Proactive by Design

Deep Geotechnical Survey Report

South Fork Wind Farm
RI-MA Wind Energy Area (WEA)
Lease OCS-A-0486

December 21, 2018
File No. 03.0034480.00

PREPARED FOR:
Deepwater Wind, LLC
56 Exchange Terrace, Suite 300
Providence, Rhode Island

GZA GeoEnvironmental, Inc.
188 Valley Street, Suite 300
Providence, RI 02909
401-421-4140

28 Offices Nationwide
www.gza.com

December 21, 2018
File No. 03.0034480.00

Mr. Paul Murphy
Vice President, Operations and Engineering
Deepwater Wind, LLC
56 Exchange Terrace, Suite 300
Providence, RI 02903

Re: DRAFT Deep Geotechnical Survey Report
South Fork Wind Farm
RI-MA Wind Energy Area (WEA)

Dear Mr. Murphy:

GZA GeoEnvironmental, Inc. (GZA) is pleased to provide this Geotechnical Survey Report, revision 0, associated with the recent deep geotechnical survey for the proposed South Fork Wind Farm project. The primary objectives of this study were to perform subsurface explorations in the vicinity of proposed offshore wind turbine generators (WTG) and to provide recommended geotechnical design parameters for use in foundation design. This report contains results for boring Locations B-3, B-6, B-10, B-11, B-11A, and B-OSS.

We appreciate the opportunity to have been of service to you and look forward to working with you as this project progresses. Please contact Diane Baxter at (401) 427-2742 or diane.baxter@gza.com if you have any questions.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

James Marsland

James J. Marsland, P.E.
Project Manager

Russell Morgan

Russell J. Morgan, P.E.
Consultant/Reviewer

Diane Baxter

Diane Y. Baxter, Ph.D., P.E., LEED AP
Associate Principal

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

ATTACHMENTS

TABLES

FIGURES

APPENDICIES

1.0 INTRODUCTION AND PROJECT APPROACH

The South Fork Wind Farm (SFWF) is a proposed offshore wind energy facility consisting of up to fifteen wind turbine generators (WTGs) and an offshore substation (OSS) located in the RI-MA Wind Energy Area, Federal Lease OCS-A-0486, Lease Blocks 6965, 6966, 7015, and 7016 (see Figure 1, ***Locus Plan***). The wind farm will be capable of generating up to 130 megawatts (MW) of electricity, which will be transmitted to the Long Island Power Authority (LIPA) on Long Island, New York through an underground cable. The site is located in up to 38 meters of water on the outer continental shelf (OCS), approximately 19 miles southeast of Block Island, Rhode Island. The proposed WTG locations are presented in the SFWF COP Survey Plan Amendment Alternative B layout shown in Figure 2A.

Several geophysical and shallow geotechnical surveys were completed by others within the SFWF project area, and along the associated cable routes between the site and Long Island, NY. The project is currently in the design phase and foundation types being considered include gravity base systems (GBS), pile supported jackets, and monopiles.

GZA GeoEnvironmental Inc. (GZA) completed a deep geotechnical survey for the South Fork Wind Farm in August and September of 2018 consisting of five geotechnical borings at proposed WTG locations to support WTG foundation design. GZA's project approach for conducting this geotechnical survey was to utilize a lift boat as a base of operations for geotechnical borings using wireline drilling methods. After soil samples were collected using wireline drilling methods, downhole logging was performed to determine in situ soil properties. A P-S suspension logger was used to measure shear wave velocity, and other downhole tools were used to determine in situ properties such as material type and soil density. GZA was responsible for determining drilling methodology and logistics and providing all vessels and drilling equipment. After the drilling program, GZA analyzed the boring information, designed and executed the laboratory testing program, determined geotechnical design parameters, and performed preliminary geotechnical analyses for the various foundation options.

This report has been prepared in accordance with our proposal to Deepwater Wind, LLC (DWW) dated April 24, 2018. The work is being performed under our Master Agreement No. DWW120185 signed July 12, 2015 and Task Order signed June 5, 2018 (Purchase Order No. 1062). The recommendations presented herein, and the use of this report, is subject to the Limitations in **Appendix A**.

2.0 AREA GEOLOGY

DWW provided several reports for GZA's review to gain an understanding of the area geology, including the February 23, 2018 "Integrated Geophysical and Geotechnical Site Characterization Report, South Fork Wind Farm and Export Cable, South Fork Wind Farm COP Survey, Offshore NY/RI/MA, Atlantic OCS", prepared by Fugro. This report contains a detailed description of the area geology and the interpretation of various geophysical and shallow geotechnical surveys throughout the project area. GZA also has an understanding of the area geology from previous desktop studies and experience drilling deep borings for the nearby Block Island Wind Farm.

Generally, the stratigraphy of the region consists of recent marine sediment (mostly sand), underlain by transgressive deposits, glacial deposits, coastal plain, and bedrock. The region was glaciated, and sea level approached the border of the outer continental shelf. As the ice retreated, meltwater flowed toward the Atlantic Ocean and sea level increased. Transgressive deposits were laid down over glacial deposits as the shoreline progressed to its current elevation. Transgressive deposits can consist of gravel, sand, silt, and clay. Glacial deposits consist of fluvial (meltwater) sediment (gravel, sand, and silt), glaciolacustrine (glacial lake) deposits (silt and/or clay), and glacial till/moraine (unsorted or sorted mixtures of gravel, sand, silt, and clay). Little information is available on the physical characteristics of coastal plain; however, it is generally understood to consist of partially cemented sand, gravel, silt, and clay. Bedrock is estimated to be greater than 150 meters below seafloor.

The region experienced several periods of glaciation and as the ice melted, a highly erratic network of drainage channels and glacial lakes resulted. These features were eventually filled by transgressive deposits as sea level rose. Regarding foundation design, little consistency in subsurface conditions should be expected between WTG locations due to this complex depositional environment. Furthermore, cobbles and boulders are common in glacial deposits and glacial till.

The permafrost map by Brown et al. (1997) indicated that permafrost was not located at the site. This was confirmed by visual observation of the soil samples.

3.0 DESIGN BASIS

The design basis for this preliminary phase of design was "Geotechnical and Foundation Design Considerations, ANSI/API Recommended Practice 2GEO, First Edition, April 2011, Addendum 1, October 2014" published by the American Petroleum Institute (API); herein referred to as API 2GEO. Subsurface explorations and geotechnical laboratory testing of soil samples collected from the explorations were also performed in general accordance with this guidance document. Other design methodologies may be chosen for the detailed design phase.

GZA has prepared this report in accordance with API 2GEO, which incorporates working stress design (WSD). This report includes pertinent parameters required for preliminary geotechnical evaluation of gravity-based foundation systems (GBS), piles, and monopile foundation systems. DWW provided preliminary foundation dimensions and foundation loads for this preliminary evaluation, as outlined in subsequent sections of this report. Estimates of seafloor scour depths to be used in the foundation design have also been developed.

In addition to the above-mentioned guidance document, GZA reviewed pertinent references to develop technical approaches to specific design issues encountered in developing this report. Those references and methods of evaluation are presented and discussed in subsequent sections of this report. In addition, GZA has relied on our over 50 years of geotechnical design and construction experience in developing geotechnical profiles and parameter values, as well as our experience providing geotechnical parameter values for the Block Island Wind Farm for Deepwater Wind.

4.0 GEOTECHNICAL SUBSURFACE INVESTIGATION

GZA conducted a deep geotechnical survey at the SFWF site consisting of five borings. The borings, designated B-3, B-6, B-10, B-11, B-11A, and B-OSS were drilled between August 6 and September 7, 2018. Boring identification is consistent with the "Alternative B" layout shown on the SFWF COP Survey Plan Amendment, shown in Figure 2A. A target boring depth of 65 meters below sea floor was specified by DWW. Boring locations are shown on Figure 2, **Exploration Location Plan.** Logs of the borings are included in **Appendix B**. Daily Operations Reports (DOR) were prepared during the exploration program and have been transmitted to Deepwater Wind under separate cover.

Diane Baxter, Ph.D., P.E. was the GZA Principal-In-Charge for the project, and was ultimately responsibility for the execution of the contract and work product (survey planning, field work, and report preparation). James Marsland, P.E. was the GZA Project Manager, responsible for day-to-day operations involved with management of GZA personnel and GZA subcontractors for the work product (survey planning, field work, and report preparation). Russell Morgan, P.E. was

GZA's Consultant Reviewer (internal reviewer) on contracts and the report. GZA's subcontractors for this investigation included:

- Falcon Global of Galliano, Louisiana (liftboat);
- Northstar Marine, Clermont, New Jersey (navigation, marine logistics, supply vessels);
- DOSECC Exploration Services of Salt Lake City, Utah (drilling); and
- COLOG of Lakewood, Colorado (down-hole geophysical logging).

The borings were drilled by DOSECC Exploration Services, LLC (DES) of Salt Lake City, Utah from the Liftboat Seacor Supporter, a 200-foot class lift boat from Houma, Louisiana. Drilling operations were conducted using two twelve-hour shifts operating 24 hours per day. Protected Species Observers (PSO) were subcontracted by DWW and were aboard the vessel to observe the work and assist in maintaining compliance with the South Fork Wind Farm Deep Geotechnical Survey Permit and Environmental Compliance Plan (PECP).

The borings were observed and logged by GZA geotechnical engineers stationed on the vessel. GZA classified and processed the soil samples for storage and onshore geotechnical laboratory testing. Typical compensation factors of offshore drilling operations were eliminated through the use of a lift boat. Typical compensation factors include heave due to wind and wave action and dynamic positioning to maintain the drill over the boring location.

Variable subsurface and drilling conditions were encountered at SFWF. At B-11, a large obstruction was encountered just below the seafloor, which was difficult to penetrate. Also at B-11, the drillers experienced binding of the drill string which halted rotation of the drill string, circulation of drill fluid, and advancement of the boring. It is suspected that localized collapse of sand layers reduced the efficacy of the drill system to remove cuttings from the borehole. This condition required full or partial extraction of the drill string prior several times prior to termination of the borehole, with an eventual termination of Boring B-11 at a depth of 57 meters below sea floor. Boring B-11A was offset from boring B-11 and drilled to the target depth of 65 meters. Sampling was started at 30 m below seafloor at Boring B-11A. In other locations, the drillers occasionally experienced binding of the drill string after periods of shutdown due to a marine mammal siting by the Protected Species Observers.

4.1 BORING POSITION AND WATER DEPTHS

DWW provided target coordinates for five boring locations for this survey. GZA subcontracted Northstar Marine, Inc. of Clermont, New Jersey to provide positioning for the borings. Northstar Marine installed GPS positioning equipment with sub-meter accuracy and assist the lift boat captain in positioning the vessel over the boring locations. A single GPS antenna was positioned on or offset to the drill head on the vessel, so the drill would be positioned as close to the target location as practicable. Coordinates of as-drilled boring locations are provided in the table below:

Boring I.D.	Water Depth (m)	Target Location		As-Drilled Location			
		Latitude	Longitude	Latitude	Longitude	Azimuth (degrees)	Offset Distance (m)
B-3	34.4	41.102211	-71.186676	41.1022	-71.1867	310.9	1.78
B-6	35.7	41.101199	-71.165532	41.1012	-71.1655	224.8	2.03
B-10	34.1	41.098115	-71.129111	41.0981	-71.1291	57.4	2.36
B-11	37.8	41.114035	-71.148045	41.1140	-71.1481	243.5	2.10
B-11A	37.5	41.114035	-71.148045	41.1140	-71.1480	327.9	1.48
B-OSS	36.6	41.074549	-71.168796	41.0742	-71.1688	268.0	34.22

Water depth at each boring location was estimated through a combination of measuring devices and bathymetric information provided by DWW. Water depth estimates were provided by the lift boat captain using spud length measuring equipment and typical maritime navigation equipment. Water depth and air gap (distance between the hull and water surface) measurements were estimated by DOSECC using drilling equipment having known lengths spanning between the working deck and the seafloor. Materials on the seafloor were firm and could be easily identified with drilling equipment. GZA also measured the water depth and air gap using a weighted tape. The water depth measurements were compared to bathymetric data provided by DWW and an average water depth was reported for each boring location. Mudline elevations are relative to Mean Sea Level (MSL).

4.2 DRILLING EQUIPMENT

The Seacor Supporter is a 40-meter (132-foot) long lift boat capable of providing a stable working platform in up to 44 meters (145 feet) of water. The borings were drilled using an Atlas Copco CS4002 drill rig utilizing wire line drilling techniques and drilling fluid. The drill rig was set on a steel platform that was cantilevered over the edge of the liftboat and welded to the working deck. The height of the lift boat above the water surface varied at each boring location and ranged between 6 and 12 meters (20-40 feet). This was a function of water depth, length of the protective casing, and sea state. The following sections describe the subsurface exploration program in further detail.

A marine riser pipe consisting of 152-mm (6-inch) I.D. threaded steel casing (referred to as buttress casing) was utilized at all boring locations, except B-11. B-11 was drilled using only the drill string. When in place, the marine riser pipe spanned the distance between the working deck and seafloor, and generally penetrated 2 to 3 meters into the seabed. The marine riser was suspended from the drill platform. The riser increased the stiffness of the drill system through the water column, and also assisted to removal of drill cuttings to the seafloor.

The drill string consisted of 102-mm (4.0-inch) I.D. (CHD) flush joint steel pipe and was utilized to advance the borehole to the target depth. The drill string was lowered to the seafloor through the riser pipe. The bottom segment of the drill string is referred to as the Bottom Hole Assembly (BHA). Samplers and other tools are lowered and retrieved through the inner diameter of the drill string via wireline. Borings were advanced with continuous external drill fluid circulation to aid in the removal of cuttings and create a cake on the borehole wall. Continuous soil sampling was attempted in 1.5- or 3.0-meter (5- or 10-foot) intervals. Soil samples were retrieved in clear Lexan liners and provided to GZA for on-board processing at the time of drilling.

Several biodegradable drilling muds with various admixtures were used for the drilling operations. Drilling mud was mixed continuously and was not recirculated. The drilling fluid mixture was continuously adjusted to provide a fluid that could suspend cuttings and also aid in removal of drill cuttings.

4.3 SOIL SAMPLERS

The following sections present a description of the suite of wireline samplers used to recover samples at the project site.

4.3.1 Hydraulic Piston Corer (HPC)

A Hydraulic Piston Corer (HPC) sampler is a piston sampler and was the predominate sampling tool used on this project. The HPC consists of an outer core barrel, inner core barrel, nose cone, core catcher, and Lexan liner. The HPC is lowered via wireline to the BHA. Once the sampler is engaged in the BHA, pressure is applied to the drilling fluid within the drill string. Once fluid pressure reaches a certain pressure, shear pins release the piston and the sampler is thrust into the soil ahead of the drill string. Various shear pins were used for various soil conditions. As the inner barrel penetrates the soil stratum, sediments enter the Lexan liner with the inner core barrel through the nose cone and core catcher. The sampler penetrates 3.3 meters (10 feet) into the soil stratum, or until refusal is achieved. The hydraulic piston sampler achieved the best recovery with clays and silt and fine to coarse sands. Penetration of the HPC was less successful with sands and gravel. The HPC was the most frequently used sampling tool. The HPC is a push sampler, while other samplers rely on rotary cutting. Soil sample disturbance appeared to be less with HPC samples when compared to the Extended Nose sampler or Alien sampler.

4.3.2 Extended Nose Sampler (EXN)

The Extended Nose Sampler (EXN) consists of an outer core barrel with reaming bit and an inner core barrel with nose cone, core catcher, and Lexan liner. The nose cone of the sampler extends beyond the outer core barrel reaming bit. The sample is collected by advancing the drill string. The EXN sampler penetrates the soil ahead of the drill string and collects a sample. This sampler is design for stiff clays and was seldom used on this project. When used on this project, low recovery and high sample disturbance was observed in comparison to the hydraulic piston corer.

4.3.3 Alien Sampler (ALN)

The Alien Sampler (ALN) is another rotary sampler designed to sample in very dense or consolidated formations that cannot be recovered by the hydraulic piston corer or extended nose sampler. The ALN sampler consists of the cutting shoe, outer core barrel, core lifter, inner tube, and the Lexan liner. The ALN sampler engages the BHA and is advanced with the drill string. However, the inner tube and Lexan liner are isolated from the rotating outer core barrel and drill string. As the drill string is advanced, the outer core barrel advances through the formation while the inner tube remains isolated from the rotation to reduce sample disturbance.

4.3.4 Thin Walled Tube (Shelby Tube) Sampler

Thin walled tube samplers (Shelby tubes) were deployed via wireline in an attempt to collect relatively undisturbed samples of cohesive soil for laboratory testing. Shelby tube samples were obtained in general conformance with ASTM D 1587, Standard Practice for Thin Walled Tube Sampling of Soils for Geotechnical Purposes. Shelby tubes are open-ended thin-walled steel tubes with a fine cutting edge. The samplers are slowly lowered to the bottom of the borehole and pushed without rotation into undisturbed cohesive soils. Shelby tubes are approximately 0.9 meters (36 inches) long and were often pushed between HPC sample intervals. Typically, a 20-minute waiting period was provided after the push to allow the soil to adhere to the inner wall of the tube allowing for recovery. The drill string was then rotated to shear the soil at the bottom of the tube prior to retrieval via wireline.

4.4 SAMPLE RECOVERY, SEALING AND STORAGE

Upon retrieval of the sampling tools, the Lexan liners were extracted on deck by DOSECC and given to GZA geotechnical engineers for processing. Processing of the samples included recovery measurements, soil classification, stratum identification, on-board laboratory index testing, field strength testing, and cutting, sealing, and packaging of the sample for transport and storage.

Recovery lengths varied depending on the soil type, soil density, and sampler type. The samples were collected in 62-mm (2.44-inch) diameter Lexan liners, with the exception of the Shelby tube sampler, which has a diameter of 76.2 mm (3 inches). Each Lexan liner was cut into 0.6-m (2-foot) or less segments, labeled, sealed, and package for transport and storage.

Generally, core segments in Lexan liners were capped with pre-molded caps and sealed vinyl tape. Liner segments were then packaged horizontally in cardboard core storage boxes. The exposed ends of the Shelby tubes were sealed with melted wax and voids in the sampler were fill with other non-expansive and nonabsorbent materials. Pre-molded caps were placed on either end of the tube and again sealed with melted wax. The wax seal was done to preserve the in situ moisture content and minimize further sample expansion. Shelby tubes were stored and transported in custom built crates that supported the tubes in a vertical position to preserve in situ conditions. In some instances where cohesive soils were recovered with the hydraulic piston corer, a similar sealing and storage method was employed to preserve the in situ moisture content and sample orientation for future laboratory testing.

5.0 GEOTECHNICAL LABORATORY TESTING

Laboratory testing of soil samples was completed both off- and on-shore. GZA's offshore testing program consists of index testing and typical field strength tests of cohesive soils. Upon completion of drilling, soil samples were transported to GeoTesting in Acton, Massachusetts for further onshore laboratory index, strength, and consolidation testing of select samples. Test results are organized by boring number and presented in **Appendix C**. Test results are also summarized on **Figures 3** through **6.**

5.1 OFFSHORE TESTING

Soils were visually classified by GZA's geotechnical engineers using the Unified Soil Classification System (USCS) visual-manual method, ASTM D 2488 and natural moisture content tests were performed on the majority of samples recovered. Natural moisture content results are reported on the boring logs in **Appendix B** and on **Figures 3** through **5.**

Typical field measurements of undrained shear strength and unconfined compressive strength were made at the ends of the freshly cut core segments of cohesive soils. Measurements of undrained shear strength and unconfined compressive strength were made using a torvane and pocket penetrometer, respectively. These tests were also performed on the exposed ends of Shelby tube samples. Field strength test results can be seen on the boring logs in **Appendix B** and on **Figures 3 through 5.**

5.2 ONSHORE INDEX TESTING

Index tests were performed to classify the soil and identify non-performance-based characteristics of the soil. The following index classification tests were performed on select cohesive and cohesionless soils:

- Mechanical Grain Size Analysis (ASTM D6913)
- Hydrometer Grain Size Analysis (ASTM 7928)
- Atterberg Limits (ASTM D4318)
- Moisture Content (ASTM D2216)
- Organic Content (ASTM D2974)
- Liquid Limit of Oven Dried Sample for Organic Determination (ASTM D2487)
- Calcium Carbonate of Soil (ASTM D4373)
- Relative Density (ASTM D4253 & D4254)
- Unit Weight (ASTM D7263)
- Specific Gravity (ASTM D854)

Unit weights, Atterberg limits, and natural moisture content tests were conducted on cohesive soil samples. Unit weights could only be performed on relatively undisturbed samples of clay or elastic silt and were not able to be performed on cohesionless soils due to the disturbed nature of the collected samples. The unit weight of cohesive samples was compared to the total unit weights measured from the geophysical logging. For cohesionless soils, unit weights from the geophysical logging was were compared to laboratory tests for maximum and minimum relative density.

Sieve and hydrometers were performed to measure the grain size distribution. When organic soils were encountered, the percent organic content and the liquid limit of the oven dried sample were measured for classification. Measurements of the specific gravity, the maximum and minimum relative density, and the calcium carbonate content were also measured on select samples.

5.3 ONSHORE LABORATORY TESTS

5.3.1 Consolidated Isotropic Undrained Triaxial Tests

Twenty-one (21) Consolidated Isotropic Undrained (CIU) triaxial tests were performed on relatively undisturbed cohesive soil samples for the determination of strength parameters for preliminary foundation design. The CIU test specimens are consolidated to representative in situ effective overburden stresses, drainage valves of the triaxial cell are closed, and the specimen is axially loaded at a constant rate of strain to failure.

Twenty-two (22) Consolidated Isotropic Undrained remolded (CIUr) triaxial tests were performed on remolded specimens of cohesive soil previously tested. The remolded specimens are prepared at a similar water content as the in situ state, kneaded by hand, compacted in a cylindrical mold, trimmed, and tested using the same procedure as the undisturbed CIU triaxial tests. The results of the CIU and CIUr triaxial tests include plots of the deviator stress versus strain, principal stress ratio versus strain, change in pore pressures versus strain, and effective stress path plot. The results of the CIU Triaxial tests are reported in **Appendix C** and **Figures 3** through **5**.

5.3.2 Consolidated Isotropic Drained Triaxial Tests

Twenty-four (24) consolidated Isotropic Drained (CID) triaxial tests were performed on cohesionless sand and silt samples to obtain strength parameters for preliminary foundation design. The tests were performed on representative soil types, of Poorly Graded Sand (SP), Poorly Graded Sand with Silt (SP-SM), Silty Sand (SM), Silt (ML), and Clayey Sand (SC). Since it is not currently possible to recover an undisturbed sample of cohesionless soil from a boring, the samples were reconstituted to a representative dry density that represents the in situ conditions. This is a standard industry practice, as the strength parameters of granular soils are primarily a function of gradation and density.

A representative dry density of 14.1 kN/m^3 (90 pcf), corresponding to a relative density of medium dense, for all sands was determined based on the total unit weights measure by the geophysical logging and the off-shore measured moisture contents. The total unit weights and moisture content measurements are reported in **Figure 3**. The CID test specimens were consolidated to an effective confining stress, drainage valves in the triaxial cell are kept open, and the specimen is axially loaded a constant rate of strain to failure. Each soil type was tested at a range of effective confining stresses that are representative of the in situ confining stresses. The results of the triaxial tests are reported in **Appendix C**.

5.3.3 Consolidation Tests

Nine (9) consolidation tests were performed on relatively undisturbed samples of cohesive soils. Loads were applied to the sample and the deflection measured at each load until the end of primary consolidation, as determined by the square-root of time method. For a sample of organic clay and a sample of fat clay, a load was maintained past the primary compression after the pre-consolidation stress was reached for the determination secondary compression (creep) index. The results of the consolidation test results include a plot of log effective stress versus strain and a table presenting load increments, cumulative deflection, percent strain, and time to end of primary. The results of the consolidation tests are reported in **Appendix C.** The consolidation tests were used to determine the consolidation and reconsolidation indices. A range of preconsolidation pressure was estimated for each consolidation test. The range of overconsolidation ratio ranged from 0.2 to 7, with typical values being approximately 0.5 to 1.5. The most likely preconsolidation pressure values indicated that the clays were normally consolidated (OCR=1.0).

5.3.4 Resonant Column

Six (6) resonant column tests were performed on soil samples recovered from the top 15 meters of the borings. The resonant column tests were performed on relatively undisturbed cohesive soil samples or reconstituted cohesionless soil samples. The reconstituted cohesionless soil samples were remolded to a target dry density of 14.1 kN/m^3 (90 pcf). The resonant column tests provided small-strain elastic shear modulus (G_{max}) and damping properties of soils. It should be noted that small strain shear modulus is generally a function of gradation, density and soil fabric, but that the soil fabric is destroyed for reconstituted cohesionless samples. The test is run in a triaxial cell where the bottom of the specimen is fixed, and torsional or longitudinal excitation is applied to the top of the specimen. The results of the resonant column tests are reported in **Appendix C** and **Figures 4** and **5**.

6.0 GEOPHYSICAL LOGGING

Colog of Lakewood, Colorado was subcontracted to conduct down-hole geophysical logging of the borehole upon completion of drilling operations in order to provide information about soil type and in situ soil properties. A suite of downhole logging tools was used consisting of:

- a 4-pi gamma density tool;
- a gamma density tool;
- a full wave triple sonic probe;
- a p-s suspension logging probe;

- a formation density probe with borehole diameter caliper; and
- a focused electrical resistivity tool.

The 4-Pi gamma density and natural gamma tools were used to measure the density of the soil from both within the steel drill string and within the open borehole. Geophysical logging was performed continuously from the bottom of the borehole to the mudline. Logging within the drill string was continuous. Open-hole logging was performed in 6 to 12 m (20 to 40-foot) runs as the drill string was extracted. Each boring was advanced beyond the target depth to accommodate the length of the logging tools. Conditioning of the borehole, which involved flushing and circulation of fresh drilling fluid was also performed prior to logging.

The natural gamma tool was used to measure the natural radiation of in situ materials. This can typically provide an indication of sand-clay stratum changes. The four remaining tools were primarily run in an open borehole after the drill string was retracted. The triple sonic probe was used to measure compression wave (p-wave) velocities. The p-s suspension logger was used to obtain compression wave (p-wave) and shear wave (s-wave) velocities. The focused electric log was used to measure the electrical resistivity of the soil and was also used in identifying stratum changes. Finally, the formation density probe was used to measure the in situ density of the formation. The formation density probe utilizes a single gamma ray source with two unevenly spaced detectors simultaneously measuring short and long spaced formation density. The formation density tool also utilizes a caliper to force the tool (and source) onto the borehole wall and measure the diameter of the borehole. The caliper measurements defined borehole rugosity (irregularities of borehole diameter). Compensated density was then computed by Colog using industry standard algorithms for short and long spaced formation density. The algorithms account for borehole rugosity, drill fluid, and cake on borehole wall.

Occasionally, bridging of sands in the borehole prevented the tools from passing and the bridge had to be cleared by re-drilling. With this, logging was completed in segments and data was spliced together in post-processing to create a continuous log. Near surface sediments were unstable and significant disturbance and washout near the top of the borehole was often observed. Logging within the drill string could be performed; however, conditions precluded open-hole logging near the surface.

The drilling logs and data obtained from the geophysical logging was used to develop the design soil profiles shown on **Figures 3 through 5**. Raw data from the geophysical logging is also included in **Appendix D**.

7.0 SUBSURFACE CONDITIONS

Based on data obtained from the deep geotechnical survey, the subsurface conditions at the SFWF site were highly heterogeneous. Generally, alternating layers of cohesive and cohesionless soil strata were encountered up to 65 meters below seafloor at each boring location. While a single stratum (a sand or clay layer) may be widespread and may have been encountered in more than one boring, layer thickness and elevation varied significantly between each boring location. Therefore, an individual design profile was generated for each boring for the purposes of this study. The heterogeneity and complexity was consistent with the complex regional geology, and our findings at the Block Island Wind Farm site.

The subsurface profiles at the South Fork Wind Farm differed from the Block Island Wind Farm site in that the BIWF soils had greater variability in the density in the materials, and in general, higher density material that the South Fork Wind Farm.

