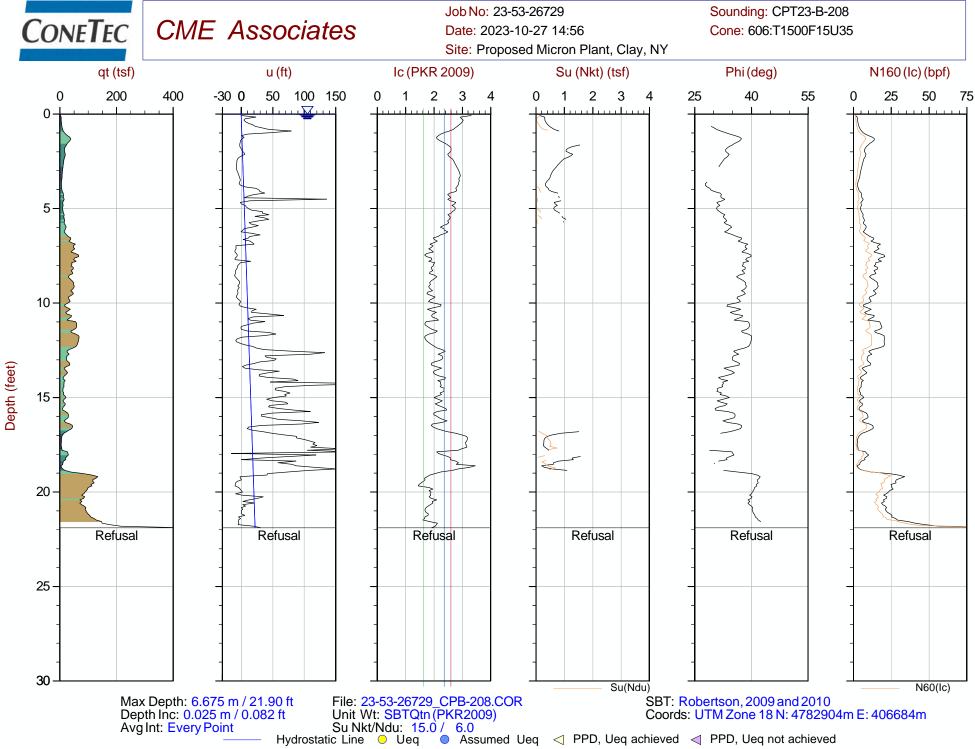




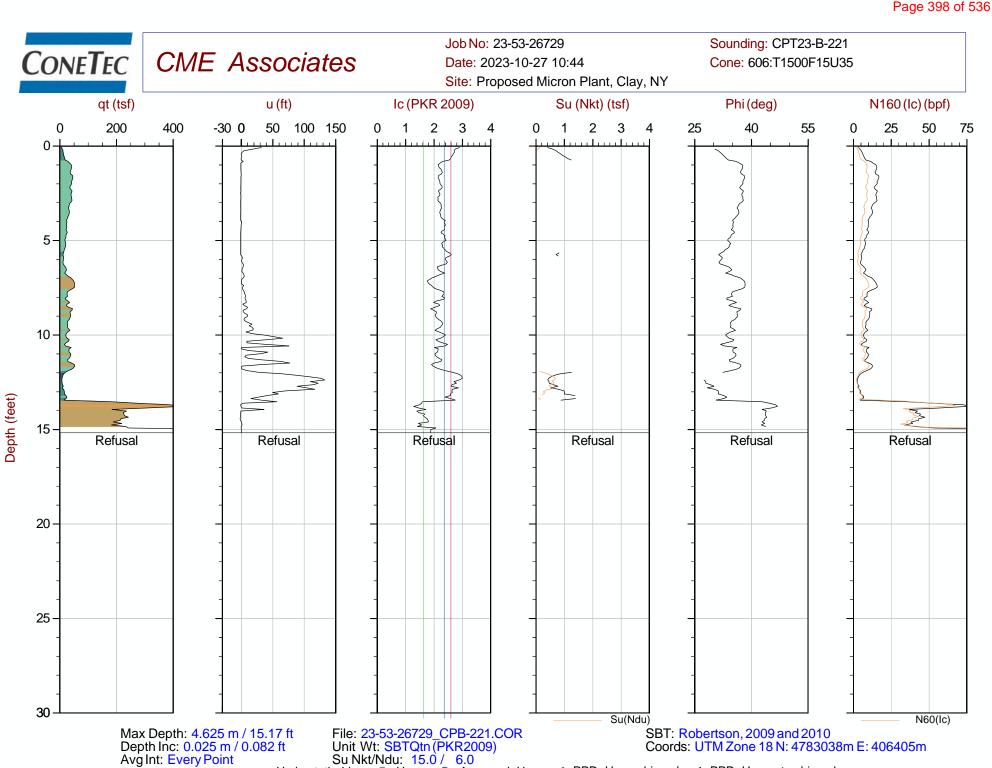


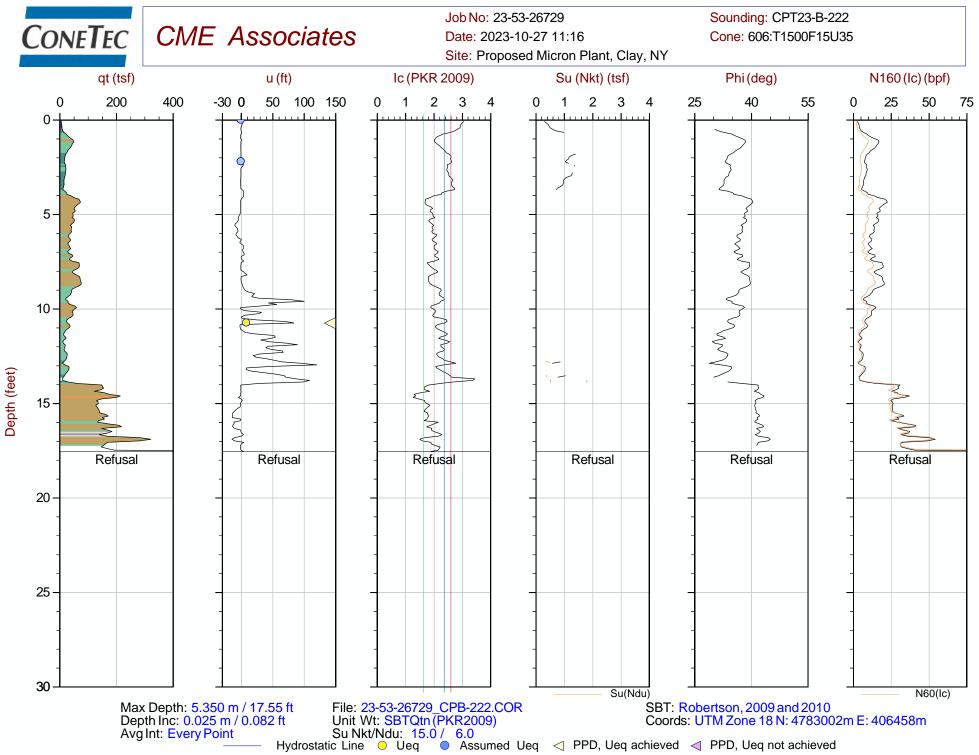


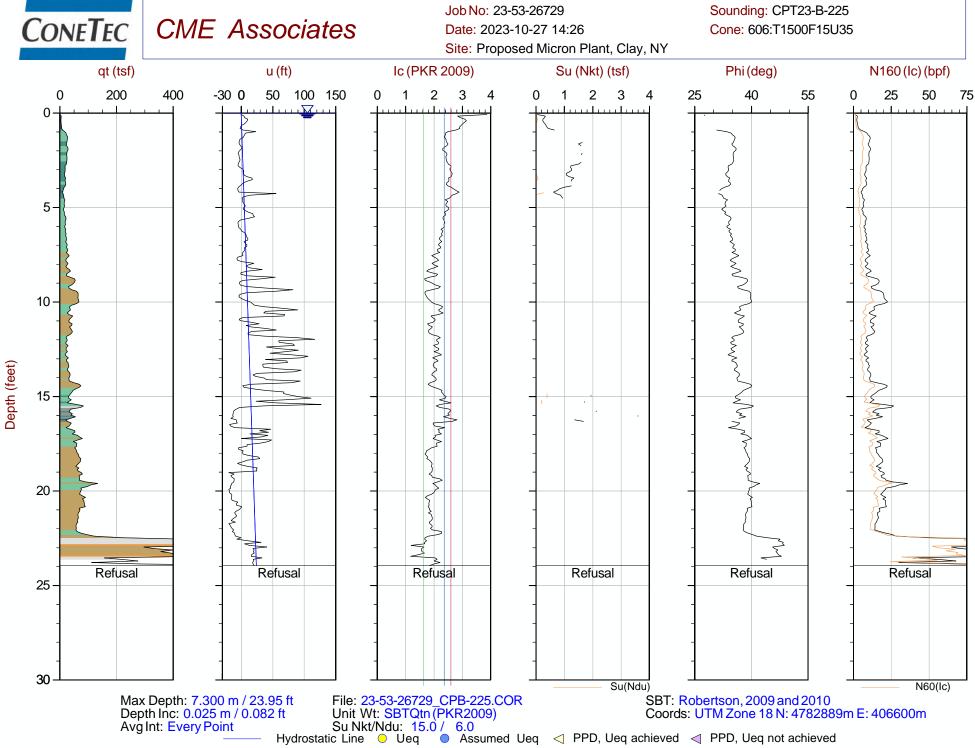


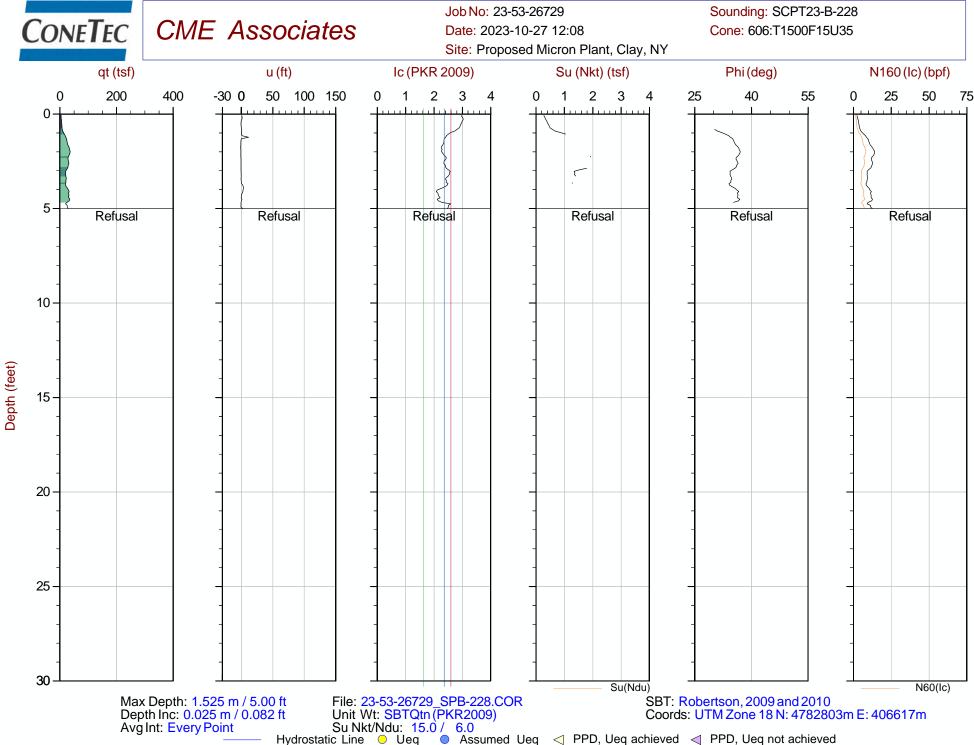


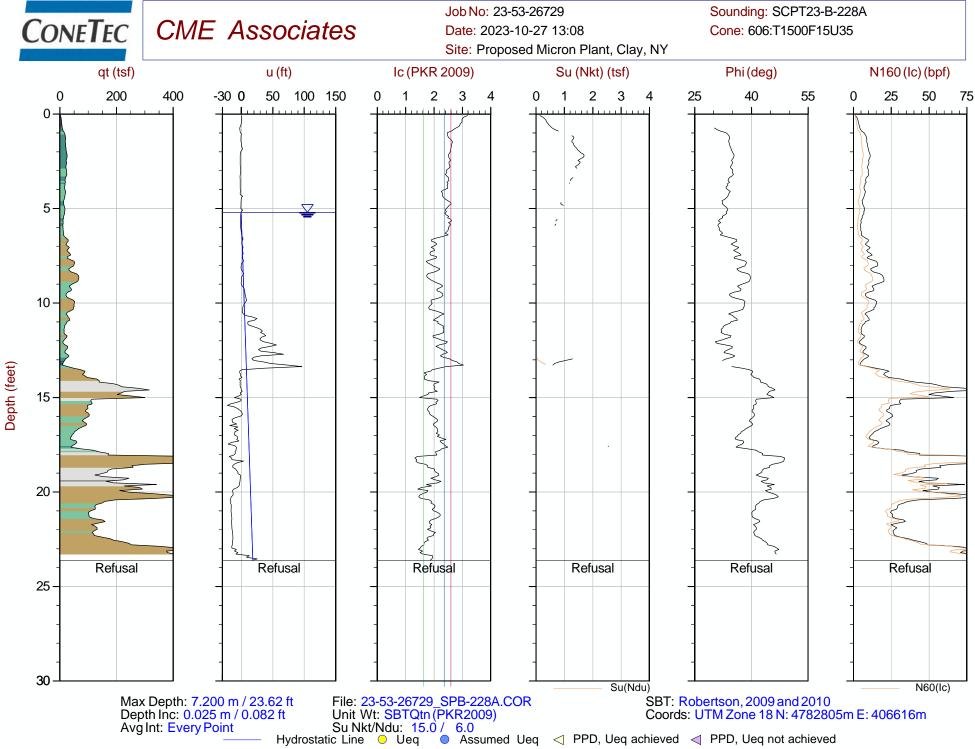
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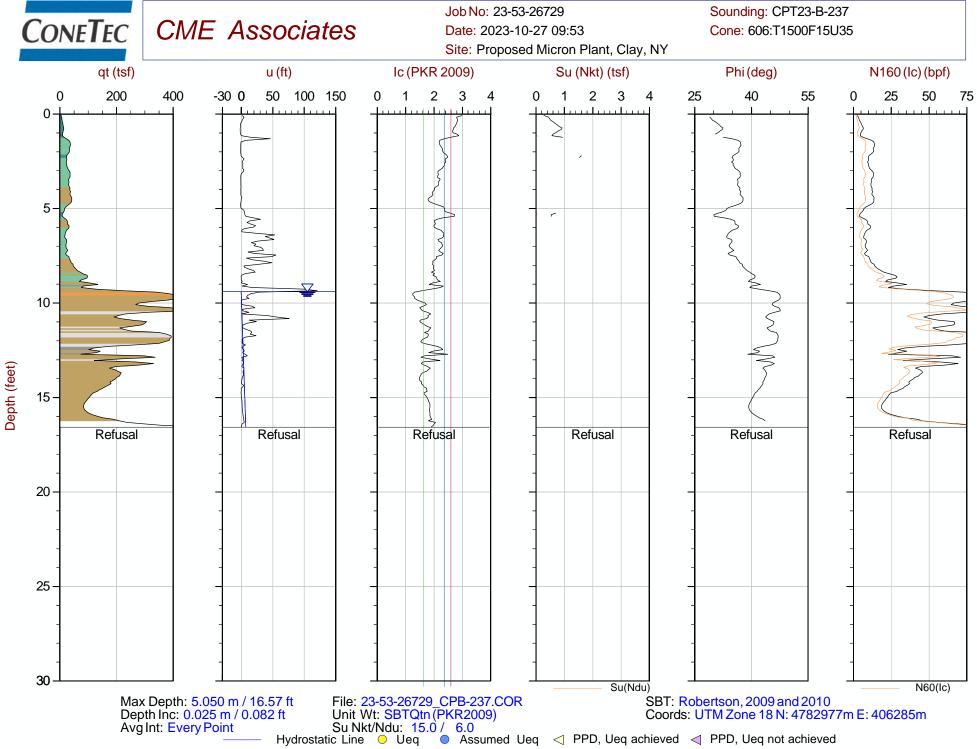


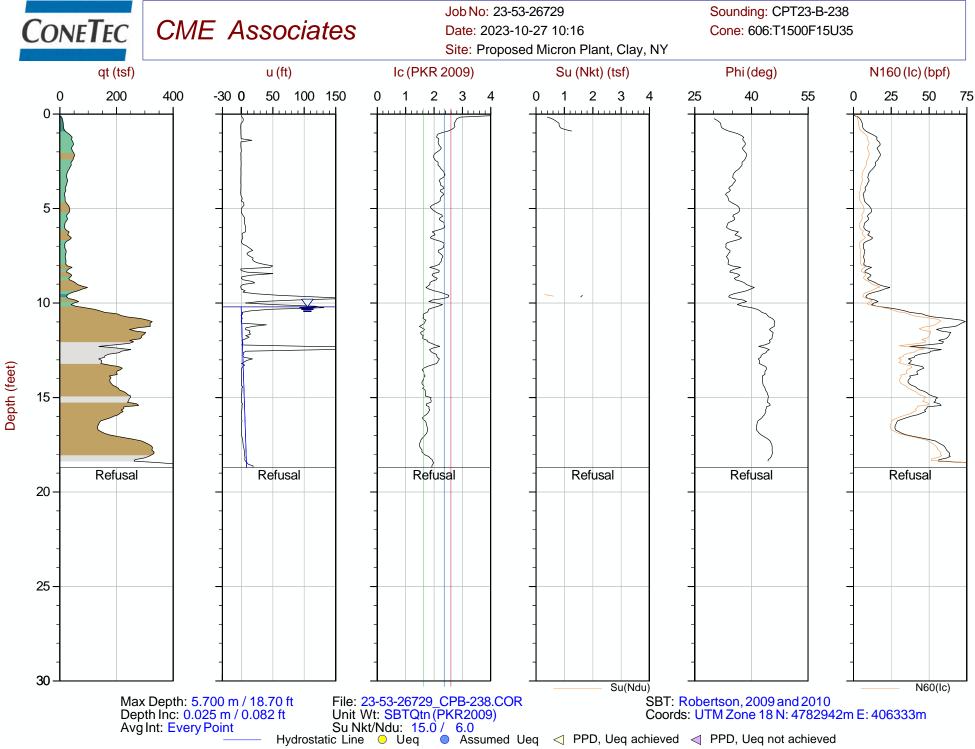


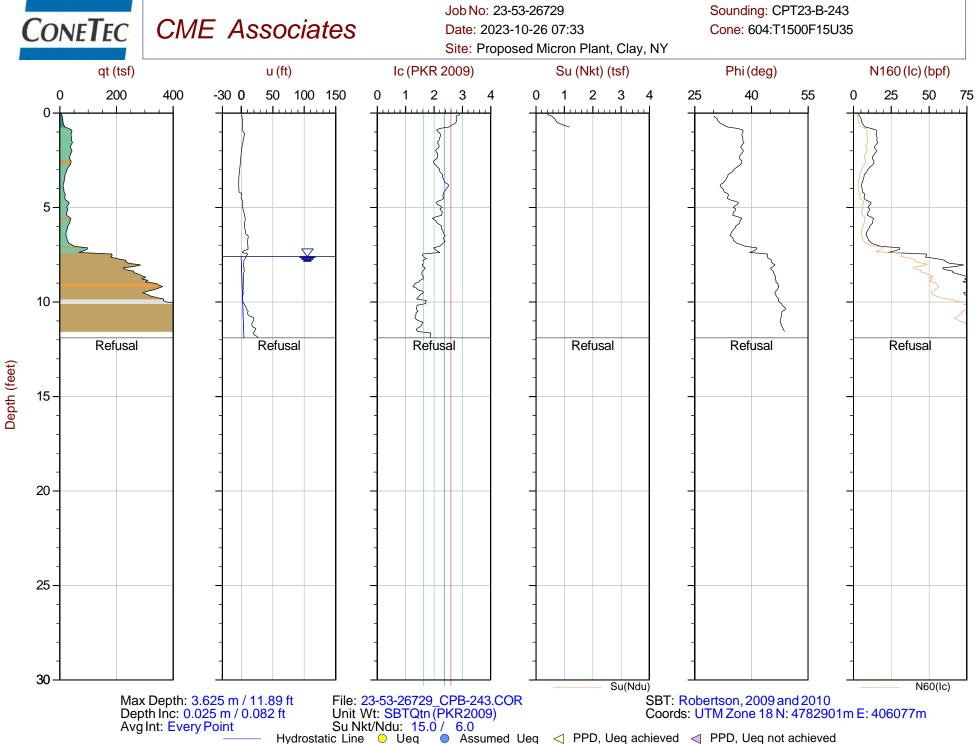


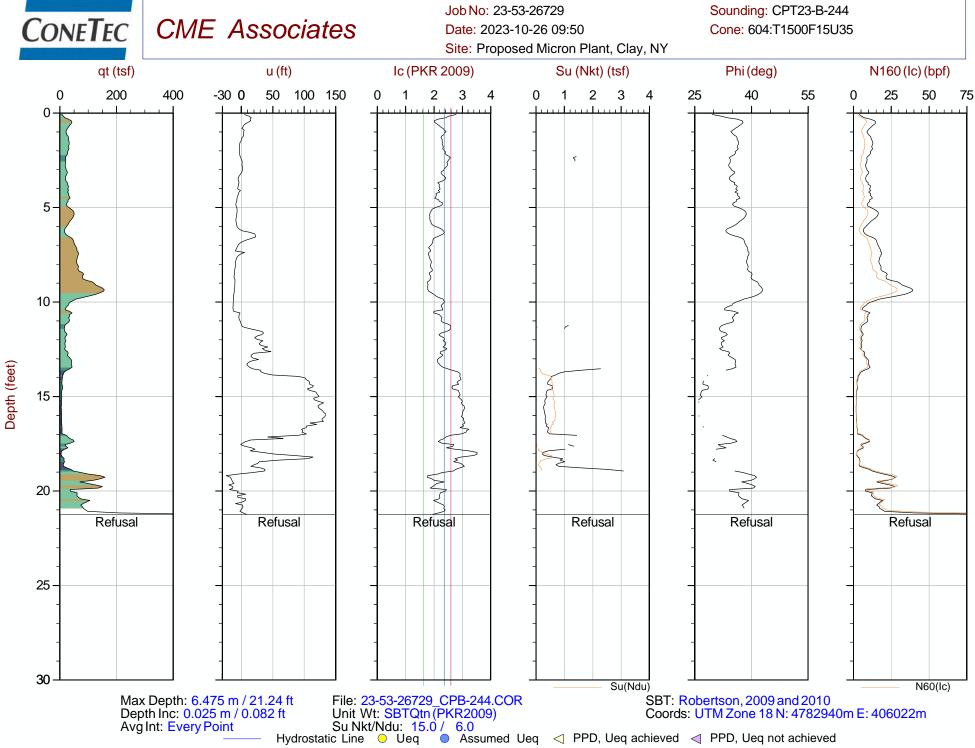


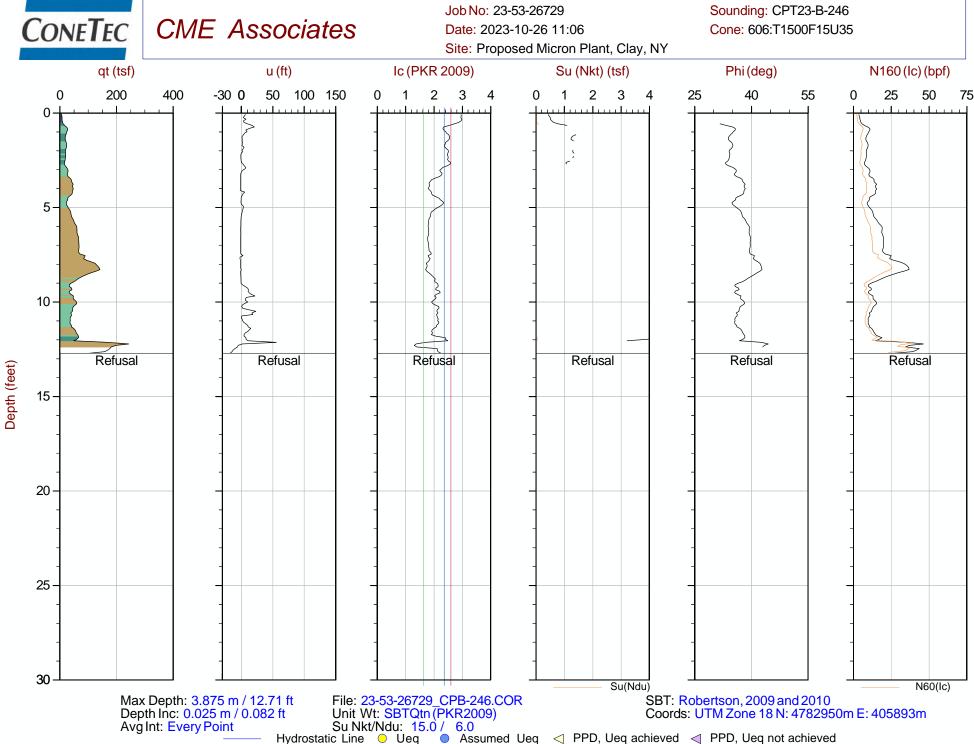


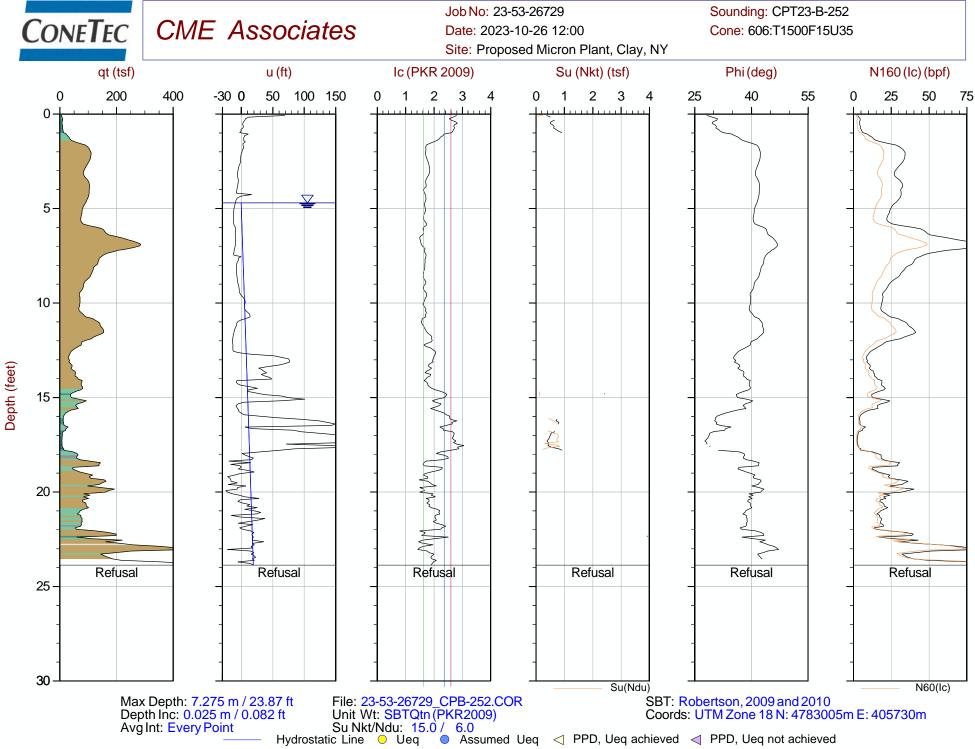


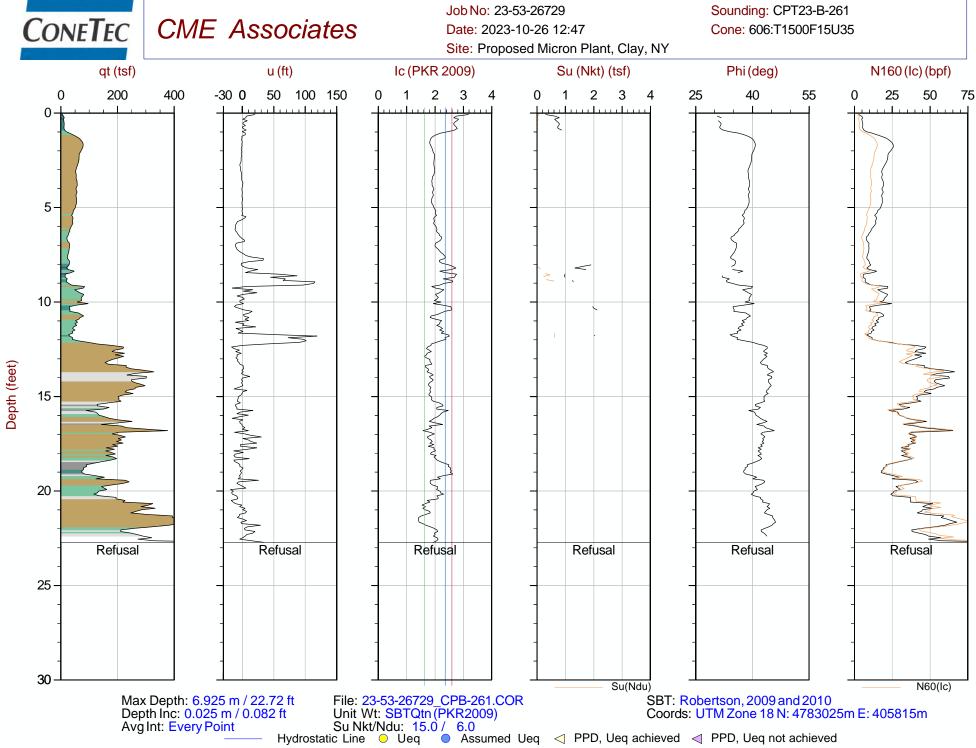


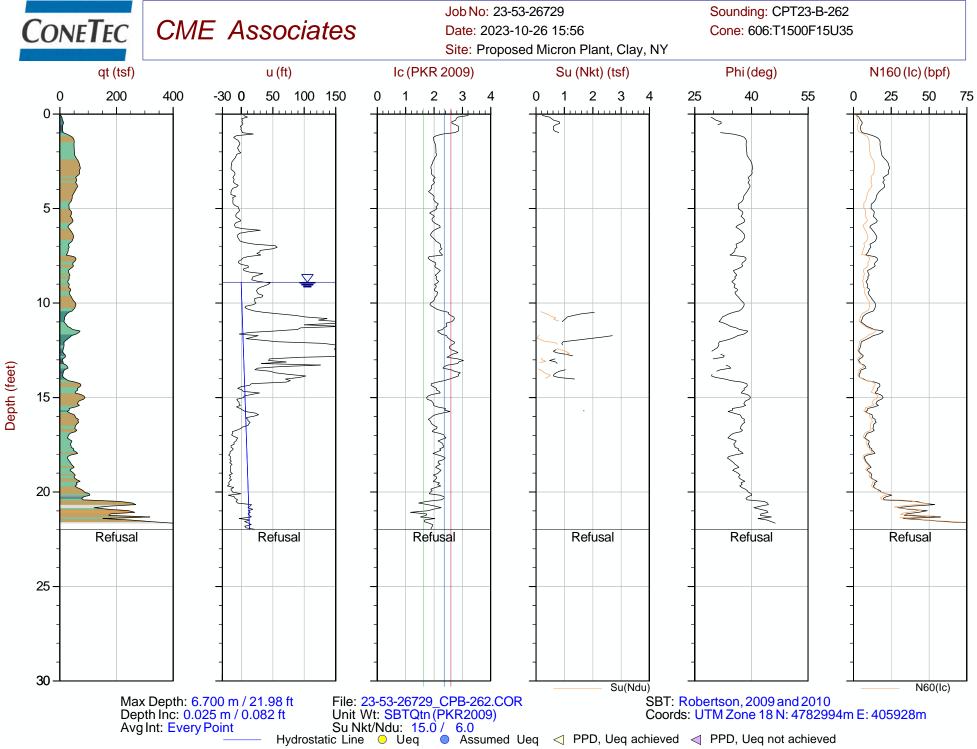


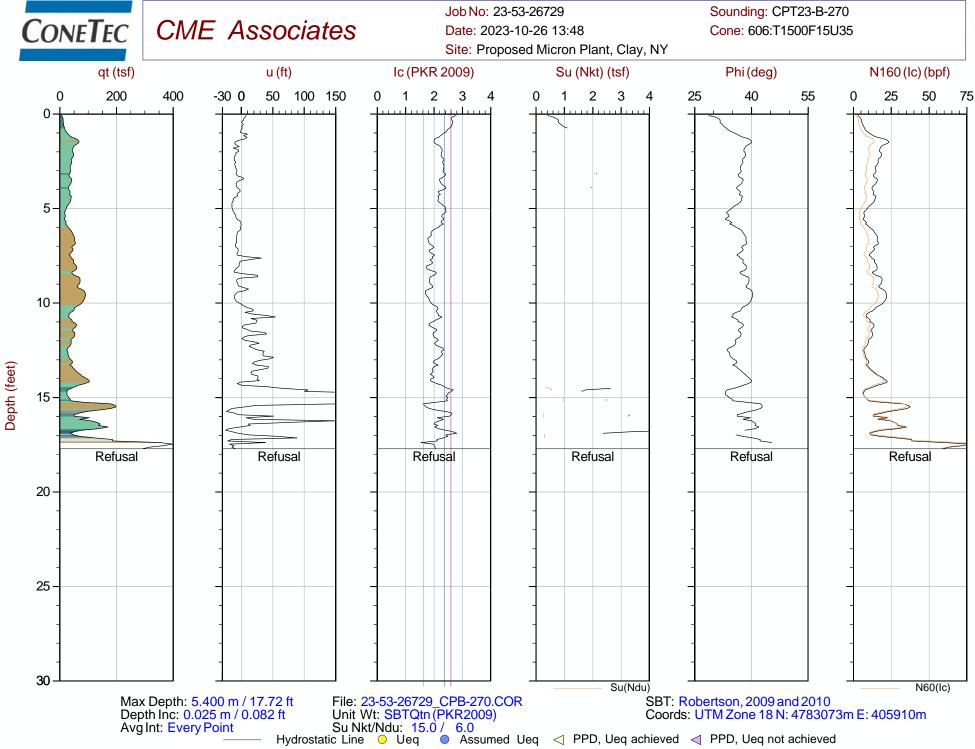


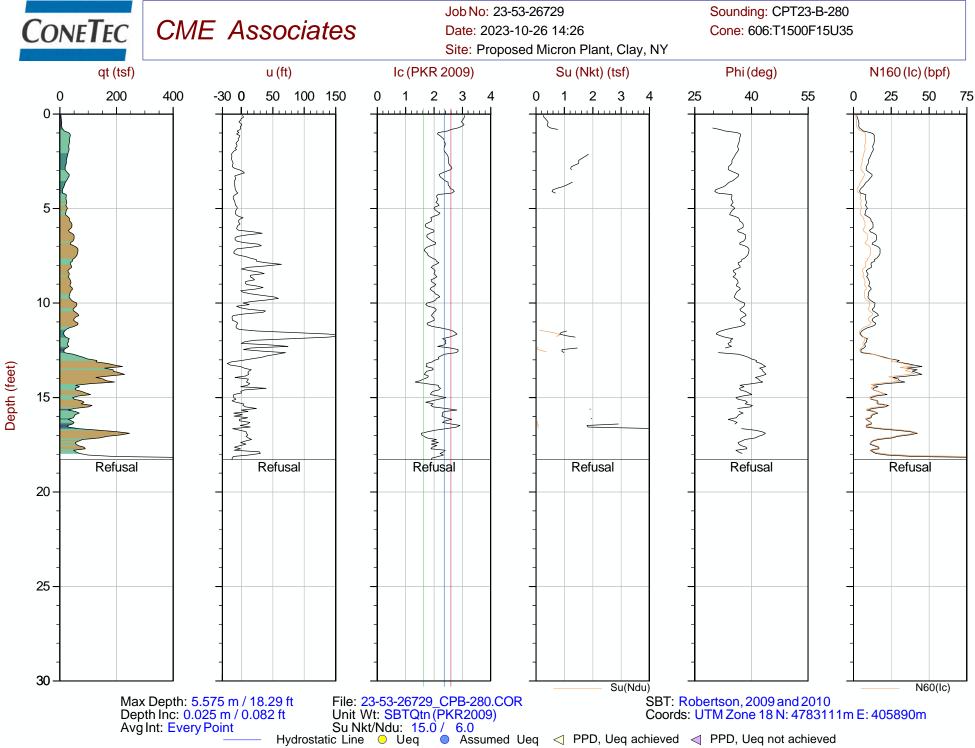


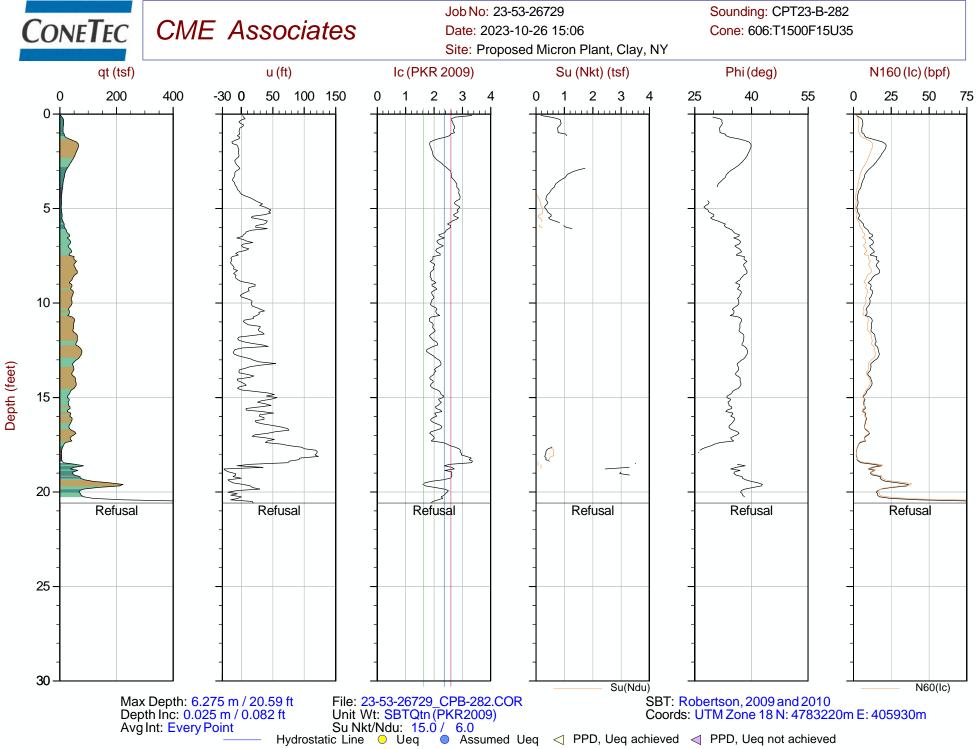


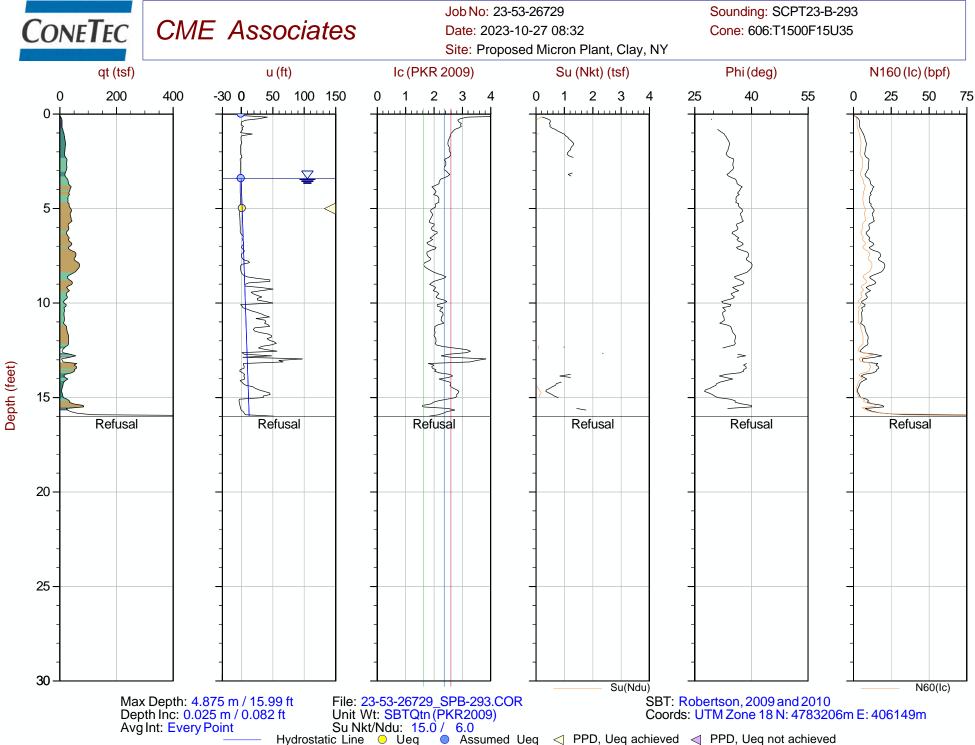


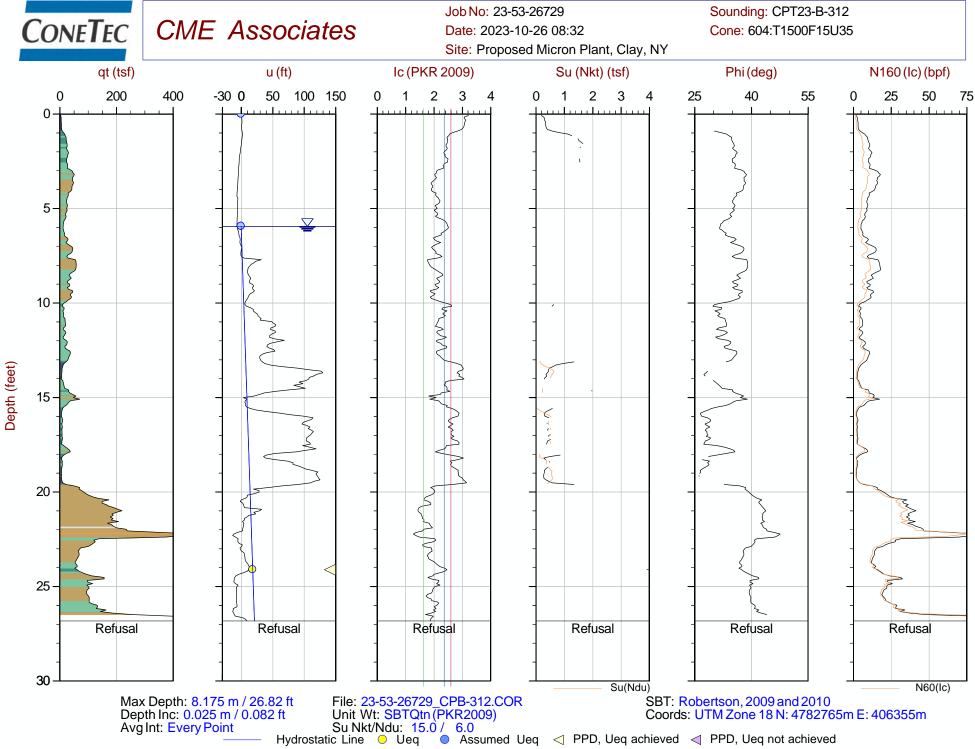


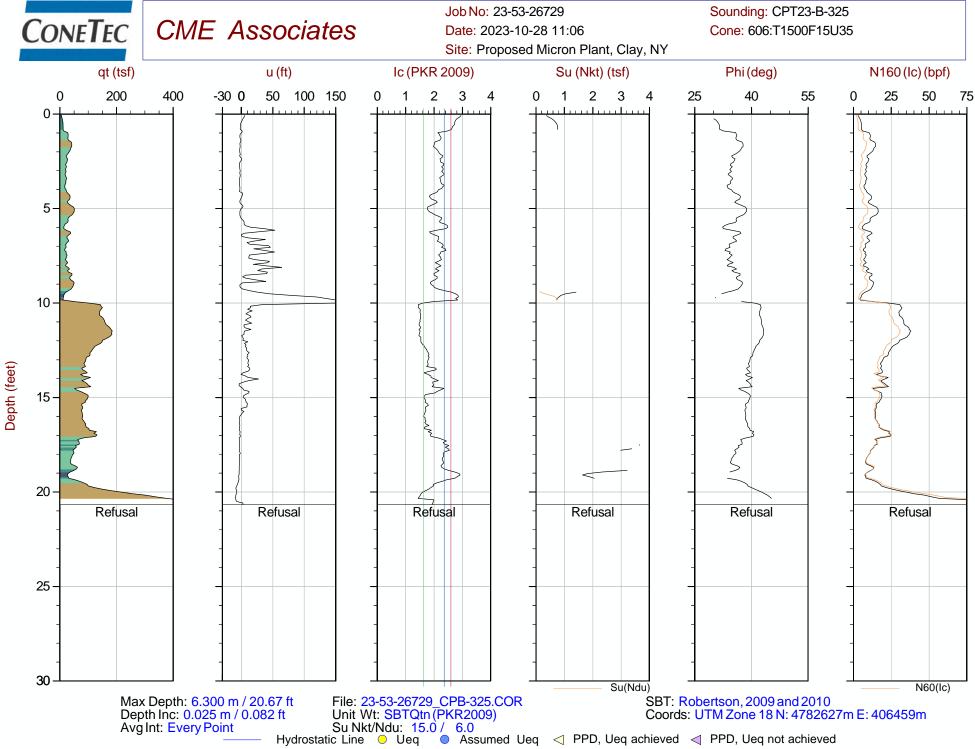


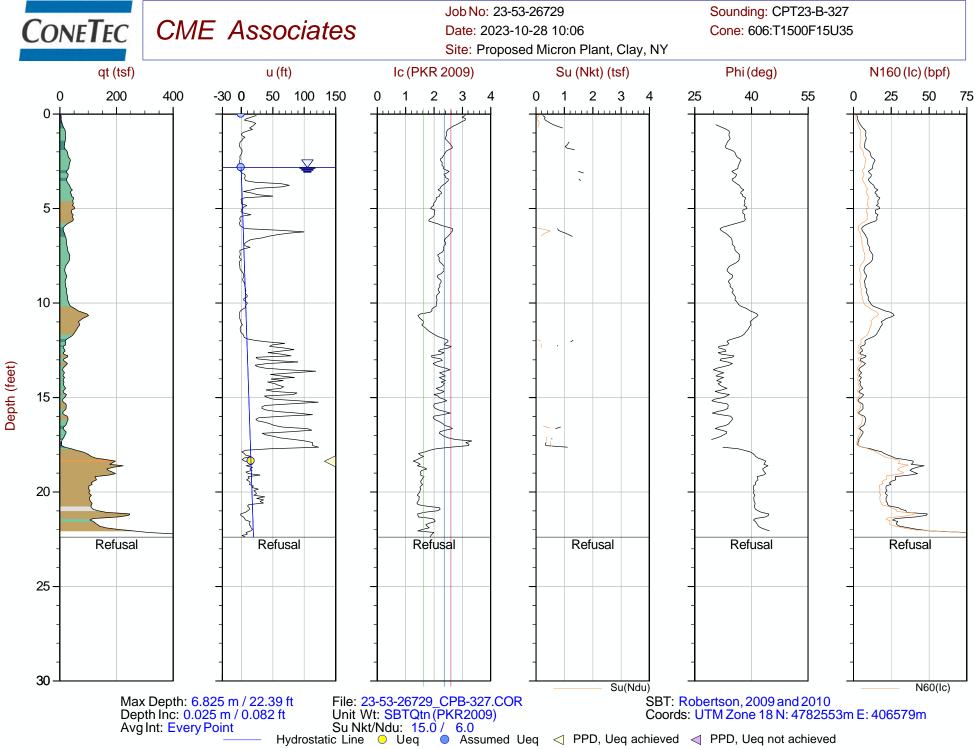


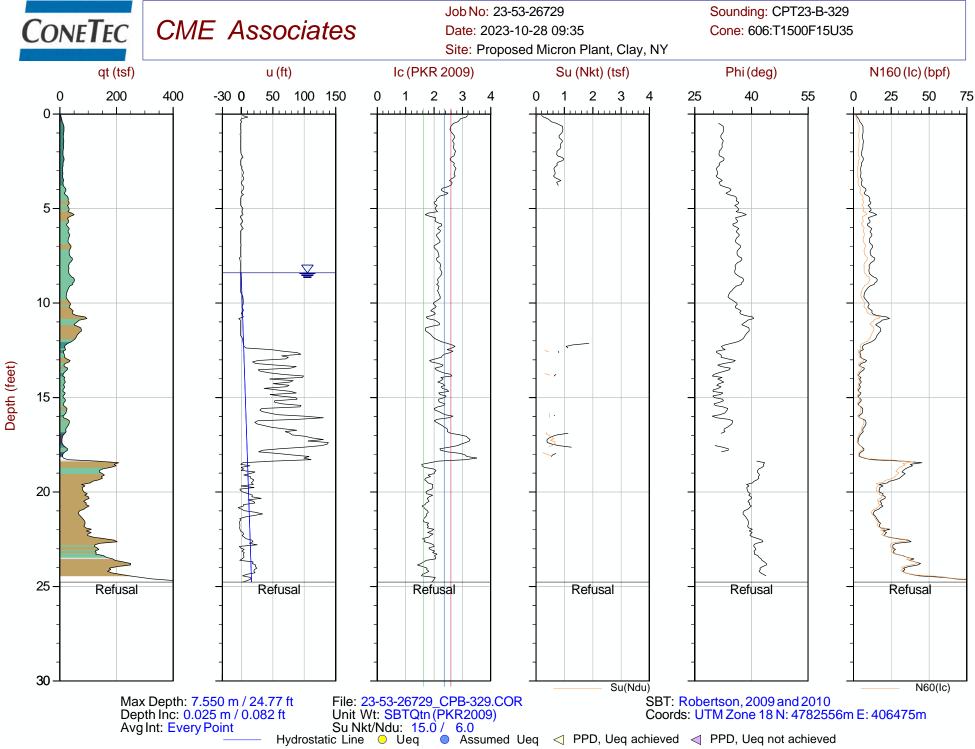


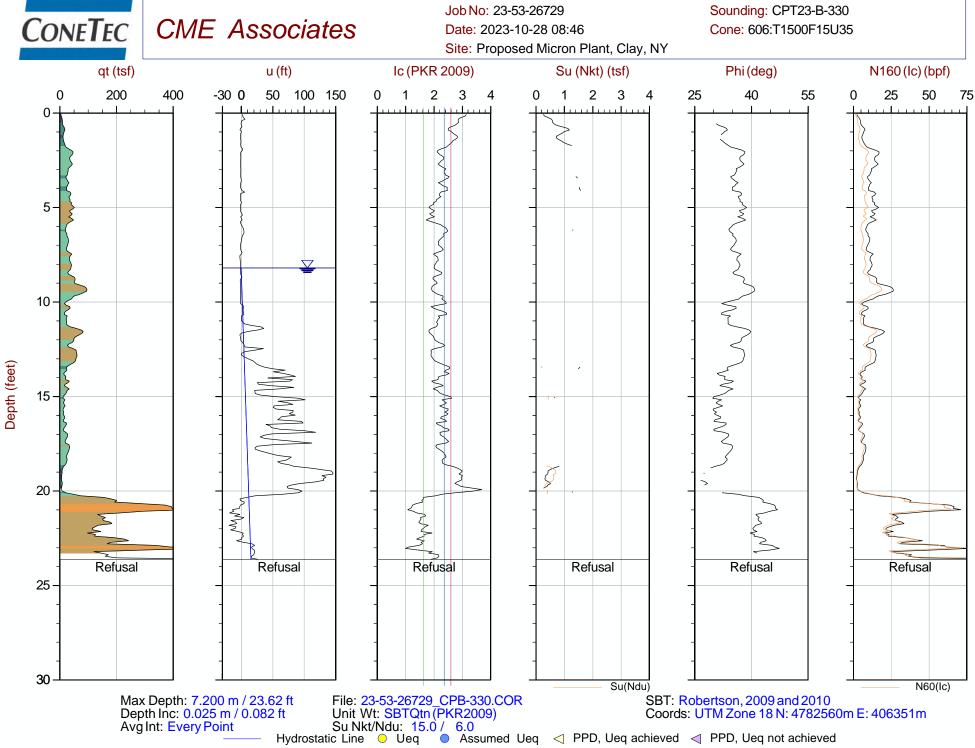


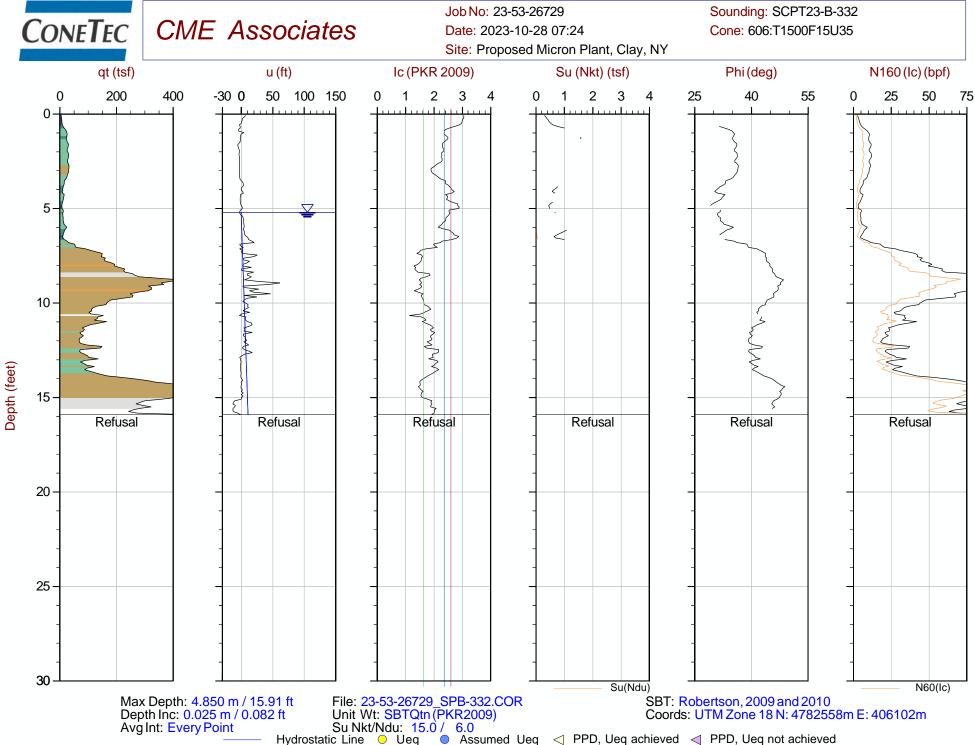


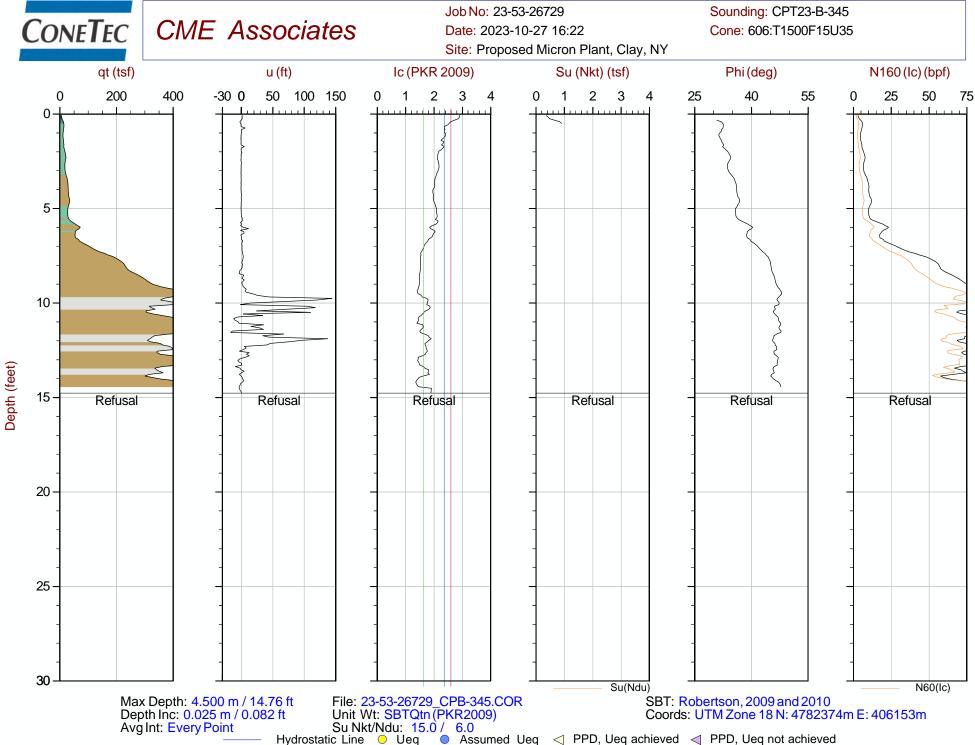


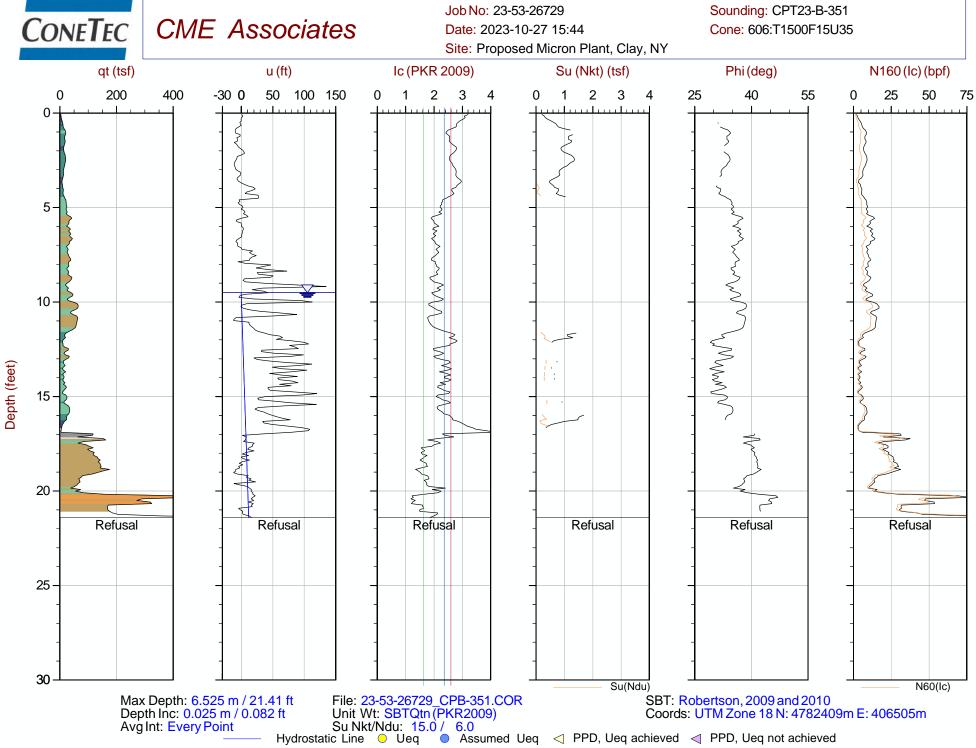


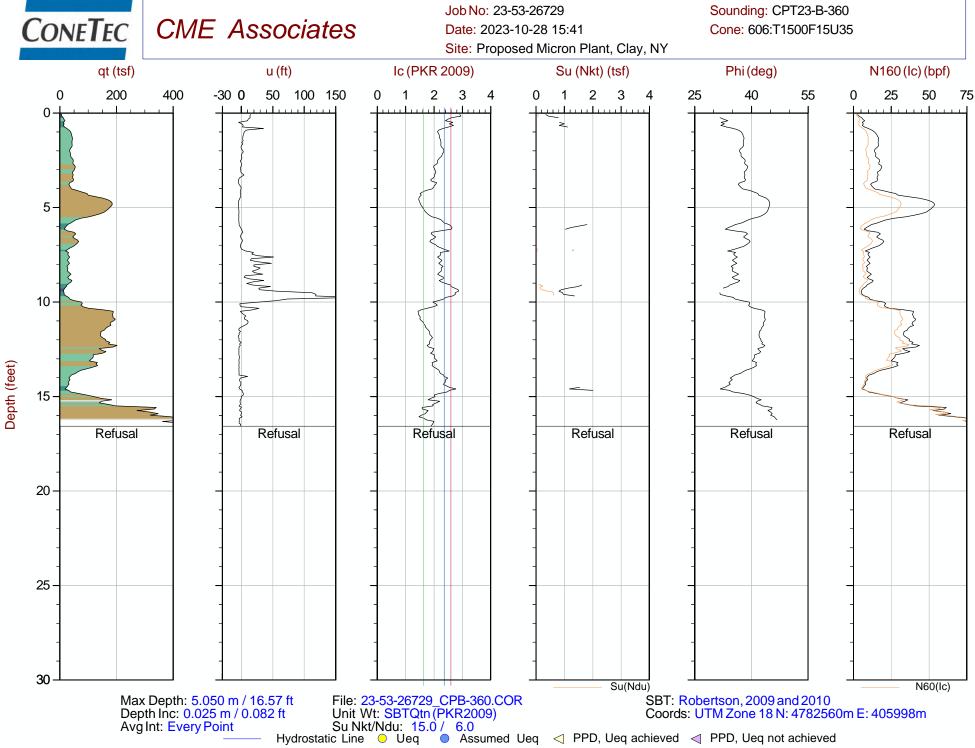


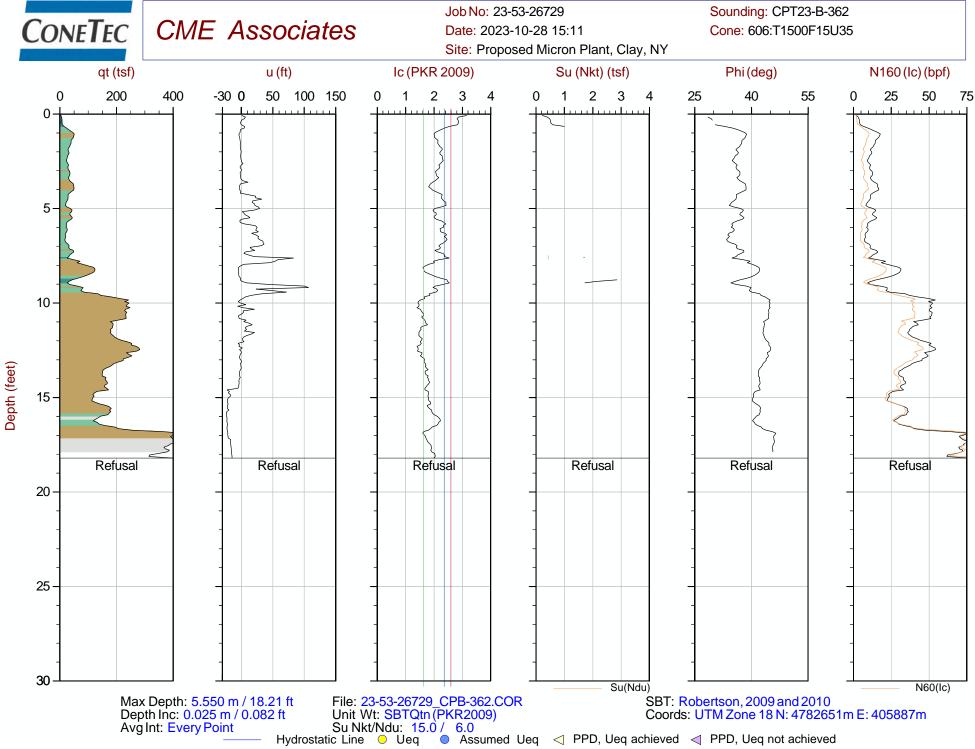


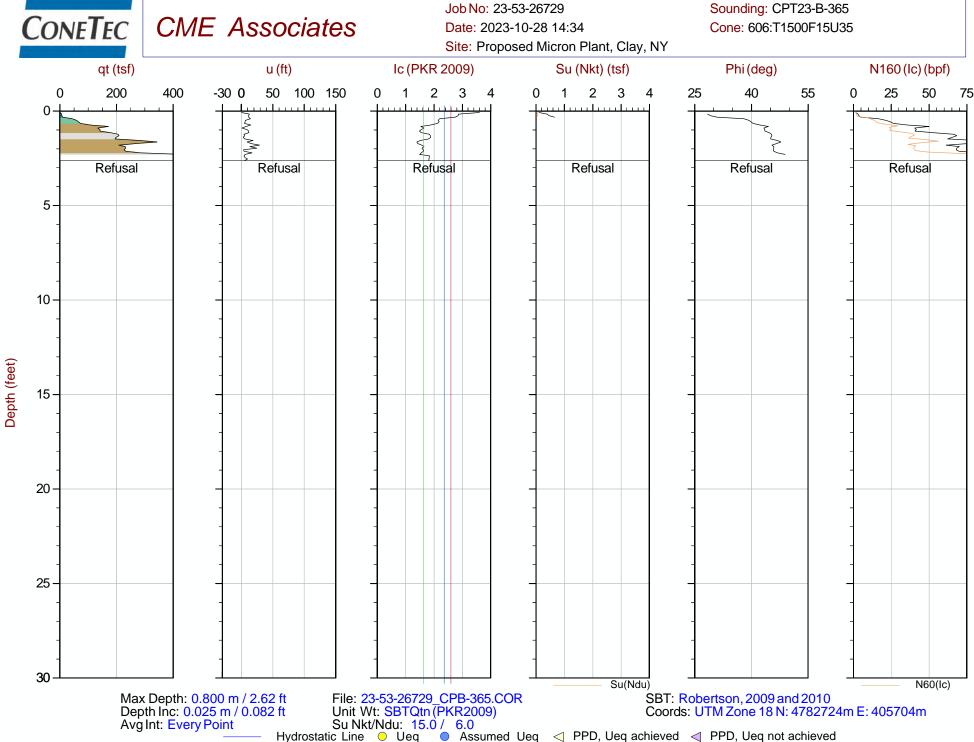


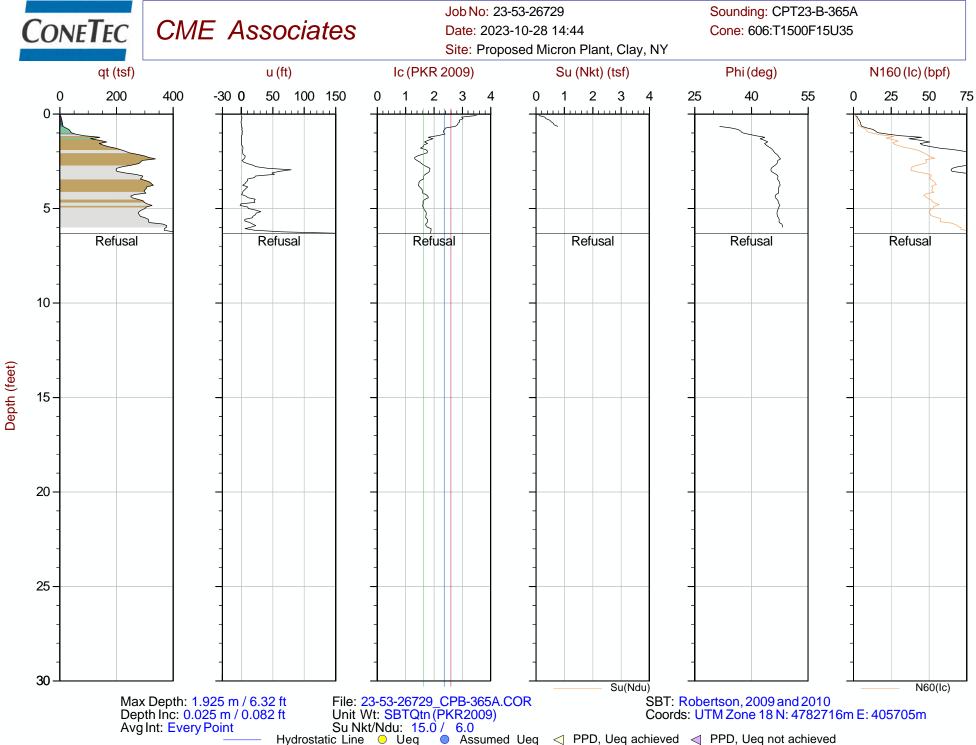


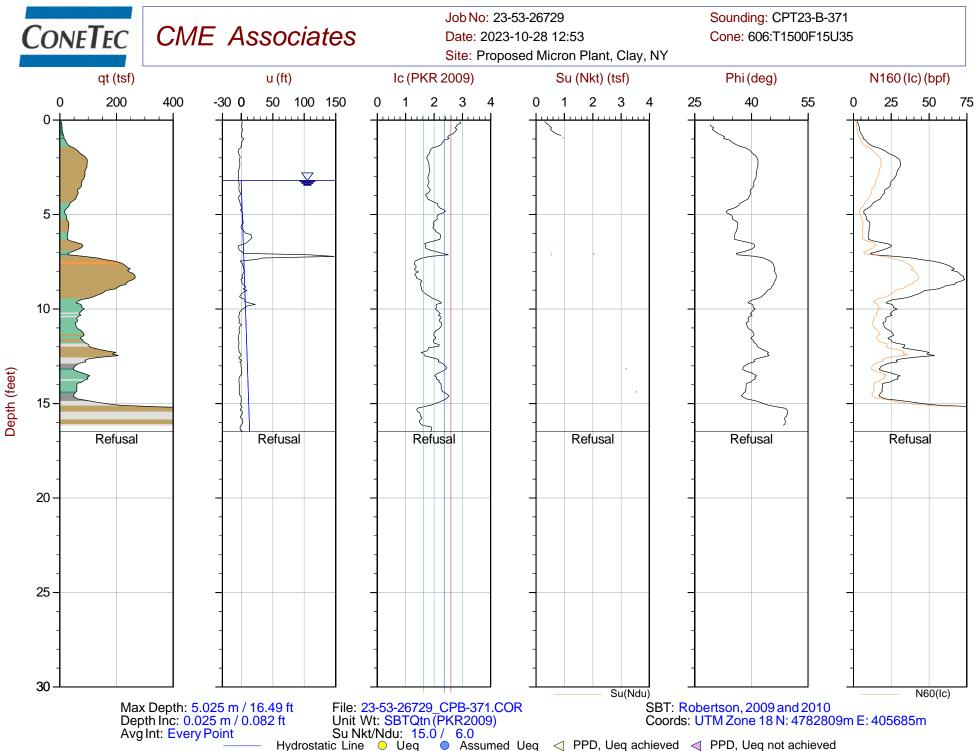


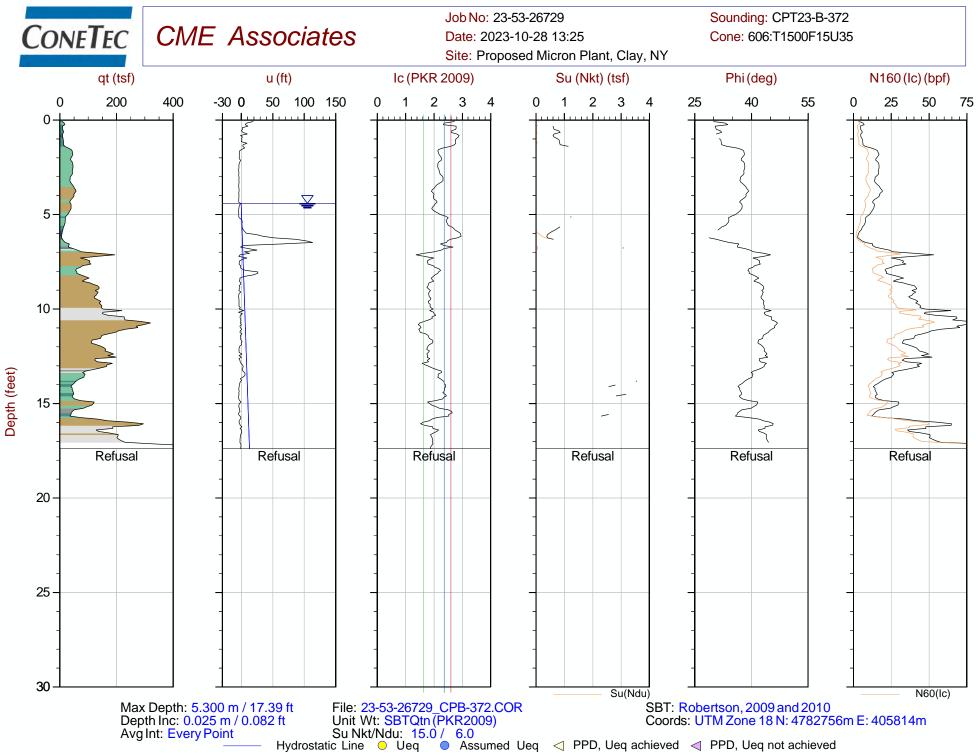


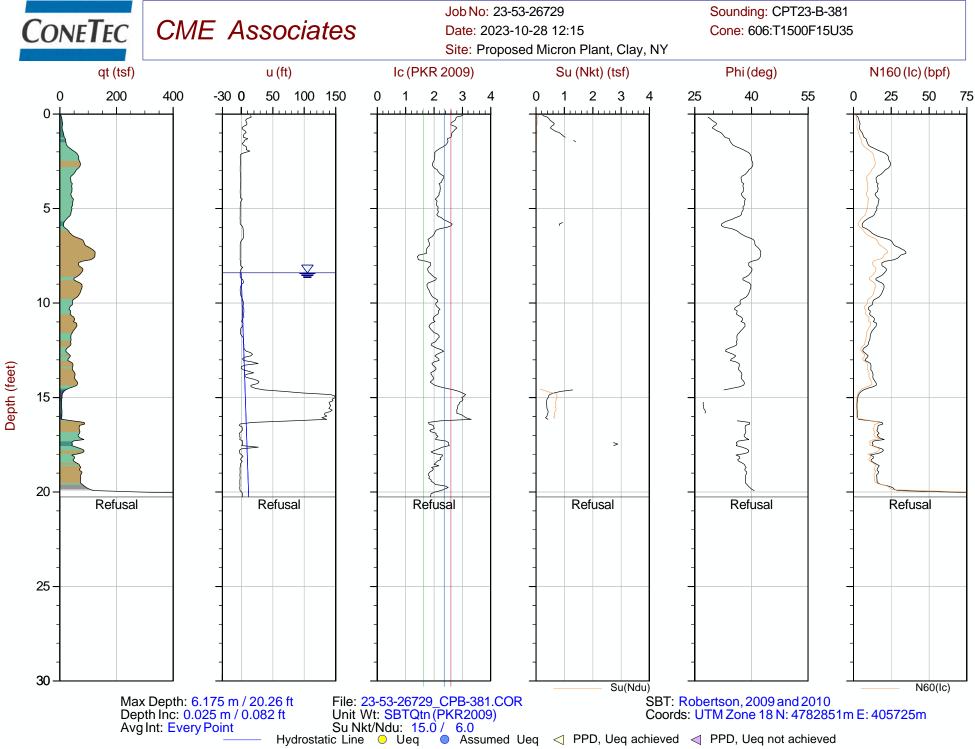


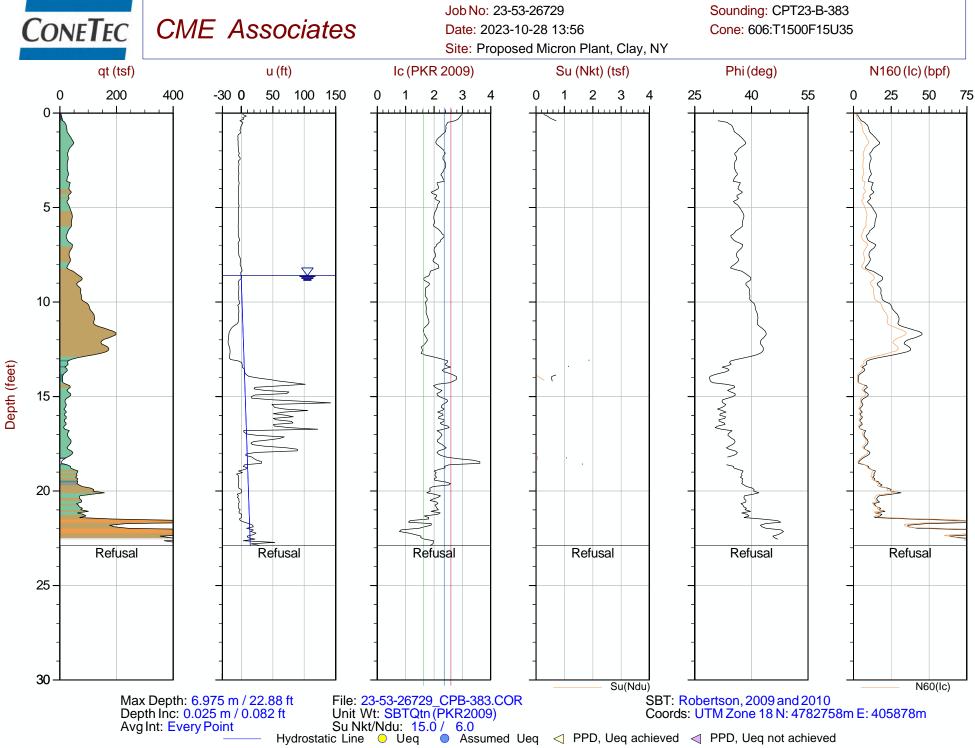






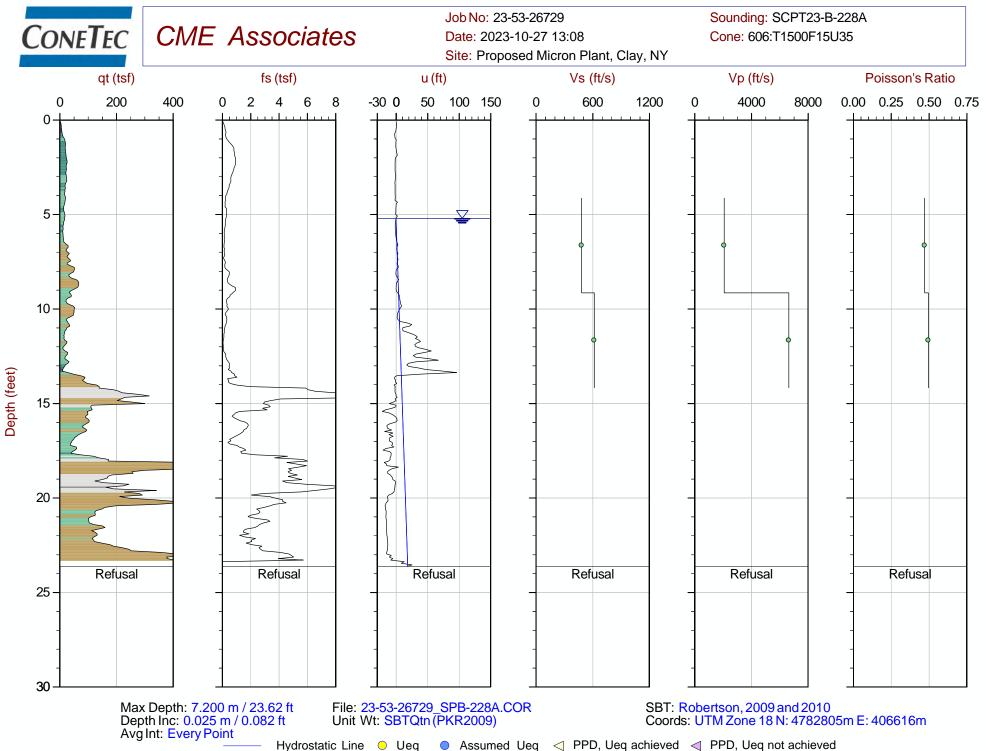


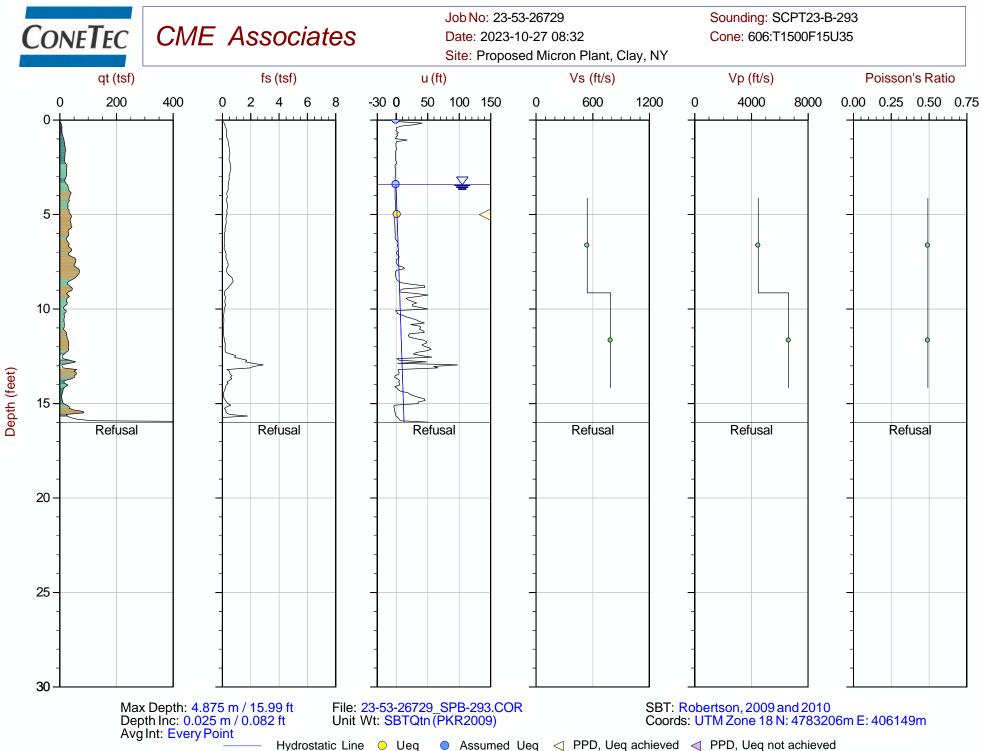


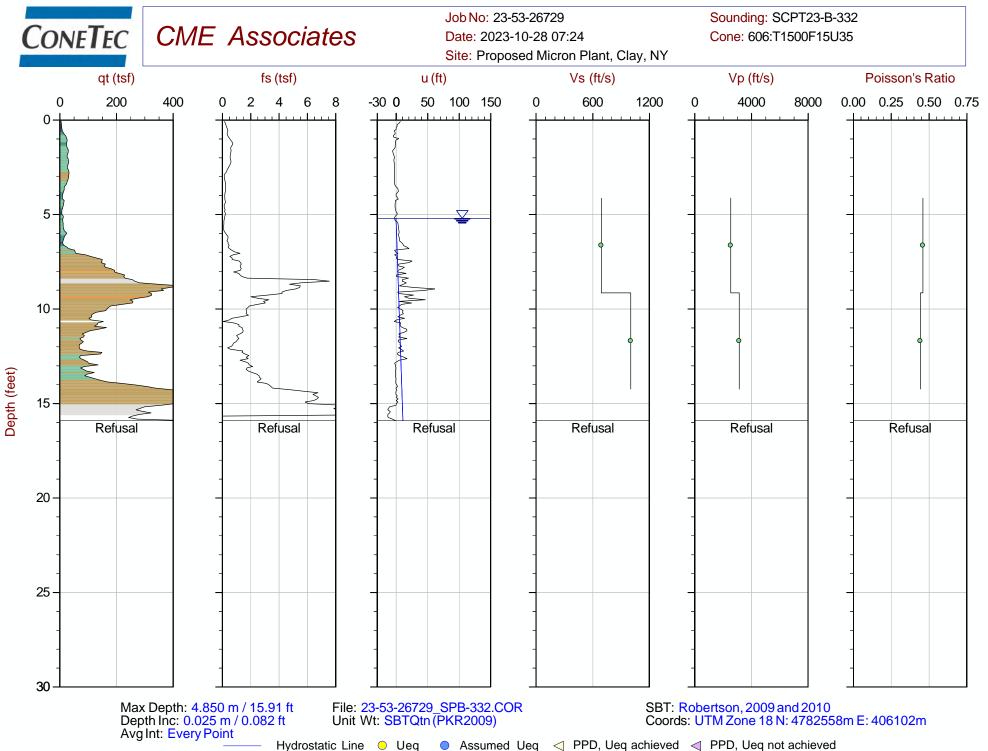


**Seismic Cone Penetration Test Plots** 



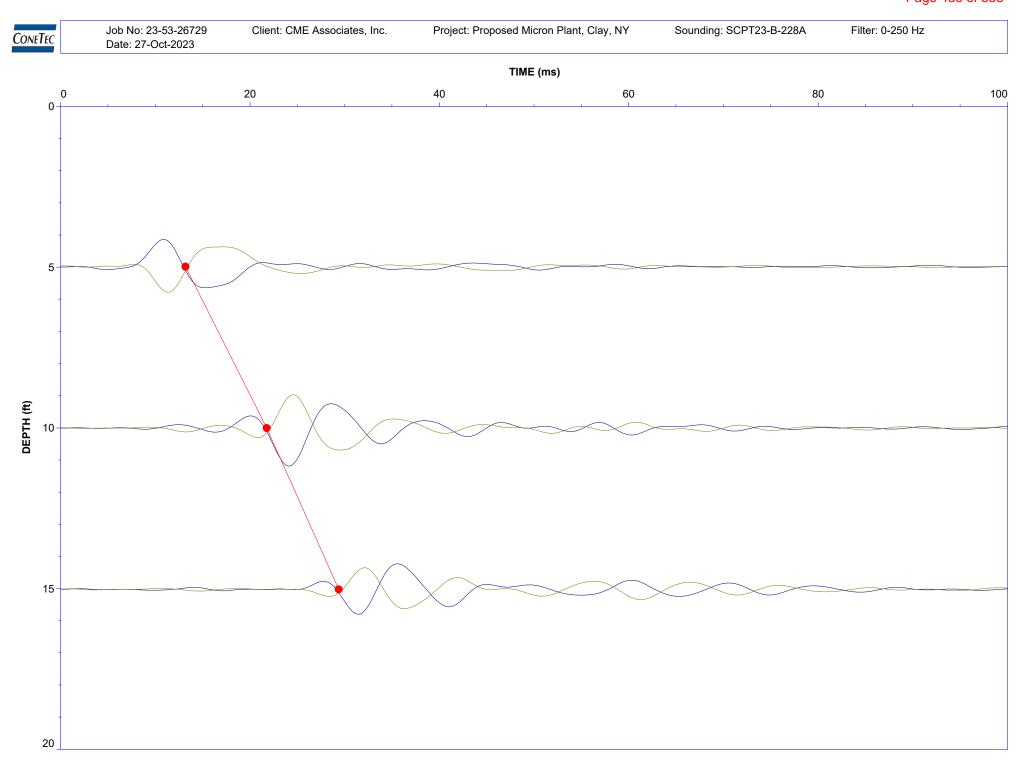


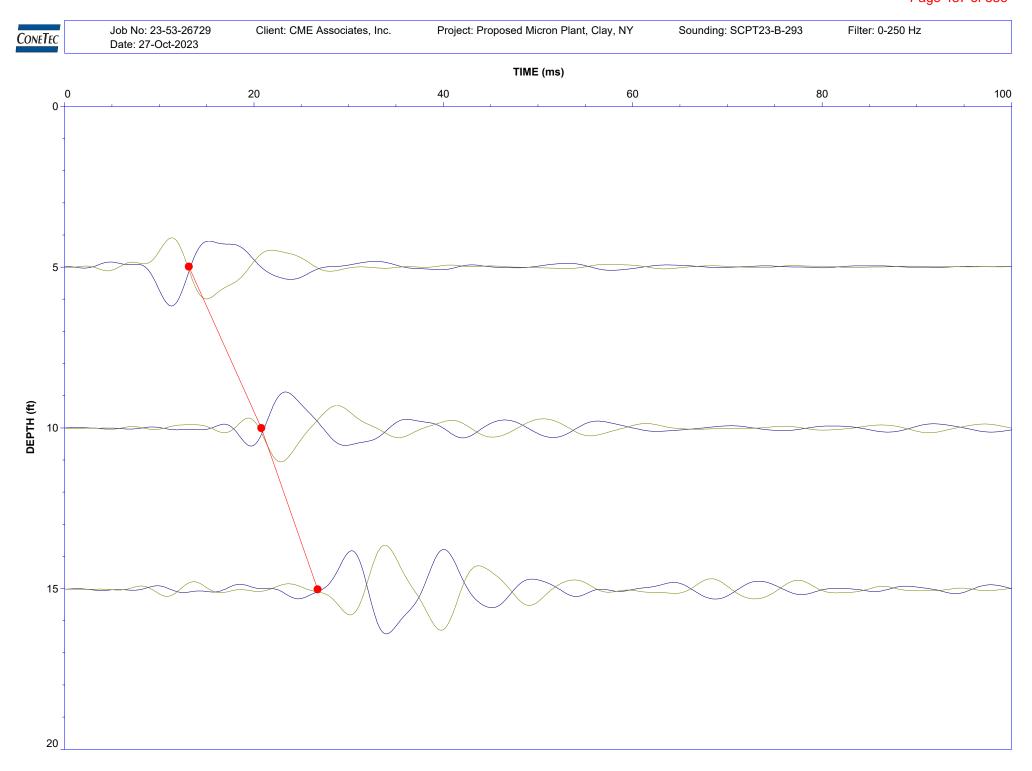


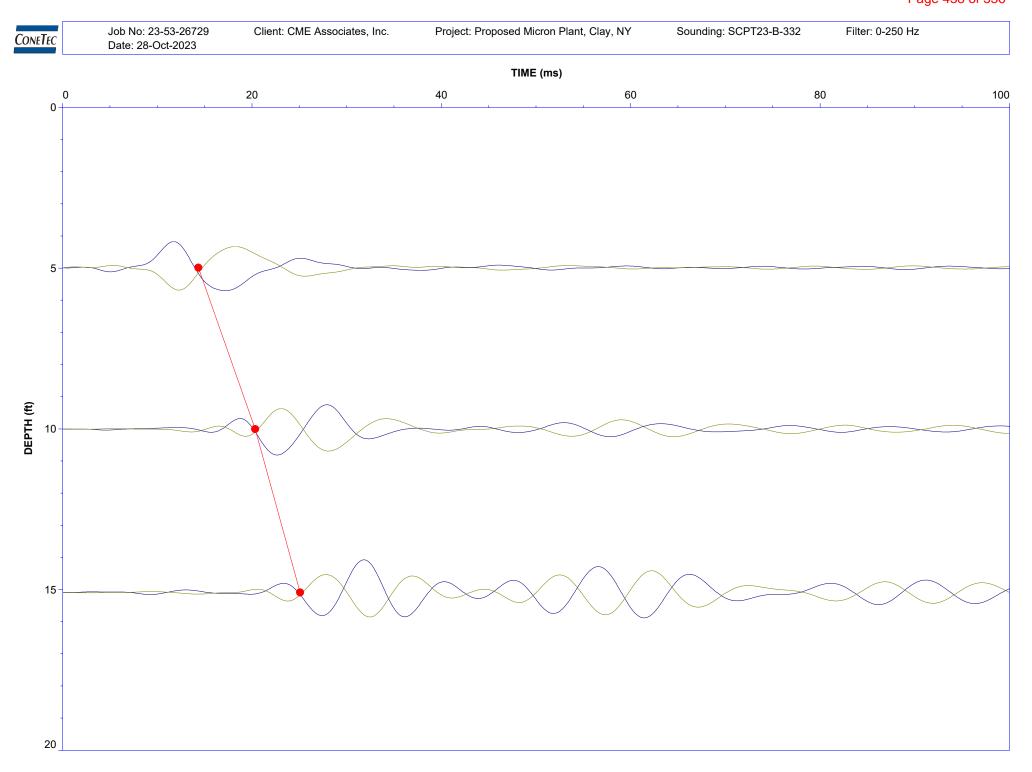


# Seismic Cone Penetration Test Shear Wave (Vs) Traces









ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124	EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Page 439 of 536
Seismic Cone Penetration To	est Shear Wave (Vs) Results





Client: CME Associates, Inc.