All soils were classified using the Unified Soil Classification System (USCS) following ASTM D2487 (laboratory) and D2488 (field). The cohesionless soil layers consisted of SP, SM, SC, SP-SM, SW, SW-SM, SW-GW, GP, and ML soils. Coarser grained material, including gravel and cobbles, was encountered and recovered. The coarser material would fill the nose cone of the sampler and bridge over the core catcher which significantly reduced recovery when encountered; however, the coarse materials lodged in the nose cone of the sampler were often recovered.

Cohesive soil layers consisting of MH, CH, OL, and CL were identified across the site. A layer of organic clay (OL) was encountered in boring B-6 between approximately 1.2 and 3 meters below sea floor. Organic clay is considered a low strength and highly compressible soil and can result in significant deformations under vertical and lateral loading. Swelling clays were not observed during drilling. However, swelling pressures from 6.15 to 7.88 kPa (0.0642 to 0.0823 tsf) were observing during consolidation tests performed in the laboratory. They ranged in consistency from very soft to hard, although they were predominantly stiff.

Layers of coarse material, including gravel, cobbles, and boulders are common in glacial deposits. Layers of coarse material were encountered in Borings B-3, B-6, B-11, and, B-OSS. The borings did not encounter significant resistance from cobbles or boulders that required coring for boring advancement. Any cobbles or boulders that were encountered were able to be pushed away from the sampler and were not recovered. For this reason, and since borings represent a small fraction of the lithology within each WTG footprint, borings are not an accurate methodology for estimating the quantity and size of boulders. Borings can give an indication if cobbles and boulders are present and which depths.

Boring logs showing the interpreted soil profile at each boring location are reported in **Appendix B**.

8.0 PRELIMINARY FOUNDATION DESIGN PARAMETERS

A summary of field and laboratory test data is presented in **Figures 3** through **6**. Design soil profiles with corresponding geotechnical parameters were developed for each boring based on drilling data, geophysical logging, and laboratory testing. The USCS soil descriptions are shown as determined by field and laboratory classifications.

The following sections describe how the design profile, effective stress profile, intact undrained shear strengths, remolded shear strengths, and friction angles were developed for this preliminary design.

8.1 DESIGN SOIL PROFILES

Design soil profiles were developed for each boring, without and with scour, as shown in **Figures 4** and **5**, respectively. Design soil profile layers were developed from an interpretation of soil type, index parameters, and strength parameters and include unit weight, friction angle, undrained shear strength, Young's modulus, and shear modulus (G_{max}). Based on the interpretation, similar layers were combined into a uniform layer for design purposes. The design soil profile is shown adjacent to the lithology profile for each boring.

Young's modulus and shear modulus (G_{max}) were derived from geophysical data obtained from open borehole measurements. Shear modulus was derived from a direct relationship between unit weight and shear wave velocity. The shear modulus will also be derived from resonant column laboratory tests on relatively undisturbed cohesive soil samples and on reconstituted cohesionless soil samples and will be presented in the final report submission.

The design profile B-11/11A was developed by splicing borings B-11 and B-11A. The top 30 meters of B-11/11A is from B-11 and information from B-11A was used for the deeper portion of the profile.

8.1.1 Design Effective Stress Profile

Effective stress profiles, based on total unit weight measured from the geophysical logging, are shown on **Figures 4** and **5**. Generally, density measurements obtained from within the open borehole were used; however, when open hole data was unavailable, measurement taken from within the drill string were used. Density measurements from the geophysical logging tools are shown in **Figures 3** through **5** along with total unit weights of cohesive soils determined through bulk density measurements in the laboratory. Based upon these measurements, a representative design total unit weight profile was determined for each soil profile as shown on **Figures 4** and **5**.

8.2 CLAY STRENGTH PARAMETERS

Plots of undrained shear strength (S_u) versus depth and undrained shear strength normalized to effective vertical stress (S_u/σ'_v) versus depth are shown on **Figures 4** and **5** for each boring. Results from CIU and CIUr triaxial tests are plotted along with torvane and pocket penetrometer field measurements. The CIU triaxial tests were used to estimate the Su profile. The S_u/σ'_v ratios from the CIU tests conducted on the undisturbed samples ranged from 0.20 to 1.38. The S_u/σ'_v ratios from the CIU tests conducted on the remolded samples ranged from 0.24 to 1.38. The S_u/σ'_v ratios for soil types of CL, CH, and MH are presented **Figures 7**. Based on Figure 7, a conservative S_u/σ'_v value of 0.4 was used to estimate intact and remolded undrained shear strength for the soil profile where triaxial tests were not performed. Based on the data and the SHANSEP method presented in Holtz et al. (2011), the S_u/σ'_v ratios for the intact and remolded clay indicate normally consolidated to slightly overconsolidated soils. This agrees with the range of possible OCR values determined from the consolidation tests. An OCR value of 1 was used in settlement calculations to estimate preconsolidation pressures.

In summary, the S_u profile was determined using the following relationships of undrained shear strength normalized to effective overburden pressure (S_u/σ'_v) to evaluate the stress history of the cohesive soils:

- S_u Intact: $s_u/\sigma'_v = 0.4$
- S_u Remolded: $s_u/\sigma'_v = 0.4$ (normally consolidated)

There was variable correlation in the measurement of undrained shear strength from the torvane and pocket penetrometer when compared to the CIU triaxial tests. In general, there was better correlation of the pocket penetrometer to the CIU triaxial tests than the torvane. The strength results from the CIU triaxial tests were primarily used to develop the design undrained shear strength profiles. Results of the torvane and pocket penetrometer were used as indicators and were used to identify trends of increase and decrease of strength. Undrained shear strength test results were applied to cohesive soil stratums that were not tested but had similar index parameters. Remolded undrained shear strengths were also developed based on CIUr triaxial tests and are shown on **Figures 4** and **5**.

Design values of ε_{50} (strain at 50% of the failure load) were determined from the CIU data and comparison with recommended values by Reese et al. (1975). Modulus of subgrade reaction design values were also selected based on design soil strengths and recommended values developed by Reese et al. (1975). These design parameters are presented in **Tables 1** and **7**.

8.3 SAND STRENGTH PARAMETERS

Density and drained friction angle for cohesionless soils are shown in **Figures 3** through **5**. Recommended drained friction angles were developed using results of multi-staged CID triaxial tests performed on representative samples of cohesionless soils across the study area. Mohr-Coulomb circles produced from the test data were plotted together for each USCS classification (SP, SP-SM, SM, ML, or SC) as shown on **Figure 6**. Drained friction angle in cohesionless soil is the slope of the line tangent to the Mohr-Coulomb circle. The recommended design drained friction angle for each soil type was the slope of a best-fit linear regression through the individual test results. For all soil types tested, the friction angle ranged between 31 and 35 degrees, but was generally 34 degrees. Recommended drained friction angles are shown on **Figures 4** through **6** and are summarized in the table below.

Soil Type (USCS)	Recommended Friction Angle, ϕ (deg)
SP	34
SP-SM	34
SW-SM	34
SW	34
SM	31
ML	35
SC	34

Well graded sands (SW) were rarely encountered and CID tests were not run on samples of SW. Typically, well graded sands have a higher friction angle than poorly graded sands (SP) that were encountered more frequently in the project. Therefore, the recommended design friction angle used for SP or SP-SM soils was therefore applied to SW and SW-SM layers.

Based on the design friction angle, a design modulus of subgrade reaction, k, was estimated for cohesionless soils using guidance from API 2GEO. These values are shown in **Tables 1** and **7**.

9.0 FOUNDATION PRELIMINARY DESIGN PARAMETERS

9.1 OVERVIEW

Three foundation systems were being considered for the SFWF, including four-legged pile supported jacket structures, large diameter monopile foundations, and gravity-based systems (GBS). GZA evaluated these foundation alternatives in general accordance with API 2GEO and using preliminary design information provided by DWW, such as foundation dimensions and anticipated foundation loads. Scour depth was estimated for the site and foundation type and was accounted for in the analyses by reducing the mudline elevation where scour protection would not be installed. For this preliminary design, GZA performed the analyses assuming scour protection will be installed for GBS and monopile foundations, but not for jacket structures. GZA developed static axial capacity and soil-structure interaction relationships (p-y, t-z, and Q-z) for both jacket piles and monopiles using the corresponding design profile. Evaluation of gravity-based systems (GBS) included evaluation of bearing capacity and sliding failure modes and an estimate of total settlement. The design profiles used for the jacket piles are shown in **Figure 5**, which accounts for the reduced mudline due to scour. The design profiles used for the monopiles and GBS are shown in **Figure 4**. The following sections discuss the evaluations in further detail. Scour protection will be chosen during the detailed design phase.

9.1.1 Gravity Based Systems (GBS)

Design guidance for GBS provided by API 2GEO was written for temporary shallow foundations; however, the guidance document states that the recommendations may be considered for permanent foundations subject to simple loading and simple soil conditions (i.e., homogenous/continuous soil profile). At SFWF, variable multi-layered soil profiles were encountered at each boring location. In an effort to bound the analyses, GZA followed the guidance of API 2GEO by evaluating two scenarios for bearing capacity and sliding: a homogeneous sand profile and a continuous clay profile of increasing undrained shear strength with depth. These analyses were considered preliminary and further evaluation of shallow foundations using more complex methodology or a different design basis would be recommended if GBS are determined to be a viable option for SFWF.

For final design of shallow foundations, strength reductions due to cyclic loading would be required as input into the analysis. Typically, the cyclic analysis is performed using a pseudo-static method with appropriate cyclic shear strengths. The appropriate cyclic shear strengths are derived through a large suite of cyclic tests performed in the laboratory. GZA's preliminary assessment did not include reductions in strength due to cyclic loading. This level of preliminary analysis was considered appropriate for this preliminary design stage by GZA and DWW. GZA will store soil samples for up to a year, so should shallow foundations be chosen for final design, cyclic tests could be performed.

9.1.2 Piles

Four driven steel pipe piles will support the proposed four-legged jacket structures, with one pile beneath each leg. The piles are anticipated to be driven vertically and cutoff at or near the mudline. The piles are considered slender and flexible and were evaluated using the guidelines presented in API 2GEO. Results of the analysis are provided in plots of static axial capacity vs. depth below seafloor. Soil-structure interaction parameters (p-y, t-z, and Q-z curves) were also developed in accordance with API 2GEO guidelines and are provided in attached tables. According to API 2GEO, cyclic effects on the axial capacity are taken into account implicitly, through the use of working stress design (WSD) factors of safety, rather than explicitly.

9.1.3 Monopiles

Monopiles are single, large diameter, rigid steel pipe piles that act as the foundation and span through the water column. In accordance with API 2GEO, monopiles were analyzed for this preliminary design using the same methods as smaller diameter driven piles. Research has shown that care should be taken when using the method outlined in API 2GEO as it may not accurately predict the ultimate lateral capacity or the stiffness at small lateral strains (API 2GEO; DNV, 2017; Gilbert et al., 2018; Gilbert et al., 2015; Bryne et al., 2015; Bryne et al. 2017). For the detailed design phase, other design methodologies may be considered.

9.1.4 Scour

An analysis utilizing various empirical methods was performed to develop a design scour depth for each foundation type at the project site. The wave parameters used in this study were based on available published data. Estimates of wave height and wave period were based on 35 years of data from the existing WIS buoy Station 63076 located 8 nautical miles north of the site. Public tidal information within the project area was limited. Tidal current velocity above the seabed was obtained from the site-specific study by DNV GL – Noble Denton (DNVGL – Noble Denton, 2018).

The following methodologies were used to address local scour induced by steady currents, waves, and a combination of steady currents and waves:

- Method from DNVGL-ST-0126 Appendix D (scour due to waves);
- Method from Sumer and Fredsoe (2002) (scour due to waves); and
- Method from Sumer and Fredsoe (2002) (scour due to combined waves and tidal currents).

The following table presents a summary of estimated maximum local and global scour depths and the lateral extent for each foundation type. A design scour depth of 4.8 meters (15.7 feet) is recommended for design purposes.

Reference	**Method**	**Foundation**	**Scour Type**	**Scour Pit Depth (m)**	**Scour Pit Diameter from Center of Foundation (m)**
DNV (2018)	Wave Action	Monopile	Local	-	-
		Jacket Pile	Local	0.72	5.37
		Shallow Foundation	Local	-	-
Sumer and Fredsoe (2002)	Wave Action	Monopile	Local	-	-
		Jacket Pile	Local	1.48	8.52
		Shallow Foundation	Local	0.18	32.73
	Wave and Steady Current	Monopile	Local	4.74	27.46
		Jacket Pile	Local	4.57	21.16
			Global	4.76	21.16
		Shallow Foundation	Local	0.35	33.45

9.1.5 Seismic Evaluation

In accordance with API RP2EQ, 2014, the site is classified as Seismic Risk Category SRC-1 and seismic evaluation was not required. Therefore, soil liquefaction is not required to be evaluated.

9.2 GRAVITY BASED SYSTEMS (GBS)

Based on preliminary information provided by DWW, the proposed gravity-based system (GBS) was assumed to be a circular footing with a diameter of 32 meters. A 3.5-meter skirt was assumed to achieve full penetration around the perimeter of the foundation. It was assumed that sufficient scour protection would be utilized to prevent scour. Therefore, the effects of scour were not considered in the analyses. The tower of the turbine was assumed to be connected to the center of the foundation.

DWW provided preliminary foundation loads that were developed by the consultant Seatower. Cyclic and dynamic loads were not provided. The preliminary foundation loads provided by DWW included the following:

- 67.6 MN static vertical load acting towards the seabed at the center of the foundation;
- a 27.8 lateral load acting at the center of the foundation;
- an overturning moment of 562 MN-m acting at the seabed elevation;

- a torsional moment of 20 MN-m acting at the center of the foundation; and

- a design life of 25 years.

9.2.1 Bearing Capacity and Sliding

The provided loading conditions and foundation geometry were used to evaluate soil capacity with respect to bearing capacity and sliding resistance. As discussed previously, bearing capacity and sliding were evaluated considering two scenarios, a homogeneous sand profile and a continuous clay profile of increasing undrained shear strength with depth. A homogeneous sand (cohesionless) profile was developed and analyzed under drained loading conditions and a continuous clay (cohesive) soil profile was developed and analyzed under undrained loading conditions. This approach provided upper and lower bounds of soil bearing capacity and sliding resistance for the preliminary foundation geometry and loading conditions provided. As per recommendations from API 2GEO, bearing capacity and sliding resistance were analyzed at the tip of the skirts in order to incorporate the effects of entrapped soil in the analysis.

Soil bearing capacity and sliding resistance, were analyzed in general accordance with API 2GEO. Due to the eccentricity of the loading conditions, it was necessary to calculate the effective bearing area of the GBS. The effective bearing area was calculated through guidance of DNVGL 2017 and was necessary to quantify the reduction in bearing area and therefore capacity due to load eccentricity. A drained friction angle of 34 degrees was used for the uniform sand layer as this was the typical drained friction angle value for the sands at the site, as discussed in Section 8.3. As discussed in Section 8.2, the undrained shear strength profile generally increased with depth with S_u/σ'_v equal to 0.4. Therefore, the clay profile assumed an undrained shear strength profile corresponding to S_u/σ'_v equal to 0.4. The unit weight profile was observed to be generally about 18.5 kN/m^3 over the depth of the borings for both sand and clay. Therefore, 18.5 kN/m^3 was used for both soil profiles in this preliminary analysis.

API 2GEO recommends factors of safety against bearing and sliding capacities of 2 and 1.5, respectively. The calculated factors of safety for bearing and sliding capacity for the homogenous sand profile were 3.17 and 1.64, respectively. Both calculated factors of safety are greater than the minimum factors of safety recommended by API. The calculated factors of safety for bearing capacity and sliding for the continuous clay profile were 0.47 and 0.34, respectively. Both values are less than the recommended values from API. For each boring except B-6, the sliding failure plane was in a sand layer. At boring B-6, the interface between the organic clay and underlying sand was within 0.5 meters of the base of the foundation. The characteristics of the organic clay were assumed to control the bearing capacity and sliding failure resistance at B-6. Factors of safety could be improved by dredging the organic clay, increasing the foundation diameter, or increasing embedment depth. As discussed previously, due to limitations of the code, simplifying assumptions of the soil profile were made in this analysis. In reality, it is likely that the factor of safety would be between the two assumed cases.

9.2.2 Settlement

Settlement of the soil profile was also assessed in this preliminary analysis. Per API 2GEO, settlement for the following four modes was estimated: undrained short-term elastic settlement of a homogenous soil profile, drained empirical settlement of cohesionless soils, primary consolidation, and secondary compression. Settlement was analyzed with respect to the design profile depicted in **Figure 4**.

Primary consolidation and secondary compression were analyzed in each soil layer by estimating the initial stress state of a soil layer and comparing it to the final stress state observed by that layer due to the weight of the structure. Boussinesq stress distribution methods were utilized to calculate the change in stress observed by each soil layer due to the induced load, as the stress increase in each layer is a function of depth and geometry of the load. Undrained short-term elastic settlement was calculated separately by assuming an isotropic, homogeneous soil profile. Total estimated settlement was the summation of the undrained short-term elastic settlement, as well as primary consolidation, and secondary compression in each cohesive soil layer. The results are presented in the table below.

Boring ID	Settlement (m)
B-3	0.19
B-6	0.40
B-10	0.14
B-11/11A	0.05
B-OSS	0.12

Allowable total settlement and differential settlement criteria were given by Seatower in a document provided by Deepwater Wind. Total allowable settlement was given as 1 m. A differential settlement equivalent to 0.25 degrees post construction was given. This was equivalent to 0.14m of differential settlement over 32 m (diameter of the GBS).

A layer of organic clay was encountered near the sea floor in boring B-6. Organic clay is considered a highly compressible soil. As a result of the bearing pressure, large foundation area, and the compressible nature of the organic clay and other clay layers, significant settlement equal to about 0.4 meters was predicted at this location. This amount of total settlement does not exceed the allowable total settlement. However, the differential settlement cannot be accurately predicted based on one boring. The lateral extents and maximum thickness of the organic clay layer and other compressible clay layers are unknown at this time. Due to the variable nature of the subsurface conditions encountered, it is estimated that the differential settlement could be on the order of 0 to 0.8 meters (two times the estimated settlement). The higher estimated differential settlement value would exceed the allowable differential settlement of 0.14 meters. If GBS is considered further for the project, it is recommended that additional subsurface explorations be completed at location B-6 to better define the variability of the organic clay layer and other clay layers. Also recommended would be a detailed evaluation of the geophysical data at this location to potentially determine limits and variability of the compressible clay layers. Dredging of the organic clay layer at B-6 could also be evaluated to reduce anticipated settlement and improve soil bearing capacity.

9.3 PILES AND MONOPILES

9.3.1 Pile and Monopile Information

Based on preliminary information provided by Deepwater Wind, the jacket piles are assumed to be 2.44-meter-diameter, 64-mm-thick, cylindrical steel piles driven through a 4-pile jacket with a center to center spacing of 26 meters. The monopiles are assumed to be 8-meter-diameter, 75-mm-thick, cylindrical steel piles. Pile design analysis was extended to a depth of two pile diameters above the subsurface exploration termination depth. Loading conditions for the piles were not provided for this preliminary design. The structural engineer will evaluate the loading scenarios based on the parameters provided in this report. Parameters provided for preliminary pile design include pile axial capacity, p-y curves, t-z curves, and Q-z curves.

9.3.2 Scour Protection

Based on preliminary information provided by Deepwater Wind, it is assumed that jacket piles will not have scour protection, and the monopiles will have scour protection. The maximum equilibrium local scour depth for the jacket piles was estimated to be 4.8 meters. To account for the scour at the jacket piles, the analyses were performed using a modified global seabed level (i.e. removing the top 4.8 meters of soil from the soil profile). The design profiles for the jacket piles with scour are presented in **Figure 5**. The monopiles are assumed to have scour protection to prevent changes to the seabed level; therefore, no modification to the seabed level was used for the analyses. The design profiles used for the monopiles assuming no scour are presented in **Figure 4**.

9.3.3 Axial Capacity in Compression

An axial static capacity analysis was completed for a jacket pile and monopile at boring location. Axial capacity in compression was performed in accordance with API 2GEO Section 8.1. Design soil profiles presented in **Figures 4** and **5** were used for analysis. In the discussion below, the same procedure was used for piles and monopiles. Axial capacity in compression (Q_c) was taken as the sum of the external skin friction along the pile (Q_f) plus end bearing at the pile tip (Q_p). Piles were assumed to be driven open ended. As indicated in the code, the end bearing at the pile tip (Q_p) was taken as the lesser of the internal skin friction inside the pile wall plus the end bearing of the steel annulus or the end bearing across the entire pile cross-section. A plugged condition inside the pile was assumed to occur when end bearing at the pile tip became greater than the internal skin friction plus the end bearing of the steel annulus.

For the calculation of internal skin friction, the pile is assumed to be driven as a full displacement pile (i.e. fully plugged) when the pile is in a plugged condition. Therefore, it is assumed that no additional soil enters the pile and no additional internal skin friction is generated when the pile is plugs.

External skin friction for cohesive soils (clay) was determined in accordance with API 2GEO Section 8.1.3. The values of skin friction used in these analyses were based on the intact undrained shear strengths presented in **Figures 3** through **5** of this report. The values of the unit side friction (f) in the clay was limited by limiting the S_u/σ'_v (Ψ) ratio to less than 3 and limiting the shaft friction factor (α) to less than 1.

To account for the effects of disturbance remolded shear strengths presented in **Figures 3** through **5** of this report were used to determine the internal skin friction and plug length. It was assumed the pile would remold the clay soil during driving and that the clay would not reconsolidate to higher than the remolded strength values.

External shaft friction for cohesionless soils (sand) was determined in accordance with API 2GEO Section 8.1.4 as follows. Unit side friction (f) was calculated using a dimensionless shaft friction value (β) and effective overburden pressure. The effective overburden pressure was calculated using the unit weight profile presented in **Figures 4** and **5** of this report. The dimensionless shaft friction value and limiting unit side friction values were determined using Table 1 of API 2GEO Section 8.1.4. The relative density of the in-situ cohesionless soils were estimated to be medium dense based on a review of the relative density lab tests data and the relationship between the drained friction angle and relative density provided by Mitchell and Katti (1981).

Total end bearing for clays was determined in accordance with API 2GEO Section 8.1.3. Unit end bearing in the clays was calculated by multiplying nine times the undrained shear strength. The intact undrained shear strength presented in **Figures 3** through **5** of this report was used for analysis.

Total end bearing for sands was determined in accordance with API 2GEO Section 8.1.4. Unit end bearing in the sands was calculated by multiplying the effective overburden pressure by the dimensionless bearing capacity factor N_q. The value of N_q and the limiting end values were determined based upon soil conditions encountered and recommendations provided in Table 1 of API 2GEO Section 8.1.4.

Hand calculations were used to generate axial capacity curves with depth. A summary of soil design input parameters used for the analysis is summarized in **Table 1** and **7**. Unfactored axial resistance curves of skin friction, end bearing and total axial capacity in compression and tension are plotted a jacket pile and monopile and are presented in **Figures 8** and **9**, respectively. **Tables 2** and **8** present tabulated unfactored axial capacities with depth for the jacket pile and monopile, respectively.

9.3.4 Axial Static Capacity in Tension

Axial capacity in tension was calculated as the total external skin friction times a reduction factor of 0.8 plus the effective weight of the pile. External skin friction of the pile was estimated using the same methods applied in determining the axial compression capacity. The factor of 0.8 was applied to the external skin friction to account for reduction of the stress field around the pile caused by tension loading, elastic Poisson effects caused by pile shaft stretching and compressing, and rotation of principal stresses during tension loading (Jardine and Chow 2007). The unfactored tensile capacity versus depth for a jacket pile and monopile are presented in **Figures 7** and **8**, respectively. **Tables 2** and **8** present tabulated tensile capacities with depth for the jacket pile and monopile, respectively.

9.3.5 Axial Capacity Cyclic Considerations

According to API 2GEO Section C.8.3.2, cyclic effects are historically taken into account implicitly rather than explicitly by using WSD factors of safety. However, according to the literature, the amplitude of the cyclic load should be evaluated and checked. Various references suggest that a significant reduction in pile resistance (on the order of 20% to 30%) can occur if the amplitude of the cyclic load is a significant percentage of the pile resistance (Poulos 1988, Jin and Bea 1998). Poulos (1988) recommends that the amplitude of the cyclic load be less than 30% of the estimated ultimate pile resistance otherwise significant degradation in soil properties can be expected. Achmus et al. (2007) recommend that the amplitude of the cyclic tensile load be less than 20% of the ultimate pile resistance to limit degradation of the pile capacity. It is therefore recommended that as the structural designer evaluates the interaction between the jacket foundation and the piles, that the structural designer check the magnitude of the cyclic load.

9.3.6 Axial Load-Pile Displacement Curves

The load-pile displacement curves were developed for use in estimating the pile-load deflection response. Load deflection t-z and Q-z curves were developed for the jacket piles and monopiles at each boring location, in accordance with API 2GEO Section 8.4. The design profiles presented in **Figures 4** and **5** were used to develop the t-z and Q-z curves. Ultimate unit skin friction and ultimate end bearing were estimated using the method previously described in this report.

9.3.6.1 Axial Soil-Pile Displacement (t-z) Curves

The t-z curves describe a relationship between mobilized soil-pile shear transfer or soil to pile adhesion, and pile deflection (for a given pile depth). API 2GEO Section 8.4.2 provides a recommended empirical method for developing the t-z curves (API Section 8.4.2 Figure 2 and Table 2). In general, the method empirically relates several values of the normalized ratio z/z_{peak} to t/t_{max} to create a standard normalized t-z curve shape. Where z is the pile deflection, z_{peak} equal to 1 percent of the pile diameter, t is the mobilized soil-pile adhesion, and t_{max} is the maximum unit skin friction. The z/z_{peak} to t/t_{max} ratios vary for clayey or sandy soils. For clayey soils the maximum shear transfer occurs at a z/z_{peak} ratio of 0.2. For z/z_{peak} ratios greater than 2.0 the t/t_{max} ratio ranges from about 0.7 to 0.9. Based on a review of the laboratory testing, a ratio of 0.7 was used for clay soils at a z/z_{peak} ratio of greater or equal to 2.0, a t/t_{max} ratio of 0.7 was used. A list t-z data points versus depth for jacket piles and monopiles are presented in **Tables 3** and **9**, respectively.

9.3.6.2 End Bearing – Pile Displacement (Q-z) Curves

The Q-z curves describe a relationship between mobilized end bearing capacity and pile deflection (for a given pile depth) for both cohesive and cohesionless soil types. API 2GEO Section 8.4.3 provides a recommended empirical method for developing the Q-z curves (API Section 8.4.3 Figure 3). In general, the method empirically relates the normalized ratio z/D to Q/Q_{max} which defines the standard normalized Q-z curve (where z is the pile deflection, D is the pile diameter, Q is the mobilized end bearing capacity, and Q_{max} is the total end bearing capacity). This method was used to determine values along the Q-z curves for both clayey and sandy soils, at various depths along pile lengths, and at each boring location. Tabulated Q-z curves versus depth are presented in **Tables 4** and **10** for jacket piles and monopiles, respectively.

9.3.7 Lateral Soil Resistance –Deflection (p-y) Curves

The load-deflection (p-y) curves were developed for estimating the lateral deflection of the jacket piles and monopiles. Load deflection p-y curves were developed for the design soil properties at each boring location in general accordance with API 2GEO Section 8.5 for both static and cyclic conditions. The design profiles are presented in **Figures 4** and **5**. Four methods of p-y analysis were utilized to create p-y curves for sands, soft clays, and stiff clays with and without free water. Those methods and associated input parameters are discussed in greater detail in the following sections. The resulting tabulated values for p-y curves are presented in **Tables 5** and **6** for jacket piles and **Tables 11** and **12** for monopiles.