**Project:** Proposed Micron Plant, Clay, NY

Sounding ID: SCPT23-B-228A Date: 27-Oct-2023

Seismic Source:BeamSeismic Offset (ft):4.27Source Depth (ft):0.00Geophone 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



Client: CME Associates, Inc.

**Project:** Proposed Micron Plant, Clay, NY

**Sounding ID:** SCPT23-B-293 **Date:** 27-Oct-2023

Seismic Source:BeamSeismic Offset (ft):4.27Source Depth (ft):0.00Geophone Offset (ft):0.85

S	SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs					
Tip Geophone Ray Ray Path Travel Time In Depth Depth Path Difference Interval Ve (ft) (ft) (ft) (ft) (ft) (ms)						
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	



Client: CME Associates, Inc.

**Project:** Proposed Micron Plant, Clay, NY

 Sounding ID:
 SCPT23-B-332

 Date:
 28-Oct-2023

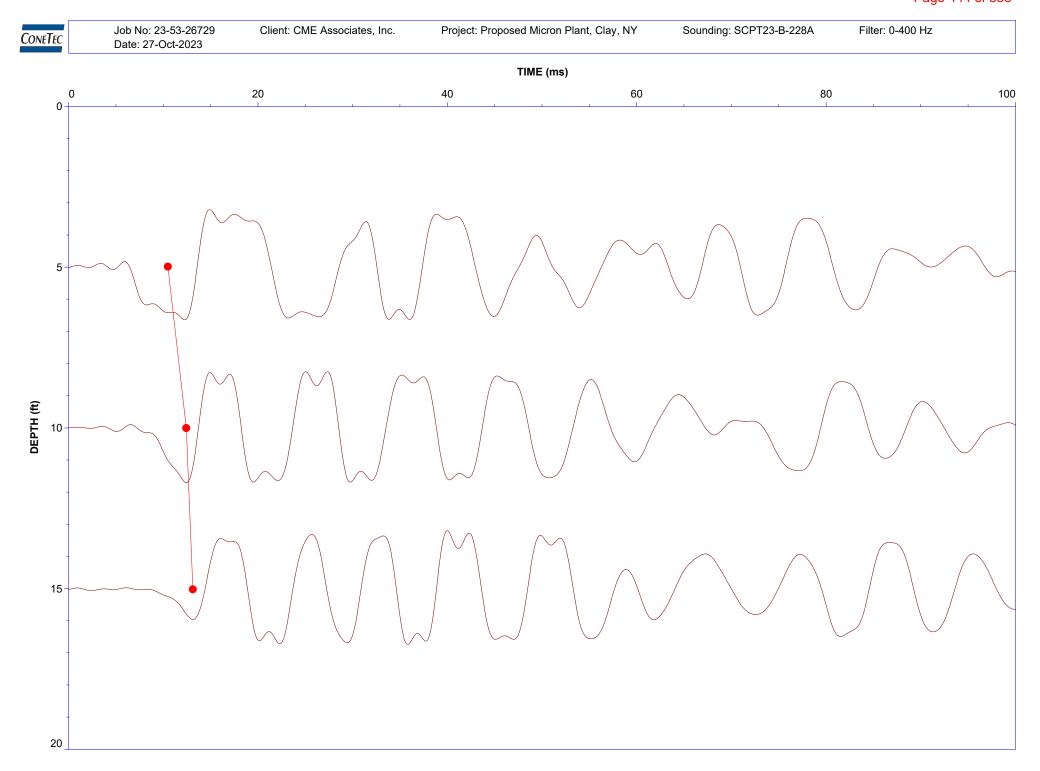
Seismic Source:BeamSeismic Offset (ft):4.27Source Depth (ft):0.00Geophone Offset (ft):0.85

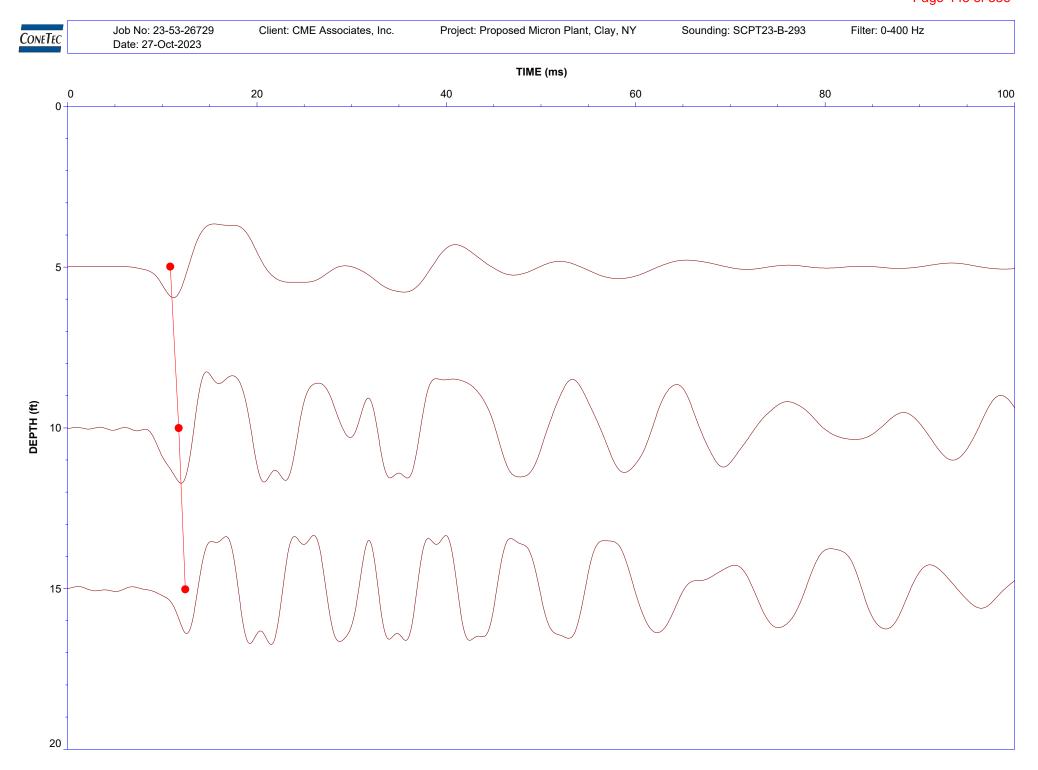
S	SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs					
Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)	
4.99	4.13	5.94				
10.01	9.15	10.10	4.16	6.01	692	
15.09	14.24	14.87	4.77	4.74	1005	

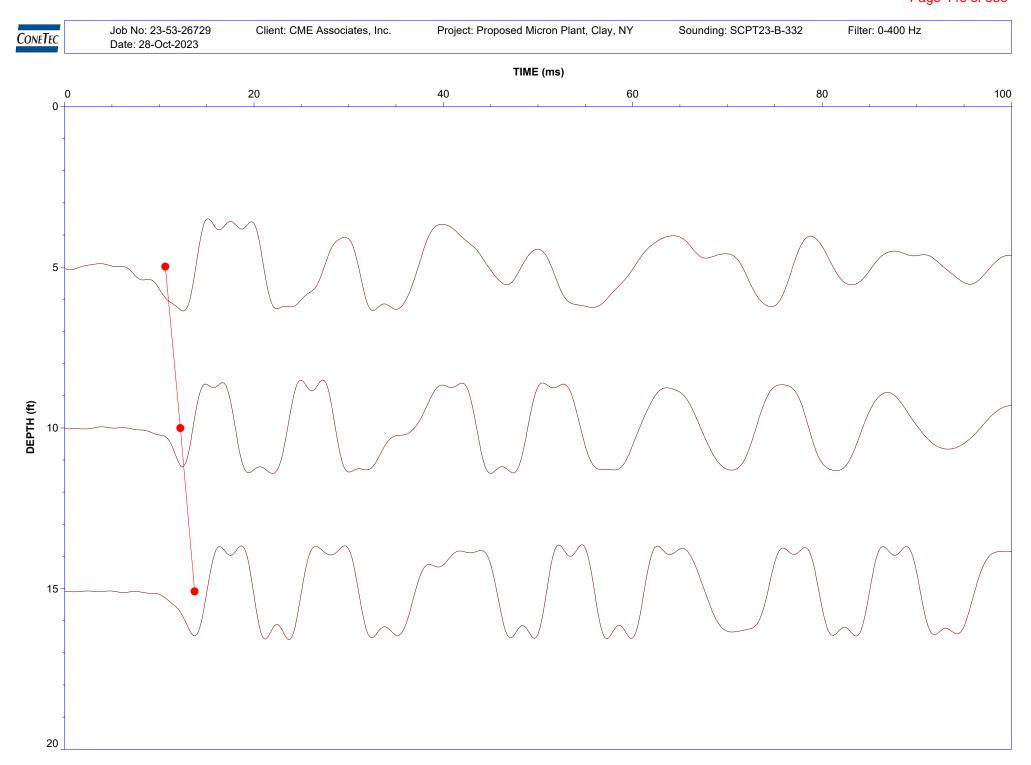
Seismic Cone Penetration Test Compression Wave (Vp)

Traces









Seismic Cone Penetration Test Compression Wave (Vp)
Results





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 Geophone Ray Path **Travel Time** Interval Ray Depth Path **Difference Depth** Interval Velocity (ft) (ft) (ft) (ft) (ms) (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



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

SCPT	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	



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 Geophone Ray Path **Travel Time** Interval Ray Depth Path **Difference Depth** Interval Velocity (ft) (ft) (ft) (ft) (ms) (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

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124	EXHIBIT A-6: GEOTECHNICAL DATA REPORT - PHASE 2 Page 451 of 536
Seismic Cone Penetration T	est Poisson's Ratio Results





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	



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	



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** 



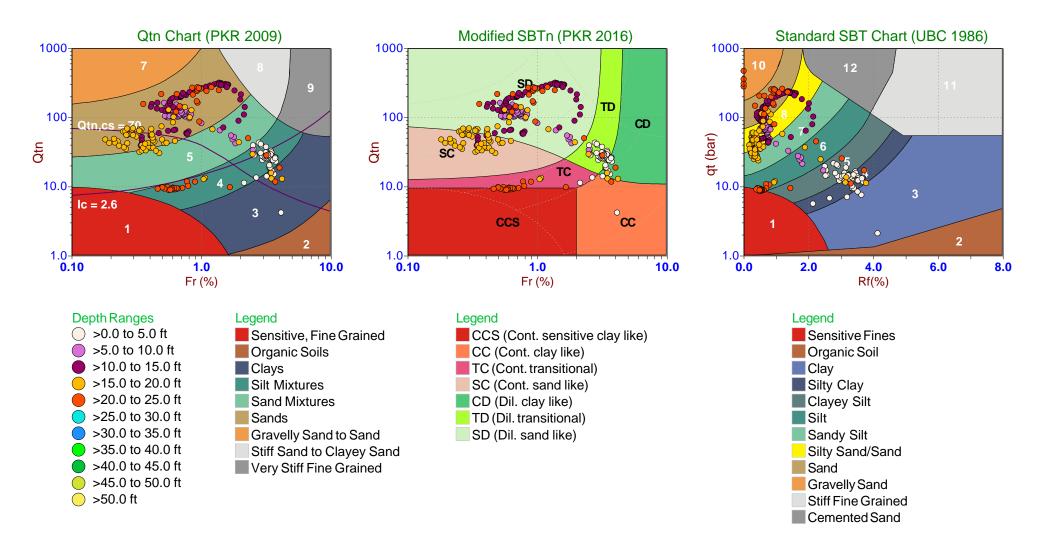


## CME Associates

Job No: 23-53-26729 Date: 2023-10-25 12:03

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-004 Cone: 604:T1500F15U35



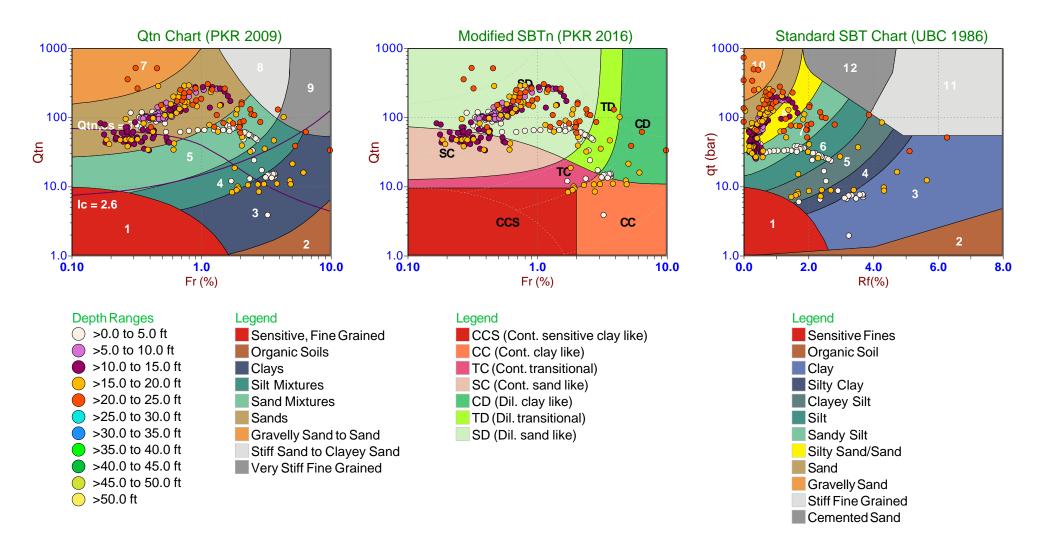


## CME Associates

Job No: 23-53-26729 Date: 2023-10-25 12:43

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-006 Cone: 604:T1500F15U35



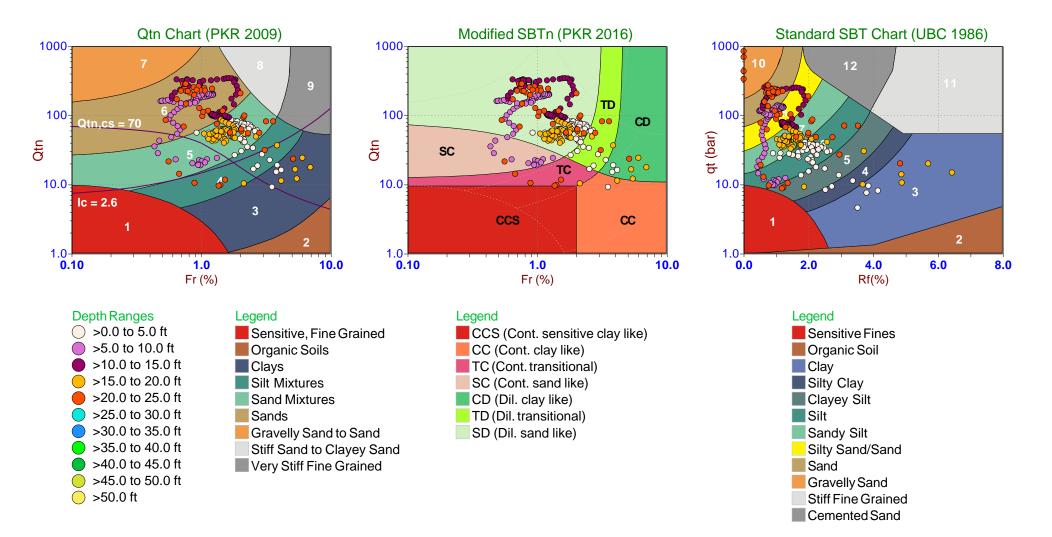


## CME Associates

Job No: 23-53-26729 Date: 2023-10-25 10:45

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-008 Cone: 604:T1500F15U35

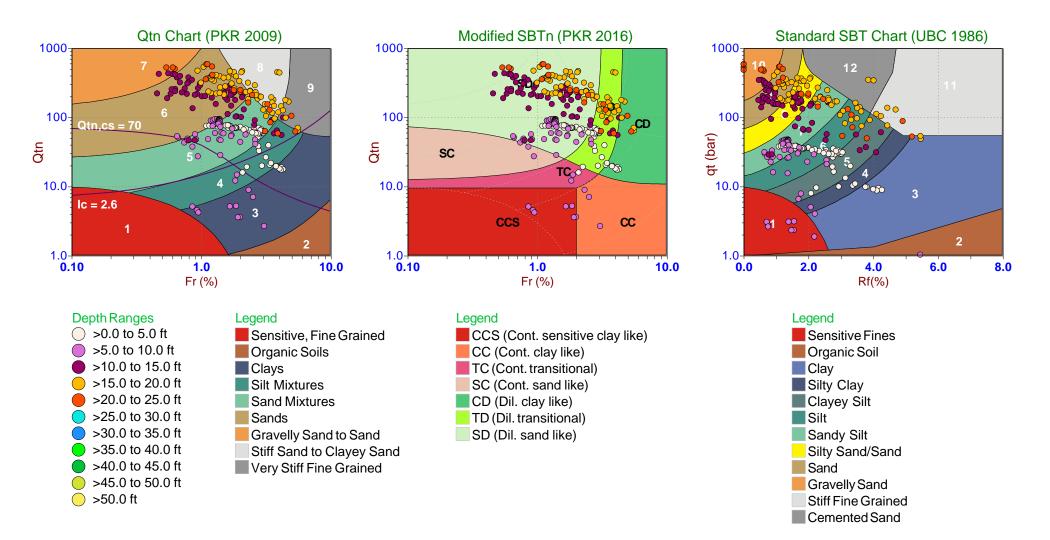




Job No: 23-53-26729 Date: 2023-10-25 15:20

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-014 Cone: 604:T1500F15U35

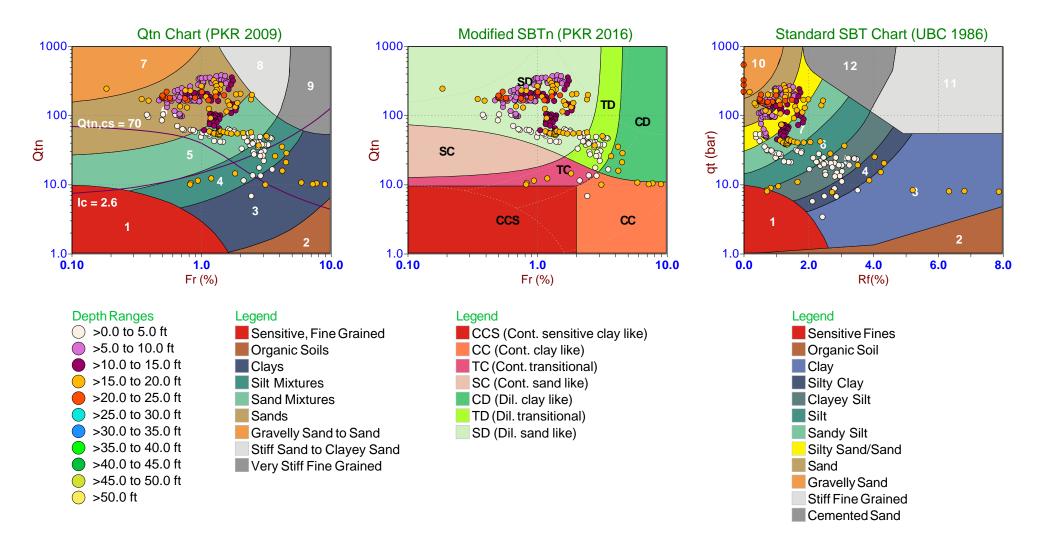




Job No: 23-53-26729 Date: 2023-10-25 11:24

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-016 Cone: 604:T1500F15U35

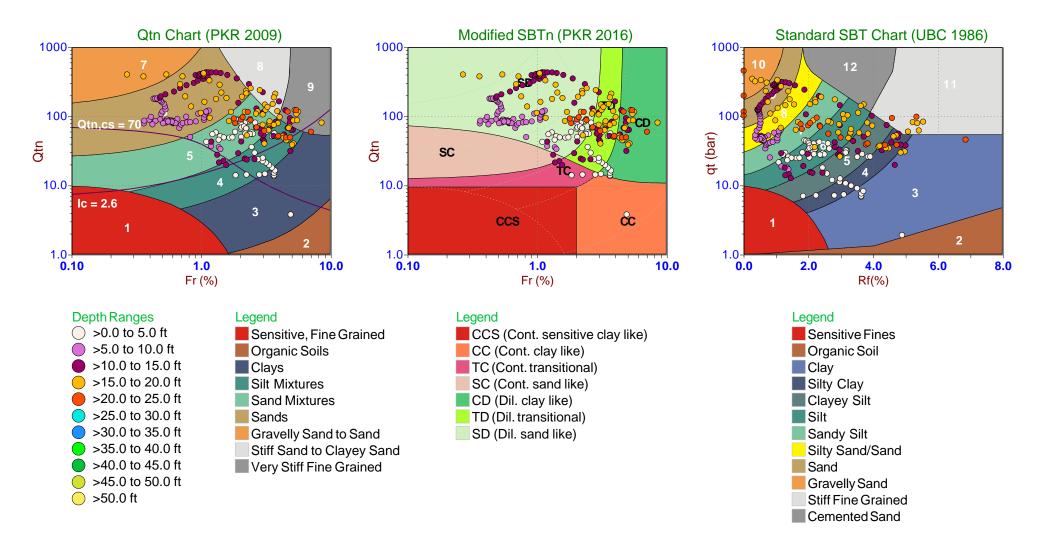




Job No: 23-53-26729 Date: 2023-10-25 09:58

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-021 Cone: 604:T1500F15U35

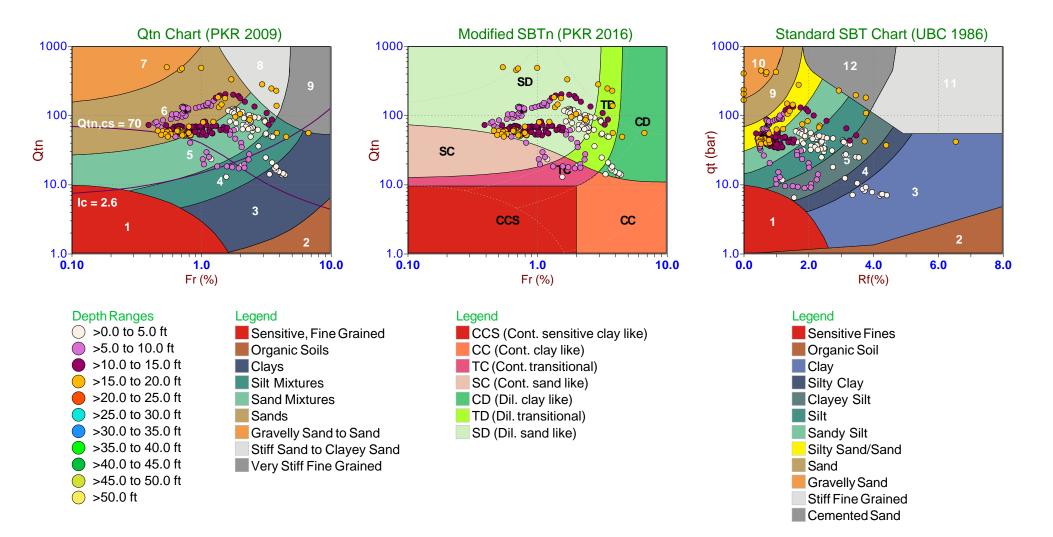




Job No: 23-53-26729 Date: 2023-10-25 14:36

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-022 Cone: 604:T1500F15U35

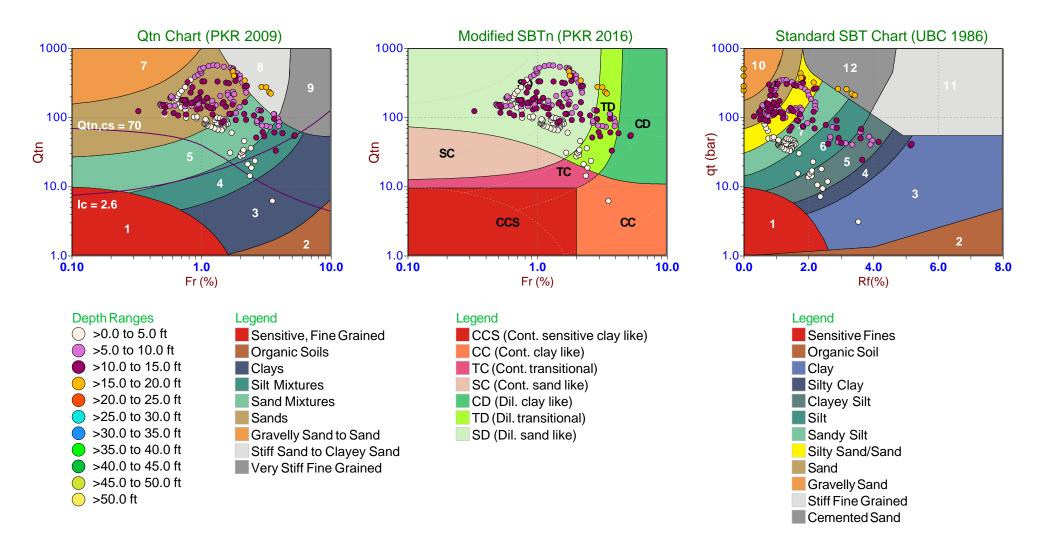




Job No: 23-53-26729 Date: 2023-10-24 13:10

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-060 Cone: 604:T1500F15U35



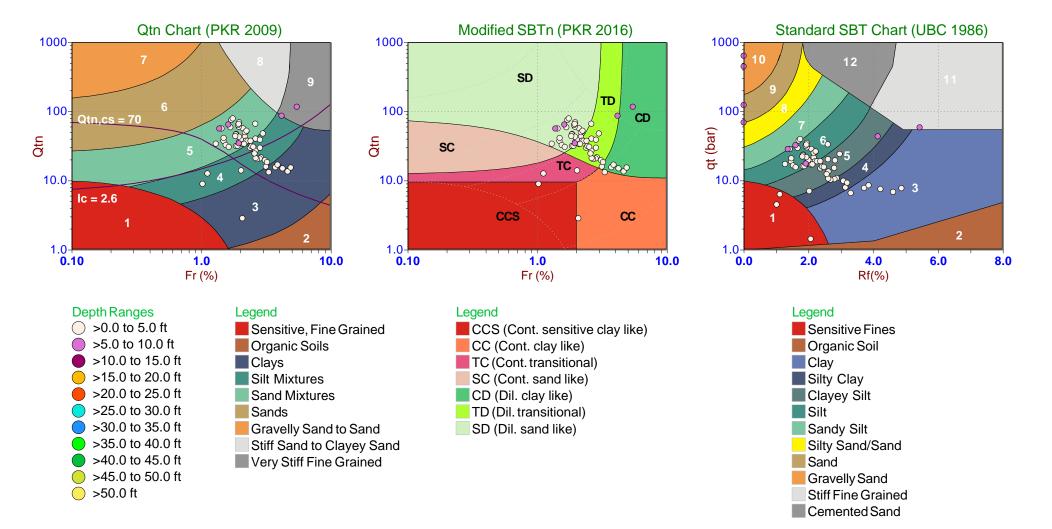


Job No: 23-53-26729 Date: 2023-10-23 09:05

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-064

Cone: 604:T1500F15U35

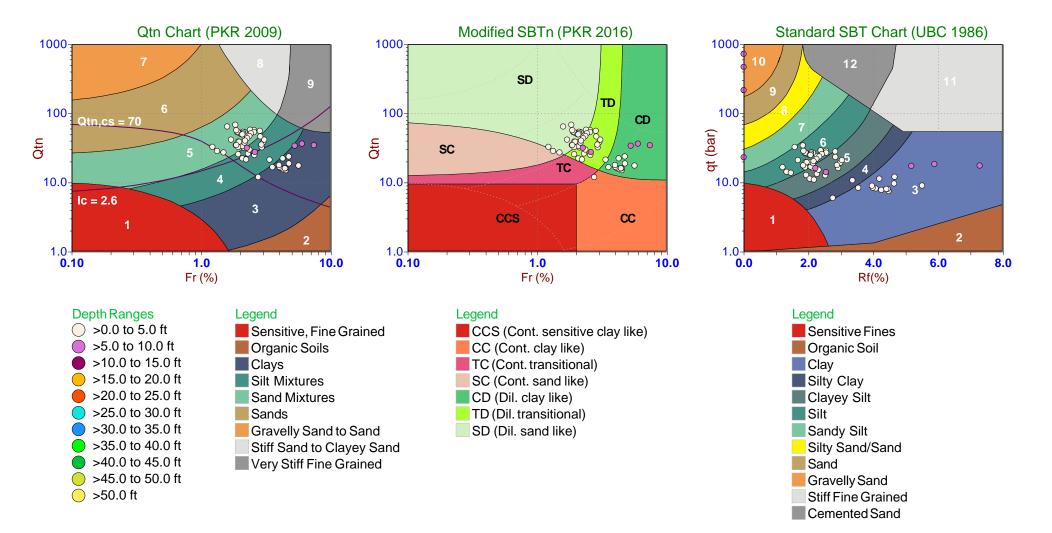




Job No: 23-53-26729 Date: 2023-10-23 09:29

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-064A Cone: 604:T1500F15U35

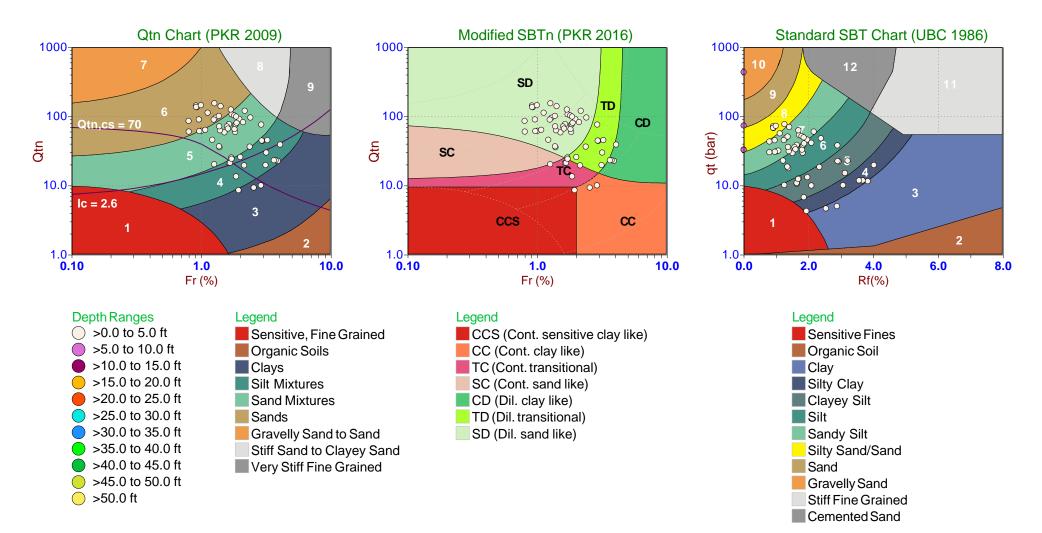




Job No: 23-53-26729 Date: 2023-10-23 07:02

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-066 Cone: 604:T1500F15U35

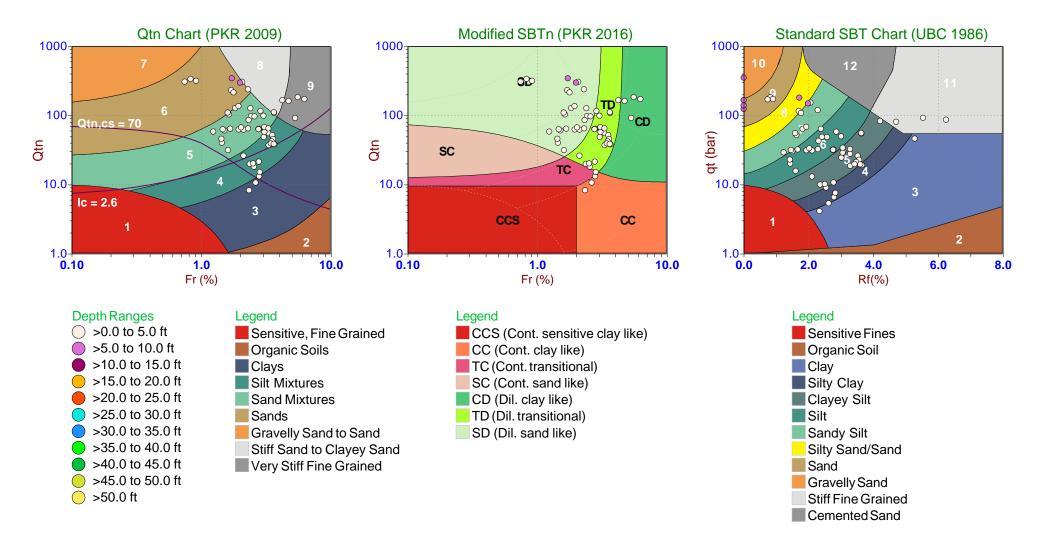




Job No: 23-53-26729 Date: 2023-10-23 08:36

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-066A Cone: 604:T1500F15U35

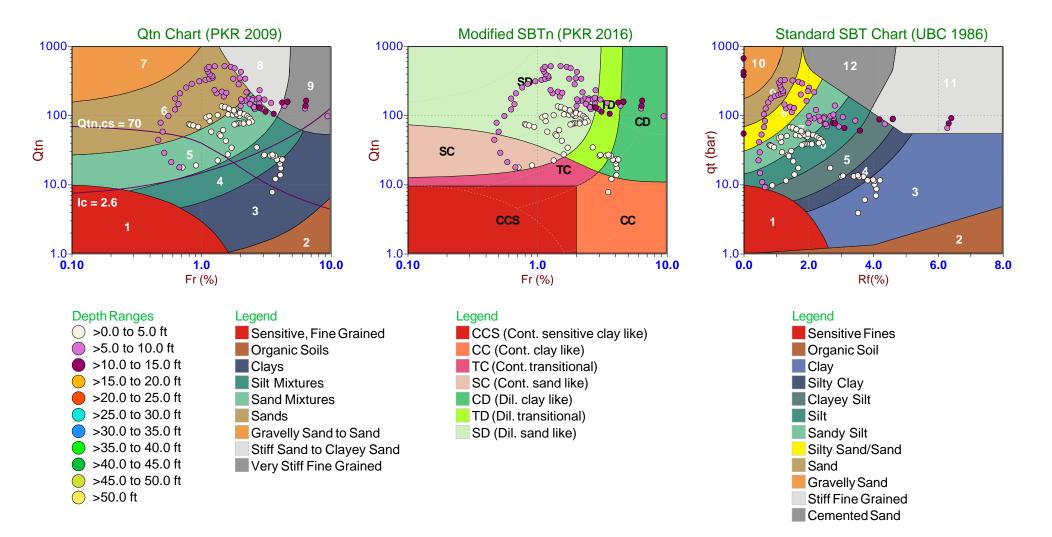




Job No: 23-53-26729 Date: 2023-10-24 13:47

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-070 Cone: 604:T1500F15U35

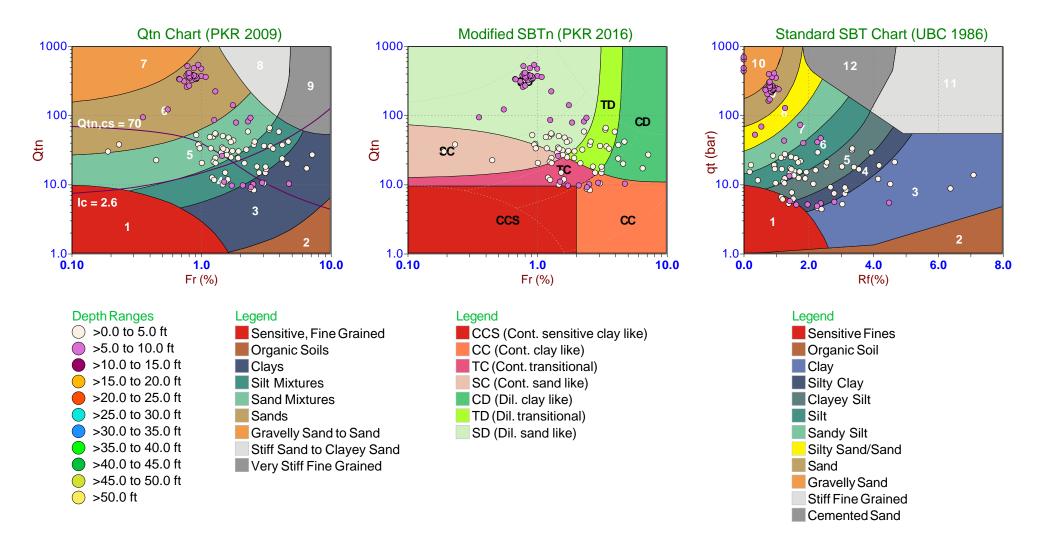




Job No: 23-53-26729 Date: 2023-10-23 10:47

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-073 Cone: 604:T1500F15U35

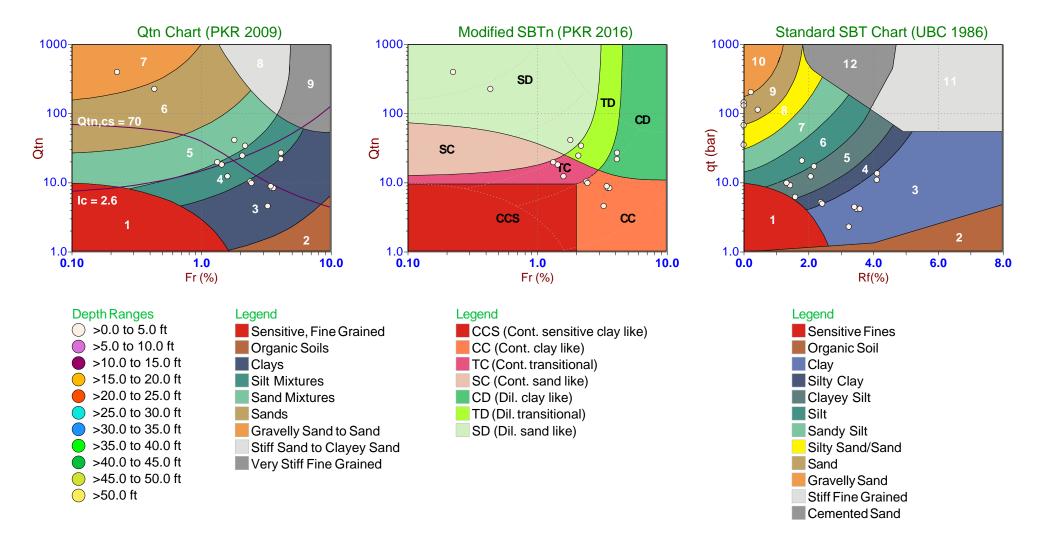




Job No: 23-53-26729 Date: 2023-10-23 09:58

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-074 Cone: 604:T1500F15U35

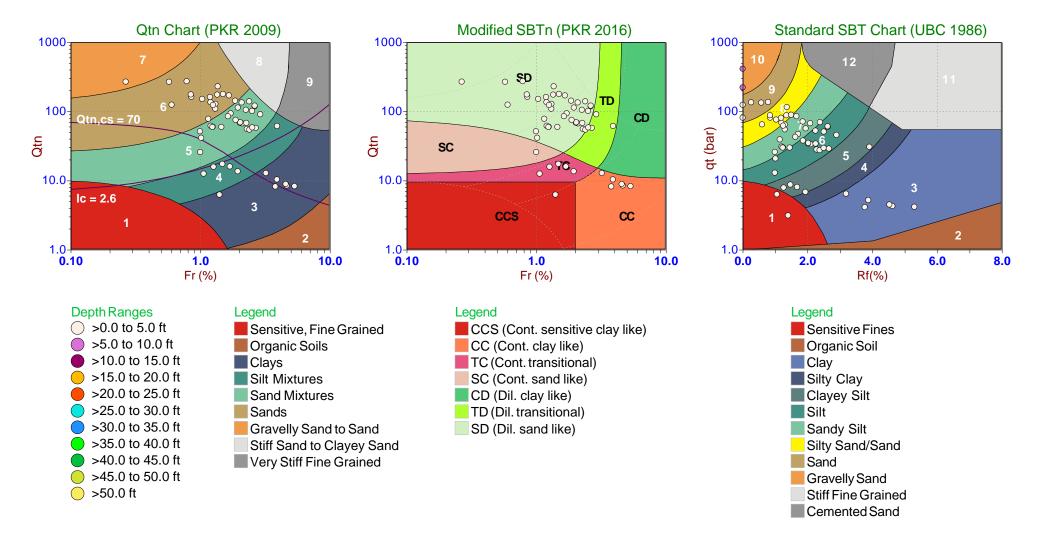




Job No: 23-53-26729 Date: 2023-10-23 10:17

Sounding: CPT23-B-074A Cone: 604:T1500F15U35

Site: Proposed Micron Plant, Clay, NY



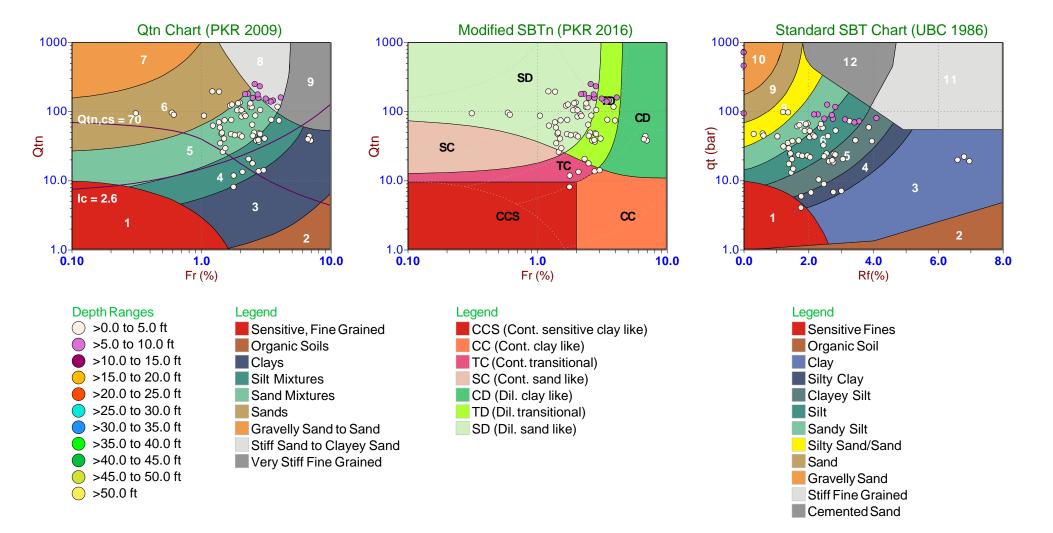


Job No: 23-53-26729 Date: 2023-10-23 11:10

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-075 Cone: 604:T1500F15U35

Cone: 604:11500F15U35

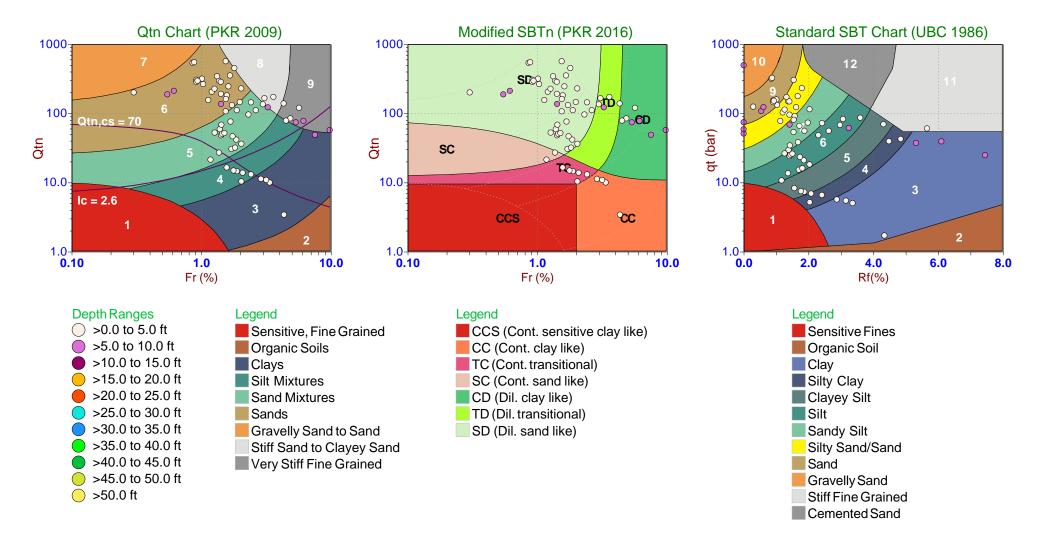




Job No: 23-53-26729 Date: 2023-10-23 11:37

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-076 Cone: 604:T1500F15U35

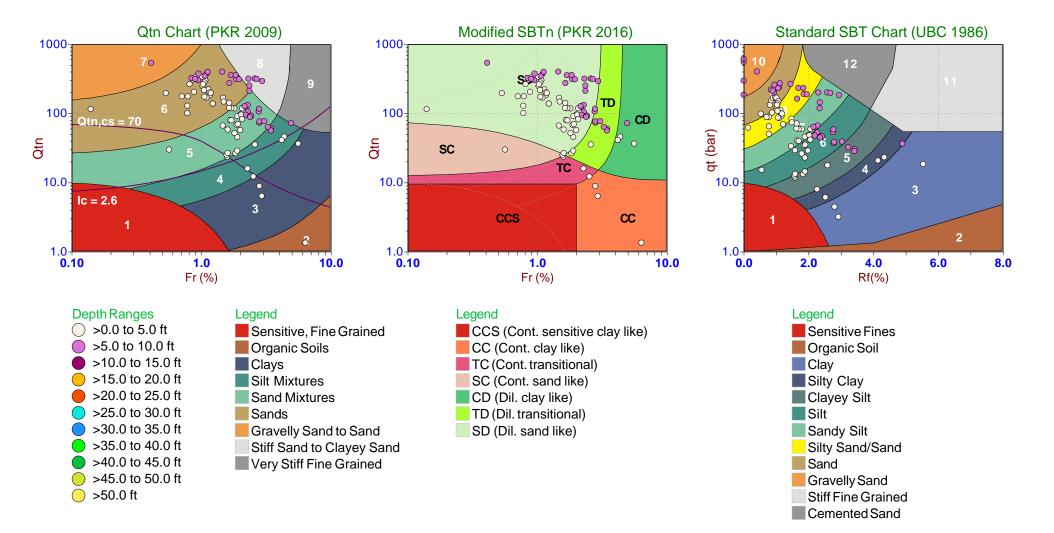




Job No: 23-53-26729 Date: 2023-10-23 12:06

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-077 Cone: 604:T1500F15U35

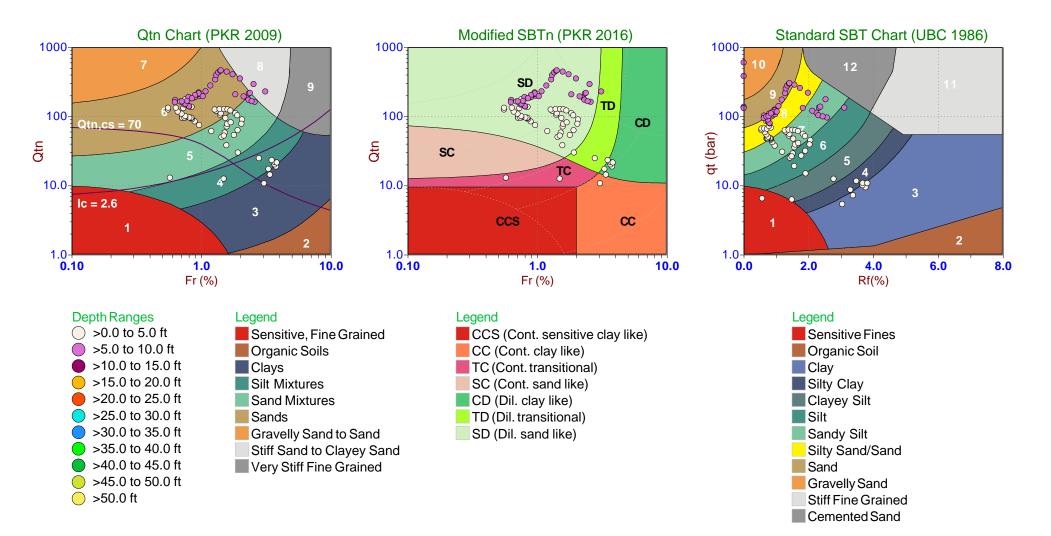




Job No: 23-53-26729 Date: 2023-10-25 07:29

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-078 Cone: 604:T1500F15U35

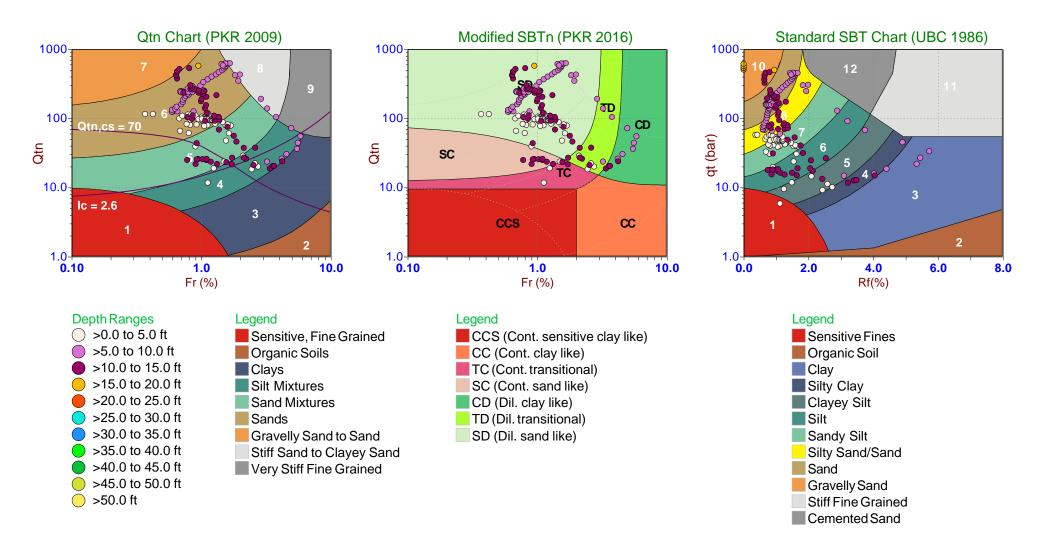




Job No: 23-53-26729 Date: 2023-10-24 14:26

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-080 Cone: 604:T1500F15U35



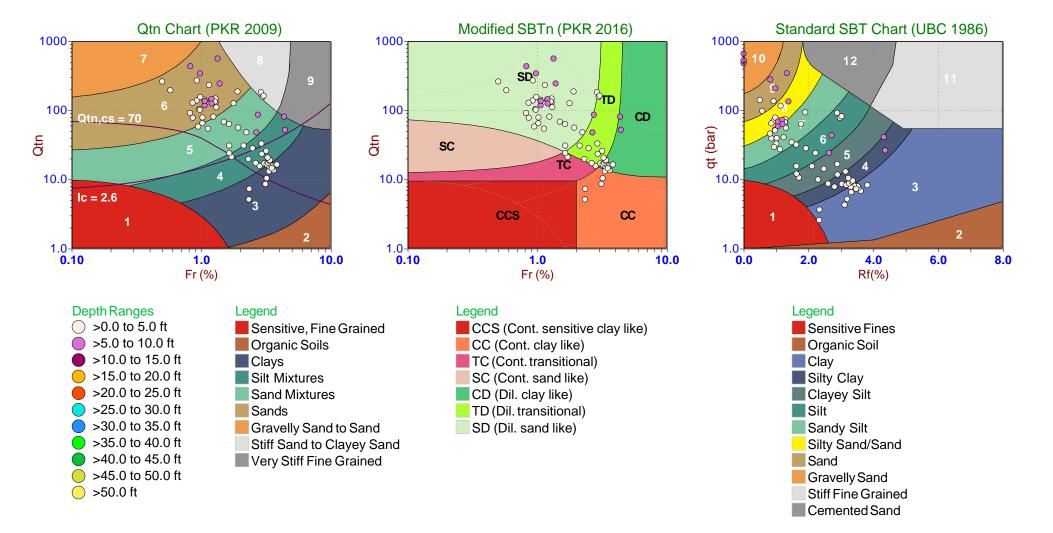


Job No: 23-53-26729 Date: 2023-10-23 13:38

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-084 Cone: 604:T1500F15U35

Cone: 604:T1500F15U35

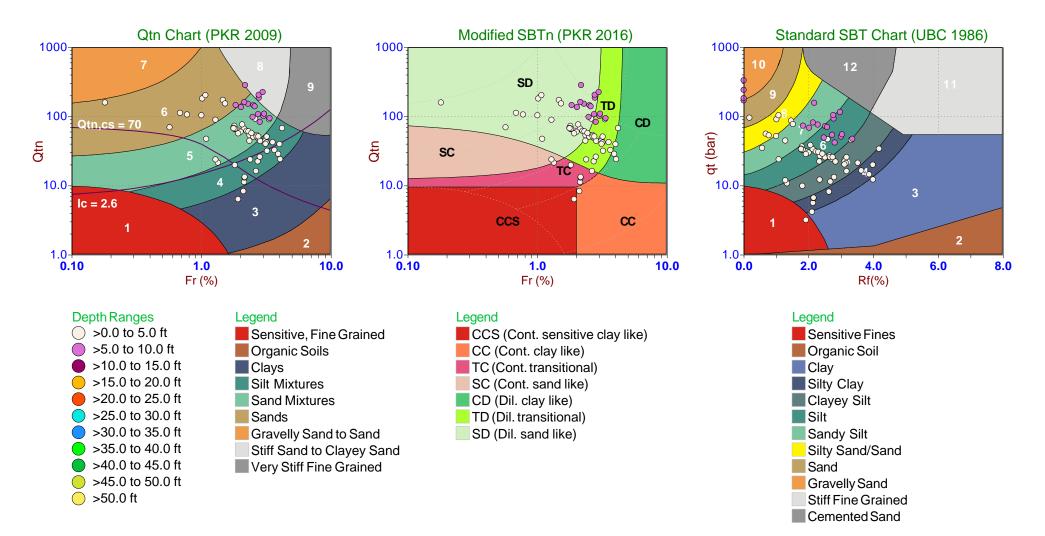




Job No: 23-53-26729 Date: 2023-10-23 12:54

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-086 Cone: 604:T1500F15U35

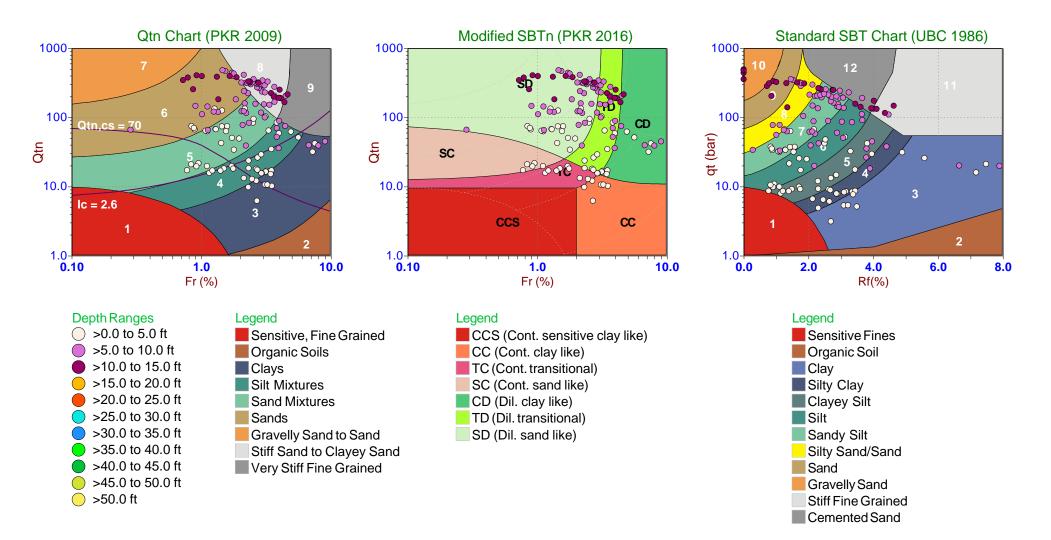




Job No: 23-53-26729 Date: 2023-10-23 14:25

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-092 Cone: 604:T1500F15U35

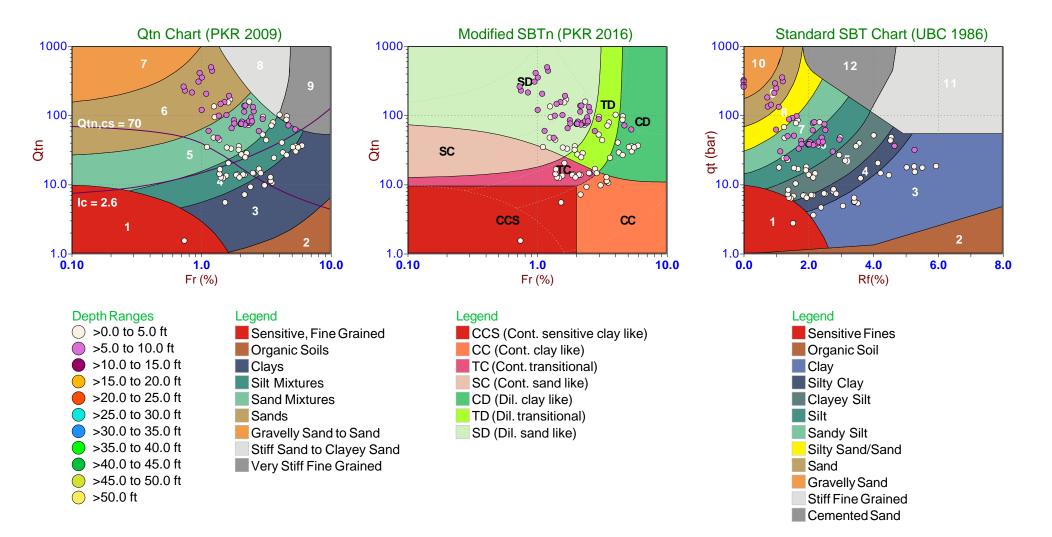




Job No: 23-53-26729 Date: 2023-10-23 14:11

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-093 Cone: 604:T1500F15U35

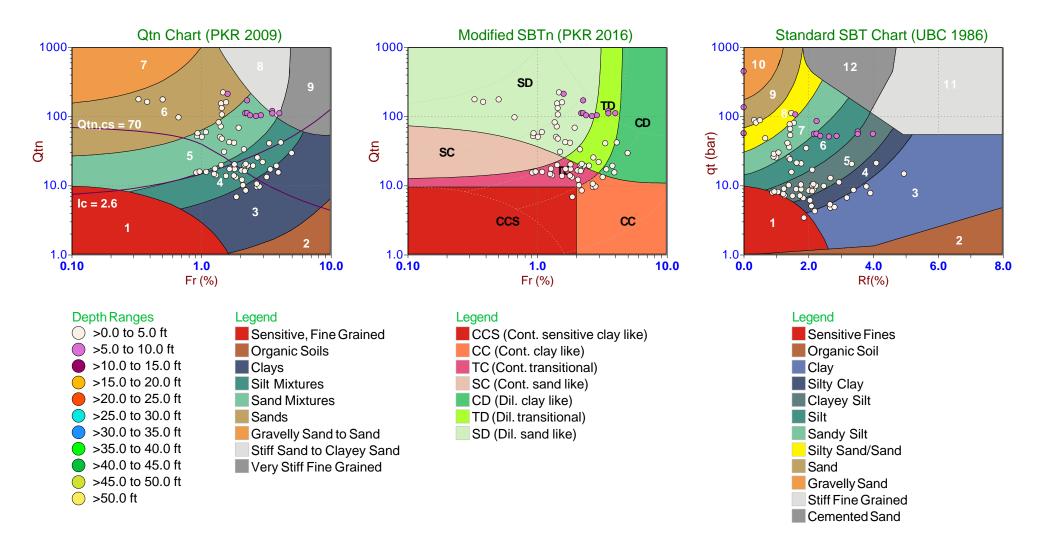




Job No: 23-53-26729 Date: 2023-10-24 07:28

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-095 Cone: 604:T1500F15U35

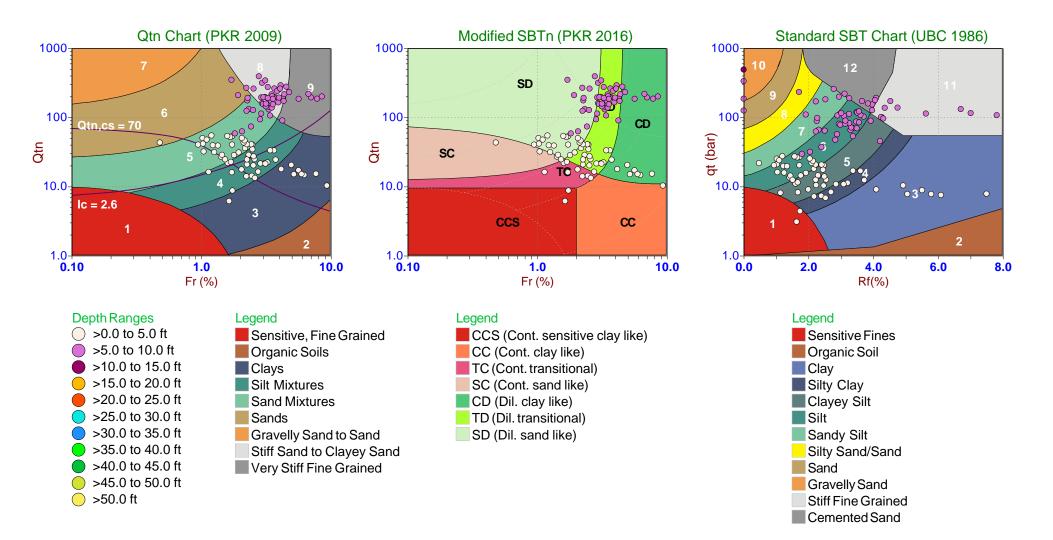




Job No: 23-53-26729 Date: 2023-10-23 12:45

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-097 Cone: 604:T1500F15U35



Cemented Sand



### 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

Qtn Chart (PKR 2009) Modified SBTn (PKR 2016) Standard SBT Chart (UBC 1986) 1000 1000-1000-12 100-100 100-Qtn,co=07@ 9 2000 qt (bar) Qtu Qtn SC TC 10.0-10.0-10.0-Ic = 2.6**CCS** CC 2 1.0+ 0.0 1.0 **0.10** 1.0 **0.10** 1.0 1.0 10.0 10.0 2.0 4.0 6.0 8.0 Fr (%) Fr (%) Rf(%) **Depth Ranges** Legend Legend Legend >0.0 to 5.0 ft Sensitive, Fine Grained CCS (Cont. sensitive clay like) Sensitive Fines >5.0 to 10.0 ft Organic Soils CC (Cont. clay like) Organic Soil >10.0 to 15.0 ft Clays TC (Cont. transitional) Clav >15.0 to 20.0 ft Silt Mixtures SC (Cont. sand like) Silty Clay >20.0 to 25.0 ft Sand Mixtures CD (Dil. clay like) Clayey Silt TD (Dil. transitional) >25.0 to 30.0 ft Sands Silt >30.0 to 35.0 ft Gravelly Sand to Sand SD (Dil. sand like) Sandy Silt >35.0 to 40.0 ft Silty Sand/Sand Stiff Sand to Clayey Sand >40.0 to 45.0 ft Very Stiff Fine Grained Sand >45.0 to 50.0 ft Gravelly Sand >50.0 ft Stiff Fine Grained

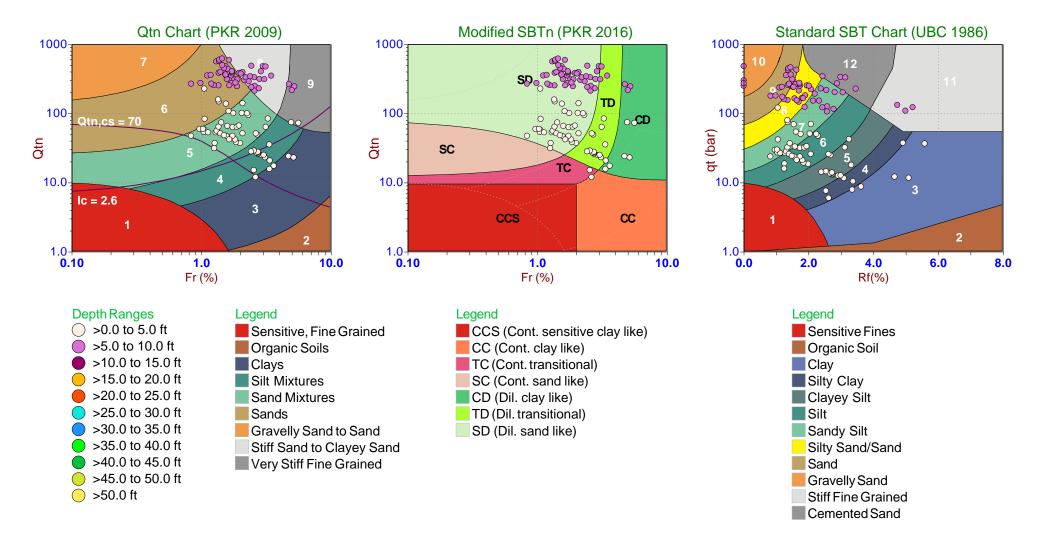


Job No: 23-53-26729 Date: 2023-10-24 11:28

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-102 Cone: 604:T1500F15U35

t. Clay. NY

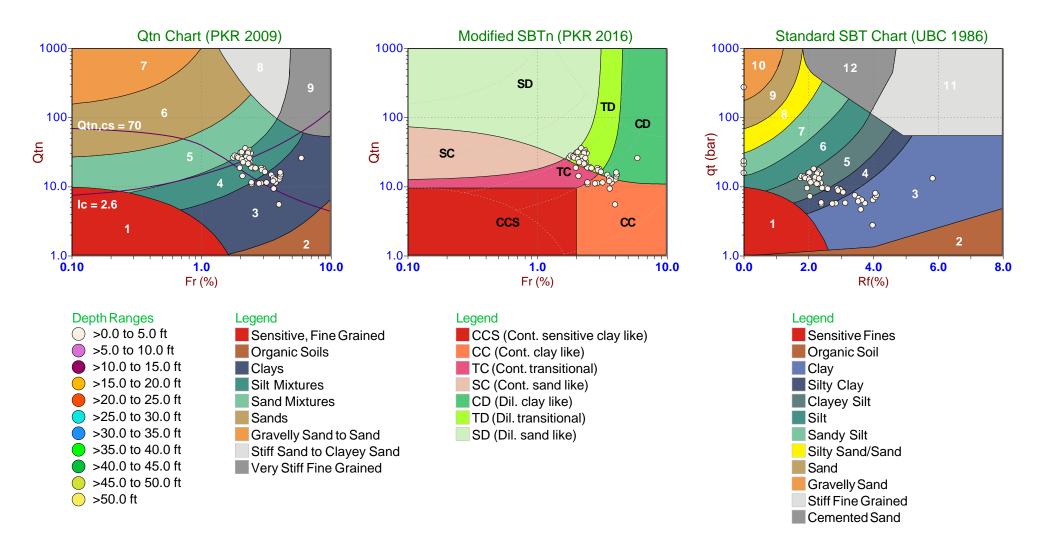




Job No: 23-53-26729 Date: 2023-10-24 12:09

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-104 Cone: 604:T1500F15U35

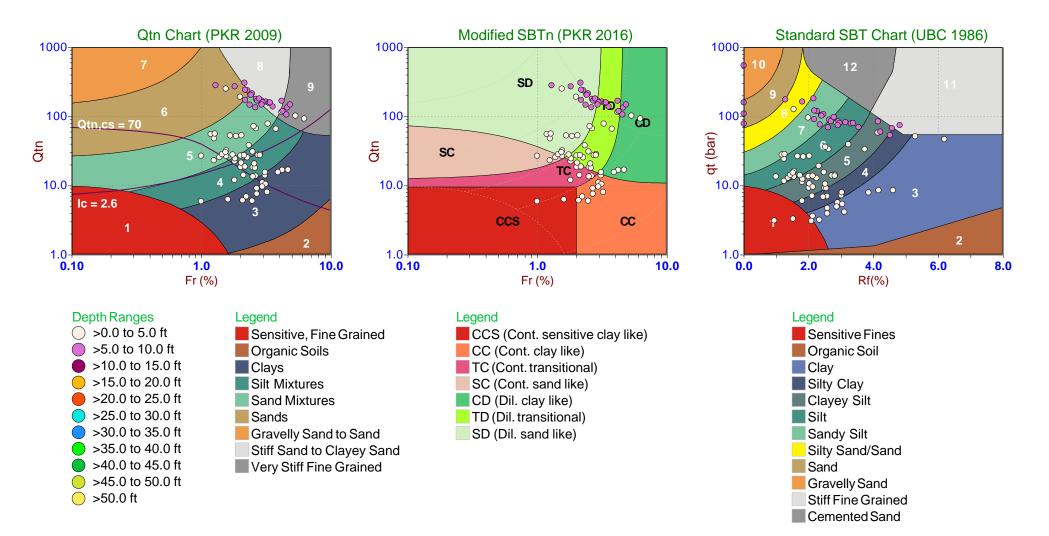




Job No: 23-53-26729 Date: 2023-10-24 08:37

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-106 Cone: 604:T1500F15U35

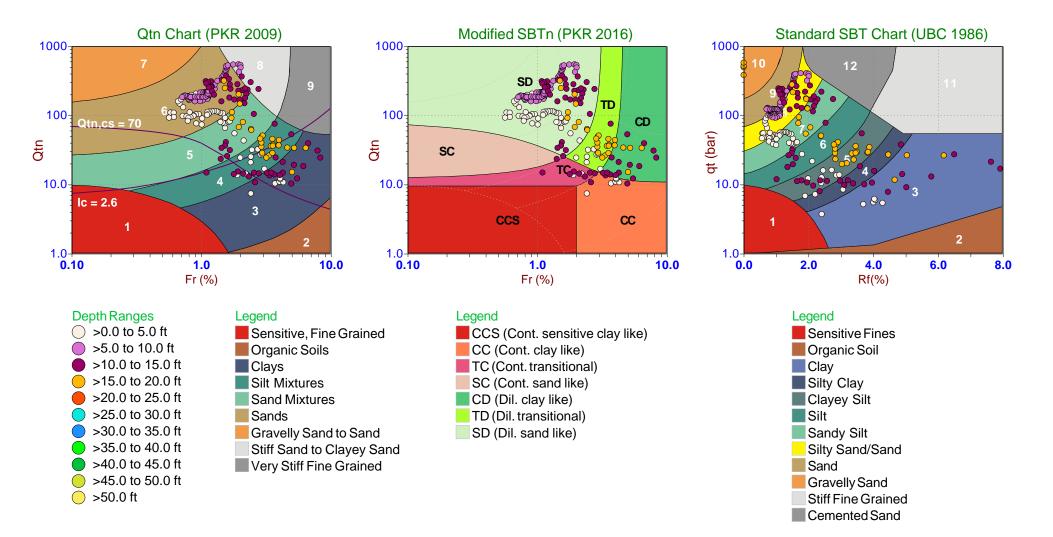




Job No: 23-53-26729 Date: 2023-10-25 08:35

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-107 Cone: 604:T1500F15U35

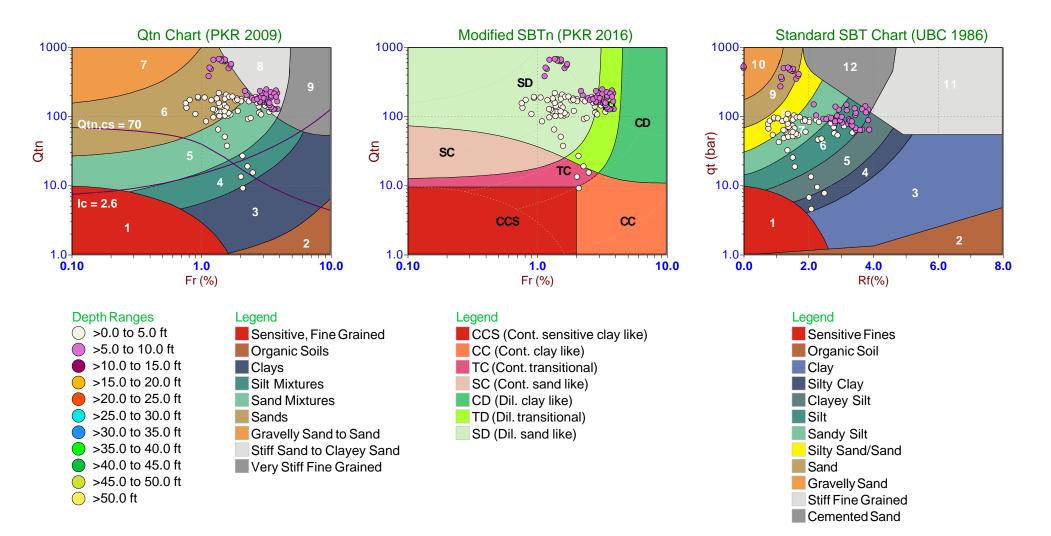




Job No: 23-53-26729 Date: 2023-10-24 10:50

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-112 Cone: 604:T1500F15U35

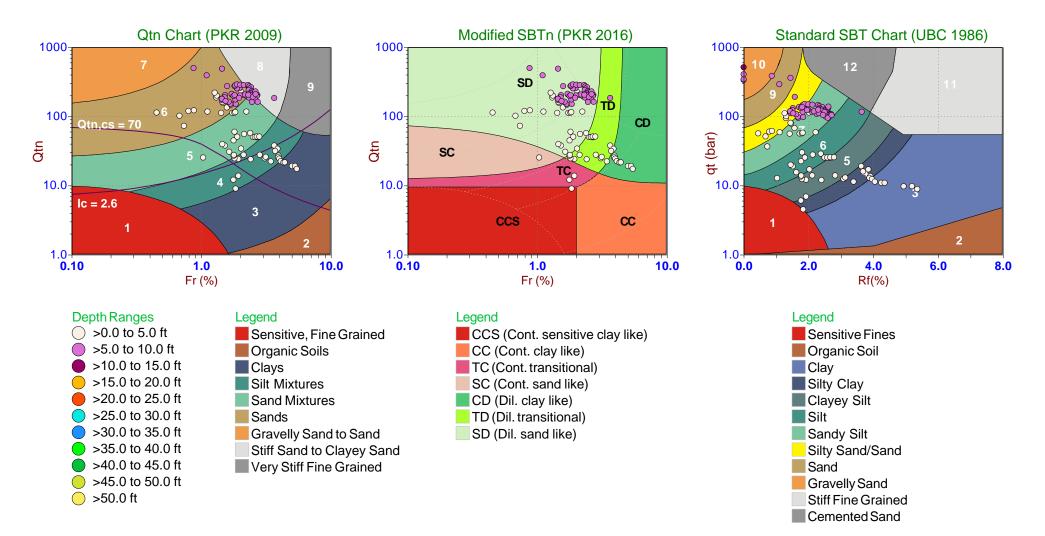




Job No: 23-53-26729 Date: 2023-10-24 09:36

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-113 Cone: 604:T1500F15U35

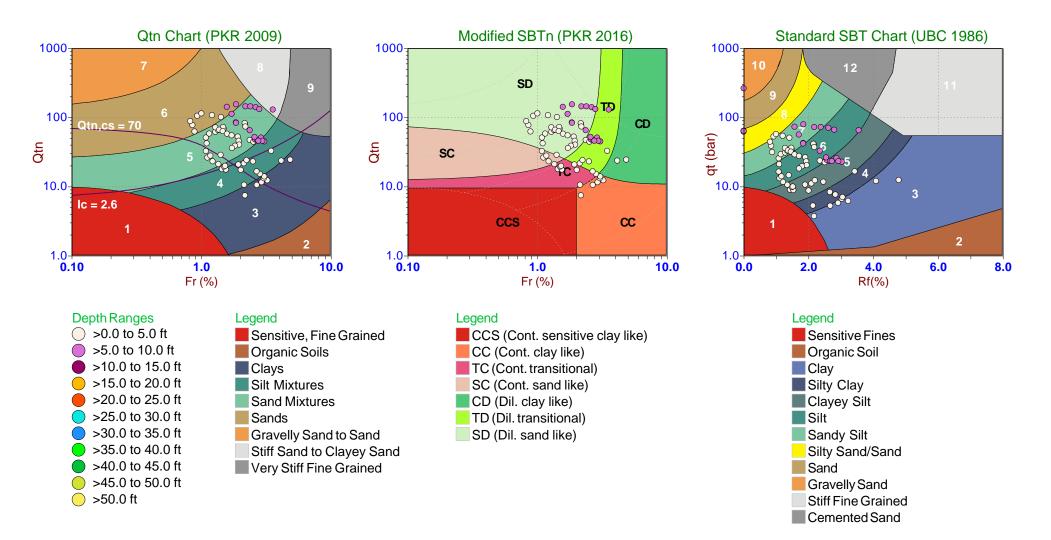




Job No: 23-53-26729 Date: 2023-10-24 09:03

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-115 Cone: 604:T1500F15U35

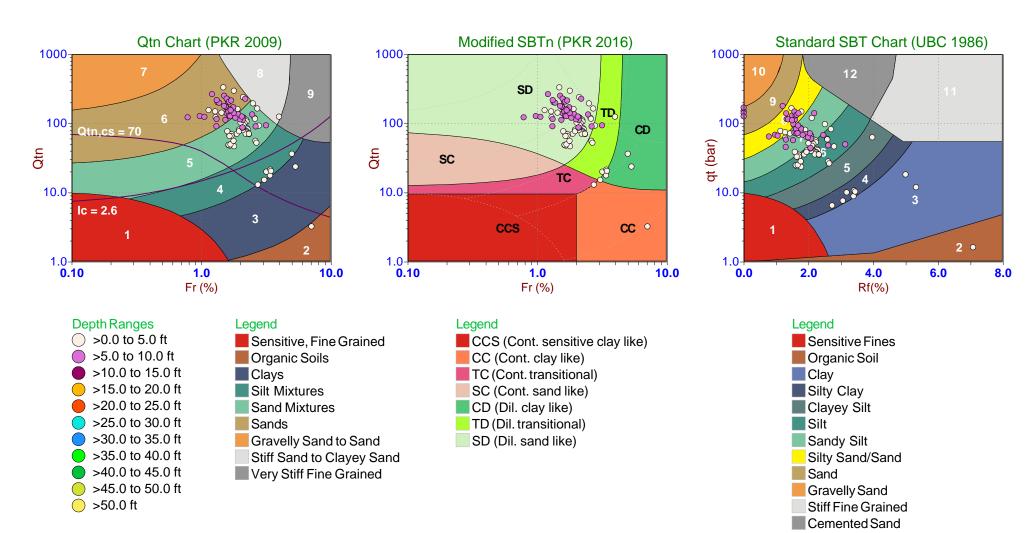




Job No: 23-53-26729 Date: 2023-10-24 10:14

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-120 Cone: 604:T1500F15U35



Gravelly Sand

Stiff Fine Grained
Cemented Sand



>45.0 to 50.0 ft

>50.0 ft

# 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

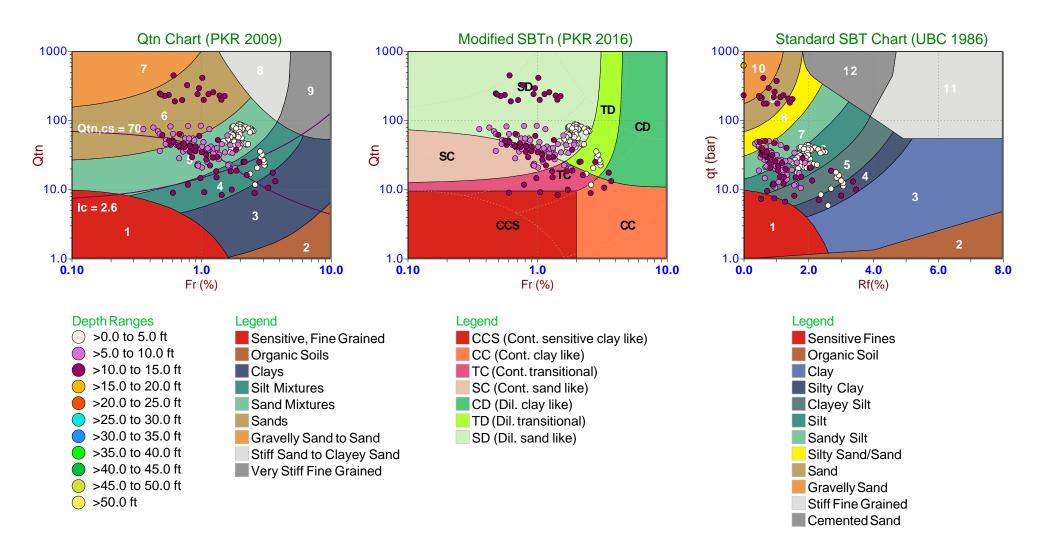
Qtn Chart (PKR 2009) Modified SBTn (PKR 2016) Standard SBT Chart (UBC 1986) 1000 1000-1000 100-100-100-CD qt (bar) Qtu Qtn 10.0-10.0-10.0 Ic = 2.6**CCS** CC 2 1.0+ 0.0 1.0 **0.10** 1.0 **0.10** 1.0 1.0 10.0 10.0 2.0 4.0 6.0 8.0 Fr (%) Fr (%) Rf(%) **Depth Ranges** Legend Legend Legend >0.0 to 5.0 ft Sensitive, Fine Grained Sensitive Fines CCS (Cont. sensitive clay like) >5.0 to 10.0 ft Organic Soils CC (Cont. clay like) Organic Soil >10.0 to 15.0 ft Clays TC (Cont. transitional) Clay >15.0 to 20.0 ft Silt Mixtures SC (Cont. sand like) Silty Clay >20.0 to 25.0 ft Sand Mixtures CD (Dil. clay like) Clayey Silt >25.0 to 30.0 ft Sands TD (Dil. transitional) Silt >30.0 to 35.0 ft Gravelly Sand to Sand SD (Dil. sand like) Sandy Silt >35.0 to 40.0 ft Silty Sand/Sand Stiff Sand to Clayey Sand >40.0 to 45.0 ft Very Stiff Fine Grained Sand