9.3.7.1 Sand p-y Curves

The method recommended in the API 2GEO Section 8.5.6 and 8.5.7 was used to determine points along the p-y curve for sandy soils, for both static and cyclic loading conditions. The computer software LPILE was used to develop the curves. The method is referred as the API (O'Neill) Sands method and generally consists of using empirical relationships to generate a plot of lateral soil resistance versus displacement. The plot is a function of: 1) ultimate lateral bearing capacity, 2) effective soil unit weight, 3) friction angle, 4) bearing capacity coefficients C_1, C_2, and C_3, 5) depth, 6) modulus of subgrade reaction, and 7) pile diameter, for both the static and cyclic cases. The design profiles of total unit weight and friction angle are presented in **Figures 4** and **5**. An A factor, which accounts for cyclic and static load conditions, is used in the evaluation. A is equal to 0.9 for cyclic loading and varies from 3 to 0.9 as a function of depth for static conditions. The modulus of subgrade reaction for the sands was determined based on the relationship to the friction angle, as defined in Table 5 of API 2GEO Section 8.5.7.

9.3.7.2 Soft p-y Curves

The method recommended in API 2GEO Section 8.5.2 and 8.5.3 provided an empirical method to determine the points along the p-y curve for soft clay soils, for both static and cyclic load conditions. Soft clays were defined as cohesive soil with undrained shear strengths of less than 100 kPa. The computer software LPILE was used to develop the curves. The method is referred as the API Soft Clay method. API 2GEO Section 8.5.3 provides a table for the normalized p-y curves with the p (load) normalized by the ultimate lateral resistance and the y (localized deflection) normalized by y_c, which is equal to 2.5 multiplied by ε_{50} and the diameter of the pile. The ultimate lateral resistance is a function of undrained shear strength, depth, pile diameter, effective unit weight, and a dimensionless empirical constant (J) equal to 0.5 for soft clays.

9.3.7.3 Stiff Clay p-y Curves

API 2GEO Section 8.5.4 discusses the general development of p-y curves for stiff clays but does not provide a detailed method for the stiff clay, which was encountered at the site. Therefore, the method presented in Reese and Impe (2001) was used to develop p-y curves for the stiff clays, for both static and cyclic loading conditions. The computer software LPILE was used to develop the curves. Two methods were used: the Reese Stiff Clay without Free Water and the Reese Stiff Clay with Free Water. For stiff clay within 10 pile diameters of the surface, the Reese Stiff Clay with Free Water model was used, where it is more likely to have free water present in the pile annulus, due to erosion of soil during cyclic loading. For the depths below 10 pile diameters of the surface, the Reese Stiff Clay without Free Water model was used. In general, the models are dependent on: 1) the intact undrained shear strength, 2) effective unit weight, 3) pile diameter, 4) depth, 5) loading condition (static or cyclic), 6) modulus of subgrade reaction, and 7) ε_{50} (strain corresponding to half of the soil compressive strength. The design parameters presented in **Tables 1** and **7** of this report were used in the analyses.

10.0 CONSTRUCTABILIY CONSIDERATIONS

10.1 DRIVABILITY ANALYSIS

GZA performed preliminary wave equation analyses and drivability assessments for the proposed jacket piles and monopiles and results are included in **Appendices E** and **F**, respectively. An IHC S-3000 double acting hydraulic hammer with a ram weight of 1,479.4 kN and a maximum rated stroke of 2.03 meters, yielding a maximum rated energy of 3,003.2 kJ was assumed for this preliminary study. A 0.5 m stroke was used for the jacket pile driveability, and a 1.0 m stroke was used for the monopile driveability. The IHC S-3000 ram operates within a fully enclosed hammer housing and the ram is not visible. The hammer control unit operation box displays the hammer transfer energy based on ram travel velocity for each impact. The drive cap for this hammer is bolted directly onto the hammer housing and requires no hammer cushioning material. No pile cushioning material is required for the pile types considered. The drive cap for the IHC S-3000 has a helmet weight of 516 kN.

Both the jacket piles and monopiles were modeled as a 105-meter-long piles. The boring logs indicated approximately 36 meters of water above the mudline. The piles were modelled to an approximate 68-meter penetration below the mudline. The jacket piles were modelled as 2.44-meter outer diameter, 65-millimeter-wall thickness, open-ended steel pipe piles. The monopiles were modelled as 8-meter outer diameter, 75-millimeter-wall thickness, open-ended steel pipe piles. It is GZA's understanding that the largest commercially available anvil in the market has a diameter of 6.5 meters. With a monopile size greater than 6.5 meters, the pile butt is required to be tapered to fit the anvil. However, due to the preliminary nature of this analysis, the monopiles were modeled with a uniform diameter.

Soil resistance profiles were based on the interpreted design profiles and design properties shown on **Figures 3** through **4.** The general soil resistance profile includes a triangular resistance distribution in the through the interbedded cohesive clay and sand strata over the installed embedded pile length.

The Static Resistance to Driving (SRD) was modeled with GRLWEAP's SA integrated function. The drivability analysis models the initial drive and computes the pile resistance and penetration time verses depth for the assumed driving system and subsurface conditions. The inputs for the model are shown in **Figures 4**. The preliminary drivability analysis indicates that an IHC S-3000 double-acting hydraulic hammer can drive the modeled open-end piles and monopiles the entire embedment depth at each boring location without overstressing the pile or monopile section. Note that the results indicate significant penetration under self-weight. The calculated depth of penetration by self-weight represents the point at which continuous hammer operation was calculated. Pile runs should be expected in early driving.

The drivability analysis for each pile type models the IHC S-3000 operating at full stroke (i.e. transfer energy) during drive and does not account for a gradual increase of ram stroke with penetration as the pile encounters stiffer subsurface strata. Also, note that this analysis model models the hammer-pile-soil system during initial drive and does not account for any time-dependent pile/soil setup.

The IHC S-3000 is an enclosed hydraulic hammer that does not permit observation of the ram stroke. The operation box-control unit displays the transfer energy based on ram travel velocity for each impact. We recommend control unit values be calibrated to the dynamic pile testing measurements to provide adequate transfer energy to the pile butt for dynamic test methods to demonstrate the required ultimate bearing values.

This preliminary drivability analyses are based on an assumed driving system. Actual conditions may vary depending on Contractor means and methods of pile installation and actual hammer efficiency. GZA acknowledges that there are several alternate impact hammer models that may be capable of installing the jacket piles and monopiles. It may also be possible to install the jacket piles and monopiles with a group of vibratory hammers. Further evaluation of alternate impact hammers or vibratory hammers is recommended.

Other factors not considered in this analysis are transfer energy loss due to bending of long piles, misalignment of hammer-pile impacts, soil setup or relaxation effects, and cyclic loading. The results of the wave equation analysis depend on a variety of hammer, pile, and soil input conditions. Attempts have been made to base the analysis on the best available information; however, the predicted stresses, blow counts, rate of installation and depth of installation may vary from those in the field. Further refinements or confirmation of the assumptions made in this wave equation analysis may be made using Pile Driving Analyzer (PDA) equipment at the time of driving. It is recommended that the Contractor conduct a wave equation analysis for drivability once the contractor has been selected and the pile installation system is selected.

10.2 PILE SETUP

Pile setup (freeze) or relaxation following pile driving should be considered. Excess pore pressures can be generated during pile driving that may result in apparent pile capacity at the time of driving that could be either lower or greater than the actual long-term capacity after the pore pressures dissipate. It would be prudent to conduct Pile Driving Analyzer (PDA) measurements during and after pile setup. This will allow an assessment of whether post driving pile capacity increases or decreases with setup time.

11.0 REFERENCES

Achmus, M.A., Abdel-Rahman, K., and tom Worden, F. (2007). “Geotechnical design of piles supporting foundation structures for offshore wind energy converters.” *Proc., 7th International Offshore and Polar Engineering Conf.,* Lisbon, Portugal., 322-327.

Advanced Series on Ocean Engineering, Vol. 17, World Scientific Publishing Co. Pte. Ltd., Hackensack, NJ.

Annual Book of ASTM Standards 2005, Vol. 4.08 to 4.09, ASTM International, West Conshohocken, PA.

API RP2A-LRFD. (1993). *American Petroleum Institute Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms-Load and Resistance Factor Design.* 1st Ed., American Petroleum Institute, Washington, D.C., Reaffirmed May 16, 2003.

API RP2A-WSD. (2000). *American Petroleum Institute Recommended Practice for Planning, Designing and Constructing Offshore Platforms- Working Stress Design.* 21st Ed., American Petroleum Institute, Washington, D.C., Errata and Supplement October 2007.

Baxter, C. D. P., Sharma, M. S. R., Moran, K., Vaziri, H., Narayanasamy, R. (2010). “Use of Ā=0 as a Failure Criterion for Weakly Cemented Soils”, *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE (in review).

Brown, J., O.J. Ferrians, Jr., J.A. Heginbottom, and E.S. Melnikov, eds. 1997. Circum-Arctic map of permafrost and ground-ice conditions. Washington, DC: U.S. Geological Survey in Cooperation with the Circum-Pacific Council for Energy and Mineral Resources. Circum-Pacific Map Series CP-45, scale 1:10,000,000, 1 sheet.

Clausen C., Aas, P., and Karlsrud. (2005). “Bearing capacity of driven piles in sand, the NGI approach.” *Frontiers in Offshore Geotechniques*. ISFOG 2005, Gourbenec and Cassidy Eds., Taylor & Francic Group, London 2005.

Das (2007). Principles of Foundation Engineering (6th ed.). Toronto, Canada: Nelson.

DNV-OS-J101(2004). *Design of Offshore Wind Turbine Structures*. Det Norske Veritas, Hovik, Norway., Amended November 2009.

GZA GeoEnvironmental Inc. (2009)., "Geotechnical Desktop Study for Block Island Wind Farm." *Rep. to Deepwater Wind LLC*, Hoboken, NJ.

Holtz, R. D., Kovacs, W. D., & Sheahan, T. C. (2011). An introduction to geotechnical engineering. Upper Saddle River (NJ: Pearson.

ISO 19901-2. (2004). *Petroleum and natural gas industries-Specific requirements for offshore structures- Part 2: Seismic design procedures and criteria.* 1st Ed., International Organization for Standardization, Geneva, Switzerland.

Jardine, R.J., and Chow, F.C. (2007). "Some Recent Developments in Offshore Pile Design." *Proc., 6th International Offshore Site Investigation and Geotechnics Conf*., London, UK.

Jin, Z. and Bea, R. (1998). "Loading and Capacity Characteristics of Pile Foundations". Marine Technology & Management Group, Department of Civil & Environmental Engineering, University of California at Berkeley, January 1998.

Ladd, C. C. and Edgers, L. (1972). "Consolidated-undrained direct-simple shear tests on saturated clays." Research Report R72-92, Soils Publication 284, Department of Civil Engineering, Massachusetts Institute of Technology, 245 pp.

Ladd, C. C., Foote, R., Ishihara, K., Schlosser, F., and Poulos, H. G. (1977) "Stress-deformation and strength characteristics." State-of-the-art report, *Proc., Ninth International Conference on Soil Mechanics and Foundation Engineering*, Tokyo, Vol. 2, pp. 421-494.

Lunne, T., Robertson P.K., and Powell, J.J.M., (1997).*"Cone Penetration Testing in Geotechnical Practice.",* 1st Ed., Routledge, NYNY, 312.

Minerals Management Service (2009). "Recommended guidelines for geological, geophysical, and geotechnical site-surveys for meterological towers and other seafloor founded structures and devices on the outer continental shelf (OCS)." *Guidelines for Geological, Geophysical, and Geotechnical Site-Surveys.,* Minerals Management Service, Washington, D.C., Revised March 17, 2009.

Mitchell, J. K. and Katti, R. K. (1981), "Soil Improvement State-of-the-Art Report," *Proceedings Tenth International Conference of Soil Mechanics and Foundation Engineering*, Stockholm, General Reports, p. 264.

Naval Facilities Engineering Command (1986). *Soil Mechanics Design Manual*. 7.01 Ed., NAVFAC, Alexandria VA.

Needle and Lewis (1984)., "Geology and Structure of Block Island Sound, Rhode Island and New York." MAP MF-1621, US Geological Survey, Arlington VA.

Noble Denton (2009)., "Draft Report-Block Island Offshore Wind Limited Basis of Design Jacket and Foundations", *Rep. to Deepwater Wind LLC*, Hoboken, NJ.

O'Neill, M.W. & Murchison, J.M. (1983). "An evaluation of p-y relationships in sands." *American Petroleum Institute PRAC*, 82(41-1). University of Houston, Houston, TX.

Ocean Surveys Inc. (2009.), "Final Report-Reconnaissance Geophysical Investigation Wind Farm Development Site off Block Island." *Rep. to Deepwater Wind LLC*, Hoboken, NJ.

Poulos, H. G. (1988). *Marine Geotechnics*, Section 7.5.5, Unwin Hyman, Boston, p. 299-308.

Randolph, M.F. (2003). “Science and empiricism in pile foundation design.”*Geotechnique.*, 53 (10), 847-875.

Reese, L.C., and Van Impe, W.F. (2001). *Single Piles and Pile Groups Under Lateral Loading.,* A.A. Balkema Publishers., Brookfield, VT.

Reese, L.C., Cox, W.R., and Koop, F.D. (1975). “Field Testing and Analysis of Laterally Loaded Piles in Stiff Clay.” *Proc., 7th Annu. Offshore Technology Conf.*, Houston, TX.

Reese, L.C., Wang, S.T., and Arrellaga, J (2007). *APILE plus 5.0 for windows*, ENSOFT, INC., Austin, TX.

Reese, L.C., Wang, S.T., Isenhower, W.M., Arrellaga, J.A., and Hendrix, J. (2000). *LPILE plus 4.0 for windows user’s manual,* ENSOFT, INC., Austin, TX.

Robertson, P. K. and Campanella, R. G. (1983). “Interpretation of cone penetrometer test: Part I: Sand.” *Canadian Geotechnical Journal*, 20(4), p. 718-733.

Sharma, M. S. R., Baxter, C. D. P., Moran, K., Vaziri, H., Narayanasamy, R. (2010) “Strength of weakly cemented sands from drained multistage triaxial tests,” *Journal of Geotechnical and Geoenvironmental Engineering,* ASCE (in review).

Sumer, B.M., Fredsoe, J. (2002). *The Mechanics of Scour in the Marine Environment:*

TABLES

Table 1A: Axial and Lateral Capacity Input Analysis Parameters for a Jacket Pile at Boring B-3 (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
Scour	-4.8	0.0	0.0	0.0														
	0.0			0.0														
SP	0	18.7	8.6	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	4.3			37.5														
SP-SM	4.3	18.4	8.3	37.5			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	10.1			85.7														
CL	10.1	18.4	8.3	85.7	80.3	80.3						API Soft Clay					0.25	0.010
	12.9			108.6	80.3	80.3												
SP-SM	12.9	18.5	8.5	108.6			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	15.3			129.3														
CL	15.3	18.2	8.2	129.3	77.2	94.6						API Soft Clay					0.25	0.010
	19.9			166.6	77.2	94.6												
SP/SW/SC	19.9	18.8	8.7	166.6			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	28.1			238.4														
CL	28.1	18.5	8.5	238.4	111.9	111.9						Stiff Clay w/o Free Water						0.005
	30.9			261.6	111.9	111.9												
SP-SM	30.9	18.4	8.3	261.6			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	35.1			297.2														
MH	35.1	18.1	8.0	297.2	74.0	125.0						Stiff Clay w/o Free Water						0.005
	38.2			321.6	102.0	153.1												
SP-SM	38.2	18.4	8.3	166.6			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	40.9			189.5														
SC/SP-SM	40.9	18.6	8.6	238.4			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	52.5			337.5														
SC/SP-SM	52.5	18.7	8.6	261.6			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	58.6			314.3														
CL	58.6	18.7	8.6	297.2	185.2	197.0						Stiff Clay w/o Free Water						0.005
	60.4			313.0	185.2	197.0												

Table 1B: Axial and Lateral Capacity Input Analysis Parameters for a Jacket Pile at Boring B-6 (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
Scour	-4.8	0.0	0.0	0.0														
	0.0			0.0														
SP	0.0	18.5	8.5	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	5.0			42.0														
CL	5.0	18.4	8.3	42.0	24.9	24.9						API Soft Clay					0.50	0.020
	14.1			118.1	112.0	112.0												
SM	14.1	18.5	8.5	118.1			0.29	0.8	12	67.0	3000	API Sand	31	13200				
	21.7			182.8														
CL	21.7	18.7	8.6	182.8	93.7	163.8						Stiff w/ Free Water			270000	110000		0.005
	25.7			217.0	93.7	163.8												
SP/SP-SM	25.7	18.6	8.6	217.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	35.4			300.5														
CL	35.4	18.6	8.6	300.5	136.3	136.3						Stiff w/o Free Water						0.005
	37.3			316.2	136.3	136.3												
SP	37.3	18.6	8.6	316.2			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	45.5			386.6														
CL	45.5	18.5	8.5	386.6	175.3	175.3						Stiff w/o Free Water						0.005
	48.2			409.9	175.3	175.3												
SP-SM	48.2	18.6	8.6	409.9			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	52.8			449.1														
CL	52.8	18.6	8.6	449.1	195.5	195.5						Stiff w/o Free Water						0.005
	54.3			462.1	195.5	195.5												
SP-SM	54.3	18.6	8.6	462.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	59.2			503.8														
CL	59.2	18.6	8.6	503.8	181.0	208.1						Stiff w/o Free Water						0.004
	62.6			532.6	181.0	208.1												

Table 1C: Axial and Lateral Capacity Input Analysis Parameters for a Jacket Pile at Boring B-10 (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
Scour	-4.8	0.0	0.0	0.0														
	0.0			0.0														
SP/SW	0	18.7	8.6	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	12.9			111.3														
SC	12.9	18.9	8.8	111.3			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	14.4			124.7														
CL	14.4	18.8	8.7	124.7	50.3	50.3						API Soft Clay					0.25	0.010
	19.6			169.8	50.3	50.3												
CL	19.6	18.5	8.5	169.8	50.3	50.3						API Soft Clay					0.25	0.010
	22.0			190.5	50.3	50.3												
CH	22.0	18.4	8.3	190.5	50.3	50.3						API Soft Clay					0.25	0.010
	30.9			264.1	148.4	148.4												
CH	30.9	18.1	8.1	264.1	110.1	110.1						Stiff w/o Free Water						0.005
	41.5			350.4	110.1	110.1												
SW-SM	41.5	18.9	8.8	350.4			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	47.0			398.7														
SP/SP-SM	47.0	18.7	8.6	398.7			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	55.6			472.4														
CL	55.6	18.7	8.6	472.4	205.5	205.5						Stiff w/o Free Water						0.004
	57.4			488.2	205.5	205.5												
SP	57.4	18.7	8.6	488.2			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	59.8			509.3														
CL	59.8	18.7	8.6	509.3	200.4	219.0						Stiff w/o Free Water						0.004
	61.5			523.8	200.4	219.0												

Table 1D: Axial and Lateral Capacity Input Analysis Parameters for a Jacket Pile at Boring B-11/11A (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
SP	0	18.7	8.6	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	15.2			131.7														
CL	15.2	18.6	8.6	131.7	75.3	104.5						Stiff w/ Free Water			270000	110000		0.005
	17.7			152.5	75.3	104.5												
SP	17.7	18.5	8.5	152.5			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	22.6			193.9														
ML	22.6	18.5	8.4	193.9			0.21	0.8	8	47.8	1900	API Sand	35	22000				
	25.9			222.1														
SP/SP-SM	25.9	18.5	8.4	222.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	36.6			311.7														
SP	36.6	18.5	8.5	311.7			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	45.1			384.1														
SW/SP	45.1	18.6	8.6	384.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	66.6			567.7														

Table 1E: Axial and Lateral Capacity Input Analysis Parameters for a Jacket Pile at Boring B-OSS (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
Scour	-4.8	0.0	0.0	0.0														
	0.0			0.0														
SP	0	18.5	8.5	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	3.1			26.5														
SM	3.1	18.5	8.5	26.5			0.29	0.8	12	67.0	3000	API Sand	31	13200				
	6.2			52.4														
SP-SM	6.2	18.5	8.5	52.4			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	11.0			93.7														
SM	11.0	17.9	7.9	93.7			0.21	0.8	8	47.8	1900.0	API Sand	31	13200				
	13.5			112.9														
SP	13.5	18.4	8.3	112.9			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	19.0			158.6														
SP/SP-SM	19.0	18.6	8.6	158.6			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	30.6			257.7														
CL	30.6	18.5	8.5	257.7	114.1	135.6						Stiff w/o Free Water						0.005
	36.7			309.4	114.1	135.6												
CL	36.7	18.2	8.2	309.4	114.1	135.6						Stiff w/o Free Water						0.005
	40.3			339.3	114.1	135.6												
SP	40.3	18.5	8.5	339.3			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	54.6			460.8														
CL	54.6	18.6	8.6	460.8	194.0	194.0						Stiff w/o Free Water						0.005
	60.7			513.0	194.0	194.0												

Table 2A: Unfactored Static Capacity for a Jacket Pile at Boring B-3 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	-4.8	0	0	0	0
4.8	0.0	0	0	0	153
5.3	0.5	3	27	30	172
5.8	1.0	11	59	70	194
6.3	1.5	23	96	119	220
6.8	2.0	40	137	177	250
7.3	2.5	62	182	244	283
7.8	3.0	89	232	321	320
8.3	3.5	120	287	407	362
8.8	4.0	157	346	503	407
9.3	4.5	198	409	607	456
9.8	5.0	244	476	720	508
10.3	5.5	294	548	841	564
10.8	6.0	349	623	972	624
11.3	6.5	408	704	1112	688
11.8	7.0	473	788	1261	755
12.3	7.5	541	877	1419	826
12.8	8.0	615	971	1585	901
13.3	8.5	693	1068	1761	979
13.8	9.0	775	1170	1946	1061
14.3	9.5	863	1277	2139	1147
14.8	10.0	954	1388	2342	1237
15.3	10.5	1102	1389	2491	1370
15.8	11.0	1265	1544	2810	1517
16.3	11.5	1433	1703	3136	1667
16.8	12.0	1604	1865	3469	1820
17.3	12.5	1778	2030	3809	1976
17.8	13.0	1945	2469	4414	2125
18.3	13.5	2069	2611	4680	2240
18.8	14.0	2198	2757	4955	2359
19.3	14.5	2332	2908	5240	2482
19.8	15.0	2470	3063	5533	2609
20.3	15.5	2640	2901	5541	2761
20.8	16.0	2855	3084	5939	2949
21.3	16.5	3073	3271	6344	3139
21.8	17.0	3294	3460	6754	3332
22.3	17.5	3518	3653	7171	3528
22.8	18.0	3746	3847	7593	3726
23.3	18.5	3977	4045	8021	3926
23.8	19.0	4210	4245	8455	4129
24.3	19.5	4447	4447	8894	4334
24.8	20.0	4664	5191	9856	4524
25.3	20.5	4853	5395	10248	4691
25.8	21.0	5046	5603	10649	4862

Table 2A: Unfactored Static Capacity for a Jacket Pile at Boring B-3 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
26.3	21.5	5245	5816	11060	5036
26.8	22.0	5448	6033	11481	5215
27.3	22.5	5656	6255	11910	5397
27.8	23.0	5868	6481	12350	5583
28.3	23.5	6086	6713	12798	5773
28.8	24.0	6308	6948	13256	5967
29.3	24.5	6535	7188	13724	6165
29.8	25.0	6768	7433	14201	6367
30.3	25.5	7004	7683	14687	6572
30.8	26.0	7246	7937	15183	6782
31.3	26.5	7493	8195	15688	6995
31.8	27.0	7744	8458	16203	7212
32.3	27.5	8000	8706	16706	7433
32.8	28.0	8257	8795	17052	7654
33.3	28.5	8570	8162	16732	7921
33.8	29.0	8887	8462	17349	8190
34.3	29.5	9206	8764	17970	8461
34.8	30.0	9528	9069	18597	8735
35.3	30.5	9852	9376	19228	9010
35.8	31.0	10151	10611	20762	9265
36.3	31.5	10407	10855	21262	9486
36.8	32.0	10664	10827	21491	9708
37.3	32.5	10921	10030	20951	9929
37.8	33.0	11178	9252	20430	10151
38.3	33.5	11435	8947	20381	10372
38.8	34.0	11691	8947	20638	10594
39.3	34.5	11948	8947	20895	10815
39.8	35.0	12205	8947	21152	11036
40.3	35.5	12577	9643	22221	11350
40.8	36.0	12959	10246	23205	11671
41.3	36.5	13349	10558	23907	12000
41.8	37.0	13749	10879	24628	12335
42.3	37.5	14157	11210	25367	12678
42.8	38.0	14575	11551	26125	13028
43.3	38.5	14865	12593	27458	13276
43.8	39.0	15121	12837	27958	13497
44.3	39.5	15378	13080	28458	13719
44.8	40.0	15635	13323	28958	13940
45.3	40.5	15892	13567	29459	14162
45.8	41.0	16149	13810	29959	14383
46.3	41.5	16405	14028	30433	14604
46.8	42.0	16662	14028	30690	14826
47.3	42.5	16919	14028	30947	15047
47.8	43.0	17176	14028	31204	15269

Table 2A: Unfactored Static Capacity for a Jacket Pile at Boring B-3 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
48.3	43.5	17433	14028	31460	15490
48.8	44.0	17689	14028	31717	15712
49.3	44.5	17946	14028	31974	15933
49.8	45.0	18203	14028	32231	16154
50.3	45.5	18460	14028	32488	16376
50.8	46.0	18716	14028	32744	16597
51.3	46.5	18973	14028	33001	16819
51.8	47.0	19230	14028	33258	17040
52.3	47.5	19487	14028	33515	17261
52.8	48.0	19744	14028	33772	17483
53.3	48.5	20000	14028	34028	17704
53.8	49.0	20257	14028	34285	17926
54.3	49.5	20514	14028	34542	18147
54.8	50.0	20771	14028	34799	18369
55.3	50.5	21028	14028	35055	18590
55.8	51.0	21284	14028	35312	18811
56.3	51.5	21541	14028	35569	19033
56.8	52.0	21798	14028	35826	19254
57.3	52.5	22055	14028	36083	19476
57.8	53.0	22312	14028	36339	19697
58.3	53.5	22568	14028	36596	19919
58.8	54.0	22825	13569	36394	20140
59.3	54.5	23082	12995	36077	20361
59.8	55.0	23339	12422	35760	20583

Table 2B: Unfactored Static Capacity for a Jacket Pile at Boring B-6 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	-4.8	0	0	0	0
4.8	0.0	0	0	0	153
5.3	0.5	3	27	30	172
5.8	1.0	10	58	69	194
6.3	1.5	23	94	117	219
6.8	2.0	39	134	174	249
7.3	2.5	61	179	240	282
7.8	3.0	87	228	315	319
8.3	3.5	118	282	400	360
8.8	4.0	154	340	494	404
9.3	4.5	194	402	596	453
9.8	5.0	239	469	708	505
10.3	5.5	307	418	725	575
10.8	6.0	383	511	895	652
11.3	6.5	469	613	1082	736
11.8	7.0	563	723	1285	827
12.3	7.5	665	841	1506	926
12.8	8.0	777	967	1744	1031
13.3	8.5	897	1101	1998	1143
13.8	9.0	1026	1244	2270	1262
14.3	9.5	1164	1395	2558	1388
14.8	10.0	1310	1554	2864	1521
15.3	10.5	1464	1721	3186	1661
15.8	11.0	1628	1897	3524	1807
16.3	11.5	1800	2080	3880	1961
16.8	12.0	1980	2272	4252	2121
17.3	12.5	2170	2472	4641	2289
17.8	13.0	2367	2680	5047	2463
18.3	13.5	2574	2896	5470	2644
18.8	14.0	2789	3120	5909	2832
19.3	14.5	2939	3480	6419	2969
19.8	15.0	3077	3634	6711	3095
20.3	15.5	3219	3793	7012	3224
20.8	16.0	3366	3956	7322	3358
21.3	16.5	3517	4124	7642	3495
21.8	17.0	3674	4297	7970	3636
22.3	17.5	3835	4473	8308	3781
22.8	18.0	4000	4654	8655	3929
23.3	18.5	4171	4840	9011	4081
23.8	19.0	4346	5030	9376	4237
24.3	19.5	4525	5224	9750	4397
24.8	20.0	4710	5423	10133	4561
25.3	20.5	4899	5627	10526	4728
25.8	21.0	5093	5835	10927	4899