Job No: 23-53-26729 Date: 2023-10-27 10:44

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-221 Cone: 606:T1500F15U35

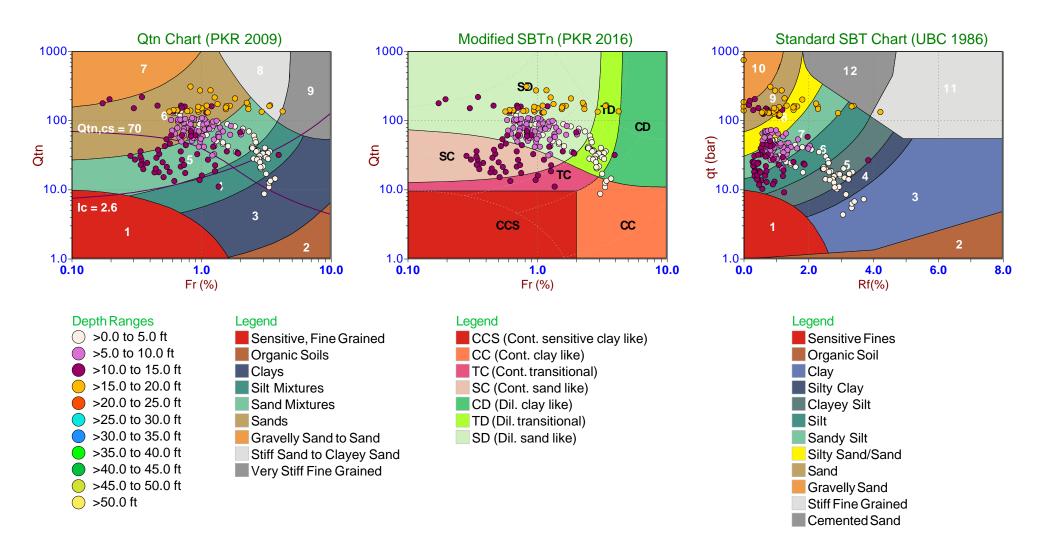




Job No: 23-53-26729 Date: 2023-10-27 11:16

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-222 Cone: 606:T1500F15U35

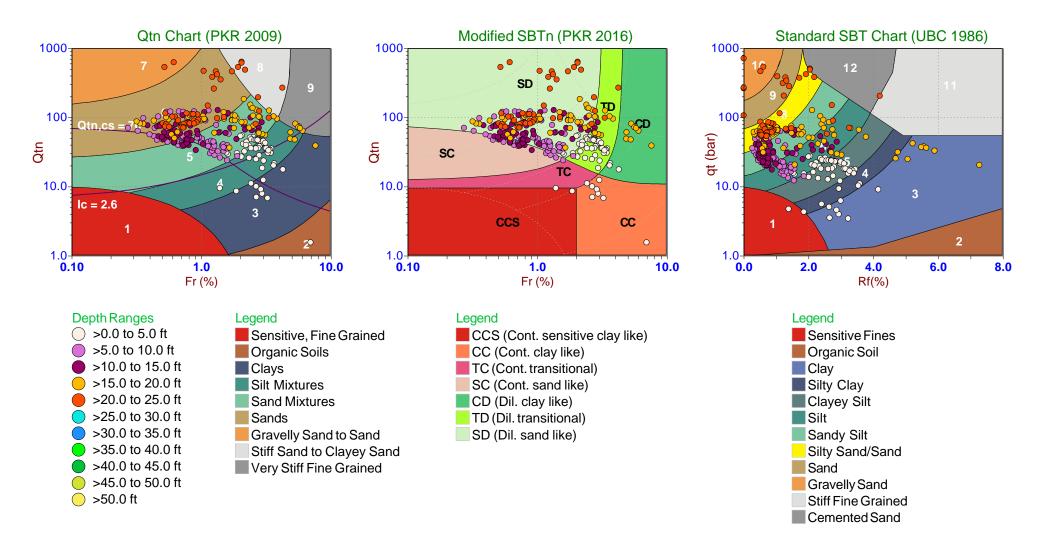




Job No: 23-53-26729 Date: 2023-10-27 14:26

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-225 Cone: 606:T1500F15U35

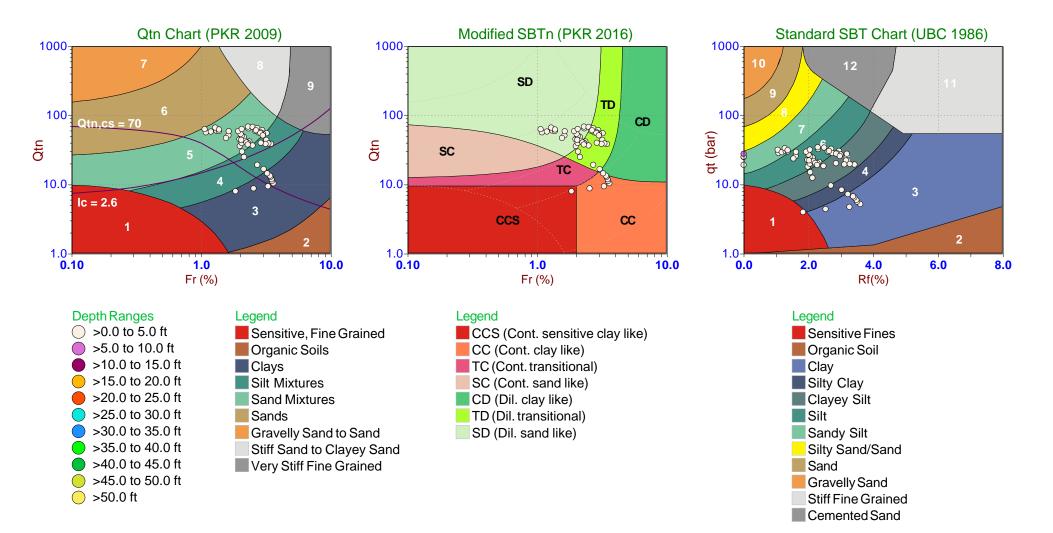




Job No: 23-53-26729 Date: 2023-10-27 12:08

Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-228 Cone: 606:T1500F15U35

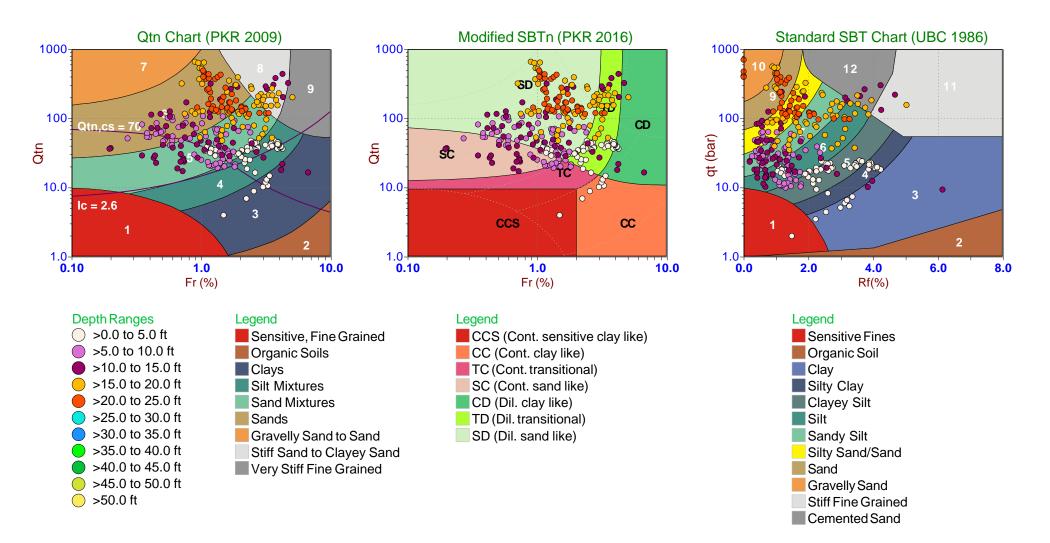




Job No: 23-53-26729 Date: 2023-10-27 13:08

Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-228A Cone: 606:T1500F15U35

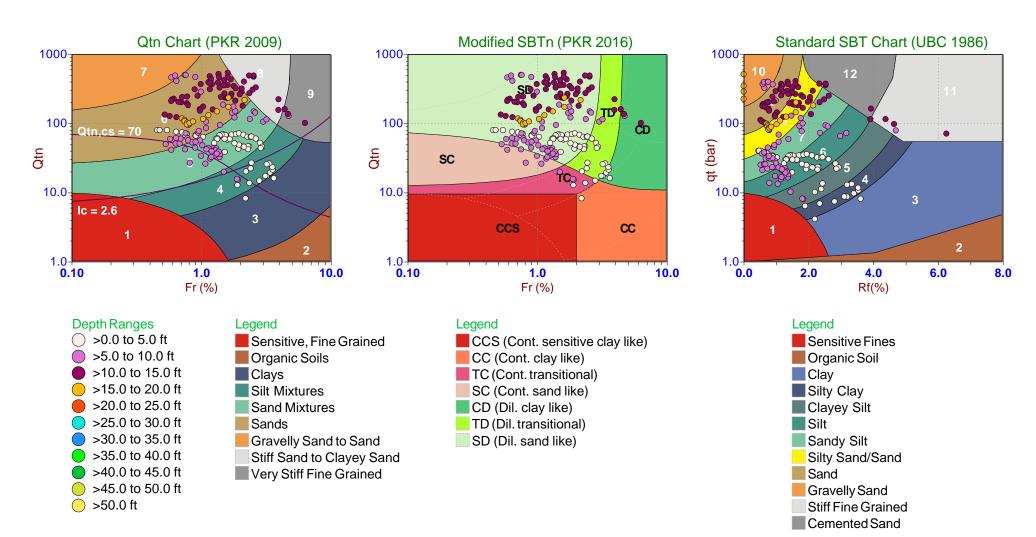




Job No: 23-53-26729 Date: 2023-10-27 09:53

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-237 Cone: 606:T1500F15U35

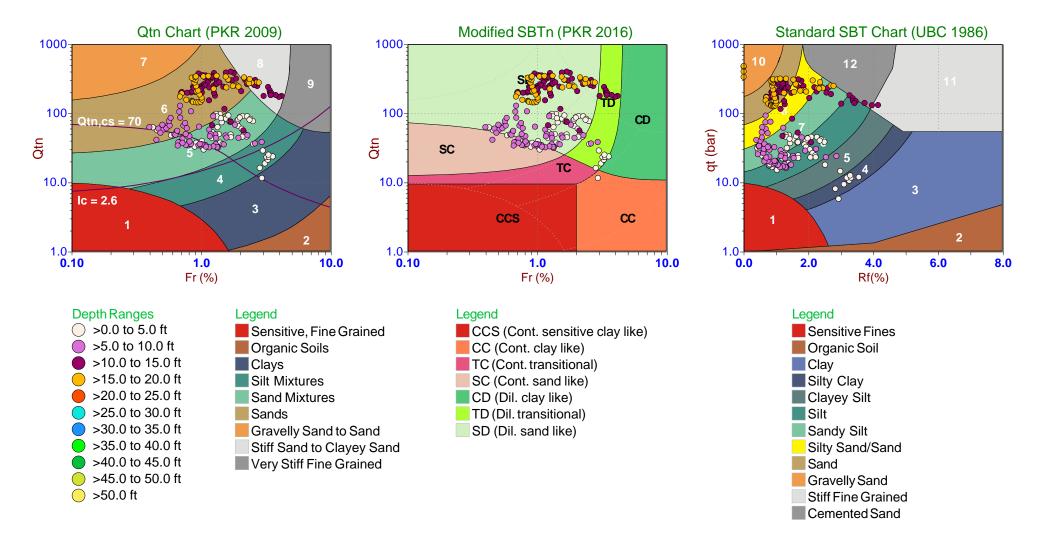




Job No: 23-53-26729 Date: 2023-10-27 10:16

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-238 Cone: 606:T1500F15U35



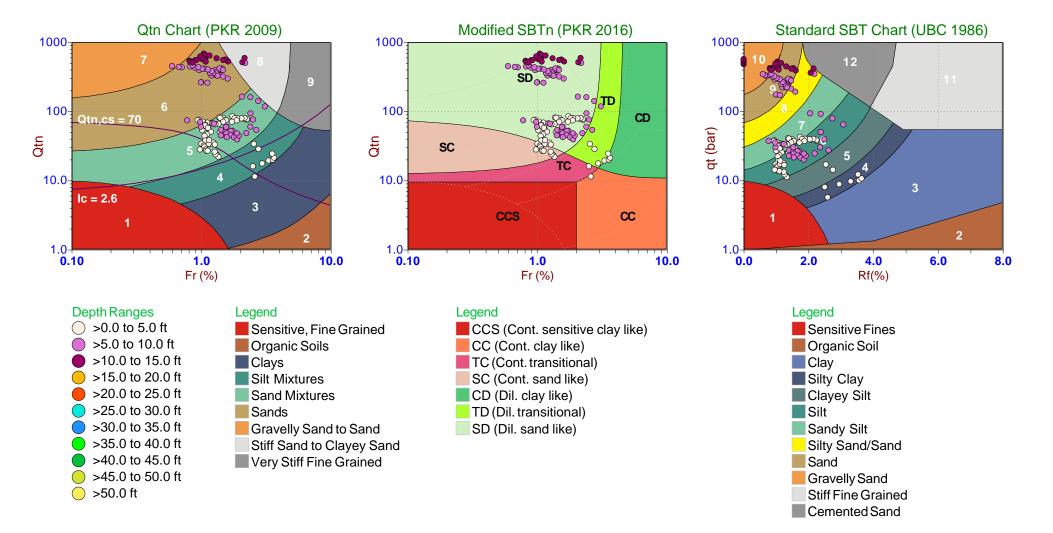


Job No: 23-53-26729 Date: 2023-10-26 07:33

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-243 Cone: 604:T1500F15U35

Cone: 604:11500F15035

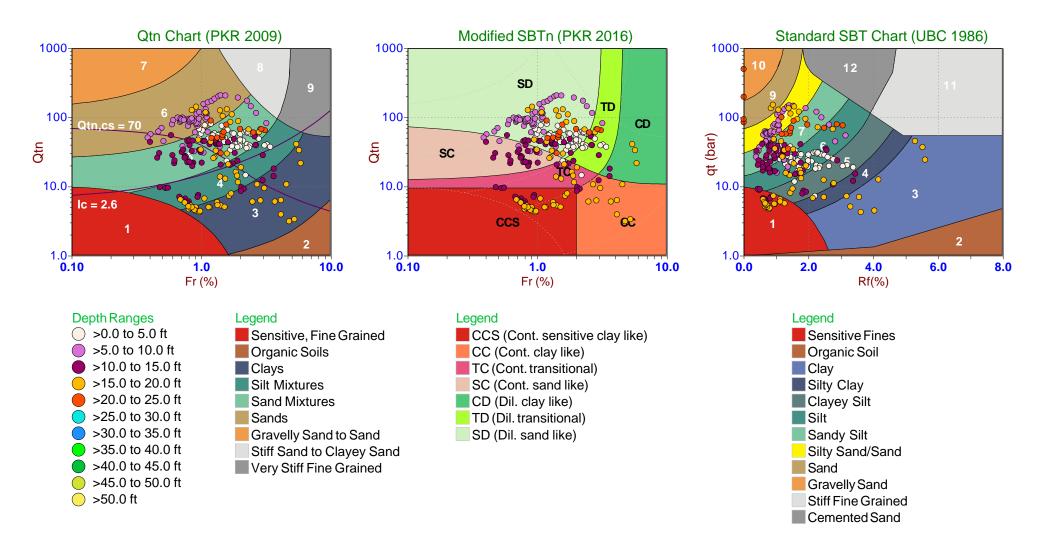




Job No: 23-53-26729 Date: 2023-10-26 09:50

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-244 Cone: 604:T1500F15U35

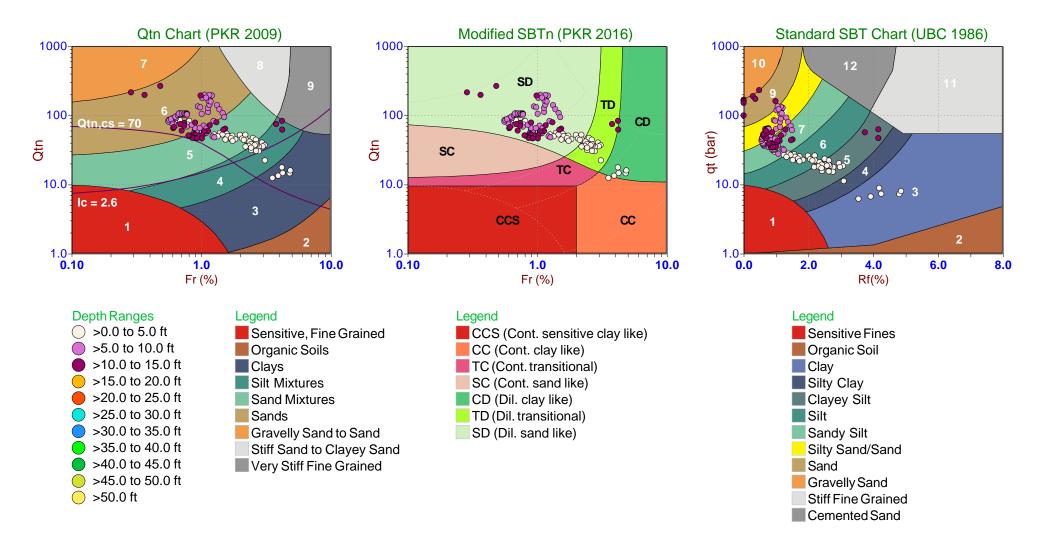




Job No: 23-53-26729 Date: 2023-10-26 11:06

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-246 Cone: 606:T1500F15U35

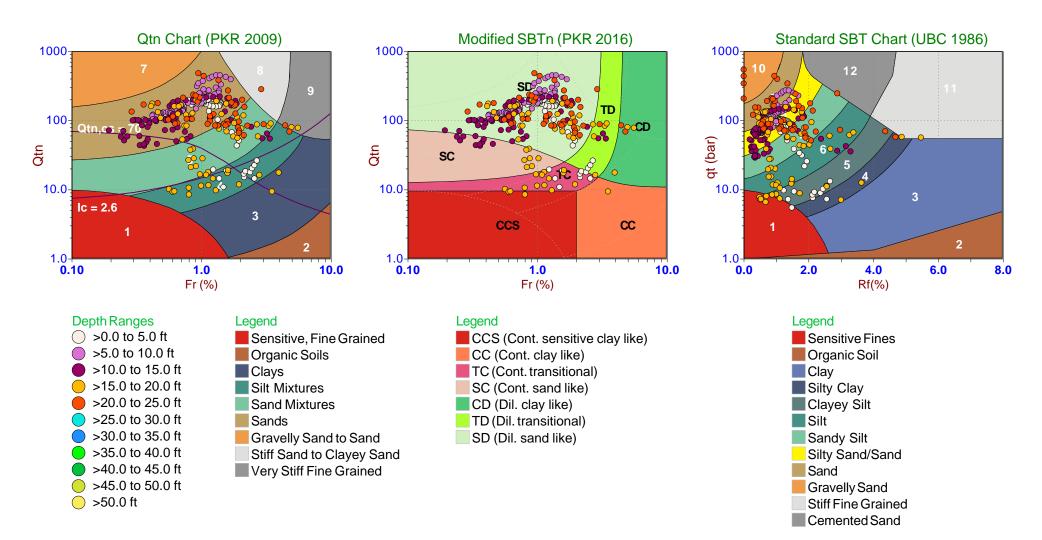




Job No: 23-53-26729 Date: 2023-10-26 12:00

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-252 Cone: 606:T1500F15U35

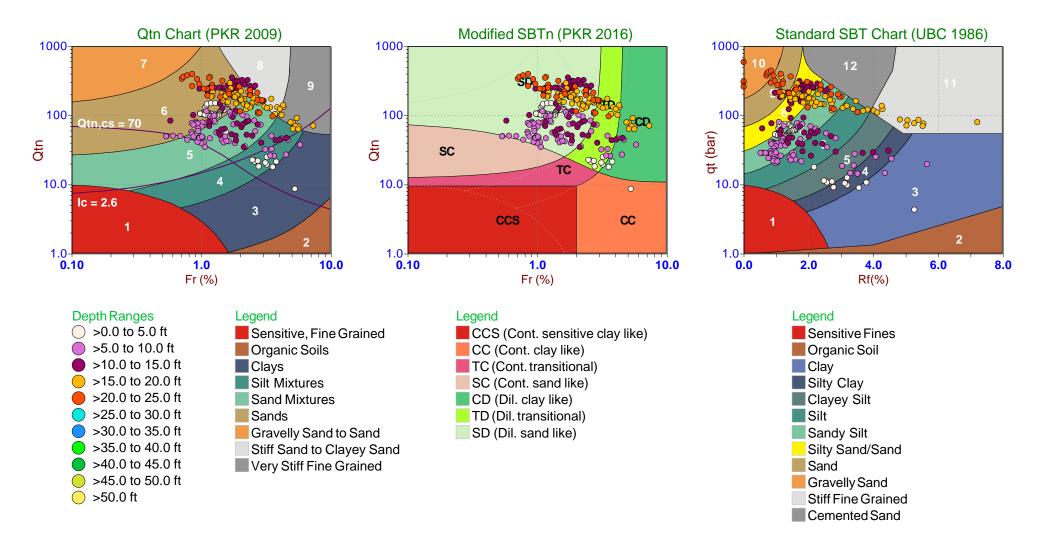




Job No: 23-53-26729 Date: 2023-10-26 12:47

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-261 Cone: 606:T1500F15U35

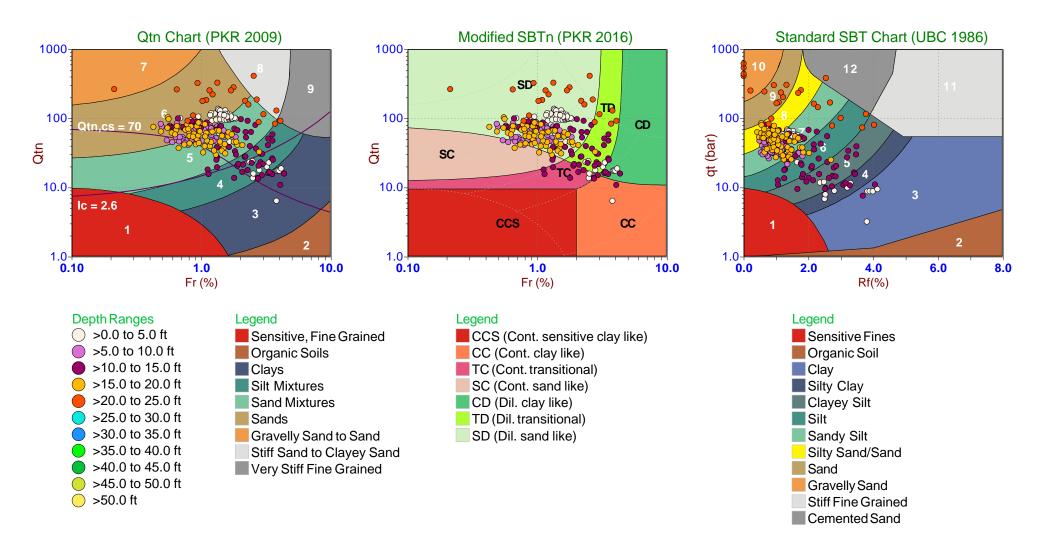




Job No: 23-53-26729 Date: 2023-10-26 15:56

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-262 Cone: 606:T1500F15U35

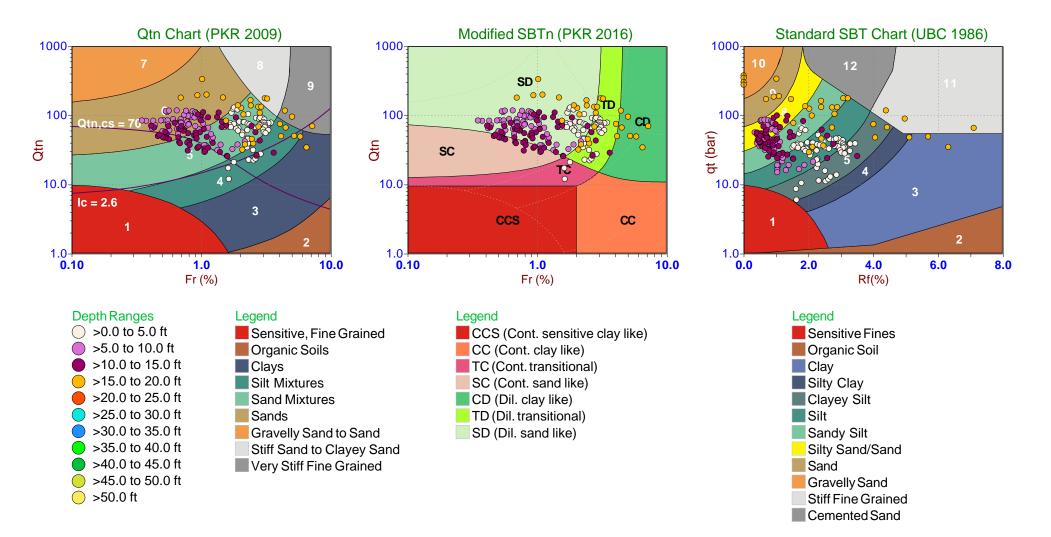




Job No: 23-53-26729 Date: 2023-10-26 13:48

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-270 Cone: 606:T1500F15U35

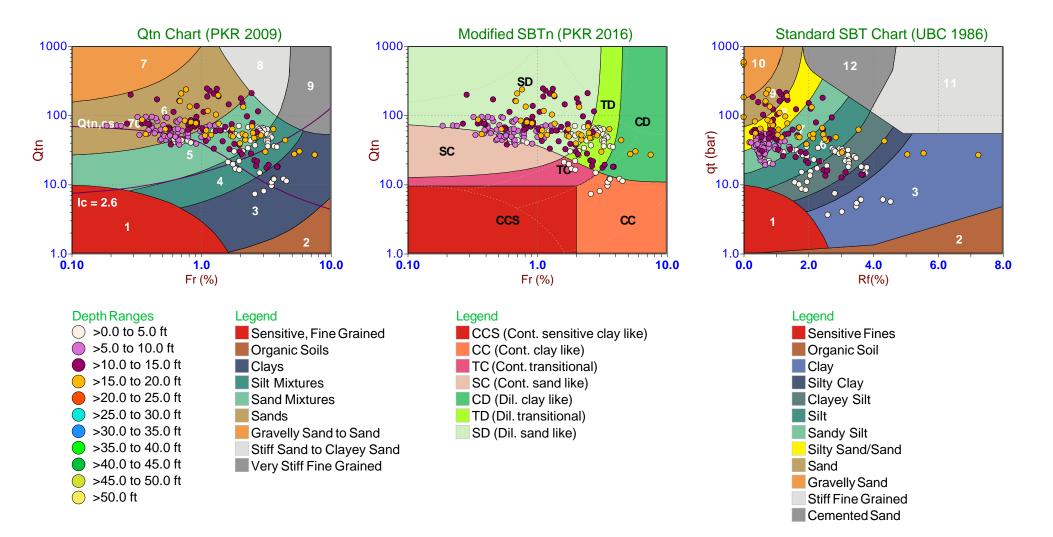




Job No: 23-53-26729 Date: 2023-10-26 14:26

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-280 Cone: 606:T1500F15U35

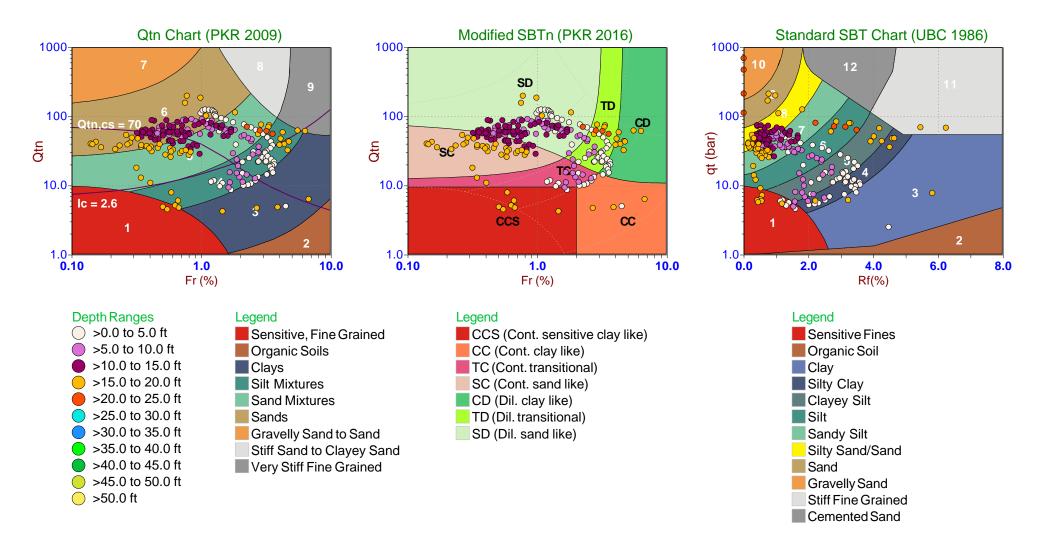




Job No: 23-53-26729 Date: 2023-10-26 15:06

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-282 Cone: 606:T1500F15U35



Cemented Sand



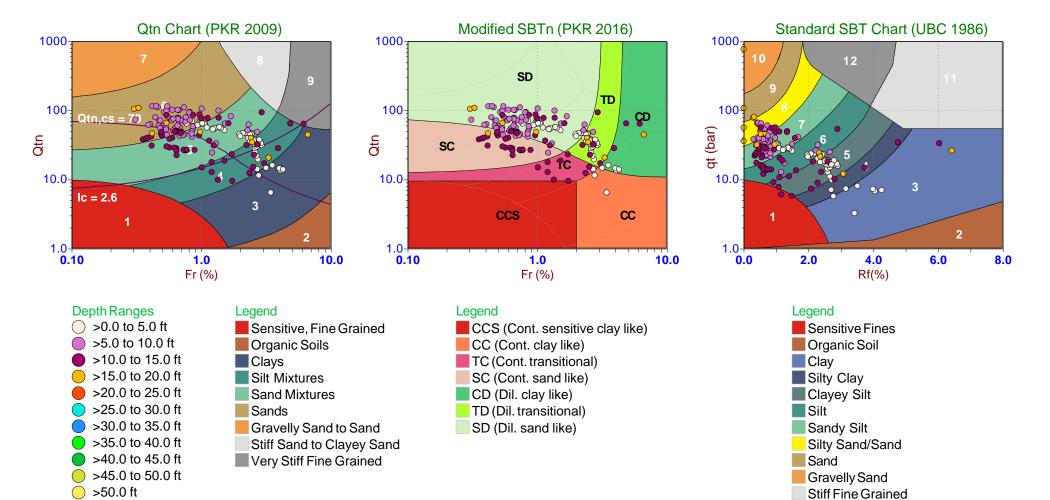
## CME Associates

Job No: 23-53-26729 Date: 2023-10-27 08:32

Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-293

Cone: 606:T1500F15U35

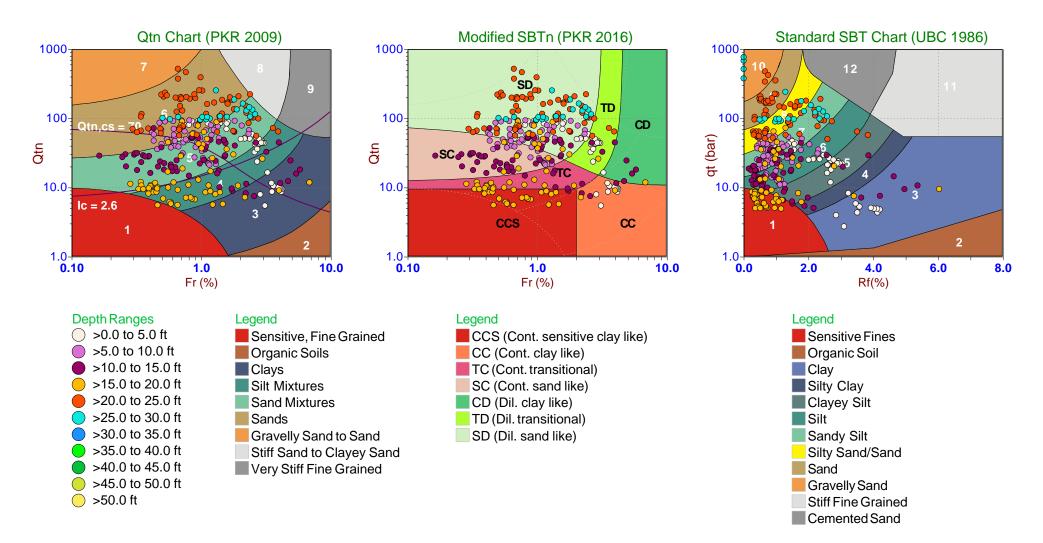




Job No: 23-53-26729 Date: 2023-10-26 08:32

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-312 Cone: 604:T1500F15U35

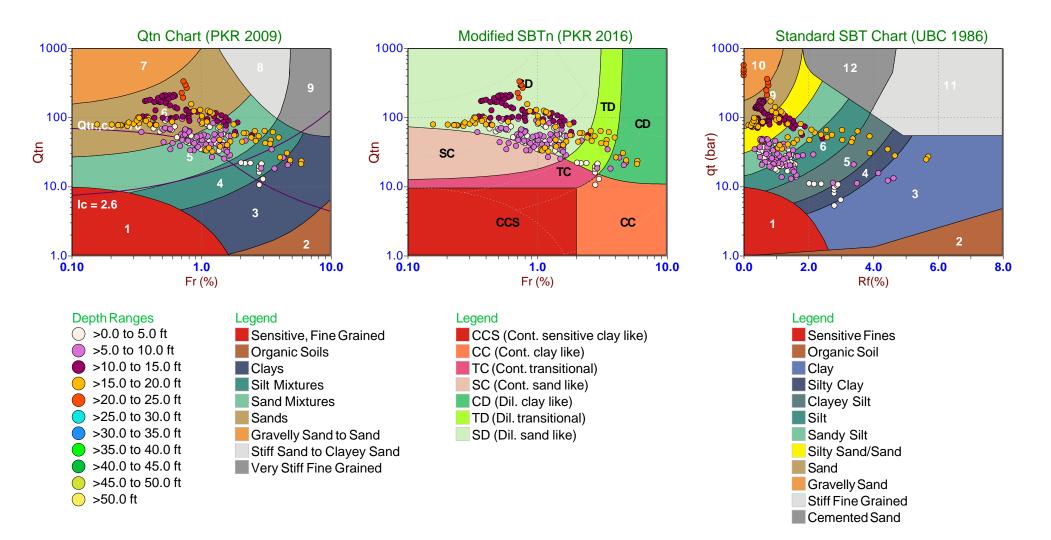




Job No: 23-53-26729 Date: 2023-10-28 11:06

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-325 Cone: 606:T1500F15U35



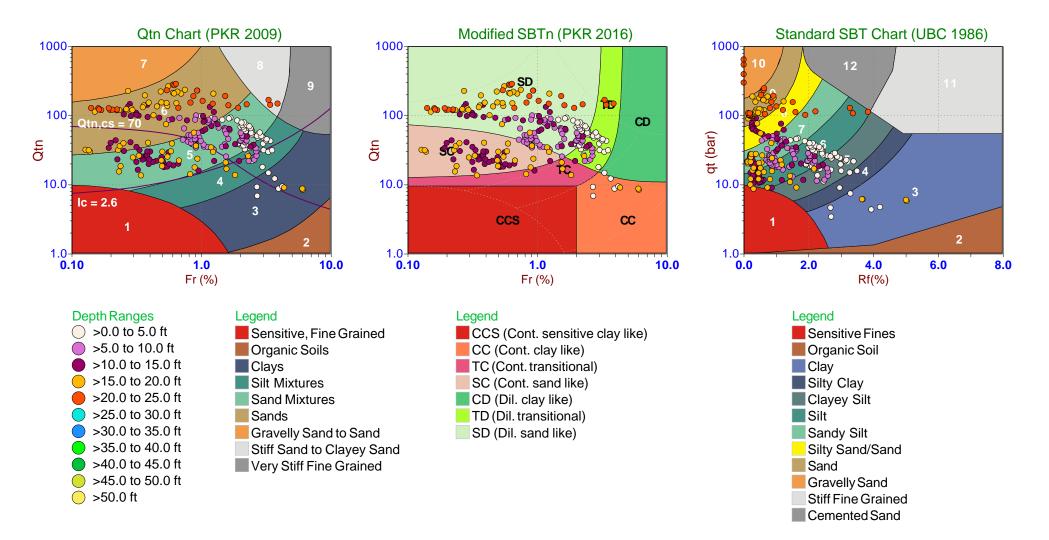


Job No: 23-53-26729 Date: 2023-10-28 10:06

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-327

Cone: 606:T1500F15U35

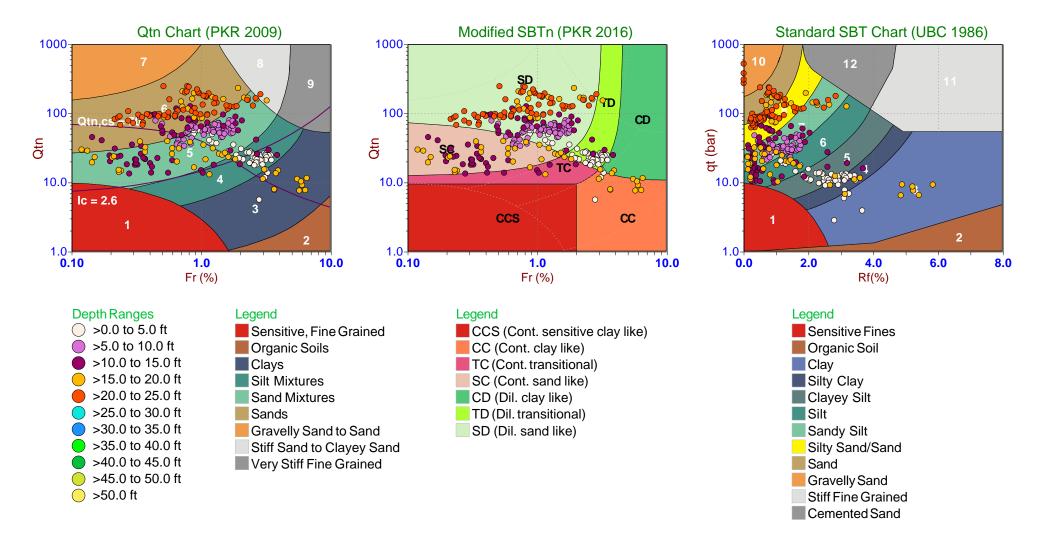




Job No: 23-53-26729 Date: 2023-10-28 09:35

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-329 Cone: 606:T1500F15U35

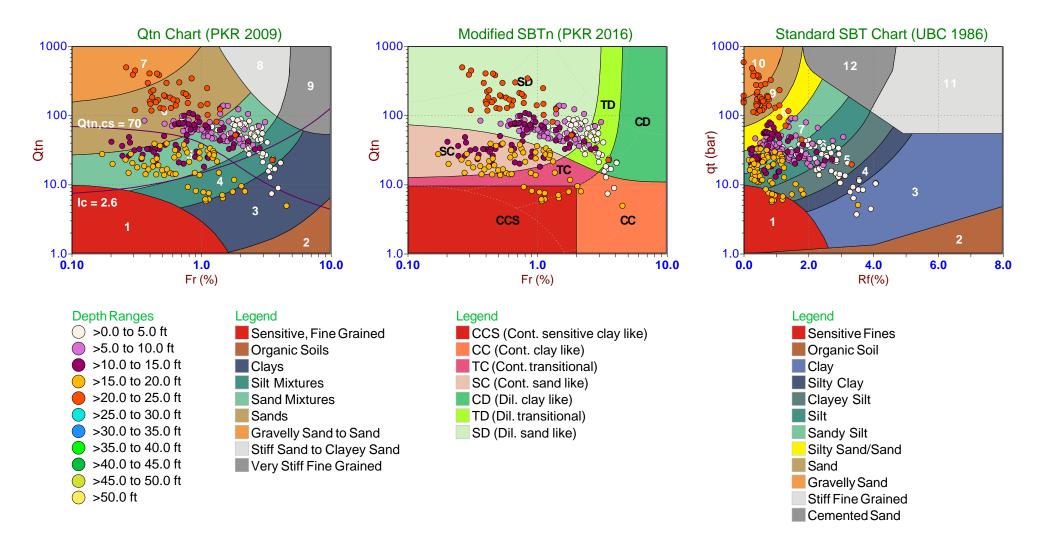




Job No: 23-53-26729 Date: 2023-10-28 08:46

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-330 Cone: 606:T1500F15U35

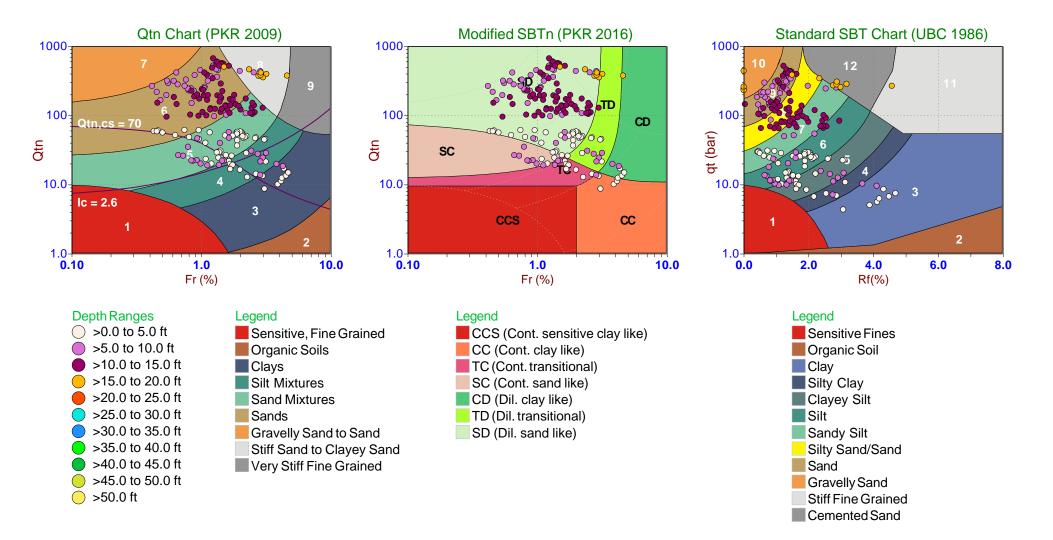




Job No: 23-53-26729 Date: 2023-10-28 07:24

Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-332 Cone: 606:T1500F15U35

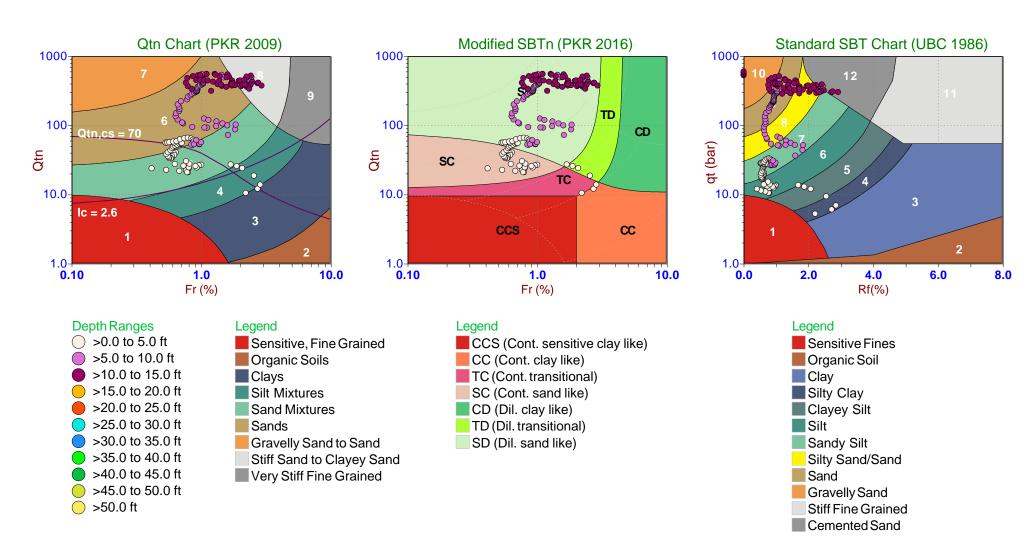




Job No: 23-53-26729 Date: 2023-10-27 16:22

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-345 Cone: 606:T1500F15U35

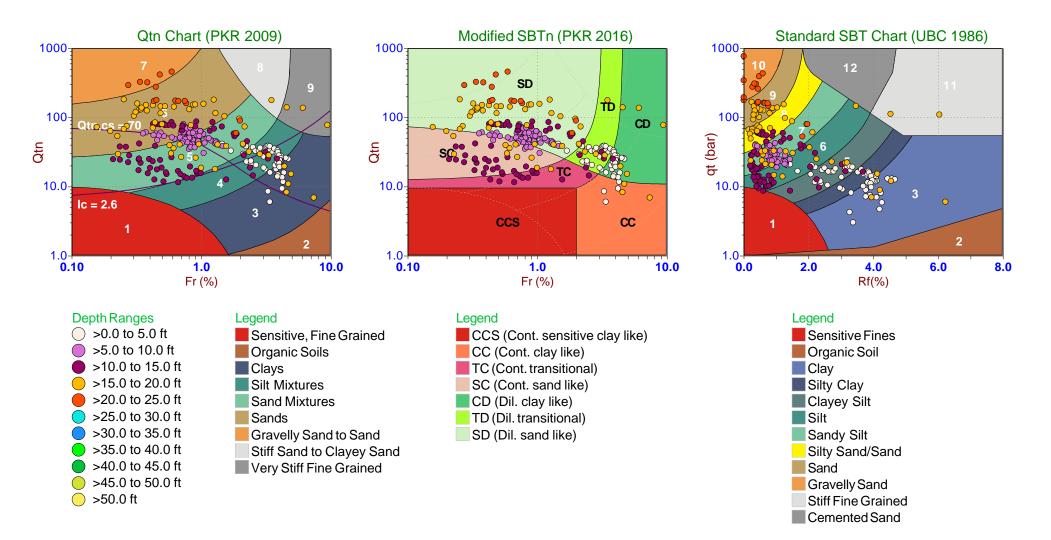




Job No: 23-53-26729 Date: 2023-10-27 15:44

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-351 Cone: 606:T1500F15U35

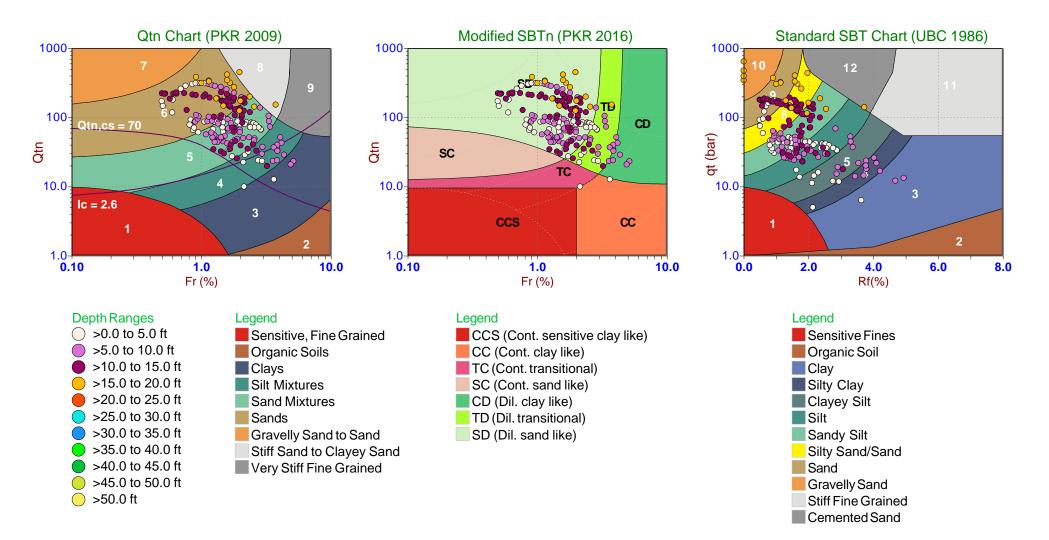




Job No: 23-53-26729 Date: 2023-10-28 15:41

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-360 Cone: 606:T1500F15U35

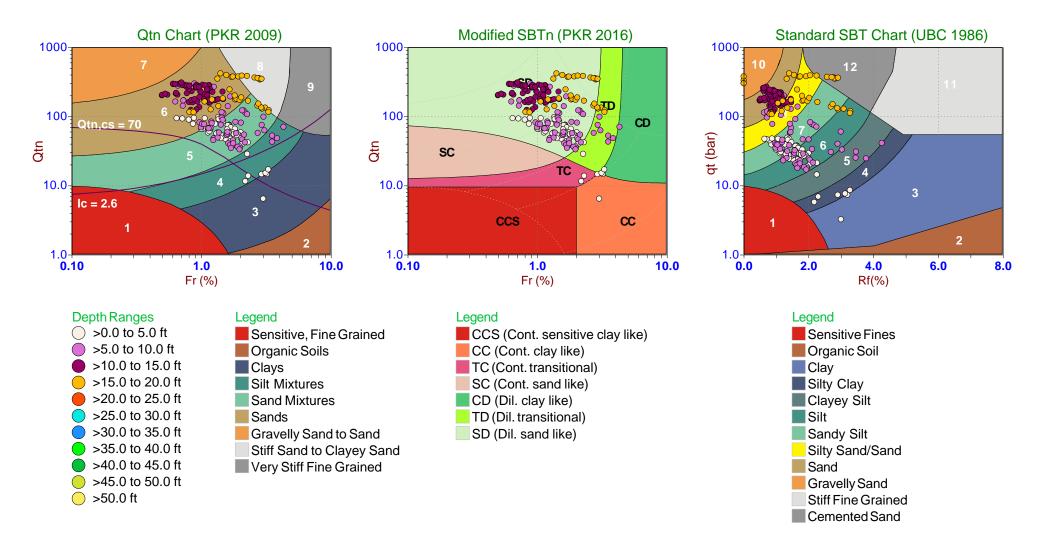




Job No: 23-53-26729 Date: 2023-10-28 15:11

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-362 Cone: 606:T1500F15U35

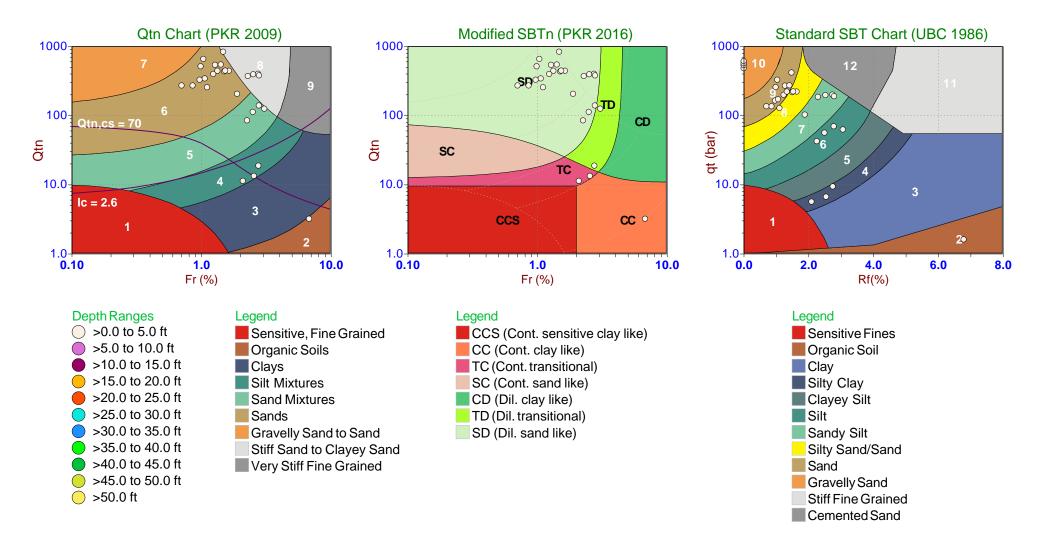




Job No: 23-53-26729 Date: 2023-10-28 14:34

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-365 Cone: 606:T1500F15U35



Cemented Sand



## 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

Qtn Chart (PKR 2009) Modified SBTn (PKR 2016) Standard SBT Chart (UBC 1986) 1000 1000-1000-Som Och State of the State of t SD SO O 9 100-100-100-CD Qtn,cs = 70qt (bar) Qtu Qtn SC TC 10.0-10.0-10.0-Ic = 2.6**CCS** o CC 2 1.0+ 0.0 1.0 **0.10** 1.0 **0.10** 1.0 1.0 10.0 10.0 2.0 4.0 6.0 8.0 Fr (%) Fr (%) Rf(%) **Depth Ranges** Legend Legend Legend >0.0 to 5.0 ft Sensitive, Fine Grained Sensitive Fines CCS (Cont. sensitive clay like) >5.0 to 10.0 ft Organic Soils CC (Cont. clay like) Organic Soil >10.0 to 15.0 ft Clays TC (Cont. transitional) Clav >15.0 to 20.0 ft Silt Mixtures SC (Cont. sand like) Silty Clay >20.0 to 25.0 ft Sand Mixtures CD (Dil. clay like) Clayey Silt >25.0 to 30.0 ft Sands TD (Dil. transitional) Silt >30.0 to 35.0 ft Gravelly Sand to Sand SD (Dil. sand like) Sandy Silt >35.0 to 40.0 ft Silty Sand/Sand Stiff Sand to Clayey Sand >40.0 to 45.0 ft Very Stiff Fine Grained Sand >45.0 to 50.0 ft Gravelly Sand >50.0 ft Stiff Fine Grained

Cemented Sand



## 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) 1000 1000-1000 100-100 100-Qtn,cs = 70 qt (bar) Qtu Qtn SC 10.0-10.0-10.0 3 Ic = 2.6**CCS** CC 2 1.0+ 0.0 1.0 **0.10** 1.0 **0.10** 1.0 1.0 2.0 10.0 10.0 4.0 6.0 8.0 Fr (%) Fr (%) Rf(%) **Depth Ranges** Legend Legend Legend >0.0 to 5.0 ft Sensitive, Fine Grained Sensitive Fines CCS (Cont. sensitive clay like) >5.0 to 10.0 ft Organic Soils CC (Cont. clay like) Organic Soil >10.0 to 15.0 ft Clays TC (Cont. transitional) Clay >15.0 to 20.0 ft Silt Mixtures SC (Cont. sand like) Silty Clay >20.0 to 25.0 ft Sand Mixtures CD (Dil. clay like) Clayey Silt >25.0 to 30.0 ft Sands TD (Dil. transitional) Silt >30.0 to 35.0 ft Gravelly Sand to Sand SD (Dil. sand like) Sandy Silt >35.0 to 40.0 ft Silty Sand/Sand Stiff Sand to Clayey Sand >40.0 to 45.0 ft Very Stiff Fine Grained Sand >45.0 to 50.0 ft Gravelly Sand >50.0 ft Stiff Fine Grained

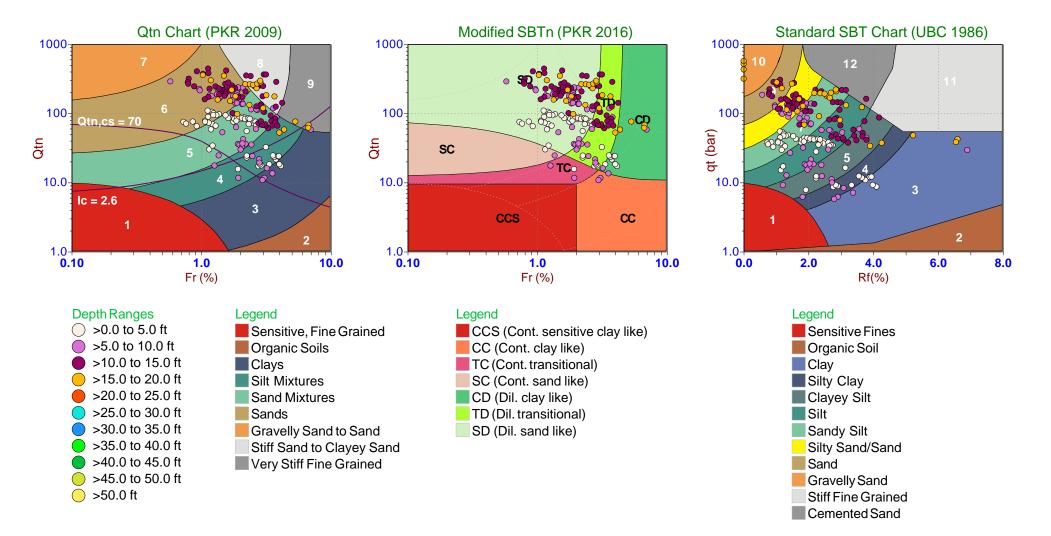


Job No: 23-53-26729 Date: 2023-10-28 13:25

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-372 Cone: 606:T1500F15U35

Cone: 606:11500F15035

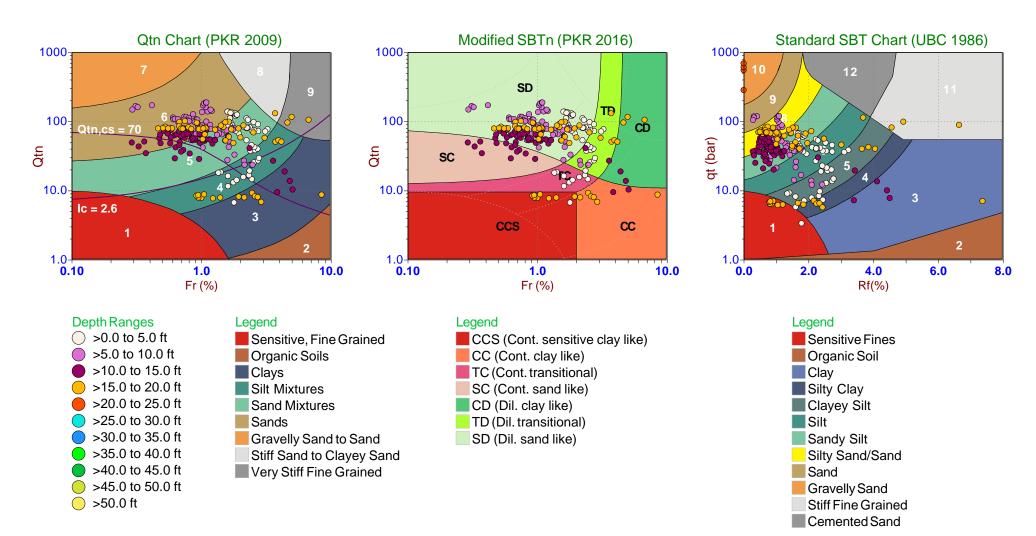




Job No: 23-53-26729 Date: 2023-10-28 12:15

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-381 Cone: 606:T1500F15U35



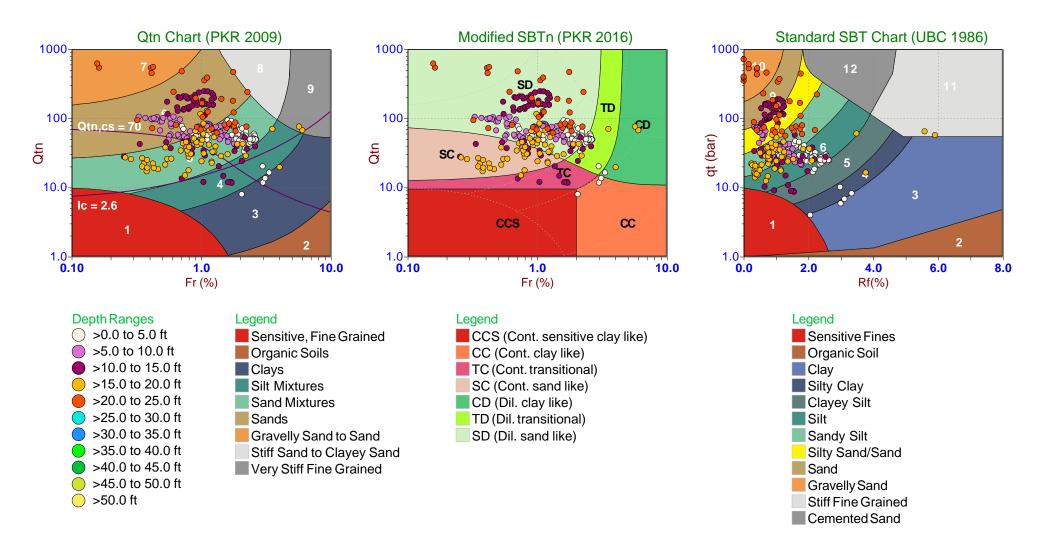


Job No: 23-53-26729 Date: 2023-10-28 13:56

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-383

Cone: 606:T1500F15U35



# Pore Pressure Dissipation Summary and Pore Pressure Dissipation Plots





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 (cm²)	Duration (s)	Test Depth (ft)	Estimated Equilibrium Pore Pressure U <sub>eq</sub> (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				

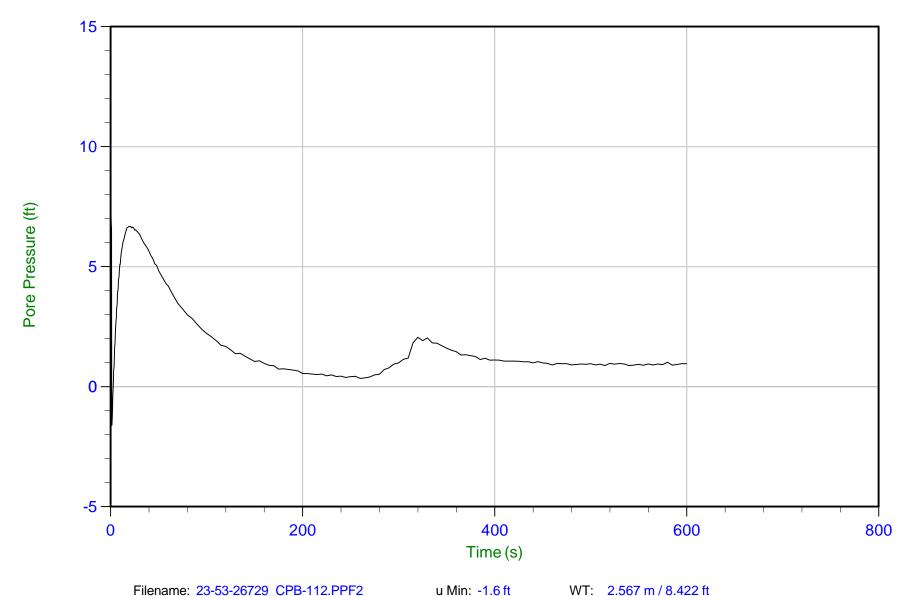


CME Associates, Inc.

Job No: 23-53-26729 Date: 2023-10-24 10:50 Sounding: CPT23-B-112

Cone: 604:T1500F15U35 Area=15 cm<sup>2</sup>

Site: Proposed Micron Plant, Clay, NY



Filename: 23-53-26729\_CPB-112.PPF2

Depth: 2.850 m / 9.350 ft

Duration: 600.0 s

Trace Summary:

u Min: -1.6 ft

u Max: 8.6 ft

Ueq: 0.9 ft u Final: 1.0 ft



CME Associates, Inc.

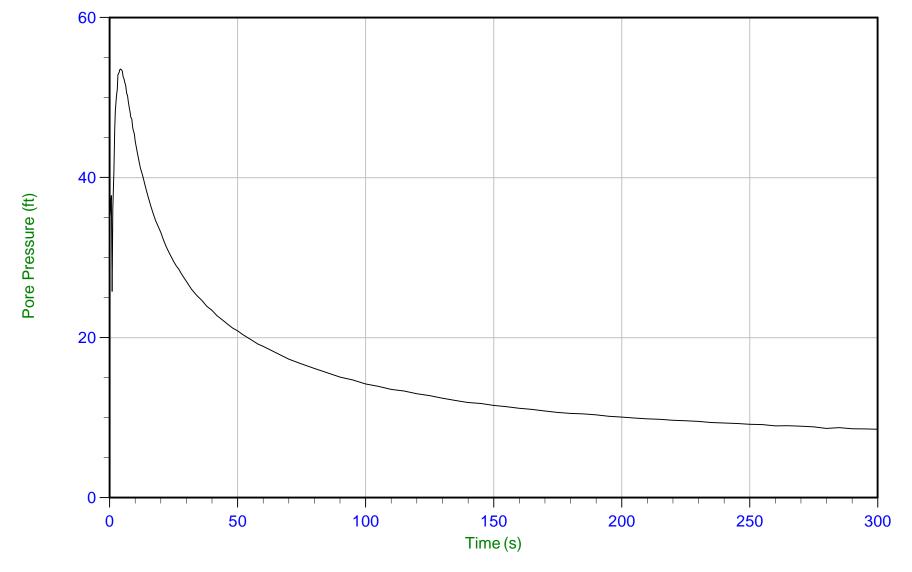
Job No: 23-53-26729

Date: 2023-10-27 11:16

Site: Proposed Micron Plant, Clay, NY

Sounding: CPT23-B-222

Cone: 606:T1500F15U35 Area=15 cm<sup>2</sup>



Filename: 23-53-26729\_CPB-222.PPF2

Depth: 3.275 m / 10.745 ft

Duration: 300.0 s

Trace Summary:

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



CME Associates, Inc.

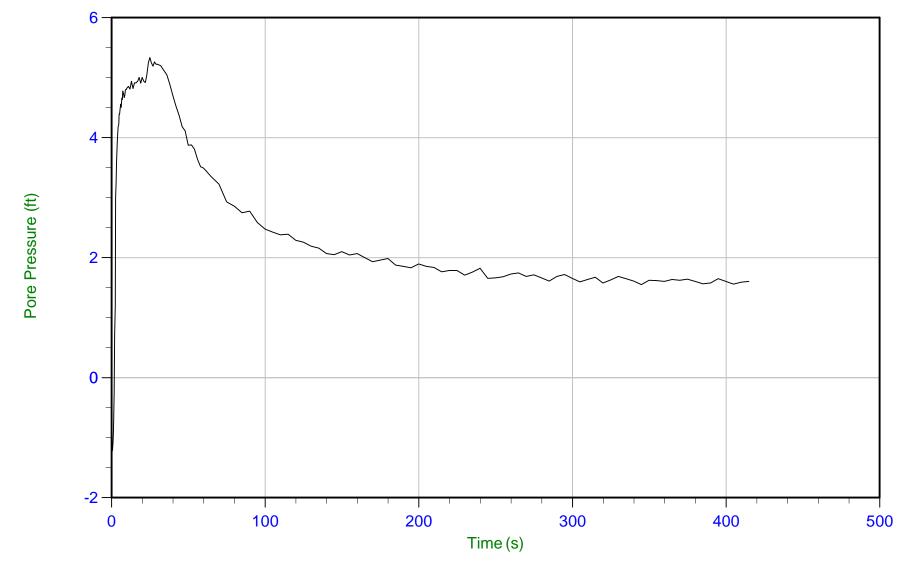
Job No: 23-53-26729

Date: 2023-10-27 08:32

Site: Proposed Micron Plant, Clay, NY

Sounding: SCPT23-B-293

Cone: 606:T1500F15U35 Area=15 cm<sup>2</sup>



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

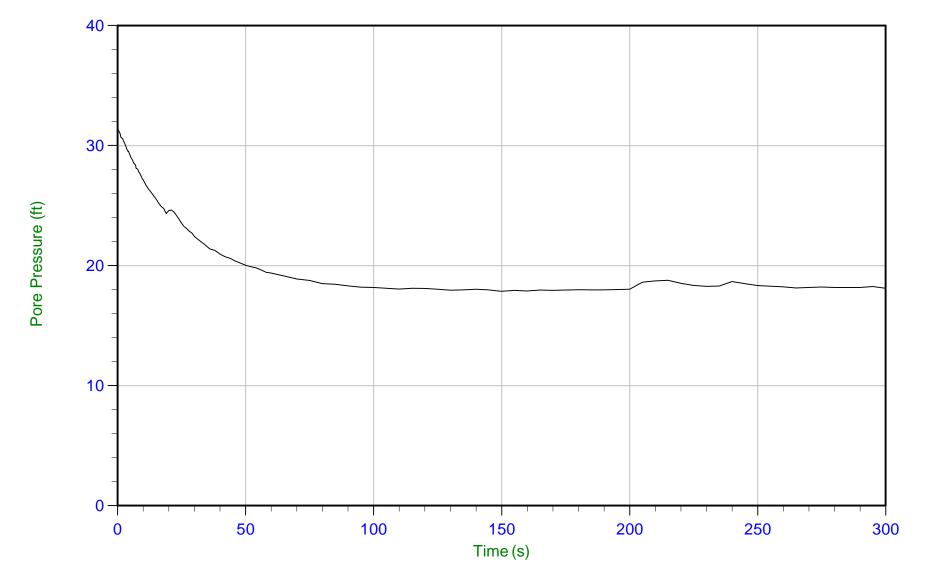


CME Associates, Inc.

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 cm<sup>2</sup>



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

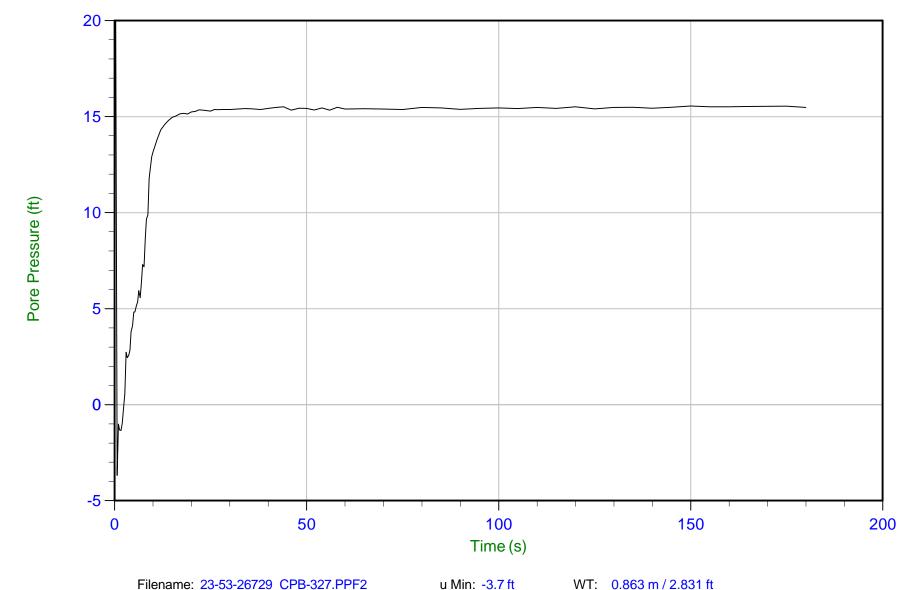


CME Associates, Inc.

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 cm<sup>2</sup>



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 Ueq: 15.5 ft



#### 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 Weight of Hammer + Rod or Weight of Rod, 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**.

Page 1 of 4 KEY 112619



- 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
<b>f</b> - fine	and	35 to 50%
<b>m</b> - medium	some	20 to 35%
c - coarse	little	10 to 20%
	trace	0 to 10%

		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 wit		

Page 2 of 4 KEY 112619



Primary Soil Type	Descriptive Term of Compactness	Range of Standard Penetration Resistance (N)
COARSE GRAINED SOILS	Very Loose	less than 4 blows per foot
	Loose	4 to 10
(More than half of Material	Medium Compact	10 to 30
is larger than No. 200 sieve size)	Compact	30 to 50
	Very Compact	Greater than 50
FINE GRAINED SOILS	Descriptive Term of Consistency	Range of Standard Penetratio Resistance (N)
	Very Soft	less than 2 blows per foot
(More than half of material is	Soft	2 to 4
smaller than No. 200 sieve size)	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	Greater than 30

<sup>\*</sup>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	n Terms	Field Test or Meaning of Term			
Hardness	Soft	Scratched by fingernail. Crumbles under firm blows with a geologic pick.			
		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.			
		Scratched with difficulty by penknife or steel nail. Requires more than one blow with a geologic hammer to break it			
		Cannot be scratched by penknife or steel nail. Breaks only by repeated heavy blows with a geologic hammer.			
Bedding	Thinly Laminated	less than 1/8 <sup>th</sup> inch			
	Laminated	1/8 <sup>th</sup> to 1 inch			
(Divisional planes	Thinly Bedded	1 inch to 4 inches			
and/or surfaces	Medium Bedded	4 inches to 12 inches			
separating it from layers	Thickly Bedded	12 inches to 48 inches			
above and below)	Massive	greater than 48 inches			

TABLE 4 Relation of Rock Quality Designation (RQD) and in-situ Rock Quality						
RQD %	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					

Page 3 of 4 KEY 112619



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.			

				6035 Corporate Drive SUBSURE			SURFACEE	XPLORATION	Boring No.	B-2	
Fig LIV			Fast Straguse NY 13057							1 of 1	
	Associates, Inc. Phone: 315-701-0522  TEST BORING LOG						Report No.				
Project	Name:								Date Started		
Client:									Date Finished		
Locatio	n:				Carlotte un de			A Commission of the Commission	Surface Elev.		
		ME	THO	DS OF	INVESTIGATION	ON		GROUNDWATE	R OBSERVAT	IONS	
Driller: 10 Casing: 10 Driller: Casing Hammer:			10	Date	Time	Depth (Ft.)	Casing At (	(Ft.)			
Inspector: Other:			While Drilling	9	9						
Drill Ri	g				Soil Sampler:		- 11	Before Casing Removed			
Туре:					Hammer Wt:		After Casing Removed				
Rod Siz	e:				Hammer Fall:			After Casing Removed			
	LO	GOF	BOR	ING SA	AMPLES		VISUAL C	CLASSIFICATION (	OF MATERIA	L	
Depth Scale	Sample	Sample (F		Type / Sample	Blows on Sampler	Depth of Change	c - coarse m - medium	and - 35 to 5	0% / some - 20 to 35	100	T "N" or
(Feet)	No.	From	То	Rec. (in.)	Per 6 Inches	(Ft.)	f - fine	little - 10 to	20% / trace - 0 to 10°	% RQ	QD%
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:

Page 4 of 4 KEY 112619



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** 



### **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**

Preface	2
How Soil Surveys Are Made	
Soil Map	
Soil Map (CEG Report No.: 172WSS-01-0124)	
Legend	
Map Unit Legend (CEG Report No.: 172WSS-01-0124)	
Map Unit Descriptions (CEG Report No.: 172WSS-01-0124)	
Onondaga County, New York	
AoA—Appleton loam, 0 to 3 percent slopes	
Cd—Canandaigua mucky silt loam	
ChA—Collamer silt loam, 0 to 2 percent slopes	
ChB—Collamer silt loam, 2 to 6 percent slopes	
DuC—Dunkirk silt loam, rolling	
FL—Fluvaquents, frequently flooded	
Fo—Fonda mucky silty clay loam	
HIA—Hilton loam, 0 to 3 percent slopes	
HIB—Hilton loam, 3 to 8 percent slopes	
MdC—Madrid fine sandy loam, 8 to 15 percent slopes	
MtA—Minoa fine sandy loam, 0 to 2 percent slopes	
NgA—Niagara silt loam, 0 to 4 percent slopes	
OgB—Ontario loam, 3 to 8 percent slopes	
OnC—Ontario gravelly loam, 8 to 15 percent slopes	
Pb—Palms muck	
Rh—Rhinebeck silt loam	
WwB—Williamson silt loam, 2 to 6 percent slopes	37
WwC—Williamson silt loam, rolling	
Soil Information for All Uses	40
Soil Reports	40
Building Site Development	40
Dwellings and Small Commercial Buildings (CEG Report No.:	
172WSS-01-0124)	40
Land Management	45
Haul Roads, Log Landings, and Soil Rutting on Forestland (CEG	
Report No.: 172WSS-01-0124)	45
Soil Erosion	
Conservation Planning (CEG Report No.: 172WSS-01-0124)	
Soil Physical Properties	
Engineering Properties (CEG Report No.: 172WSS-01-0124)	54
Soil Qualities and Features	69
Soil Features (CEG Report No.: 172WSS-01-0124)	
Water Management	
Stormwater Management (NY) (CEG Report No.: 172WSS-01-0124)	
References	
Glossary	

## **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.

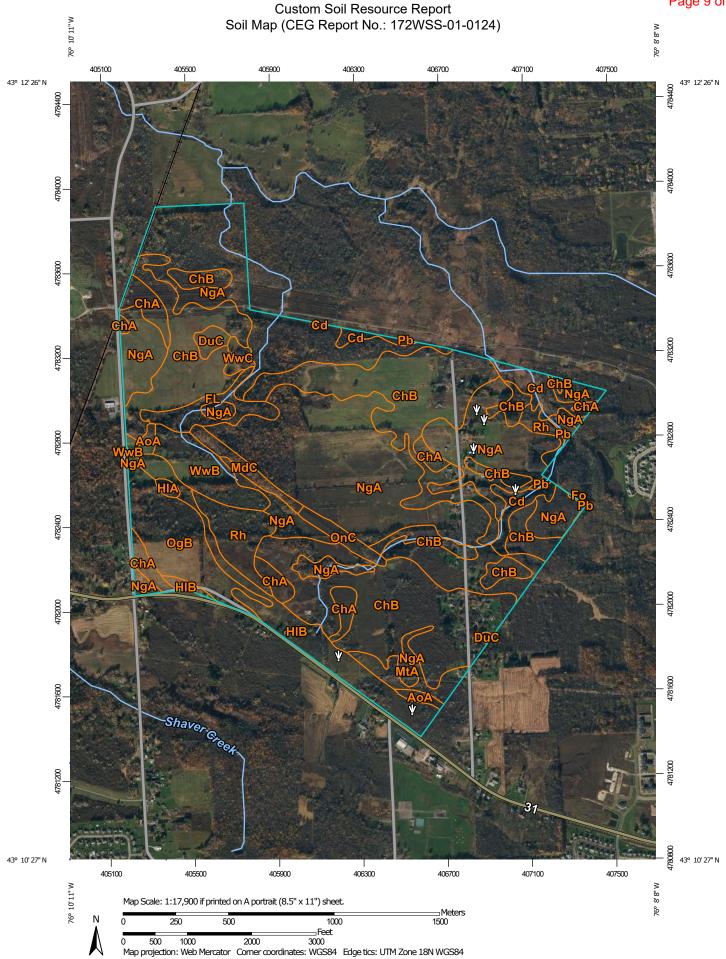
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree 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.



#### MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at Area of Interest (AOI) Spoil Area 1:20.000. Area of Interest (AOI) â Stony Spot Soils Please rely on the bar scale on each map sheet for map Very Stony Spot 0 Soil Map Unit Polygons measurements. Ŷ Wet Spot Soil Map Unit Lines Source of Map: Natural Resources Conservation Service Other Δ Soil Map Unit Points Web Soil Survey URL: Special Line Features Coordinate System: Web Mercator (EPSG:3857) **Special Point Features Water Features** Blowout ဖ Maps from the Web Soil Survey are based on the Web Mercator Streams and Canals Borrow Pit projection, which preserves direction and shape but distorts $\boxtimes$ Transportation distance and area. A projection that preserves area, such as the Clay Spot Rails Albers equal-area conic projection, should be used if more --accurate calculations of distance or area are required. Closed Depression Interstate Highways Gravel Pit **US Routes** This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. **Gravelly Spot** Major Roads Landfill Local Roads Soil Survey Area: Onondaga County, New York 0 Lava Flow Survey Area Data: Version 18, Sep 5, 2023 Background Marsh or swamp Aerial Photography Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Mine or Quarry Miscellaneous Water Date(s) aerial images were photographed: Aug 3, 2021—Nov 7, Perennial Water 2021 Rock Outcrop The orthophoto or other base map on which the soil lines were Saline Spot compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor Sandy Spot shifting of map unit boundaries may be evident. Severely Eroded Spot Sinkhole Slide or Slip Sodic Spot

# 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%	
HIA	Hilton loam, 0 to 3 percent slopes	1.7	0.2%	
HIB	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

#### HIA—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): Su

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]

	Dwel	llings and Small Comm	nercial Bu	ildings–Onondaga Co	unty, New	York	
Map symbol and soil	Pct. of	Dwellings without ba	sements	Dwellings with base	ements	Small commercial b	uildings
name	map unit	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

		llings and Small Comm				I	
Map symbol and soil name	Pct. of map	Dwellings without ba	sements	Dwellings with base	ements	Small commercial be	uildings
	unit	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
HIA—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
HIB—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

	Dwel	llings and Small Comn	nercial Bu	ildings–Onondaga Co	unty, New	York	
Map symbol and soil	Pct. of	Dwellings without ba	sements	Dwellings with base	ements	Small commercial b	uildings
name	map unit	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]

Hau	ıl Roads,	Log Landings, and So	il Rutting	on Forestland-Onond	aga Cour	nty, New York		
Map symbol and soil name	Pct. of map unit	Limitations affect construction of hau and log landing	l roads	Suitability for log la	ndings	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			

Hau	l Roads,	Log Landings, and So	il Rutting	on Forestland-Onond	laga Cour	nty, New York	
Map symbol and soil name	Pct. of map unit	Limitations affect construction of hau and log landing	l roads	Suitability for log la	ndings	Soil rutting haz	ard
		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		

Map symbol and soil name	Pct. of map unit	Limitations affect construction of had and log landing	ıl roads	Suitability for log la	ndings	Soil rutting haze	ard
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HIA—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		
HIB—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		

Hau	I Roads,	Log Landings, and So	il Rutting	on Forestland-Onond	laga Cour	nty, New York	
Map symbol and soil name	Pct. of map unit	Limitations affec construction of hau and log landing	l roads	Suitability for log la	ndings	Soil rutting haz	ard
		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.

				(	Conser	vation	Plannir	ng–Onondaga	County, New Yo	rk							
Map symbol and soil	Pct. of	Slope	USLE	Runoff	T	WEI	WEG	Erosion	Drainage	NIRR	Hydro			Surfa	се		
name	map unit	RV	Slope Length ft.		Fact or					LCC	logic Group	Depths in.	Kf Fact or	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	С	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

					Conser	vation	Plannir	ng–Onondaga	County, New Yo	rk							
Map symbol and soil	Pct. of	Slope	USLE	Runoff	Т,	WEI	WEG	Erosion	Drainage	NIRR	Hydro			Surfa	ce		
name	map unit	RV	Slope Length ft.		Fact or					LCC	logic Group	Depths in.	Kf Fact or	Frag- ments RV	Sand RV	Silt RV	Clay RV
HIA—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
HIB—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	В	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	В	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	В	0 - 7	.28	15	41	42	17

				(	Conser	vation	Plannir	ıg–Onondaga	County, New Yo	rk							
Map symbol and soil	Pct. of	Slope	USLE	Runoff	Т	WEI	WEG	Erosion	Drainage	NIRR	Hydro			Surfa	ce		
name	map unit	RV	Slope Length ft.		Fact or					LCC	logic Group	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, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fra	agments	Percent	age passi	ng sieve ı	number—	Liquid	Plasticit
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fra	gments	Percent	age passi	ng sieve r	number—	Liquid	Plasticit
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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	85-95-1 00	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	80-95-1 00	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	60-90-1 00	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	65-95-1 00	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	65-95-1 00	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	80-95-1 00	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	70-90-1 00	40-75- 95	20-28 -35	3-9 -15

				Engineering	Properties-	Onondaga	County, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fra	gments	Percentage passing sieve number—				Liquid	Plasticit
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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	65-95-1 00	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	65-95-1 00	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	80-95-1 00	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	70-90-1 00	40-75- 95	20-28 -35	3-9 -15
DuC—Dunkirk silt loam, rolling														
Dunkirk, rolling	80	С	0-5	Silt loam	CL, CL- ML	A-4	0- 0- 0	0- 0- 0	95-100- 100	92-100- 100	75-95-1 00	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	75-95-1 00	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	80-95-1 00	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	70-90-1 00	40-70- 95	15-15 -15	NP-2 -4

				Engineering	Properties-	Onondaga (	County, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fragments		Percent	age passi	Liquid limit	Plasticit		
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		y index
			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	80-90-1 00	75-80-1 00	40-70-1 00	15-55- 95	15-23 -30	NP-10-2 0
			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	35-68-1 00	30-65-1 00	15-58-1 00	5-48- 90	15-23 -30	NP-10-2 0
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	90-95-1 00	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	90-95-1 00	80-95- 95	25-33 -40	11-18-2 5
			33-60	Silty clay, clay	CL	A-6	0- 0- 0	0- 0- 0	95-100- 100	92-100- 100	90-95-1 00	80-95- 95	25-33 -40	11-18-2 5

				Engineering	Properties-	Onondaga (	County, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fragments		Percent	age passi	Liquid	Plasticit		
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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
HIA—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, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fragments		Percent	age passi	Liquid	Plasticit		
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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
HIB—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, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fra	gments	Percent	age passi	Liquid	Plastici		
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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	В	0-9	Fine sandy loam	SM, ML	A-2, A-4	0- 0- 0	0- 0- 15	85-95-1 00	75-92-1 00	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, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	uSDA texture	Classi	fication	Pct Fragments		Percent	age passi	Liquid limit	Plasticit		
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		y index
			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	75-95-1 00	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	75-95-1 00	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	80-90-1 00	35-70- 95	25-30 -35	3-8 -13

				Engineering	Properties-	Onondaga (	County, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fragments		Percent	age passi	Liquid	Plasticit		
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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	В	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, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fra	gments	Percent	age passi	Liquid	Plasticit		
soil name	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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	В	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	35-95-1 00	15-75- 95	20-33 -45	5-13-20

				Engineering	Properties-	Onondaga (	County, N	ew York						
Map unit symbol and	Pct. of	Hydrolo	Depth	USDA texture	Classi	fication	Pct Fra	gments	Percent	age passi	ng sieve r	number—	Liquid	Plasticit
	map unit	gic group	gic group		Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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	50-95-1 00	40-80- 95	30-43 -55	10-18-2 5
			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	70-95-1 00	50-90- 95	30-43 -55	15-23-3 0
			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	75-95-1 00	70-90- 95	30-43 -55	15-23-3 0
			36-60	Silty clay loam	CL, CL- ML, ML	A-4	0- 0- 0	0- 0- 0	92-100- 100	85-100- 100	70-95-1 00	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	65-95-1 00	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	75-95-1 00	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	75-90-1 00	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	75-90-1 00	45-55- 90	15-23 -30	NP-5 -10

	Engineering Properties-Onondaga County, New York													
Map unit symbol and soil name	Pct. of	Hydrolo		USDA texture	Classification Pct Fragments Percenta					age passi	ng sieve r	umber—	Liquid	Plasticit
	map unit	gic group			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200	limit	y index
			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	65-95-1 00	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	75-95-1 00	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	75-90-1 00	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	75-90-1 00	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		Res	strictive Layer		Subs	idence	Potential for frost	Risk of	corrosion			
son name	Kind	Depth to top	Thickness	Hardness	Initial	Total	action	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			

			Soil F	eatures–Onondaga	County, Ne	w York			
Map symbol and		Res	strictive Layer		Subs	idence	Potential for frost	Risk of	corrosion
soil name	Kind	Depth to top	Thickness	Hardness	Initial	Total	action	Uncoated steel	Concrete
		Low-RV- High	Range		Low- High	Low- High			
HIA—Hilton loam, 0 to 3 percent slopes									
Hilton			_		0	0	Moderate	High	Moderate
HIB—Hilton loam, 3 to 8 percent slopes									
Hilton		_	_		0	0	Moderate	High	Moderate
MdC—Madrid fine sandy loam, 8 to 15 percent slopes									
Madrid		_	_		_	<u> </u>	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, Ne	w York				
Map symbol and		Res	trictive Layer		Subs	idence	Potential for frost	Risk of corrosion		
soil name	Kind	Depth to top	Thickness	Hardness	Initial	Total	action	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		_	_		_	<u> </u>	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 standalone 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.]

Map symbol and soil	Pct. of	Infiltration Pract	ices	Pond Practices	3	Wetland Practice	s
name	map unit	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 Manager	ment (NY)	-Onondaga County, Ne	w York		
Map symbol and soil	Pct. of	Infiltration Pract	ices	Pond Practices	}	Wetland Practice	s
name	map unit	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				
HIA—Hilton loam, 0 to 3 percent slopes							
Hilton	85	Most limited		Least limited		Least limited	
		Depth to saturation	1.00				
		Excessive fines	0.50				
HIB—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	Pct. of	Infiltration Practi	ices	Pond Practice	s	Wetland Praction	es						
name	map unit	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  $^{1}$ 0kPa 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 floodplain 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<sup>+</sup> to Ca<sup>++</sup> + Mg<sup>++</sup>. 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, floodplain 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

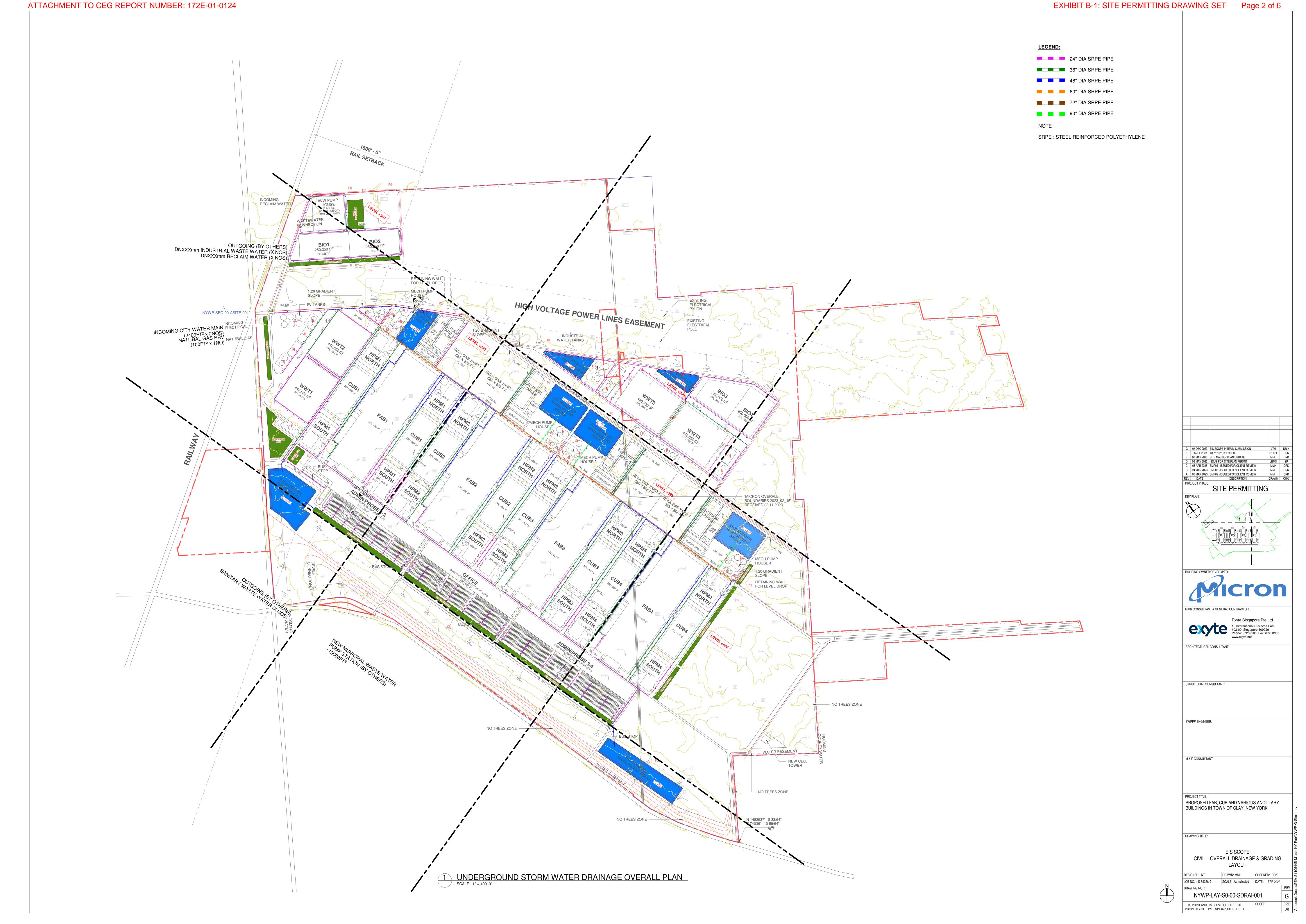
The uprooting and tipping over of trees by the wind.