Table 2B: Unfactored Static Capacity for a Jacket Pile at Boring B-6 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
26.3	21.5	5291	6047	11338	5074
26.8	22.0	5597	5946	11543	5334
27.3	22.5	5932	6187	12119	5619
27.8	23.0	6272	6430	12702	5906
28.3	23.5	6615	6676	13291	6197
28.8	24.0	6962	6924	13886	6490
29.3	24.5	7312	7175	14488	6787
29.8	25.0	7667	7429	15096	7086
30.3	25.5	8025	7686	15710	7388
30.8	26.0	8290	8471	16761	7617
31.3	26.5	8536	8729	17265	7830
31.8	27.0	8787	8991	17779	8046
32.3	27.5	9043	9258	18301	8267
32.8	28.0	9300	9526	18825	8488
33.3	28.5	9556	9794	19350	8710
33.8	29.0	9813	10061	19875	8931
34.3	29.5	10070	10329	20399	9152
34.8	30.0	10327	10579	20906	9374
35.3	30.5	10584	10823	21406	9595
35.8	31.0	10840	11066	21906	9817
36.3	31.5	11097	11309	22406	10038
36.8	32.0	11354	11374	22728	10260
37.3	32.5	11611	10876	22487	10481
37.8	33.0	11868	10876	22744	10702
38.3	33.5	12124	10876	23001	10924
38.8	34.0	12381	10876	23258	11145
39.3	34.5	12638	10876	23514	11367
39.8	35.0	12895	10876	23771	11588
40.3	35.5	13204	10779	23982	11851
40.8	36.0	13593	11147	24740	12179
41.3	36.5	13985	11519	25504	12508
41.8	37.0	14379	11893	26272	12840
42.3	37.5	14692	13036	27729	13106
42.8	38.0	14949	13280	28229	13327
43.3	38.5	15206	13523	28729	13549
43.8	39.0	15463	13766	29229	13770
44.3	39.5	15719	14010	29729	13992
44.8	40.0	15976	14028	30004	14213
45.3	40.5	16233	14028	30261	14435
45.8	41.0	16490	13363	29852	14656
46.3	41.5	16746	12698	29444	14877
46.8	42.0	17003	12033	29036	15099
47.3	42.5	17260	11367	28628	15320
47.8	43.0	17517	10702	28219	15542

Table 2B: Unfactored Static Capacity for a Jacket Pile at Boring B-6 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
48.3	43.5	17774	10436	28210	15763
48.8	44.0	18030	10436	28467	15984
49.3	44.5	18287	10436	28724	16206
49.8	45.0	18544	10436	28980	16427
50.3	45.5	18849	10436	29285	16687
50.8	46.0	19349	11101	30450	17103
51.3	46.5	19852	11766	31618	17521
51.8	47.0	20357	12432	32788	17941
52.3	47.5	20865	13097	33961	18364
52.8	48.0	21375	13530	34905	18788
53.3	48.5	21683	13216	34899	19050
53.8	49.0	21940	12636	34576	19272
54.3	49.5	22197	12288	34485	19493
54.8	50.0	22454	12288	34742	19715
55.3	50.5	22710	12288	34999	19936
55.8	51.0	22967	12288	35255	20158
56.3	51.5	23224	12288	35512	20379
56.8	52.0	23481	12288	35769	20600
57.3	52.5	23738	12288	36026	20822
57.8	53.0	24181	12520	36701	21192
58.3	53.5	24750	13100	37850	21664
58.8	54.0	25323	13660	38982	22138
59.3	54.5	25706	13712	39418	22461
59.8	55.0	25963	13185	39148	22682
60.3	55.5	26220	12657	38877	22904
60.8	56.0	26477	12130	38607	23125
61.3	56.5	26733	11603	38337	23346
61.8	57.0	26990	11076	38066	23568
62.3	57.5	27247	10549	37796	23789

Table 2C: Unfactored Static Capacity for a Jacket Pile at Boring B-10 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	-4.8	0	0	0	0
4.8	0.0	0	0	0	153
5.3	0.5	3	27	30	172
5.8	1.0	11	59	70	194
6.3	1.5	23	96	119	220
6.8	2.0	40	137	177	250
7.3	2.5	62	182	244	283
7.8	3.0	89	232	321	320
8.3	3.5	120	287	407	362
8.8	4.0	157	346	503	407
9.3	4.5	198	409	607	456
9.8	5.0	244	477	721	508
10.3	5.5	294	550	845	565
10.8	6.0	350	627	977	625
11.3	6.5	410	709	1119	689
11.8	7.0	475	795	1270	757
12.3	7.5	545	886	1431	829
12.8	8.0	619	981	1601	905
13.3	8.5	699	1081	1780	984
13.8	9.0	783	1186	1968	1067
14.3	9.5	872	1294	2166	1155
14.8	10.0	965	1408	2373	1245
15.3	10.5	1064	1526	2590	1340
15.8	11.0	1167	1648	2815	1439
16.3	11.5	1275	1775	3050	1541
16.8	12.0	1388	1907	3295	1647
17.3	12.5	1506	2043	3548	1757
17.8	13.0	1628	2184	3811	1871
18.3	13.5	1755	2329	4084	1989
18.8	14.0	1887	2480	4367	2111
19.3	14.5	2027	2030	4057	2238
19.8	15.0	2180	2117	4297	2377
20.3	15.5	2336	2117	4453	2518
20.8	16.0	2495	2117	4612	2661
21.3	16.5	2656	2117	4773	2806
21.8	17.0	2820	2117	4937	2953
22.3	17.5	2986	2126	5112	3102
22.8	18.0	3155	2159	5313	3253
23.3	18.5	3326	2213	5539	3405
23.8	19.0	3499	2279	5777	3560
24.3	19.5	3674	2378	6053	3716
24.8	20.0	3852	2513	6365	3874
25.3	20.5	4032	2581	6613	4034
25.8	21.0	4214	2581	6795	4196

Table 2C: Unfactored Static Capacity for a Jacket Pile at Boring B-10 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
26.3	21.5	4398	2581	6979	4359
26.8	22.0	4585	2758	7342	4525
27.3	22.5	4779	2966	7745	4696
27.8	23.0	4986	3185	8171	4877
28.3	23.5	5204	3415	8619	5068
28.8	24.0	5433	3657	9090	5267
29.3	24.5	5674	3909	9583	5476
29.8	25.0	5926	4171	10097	5694
30.3	25.5	6189	4393	10582	5920
30.8	26.0	6463	4417	10879	6155
31.3	26.5	6747	4440	11187	6398
31.8	27.0	7042	4464	11506	6650
32.3	27.5	7347	4488	11835	6911
32.8	28.0	7663	4512	12175	7179
33.3	28.5	7990	4535	12525	7456
33.8	29.0	8326	4559	12885	7741
34.3	29.5	8673	4583	13255	8035
34.8	30.0	9030	4606	13636	8336
35.3	30.5	9396	4630	14027	8646
35.8	31.0	9752	4484	14236	8946
36.3	31.5	10081	4484	14565	9225
36.8	32.0	10412	4484	14896	9506
37.3	32.5	10745	4484	15229	9788
37.8	33.0	11081	4484	15565	10073
38.3	33.5	11419	4484	15903	10360
38.8	34.0	11760	4484	16244	10648
39.3	34.5	12103	4484	16587	10939
39.8	35.0	12448	4484	16932	11231
40.3	35.5	12796	4484	17280	11525
40.8	36.0	13146	4484	17630	11821
41.3	36.5	13498	4484	17983	12119
41.8	37.0	13853	4484	18338	12419
42.3	37.5	14210	4484	18695	12721
42.8	38.0	14570	4484	19054	13024
43.3	38.5	14931	4484	19416	13329
43.8	39.0	15295	4484	19779	13636
44.3	39.5	15661	4484	20146	13945
44.8	40.0	16030	4484	20514	14256
45.3	40.5	16400	4484	20884	14568
45.8	41.0	16773	4484	21257	14883
46.3	41.5	17124	5444	22568	15179
46.8	42.0	17381	5444	22825	15401
47.3	42.5	17638	5444	23082	15622
47.8	43.0	17894	5444	23339	15844

Table 2C: Unfactored Static Capacity for a Jacket Pile at Boring B-10 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
48.3	43.5	18151	5444	23595	16065
48.8	44.0	18408	5444	23852	16287
49.3	44.5	18665	5444	24109	16508
49.8	45.0	18922	5444	24366	16729
50.3	45.5	19178	5444	24623	16951
50.8	46.0	19435	5444	24879	17172
51.3	46.5	19692	5444	25136	17394
51.8	47.0	19949	5444	25393	17615
52.3	47.5	20206	5444	25650	17836
52.8	48.0	20462	5444	25906	18058
53.3	48.5	20719	5444	26163	18279
53.8	49.0	20976	5444	26420	18501
54.3	49.5	21233	5444	26677	18722
54.8	50.0	21490	5444	26934	18944
55.3	50.5	21746	5444	27190	19165
55.8	51.0	22003	5444	27447	19386
56.3	51.5	22260	5444	27704	19608
56.8	52.0	22517	5444	27961	19829
57.3	52.5	22774	5444	28218	20051
57.8	53.0	23030	5444	28474	20272
58.3	53.5	23287	5444	28731	20493
58.8	54.0	23544	5444	28988	20715
59.3	54.5	23801	5444	29245	20936
59.8	55.0	24058	5444	29502	21158
60.3	55.5	24314	5444	29758	21379
60.8	56.0	24912	4894	29807	21873
61.3	56.5	25512	4894	30407	22370

Table 2D: Unfactored Static Capacity for a Jacket Pile at Boring B-11/11A (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	-4.8	0	0	0	0
4.8	0.0	0	0	0	153
5.3	0.5	3	27	30	172
5.8	1.0	11	60	70	194
6.3	1.5	23	96	119	220
6.8	2.0	40	137	178	250
7.3	2.5	62	183	245	283
7.8	3.0	89	233	323	321
8.3	3.5	121	288	409	362
8.8	4.0	157	347	505	407
9.3	4.5	199	411	610	456
9.8	5.0	245	480	725	509
10.3	5.5	296	553	848	566
10.8	6.0	351	630	982	626
11.3	6.5	412	712	1124	691
11.8	7.0	477	799	1276	759
12.3	7.5	547	890	1438	831
12.8	8.0	622	986	1608	907
13.3	8.5	702	1086	1788	987
13.8	9.0	786	1191	1977	1070
14.3	9.5	876	1300	2176	1158
14.8	10.0	970	1414	2384	1249
15.3	10.5	1087	1473	2560	1359
15.8	11.0	1282	1625	2907	1531
16.3	11.5	1479	1781	3260	1704
16.8	12.0	1678	1940	3618	1879
17.3	12.5	1880	2102	3982	2057
17.8	13.0	2069	2451	4520	2224
18.3	13.5	2196	2596	4793	2342
18.8	14.0	2328	2746	5074	2464
19.3	14.5	2465	2900	5365	2589
19.8	15.0	2607	3058	5665	2718
20.3	15.5	2753	3221	5974	2852
20.8	16.0	2904	3389	6293	2988
21.3	16.5	3060	3561	6620	3129
21.8	17.0	3220	3737	6957	3273
22.3	17.5	3385	3918	7303	3421
22.8	18.0	3527	3781	7308	3551
23.3	18.5	3653	3917	7570	3668
23.8	19.0	3783	4056	7839	3787
24.3	19.5	3916	4198	8114	3910
24.8	20.0	4053	4343	8396	4035
25.3	20.5	4193	4492	8685	4163
25.8	21.0	4336	4644	8980	4294

Table 2D: Unfactored Static Capacity for a Jacket Pile at Boring B-11/11A (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
26.3	21.5	4539	5203	9742	4472
26.8	22.0	4746	5424	10169	4653
27.3	22.5	4958	5648	10606	4839
27.8	23.0	5174	5878	11052	5028
28.3	23.5	5396	6111	11507	5221
28.8	24.0	5621	6350	11971	5418
29.3	24.5	5852	6592	12444	5618
29.8	25.0	6087	6839	12926	5822
30.3	25.5	6327	7091	13418	6030
30.8	26.0	6572	7346	13918	6242
31.3	26.5	6821	7607	14428	6457
31.8	27.0	7075	7871	14946	6677
32.3	27.5	7332	8139	15470	6898
32.8	28.0	7588	8406	15995	7119
33.3	28.5	7845	8674	16519	7341
33.8	29.0	8102	8941	17043	7562
34.3	29.5	8359	9202	17561	7784
34.8	30.0	8616	9445	18061	8005
35.3	30.5	8872	9688	18561	8226
35.8	31.0	9129	9932	19061	8448
36.3	31.5	9386	10175	19561	8669
36.8	32.0	9643	10418	20061	8891
37.3	32.5	9900	10662	20561	9112
37.8	33.0	10156	10905	21061	9334
38.3	33.5	10413	11148	21562	9555
38.8	34.0	10670	11392	22062	9776
39.3	34.5	10927	11635	22562	9998
39.8	35.0	11184	11878	23062	10219
40.3	35.5	11440	12122	23562	10441
40.8	36.0	11697	12365	24062	10662
41.3	36.5	11954	12608	24562	10883
41.8	37.0	12211	12852	25062	11105
42.3	37.5	12468	13095	25563	11326
42.8	38.0	12724	13338	26063	11548
43.3	38.5	12981	13582	26563	11769
43.8	39.0	13238	13825	27063	11991
44.3	39.5	13495	14028	27523	12212
44.8	40.0	13752	14028	27779	12433
45.3	40.5	14008	14028	28036	12655
45.8	41.0	14265	14028	28293	12876
46.3	41.5	14522	14028	28550	13098
46.8	42.0	14779	14028	28807	13319
47.3	42.5	15035	14028	29063	13541
47.8	43.0	15292	14028	29320	13762

Table 2D: Unfactored Static Capacity for a Jacket Pile at Boring B-11/11A (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
48.3	43.5	15549	14028	29577	13983
48.8	44.0	15806	14028	29834	14205
49.3	44.5	16063	14028	30091	14426
49.8	45.0	16319	14028	30347	14648
50.3	45.5	16576	14028	30604	14869
50.8	46.0	16833	14028	30861	15090
51.3	46.5	17090	14028	31118	15312
51.8	47.0	17347	14028	31374	15533
52.3	47.5	17603	14028	31631	15755
52.8	48.0	17860	14028	31888	15976
53.3	48.5	18117	14028	32145	16198
53.8	49.0	18374	14028	32402	16419
54.3	49.5	18631	14028	32658	16640
54.8	50.0	18887	14028	32915	16862
55.3	50.5	19144	14028	33172	17083
55.8	51.0	19401	14028	33429	17305
56.3	51.5	19658	14028	33686	17526
56.8	52.0	19915	14028	33942	17747
57.3	52.5	20171	14028	34199	17969
57.8	53.0	20428	14028	34456	18190
58.3	53.5	20685	14028	34713	18412
58.8	54.0	20942	14028	34970	18633
59.3	54.5	21199	14028	35226	18855
59.8	55.0	21455	14028	35483	19076
60.3	55.5	21712	14028	35740	19297
60.8	56.0	21969	14028	35997	19519
61.3	56.5	22226	14028	36254	19740

Table 2E: Unfactored Static Capacity for a Jacket Pile at Boring B-OSS (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	-4.8	0	0	0	0
4.8	0.0	0	0	0	153
5.3	0.5	3	27	30	172
5.8	1.0	10	58	69	194
6.3	1.5	23	94	117	219
6.8	2.0	39	134	174	249
7.3	2.5	61	179	240	282
7.8	3.0	87	228	315	319
8.3	3.5	118	282	400	360
8.8	4.0	154	340	494	404
9.3	4.5	194	402	596	453
9.8	5.0	239	469	708	505
10.3	5.5	289	540	829	561
10.8	6.0	344	616	960	620
11.3	6.5	403	696	1099	683
11.8	7.0	467	781	1248	751
12.3	7.5	535	870	1405	821
12.8	8.0	608	964	1572	896
13.3	8.5	686	1062	1748	974
13.8	9.0	769	1164	1933	1056
14.3	9.5	856	1271	2127	1142
14.8	10.0	948	1383	2331	1232
15.3	10.5	1045	1499	2543	1325
15.8	11.0	1146	1619	2765	1422
16.3	11.5	1223	1529	2752	1499
16.8	12.0	1303	1620	2922	1579
17.3	12.5	1386	1713	3099	1662
17.8	13.0	1472	1810	3282	1747
18.3	13.5	1561	1909	3471	1834
18.8	14.0	1689	2269	3958	1952
19.3	14.5	1822	2419	4240	2074
19.8	15.0	1959	2572	4531	2200
20.3	15.5	2100	2730	4831	2329
20.8	16.0	2247	2893	5139	2462
21.3	16.5	2397	3060	5457	2599
21.8	17.0	2553	3231	5784	2739
22.3	17.5	2713	3406	6119	2883
22.8	18.0	2878	3586	6464	3031
23.3	18.5	3047	3770	6818	3183
23.8	19.0	3221	3959	7180	3338
24.3	19.5	3400	4153	7553	3497
24.8	20.0	3583	4351	7935	3659
25.3	20.5	3772	4554	8326	3826
25.8	21.0	3964	4761	8726	3996

Table 2E: Unfactored Static Capacity for a Jacket Pile at Boring B-OSS (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
26.3	21.5	4162	4973	9135	4170
26.8	22.0	4365	5190	9554	4348
27.3	22.5	4572	5410	9982	4530
27.8	23.0	4784	5636	10419	4716
28.3	23.5	5000	5865	10866	4905
28.8	24.0	5222	6100	11322	5098
29.3	24.5	5448	6339	11787	5295
29.8	25.0	5679	6582	12261	5496
30.3	25.5	5915	6830	12744	5700
30.8	26.0	6155	7082	13237	5909
31.3	26.5	6400	7339	13739	6121
31.8	27.0	6650	7600	14250	6337
32.3	27.5	6905	7866	14771	6556
32.8	28.0	7162	8134	15295	6778
33.3	28.5	7418	8402	15820	6999
33.8	29.0	7675	8341	16016	7221
34.3	29.5	7932	7535	15467	7442
34.8	30.0	8189	6707	14896	7664
35.3	30.5	8446	5875	14320	7885
35.8	31.0	8805	5708	14513	8188
36.3	31.5	9167	5708	14875	8494
36.8	32.0	9532	5708	15240	8802
37.3	32.5	9900	5708	15608	9112
37.8	33.0	10271	5708	15979	9425
38.3	33.5	10644	5708	16353	9740
38.8	34.0	11021	5708	16729	10057
39.3	34.5	11400	5708	17108	10376
39.8	35.0	11782	5708	17490	10698
40.3	35.5	12166	6041	18207	11021
40.8	36.0	12554	6873	19427	11347
41.3	36.5	12944	7705	20649	11675
41.8	37.0	13336	8080	21417	12005
42.3	37.5	13732	8424	22156	12338
42.8	38.0	14130	8770	22900	12672
43.3	38.5	14530	9118	23648	13008
43.8	39.0	14933	9468	24401	13347
44.3	39.5	15338	9821	25159	13687
44.8	40.0	15746	10175	25922	14029
45.3	40.5	16064	11314	27378	14300
45.8	41.0	16321	11557	27878	14521
46.3	41.5	16578	11800	28378	14743
46.8	42.0	16835	12044	28878	14964
47.3	42.5	17092	12287	29378	15185
47.8	43.0	17348	12530	29879	15407

Table 2E: Unfactored Static Capacity for a Jacket Pile at Boring B-OSS (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
48.3	43.5	17605	12774	30379	15628
48.8	44.0	17862	13017	30879	15850
49.3	44.5	18119	13260	31379	16071
49.8	45.0	18376	13504	31879	16292
50.3	45.5	18632	13747	32379	16514
50.8	46.0	18889	13990	32879	16735
51.3	46.5	19146	14028	33174	16957
51.8	47.0	19403	14028	33431	17178
52.3	47.5	19659	14028	33687	17400
52.8	48.0	19916	14028	33944	17621
53.3	48.5	20173	14028	34201	17842
53.8	49.0	20430	14028	34458	18064
54.3	49.5	20687	14028	34715	18285
54.8	50.0	20943	13559	34502	18507
55.3	50.5	21200	12972	34172	18728
55.8	51.0	21457	12386	33843	18950
56.3	51.5	21714	11799	33513	19171
56.8	52.0	21971	11213	33183	19392
57.3	52.5	22227	10626	32853	19614
57.8	53.0	22484	10039	32524	19835
58.3	53.5	22741	9453	32194	20057
58.8	54.0	22998	8866	31864	20278
59.3	54.5	23255	8280	31535	20499
59.8	55.0	23827	8163	31990	20974
60.3	55.5	24403	8163	32566	21450

Table 3A: t-z Curve Data for a Jacket Pile at Boring B-3 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
4.8	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
5.8	1.0	2.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.75	1.25	1.87	2.24	2.49	2.49	--
6.8	2.0	5.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.50	2.49	3.74	4.49	4.99	4.99	--
7.8	3.0	7.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.24	3.74	5.61	6.73	7.48	7.48	--
8.8	4.0	10.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.99	4.99	7.48	8.98	9.98	9.98	--
9.8	5.0	12.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.72	6.20	9.31	11.17	12.41	12.41	--
10.8	6.0	14.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.44	7.41	11.11	13.33	14.82	14.82	--
11.8	7.0	17.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.17	8.61	12.92	15.50	17.22	17.22	--
12.8	8.0	19.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.89	9.82	14.72	17.67	19.63	19.63	--
13.8	9.0	22.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.61	11.02	16.53	19.83	22.04	22.04	--
14.8	10.0	24.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.33	12.22	18.33	22.00	24.44	24.44	--
15.8	11.0	43.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	12.93	21.56	32.33	38.80	43.11	30.18	30.18
16.8	12.0	45.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	13.50	22.50	33.75	40.50	45.00	31.50	31.50
17.8	13.0	31.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.50	15.83	23.75	28.50	31.67	31.67	--
18.8	14.0	34.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.24	17.06	25.59	30.71	34.12	34.12	--
19.8	15.0	36.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.97	18.28	27.43	32.91	36.57	36.57	--
20.8	16.0	56.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	16.91	28.18	42.28	50.73	56.37	39.46	39.46
21.8	17.0	58.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	17.42	29.03	43.54	52.25	58.05	40.64	40.64
22.8	18.0	59.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	17.91	29.84	44.77	53.72	59.69	41.78	41.78

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3A: t-z Curve Data for a Jacket Pile at Boring B-3 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
23.8	19.0	61.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	18.38	30.64	45.96	55.15	61.28	42.90	42.90
24.8	20.0	48.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.53	24.22	36.33	43.59	48.44	48.44	--
25.8	21.0	51.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.29	25.48	38.22	45.87	50.96	50.96	--
26.8	22.0	53.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.05	26.74	40.11	48.14	53.48	53.48	--
27.8	23.0	56.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.80	28.00	42.01	50.41	56.01	56.01	--
28.8	24.0	58.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	17.56	29.27	43.90	52.68	58.53	58.53	--
29.8	25.0	61.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.32	30.53	45.79	54.95	61.05	61.05	--
30.8	26.0	63.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.07	31.79	47.68	57.22	63.58	63.58	--
31.8	27.0	66.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.83	33.05	49.57	59.49	66.10	66.10	--
32.8	28.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.8	29.0	82.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	24.85	41.41	62.11	74.54	82.82	57.97	57.97
34.8	30.0	84.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	25.27	42.12	63.17	75.81	84.23	58.96	58.96
35.8	31.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
36.8	32.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
37.8	33.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
38.8	34.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
39.8	35.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
40.8	36.0	100.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.14	50.23	75.34	90.41	100.46	70.32	70.32
41.8	37.0	105.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	31.55	52.59	78.88	94.66	105.18	73.62	73.62

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3A: t-z Curve Data for a Jacket Pile at Boring B-3 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
42.8	38.0	109.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.96	54.93	82.39	98.87	109.86	76.90	76.90
43.8	39.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
44.8	40.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
45.8	41.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
46.8	42.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.8	43.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.8	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.8	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.8	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
51.8	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
52.8	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
53.8	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
54.8	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
55.8	51.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
56.8	52.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
57.8	53.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
58.8	54.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
59.8	55.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3B: t-z Curve Data for a Jacket Pile at Boring B-6 (page 1 of 4)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
4.8	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
5.8	1.0	2.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.73	1.22	1.84	2.20	2.45	2.45	--
6.8	2.0	4.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.47	2.45	3.67	4.41	4.90	4.90	--
7.8	3.0	7.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.20	3.67	5.51	6.61	7.35	7.35	--
8.8	4.0	9.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.94	4.90	7.35	8.82	9.80	9.80	--
9.8	5.0	12.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.67	6.12	9.19	11.02	12.25	12.25	--
10.8	6.0	20.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	6.26	10.43	15.65	18.78	20.87	14.61	14.61
11.8	7.0	25.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	7.64	12.73	19.09	22.91	25.45	17.82	17.82
12.8	8.0	30.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	9.00	15.00	22.50	27.00	30.00	21.00	21.00
13.8	9.0	34.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	10.36	17.26	25.89	31.07	34.52	24.17	24.17
14.8	10.0	39.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	11.71	19.52	29.27	35.13	39.03	27.32	27.32
15.8	11.0	43.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	13.06	21.76	32.65	39.18	43.53	30.47	30.47
16.8	12.0	48.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	14.41	24.01	36.01	43.22	48.02	33.61	33.61
17.8	13.0	52.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.75	26.25	39.38	47.25	52.50	36.75	36.75
18.8	14.0	57.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	17.10	28.49	42.74	51.29	56.98	39.89	39.89
19.8	15.0	36.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.91	18.18	27.27	32.72	36.36	36.36	--
20.8	16.0	38.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.64	19.40	29.10	34.92	38.80	38.80	--
21.8	17.0	41.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	12.38	20.63	30.94	37.13	41.25	41.25	--
22.8	18.0	43.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.11	21.85	32.78	39.33	43.70	43.70	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3B: t-z Curve Data for a Jacket Pile at Boring B-6 (page 2 of 4)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
23.8	19.0	46.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.85	23.08	34.61	41.54	46.15	46.15	--
24.8	20.0	48.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.58	24.30	36.45	43.74	48.60	48.60	--
25.8	21.0	51.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.32	25.53	38.29	45.95	51.05	51.05	--
26.8	22.0	86.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	26.08	43.47	65.20	78.24	86.93	60.85	60.85
27.8	23.0	88.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	26.68	44.47	66.70	80.04	88.93	62.25	62.25
28.8	24.0	90.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.27	45.45	68.17	81.80	90.89	63.63	63.63
29.8	25.0	92.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.84	46.41	69.61	83.53	92.81	64.97	64.97
30.8	26.0	63.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.05	31.74	47.62	57.14	63.49	63.49	--
31.8	27.0	66.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.79	32.98	49.48	59.37	65.97	65.97	--
32.8	28.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.8	29.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
34.8	30.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
35.8	31.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
36.8	32.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
37.8	33.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
38.8	34.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
39.8	35.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
40.8	36.0	101.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.55	50.92	76.37	91.65	101.83	71.28	71.28
41.8	37.0	103.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.98	51.63	77.44	92.93	103.25	72.28	72.28