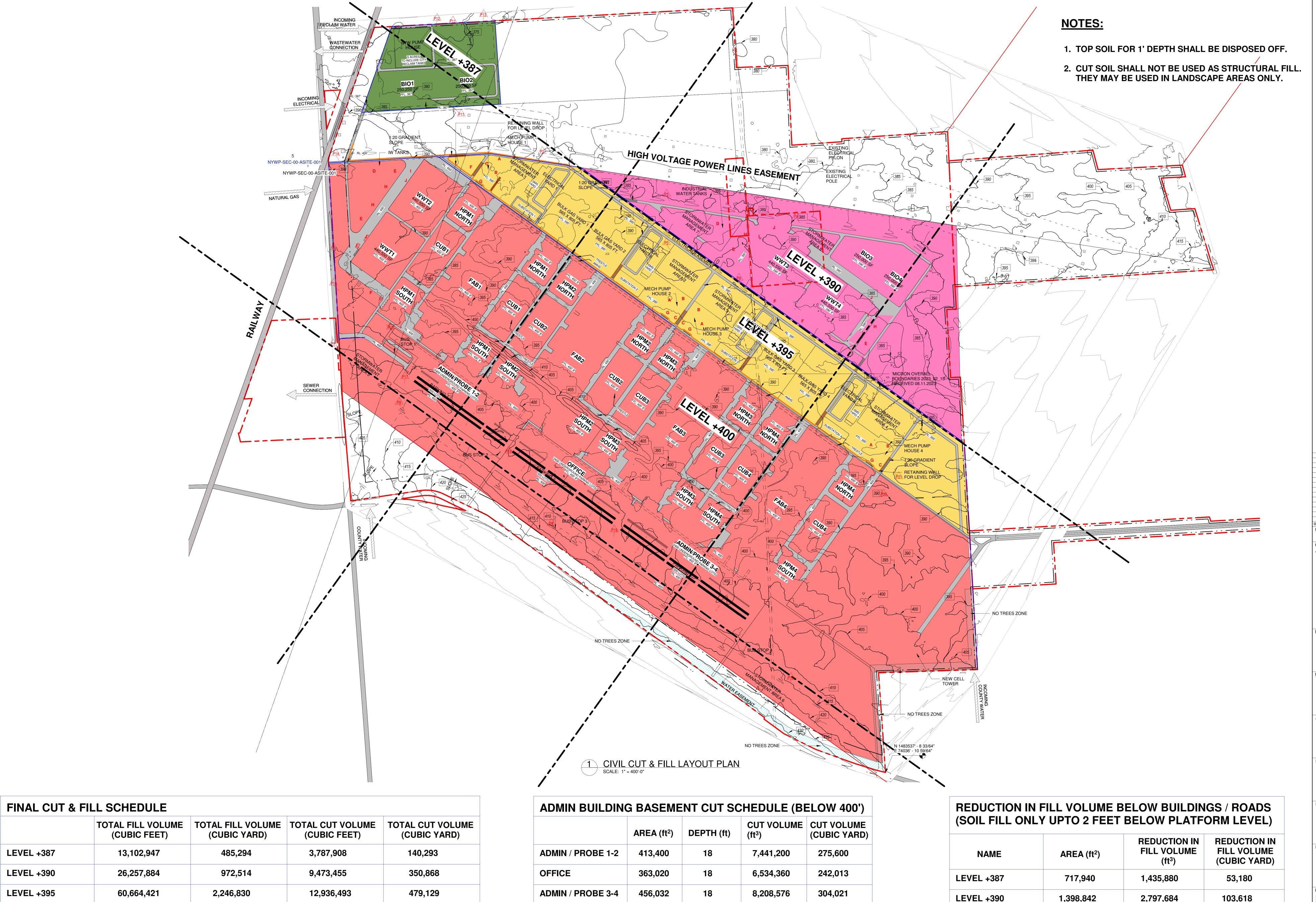
# Appendix B Information from Ramboll

Exhibit B-1 Site Permitting Drawing Set
Exhibit B-2 Ramboll Email with Project Information
Exhibit B-3 White Pine Geotechnical Evaluation Report





ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124 EXHIBIT B-1: SITE PERMITTING DRAWING SET Page 3 of 6



## **TOTAL**

**LEVEL +387** 

**LEVEL +390** 

**LEVEL +395** 

**LEVEL +400** 

- 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.

4,825,314

8,529,954

124,064,421

150,262,277

4,594,978

5,565,269

**TOTAL** 

1,232,452

NOTE: THE CUT VOLUME FOR ADMIN BUILDING IS THE CUT BELOW LEVEL OF +400'

821,634

22,184,136

3. FINAL CUT VOLUME INCLUDES VOLUME OF TOPSOIL (1' DEPTH) BEING REMOVED & DISPOSED OFF. 4. FINAL CUT VOLUME INCLUDES CUT VOLUME FOR ADMIN BASEMENT.

130,283,497

230,308,749

NAME	AREA (ft²)	REDUCTION IN FILL VOLUME (ft <sup>3</sup> )	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	



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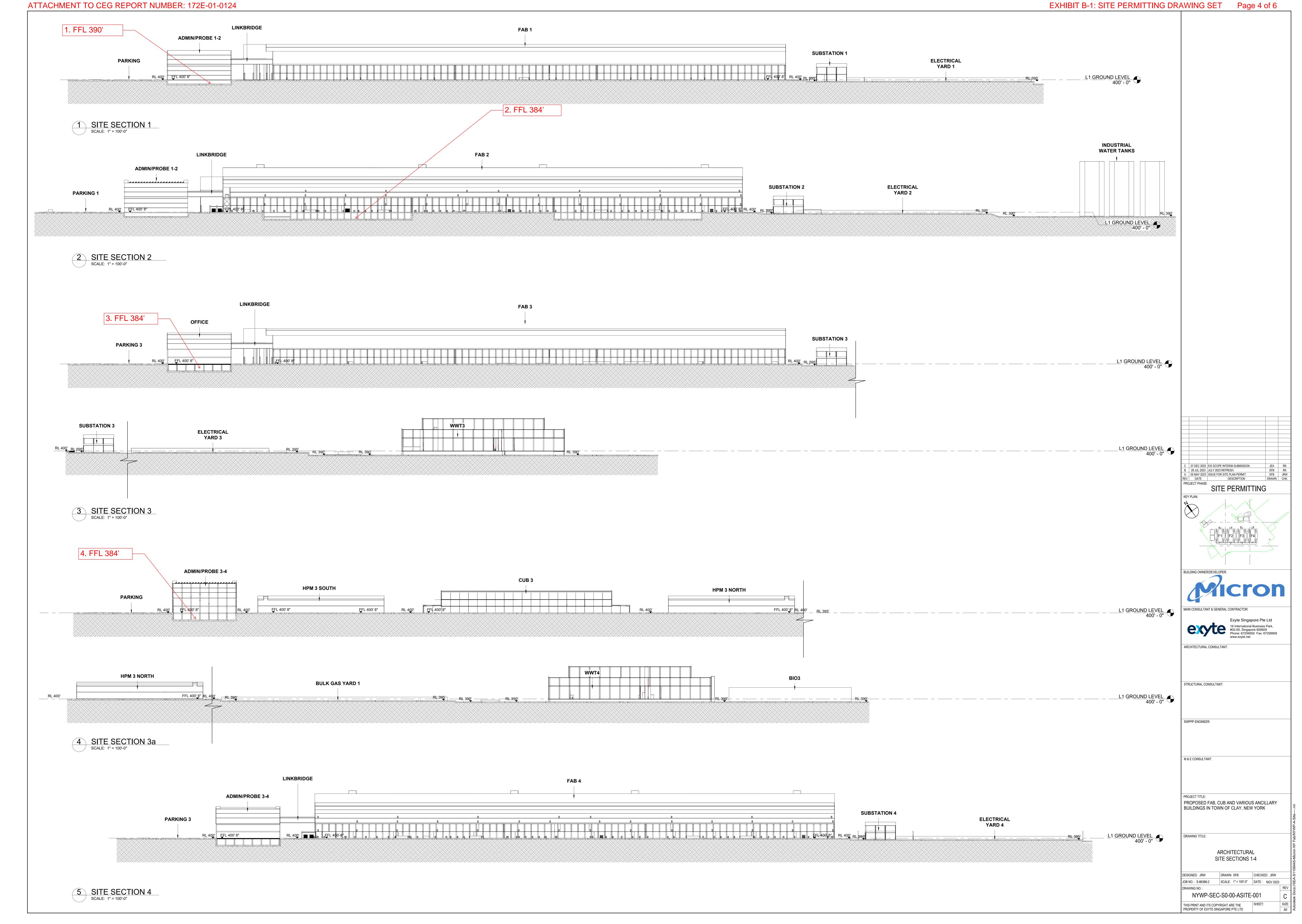
EIS SCOPE CIVIL - OVERALL CUT & FILL LAYOUT &

SCHEDULE

JOB NO.: S-86386-2 SCALE: As indicated DATE: DEC 2023

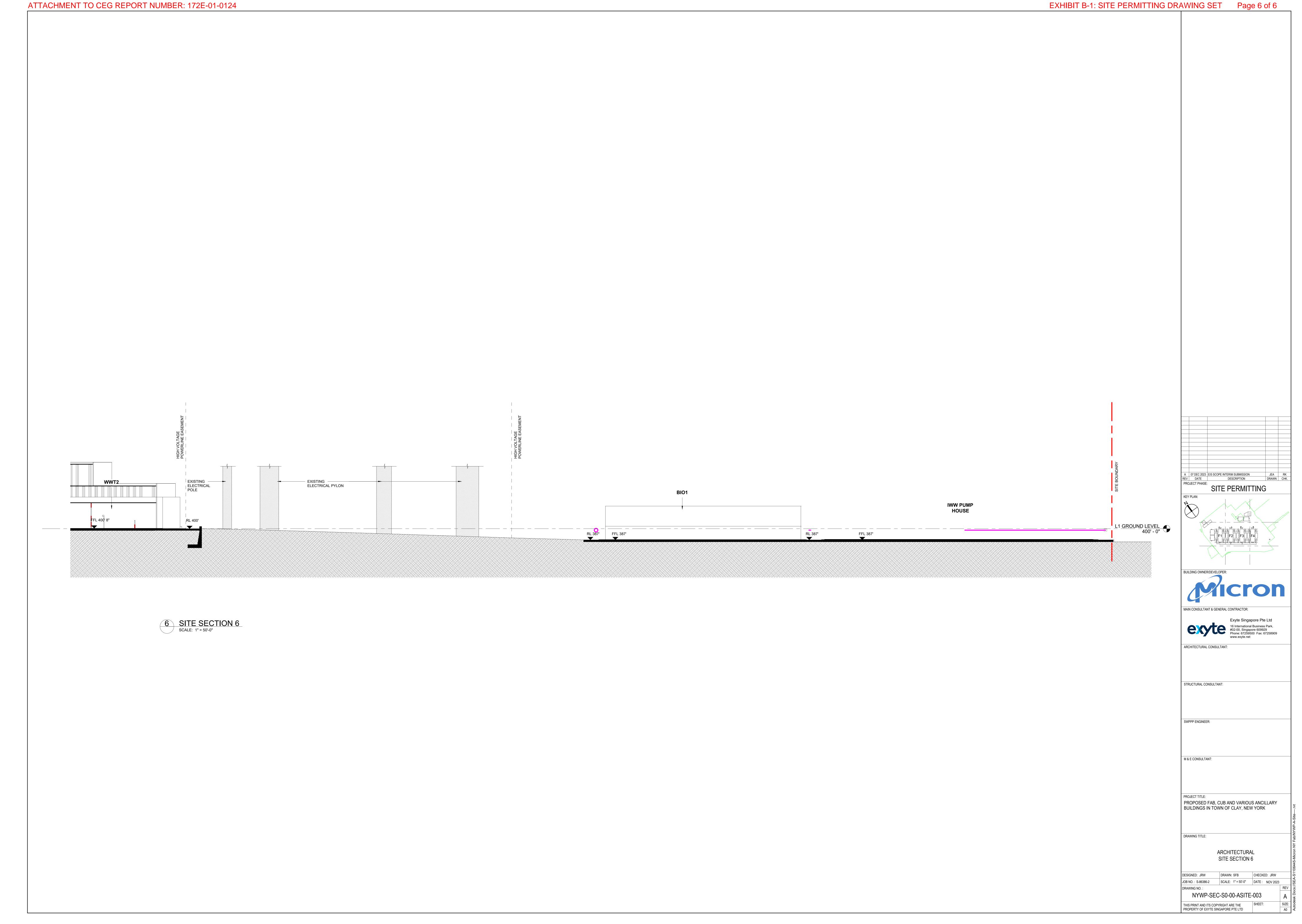
NYWP-LAY-S0-00-SSITE-003

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C 07 DEC 2023 EIS SCOPE INTERIM SUBMISSION
B 28 JUL 2023 JULY 2023 REFRESH
A 05 MAY 2023 ISSUE FOR SITE PLAN PERMIT
REV DATE DESCRIPTION
PROJECT PHASE: 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: 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 NYWP-SEC-S0-00-ASITE-002 THIS PRINT AND ITS COPYRIGHT ARE THE PROPERTY OF EXYTE SINGAPORE PTE LTD



#### **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

Caution! This message was sent from outside CME.

Allow sender Block sender

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



### 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.

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

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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



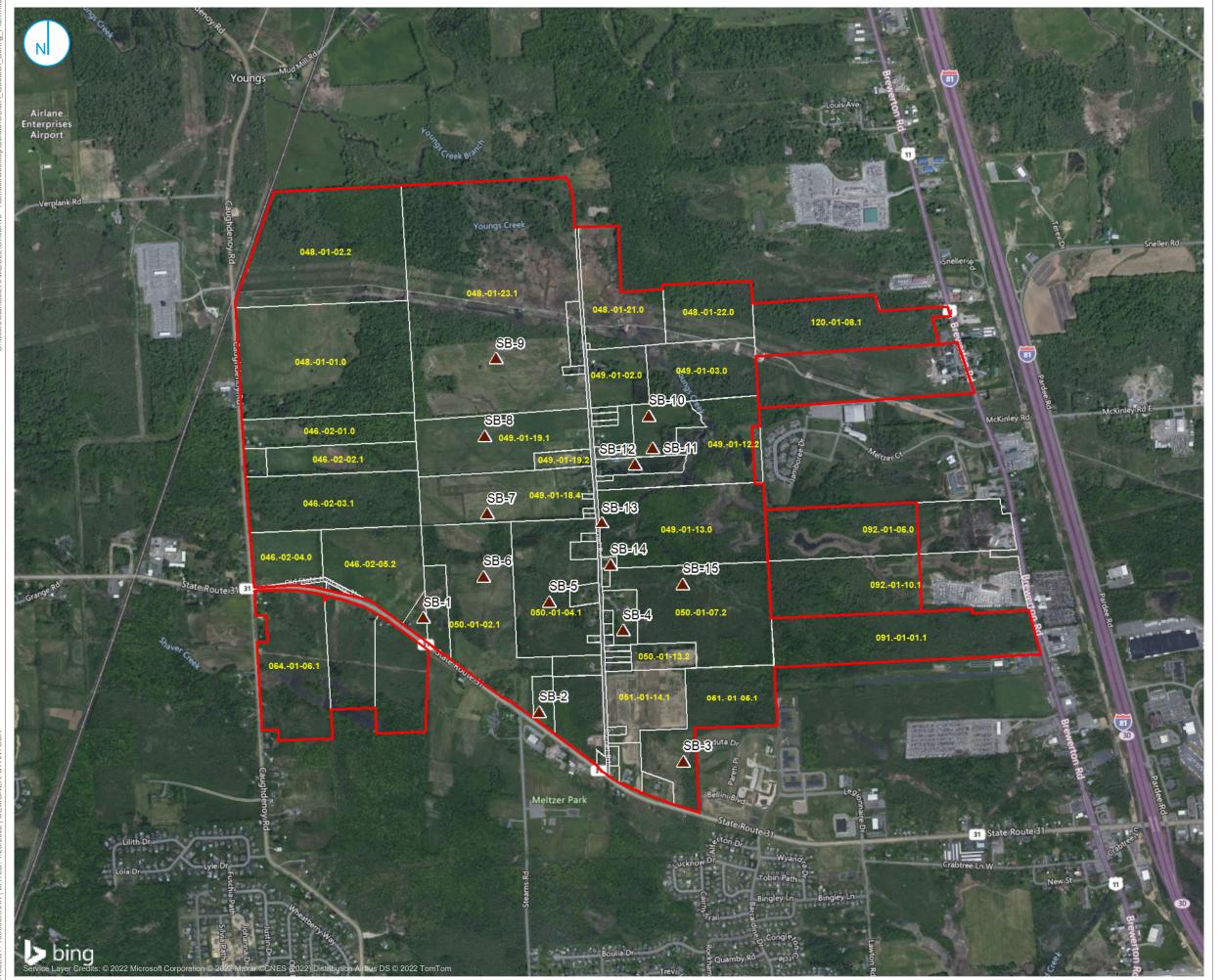
FIGURE 1
GEOTECHNICAL SOIL BORING LOCATION PLAN

ATTACHMENT TO CEG REPORT NUMBER: 172E-01-0124

EXHIBIT B-3: WHITE PINE GEOTECHNICAL EVALUATION REPORT

Page 8 of 52

ONONDAGA COUNTY PARCELS



0 700 1,400 L l Fee

## WHITE PINE MEGA CAMPUS GEOTECH BORING PLAN

WHITE PINE MEGA CAMPUS (1,535 acres)

White Pine Commerce Park Town of Clay, New York

## FIGURE 01

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC. A RAMBOLL COMPANY





**APPENDIX 1 BORING LOGS** 

	RA	МВ	&L	L		SOIL BORING LOG	BORING II		Norton	
	OJECT:		ine Geot	ech S		ME: White Pine Comercial Park OC.: Route 31, Clay, NY 13041	DATE STA			2/2021 2/2021
Ì	JOB #:		194007	 120 BO			FINAL STAT		N/E	2/2021
DI	RILLING	CONT ·	Kenne	y Geotechni	ral	DRILLING METHOD: Hollow Stem Auger	NORTHIN		43.1	183690
			e Moreh		cui	HAMMER / FALL: Auto / 30"	EASTIN			145568
	_	PE: Geo			•	SAMPLER TYPE: Split Spoon	ELEVATIO			
			otechnica	l Boring	S	AMPLER DIAMETER: 2 inch		И: <u>N/A</u>		
Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		General Stratum Descrip.	Field Te	esting
1	0	2	20"	1	4	4" of Top Soil		CL-ML	WF /	
		_		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		
7	0	0.5	10	50/4"	301	(moist)		311		
				33, .						
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	y Sand	SM		
				50/2"		with Gravel (moist) Till				
7	12	12.8	7"	36	50+	Very Dense Grey Silty Sand with Grav	/el	SM		
				50/3"		Till				
						Poving towningted of 12 O				
NIO	TCC:	No M-	Lou T- 1	da Francis	<b>.</b>	Boring terminated at 12.8'				
NO	ΓES:	ivo Wa	icer Tal	ole Encour	icered					
							P.A	AGE:	1 of	1

	RA	МВ	& L	L		SOIL RORING LOG	ORING ID: SPECTOR:		Norton	
PR	OJECT:	White P	ine Geot	ech S	SITE NAN	ΛΕ: White Pine Comercial Park D	DATE STAR	ΓED:	12/2	23/2021
(	CLIENT:	OCIDA			SITE LC	C.: Route 31, Clay, NY 13041 DATI	E COMPLET	 ΓΕD:		23/2021
	JOB #:		194007	120 BO	RING LC	C.: SB-2 FIN	IAL STATIC	WL:	4.2'	
DF	RILLING	CONT.:	Kenne	y Geotechni	cal	DRILLING METHOD: Hollow Stem Auger N	IORTHING:		43	.180371
ı	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL: Auto / 30"	EASTING:		76	.150278
	RIG TY	PE: Geo	probe			SAMPLER TYPE: Split Spoon El	LEVATION:	N/A		
	PURPOS	SE: <u>Geo</u>	technica	al Boring	. SA	AMPLER 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 1 PID (ppm)	Testing
1	0	2	12"	WH	2	6" Top Soil		CL-ML		
				1		Soft Light Brown Sandy Silty Clay, orgar	nics,			
				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		19"	17	26	Dance Brown Cills Cond with Crowd		CM		
3	4	6	19"	18	36	Dense Brown Silty Sand with Gravel		SM		
				18		(moist)				
				16						
				10						(11111111111111111111111111111111111111
4	6	7.9	22"	6	51	Very Dense Brown Silty Sand with Grave	el	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 wit	h	CL-ML		
						Sand and Gravel (moist) Till				
	4.0	10.7	611	0.1						
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		
	14	14.1	0	JU/ 1	JU-	and Gravel (moist) Till		CL I'IL		
NO	ΓES:	Water	table e	encounter	l d durin	g drilling at 2'. At completion of drilling w	vater in a	augers a	t 12.2'	_
				water in				agers (	12.2	-
			ed at 12							
							PAG	E:	1 of	1

	RA	МВ	&L	L		SOIL BORING LOG		ID: SB-3 OR: Chris N	Norton
PR	OIFCT:	White P	ine Geot	tech S	ITF NAN	ME: White Pine Comercial Park	DATE ST	ARTED:	12/23/2021
	CLIENT:					C.: Route 31, Clay, NY 13041	DATE COMF		12/23/2021
	JOB #:		194007	120 BO		C.: SB-3	FINAL STA	TIC WL:	1.3'
DI	RILLING	CONT ·	Kenne	y Geotechni	ral	DRILLING METHOD: Hollow Stem Au	ger NORTHII	NG.	43.178311
			e Moreh		Jui	HAMMER / FALL: Auto / 30"	EASTII		76.142260
		PE: Geo			1	SAMPLER TYPE: Split Spc		ON: N/A	, 0.12 .12200
			technica	al Boring	SA			JM: N/A	
Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	<u></u>	General Stratum Descrip.	Field Testing
	(11.)								(ppm)
1	0	2	12"	WH	4	6" Top Soil		CL-ML	
				1		Soft Brown Sandy Silty Clay, (mo	ist)		
				3					
				3					
2	2	4	20"	2	12	2'-3' Soft Brown Sandy Silty Clay		CL-ML	
		4	20	4	12	2'-3' Soft Brown Sandy Silty Clay (moist)		CL-ML	
				8		3'-4' Loose Brown Silty Sand with		SM	
				16		(wet)	Gravei	311	
3	4	5.33"	13"	8	90+	Very Dense Brown Silty Sand wit	n Gravel	SM	
				40		(moist)			
				50/4"					
4	6	6.75	8"	32	50+	Very Dense Gray Silty Clayey Sar	d with	SC-SM	
				50/2"		Gravel (moist) Till			
5	8	8.3	3"	50/4"	50+	Very Dense Gray Silty Clayey Sar	d with	SC-SM	
						Gravel (moist) Till			
6	10	10.3	4"	50/4"	ΕOΙ	Vory Dance Cray Silby Clayov Say	d with	CC CM	
6	10	10.5	4	30/4	50+	Very Dense Gray Silty Clayey Sar Gravel (moist) Till	u witti	SC-SM	
						Graver (moist) Till			
						Boring Terminated at 10.33'			
						g drilling at 3.0'. At completion of	drilling wa <mark>t</mark> e	r in augers	at 9.1'.
Afte	er remo	oval of	augers	water in	hole at	1.3'.			
							F	PAGE:	1 of 1

	RA	МВ	&L	L		SOIL BORING LOG	BORING ID: INSPECTOR:		Norton	
	0.15.07	1441 ·				45 144 11 21 2 1 1 2 1				2/2024
	CLIENT:		ine Geot	<u>ecn</u> S		AE: White Pine Comercial Park C.: Burnet Road, Clay, NY 13041	DATE START DATE COMPLET			23/2021 23/2021
Ì	JOB #:	OCIDIT	194007	 120 BO		C.: SB-4	FINAL STATIC		9.3'	
DI	RILLING	CONT :	Konno	y Geotechni	cal	DRILLING METHOD: Hollow Stem Auger	NORTHING:		/12	183690
			e Moreh		Lai	HAMMER / FALL: Auto / 30"	EASTING:	-		145568
		E: Geo		0430	•	SAMPLER TYPE: Split Spoon			70.	113300
			otechnica	al Boring	SA	AMPLER DIAMETER: 2 inch	DATUM:			
Sample No.	Sample Start Depth	End Depth	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		General Stratum Descrip.	Field T	esting
Se	(ft.)	(ft.)	Pel						(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	Clav	CL-ML		
			10	3		Wet at 2 feet	Cidy	CL IIL		
				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	a	
	0	0	20	10	10	Loose Brown Sandy Silt, Trace Clay,	(Wet)	I'IL		
				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 (	lay,			
				4		(moist)		ML		
				8						
	10	12	8"	\A/I I	12	Laca Cray Silty Cand trace Clay (	~ a:a+\	CM		
6	10	12	8	WH 5	13	Loose Grey Silty Sand, trace Clay, (r	noist)	SM	a	
				8						
				5						
				-						
NOT	ΓES:	Water	table e	encounter	d durin	g drilling at 2'. At completion of drilli	ng water in a	augers a	at 23.2'	
Afte	er remo	val of	augers	water in	hole at	9.3'				
							PAC	ŝΕ:	1 of	2

	ВΛ	мв	$d_{i}$		INST ECTOR:	NG ID:	SB-4		
	KA	МВ	OL			ECTOR:	CJN		
Sample No.	Sample Start Depth	Sample End Depth	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum		esting
Sam	(ft.)	(ft.)	Pene Re		Ž		Descrip.	PID (ppm)	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 T	ïll		
				12					
				18					
10	23	23.9	4"	22	50+	Very Dense Grey Silty Sand with Clay,	SC		
10	23	23.3	4	50/4"	30+	some Gravel (wet) Till	30		
				30/4		Some Graver (wet) Till			
11	28	28.6	6"	31	50+	Very Dense Grey Silty Sand with Clay,	SC		
				50/1"		some Gravel (wet) Till			
						Dowing Townsingtod of 20 Cl			
						Boring Terminated at 28.6'			
NO	ΓES:								
							PAGE:	2 of	2

	RA	МВ	&L	L		SOIL BOR	ING LOG	BORING II		Norton	
			ine Geot	ech S		ME: White Pine Com		DATE STA			27/2021
(	CLIENT:					C.: Burnet Road, Cl	ay, NY 13041	DATE COMPL	ETED:		27/2021
	JOB #:		194007	120 BO	RING LC	C.: SB-5		FINAL STAT	C WL:	2.1'	
DF	RILLING	CONT.:	Kenne	y Geotechnic	cal	DRILLING METHOD:	Hollow Stem Auger	NORTHIN	G:	43.	184862
ı	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL:	Auto / 30"	EASTIN	G:	76.	149698
	RIG TY	PE: Geo	probe			SAMPLER TYPE:	Split Spoon	ELEVATIO	N: <u>N/A</u>		
	PURPOS	SE: Geo	technica	l Boring	SA	AMPLER DIAMETER:	2 inch	DATUN	Л: <u>N/A</u>		
Sample No.	Sample Start Depth (ft.)	Sample End Depth (ft.)	Penetration / Recovery	Blows/6"	"N" Value	МАТ	ERIAL DESCRIPTION		General Stratum Descrip.	Field T PID (ppm)	esting
1	0	2	15"	WH	3	4" Top Soil			CL-ML	(1-1)	
	U		13	WH	J		dy Silty Clay, (moist)		CL-IIIL		
				3		Sole Brown San	ay Sifty Clay, (IIIolst)				
				4							
				· ·							
2	2	4	20"	5	8	Medium Stiff Bro	own Sandy Silty Clay	(wet)	CL-ML		
				4							
				4							
				4							
3	4	6	24"	3	3	Soft Stiff Brown	Sandy Silty Clay (we	et)	CL-ML		
				2							
				1							
				1							
4	6	8	24"	1	8	Looso Prous Co	ndy Cilt some Clay	(wo+)	MI		
4	0	0	24	4	0	Loose brown Sa	ndy Silt, some Clay,	(wet)	ML		
				4							
				5							
5	8	10	10"	6	7	Medium Stiff Br	own 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							
NO	ΓES:	\\/atar	table	ncountar	l durin	a drilling at 2.0'	At completion of deil	ling water	in auga-	C at E 2	1
				water in l			At completion of dril	mig water	iii augers	s at 5.3	
/\I (C		vai Ui	augeis	Water III I	ioic at						
								P.A	AGE:	1 of	2

	RA	мв	d.T		SOIL BORING LOG  BORING I INSPECTO	ID:	SB-5		
	RA	МБ	OL			INSPECTO	OR:	CJN	
Sample No.	Sample Start Depth	Sample End Depth	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum	Field T	esting
San	(ft.)	(ft.)	Pene Re		<u>.</u> 2		Descrip.	PID (ppm)	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					
				3					
8	18	20	12"	2	12	Stiff Dark Gray Sandy Clay with Gravel, some	CL		
Ť				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'			
	<u> </u>								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
									,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
NO	TES:					<u> </u>	1		
						1	PAGE:	2 of	2

	RΔ	МВ	CIL			SOIL BORING LOG	BORING ID:			
	•						INSPECTOR	Chris	Norton	
PR	OJECT:	White P	ine Geot	tech S	SITE NAN	ME: White Pine Comercial Park	DATE STAR	TED:	12/2	27/2021
(	CLIENT:	OCIDA			SITE LO	C.: Burnet Road, Clay, NY 13041	DATE COMPLE	TED:	12/2	27/2021
	JOB #:		194007	120 BO	RING LO	C.: SB-6	FINAL STATIC	WL:	2.0'	
DI	RILLING	CONT.:	Kenne	y Geotechnio	cal I	DRILLING METHOD: Hollow Stem Auger	NORTHING	:	43.	185909
	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL: Auto / 30"	EASTING	:	76.	153341
	RIG TY	PE: Geo	probe		-	SAMPLER TYPE: Split Spoon	ELEVATION	: N/A		
	PURPO	SE: Geo	technica	al Boring	SA	AMPLER 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 T PID (ppm)	esting
1	0	2	19"	1	4	12" Top Soil		CL-ML		
_	0		10	2		Soft Brown Sandy Silty Clay, (moist		CL IIL		
				2			/			
				4						
2	2	4	18"	4	9	Loose Brown Sandy Silt, some Clay,	(moist)	ML		
_		•		4			(1110100)			
				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 wi	th	SC		
				17		Gravel, (wet)				
				8						
				9						
6	10	12	8"	26	18	Loose Gray Clayey Sand with Grave	, (wet)	SC		
				11						
				7						
				6						
	ΓES:					g drilling at 4.0'. At completion of dr	lling water i	n auger	s at 2.7	<u>'.                                    </u>
Afte	er remo	oval of	augers	water in I	hole at	2.0'.				
							PAG	GE:	1 of	2

	ВΛ	мр	d	SOIL BORING LOG  BORING INSPECTO		D:	SB-6			
	KA	IALD	OL		INSPECTOR:		CJN			
Sample No.	Sample Start Depth	Sample End Depth	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		General Stratum	Field T	esting
Sai	(ft.)	(ft.)	Pen R		<u> </u>			Descrip.	(ppm)	Other
7	12	14	10"	3	11	Loose Gray Clayey Sand with Gravel,	(wet)	SC		
	ļ			5	<u> </u>					
				6						
				7						
8	14	16	13"	3	12	Loose Cray Sandy Silty Clay with Cra	wol	CL		
٥		10	13	6	12	Loose Gray Sandy Silty Clay with Gra (wet) Till	ivei	CL		
	<u></u>			6		(wet) IIII				
				12						
9	18	20	11"	6	34	Highly Weathered Shale Rock beginni	ing at	Rock		
				10		17'				
				24						
	' 			50/3"						
	ļ 									
10	20	20.1	1"	50/2"	50+	Weathered Shale Bedrock		Rock		
						Boring Terminated at 20.1'				
		-								
	<u></u>									
										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
								annunnunnunnunnunnunnunnunnunnunnunnunnu		
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			)							
NOT	ΓES:				<u> </u>					
	•									
							P	AGE: 2	2 of	2

ĺ	ŖΔ	MR	&L			SOIL BORING LOG	BORING ID:			
							INSPECTOR:	Chris	Norton	
PF	ROJECT:	White P	ine Geot	tech S	SITE NAN	ME: White Pine Comercial Park	DATE STAR	TED:	12/2	8/2021
(	CLIENT:	OCIDA			SITE LO	C.: Burnet Road, Clay, NY 13041	ATE COMPLET	ΤΕD:	12/2	8/2021
	JOB #:		194007	120 BO	RING LO	C.: SB-7	FINAL STATIC	WL:	1.7'	
DI	RILLING	CONT.:	Kenne	y Geotechnio	cal	DRILLING METHOD: Hollow Stem Auger	NORTHING:		43.	188507
	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL: Auto / 30"	EASTING:		76.	153120
	RIG TY	PE: Geo	probe		='	SAMPLER TYPE: Split Spoon	ELEVATION:	N/A		
	PURPO:	SE: Geo	otechnica	al Boring	SA	AMPLER 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 T PID (ppm)	esting
1	0	2	19"	WH	1	6" Top Soil		CL-ML	WF 7	
	0		17	WH		Soft Brown Sandy Silty Clay, (moist)		CL IIL		
				1		Solic Brown Sundy Sincy Clay, (111013c)				
				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						
_			4.00							
4	6	8	18"	3	10	Stiff Brown Sandy Silty Clay, (wet)		CL-ML		
				5						
				5 4						
				4						
5	8	10	22"	4	13	8'-9' Medium Stiff Brown Sandy Silty	Clav.	CL-ML		
				4		(wet)	c.ay,	<u> </u>		
				9		9'-10' Loose Gray Silt, some clay, sor	ne	ML		
				10		sand, (wet)				
6	10	12	12"	3	4	Very Loose Gray Silt, some clay, som	e sand	ML		
				2		(wet)				
				2						
				2						
	ΓES:					g drilling at 3.5'. At completion of drill	ing water in	n augers	s at 11.	1'.
Afte	er remo	oval of	augers	water in l	hole at	1.7'.				
							PAG	SE:	1 of	2

	РΔ	мв	$d_{1}$			SOIL BORING LOG	BORING ID:		
	~~					INSF	ECTOR:	CJN	
Sample No.	Sample Start Depth	Sample End Depth	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum		esting
Sam	(ft.)	(ft.)	Pene Re		Z		Descrip.	PID (ppm)	Other
7	12	14	24"	WH	2	Very Loose Gray Silt, some clay, some sa	nd ML		
				1		(wet)			
				1					
				1					
8	14	16	14"	WH	0	Coft Curve Candy Clay came Cilt (wet)	CL		
0	14	10	14	WH	U	Soft Gray Sandy Clay, some Silt, (wet)	CL		
				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		
						A			
						Auger refusal 21.5' Boring Terminated at 21.6'			
						DOTTING TETTINITALEU AL 21.0			
NO	TES:				Labo	red augering at 20.5'. Auger refusal at 21	.5'.		
-							DACE:	2 of	2
							PAGE:	2 of	2

	RA	МВ	d'L	L		SOIL BORING LOG	BORING I	<b>D:</b> SB-8	Vorton
						45 1441: 8: 0 :18 1			
	CLIENT:	White P	ine Geot	<u>ech</u> S		Mhite Pine Comercial Park	DATE STA		12/20/2021
,		OCIDA	104007	130 00		C.: Burnet Road, Clay, NY 13041 C.: SB-8	DATE COMP FINAL STAT		12/20/2021 3.3'
								IC WL	3.3
				y Geotechnic	cal	DRILLING METHOD: Hollow Ster			43.191671
I		N: Nat		ouse		HAMMER / FALL: Auto /			76.153226
		PE: Geo					t Spoon ELEVATIO		
	PURPO:	SE: Geo	technica	al Boring	SA	MPLER DIAMETER:	2 inch DATU	M: <u>N/A</u>	
Sample No.	Sample Start Depth	End Depth	Penetration / Recovery	Blows/6"	'N" Value	MATERIAL DESCRIP	TION	General Stratum Descrip.	Field Testing
Sa	(ft.)	(ft.)	Per		=			- 33331.	(ppm)
1	0	2	24"	WH	2	Soft Brown Silty Clay, some o	rganics,	CL-ML	
				WH		(Moist)			
				2					
				3					
2	2	4	12"	4	10	Stiff Brown Silty Clay, some s	and, (Moist)	CL-ML	
				5					
				5 5					
				5					
3	4	6	24"	4	9	4'-5' Stiff Brown Silty Clay, so	me sand	CL-ML	
	-	0	27	5		(Moist)	mic Sana,	CLITE	
				4		5'-6' Loose Brown Sandy Silt,		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, so	me silt, (Wet)	SC	
				4					
				5					
				4					
6	10	12	24"	WH	2	Loose Brown Clavey Sand so	me silt (Wet)	SC	
U	10	12	24	1	۷	Loose Brown Clayey Sand, so	ine siit, (Wet)	<u> </u>	
				1					
				1					
NO	ΓES:	Water	table e	encounter	l durin	g drilling at 6'. At completion c	of drilling water i	n augers a	at 9.9'.
				water in I			<u></u>		
							P	AGE:	1 of 2

	RA	мв	& L	L		SOIL BORING LOG	BORING I			
Sample No.	Sample Start	Sample End	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		General Stratum	Field T	esting
Samp	Depth (ft.)	Depth (ft.)	Peneti Recc	2.011.37.0	\N	MATERIAL DESCRIPTION		Descrip.	PID (ppm)	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 Clavey Sand, some silt.	(Mat)	SC		
	17	10	24	2	,	Loose Grey Clayey Sand, some silt, (	(Wet)	30		
				3						
				6						
9	18	20	14"	1	6	Medium Stiff Grey Sandy Clay with G	Gravel,	CL		
				1		some sitl (Wet)				
				5						
				7						
10	23	24.8	18"	26	85	Von Dongo Dark Cray Sandy Clay w	.i.t.h	Cl		
10	23	24.8	18	35	85	Very Dense Dark Gray Sandy Clay w Gravel (Till), some stone fragments,		CL		
				50		Graver (1111), some stone fragments,	(vvec)			
				50/3"						
				, -		Auger Refusal 24.5'				
						Boring terminated at 24.75'				
										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
NO	TES:									
							P	AGE: 2	2 of	2

	RA	MВ	& L	L		SOIL BORING LOG	BORING ID:		Norton	
DE	OJECT	White P	ine Geot	ech S	ITE NAN	ΛΕ: White Pine Comercial Park	DATE STAR			0/2021
	CLIENT:		ine Geol	<u>.ecii</u>			ATE COMPLE			0/2021
	JOB #:		194007	 120 BO			FINAL STATIC		4.8'	.0/2021
	RILLING	CONT ·	Kanna	y Geotechni	ral le	DRILLING METHOD: Hollow Stem Auger	NORTHING		/13	194830
		N: Nat			Lai	HAMMER / FALL: Auto / 30"	EASTING			152578
'		PE: Geo		ouse	•	SAMPLER TYPE: Split Spoon	ELEVATION		70.	132370
			•	al Boring	S <i>A</i>	AMPLER DIAMETER: 2 inch	DATUM			
e No.		Sample End		Blows/6"	'N" Value			General	Field T	esting
Sample No.	Depth (ft.)	Depth (ft.)	Penetration / Recovery	Blows/6	\	MATERIAL DESCRIPTION		Stratum Descrip.	PID (ppm)	
1	0	2	18"	WH	2	4" Top Soils		CL-ML		
				WH		Soft Brown/Grey Silty Clay, some org	anics			
				2		(Moist)				
				4						
1		4	24"	2		Fire Description Cilc.	_	CL MI		
2	2	4	24"	3	6	Firm Brown Silty Clay, some ogrganic	S,	CL-ML		
				3		(Moist)				
				6						
3	4	6	18"	3	10	Stiff Bown Sandy Silt, some clay, (Mo	ist)	ML		
				5						
				5						
				6						
4	6	8	24"	4	11	Medium Dense Brown Sandy Silt, som	ne	ML		
				6		clay, (Wet at 7')				
				5						
				6						
5	8	10	24"	2	5	Loose Brown Sandy Silt, some clay (V	Vot)	ML		
	0	10	27	2		Loose Brown Sandy Site, Some clay (V	vecj	1.11		
				3						
				5						
6	10	12	14"	WH	4	Loose Brown Sandy Silt, some clay (V	Vet)	ML		
				1						
				3						
				4						
	ΓES:					g drilling at 7.0'. At completion of drill	ing water i	n		
aug	ers at	4.5'. A	tter rer	noval of a	ugers	water in hole at 4.8'.				
							DA	^E.	1 25	2
							PAG	JE.	1 of	2

	RA	MR	di			SOIL BORING LOG	ORING ID:	SB-9	
						INS	SPECTOR:	CJN	
Sample No.	Sample Start	Sample End	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum	Field T	esting
Sam	Depth (ft.)	Depth (ft.)	Penet Rec		: 2 :		Descrip.	PID (ppm)	Other
7	12	14	24"	3	7	Loose Brown to Grey Sandy Silt, (Wet)	ML		
				3					
				4					
				2					
	1.4	1.0	24"	<b>NA/LL</b>		No Coff Corp. Cile. Class and A	M-t) CI MI		
8	14	16	24	WH WH	0	Very Soft Grey Silty Clay, some sand, (\	Wet) CL-ML		
				WH					
				WH					
				WH					
				••••					
9	18	20	22"	4	10	12" Loose Poorly Graded Sand, some sil	t 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					
						Average Defined at 22 Fl			
						Auger Refusal at 22.5' Boring terminated at 23.8'			
									,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
NO.	TES:			Shelby Tul	be take	I en form 14'-16' next to this hole, augerin	a straiaht to 14	<u>'</u> .	
			•	,		and the second s	J 72: 2:: g.: C 2 1		
							PAGE:	2 of	2

	DΔ	MR	& L			SOIL BORING LOG	BOKING ID			
	NA.	1-1-0	<u> </u>				INSPECTOR	: Chris	Norton	
PR	ROJECT:	White P	ine Geot	ech S	SITE NAN	1E: White Pine Comercial Park	DATE STAF	RTED:	12/2	0/2021
(	CLIENT:	OCIDA			SITE LO	C.: Burnet Road, Clay, NY 13041	OATE COMPLE	TED:	12/2	20/2021
	JOB #:		194007	120 BO	RING LO	C.: SB-10	FINAL STATIO	CWL:	3.0'	
DI	RILLING	CONT.:	Kenne	y Geotechni	cal	DRILLING METHOD: Hollow Stem Auger	NORTHING	:	43.	192455
			e Moreh			HAMMER / FALL: Auto / 30"	EASTING	:	76.	144057
	RIG TY	PE: Geo	probe		1	SAMPLER TYPE: Split Spoon	ELEVATION	: N/A		
	PURPO	SE: Geo	otechnica	al Boring	SA	AMPLER DIAMETER: 2 inch	DATUM	: N/A		
Sample No.	Start Depth	Sample End Depth	Penetration / Recovery	Blows/6"	'N" Value	MATERIAL DESCRIPTION		General Stratum Descrip.	Field T	esting
Š	(ft.)	(ft.)	Pe		-				(ppm)	
1	0	2	24"	1	4	4" Top soil				
				2		Soft Brown Silty Clay, some sand, (M	oist)	CL-ML		
				2						
				3						
_		4	2.4"			M. J B B Cili Cla		CI MI		
2	2	4	24"	3 4	8	Medium Dense Brown Silty Clay, som	e sand	CL-ML		
				4		(Moist)				
				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, (M	nist)	ML		
	-	10	15.2	5		Loose Grey Sandy Sile, Some Clay, (11	0130)			
				4						
				4						
6	10	12	13.2	WH	3	Loose Grey Sandy Silt, some clay, (W	/et)	ML		
				1						
				2						
				2						
	ΓES:					g drilling at 10.0'. At completion of dri	illing water	' in		
aug	ers at	12.8.	Aiter re	emoval of	augers	water in hole at 3.0'.				
$\vdash$							DΛ	GE:	1 of	2
							17	<b>∪∟.</b>	- 01	_

	RΔ	мв	$d_{1}$			SOIL BORING LOG	BORING	i ID:	SB-10	
						SOIL BOILING LOG	INSPECT	OR:	CJN	
Sample No.	Sample Start	Sample End	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		General Stratum	Field T	esting
Sam	Depth (ft.)	Depth (ft.)	Penet Rec		N			Descrip.	PID (ppm)	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 Gray Silty Clay, some sand (V	Mat)	CL-ML		
_	17	10	20	1		Soft Grey Silty Clay, some sand, (V	vecy	CL ML		
				1						
				2						
9	18	20	12"	5	27	Stiff Grey Silty Clay with Gravel, (w	vet)	CL-ML		
				17						
				10						
				14						
10	21.5	21.7	0	50/0.2"	50+	Westhered Shale Bedrock		Rock		
10	21.5	21.7	0	30/0.2	301	Westilered Strate Bedrock		ROCK		
						Boring terminated at 21.7'				
NO.	TES:				Labo	l bred augering at 21.5. Auger refusal	l at 21 5'			
1,40	ıLJ.				Labe	ned dagernig at 21.3. Auger refusal	ut 21.J .			
								PAGE: 2	2 of	2

	DΛ	МВ	del			SOIL BORING LOG	BORING ID:	SB-11		
	R A	МБ	O L	_		SOIL BORING LOG	INSPECTOR:	Chris I	Norton	
PR	OJECT:	White P	ine Geot	tech S	SITE NAN	ΛΕ: White Pine Comercial Park	DATE STAR	TED:	12/2	1/2021
(	CLIENT:	OCIDA			SITE LO	OC.: Burnet Road, Clay, NY 13041	DATE COMPLE	TED:	12/2	1/2021
	JOB #:		194007	120 BO	RING LO	OC.: SB-11	FINAL STATIC	WL:	4.6'	
DI	RILLING	CONT.:	Kenne	y Geotechni	cal	DRILLING METHOD: Hollow Stem Auger	NORTHING:		43.	191136
	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL: Auto / 30"	EASTING:		76.	143872
	RIG TY	PE: Geo	probe		1	SAMPLER TYPE: Split Spoon	ELEVATION:	N/A		
	PURPO:	SE: Geo	otechnica	al Boring	SA	AMPLER 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 T PID (ppm)	esting
1	0	2	24"	WH	5	3" Top Soil		CL-ML	(PP)	
_	U		24	1		Medium Stiff Brown Silty Clay,		CL-ML		
				4		some Organics, (moist)				
				1		Some Organics, (most)				
2	2	4	24"	4	15	Stiff Brown Sandy Clay, some Silt, (	moist)	CL-ML		
				5	-13		1110136)	<u> </u>		
				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 Si	Ity Clay	CL-ML		
				4		(Moist)				
				5		9.5'-10' Stiff Gray Silty Clay, some S	Sand,	CL-ML		
				6		(Moist)				
6	10	12	24"	WH	3	Soft Gray Silty Clay, some Sand (we	t)	CL-ML		
				1						
				2						
				2						
NO	ΓES:	Water	table e	encounter	d durin	g drilling at $10.0^{\circ}$ . At completion of d	rilling water	in auge	rs at $8$ .	3'.
Afte	er remo	oval of	augers	water in	hole at	5.6'.				
							PAC	GE:	1 of	2

	РΔ	MR	d'L			SOIL BORING LOG	BORING ID:		SB-11	
	N A					SOIL BORING LOG	INSPECTOR:		CJN	
Sample No.	Sample Start	Sample End	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		ieneral tratum	Field T	esting
Sam	Depth (ft.)	Depth (ft.)	Penet Rec		Z		D	escrip.	PID (ppm)	Other
ST	12	14	13"	ST	-	Shelby Tube Attempt, 13" Recovery		CL		
7	14	16	12"	1	2	Soft Gray Silty Clay, some Sand (we	t) C	CL-ML		
				1						
				1						
8	18	20	24"	WH	0	Soft Gray Silty Clay, some Sand (we	t) C	CL-ML		
				WH						
				WH WH						
				****						
9	22	22.4	4"	50/4"	50+	Weathered Shale Bedrock		Rock		
						Davida Tamaia da 22 d				
						Boring Terminated at 22.4'				
N.C.	TE 6				, .		22.01			
NO	TES:				Lab	ored augering at 21'. Auger refusal a	t 22.0°.			
							PAG	E:2	2 of	2

	ВΛ	MR	&L			SOIL RORING LOG	BORING ID:			
	KA	МБ	OL			JOIL BORNING LOG	NSPECTOR:	Chris I	Norton	
PR	OJECT:	White P	ine Geot	tech S	ITE NAN	ME: White Pine Comercial Park	DATE STAR	ΓED:	12/2	21/2021
(	CLIENT:	OCIDA			SITE LC	DC.: Burnet Road, Clay, NY 13041 DA	ATE COMPLE	ΓED:	12/2	21/2021
	JOB #:		194007	120 BO	RING LC	OC.: SB-12 F	INAL STATIC	WL:	4.6'	
DF	RILLING (	CONT.:	Kenne	y Geotechnic	cal	DRILLING METHOD: Hollow Stem Auger	NORTHING:		43	.190470
ı	FOREMA	N: Nat	e Moreh	ouse	-	HAMMER / FALL: Auto / 30"	EASTING:		76	.144870
	RIG TYP	PE: Geo	probe		•	SAMPLER TYPE: Split Spoon	ELEVATION:	N/A		
	PURPOS	SE: <u>Geo</u>	otechnica	al Boring	SA	AMPLER 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 1 PID (ppm)	Testing
1	0	2	13"	WH	2	0-1' Brown Soft Silty Clay with Organic		CL-ML	(PP)	<del>                                     </del>
	0		13	1		1'-2' Soft Brown Silty Clay no organics		CL-ML		
				1		(moist)				
				4		(110132)				
				-						
2	2	4	14"	3	8	Medum Stiff Brown Silty Clay, some Sa	and.	CL-ML		
_		·		4		(moist)	<u>,</u>	<u> </u>		
				4						
				7						
3	4	6	14"	4	16	Medum Stiff Brown Silty Clay, some Sa	and,	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						
					<u> </u>					
5	8	10	12"	2	5	Medium Stiff Gray Silty Clay, some sar	nd,	CL-ML		
				3		(wet)				
			$\vdash \vdash \vdash$	2						
				3						
6	10	12	12"	WH	3	Loco Gray Sandy Silt, como Clay (we	n+1	MI		
U	10	12	12	1	3	Loose Gray Sandy Silt, some Clay, (we	5L)	ML		
				2						
				2		•				
NOT	ΓES:	Water	table ε	encounter	d durin	I ng drilling at 7.0'. At completion of drillin	ng water i	n augers	s at 6.4	l'.
						t 4.6', water below cave.		- 5-7-		
						-	DΛC		1 of	2

	DΔ	мв	di			SOIL BORING LOG	NG ID:	SB-12	
	~~	ם ויו				INSPE	CTOR:	CJN	
Sample No.	Sample Start Depth	Sample End Depth	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION	General Stratum	Field T	esting
Sam	(ft.)	(ft.)	Pene Rec		Z		Descrip.	PID (ppm)	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		
_	17	10	22	WH		Solit Gray Sitey Clay, Solite Salia, (Wee)	CL IIIL		
				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 Sar	nd GM		
10	20	22	0	3	12	(wet)	id Giri		
				9					
				5					
11	22.5	22.6	1"	50/1"	50+	Black Weathered Shale	Rock		,
						  Boring Terminated at 22 6'			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
						Boring Terminated at 22.6'			
NO	TES:				Lab	ored augering at 21'. Auger refusal at 22.5			
_							PAGE:	2 of	2
							FAGE.	<u>ک</u> 01	

	RA	МВ	&L	L		SOIL RORING LOG	RING ID: SPECTOR:		Norton	
PR	OJECT:	White P	ine Geot	ech S	ITE NAN	ME: White Pine Comercial Park D	ATE STAR	TED:	12/2	21/2021
	CLIENT:				SITE LC	C.: Burnet Road, Clay, NY 13041 DATE	E COMPLET	TED:		21/2021
	JOB #:		194007	120 BO	RING LC	C.: SB-13 FIN	AL STATIC	WL:	3.8'	
DF	RILLING	CONT.:	Kenne	y Geotechnic	cal	DRILLING METHOD: Hollow Stem Auger N	ORTHING:		43.	.188098
ı	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL: Auto / 30"	EASTING:		76.	146715
	RIG TY	PE: Geo	probe			SAMPLER TYPE: Split Spoon EL	LEVATION:	N/A		
	PURPOS	SE: <u>Geo</u>	otechnica	l Boring	SA	AMPLER DIAMETER: 2 inch	DATUM:	N/A		
Sample No.	Start Depth	Sample End Depth	Penetration / Recovery	Blows/6"	'N" Value	MATERIAL DESCRIPTION		General Stratum Descrip.	Field T	esting
Š	(ft.)	(ft.)	Pe		-				(ppm)	
1	0	2	20"	1	3	4" of Top Soil		CL-ML		
				1		Soft Brown Silty Clay, some Sand, (mois	st)			
				2						
				2						
2	2	4	22"	2	6	Modium stiff Proug Cilty Clay some Can	. d	CI MI		
2	2	4	22	2	ь	Medium stiff Brown Silty Clay, some Sar (moist)	10	CL-ML		
				4						
				6						
				U						
3	4	6	13"	3	11	Stiff Brown Silty Clay, some Sand (mois	t)	CL-ML		
				5						
				6						
				6						
4	6	8	20"	4	7	Medium stiff Brown Silty Clay, some Sar				
				3		(moist)		CL-ML		
				4						
				5						
5	8	10	20.5"	2	5	8'-9' Soft Brown Silty Clay, some sand,	(wet)	CL-ML		
,	J	10	20.0	2		9'-10' Soft Gray Silty Clay, some sand, (		CL-ML		
				3				OL		
				3						
										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
6	10	12	12"	1	4	Soft Gray Silty Clay, some sand, (wet)		CL-ML		
				2						
				2						
				4						
						g drilling at 8.0'. At completion of drilling	water ir	n augers	at 3.8	<b>'</b> .
Afte	er remo	oval of	augers	water in l	nole ca	ved at 3.0', water below cave.				
							PAG	Er.	1 of	2

	RA	мв	&L	L		SOIL BORING LOG	BORING II	-	SB-13	
							INSPECTO	R: 	CJN	
Sample No.	Sample Start	End	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		General Stratum	Field T	esting
Sam	Depth (ft.)	Depth (ft.)	Penet Rec		<u>.</u> 2			Descrip.	PID (ppm)	Other
7	12	14	24"	1	2	Soft Gray Silty Clay, some sand, (w	vet)	CL-ML		
				1						
				1						
				3						
_	1.4	1.0	22"	-	_	Con Con Cill Channel (	-17	CL MI		
8	14	16	22"	1	2	Soft Gray Silty Clay, some sand, (w	vet)	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'				
	<u> </u>									
	<del> </del>									
	<u> </u>									
	<u> </u>									
-	<u> </u>									
	<u> </u>									
	$\vdash$									
NO.	TES:									
<b></b>										
							P/	AGE: 2	2 of	2

	RA	МВ	d'L	L		SOIL BORING LOG		SB-14 Chris I		
PF	OJECT:	White P	ine Geot	tech S	ITE NAN	/IE: White Pine Comercial Park DA	TE STAR	TED:	12/2	2/2021
	CLIENT:				SITE LO	C.: Burnet Road, Clay, NY 13041 DATE	COMPLE	 ГЕD:		2/2021
	JOB #:		194007	120 BO		<del></del> -	L STATIC	WL:	3.2'	•
DI	RILLING	CONT.:	Kenne	y Geotechnic	cal I	DRILLING METHOD: Hollow Stem Auger NO	RTHING:		43.:	186360
	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL: Auto / 30" E	ASTING:		76.:	146233
	RIG TY	PE: Geo	probe			SAMPLER TYPE: Split Spoon ELE	VATION:	N/A		
	PURPO	SE: Geo	technica	al Boring	SA	AMPLER DIAMETER: 2 inch	DATUM:	N/A		
١٥.	Sample	Sample	on / ry		ən			General	Field To	esting
Sample No.	Start Depth	End Depth	Penetration Recovery	Blows/6"	'N" Value	MATERIAL DESCRIPTION		Stratum		
Sarr	(ft.)	(ft.)	Pene Re		.Z 			Descrip.	PID (ppm)	
1	0	2	12"	1	4	12" Top Soil		CL-ML		
				2		Soft Sandy Silty Clay with organics (mois	t)			
				2						
				2						
2	2	4	21"	2	6	Madium Chiff Dayle Drown Cillar Clay Come		CL MI		
2		4	21"	2	6	Medium Stiff Dark Brown Silty Clay, some	;	CL-ML		
				4		Sand, trace organics, (moist)				
				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 Cla	У	ML		
				12 13		(moist)				
				21						
				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						
NO	ΓES:	Water	tahle d	encounter	Ldurin	l g drilling at 8.0'. At completion of drilling v	water ii	า สมเดอก	s at 1 0'	1
				water in I			racei II	. augers	J UL 1.7	•
					40	<del></del>				
							PAC	SE:	1 of	2

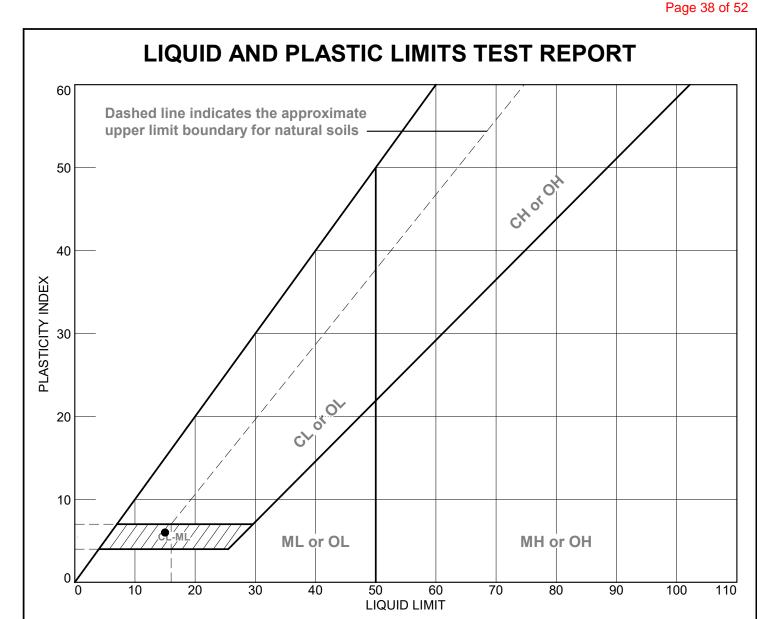
	RA	MR	di			SOIL BORING LOG	BORING ID:		SB-14	
	N A					SOIL BORING LOG	INSPECTOR:		CJN	
Sample No.	Sample Start Depth	Sample End	Penetration / Recovery	Blows/6"	"N" Value	MATERIAL DESCRIPTION		eneral ratum -	Field T	esting
Sam	(ft.)	Depth (ft.)	Penel Rec		N		De	escrip.	PID (ppm)	Other
7	12	14	24"	1	2	Soft Grey Silty Clay, some Sand (we	t) C	L-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		
_	10	17.5		23	751	6" Weathered Shale		NOCK		
				50/3"		Shale began at 18'				
						Boring Terminated at 19.3'				
-										
NO.	TES:		Soil	changed t	o silt a	L It shelby tube attempt depth. Wet silt	on inside wa	lls of tu	he	
	J.		5011	changea (	3111. 0	is one by table attempt depth, wet silt	on maide wa	01 10		
							PAGE	:2	of	2

	ВΛΙ	MR	&L			<b>SOIL BORING LOG</b>	ORING ID:			
	KA	МБ	O L			Sole Boltille Eog	NSPECTOR:	Chris I	Norton	
PR	OJECT:	White P	ine Geot	ech S	ITE NAN	ME: White Pine Comercial Park	DATE STAR	TED:	12/2	28/2021
(	CLIENT:	OCIDA			SITE LC	DC.: Burnet Road, Clay, NY 13041 DA	TE COMPLE	TED:	12/2	28/2021
	JOB #:		194007	120 BO	RING LC	OC.: SB-15 FI	INAL STATIC	WL:	5.1'	
DF	RILLING	CONT.:	Kenne	y Geotechnic	cal	DRILLING METHOD: Hollow Stem Auger	NORTHING:		43.	.185557
ı	FOREMA	N: Nat	e Moreh	ouse		HAMMER / FALL: Auto / 30"	EASTING:		76	.142219
		PE: Geo	•			SAMPLER TYPE: Split Spoon	ELEVATION:			
	PURPOS	SE: <u>Geo</u>	otechnica	l Boring	Si	AMPLER 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 T	esting
				14/11	-			CI MI	(ppm)	
1	0	2	20"	WH	6	3" Top Soil		CL-ML		
				3		Medium Stiff brown Sandy Silty Clay,				
				4		(moist)				
				Т						
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, (	wat)	CL-ML		
	0	0	27	6	11	Thediam Still Brown Sandy Sitey Clay, (	Weej	CL IIL		
				5						
				4						
5	8	10	23"	1	7	8'-9' Medium Stiff brown Sandy Silty C	lay,	CL-ML		
				3		(wet)				
				4		9'-10' Medium Stiff Grey Sandy Silty C	lay,	CL-ML		
				6		(wet)				
	10	10	26"	14/11	2			CL MI		
6	10	12	26"	WH	3	Soft Grey Sandy Silty Clay, (wet)		CL-ML		
				2						
				3						
				3						
NO	ΓES:	Water	table e	encounterd	l durin	I g drilling at 2.0'. At completion of drillir	ng water i	n augers	at 3.7	".
				water in I			J			•
							PAC	F:	1 of	2

	RAMBOLL		L		SOIL BORING LOG	BORING ID:  INSPECTOR:		SB-15		
	1				T		INSPECTOR	<del></del>	CJN	
Sample No.	Sample Start	Start End Debth Bloms/6. Start Eud Debth Debth Bloms/6.		Value	MATERIAL DESCRIPTION		General Stratum	Field Testing		
Sam	(ft.)	(ft.)	Penet Rec		 Z			Descrip.	PID (ppm)	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		
H	17	10	27	WH		Solic Gray Surray Sirey Clay, (Wee)		CL IIL		
				WH						
				WH						
ST	16	18	20"	ST	-	Shelby Tune Attempt, 20" of recovery	y	CL		
_	10	20	2411	-	2	Coff Cook Conductible Class (week)		CL MI		
9	18	20	24"	1	2	Soft Gray Sandy Silty Clay, (wet)		CL-ML		
				1						
				2						
				_						
10	23	25	20"	WH	4	Soft Gray Sandy Silty Clay, (wet)		CL-ML		
				1						
				3						
				4						
11	20	20.6	6"	50	ΓΟ.	Washawa Chala Badwali		Doole		
11	28	28.6	ь	50/1"	50+	Weathered Shale Bedrock		Rock		
				30/1						
						Boring Terminated at 28.6'				
NO	TES:		1	l		Labored augering at 26 feet.				
							P.A	AGE: 2	2 of	2



**APPENDIX 2 LABORATORY TESTING RESULTS** 



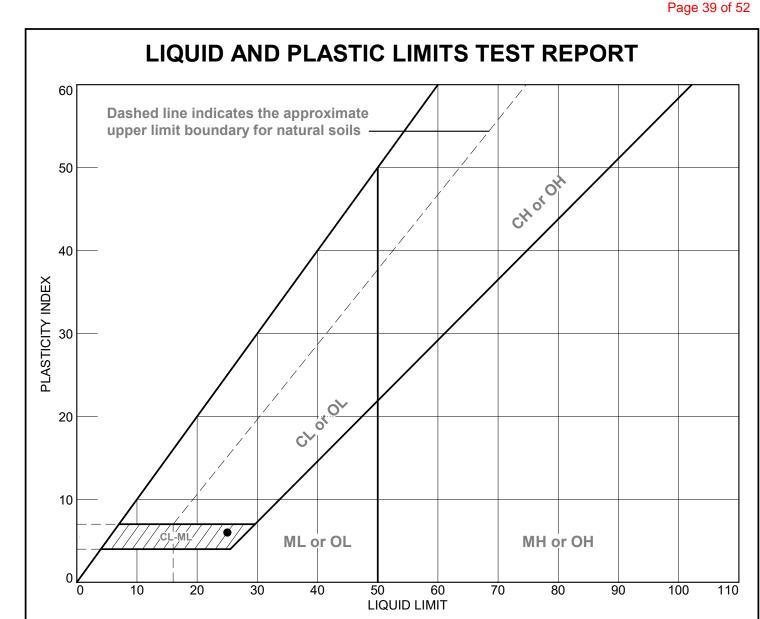
	SOIL DATA											
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	uscs				
•	SB-2, 10-12	6	10-12	8.2	9	15	6	CL-ML				

Client: Ramboll Americas
Project: White Pines

**Project No.:** 2021-212

Figure

Tested By: JK



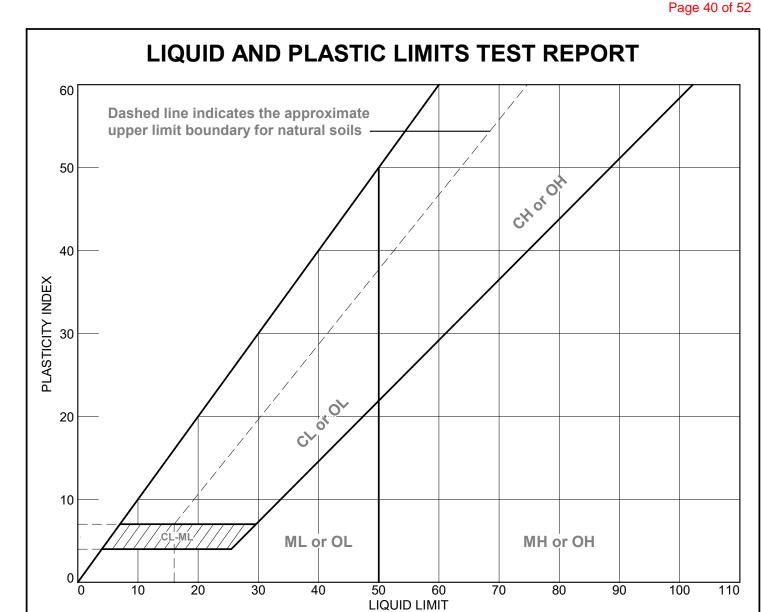
	SOIL DATA											
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	uscs				
•	SB-5, 4-6	3	4-6	23.6	19	25	6	CL-ML				

Client: Ramboll Americas
Project: White Pines

**Project No.:** 2021-212

Figure

Tested By: JK



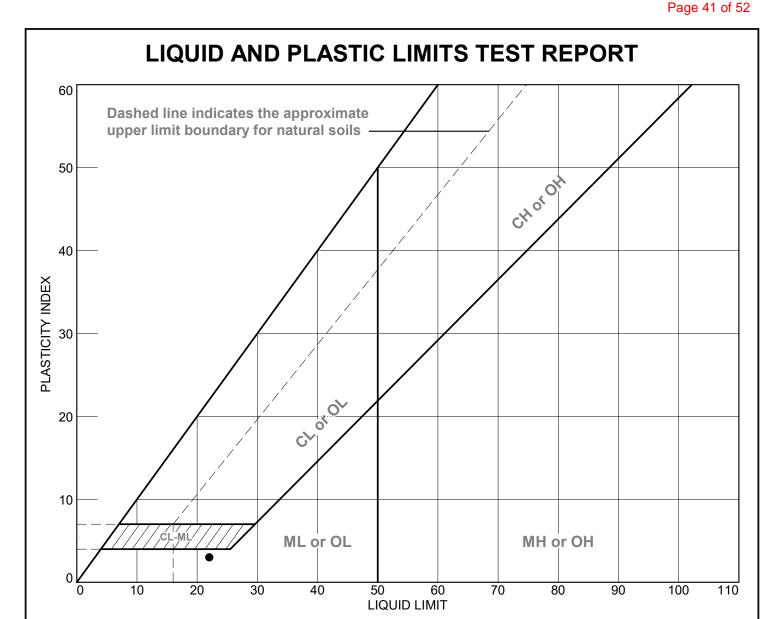
				SOIL DATA	1			
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	SB-11, 10-12	6	10-12		NP	NV	NP	

Client: Ramboll Americas
Project: White Pines

**Project No.:** 2021-212

Figure

Tested By: JK



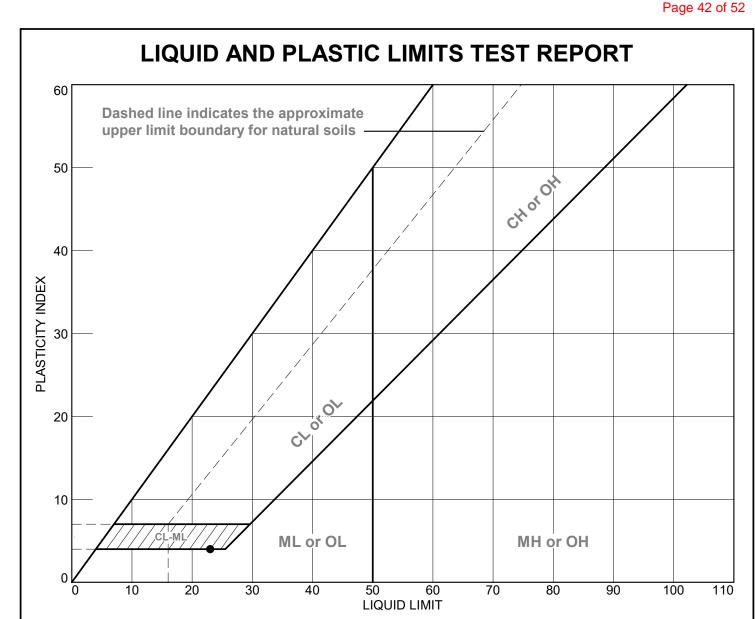
	SOIL DATA											
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	uscs				
•	SB-14, 8-10	5	8-10	21.8	19	22	3	ML				

Client: Ramboll Americas
Project: White Pines

**Project No.:** 2021-212

Figure

Tested By: JK



	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				

Client: Ramboll Americas
Project: White Pines

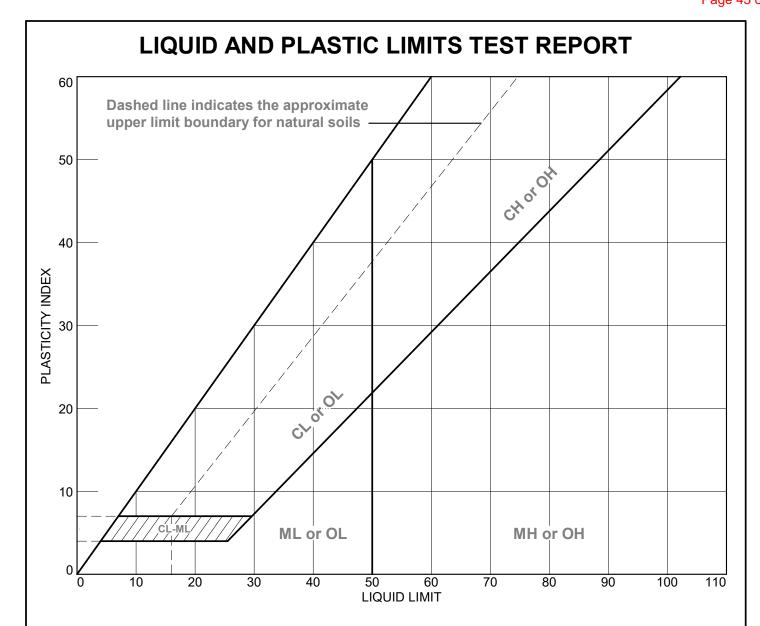
. rojoot. white i mes

**Project No.:** 2021-212

Checked By: CMK

**Figure** 

Tested By: JK



				SOIL DATA	4			
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

**Client:** Ramboll Associates

**Project:** White Pines

**Project No.:** 2021-212

**Figure** 

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



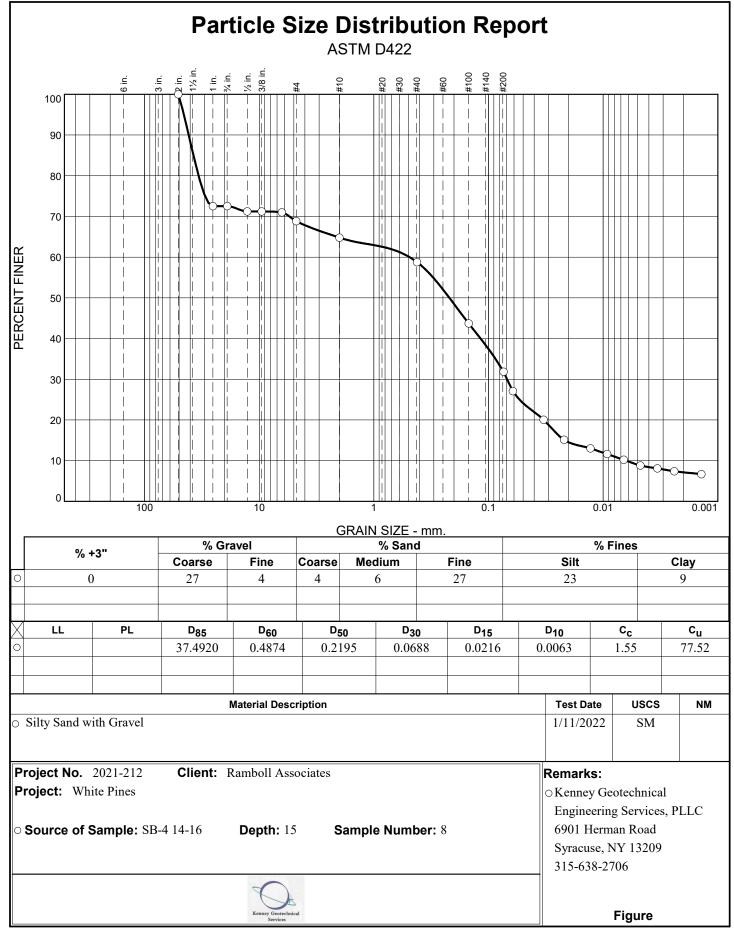
Project No.:	2021-212	Date:	1/6/2022
Project Name:		White Pines	

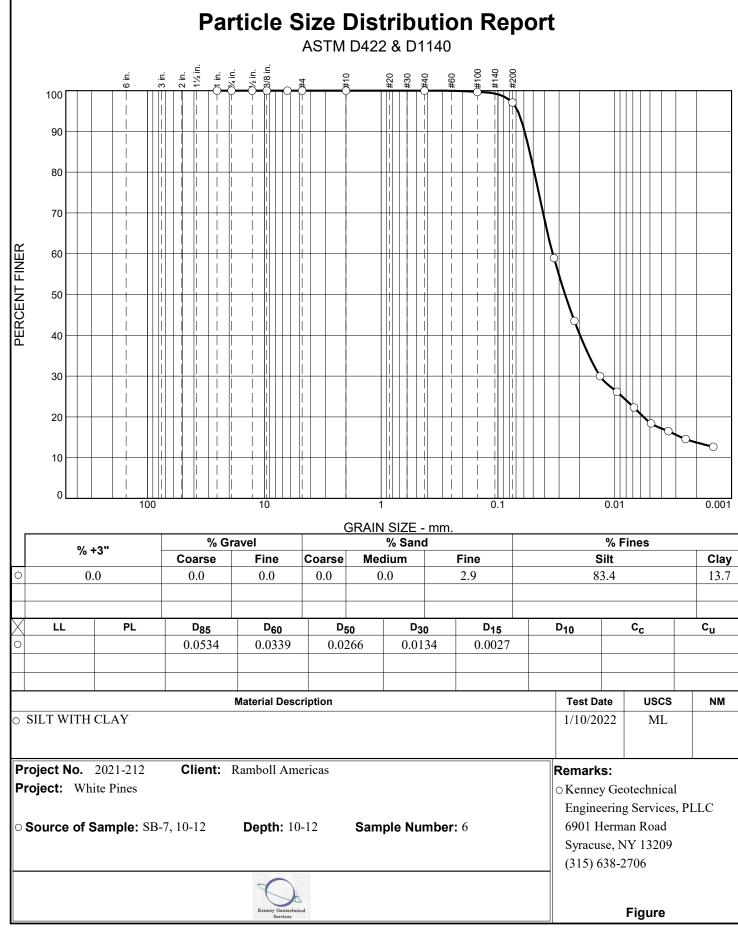
Natural Moisture Content
ASTM D2216

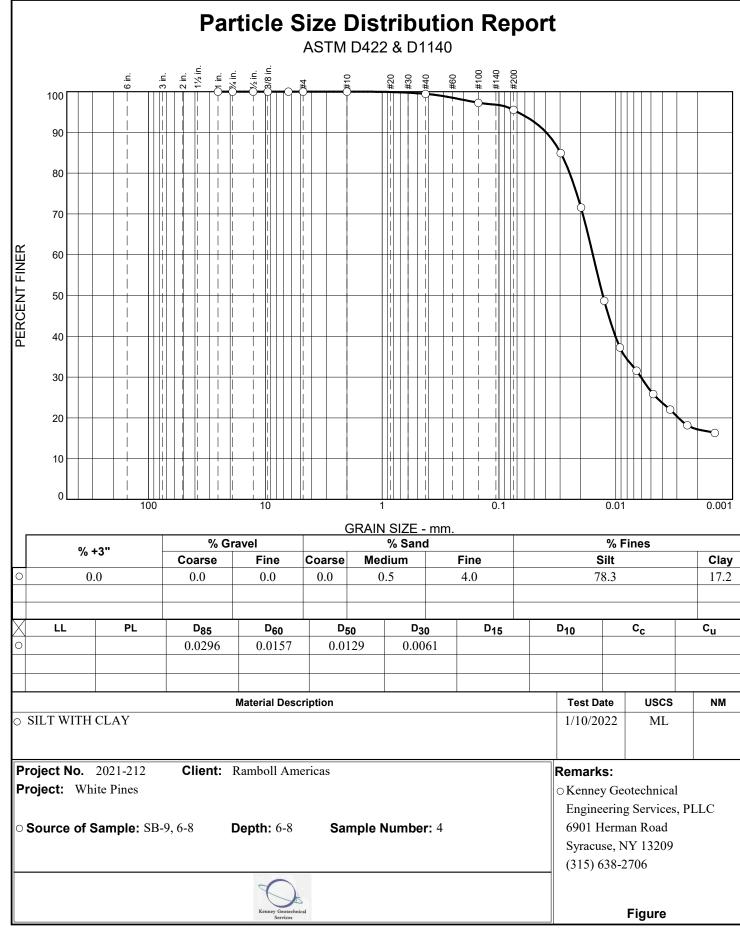
Sample:	SB-2, 4-6	SB-3, 8-10	SB-4, 2-4	SB-5, 18-20	SB-6, 8-10	SB-7, 2-4	SB-9, 14-16	SB-10, 2-4
Tare Name:	NMFP	Link	Duck	Alfa	KOA	Burt	Moo	NCIS
Tare Weight:	14.06	13.83	14.03	13.81	13.57	14.09	13.72	14.63
Tare + Wet Sample Wt.:	50.77	56.68	55.13	51.72	51.42	56.25	58.61	50.66
Tare + Dry Sample Wt.:	47.93	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

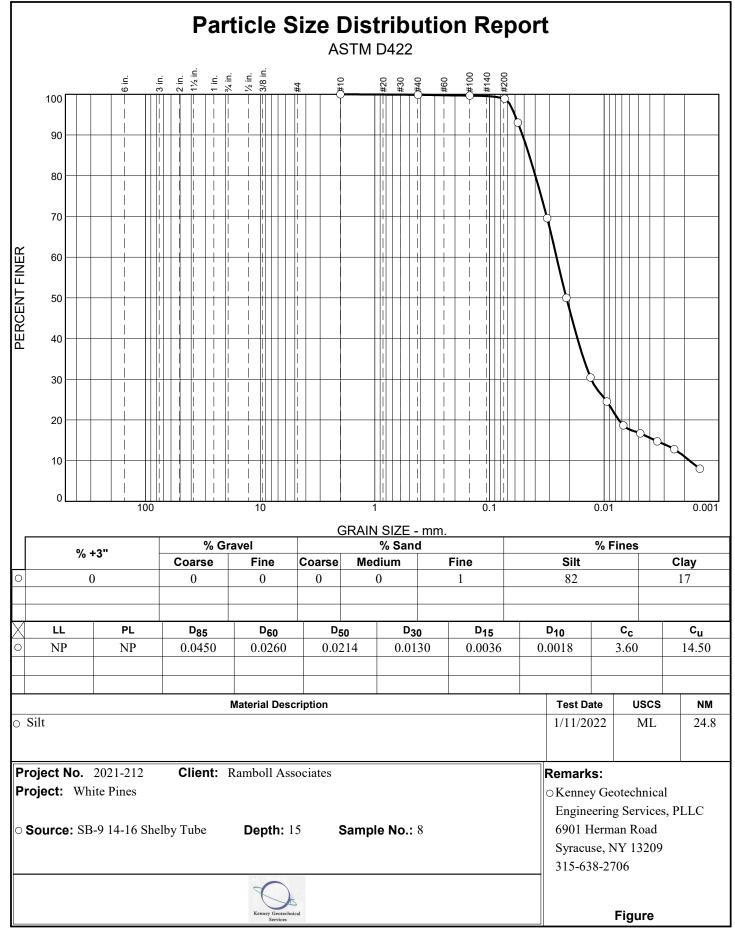
Sample:	SB-10, 18-20	SB-12, 4-6	SB-12, 12-14	SB-15, 2-4	SB-13, 2-4	SB-4, 14-16	SB-7, 10-12	SB-9, 6-8
Tare Name:	Ball	Hornet	Sox	Fish	Run	CC-3	Bus	Star
Tare Weight:	14.19	14.18	13.8	13.85	157.4	65.3	168.9	211.7
Tare + Wet Sample Wt.:	53.63	53.06	54.57	52.38	399.7	319.8	474.6	415.4
Tare + Dry Sample Wt.:	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

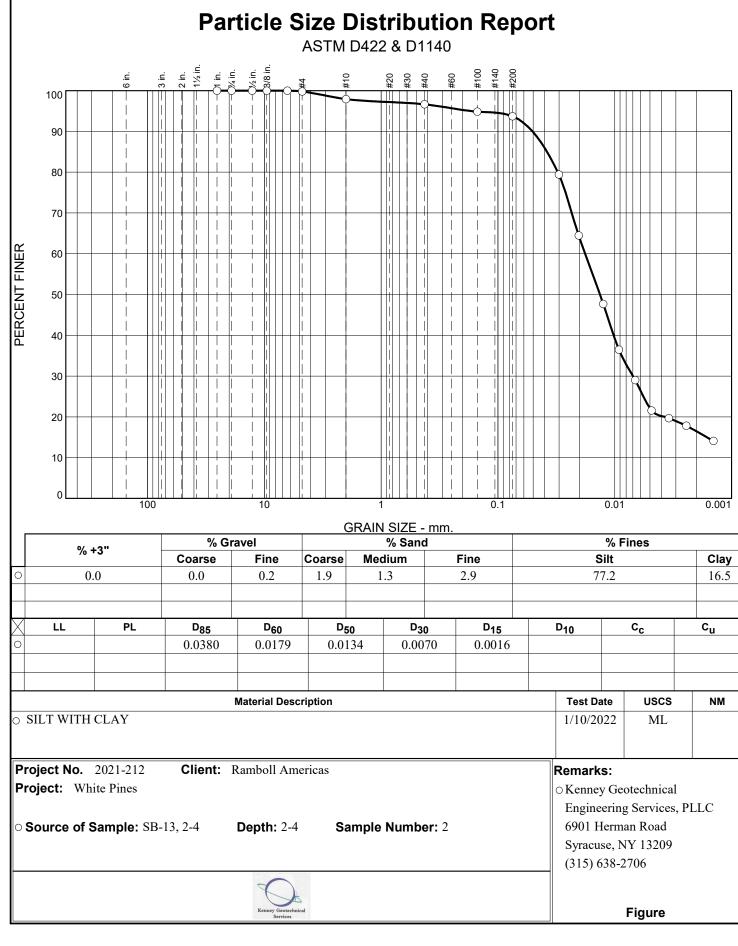
Sample:	SB-15, 12-14	SB-14, 8-10	SB-2, 10-12	SB-15, 12-14	SB-11, 10-12	SB-5, 4-6		
Tare Name:	Barn	CC-6	PRP	Dawg	No Name	Bunker		
Tare Weight:	227.6	133.8	169.6	226.2	200.2	133.3		
Tare + Wet Sample Wt.:	352.1	431.1	434.2	347.5	449.9	360.4		
Tare + Dry Sample Wt.:	329.6	377.8	414.2	325.7	402.1	317		
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!

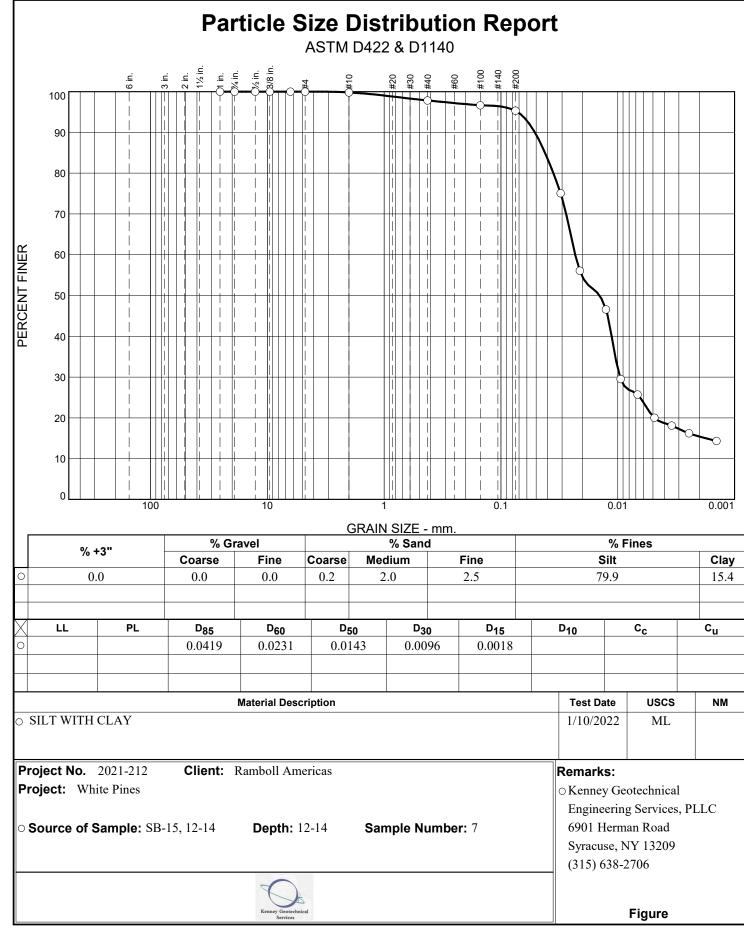




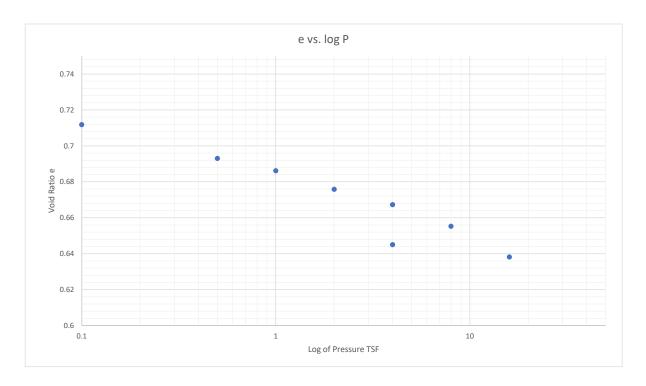








Desciption	of Soil:	B-9 1	4-16'	Location:		White Pine							
Specimen	Diameter:	2.5	inches	Initial	Height:	1	inches	Height of S	Solids Hs	0.584182	inches		
Moisture (	Constent:	Start:	24.5	%	End:	19.5	%	Weight Dr	y Specimer	126.8	g	Gs	2.7
Tested By: CMK				/WME			Date:			), 2022			
Pressure	Final Dial	Change In	Final	Height	Final	Avg H	Fitin	g Time	c <sub>v</sub> x	10 <sup>3</sup>		Pressure	Final
Р	Reading	Height	Height	Void	Void Ratio	Н	sec		in <sup>2</sup> /sec			Р	Void Ratio
tsf	inches	inches	inches	Inches	е	inches	t <sub>90</sub>	t <sub>50</sub>	t <sub>90</sub>	t <sub>50</sub>		tsf	е
0	0.742		1.000	0.416	0.712							0.1	0.711796
		0.011				0.9945	30		1.747				
0.5	0.731		0.989	0.405	0.693							0.5	0.692966
		0.004				0.987	30		1.721				
1	0.727		0.985	0.401	0.686							1	0.686119
		0.006				0.982	20		2.555				
2	0.721		0.979	0.395	0.676							2	0.675848
		0.005				0.9765	21		2.407				
4	0.716		0.974	0.390	0.667							4	0.667289
		0.007				0.9705	28		1.783				
8	0.709		0.967	0.383	0.655							8	0.655306
		0.01				0.962	25		1.962				
16	0.699		0.957	0.373	0.638							16	0.638189
		-0.004				0.959	26		1.875				
4	0.703		0.961	0.377	0.645				·			4	0.645036



Desciption	of Soil:	B5 12	2'-14'	Location:		White Pine							
Specimen I	Diameter:	2.5	inches	Initial	Height:	1	inches	Height of S	Solids Hs	0.605835	inches		
Moisture C	Constent:	Start:	24.81	%	End:	17.6	%	Weight Dr	y 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	Fitin	g Time	c <sub>v</sub> x	10 <sup>3</sup>		Pressure	Final
Р	Reading	Height	Height	Void	Void Ratio	Н	sec		in <sup>2</sup> /sec			Р	Void Ratio
tsf	inches	inches	inches	Inches	е	inches	t <sub>90</sub>	t <sub>50</sub>	t <sub>90</sub>	t <sub>50</sub>		tsf	е
0	0.798		1.000	0.394	0.651							0.1	0.711796
		0.004				0.998	60		0.880				
0.5	0.794		0.996	0.390	0.644							0.5	0.692966
		0.009				0.9915	375		0.139				
1	0.785		0.987	0.381	0.629							1	0.686119
		0.01				0.982	216		0.237				
2	0.775		0.977	0.371	0.613							2	0.675848
		0.012				0.971	135		0.370				
4	0.763		0.965	0.359	0.593							4	0.667289
		0.013				0.9585	125		0.390				
8	0.75		0.952	0.346	0.571							8	0.655306
		0.014				0.945	120		0.394				
16	0.736		0.938	0.332	0.548							16	0.638189
		-0.019				0.9475	90		0.529				
4	0.755		0.957	0.351	0.580							4	0.645036