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3B: t-z Curve Data for a Jacket Pile at Boring B-6 (page 3 of 4)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
42.8	38.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
43.8	39.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
44.8	40.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
45.8	41.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
46.8	42.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.8	43.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.8	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.8	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.8	46.0	130.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	39.21	65.35	98.02	117.63	130.70	91.49	91.49
51.8	47.0	132.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	39.63	66.05	99.08	118.90	132.11	92.47	92.47
52.8	48.0	133.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	40.05	66.75	100.12	120.15	133.50	93.45	93.45
53.8	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
54.8	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
55.8	51.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
56.8	52.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
57.8	53.0	148.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	44.46	74.09	111.14	133.37	148.18	103.73	103.73
58.8	54.0	149.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	44.87	74.79	112.19	134.62	149.58	104.71	104.71
59.8	55.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
60.8	56.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3B: t-z Curve Data for a Jacket Pile at Boring B-6 (page 4 of 4)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points	1	2	3	4	5	6	7	8
61.8	57.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3C: t-z Curve Data for a Jacket Pile at Boring B-10 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
4.8	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
5.8	1.0	2.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.75	1.25	1.87	2.24	2.49	2.49	--
6.8	2.0	5.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.50	2.49	3.74	4.49	4.99	4.99	--
7.8	3.0	7.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.24	3.74	5.61	6.73	7.48	7.48	--
8.8	4.0	10.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.99	4.99	7.48	8.98	9.98	9.98	--
9.8	5.0	12.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.74	6.23	9.35	11.22	12.47	12.47	--
10.8	6.0	15.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.49	7.48	11.22	13.47	14.96	14.96	--
11.8	7.0	17.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.24	8.73	13.09	15.71	17.46	17.46	--
12.8	8.0	20.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.99	9.98	14.96	17.96	19.95	19.95	--
13.8	9.0	22.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.73	11.22	16.83	20.20	22.45	22.45	--
14.8	10.0	24.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.48	12.47	18.71	22.45	24.94	24.94	--
15.8	11.0	27.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.23	13.72	20.58	24.69	27.43	27.43	--
16.8	12.0	29.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.98	14.96	22.45	26.94	29.93	29.93	--
17.8	13.0	32.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.73	16.21	24.32	29.19	32.43	32.43	--
18.8	14.0	35.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.49	17.49	26.23	31.48	34.98	34.98	--
19.8	15.0	40.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	12.10	20.17	30.25	36.30	40.33	28.23	28.23
20.8	16.0	41.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	12.50	20.83	31.25	37.50	41.67	29.17	29.17
21.8	17.0	43.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	12.89	21.48	32.22	38.66	42.96	30.07	30.07
22.8	18.0	44.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	13.26	22.11	33.16	39.79	44.21	30.95	30.95

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3C: t-z Curve Data for a Jacket Pile at Boring B-10 (page 2 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
23.8	19.0	45.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	13.63	22.72	34.08	40.89	45.43	31.80	31.80
24.8	20.0	46.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	13.98	23.30	34.96	41.95	46.61	32.63	32.63
25.8	21.0	47.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	14.32	23.87	35.80	42.97	47.74	33.42	33.42
26.8	22.0	48.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	14.65	24.42	36.63	43.96	48.84	34.19	34.19
27.8	23.0	55.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	16.53	27.55	41.32	49.59	55.09	38.57	38.57
28.8	24.0	61.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	18.32	30.54	45.81	54.97	61.08	42.76	42.76
29.8	25.0	66.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	20.06	33.44	50.16	60.19	66.88	46.81	46.81
30.8	26.0	72.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	21.76	36.26	54.39	65.27	72.52	50.77	50.77
31.8	27.0	78.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	23.42	39.03	58.54	70.25	78.06	54.64	54.64
32.8	28.0	83.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	25.05	41.75	62.62	75.15	83.50	58.45	58.45
33.8	29.0	88.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	26.66	44.43	66.64	79.97	88.86	62.20	62.20
34.8	30.0	94.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.25	47.08	70.62	84.74	94.16	65.91	65.91
35.8	31.0	85.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	25.59	42.65	63.98	76.77	85.30	59.71	59.71
36.8	32.0	86.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	25.98	43.30	64.95	77.94	86.60	60.62	60.62
37.8	33.0	87.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	26.36	43.94	65.91	79.09	87.87	61.51	61.51
38.8	34.0	89.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	26.74	44.57	66.85	80.22	89.13	62.39	62.39
39.8	35.0	90.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.11	45.19	67.78	81.33	90.37	63.26	63.26
40.8	36.0	91.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.48	45.80	68.70	82.44	91.60	64.12	64.12
41.8	37.0	92.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.84	46.40	69.60	83.52	92.80	64.96	64.96

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3C: t-z Curve Data for a Jacket Pile at Boring B-10 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
42.8	38.0	94.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.20	47.00	70.50	84.60	94.00	65.80	65.80
43.8	39.0	95.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.55	47.59	71.38	85.66	95.17	66.62	66.62
44.8	40.0	96.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.90	48.17	72.25	86.70	96.34	67.43	67.43
45.8	41.0	97.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.25	48.74	73.11	87.74	97.48	68.24	68.24
46.8	42.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.8	43.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.8	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.8	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.8	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
51.8	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
52.8	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
53.8	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
54.8	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
55.8	51.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
56.8	52.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
57.8	53.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
58.8	54.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
59.8	55.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
60.8	56.0	156.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	46.87	78.12	117.18	140.62	156.24	109.37	109.37

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3D: t-z Curve Data for a Jacket Pile at Boring B-11/11A (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
4.8	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
5.8	1.0	2.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.75	1.25	1.88	2.25	2.51	2.51	--
6.8	2.0	5.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.50	2.51	3.76	4.51	5.01	5.01	--
7.8	3.0	7.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.25	3.76	5.64	6.76	7.52	7.52	--
8.8	4.0	10.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.01	5.01	7.52	9.02	10.02	10.02	--
9.8	5.0	12.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.76	6.26	9.40	11.27	12.53	12.53	--
10.8	6.0	15.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.51	7.52	11.27	13.53	15.03	15.03	--
11.8	7.0	17.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.26	8.77	13.15	15.78	17.54	17.54	--
12.8	8.0	20.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.01	10.02	15.03	18.04	20.04	20.04	--
13.8	9.0	22.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.76	11.27	16.91	20.29	22.55	22.55	--
14.8	10.0	25.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.52	12.53	18.79	22.55	25.06	25.06	--
15.8	11.0	51.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.31	25.51	38.26	45.92	51.02	35.71	35.71
16.8	12.0	52.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.64	26.07	39.10	46.92	52.13	36.49	36.49
17.8	13.0	32.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.75	16.26	24.38	29.26	32.51	32.51	--
18.8	14.0	35.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.49	17.49	26.23	31.47	34.97	34.97	--
19.8	15.0	37.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.23	18.72	28.07	33.69	37.43	37.43	--
20.8	16.0	39.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.97	19.95	29.92	35.90	39.89	39.89	--
21.8	17.0	42.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	12.71	21.18	31.76	38.12	42.35	42.35	--
22.8	18.0	32.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.73	16.22	24.33	29.20	32.44	32.44	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3D: t-z Curve Data for a Jacket Pile at Boring B-11/11A (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
23.8	19.0	34.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.26	17.10	25.66	30.79	34.21	34.21	--
24.8	20.0	36.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.79	17.99	26.98	32.38	35.97	35.97	--
25.8	21.0	37.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.32	18.87	28.30	33.96	37.74	37.74	--
26.8	22.0	54.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.37	27.28	40.91	49.10	54.55	54.55	--
27.8	23.0	57.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	17.10	28.49	42.74	51.29	56.99	56.99	--
28.8	24.0	59.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	17.83	29.71	44.57	53.48	59.43	59.43	--
29.8	25.0	61.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.56	30.93	46.40	55.68	61.86	61.86	--
30.8	26.0	64.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.29	32.15	48.23	57.87	64.30	64.30	--
31.8	27.0	66.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.02	33.37	50.05	60.06	66.74	66.74	--
32.8	28.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.8	29.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
34.8	30.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
35.8	31.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
36.8	32.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
37.8	33.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
38.8	34.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
39.8	35.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
40.8	36.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
41.8	37.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3D: t-z Curve Data for a Jacket Pile at Boring B-11/11A (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
42.8	38.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
43.8	39.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
44.8	40.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
45.8	41.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
46.8	42.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.8	43.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.8	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.8	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.8	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
51.8	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
52.8	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
53.8	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
54.8	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
55.8	51.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
56.8	52.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
57.8	53.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
58.8	54.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
59.8	55.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
60.8	56.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3E: t-z Curve Data for a Jacket Pile at Boring B-OSS (page 1 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
4.8	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
5.8	1.0	2.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.73	1.22	1.84	2.20	2.45	2.45	--
6.8	2.0	4.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.47	2.45	3.67	4.41	4.90	4.90	--
7.8	3.0	7.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.20	3.67	5.51	6.61	7.35	7.35	--
8.8	4.0	9.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.94	4.90	7.35	8.82	9.80	9.80	--
9.8	5.0	12.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.67	6.12	9.19	11.02	12.25	12.25	--
10.8	6.0	14.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.41	7.35	11.02	13.23	14.70	14.70	--
11.8	7.0	17.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.14	8.57	12.86	15.43	17.15	17.15	--
12.8	8.0	19.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.88	9.80	14.70	17.64	19.60	19.60	--
13.8	9.0	22.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.61	11.02	16.53	19.84	22.05	22.05	--
14.8	10.0	24.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.35	12.25	18.37	22.05	24.49	24.49	--
15.8	11.0	26.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.08	13.47	20.21	24.25	26.94	26.94	--
16.8	12.0	21.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.35	10.58	15.87	19.04	21.16	21.16	--
17.8	13.0	22.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.84	11.40	17.11	20.53	22.81	22.81	--
18.8	14.0	33.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.15	16.92	25.38	30.45	33.84	33.84	--
19.8	15.0	36.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.87	18.12	27.18	32.62	36.24	36.24	--
20.8	16.0	38.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.60	19.33	28.99	34.79	38.65	38.65	--
21.8	17.0	41.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	12.32	20.53	30.79	36.95	41.06	41.06	--
22.8	18.0	43.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.04	21.73	32.60	39.12	43.46	43.46	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3E: t-z Curve Data for a Jacket Pile at Boring B-OSS (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
23.8	19.0	45.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.76	22.94	34.41	41.29	45.88	45.88	--
24.8	20.0	48.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.51	24.18	36.27	43.52	48.36	48.36	--
25.8	21.0	50.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.25	25.42	38.13	45.75	50.84	50.84	--
26.8	22.0	53.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.99	26.66	39.99	47.98	53.31	53.31	--
27.8	23.0	55.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.74	27.90	41.84	50.21	55.79	55.79	--
28.8	24.0	58.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	17.48	29.14	43.70	52.44	58.27	58.27	--
29.8	25.0	60.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.22	30.37	45.56	54.67	60.75	60.75	--
30.8	26.0	63.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.97	31.61	47.42	56.90	63.23	63.23	--
31.8	27.0	65.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.71	32.85	49.28	59.14	65.71	65.71	--
32.8	28.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.8	29.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
34.8	30.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
35.8	31.0	94.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.21	47.01	70.52	84.62	94.03	65.82	65.82
36.8	32.0	95.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.66	47.77	71.65	85.98	95.54	66.88	66.88
37.8	33.0	97.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.11	48.51	72.77	87.32	97.02	67.92	67.92
38.8	34.0	98.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.55	49.24	73.87	88.64	98.49	68.94	68.94
39.8	35.0	99.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.98	49.97	74.95	89.94	99.93	69.95	69.95
40.8	36.0	101.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.41	50.68	76.02	91.22	101.36	70.95	70.95
41.8	37.0	102.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.82	51.37	77.05	92.47	102.74	71.92	71.92

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 3E: t-z Curve Data for a Jacket Pile at Boring B-OSS (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
42.8	38.0	104.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	31.22	52.04	78.06	93.67	104.08	72.85	72.85
43.8	39.0	105.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	31.62	52.70	79.05	94.85	105.39	73.78	73.78
44.8	40.0	106.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.01	53.35	80.02	96.03	106.70	74.69	74.69
45.8	41.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
46.8	42.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.8	43.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.8	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.8	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.8	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
51.8	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
52.8	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
53.8	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
54.8	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
55.8	51.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
56.8	52.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
57.8	53.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
58.8	54.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
59.8	55.0	149.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	44.92	74.87	112.30	134.76	149.74	104.82	104.82

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 4A: Q-z Curve Data for a Jacket Pile at Boring B-3 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points						
				1	2	3	4	5	6	7
4.8	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
5.8	1.0	59	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15	30	44	59	59	59
6.8	2.0	137	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	34	68	102	137	137	137
7.8	3.0	232	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	58	116	174	232	232	232
8.8	4.0	346	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	86	173	259	346	346	346
9.8	5.0	476	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	119	238	357	476	476	476
10.8	6.0	623	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	156	312	468	623	623	623
11.8	7.0	788	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	197	394	591	788	788	788
12.8	8.0	971	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	243	485	728	971	971	971
13.8	9.0	1170	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	293	585	878	1170	1170	1170
14.8	10.0	1388	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	347	694	1041	1388	1388	1388
15.8	11.0	1544	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	386	772	1158	1544	1544	1544
16.8	12.0	1865	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	466	932	1399	1865	1865	1865
17.8	13.0	2469	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	617	1234	1852	2469	2469	2469
18.8	14.0	2757	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	689	1379	2068	2757	2757	2757
19.8	15.0	3063	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	766	1532	2297	3063	3063	3063
20.8	16.0	3084	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	771	1542	2313	3084	3084	3084
21.8	17.0	3460	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	865	1730	2595	3460	3460	3460
22.8	18.0	3847	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	962	1924	2885	3847	3847	3847

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4A: Q-z Curve Data for a Jacket Pile at Boring B-3 (page 2 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
23.8	19.0	4245	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1061	2122	3184	4245	4245	4245
24.8	20.0	5191	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1298	2596	3893	5191	5191	5191
25.8	21.0	5603	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1401	2801	4202	5603	5603	5603
26.8	22.0	6033	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1508	3017	4525	6033	6033	6033
27.8	23.0	6481	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1620	3241	4861	6481	6481	6481
28.8	24.0	6948	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1737	3474	5211	6948	6948	6948
29.8	25.0	7433	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1858	3717	5575	7433	7433	7433
30.8	26.0	7937	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1984	3968	5953	7937	7937	7937
31.8	27.0	8458	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2115	4229	6344	8458	8458	8458
32.8	28.0	8795	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2199	4398	6597	8795	8795	8795
33.8	29.0	8462	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2115	4231	6346	8462	8462	8462
34.8	30.0	9069	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2267	4535	6802	9069	9069	9069
35.8	31.0	10611	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2653	5306	7958	10611	10611	10611
36.8	32.0	10827	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2707	5413	8120	10827	10827	10827
37.8	33.0	9252	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2313	4626	6939	9252	9252	9252
38.8	34.0	8947	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2237	4473	6710	8947	8947	8947
39.8	35.0	8947	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2237	4473	6710	8947	8947	8947
40.8	36.0	10246	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2561	5123	7684	10246	10246	10246
41.8	37.0	10879	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2720	5440	8159	10879	10879	10879

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4A: Q-z Curve Data for a Jacket Pile at Boring B-3 (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
42.8	38.0	11551	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2888	5775	8663	11551	11551	11551
43.8	39.0	12837	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3209	6418	9628	12837	12837	12837
44.8	40.0	13323	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3331	6662	9993	13323	13323	13323
45.8	41.0	13810	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3453	6905	10358	13810	13810	13810
46.8	42.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
47.8	43.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
48.8	44.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
49.8	45.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
50.8	46.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
51.8	47.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
52.8	48.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
53.8	49.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
54.8	50.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
55.8	51.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
56.8	52.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
57.8	53.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
58.8	54.0	13569	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3392	6784	10177	13569	13569	13569
59.8	55.0	12422	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3105	6211	9316	12422	12422	12422

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4B: Q-z Curve Data for a Jacket Pile at Boring B-6 (page 1 of 4)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
4.8	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
5.8	1.0	58	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15	29	44	58	58	58
6.8	2.0	134	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	34	67	101	134	134	134
7.8	3.0	228	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	57	114	171	228	228	228
8.8	4.0	340	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	85	170	255	340	340	340
9.8	5.0	469	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	117	234	352	469	469	469
10.8	6.0	511	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	128	256	384	511	511	511
11.8	7.0	723	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	181	361	542	723	723	723
12.8	8.0	967	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	242	483	725	967	967	967
13.8	9.0	1244	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	311	622	933	1244	1244	1244
14.8	10.0	1554	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	388	777	1165	1554	1554	1554
15.8	11.0	1897	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	474	948	1422	1897	1897	1897
16.8	12.0	2272	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	568	1136	1704	2272	2272	2272
17.8	13.0	2680	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	670	1340	2010	2680	2680	2680
18.8	14.0	3120	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	780	1560	2340	3120	3120	3120
19.8	15.0	3634	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	909	1817	2726	3634	3634	3634
20.8	16.0	3956	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	989	1978	2967	3956	3956	3956
21.8	17.0	4297	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1074	2148	3222	4297	4297	4297
22.8	18.0	4654	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1164	2327	3491	4654	4654	4654

Notes:

Q = mobilized tip resistance (kN)

z = localized pile tip deflection (cm)

Table 4B: Q-z Curve Data for a Jacket Pile at Boring B-6 (page 2 of 4)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
23.8	19.0	5030	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1257	2515	3772	5030	5030	5030
24.8	20.0	5423	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1356	2712	4068	5423	5423	5423
25.8	21.0	5835	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1459	2917	4376	5835	5835	5835
26.8	22.0	5946	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1487	2973	4460	5946	5946	5946
27.8	23.0	6430	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1607	3215	4822	6430	6430	6430
28.8	24.0	6924	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1731	3462	5193	6924	6924	6924
29.8	25.0	7429	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1857	3715	5572	7429	7429	7429
30.8	26.0	8471	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2118	4236	6354	8471	8471	8471
31.8	27.0	8991	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2248	4496	6744	8991	8991	8991
32.8	28.0	9526	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2381	4763	7144	9526	9526	9526
33.8	29.0	10061	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2515	5031	7546	10061	10061	10061
34.8	30.0	10579	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2645	5290	7934	10579	10579	10579
35.8	31.0	11066	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2766	5533	8299	11066	11066	11066
36.8	32.0	11374	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2844	5687	8531	11374	11374	11374
37.8	33.0	10876	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2719	5438	8157	10876	10876	10876
38.8	34.0	10876	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2719	5438	8157	10876	10876	10876
39.8	35.0	10876	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2719	5438	8157	10876	10876	10876
40.8	36.0	11147	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2787	5574	8361	11147	11147	11147
41.8	37.0	11893	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2973	5946	8920	11893	11893	11893

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4B: Q-z Curve Data for a Jacket Pile at Boring B-6 (page 3 of 4)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
42.8	38.0	13280	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3320	6640	9960	13280	13280	13280
43.8	39.0	13766	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3442	6883	10325	13766	13766	13766
44.8	40.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
45.8	41.0	13363	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3341	6681	10022	13363	13363	13363
46.8	42.0	12033	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3008	6016	9024	12033	12033	12033
47.8	43.0	10702	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2676	5351	8027	10702	10702	10702
48.8	44.0	10436	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2609	5218	7827	10436	10436	10436
49.8	45.0	10436	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2609	5218	7827	10436	10436	10436
50.8	46.0	11101	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2775	5551	8326	11101	11101	11101
51.8	47.0	12432	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3108	6216	9324	12432	12432	12432
52.8	48.0	13530	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3382	6765	10147	13530	13530	13530
53.8	49.0	12636	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3159	6318	9477	12636	12636	12636
54.8	50.0	12288	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3072	6144	9216	12288	12288	12288
55.8	51.0	12288	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3072	6144	9216	12288	12288	12288
56.8	52.0	12288	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3072	6144	9216	12288	12288	12288
57.8	53.0	12520	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3130	6260	9390	12520	12520	12520
58.8	54.0	13660	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3415	6830	10245	13660	13660	13660
59.8	55.0	13185	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3296	6592	9888	13185	13185	13185
60.8	56.0	12130	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3033	6065	9098	12130	12130	12130

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4B: Q-z Curve Data for a Jacket Pile at Boring B-6 (page 4 of 4)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
61.8	57.0	11076	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2769	5538	8307	11076	11076	11076

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4C: Q-z Curve Data for a Jacket Pile at Boring B-10 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
4.8	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
5.8	1.0	59	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15	30	44	59	59	59
6.8	2.0	137	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	34	68	102	137	137	137
7.8	3.0	232	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	58	116	174	232	232	232
8.8	4.0	346	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	86	173	259	346	346	346
9.8	5.0	477	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	119	239	358	477	477	477
10.8	6.0	627	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	157	314	470	627	627	627
11.8	7.0	795	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	199	398	596	795	795	795
12.8	8.0	981	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	245	491	736	981	981	981
13.8	9.0	1186	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	296	593	889	1186	1186	1186
14.8	10.0	1408	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	352	704	1056	1408	1408	1408
15.8	11.0	1648	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	412	824	1236	1648	1648	1648
16.8	12.0	1907	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	477	953	1430	1907	1907	1907
17.8	13.0	2184	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	546	1092	1638	2184	2184	2184
18.8	14.0	2480	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	620	1240	1860	2480	2480	2480
19.8	15.0	2117	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	529	1058	1588	2117	2117	2117
20.8	16.0	2117	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	529	1058	1588	2117	2117	2117
21.8	17.0	2117	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	529	1058	1588	2117	2117	2117
22.8	18.0	2159	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	540	1079	1619	2159	2159	2159

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4C: Q-z Curve Data for a Jacket Pile at Boring B-10 (page 2 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
23.8	19.0	2279	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	570	1139	1709	2279	2279	2279
24.8	20.0	2513	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	628	1257	1885	2513	2513	2513
25.8	21.0	2581	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	645	1291	1936	2581	2581	2581
26.8	22.0	2758	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	689	1379	2068	2758	2758	2758
27.8	23.0	3185	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	796	1592	2389	3185	3185	3185
28.8	24.0	3657	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	914	1828	2742	3657	3657	3657
29.8	25.0	4171	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1043	2085	3128	4171	4171	4171
30.8	26.0	4417	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1104	2208	3313	4417	4417	4417
31.8	27.0	4464	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1116	2232	3348	4464	4464	4464
32.8	28.0	4512	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1128	2256	3384	4512	4512	4512
33.8	29.0	4559	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1140	2279	3419	4559	4559	4559
34.8	30.0	4606	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1152	2303	3455	4606	4606	4606
35.8	31.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
36.8	32.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
37.8	33.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
38.8	34.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
39.8	35.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
40.8	36.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
41.8	37.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4C: Q-z Curve Data for a Jacket Pile at Boring B-10 (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
42.8	38.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
43.8	39.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
44.8	40.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
45.8	41.0	4484	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1121	2242	3363	4484	4484	4484
46.8	42.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
47.8	43.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
48.8	44.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
49.8	45.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
50.8	46.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
51.8	47.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
52.8	48.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
53.8	49.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
54.8	50.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
55.8	51.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
56.8	52.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
57.8	53.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
58.8	54.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
59.8	55.0	5444	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1361	2722	4083	5444	5444	5444
60.8	56.0	4894	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1224	2447	3671	4894	4894	4894

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4D: Q-z Curve Data for a Jacket Pile at Boring B-11/11A (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points						
				1	2	3	4	5	6	7
4.8	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
5.8	1.0	60	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15	30	45	60	60	60
6.8	2.0	137	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	34	69	103	137	137	137
7.8	3.0	233	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	58	117	175	233	233	233
8.8	4.0	347	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	87	174	261	347	347	347
9.8	5.0	480	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	120	240	360	480	480	480
10.8	6.0	630	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	158	315	473	630	630	630
11.8	7.0	799	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	200	399	599	799	799	799
12.8	8.0	986	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	246	493	739	986	986	986
13.8	9.0	1191	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	298	595	893	1191	1191	1191
14.8	10.0	1414	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	354	707	1061	1414	1414	1414
15.8	11.0	1625	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	406	813	1219	1625	1625	1625
16.8	12.0	1940	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	485	970	1455	1940	1940	1940
17.8	13.0	2451	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	613	1226	1838	2451	2451	2451
18.8	14.0	2746	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	686	1373	2059	2746	2746	2746
19.8	15.0	3058	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	765	1529	2294	3058	3058	3058
20.8	16.0	3389	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	847	1694	2541	3389	3389	3389
21.8	17.0	3737	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	934	1868	2803	3737	3737	3737
22.8	18.0	3781	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	945	1890	2836	3781	3781	3781

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4D: Q-z Curve Data for a Jacket Pile at Boring B-11/11A (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
23.8	19.0	4056	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1014	2028	3042	4056	4056	4056
24.8	20.0	4343	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1086	2172	3257	4343	4343	4343
25.8	21.0	4644	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1161	2322	3483	4644	4644	4644
26.8	22.0	5424	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1356	2712	4068	5424	5424	5424
27.8	23.0	5878	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1469	2939	4408	5878	5878	5878
28.8	24.0	6350	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1587	3175	4762	6350	6350	6350
29.8	25.0	6839	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1710	3420	5129	6839	6839	6839
30.8	26.0	7346	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1837	3673	5510	7346	7346	7346
31.8	27.0	7871	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1968	3936	5903	7871	7871	7871
32.8	28.0	8406	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2102	4203	6305	8406	8406	8406
33.8	29.0	8941	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2235	4470	6706	8941	8941	8941
34.8	30.0	9445	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2361	4723	7084	9445	9445	9445
35.8	31.0	9932	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2483	4966	7449	9932	9932	9932
36.8	32.0	10418	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2605	5209	7814	10418	10418	10418
37.8	33.0	10905	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2726	5453	8179	10905	10905	10905
38.8	34.0	11392	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2848	5696	8544	11392	11392	11392
39.8	35.0	11878	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2970	5939	8909	11878	11878	11878
40.8	36.0	12365	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3091	6182	9274	12365	12365	12365
41.8	37.0	12852	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3213	6426	9639	12852	12852	12852

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4D: Q-z Curve Data for a Jacket Pile at Boring B-11/11A (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
42.8	38.0	13338	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3335	6669	10004	13338	13338	13338
43.8	39.0	13825	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3456	6912	10369	13825	13825	13825
44.8	40.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
45.8	41.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
46.8	42.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
47.8	43.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
48.8	44.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
49.8	45.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
50.8	46.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
51.8	47.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
52.8	48.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
53.8	49.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
54.8	50.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
55.8	51.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
56.8	52.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
57.8	53.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
58.8	54.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
59.8	55.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
60.8	56.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4E: Q-z Curve Data for a Jacket Pile at Boring B-OSS (page 1 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
4.8	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
5.8	1.0	58	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15	29	44	58	58	58
6.8	2.0	134	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	34	67	101	134	134	134
7.8	3.0	228	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	57	114	171	228	228	228
8.8	4.0	340	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	85	170	255	340	340	340
9.8	5.0	469	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	117	234	352	469	469	469
10.8	6.0	616	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	154	308	462	616	616	616
11.8	7.0	781	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	195	391	586	781	781	781
12.8	8.0	964	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	241	482	723	964	964	964
13.8	9.0	1164	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	291	582	873	1164	1164	1164
14.8	10.0	1383	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	346	691	1037	1383	1383	1383
15.8	11.0	1619	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	405	809	1214	1619	1619	1619
16.8	12.0	1620	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	405	810	1215	1620	1620	1620
17.8	13.0	1810	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	452	905	1357	1810	1810	1810
18.8	14.0	2269	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	567	1135	1702	2269	2269	2269
19.8	15.0	2572	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	643	1286	1929	2572	2572	2572
20.8	16.0	2893	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	723	1446	2170	2893	2893	2893
21.8	17.0	3231	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	808	1615	2423	3231	3231	3231
22.8	18.0	3586	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	897	1793	2690	3586	3586	3586

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4E: Q-z Curve Data for a Jacket Pile at Boring B-OSS (page 2 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
23.8	19.0	3959	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	990	1980	2969	3959	3959	3959
24.8	20.0	4351	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1088	2176	3263	4351	4351	4351
25.8	21.0	4761	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1190	2381	3571	4761	4761	4761
26.8	22.0	5190	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1297	2595	3892	5190	5190	5190
27.8	23.0	5636	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1409	2818	4227	5636	5636	5636
28.8	24.0	6100	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1525	3050	4575	6100	6100	6100
29.8	25.0	6582	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1645	3291	4936	6582	6582	6582
30.8	26.0	7082	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1771	3541	5312	7082	7082	7082
31.8	27.0	7600	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1900	3800	5700	7600	7600	7600
32.8	28.0	8134	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2033	4067	6100	8134	8134	8134
33.8	29.0	8341	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2085	4170	6255	8341	8341	8341
34.8	30.0	6707	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1677	3353	5030	6707	6707	6707
35.8	31.0	5708	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1427	2854	4281	5708	5708	5708
36.8	32.0	5708	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1427	2854	4281	5708	5708	5708
37.8	33.0	5708	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1427	2854	4281	5708	5708	5708
38.8	34.0	5708	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1427	2854	4281	5708	5708	5708
39.8	35.0	5708	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1427	2854	4281	5708	5708	5708
40.8	36.0	6873	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1718	3437	5155	6873	6873	6873
41.8	37.0	8080	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2020	4040	6060	8080	8080	8080

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 4E: Q-z Curve Data for a Jacket Pile at Boring B-OSS (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
42.8	38.0	8770	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2192	4385	6577	8770	8770	8770
43.8	39.0	9468	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2367	4734	7101	9468	9468	9468
44.8	40.0	10175	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2544	5088	7631	10175	10175	10175
45.8	41.0	11557	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2889	5778	8668	11557	11557	11557
46.8	42.0	12044	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3011	6022	9033	12044	12044	12044
47.8	43.0	12530	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3133	6265	9398	12530	12530	12530
48.8	44.0	13017	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3254	6508	9763	13017	13017	13017
49.8	45.0	13504	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3376	6752	10128	13504	13504	13504
50.8	46.0	13990	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3498	6995	10493	13990	13990	13990
51.8	47.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
52.8	48.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
53.8	49.0	14028	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3507	7014	10521	14028	14028	14028
54.8	50.0	13559	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3390	6779	10169	13559	13559	13559
55.8	51.0	12386	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3096	6193	9289	12386	12386	12386
56.8	52.0	11213	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2803	5606	8409	11213	11213	11213
57.8	53.0	10039	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2510	5020	7530	10039	10039	10039
58.8	54.0	8866	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2217	4433	6650	8866	8866	8866
59.8	55.0	8163	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2041	4081	6122	8163	8163	8163

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 5A: Static p-y Curve Data for a Jacket Pile at Boring B-3 (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	1.9	2.2	2.4	2.7	2.9	3.2	3.4	3.6	3.9
		p	0	47	92	130	161	185	203	216	225	231	236	239	241	242	243	244	244
6.8	2.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.7	4.0	4.3
		p	0	105	202	286	354	407	446	475	495	509	519	525	530	533	535	537	538
7.8	3.0	y	0	0.3	0.6	0.8	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.9	4.2	4.4
		p	0	162	313	443	549	631	693	737	768	790	805	816	823	828	831	833	835
8.8	4.0	y	0	0.3	0.5	0.8	1.1	1.4	1.6	1.9	2.2	2.4	2.7	3.0	3.3	3.5	3.8	4.1	4.3
		p	0	212	409	579	717	824	904	962	1003	1031	1051	1065	1074	1080	1084	1087	1089
9.8	5.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	243	469	664	823	945	1037	1103	1150	1183	1206	1221	1232	1239	1244	1247	1250
10.8	6.0	y	0	0.2	0.4	0.6	0.8	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.8	3.0	3.2	3.4
		p	0	248	478	678	840	965	1059	1126	1174	1208	1231	1247	1257	1265	1270	1273	1275
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.3
		p	0	280	539	763	946	1087	1193	1269	1323	1361	1387	1404	1417	1425	1431	1434	1437
12.8	8.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.4	3.6
		p	0	351	676	958	1187	1364	1496	1592	1660	1707	1740	1762	1777	1788	1795	1800	1803
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.7	3.9
		p	0	430	829	1174	1454	1672	1834	1951	2034	2092	2132	2159	2178	2191	2199	2205	2209
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.4	3.7	4.0	4.2
		p	0	517	996	1411	1748	2010	2204	2345	2445	2515	2563	2596	2619	2634	2644	2651	2656
15.8	11.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	149	223	297	371	446	520	594	668	743	817	891	966	1040	1114	1114
16.8	12.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	77	154	231	308	385	462	539	616	693	770	847	924	1000	1077	1154	1154

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5A: Static p-y Curve Data for a Jacket Pile at Boring B-3 (page 2 of 5)

Depth Below Mudline	Depth Below Scour Pit	Static p-y Curve Points																	
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.3	0.6	0.9	1.1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.3	4.6
		p	0	724	1395	1976	2448	2814	3087	3284	3424	3522	3589	3635	3667	3688	3703	3713	3719
18.8	14.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.1	3.4	3.7	4.0	4.3	4.6	4.9
		p	0	836	1611	2282	2828	3251	3566	3793	3955	4068	4146	4199	4235	4260	4277	4288	4296
19.8	15.0	y	0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.2	4.6	4.9	5.2
		p	0	956	1843	2610	3235	3718	4079	4339	4524	4653	4742	4803	4845	4873	4892	4905	4914
20.8	16.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	103	206	309	412	515	618	721	824	927	1031	1134	1237	1340	1443	1546	1546
21.8	17.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	106	212	318	424	530	636	742	848	954	1060	1166	1272	1378	1483	1589	1589
22.8	18.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	109	218	327	435	544	653	762	871	980	1089	1198	1306	1415	1524	1633	1633
23.8	19.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	112	224	335	447	559	671	782	894	1006	1118	1230	1341	1453	1565	1677	1677
24.8	20.0	y	0	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.0	4.3	4.7	5.0	5.4	5.7
		p	0	1404	2707	3834	4751	5461	5990	6373	6644	6834	6965	7054	7116	7157	7185	7205	7218
25.8	21.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.0	3.4	3.8	4.2	4.6	4.9	5.3	5.7	6.1
		p	0	1561	3009	4261	5281	6070	6658	7084	7385	7596	7741	7841	7909	7955	7987	8008	8022
26.8	22.0	y	0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4
		p	0	1726	3327	4711	5838	6711	7361	7832	8165	8398	8558	8669	8744	8795	8830	8853	8869
27.8	23.0	y	0	0.4	0.8	1.3	1.7	2.1	2.5	3.0	3.4	3.8	4.2	4.6	5.1	5.5	5.9	6.3	6.8
		p	0	1899	3660	5184	6424	7384	8099	8617	8984	9240	9417	9538	9621	9677	9715	9741	9759
28.8	24.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.7	7.1
		p	0	2080	4010	5679	7037	8089	8873	9440	9842	10122	10316	10449	10540	10601	10643	10672	10691

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5A: Static p-y Curve Data for a Jacket Pile at Boring B-3 (page 3 of 5)

Depth Below Mudline	Depth Below Scour Pit	Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.6	5.1	5.6	6.0	6.5	7.0	7.4
		p	0	2270	4375	6196	7679	8826	9681	10300	10739	11045	11256	11401	11500	11568	11613	11644	11665
30.8	26.0	y	0	0.5	1.0	1.5	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.3	5.8	6.3	6.8	7.3	7.8
		p	0	2468	4757	6737	8348	9596	10525	11198	11675	12008	12238	12395	12503	12576	12626	12659	12682
31.8	27.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1
		p	0	2674	5154	7299	9045	10397	11405	12134	12650	13011	13260	13431	13547	13626	13680	13717	13741
32.8	28.0	y	0	0.5	1.1	1.6	2.1	2.6	3.2	3.7	4.2	4.7	5.3	5.8	6.3	6.9	7.4	7.9	8.4
		p	0	2888	5567	7885	9770	11231	12319	13106	13664	14054	14323	14507	14633	14719	14777	14816	14843
33.8	29.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	164	328	491	655	819	983	1147	1311	1474	1638	1802	1966	2130	2294	2457	2457
34.8	30.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	164	328	491	655	819	983	1147	1311	1474	1638	1802	1966	2130	2294	2457	2457
35.8	31.0	y	0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.1	5.7	6.3	6.9	7.4	8.0	8.6	9.1
		p	0	3463	6676	9455	11716	13467	14772	15716	16385	16852	17175	17396	17547	17650	17720	17767	17799
36.8	32.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	3701	7135	10104	12521	14393	15787	16796	17511	18011	18355	18592	18753	18863	18937	18988	19022
37.8	33.0	y	0	0.6	1.2	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.3	8.0	8.6	9.2	9.8
		p	0	3947	7609	10776	13353	15349	16836	17912	18675	19207	19575	19827	19999	20116	20196	20249	20286
38.8	34.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	8.2	8.8	9.5	10.1
		p	0	4201	8098	11468	14212	16336	17919	19064	19876	20442	20833	21102	21285	21410	21494	21551	21590
39.8	35.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.8	10.4
		p	0	4463	8602	12183	15097	17354	19035	20251	21113	21715	22131	22416	22611	22743	22833	22894	22935
40.8	36.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	195	390	585	780	975	1170	1365	1560	1754	1949	2144	2339	2534	2729	2924	2924

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5A: Static p-y Curve Data for a Jacket Pile at Boring B-3 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	208	416	625	833	1041	1249	1457	1666	1874	2082	2290	2499	2707	2915	3123	3123
42.8	38.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	221	443	664	886	1107	1329	1550	1772	1993	2215	2436	2658	2879	3101	3322	3322
43.8	39.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	6.9	7.6	8.3	9.0	9.7	10.4	11.1
		p	0	5298	10212	14462	17921	20599	22595	24039	25063	25777	26271	26609	26840	26997	27104	27176	27225
44.8	40.0	y	0	0.7	1.4	2.1	2.9	3.6	4.3	5.0	5.7	6.4	7.2	7.9	8.6	9.3	10.0	10.7	11.4
		p	0	5591	10778	15263	18914	21741	23848	25372	26452	27206	27727	28084	28328	28494	28606	28682	28734
45.8	41.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.9	6.6	7.4	8.1	8.8	9.6	10.3	11.0	11.8
		p	0	5893	11360	16088	19936	22916	25136	26743	27881	28676	29225	29601	29858	30033	30152	30232	30286
46.8	42.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.6	8.3	9.1	9.8	10.6	11.3	12.1
		p	0	6208	11967	16947	21001	24140	26478	28171	29370	30207	30786	31182	31453	31637	31762	31846	31904
47.8	43.0	y	0	0.8	1.6	2.3	3.1	3.9	4.7	5.4	6.2	7.0	7.8	8.5	9.3	10.1	10.9	11.7	12.4
		p	0	6531	12589	17828	22093	25395	27855	29636	30898	31778	32387	32804	33089	33282	33414	33503	33563
48.8	44.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8
		p	0	6862	13227	18732	23213	26682	29267	31138	32464	33389	34028	34467	34766	34969	35107	35201	35264
49.8	45.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.5	7.4	8.2	9.0	9.8	10.6	11.5	12.3	13.1
		p	0	7201	13881	19658	24360	28001	30714	32677	34068	35040	35710	36171	36484	36698	36843	36941	37007
50.8	46.0	y	0	0.8	1.7	2.5	3.4	4.2	5.0	5.9	6.7	7.6	8.4	9.2	10.1	10.9	11.8	12.6	13.4
		p	0	7549	14550	20606	25535	29352	32196	34254	35712	36730	37433	37915	38244	38468	38620	38723	38793
51.8	47.0	y	0	0.9	1.7	2.6	3.4	4.3	5.2	6.0	6.9	7.7	8.6	9.5	10.3	11.2	12.0	12.9	13.8
		p	0	7904	15236	21577	26738	30735	33712	35867	37394	38460	39196	39701	40046	40280	40439	40547	40620
52.8	48.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.0	13.9
		p	0	8158	15726	22271	27598	31723	34797	37021	38597	39697	40457	40978	41334	41576	41740	41851	41927

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5A: Static p-y Curve Data for a Jacket Pile at Boring B-3 (page 5 of 5)

Depth Below Mudline	Depth Below Scour Pit	Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.0	13.9
		p	0	8332	16060	22744	28185	32397	35536	37808	39417	40541	41317	41849	42212	42459	42627	42741	42817
54.8	50.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	8505	16394	23217	28771	33072	36275	38594	40237	41384	42176	42720	43091	43343	43514	43630	43708
55.8	51.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	8679	16728	23691	29357	33746	37015	39381	41057	42228	43036	43591	43969	44226	44401	44519	44599

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5B: Static p-y Curve Data for a Jacket Pile at Boring B-6 (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.6	2.9	3.1	3.4	3.6	3.8
		p	0	47	90	128	159	183	200	213	222	228	233	236	238	239	240	241	241
6.8	2.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.4	3.7	4.0	4.2
		p	0	103	199	282	350	402	441	469	489	503	513	519	524	527	529	530	531
7.8	3.0	y	0	0.3	0.5	0.8	1.1	1.4	1.6	1.9	2.2	2.5	2.7	3.0	3.3	3.6	3.8	4.1	4.4
		p	0	161	309	438	543	624	685	728	759	781	796	806	813	818	821	823	825
8.8	4.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.8	4.0	4.3
		p	0	209	404	572	709	815	893	951	991	1019	1039	1052	1061	1068	1072	1075	1077
9.8	5.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	27	54	81	108	135	163	190	217	244	271	298	325	352	379	406	406
10.8	6.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	37	75	112	149	187	224	261	299	336	373	411	448	486	523	560	560
11.8	7.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	48	96	145	193	241	289	338	386	434	482	531	579	627	675	724	724
12.8	8.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	60	120	179	239	299	359	418	478	538	598	657	717	777	837	897	897
13.8	9.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	72	144	216	288	360	432	504	576	647	719	791	863	935	1007	1079	1079
14.8	10.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	85	170	254	339	424	509	593	678	763	848	932	1017	1102	1187	1271	1271
15.8	11.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	98	196	295	393	491	589	687	786	884	982	1080	1178	1277	1375	1473	1473
16.8	12.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	112	225	337	449	561	674	786	898	1011	1123	1235	1347	1460	1572	1684	1684

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5B: Static p-y Curve Data for a Jacket Pile at Boring B-6 (page 2 of 5)

Depth Below Mudline	Depth Below Scour Pit		Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	127	254	381	508	635	762	889	1016	1143	1270	1397	1524	1651	1778	1905	1905
18.8	14.0	y	0	0.0	0.2	0.8	1.9	3.6	6.2	9.9	14.8	21.1	28.9	38.5	50.0	63.5	79.4	97.6	103.7
		p	0	142	285	427	569	712	854	997	1139	1281	1424	1566	1708	1851	1993	2135	2135
19.8	15.0	y	0	0.3	0.7	1.0	1.3	1.7	2.0	2.3	2.7	3.0	3.3	3.7	4.0	4.3	4.7	5.0	5.4
		p	0	654	1260	1785	2212	2542	2788	2967	3093	3181	3242	3284	3312	3332	3345	3354	3360
20.8	16.0	y	0	0.4	0.7	1.1	1.4	1.8	2.1	2.5	2.9	3.2	3.6	3.9	4.3	4.7	5.0	5.4	5.7
		p	0	747	1440	2039	2527	2904	3186	3389	3533	3634	3704	3751	3784	3806	3821	3831	3838
21.8	17.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.0	5.3	5.7	6.1
		p	0	846	1631	2310	2862	3290	3609	3840	4003	4117	4196	4250	4287	4312	4329	4341	4349
22.8	18.0	y	0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5
		p	0	952	1834	2598	3219	3701	4059	4319	4502	4631	4719	4780	4822	4850	4869	4882	4891
23.8	19.0	y	0	0.4	0.9	1.3	1.7	2.1	2.6	3.0	3.4	3.9	4.3	4.7	5.2	5.6	6.0	6.4	6.9
		p	0	1063	2050	2903	3597	4135	4536	4825	5031	5174	5273	5341	5388	5419	5441	5455	5465
24.8	20.0	y	0	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.3
		p	0	1181	2277	3225	3996	4593	5038	5360	5589	5748	5858	5933	5985	6020	6044	6060	6071
25.8	21.0	y	0	0.5	1.0	1.4	1.9	2.4	2.9	3.3	3.8	4.3	4.8	5.2	5.7	6.2	6.7	7.2	7.6
		p	0	1305	2516	3563	4416	5076	5568	5924	6176	6352	6473	6557	6614	6652	6679	6696	6708
26.8	22.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	7.3	10.2	13.2	13.9
		p	0	1204	1703	1984	2166	2291	2374	2425	2451	2454	2440	2408	2363	1704	1045	385	385
27.8	23.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	7.3	10.2	13.2	13.9
		p	0	1204	1703	1984	2166	2291	2374	2425	2451	2454	2440	2408	2363	1704	1045	385	385
28.8	24.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	7.3	10.2	13.2	13.9
		p	0	1204	1703	1984	2166	2291	2374	2425	2451	2454	2440	2408	2363	1704	1045	385	385

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5B: Static p-y Curve Data for a Jacket Pile at Boring B-6 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	7.3	10.2	13.2	13.9
		p	0	1204	1703	1984	2166	2291	2374	2425	2451	2454	2440	2408	2363	1704	1045	385	385
30.8	26.0	y	0	0.4	0.9	1.3	1.7	2.1	2.6	3.0	3.4	3.8	4.3	4.7	5.1	5.5	6.0	6.4	6.8
		p	0	2166	4176	5914	7328	8423	9240	9830	10249	10541	10743	10881	10975	11040	11083	11113	11133
31.8	27.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	7.2
		p	0	2359	4548	6441	7981	9175	10063	10707	11162	11481	11700	11851	11954	12024	12071	12104	12125
32.8	28.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.5	7.0	7.5
		p	0	2561	4936	6990	8662	9957	10922	11620	12115	12460	12699	12862	12974	13050	13101	13136	13160
33.8	29.0	y	0	0.5	1.0	1.5	2.0	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.8	7.3	7.8
		p	0	2770	5340	7562	9371	10772	11815	12571	13106	13479	13737	13914	14035	14117	14173	14211	14236
34.8	30.0	y	0	0.5	1.0	1.5	2.0	2.5	3.1	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.2
		p	0	2988	5759	8156	10107	11618	12744	13558	14135	14538	14817	15008	15138	15226	15287	15327	15355
35.8	31.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.7	4.2	4.8	5.3	5.8	6.4	6.9	7.4	8.0	8.5
		p	0	3214	6195	8773	10871	12496	13707	14583	15204	15637	15936	16142	16282	16377	16442	16486	16515
36.8	32.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.5	6.1	6.6	7.2	7.7	8.3	8.8
		p	0	3448	6646	9411	11663	13406	14705	15645	16311	16776	17097	17317	17467	17570	17639	17686	17718
37.8	33.0	y	0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.1	5.7	6.3	6.9	7.4	8.0	8.6	9.2
		p	0	3690	7112	10072	12482	14347	15737	16743	17456	17954	18297	18533	18694	18803	18878	18928	18962
38.8	34.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	3940	7595	10756	13328	15321	16805	17879	18640	19172	19539	19790	19962	20079	20158	20212	20248
39.8	35.0	y	0	0.6	1.2	1.8	2.5	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.4	8.0	8.6	9.2	9.8
		p	0	4199	8093	11461	14203	16326	17907	19052	19863	20429	20820	21089	21272	21396	21481	21538	21577
40.8	36.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	200	399	599	798	998	1197	1397	1596	1796	1995	2195	2395	2594	2794	2993	2993

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5B: Static p-y Curve Data for a Jacket Pile at Boring B-6 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	200	399	599	798	998	1197	1397	1596	1796	1995	2195	2395	2594	2794	2993	2993
42.8	38.0	y	0	0.7	1.4	2.1	2.8	3.4	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.6	10.3	11.0
		p	0	5115	9858	13962	17301	19887	21814	23208	24196	24886	25362	25689	25912	26064	26167	26236	26283
43.8	39.0	y	0	0.7	1.4	2.1	2.8	3.5	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.2	9.9	10.6	11.3
		p	0	5408	10424	14763	18294	21029	23066	24540	25585	26314	26818	27164	27399	27560	27669	27742	27792
44.8	40.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.8	6.6	7.3	8.0	8.8	9.5	10.2	11.0	11.7
		p	0	5710	11006	15587	19315	22202	24353	25909	27012	27782	28314	28679	28928	29097	29212	29290	29343
45.8	41.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	6020	11603	16432	20363	23407	25674	27316	28478	29290	29851	30236	30498	30676	30798	30880	30935
46.8	42.0	y	0	0.8	1.5	2.3	3.1	3.9	4.6	5.4	6.2	6.9	7.7	8.5	9.3	10.0	10.8	11.6	12.4
		p	0	6338	12216	17301	21439	24644	27031	28759	29983	30838	31428	31833	32109	32297	32425	32511	32570
47.8	43.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.1	11.9	12.7
		p	0	6664	12845	18191	22542	25912	28422	30239	31526	32425	33046	33472	33762	33960	34094	34185	34246
48.8	44.0	y	0	0.8	1.6	2.4	3.3	4.1	4.9	5.7	6.5	7.3	8.1	8.9	9.8	10.6	11.4	12.2	13.0
		p	0	6998	13490	19104	23673	27212	29848	31756	33108	34052	34704	35151	35456	35664	35804	35900	35964
49.8	45.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3	9.2	10.0	10.8	11.7	12.5	13.4
		p	0	7341	14150	20039	24832	28544	31309	33311	34729	35719	36403	36872	37192	37409	37557	37657	37725
50.8	46.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	257	513	770	1027	1283	1540	1796	2053	2310	2566	2823	3080	3336	3593	3850	3850
51.8	47.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	257	513	770	1027	1283	1540	1796	2053	2310	2566	2823	3080	3336	3593	3850	3850
52.8	48.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	257	513	770	1027	1283	1540	1796	2053	2310	2566	2823	3080	3336	3593	3850	3850

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5B: Static p-y Curve Data for a Jacket Pile at Boring B-6 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8408	16207	22953	28443	32695	35862	38154	39778	40912	41696	42233	42599	42849	43018	43132	43210
54.8	50.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8582	16541	23426	29029	33369	36601	38941	40599	41756	42555	43104	43478	43732	43905	44022	44101
55.8	51.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8755	16876	23899	29616	34043	37341	39727	41419	42599	43415	43974	44356	44616	44792	44911	44992

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5C: Static p-y Curve Data for a Jacket Pile at Boring B-10 (page 1 of 5)

Depth Below Mudline	Depth Below Scour Pit		Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	1.9	2.2	2.4	2.7	2.9	3.2	3.4	3.6	3.9
		p	0	47	92	130	161	185	203	216	225	231	236	239	241	242	243	244	244
6.8	2.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.7	4.0	4.3
		p	0	105	202	286	354	407	446	475	495	509	519	525	530	533	535	537	538
7.8	3.0	y	0	0.3	0.6	0.8	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.9	4.2	4.4
		p	0	162	313	443	549	631	693	737	768	790	805	816	823	828	831	833	835
8.8	4.0	y	0	0.3	0.5	0.8	1.1	1.4	1.6	1.9	2.2	2.4	2.7	3.0	3.3	3.5	3.8	4.1	4.3
		p	0	212	409	579	717	824	904	962	1003	1031	1051	1065	1074	1080	1084	1087	1089
9.8	5.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	244	471	667	827	950	1042	1109	1156	1189	1212	1227	1238	1245	1250	1253	1256
10.8	6.0	y	0	0.2	0.4	0.6	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.4	2.6	2.8	3.0	3.2	3.4
		p	0	251	483	684	848	975	1069	1137	1186	1220	1243	1259	1270	1277	1282	1286	1288
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3
		p	0	283	546	774	959	1102	1209	1286	1341	1379	1405	1424	1436	1444	1450	1454	1457
12.8	8.0	y	0	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.1	2.3	2.5	2.7	3.0	3.2	3.4	3.6
		p	0	357	687	973	1206	1386	1521	1618	1687	1735	1768	1791	1807	1817	1824	1829	1832
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	438	844	1195	1481	1703	1868	1987	2072	2131	2171	2199	2218	2231	2240	2246	2250
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.2	2.4	2.7	3.0	3.2	3.5	3.8	4.0	4.3
		p	0	527	1016	1440	1784	2051	2249	2393	2495	2566	2615	2649	2672	2687	2698	2705	2710
15.8	11.0	y	0	0.3	0.6	0.9	1.2	1.5	1.7	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.7
		p	0	625	1205	1706	2114	2430	2666	2836	2957	3041	3099	3139	3166	3185	3198	3206	3212
16.8	12.0	y	0	0.3	0.6	0.9	1.2	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.4	4.7	5.0
		p	0	731	1409	1995	2472	2842	3117	3316	3457	3556	3624	3671	3702	3724	3739	3749	3756

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5C: Static p-y Curve Data for a Jacket Pile at Boring B-10 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.3	0.7	1.0	1.3	1.7	2.0	2.3	2.7	3.0	3.3	3.7	4.0	4.3	4.7	5.0	5.3
		p	0	845	1629	2306	2858	3285	3604	3834	3997	4111	4190	4244	4281	4306	4323	4334	4342
18.8	14.0	y	0	0.4	0.7	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5	3.9	4.2	4.6	5.0	5.3	5.7
		p	0	969	1867	2644	3277	3766	4131	4395	4583	4713	4803	4865	4908	4936	4956	4969	4978
19.8	15.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
20.8	16.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
21.8	17.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
22.8	18.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
23.8	19.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
24.8	20.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
25.8	21.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
26.8	22.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	74	147	221	295	368	442	515	589	663	736	810	884	957	1031	1105	1105
27.8	23.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	90	180	269	359	449	539	628	718	808	898	988	1077	1167	1257	1347	1347
28.8	24.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	106	212	318	424	530	635	741	847	953	1059	1165	1271	1377	1483	1589	1589

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5C: Static p-y Curve Data for a Jacket Pile at Boring B-10 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	122	244	366	488	610	732	854	976	1098	1220	1343	1465	1587	1709	1831	1831
30.8	26.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	138	276	415	553	691	829	967	1105	1244	1382	1520	1658	1796	1935	2073	2073
31.8	27.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	154	309	463	617	772	926	1080	1235	1389	1543	1698	1852	2006	2161	2315	2315
32.8	28.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	170	341	511	682	852	1023	1193	1364	1534	1705	1875	2046	2216	2386	2557	2557
33.8	29.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	187	373	560	746	933	1120	1306	1493	1679	1866	2053	2239	2426	2612	2799	2799
34.8	30.0	y	0	0.0	0.1	0.4	0.9	1.8	3.1	5.0	7.4	10.5	14.5	19.2	25.0	31.8	39.7	48.8	51.9
		p	0	203	405	608	811	1014	1216	1419	1622	1825	2027	2230	2433	2636	2838	3041	3041
35.8	31.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
36.8	32.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
37.8	33.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
38.8	34.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
39.8	35.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
40.8	36.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5C: Static p-y Curve Data for a Jacket Pile at Boring B-10 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
42.8	38.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
43.8	39.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
44.8	40.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
45.8	41.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
46.8	42.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.0	13.9
		p	0	7134	13751	19474	24132	27739	30426	32371	33749	34711	35375	35831	36142	36354	36497	36594	36660
47.8	43.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.0	13.9
		p	0	7311	14093	19958	24732	28428	31183	33176	34588	35574	36255	36722	37041	37258	37405	37504	37572
48.8	44.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7488	14434	20442	25332	29118	31939	33981	35427	36437	37135	37613	37940	38162	38312	38414	38483
49.8	45.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	7666	14776	20926	25932	29808	32696	34785	36266	37300	38014	38504	38838	39066	39220	39324	39395
50.8	46.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	14.0
		p	0	7843	15118	21410	26532	30498	33452	35590	37106	38163	38894	39395	39737	39969	40127	40234	40307
51.8	47.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.3	12.2	13.1	14.0
		p	0	8021	15460	21895	27132	31187	34209	36395	37945	39026	39774	40286	40636	40873	41035	41144	41218
52.8	48.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8194	15794	22368	27718	31861	34948	37182	38765	39870	40633	41157	41514	41757	41922	42033	42109

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5C: Static p-y Curve Data for a Jacket Pile at Boring B-10 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8367	16128	22841	28305	32535	35687	37969	39585	40713	41493	42027	42392	42640	42809	42923	43000
54.8	50.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8541	16463	23314	28891	33209	36427	38755	40405	41557	42352	42898	43270	43524	43695	43812	43891
55.8	51.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8714	16797	23788	29477	33884	37166	39542	41225	42400	43212	43769	44149	44407	44582	44701	44781

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5D: Static p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	1.9	2.2	2.4	2.7	2.9	3.2	3.4	3.6	3.9
		p	0	47	92	130	161	185	203	216	225	231	236	239	241	242	243	244	244
6.8	2.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.7	4.0	4.3
		p	0	105	202	286	354	407	446	475	495	509	519	525	530	533	535	537	538
7.8	3.0	y	0	0.3	0.6	0.8	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.9	4.2	4.4
		p	0	162	313	443	549	631	693	737	768	790	805	816	823	828	831	833	835
8.8	4.0	y	0	0.3	0.5	0.8	1.1	1.4	1.6	1.9	2.2	2.4	2.7	3.0	3.3	3.5	3.8	4.1	4.3
		p	0	212	409	579	717	824	904	962	1003	1031	1051	1065	1074	1080	1084	1087	1089
9.8	5.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	244	471	667	827	950	1042	1109	1156	1189	1212	1227	1238	1245	1250	1253	1256
10.8	6.0	y	0	0.2	0.4	0.6	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.4	2.6	2.8	3.0	3.2	3.4
		p	0	251	483	684	848	975	1069	1137	1186	1220	1243	1259	1270	1277	1282	1286	1288
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3
		p	0	283	546	774	959	1102	1209	1286	1341	1379	1405	1424	1436	1444	1450	1454	1457
12.8	8.0	y	0	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.1	2.3	2.5	2.7	3.0	3.2	3.4	3.6
		p	0	357	687	973	1206	1386	1521	1618	1687	1735	1768	1791	1807	1817	1824	1829	1832
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	438	844	1195	1481	1703	1868	1987	2072	2131	2171	2199	2218	2231	2240	2246	2250
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.2	2.4	2.7	3.0	3.2	3.5	3.8	4.0	4.3
		p	0	527	1016	1440	1784	2051	2249	2393	2495	2566	2615	2649	2672	2687	2698	2705	2710
15.8	11.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	7.3	10.2	13.2	13.9
		p	0	768	1086	1266	1382	1461	1515	1547	1564	1566	1556	1537	1507	1087	667	246	246
16.8	12.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	7.3	10.2	13.2	13.9
		p	0	768	1086	1266	1382	1461	1515	1547	1564	1566	1556	1537	1507	1087	667	246	246

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5D: Static p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.3	0.6	0.9	1.1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.3	4.6
		p	0	723	1394	1974	2446	2811	3084	3281	3421	3518	3585	3632	3663	3685	3699	3709	3716
18.8	14.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.1	3.4	3.7	4.0	4.3	4.6	4.9
		p	0	835	1610	2280	2825	3247	3562	3789	3951	4063	4141	4194	4231	4256	4272	4284	4292
19.8	15.0	y	0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.2	4.6	4.9	5.2
		p	0	955	1841	2608	3231	3714	4074	4335	4519	4648	4737	4798	4840	4868	4887	4900	4909
20.8	16.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.8	5.2	5.5
		p	0	1083	2088	2958	3665	4213	4621	4916	5126	5272	5373	5442	5489	5521	5543	5558	5568
21.8	17.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9
		p	0	1220	2351	3330	4126	4743	5202	5535	5770	5935	6048	6126	6180	6216	6240	6257	6268
22.8	18.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.0	3.4	3.8	4.2	4.5	4.9	5.3	5.7	6.1
		p	0	1480	2854	4041	5008	5756	6314	6718	7004	7203	7341	7436	7500	7544	7574	7594	7608
23.8	19.0	y	0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4
		p	0	1645	3171	4491	5566	6398	7018	7466	7784	8006	8159	8264	8336	8385	8418	8440	8455
24.8	20.0	y	0	0.4	0.8	1.3	1.7	2.1	2.5	2.9	3.3	3.8	4.2	4.6	5.0	5.4	5.9	6.3	6.7
		p	0	1819	3506	4965	6153	7073	7758	8254	8605	8851	9020	9136	9216	9270	9306	9331	9348
25.8	21.0	y	0	0.4	0.9	1.3	1.8	2.2	2.6	3.1	3.5	3.9	4.4	4.8	5.3	5.7	6.1	6.6	7.0
		p	0	2001	3858	5463	6770	7782	8536	9081	9468	9738	9924	10052	10139	10199	10239	10266	10285
26.8	22.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.8	4.2	4.7	5.2	5.6	6.1	6.6	7.0	7.5
		p	0	2018	3889	5508	6825	7845	8605	9155	9545	9817	10005	10134	10222	10282	10322	10350	10369
27.8	23.0	y	0	0.5	1.0	1.5	2.0	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.3	7.8
		p	0	2201	4243	6008	7445	8558	9387	9987	10413	10709	10914	11055	11151	11216	11261	11291	11311
28.8	24.0	y	0	0.5	1.0	1.5	2.0	2.5	3.1	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.2
		p	0	2392	4611	6531	8093	9302	10204	10856	11318	11640	11863	12016	12120	12191	12240	12272	12294

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5D: Static p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.7	4.2	4.8	5.3	5.8	6.4	6.9	7.4	8.0	8.5
		p	0	2592	4996	7075	8767	10077	11054	11760	12261	12610	12852	13017	13130	13207	13259	13295	13318
30.8	26.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.5	6.1	6.6	7.2	7.7	8.3	8.8
		p	0	2799	5395	7641	9468	10883	11938	12701	13241	13619	13880	14058	14181	14263	14320	14358	14384
31.8	27.0	y	0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.1	5.7	6.3	6.9	7.4	8.0	8.6	9.1
		p	0	3014	5810	8228	10196	11720	12856	13678	14260	14666	14947	15140	15271	15360	15421	15462	15490
32.8	28.0	y	0	0.6	1.2	1.8	2.4	3.0	3.5	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	3237	6240	8838	10951	12588	13808	14691	15316	15753	16054	16261	16402	16498	16563	16607	16637
33.8	29.0	y	0	0.6	1.2	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.3	8.0	8.6	9.2	9.8
		p	0	3469	6686	9469	11734	13487	14794	15740	16410	16878	17201	17422	17574	17676	17746	17793	17825
34.8	30.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	8.2	8.9	9.5	10.1
		p	0	3708	7147	10122	12543	14418	15814	16825	17541	18041	18387	18624	18785	18895	18970	19020	19055
35.8	31.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.8	10.4
		p	0	3955	7623	10796	13379	15379	16868	17947	18711	19244	19612	19865	20038	20155	20234	20288	20325
36.8	32.0	y	0	0.7	1.3	2.0	2.7	3.4	4.0	4.7	5.4	6.1	6.7	7.4	8.1	8.7	9.4	10.1	10.8
		p	0	4210	8116	11494	14243	16372	17958	19106	19919	20487	20879	21148	21332	21457	21541	21599	21638
37.8	33.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.5	6.2	6.9	7.6	8.3	9.0	9.7	10.4	11.1
		p	0	4475	8626	12216	15138	17401	19087	20307	21172	21775	22192	22478	22673	22806	22896	22957	22998
38.8	34.0	y	0	0.7	1.4	2.1	2.9	3.6	4.3	5.0	5.7	6.4	7.1	7.9	8.6	9.3	10.0	10.7	11.4
		p	0	4748	9152	12961	16061	18462	20250	21545	22462	23102	23545	23848	24055	24196	24291	24356	24400
39.8	35.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.9	6.6	7.3	8.1	8.8	9.6	10.3	11.0	11.8
		p	0	5029	9693	13728	17011	19554	21448	22819	23791	24469	24937	25259	25478	25627	25728	25797	25843
40.8	36.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.6	8.3	9.1	9.8	10.6	11.3	12.1
		p	0	5318	10250	14516	17989	20677	22681	24130	25158	25875	26370	26710	26942	27099	27206	27279	27328

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5D: Static p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.8	1.6	2.3	3.1	3.9	4.7	5.4	6.2	7.0	7.8	8.5	9.3	10.1	10.9	11.6	12.4
		p	0	5615	10823	15327	18993	21832	23947	25478	26563	27320	27843	28202	28446	28613	28726	28802	28854
42.8	38.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.7
		p	0	5920	11411	16160	20025	23018	25248	26862	28006	28804	29356	29734	29992	30167	30287	30367	30422
43.8	39.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.5	7.4	8.2	9.0	9.8	10.6	11.4	12.3	13.1
		p	0	6233	12014	17015	21084	24236	26584	28283	29487	30328	30908	31307	31578	31763	31889	31974	32031
44.8	40.0	y	0	0.8	1.7	2.5	3.4	4.2	5.0	5.9	6.7	7.5	8.4	9.2	10.1	10.9	11.7	12.6	13.4
		p	0	6554	12633	17891	22171	25485	27954	29741	31007	31891	32501	32920	33206	33400	33532	33621	33682
45.8	41.0	y	0	0.9	1.7	2.6	3.4	4.3	5.2	6.0	6.9	7.7	8.6	9.4	10.3	11.2	12.0	12.9	13.7
		p	0	6885	13271	18794	23289	26771	29364	31241	32571	33499	34141	34581	34881	35085	35224	35317	35381
46.8	42.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.1	14.0
		p	0	7197	13873	19647	24346	27986	30697	32659	34049	35020	35690	36150	36464	36677	36822	36920	36987
47.8	43.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.2	14.0
		p	0	7371	14207	20120	24933	28660	31436	33446	34869	35863	36550	37021	37342	37561	37709	37809	37877
48.8	44.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.2	14.0
		p	0	7544	14541	20593	25519	29334	32176	34232	35689	36707	37410	37892	38220	38444	38596	38699	38768
49.8	45.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.2	14.0
		p	0	7717	14875	21067	26106	30008	32915	35019	36510	37550	38269	38762	39099	39327	39483	39588	39659
50.8	46.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	7891	15210	21540	26692	30682	33654	35805	37330	38394	39129	39633	39977	40211	40370	40477	40550
51.8	47.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8064	15544	22013	27278	31356	34394	36592	38150	39237	39988	40504	40855	41094	41257	41366	41441
52.8	48.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8237	15878	22486	27865	32030	35133	37379	38970	40081	40848	41374	41733	41978	42143	42256	42332

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5D: Static p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8411	16212	22959	28451	32704	35872	38165	39790	40924	41708	42245	42612	42861	43030	43145	43222
54.8	50.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.1
		p	0	8584	16546	23433	29038	33378	36612	38952	40610	41768	42567	43116	43490	43744	43917	44034	44113
55.8	51.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.1
		p	0	8757	16880	23906	29624	34052	37351	39738	41430	42611	43427	43986	44368	44628	44804	44923	45004

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5E: Static p-y Curve Data for a Jacket Pile at Boring B-OSS (page 1 of 5)

Depth Below Mudline	Depth Below Scour Pit		Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.6	2.9	3.1	3.4	3.6	3.8
		p	0	47	90	128	159	183	200	213	222	228	233	236	238	239	240	241	241
6.8	2.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.4	3.7	4.0	4.2
		p	0	103	199	282	350	402	441	469	489	503	513	519	524	527	529	530	531
7.8	3.0	y	0	0.3	0.5	0.8	1.1	1.4	1.6	1.9	2.2	2.5	2.7	3.0	3.3	3.6	3.8	4.1	4.4
		p	0	161	309	438	543	624	685	728	759	781	796	806	813	818	821	823	825
8.8	4.0	y	0	0.3	0.6	1.0	1.3	1.6	1.9	2.3	2.6	2.9	3.2	3.6	3.9	4.2	4.5	4.9	5.2
		p	0	169	326	462	572	658	721	767	800	823	839	850	857	862	865	868	869
9.8	5.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8
		p	0	194	374	529	655	753	826	879	917	943	961	973	982	987	991	994	996
10.8	6.0	y	0	0.3	0.5	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	2.8	3.0	3.3	3.5	3.8	4.0
		p	0	198	381	540	669	769	844	898	936	963	981	994	1002	1008	1012	1015	1017
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	3.1	3.3
		p	0	280	540	765	948	1089	1195	1271	1325	1363	1389	1407	1419	1428	1433	1437	1440
12.8	8.0	y	0	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	3.2	3.4	3.6
		p	0	352	679	962	1192	1370	1503	1599	1667	1715	1748	1770	1785	1796	1803	1808	1811
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.4	3.7	3.9
		p	0	433	834	1181	1464	1683	1846	1964	2047	2106	2146	2174	2193	2205	2214	2220	2224
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.7	4.0	4.3
		p	0	521	1005	1423	1763	2027	2223	2365	2466	2536	2585	2618	2641	2656	2667	2674	2679
15.8	11.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.0	5.4	5.7	6.1
		p	0	548	1056	1496	1854	2131	2338	2487	2593	2667	2718	2753	2777	2793	2804	2812	2817
16.8	12.0	y	0	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.0	4.3	4.7	5.1	5.4	5.8
		p	0	564	1088	1541	1909	2195	2408	2561	2670	2747	2799	2835	2860	2877	2888	2896	2901

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5E: Static p-y Curve Data for a Jacket Pile at Boring B-OSS (page 2 of 5)

Depth Below Mudline	Depth Below Scour Pit	Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.0	5.4	5.7	6.1
		p	0	648	1250	1770	2193	2521	2765	2942	3067	3154	3215	3256	3284	3304	3317	3326	3332
18.8	14.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.4	3.8	4.1	4.5	4.8	5.2	5.5
		p	0	943	1817	2574	3189	3666	4021	4278	4460	4587	4675	4735	4777	4804	4823	4836	4845
19.8	15.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.6	4.0	4.4	4.7	5.1	5.5	5.8
		p	0	1069	2061	2918	3616	4157	4560	4851	5058	5202	5302	5370	5416	5448	5470	5484	5494
20.8	16.0	y	0	0.4	0.8	1.2	1.5	1.9	2.3	2.7	3.1	3.5	3.8	4.2	4.6	5.0	5.4	5.8	6.2
		p	0	1203	2319	3285	4070	4679	5132	5460	5693	5855	5967	6044	6096	6132	6156	6173	6184
21.8	17.0	y	0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.5	4.9	5.3	5.7	6.1	6.5
		p	0	1345	2593	3673	4551	5231	5738	6105	6365	6546	6672	6758	6816	6856	6883	6901	6914
22.8	18.0	y	0	0.4	0.8	1.3	1.7	2.1	2.5	3.0	3.4	3.8	4.2	4.7	5.1	5.5	5.9	6.4	6.8
		p	0	1495	2882	4082	5058	5814	6378	6785	7074	7276	7415	7511	7576	7620	7650	7671	7684
23.8	19.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	4.9	5.3	5.8	6.2	6.7	7.1
		p	0	1653	3187	4513	5592	6428	7051	7502	7821	8044	8198	8303	8376	8425	8458	8480	8496
24.8	20.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.5	7.0	7.5
		p	0	1822	3512	4974	6164	7085	7772	8268	8620	8866	9036	9152	9232	9286	9322	9347	9364
25.8	21.0	y	0	0.5	1.0	1.5	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	6.3	6.8	7.3	7.8
		p	0	1999	3854	5458	6763	7774	8527	9072	9458	9728	9914	10042	10129	10188	10229	10256	10274
26.8	22.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1
		p	0	2185	4211	5963	7390	8494	9317	9913	10335	10630	10833	10973	11068	11133	11177	11206	11227
27.8	23.0	y	0	0.5	1.1	1.6	2.1	2.6	3.2	3.7	4.2	4.8	5.3	5.8	6.3	6.9	7.4	7.9	8.5
		p	0	2378	4584	6492	8044	9247	10143	10791	11250	11571	11792	11944	12048	12119	12166	12199	12221
28.8	24.0	y	0	0.5	1.1	1.6	2.2	2.7	3.3	3.8	4.4	4.9	5.5	6.0	6.6	7.1	7.7	8.2	8.8
		p	0	2580	4972	7042	8726	10031	11003	11706	12204	12552	12792	12957	13070	13146	13198	13233	13257

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5E: Static p-y Curve Data for a Jacket Pile at Boring B-OSS (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.1	5.7	6.3	6.8	7.4	8.0	8.6	9.1
		p	0	2789	5377	7615	9436	10847	11897	12658	13197	13573	13833	14011	14133	14215	14271	14309	14335
30.8	26.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	3007	5797	8210	10173	11694	12827	13647	14228	14633	14914	15106	15237	15326	15386	15427	15455
31.8	27.0	y	0	0.6	1.2	1.8	2.5	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.4	8.0	8.6	9.2	9.8
		p	0	3234	6233	8827	10938	12573	13791	14673	15298	15734	16035	16241	16382	16478	16543	16587	16617
32.8	28.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	8.2	8.9	9.5	10.1
		p	0	3468	6684	9466	11731	13484	14791	15736	16406	16874	17197	17418	17569	17672	17742	17789	17821
33.8	29.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.9	8.5	9.2	9.8	10.5
		p	0	3710	7152	10128	12551	14427	15825	16836	17553	18053	18399	18636	18798	18908	18982	19033	19067
34.8	30.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.7	5.4	6.1	6.8	7.4	8.1	8.8	9.5	10.1	10.8
		p	0	3961	7635	10812	13399	15402	16894	17973	18739	19273	19642	19895	20067	20185	20265	20319	20355
35.8	31.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
36.8	32.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
37.8	33.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
38.8	34.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
39.8	35.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
40.8	36.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5E: Static p-y Curve Data for a Jacket Pile at Boring B-OSS (page 4 of 5)

Depth Below Mudline	Depth Below Scour Pit		Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
42.8	38.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
43.8	39.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
44.8	40.0	y	0	0.0	0.0	0.1	0.2	0.6	1.2	2.3	3.9	6.3	9.6	14.1	20.0	27.5	37.0	48.8	61.0
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
45.8	41.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	6974	13443	19037	23591	27117	29744	31645	32993	33933	34583	35028	35332	35539	35679	35775	35839
46.8	42.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7145	13773	19505	24170	27783	30475	32423	33803	34767	35432	35889	36200	36412	36556	36653	36719
47.8	43.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7317	14103	19973	24750	28450	31206	33200	34614	35600	36282	36749	37068	37285	37433	37532	37600
48.8	44.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7488	14433	20440	25330	29116	31937	33978	35424	36434	37132	37610	37937	38159	38309	38411	38480
49.8	45.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7659	14764	20908	25909	29782	32667	34755	36235	37268	37981	38471	38805	39032	39186	39290	39361
50.8	46.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7831	15094	21376	26489	30448	33398	35533	37045	38101	38831	39331	39673	39905	40062	40169	40241
51.8	47.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8002	15424	21844	27068	31114	34129	36310	37856	38935	39681	40192	40541	40778	40939	41048	41122
52.8	48.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8173	15754	22311	27648	31781	34860	37088	38667	39769	40530	41052	41409	41651	41815	41927	42002

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 5E: Static p-y Curve Data for a Jacket Pile at Boring B-OSS (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8345	16085	22779	28227	32447	35590	37865	39477	40602	41380	41913	42277	42524	42692	42806	42883
54.8	50.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8516	16415	23247	28807	33113	36321	38643	40288	41436	42229	42773	43145	43397	43569	43685	43763
55.8	51.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8687	16745	23714	29387	33779	37052	39420	41098	42270	43079	43634	44013	44270	44445	44564	44644

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6A: Seismic p-y Curve Data for a Jacket Pile at Boring B-3 (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
		p	0	16	31	44	54	62	68	73	76	78	79	80	81	82	82	82	82
6.8	2.0	y	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
		p	0	40	77	110	136	156	171	182	190	195	199	202	203	205	205	206	206
7.8	3.0	y	0	0.1	0.2	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.9	2.0
		p	0	72	140	198	245	282	309	329	343	353	359	364	367	369	371	372	372
8.8	4.0	y	0	0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.3	1.4	1.6	1.7	1.9	2.0	2.2	2.3
		p	0	113	218	308	382	439	482	513	534	550	560	567	572	576	578	580	581
9.8	5.0	y	0	0.2	0.3	0.5	0.7	0.8	1.0	1.2	1.3	1.5	1.6	1.8	2.0	2.1	2.3	2.5	2.6
		p	0	161	310	439	544	625	686	730	761	783	798	808	815	820	823	825	827
10.8	6.0	y	0	0.2	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.4	2.6	2.8	3.0
		p	0	216	417	590	732	841	922	981	1023	1052	1073	1086	1096	1102	1107	1109	1111
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.3
		p	0	280	539	763	946	1087	1193	1269	1323	1361	1387	1404	1417	1425	1431	1434	1437
12.8	8.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.4	3.6
		p	0	351	676	958	1187	1364	1496	1592	1660	1707	1740	1762	1777	1788	1795	1800	1803
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.7	3.9
		p	0	430	829	1174	1454	1672	1834	1951	2034	2092	2132	2159	2178	2191	2199	2205	2209
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.4	3.7	4.0	4.2
		p	0	517	996	1411	1748	2010	2204	2345	2445	2515	2563	2596	2619	2634	2644	2651	2656
15.8	11.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	247	311	392	449	494	532	566	622	671	768	845	910	967	922	878	878
16.8	12.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	254	321	404	462	509	548	583	641	691	791	870	937	996	967	938	938

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6A: Seismic p-y Curve Data for a Jacket Pile at Boring B-3 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.3	0.5	0.8	1.0	1.3	1.6	1.8	2.1	2.3	2.6	2.8	3.1	3.4	3.6	3.9	4.1
		p	0	658	1268	1795	2225	2557	2805	2984	3111	3200	3261	3303	3332	3351	3364	3373	3379
18.8	14.0	y	0	0.3	0.6	0.8	1.1	1.4	1.7	2.0	2.2	2.5	2.8	3.1	3.4	3.6	3.9	4.2	4.5
		p	0	765	1474	2087	2587	2973	3261	3470	3618	3721	3792	3841	3874	3897	3912	3923	3930
19.8	15.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8
		p	0	880	1696	2402	2976	3421	3752	3992	4162	4281	4363	4419	4457	4483	4501	4513	4521
20.8	16.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	334	421	531	608	669	720	765	842	908	1039	1143	1232	1309	1309	1309	1309
21.8	17.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	342	431	544	622	685	738	784	863	929	1064	1171	1261	1340	1340	1340	1340
22.8	18.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	350	442	556	637	701	755	802	883	951	1089	1198	1291	1372	1372	1372	1372
23.8	19.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	358	452	569	651	717	772	821	903	973	1114	1226	1321	1403	1403	1403	1403
24.8	20.0	y	0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.3	4.6	4.9	5.2
		p	0	1280	2467	3494	4330	4977	5459	5808	6055	6228	6347	6429	6484	6522	6548	6566	6577
25.8	21.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.9	5.2	5.6
		p	0	1430	2756	3904	4837	5560	6099	6489	6765	6958	7091	7182	7245	7287	7316	7335	7349
26.8	22.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	3.0	3.3	3.7	4.1	4.4	4.8	5.2	5.5	5.9
		p	0	1588	3062	4336	5373	6176	6774	7207	7514	7728	7876	7978	8047	8094	8126	8148	8162
27.8	23.0	y	0	0.4	0.8	1.2	1.6	2.0	2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.1	5.5	5.9	6.2
		p	0	1755	3383	4791	5937	6824	7485	7963	8302	8539	8703	8815	8891	8943	8979	9003	9019
28.8	24.0	y	0	0.4	0.8	1.2	1.6	2.1	2.5	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.8	6.2	6.6
		p	0	1930	3720	5268	6528	7504	8231	8757	9130	9390	9570	9693	9777	9834	9873	9900	9917

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6A: Seismic p-y Curve Data for a Jacket Pile at Boring B-3 (page 3 of 5)

Depth Below Mudline	Depth Below Scour Pit	Seismic p-y Curve Points																	
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.4	0.9	1.3	1.7	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6	6.1	6.5	6.9
		p	0	2113	4073	5768	7148	8216	9012	9588	9996	10281	10478	10613	10705	10768	10810	10839	10859
30.8	26.0	y	0	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.3
		p	0	2304	4442	6290	7795	8960	9828	10456	10902	11212	11427	11574	11675	11743	11789	11821	11842
31.8	27.0	y	0	0.5	0.9	1.4	1.9	2.4	2.8	3.3	3.8	4.3	4.7	5.2	5.7	6.2	6.6	7.1	7.6
		p	0	2504	4827	6835	8470	9737	10680	11362	11846	12184	12417	12577	12686	12760	12811	12845	12868
32.8	28.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.4	5.9	6.4	6.9	7.4	7.9
		p	0	2712	5227	7403	9174	10545	11567	12306	12830	13195	13448	13621	13740	13820	13875	13912	13937
33.8	29.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	164	328	491	655	819	983	1147	1311	1474	1638	1802	1966	2130	2294	2457	2457
34.8	30.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	164	328	491	655	819	983	1147	1311	1474	1638	1802	1966	2130	2294	2457	2457
35.8	31.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.5	6.1	6.6	7.2	7.7	8.3	8.8
		p	0	3337	6433	9110	11289	12977	14234	15144	15788	16239	16549	16763	16908	17007	17074	17120	17150
36.8	32.0	y	0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.1	5.7	6.3	6.9	7.4	8.0	8.6	9.1
		p	0	3571	6884	9749	12081	13887	15232	16206	16896	17377	17710	17938	18094	18200	18272	18320	18353
37.8	33.0	y	0	0.6	1.2	1.8	2.4	3.0	3.5	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	3813	7350	10410	12899	14828	16264	17304	18040	18555	18910	19153	19320	19433	19509	19561	19597
38.8	34.0	y	0	0.6	1.2	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.3	7.9	8.6	9.2	9.8
		p	0	4063	7832	11091	13744	15799	17330	18437	19222	19770	20149	20408	20585	20706	20788	20843	20880
39.8	35.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	6.9	7.6	8.2	8.8	9.5	10.1
		p	0	4321	8329	11795	14616	16801	18429	19607	20441	21024	21426	21702	21891	22019	22106	22165	22205
40.8	36.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	195	390	585	780	975	1170	1365	1560	1754	1949	2144	2339	2534	2729	2924	2924

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6A: Seismic p-y Curve Data for a Jacket Pile at Boring B-3 (page 4 of 5)

Depth Below Mudline	Depth Below Scour Pit		Seismic p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	208	416	625	833	1041	1249	1457	1666	1874	2082	2290	2499	2707	2915	3123	3123
42.8	38.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	221	443	664	886	1107	1329	1550	1772	1993	2215	2436	2658	2879	3101	3322	3322
43.8	39.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.7	5.4	6.1	6.8	7.5	8.1	8.8	9.5	10.2	10.8
		p	0	5169	9963	14109	17484	20097	22044	23453	24452	25149	25630	25961	26186	26339	26443	26514	26561
44.8	40.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.8	10.5	11.2
		p	0	5459	10522	14902	18466	21227	23283	24771	25826	26562	27070	27419	27657	27819	27929	28003	28054
45.8	41.0	y	0	0.7	1.4	2.2	2.9	3.6	4.3	5.0	5.7	6.5	7.2	7.9	8.6	9.3	10.1	10.8	11.5
		p	0	5758	11098	15717	19477	22388	24557	26127	27239	28016	28552	28920	29171	29342	29458	29536	29589
46.8	42.0	y	0	0.7	1.5	2.2	3.0	3.7	4.4	5.2	5.9	6.7	7.4	8.1	8.9	9.6	10.3	11.1	11.8
		p	0	6069	11698	16567	20530	23599	25885	27540	28712	29531	30096	30484	30748	30928	31050	31133	31189
47.8	43.0	y	0	0.8	1.5	2.3	3.0	3.8	4.6	5.3	6.1	6.8	7.6	8.4	9.1	9.9	10.6	11.4	12.2
		p	0	6389	12314	17440	21611	24841	27248	28990	30224	31085	31680	32088	32367	32556	32685	32772	32831
48.8	44.0	y	0	0.8	1.6	2.3	3.1	3.9	4.7	5.5	6.2	7.0	7.8	8.6	9.4	10.2	10.9	11.7	12.5
		p	0	6716	12946	18334	22719	26115	28645	30476	31774	32680	33305	33734	34027	34226	34361	34453	34515
49.8	45.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8
		p	0	7052	13593	19251	23855	27421	30078	32000	33363	34314	34971	35421	35729	35938	36079	36176	36241
50.8	46.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.8	6.6	7.4	8.2	9.0	9.9	10.7	11.5	12.3	13.2
		p	0	7396	14256	20190	25019	28759	31545	33561	34990	35987	36676	37149	37471	37691	37839	37940	38008
51.8	47.0	y	0	0.8	1.7	2.5	3.4	4.2	5.1	5.9	6.7	7.6	8.4	9.3	10.1	11.0	11.8	12.6	13.5
		p	0	7748	14935	21151	26210	30128	33047	35159	36656	37701	38423	38918	39255	39485	39641	39747	39818
52.8	48.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.0	6.9	7.8	8.6	9.5	10.4	11.2	12.1	13.0	13.8
		p	0	8109	15630	22135	27429	31529	34584	36794	38361	39454	40209	40727	41081	41321	41485	41595	41670

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6A: Seismic p-y Curve Data for a Jacket Pile at Boring B-3 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.0	13.9
		p	0	8332	16060	22744	28185	32397	35536	37808	39417	40541	41317	41849	42212	42459	42627	42741	42817
54.8	50.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	8505	16394	23217	28771	33072	36275	38594	40237	41384	42176	42720	43091	43343	43514	43630	43708
55.8	51.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	8679	16728	23691	29357	33746	37015	39381	41057	42228	43036	43591	43969	44226	44401	44519	44599

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6B: Seismic p-y Curve Data for a Jacket Pile at Boring B-6 (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
		p	0	16	30	43	53	61	67	72	75	77	78	79	80	81	81	81	81
6.8	2.0	y	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
		p	0	40	77	108	134	154	169	180	188	193	197	199	201	202	203	204	204
7.8	3.0	y	0	0.1	0.2	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7	1.8	2.0
		p	0	72	138	196	242	279	306	325	339	349	355	360	363	365	367	368	368
8.8	4.0	y	0	0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.1	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.3
		p	0	112	215	305	378	434	476	507	528	543	554	561	566	569	571	573	574
9.8	5.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	78	98	123	141	155	167	177	195	210	241	265	286	303	301	299	299
10.8	6.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	107	135	170	194	214	230	245	269	290	332	366	394	418	395	372	372
11.8	7.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	138	174	219	251	276	297	316	348	375	429	472	508	540	499	458	458
12.8	8.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	171	215	271	311	342	368	391	431	464	531	584	630	669	614	559	559
13.8	9.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	206	259	326	374	411	443	471	518	558	639	703	757	805	739	673	673
14.8	10.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	242	305	384	440	484	521	554	610	657	752	828	891	947	874	801	801
15.8	11.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	280	353	445	509	560	604	641	706	760	870	958	1032	1097	1020	944	944
16.8	12.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	320	403	508	582	640	690	733	807	869	995	1095	1179	1253	1178	1103	1103

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6B: Seismic p-y Curve Data for a Jacket Pile at Boring B-6 (page 2 of 5)

Depth Below Mudline	Depth Below Scour Pit		Seismic p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	362	456	574	657	724	779	828	912	982	1124	1237	1333	1416	1347	1278	1278
18.8	14.0	y	0	0.6	1.2	2.4	3.7	4.9	6.1	7.3	9.8	12.2	18.3	24.4	30.5	36.6	109.8	183.0	195.2
		p	0	405	511	643	736	811	873	928	1021	1100	1259	1386	1493	1587	1528	1470	1470
19.8	15.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.1	3.4	3.6
		p	0	440	847	1200	1487	1709	1875	1995	2080	2139	2180	2208	2227	2240	2249	2255	2259
20.8	16.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	518	999	1415	1753	2015	2210	2352	2452	2522	2570	2603	2626	2641	2652	2659	2663
21.8	17.0	y	0	0.3	0.5	0.8	1.1	1.4	1.6	1.9	2.2	2.4	2.7	3.0	3.3	3.5	3.8	4.1	4.4
		p	0	603	1163	1646	2040	2345	2572	2737	2853	2935	2991	3029	3056	3073	3086	3094	3099
22.8	18.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.8	4.1	4.4	4.7
		p	0	694	1338	1895	2348	2699	2960	3150	3284	3377	3442	3486	3517	3537	3551	3561	3567
23.8	19.0	y	0	0.3	0.6	1.0	1.3	1.6	1.9	2.2	2.6	2.9	3.2	3.5	3.8	4.2	4.5	4.8	5.1
		p	0	791	1525	2160	2677	3077	3375	3591	3744	3850	3924	3975	4009	4033	4049	4059	4067
24.8	20.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.7	3.1	3.4	3.8	4.1	4.5	4.8	5.1	5.5
		p	0	895	1725	2442	3027	3479	3816	4060	4233	4354	4437	4494	4533	4560	4578	4590	4598
25.8	21.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9
		p	0	1004	1936	2742	3397	3905	4284	4557	4752	4887	4981	5045	5088	5118	5138	5152	5161
26.8	22.0	y	0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	3.0	4.2	5.4	5.7
		p	0	336	615	840	1016	1145	1234	1288	1313	1319	1313	1288	1234	867	499	131	131
27.8	23.0	y	0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	3.0	4.2	5.4	5.7
		p	0	336	615	840	1016	1145	1234	1288	1313	1319	1313	1288	1234	867	499	131	131
28.8	24.0	y	0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	3.0	4.2	5.4	5.7
		p	0	336	615	840	1016	1145	1234	1288	1313	1319	1313	1288	1234	867	499	131	131

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6B: Seismic p-y Curve Data for a Jacket Pile at Boring B-6 (page 3 of 5)

Depth Below Mudline	Depth Below Scour Pit	Seismic p-y Curve Points																	
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	3.0	4.2	5.4	5.7
		p	0	336	615	840	1016	1145	1234	1288	1313	1319	1313	1288	1234	867	499	131	131
30.8	26.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	3.0	3.3	3.7	4.1	4.4	4.8	5.2	5.5	5.9
		p	0	1879	3623	5130	6358	7308	8016	8528	8891	9145	9320	9440	9522	9577	9615	9641	9658
31.8	27.0	y	0	0.4	0.8	1.2	1.6	2.0	2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.1	5.5	5.9	6.2
		p	0	2061	3973	5627	6973	8015	8792	9354	9752	10030	10222	10354	10443	10505	10546	10574	10593
32.8	28.0	y	0	0.4	0.8	1.2	1.6	2.1	2.5	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.8	6.2	6.6
		p	0	2251	4340	6146	7616	8754	9602	10216	10651	10955	11164	11308	11406	11473	11518	11549	11570
33.8	29.0	y	0	0.4	0.9	1.3	1.7	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6	6.0	6.5	6.9
		p	0	2450	4722	6687	8286	9525	10448	11116	11589	11919	12148	12304	12411	12483	12533	12566	12589
34.8	30.0	y	0	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.2
		p	0	2656	5120	7250	8985	10328	11328	12052	12565	12924	13171	13341	13457	13535	13589	13625	13649
35.8	31.0	y	0	0.5	0.9	1.4	1.9	2.4	2.8	3.3	3.8	4.3	4.7	5.2	5.7	6.2	6.6	7.1	7.6
		p	0	2871	5533	7836	9711	11162	12243	13026	13581	13968	14235	14419	14544	14629	14687	14726	14752
36.8	32.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	4.9	5.4	5.9	6.4	6.9	7.4	7.9
		p	0	3093	5963	8444	10464	12028	13193	14037	14634	15051	15340	15537	15672	15764	15826	15868	15897
37.8	33.0	y	0	0.5	1.0	1.5	2.1	2.6	3.1	3.6	4.1	4.6	5.2	5.7	6.2	6.7	7.2	7.7	8.2
		p	0	3324	6408	9075	11245	12926	14178	15085	15727	16175	16485	16697	16842	16941	17007	17053	17083
38.8	34.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.8	4.3	4.8	5.4	5.9	6.4	7.0	7.5	8.0	8.6
		p	0	3563	6868	9727	12054	13856	15198	16169	16858	17338	17670	17898	18053	18159	18230	18279	18312
39.8	35.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.5	5.0	5.6	6.1	6.7	7.2	7.8	8.4	8.9
		p	0	3811	7345	10402	12890	14817	16252	17291	18027	18541	18896	19140	19306	19419	19495	19547	19582
40.8	36.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	200	399	599	798	998	1197	1397	1596	1796	1995	2195	2395	2594	2794	2993	2993

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6B: Seismic p-y Curve Data for a Jacket Pile at Boring B-6 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	200	399	599	798	998	1197	1397	1596	1796	1995	2195	2395	2594	2794	2993	2993
42.8	38.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.8	10.4
		p	0	4837	9323	13204	16362	18808	20630	21948	22883	23535	23986	24295	24506	24649	24746	24812	24857
43.8	39.0	y	0	0.7	1.3	2.0	2.7	3.4	4.0	4.7	5.4	6.0	6.7	7.4	8.1	8.7	9.4	10.1	10.8
		p	0	5123	9875	13985	17330	19921	21850	23247	24237	24928	25405	25732	25955	26107	26210	26280	26328
44.8	40.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.7	10.4	11.1
		p	0	5417	10442	14788	18326	21065	23106	24583	25629	26360	26864	27210	27447	27607	27716	27790	27840
45.8	41.0	y	0	0.7	1.4	2.1	2.9	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.6	9.3	10.0	10.7	11.4
		p	0	5720	11025	15614	19349	22241	24396	25955	27060	27832	28364	28730	28979	29149	29264	29342	29395
46.8	42.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.9	6.6	7.3	8.1	8.8	9.5	10.3	11.0	11.8
		p	0	6031	11624	16462	20400	23449	25721	27365	28530	29343	29905	30290	30553	30732	30853	30935	30991
47.8	43.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.6	8.3	9.1	9.8	10.6	11.3	12.1
		p	0	6349	12239	17332	21478	24689	27081	28812	30038	30894	31486	31892	32168	32357	32484	32571	32629
48.8	44.0	y	0	0.8	1.6	2.3	3.1	3.9	4.7	5.4	6.2	7.0	7.8	8.5	9.3	10.1	10.9	11.6	12.4
		p	0	6676	12869	18225	22584	25960	28475	30295	31585	32485	33107	33534	33825	34023	34157	34248	34310
49.8	45.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8
		p	0	7011	13515	19140	23718	27263	29905	31816	33171	34116	34769	35217	35523	35731	35872	35967	36032
50.8	46.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	257	513	770	1027	1283	1540	1796	2053	2310	2566	2823	3080	3336	3593	3850	3850
51.8	47.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	257	513	770	1027	1283	1540	1796	2053	2310	2566	2823	3080	3336	3593	3850	3850
52.8	48.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	257	513	770	1027	1283	1540	1796	2053	2310	2566	2823	3080	3336	3593	3850	3850

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6B: Seismic p-y Curve Data for a Jacket Pile at Boring B-6 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8408	16207	22953	28443	32695	35862	38154	39778	40912	41696	42233	42599	42849	43018	43132	43210
54.8	50.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8582	16541	23426	29029	33369	36601	38941	40599	41756	42555	43104	43478	43732	43905	44022	44101
55.8	51.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8755	16876	23899	29616	34043	37341	39727	41419	42599	43415	43974	44356	44616	44792	44911	44992

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6C: Seismic p-y Curve Data for a Jacket Pile at Boring B-10 (page 1 of 5)

Depth Below Mudline	Depth Below Scour Pit		Seismic p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
		p	0	16	31	44	54	62	68	73	76	78	79	80	81	82	82	82	82
6.8	2.0	y	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
		p	0	40	77	110	136	156	171	182	190	195	199	202	203	205	205	206	206
7.8	3.0	y	0	0.1	0.2	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.9	2.0
		p	0	72	140	198	245	282	309	329	343	353	359	364	367	369	371	372	372
8.8	4.0	y	0	0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.3	1.4	1.6	1.7	1.9	2.0	2.2	2.3
		p	0	113	218	308	382	439	482	513	534	550	560	567	572	576	578	580	581
9.8	5.0	y	0	0.2	0.3	0.5	0.7	0.8	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.1	2.3	2.5	2.6
		p	0	162	312	441	547	628	689	733	765	786	801	812	819	824	827	829	831
10.8	6.0	y	0	0.2	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.0	2.2	2.4	2.6	2.8	3.0
		p	0	218	421	596	739	849	932	991	1033	1063	1083	1097	1107	1113	1118	1121	1123
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3
		p	0	283	546	774	959	1102	1209	1286	1341	1379	1405	1424	1436	1444	1450	1454	1457
12.8	8.0	y	0	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.1	2.3	2.5	2.7	3.0	3.2	3.4	3.6
		p	0	357	687	973	1206	1386	1521	1618	1687	1735	1768	1791	1807	1817	1824	1829	1832
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	438	844	1195	1481	1703	1868	1987	2072	2131	2171	2199	2218	2231	2240	2246	2250
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.2	2.4	2.7	3.0	3.2	3.5	3.8	4.0	4.3
		p	0	527	1016	1440	1784	2051	2249	2393	2495	2566	2615	2649	2672	2687	2698	2705	2710
15.8	11.0	y	0	0.3	0.6	0.9	1.2	1.5	1.7	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.7
		p	0	625	1205	1706	2114	2430	2666	2836	2957	3041	3099	3139	3166	3185	3198	3206	3212
16.8	12.0	y	0	0.3	0.6	0.9	1.2	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.4	4.7	5.0
		p	0	731	1409	1995	2472	2842	3117	3316	3457	3556	3624	3671	3702	3724	3739	3749	3756

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6C: Seismic p-y Curve Data for a Jacket Pile at Boring B-10 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.3	0.7	1.0	1.3	1.7	2.0	2.3	2.7	3.0	3.3	3.7	4.0	4.3	4.7	5.0	5.3
		p	0	845	1629	2306	2858	3285	3604	3834	3997	4111	4190	4244	4281	4306	4323	4334	4342
18.8	14.0	y	0	0.4	0.7	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5	3.9	4.2	4.6	5.0	5.3	5.7
		p	0	969	1867	2644	3277	3766	4131	4395	4583	4713	4803	4865	4908	4936	4956	4969	4978
19.8	15.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
20.8	16.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
21.8	17.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
22.8	18.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
23.8	19.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
24.8	20.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
25.8	21.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
26.8	22.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	203	256	323	370	407	438	466	513	552	632	696	750	797	797	797	797
27.8	23.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	248	313	394	451	496	534	568	625	673	771	848	914	971	971	971	971
28.8	24.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	293	369	465	532	585	630	670	737	794	909	1001	1078	1146	1146	1146	1146

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6C: Seismic p-y Curve Data for a Jacket Pile at Boring B-10 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	337	425	535	613	674	727	772	850	915	1048	1153	1242	1320	1320	1320	1320
30.8	26.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	382	481	606	694	764	823	874	962	1036	1186	1306	1407	1495	1495	1495	1495
31.8	27.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	426	537	677	775	853	919	976	1074	1157	1325	1458	1571	1669	1669	1669	1669
32.8	28.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	471	593	748	856	942	1015	1078	1187	1278	1463	1611	1735	1844	1844	1844	1844
33.8	29.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	516	650	818	937	1031	1111	1180	1299	1399	1602	1763	1899	2018	2018	2018	2018
34.8	30.0	y	0	0.3	0.6	1.2	1.8	2.4	3.1	3.7	4.9	6.1	9.2	12.2	15.3	18.3	54.9	91.5	97.6
		p	0	560	706	889	1018	1120	1207	1282	1412	1521	1741	1916	2064	2193	2193	2193	2193
35.8	31.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
36.8	32.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
37.8	33.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
38.8	34.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
39.8	35.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
40.8	36.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6C: Seismic p-y Curve Data for a Jacket Pile at Boring B-10 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
42.8	38.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
43.8	39.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
44.8	40.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
45.8	41.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	161	322	484	645	806	967	1128	1289	1451	1612	1773	1934	2095	2257	2418	2418
46.8	42.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.0	13.9
		p	0	7134	13751	19474	24132	27739	30426	32371	33749	34711	35375	35831	36142	36354	36497	36594	36660
47.8	43.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.0	13.9
		p	0	7311	14093	19958	24732	28428	31183	33176	34588	35574	36255	36722	37041	37258	37405	37504	37572
48.8	44.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7488	14434	20442	25332	29118	31939	33981	35427	36437	37135	37613	37940	38162	38312	38414	38483
49.8	45.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	7666	14776	20926	25932	29808	32696	34785	36266	37300	38014	38504	38838	39066	39220	39324	39395
50.8	46.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	14.0
		p	0	7843	15118	21410	26532	30498	33452	35590	37106	38163	38894	39395	39737	39969	40127	40234	40307
51.8	47.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.3	12.2	13.1	14.0
		p	0	8021	15460	21895	27132	31187	34209	36395	37945	39026	39774	40286	40636	40873	41035	41144	41218
52.8	48.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8194	15794	22368	27718	31861	34948	37182	38765	39870	40633	41157	41514	41757	41922	42033	42109

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6C: Seismic p-y Curve Data for a Jacket Pile at Boring B-10 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8367	16128	22841	28305	32535	35687	37969	39585	40713	41493	42027	42392	42640	42809	42923	43000
54.8	50.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8541	16463	23314	28891	33209	36427	38755	40405	41557	42352	42898	43270	43524	43695	43812	43891
55.8	51.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	8714	16797	23788	29477	33884	37166	39542	41225	42400	43212	43769	44149	44407	44582	44701	44781

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6D: Seismic p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
		p	0	16	31	44	54	62	68	73	76	78	79	80	81	82	82	82	82
6.8	2.0	y	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
		p	0	40	77	110	136	156	171	182	190	195	199	202	203	205	205	206	206
7.8	3.0	y	0	0.1	0.2	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.9	2.0
		p	0	72	140	198	245	282	309	329	343	353	359	364	367	369	371	372	372
8.8	4.0	y	0	0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.3	1.4	1.6	1.7	1.9	2.0	2.2	2.3
		p	0	113	218	308	382	439	482	513	534	550	560	567	572	576	578	580	581
9.8	5.0	y	0	0.2	0.3	0.5	0.7	0.8	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.1	2.3	2.5	2.6
		p	0	162	312	441	547	628	689	733	765	786	801	812	819	824	827	829	831
10.8	6.0	y	0	0.2	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.0	2.2	2.4	2.6	2.8	3.0
		p	0	218	421	596	739	849	932	991	1033	1063	1083	1097	1107	1113	1118	1121	1123
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3
		p	0	283	546	774	959	1102	1209	1286	1341	1379	1405	1424	1436	1444	1450	1454	1457
12.8	8.0	y	0	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.1	2.3	2.5	2.7	3.0	3.2	3.4	3.6
		p	0	357	687	973	1206	1386	1521	1618	1687	1735	1768	1791	1807	1817	1824	1829	1832
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.5	3.7	4.0
		p	0	438	844	1195	1481	1703	1868	1987	2072	2131	2171	2199	2218	2231	2240	2246	2250
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.2	2.4	2.7	3.0	3.2	3.5	3.8	4.0	4.3
		p	0	527	1016	1440	1784	2051	2249	2393	2495	2566	2615	2649	2672	2687	2698	2705	2710
15.8	11.0	y	0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	3.0	4.2	5.4	5.7
		p	0	215	393	536	648	731	787	822	838	841	838	822	787	553	318	84	84
16.8	12.0	y	0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	3.0	4.2	5.4	5.7
		p	0	215	393	536	648	731	787	822	838	841	838	822	787	553	318	84	84

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6D: Seismic p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.7	4.0	4.3
		p	0	676	1304	1846	2288	2630	2885	3069	3200	3291	3354	3397	3427	3447	3461	3470	3476
18.8	14.0	y	0	0.3	0.6	0.9	1.1	1.4	1.7	2.0	2.3	2.6	2.9	3.2	3.4	3.7	4.0	4.3	4.6
		p	0	785	1513	2143	2655	3052	3348	3562	3713	3819	3892	3943	3977	4000	4016	4027	4034
19.8	15.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9
		p	0	902	1738	2461	3050	3506	3845	4091	4265	4387	4471	4528	4568	4594	4612	4625	4633
20.8	16.0	y	0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	3.0	3.3	3.6	3.9	4.3	4.6	4.9	5.2
		p	0	1026	1978	2801	3471	3990	4377	4657	4855	4993	5089	5154	5199	5230	5250	5264	5274
21.8	17.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.9	5.2	5.6
		p	0	1159	2234	3164	3920	4506	4943	5259	5483	5639	5747	5821	5872	5906	5929	5945	5956
22.8	18.0	y	0	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.0	4.3	4.7	5.0	5.4	5.8
		p	0	1410	2718	3850	4770	5483	6015	6399	6672	6862	6993	7083	7145	7186	7215	7234	7247
23.8	19.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.0	3.4	3.8	4.2	4.6	4.9	5.3	5.7	6.1
		p	0	1571	3029	4289	5315	6110	6702	7130	7434	7646	7792	7892	7961	8007	8039	8060	8075
24.8	20.0	y	0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4
		p	0	1741	3356	4753	5890	6770	7426	7901	8237	8472	8634	8745	8821	8873	8908	8931	8948
25.8	21.0	y	0	0.4	0.8	1.3	1.7	2.1	2.5	2.9	3.4	3.8	4.2	4.6	5.0	5.5	5.9	6.3	6.7
		p	0	1920	3700	5240	6494	7464	8187	8711	9081	9340	9519	9642	9725	9782	9821	9847	9865
26.8	22.0	y	0	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.2
		p	0	1939	3738	5294	6560	7541	8271	8800	9175	9436	9617	9741	9825	9883	9922	9948	9966
27.8	23.0	y	0	0.5	0.9	1.4	1.9	2.4	2.8	3.3	3.8	4.2	4.7	5.2	5.7	6.1	6.6	7.1	7.5
		p	0	2119	4085	5785	7169	8240	9038	9616	10026	10311	10509	10644	10737	10799	10842	10871	10890
28.8	24.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9
		p	0	2307	4447	6298	7804	8971	9840	10469	10914	11225	11440	11588	11688	11757	11803	11834	11856

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6D: Seismic p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.5	1.0	1.5	2.0	2.6	3.1	3.6	4.1	4.6	5.1	5.6	6.1	6.7	7.2	7.7	8.2
		p	0	2503	4824	6832	8466	9732	10675	11357	11841	12178	12411	12571	12680	12755	12805	12839	12862
30.8	26.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.7	4.3	4.8	5.3	5.9	6.4	6.9	7.5	8.0	8.5
		p	0	2707	5217	7389	9156	10524	11544	12282	12805	13170	13422	13595	13713	13793	13847	13884	13909
31.8	27.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.5	6.1	6.6	7.2	7.7	8.3	8.8
		p	0	2918	5625	7967	9872	11348	12447	13243	13807	14200	14472	14658	14786	14872	14931	14971	14998
32.8	28.0	y	0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.2	5.7	6.3	6.9	7.5	8.0	8.6	9.2
		p	0	3138	6049	8566	10615	12202	13384	14240	14846	15269	15562	15762	15899	15992	16055	16098	16127
33.8	29.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	3366	6488	9188	11386	13088	14356	15273	15923	16377	16691	16906	17053	17152	17220	17266	17297
34.8	30.0	y	0	0.6	1.2	1.8	2.5	3.1	3.7	4.3	4.9	5.5	6.1	6.8	7.4	8.0	8.6	9.2	9.8
		p	0	3602	6942	9831	12183	14004	15361	16343	17038	17524	17860	18090	18247	18353	18426	18475	18508
35.8	31.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	8.2	8.9	9.5	10.2
		p	0	3845	7412	10497	13007	14952	16400	17448	18191	18710	19068	19314	19481	19595	19673	19725	19760
36.8	32.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.9	8.5	9.2	9.8	10.5
		p	0	4097	7897	11184	13859	15931	17475	18592	19383	19936	20317	20579	20758	20879	20961	21017	21055
37.8	33.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.7	5.4	6.1	6.8	7.4	8.1	8.8	9.5	10.1	10.8
		p	0	4358	8401	11897	14743	16947	18589	19777	20619	21206	21612	21891	22081	22210	22298	22357	22397
38.8	34.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.7	10.4	11.1
		p	0	4628	8920	12632	15654	17994	19737	20998	21892	22516	22947	23243	23445	23582	23675	23738	23781
39.8	35.0	y	0	0.7	1.4	2.2	2.9	3.6	4.3	5.0	5.7	6.5	7.2	7.9	8.6	9.3	10.0	10.8	11.5
		p	0	4905	9454	13389	16592	19072	20920	22257	23204	23866	24323	24636	24850	24995	25094	25161	25206
40.8	36.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.2	5.9	6.6	7.4	8.1	8.8	9.6	10.3	11.1	11.8
		p	0	5190	10004	14168	17557	20182	22137	23552	24554	25254	25738	26069	26296	26450	26554	26625	26673

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6D: Seismic p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.6	11.4	12.1
		p	0	5484	10570	14969	18550	21323	23388	24883	25943	26682	27193	27543	27782	27945	28055	28130	28181
42.8	38.0	y	0	0.8	1.6	2.3	3.1	3.9	4.7	5.5	6.2	7.0	7.8	8.6	9.3	10.1	10.9	11.7	12.5
		p	0	5785	11151	15792	19570	22495	24674	26252	27369	28149	28688	29058	29310	29482	29598	29677	29730
43.8	39.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8
		p	0	6095	11748	16637	20617	23699	25995	27656	28834	29656	30223	30613	30878	31059	31182	31265	31321
44.8	40.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.6	7.4	8.2	9.0	9.8	10.7	11.5	12.3	13.1
		p	0	6412	12360	17505	21692	24934	27350	29098	30336	31201	31799	32208	32488	32678	32807	32894	32954
45.8	41.0	y	0	0.8	1.7	2.5	3.4	4.2	5.0	5.9	6.7	7.6	8.4	9.2	10.1	10.9	11.8	12.6	13.5
		p	0	6740	12991	18397	22798	26206	28745	30582	31884	32793	33421	33851	34145	34345	34480	34572	34634
46.8	42.0	y	0	0.9	1.7	2.6	3.4	4.3	5.2	6.0	6.9	7.8	8.6	9.5	10.3	11.2	12.1	12.9	13.8
		p	0	7075	13638	19314	23934	27512	30177	32106	33473	34427	35086	35538	35846	36056	36198	36295	36360
47.8	43.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.2	14.0
		p	0	7371	14207	20120	24933	28660	31436	33446	34869	35863	36550	37021	37342	37561	37709	37809	37877
48.8	44.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.2	14.0
		p	0	7544	14541	20593	25519	29334	32176	34232	35689	36707	37410	37892	38220	38444	38596	38699	38768
49.8	45.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.2	14.0
		p	0	7717	14875	21067	26106	30008	32915	35019	36510	37550	38269	38762	39099	39327	39483	39588	39659
50.8	46.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	7891	15210	21540	26692	30682	33654	35805	37330	38394	39129	39633	39977	40211	40370	40477	40550
51.8	47.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8064	15544	22013	27278	31356	34394	36592	38150	39237	39988	40504	40855	41094	41257	41366	41441
52.8	48.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8237	15878	22486	27865	32030	35133	37379	38970	40081	40848	41374	41733	41978	42143	42256	42332

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6D: Seismic p-y Curve Data for a Jacket Pile at Boring B-11/11A (page 5 of 5)

Depth Below Mudline	Depth Below Scour Pit		Seismic p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.0
		p	0	8411	16212	22959	28451	32704	35872	38165	39790	40924	41708	42245	42612	42861	43030	43145	43222
54.8	50.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.1
		p	0	8584	16546	23433	29038	33378	36612	38952	40610	41768	42567	43116	43490	43744	43917	44034	44113
55.8	51.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.7	10.5	11.4	12.3	13.2	14.1
		p	0	8757	16880	23906	29624	34052	37351	39738	41430	42611	43427	43986	44368	44628	44804	44923	45004

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6E: Seismic p-y Curve Data for a Jacket Pile at Boring B-OSS (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.8	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.8	1.0	y	0	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
		p	0	16	30	43	53	61	67	72	75	77	78	79	80	81	81	81	81
6.8	2.0	y	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
		p	0	40	77	108	134	154	169	180	188	193	197	199	201	202	203	204	204
7.8	3.0	y	0	0.1	0.2	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7	1.8	2.0
		p	0	72	138	196	242	279	306	325	339	349	355	360	363	365	367	368	368
8.8	4.0	y	0	0.2	0.3	0.5	0.7	0.9	1.0	1.2	1.4	1.6	1.7	1.9	2.1	2.2	2.4	2.6	2.8
		p	0	90	174	246	305	351	384	409	426	439	447	453	457	459	461	462	463
9.8	5.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.1
		p	0	128	247	350	434	498	547	582	606	624	636	644	649	653	656	658	659
10.8	6.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.5	1.8	2.0	2.2	2.4	2.6	2.9	3.1	3.3	3.5
		p	0	172	332	471	583	670	735	782	816	839	855	866	873	879	882	884	886
11.8	7.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	3.1	3.3
		p	0	280	540	765	948	1089	1195	1271	1325	1363	1389	1407	1419	1428	1433	1437	1440
12.8	8.0	y	0	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	3.2	3.4	3.6
		p	0	352	679	962	1192	1370	1503	1599	1667	1715	1748	1770	1785	1796	1803	1808	1811
13.8	9.0	y	0	0.2	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.2	3.4	3.7	3.9
		p	0	433	834	1181	1464	1683	1846	1964	2047	2106	2146	2174	2193	2205	2214	2220	2224
14.8	10.0	y	0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.7	4.0	4.3
		p	0	521	1005	1423	1763	2027	2223	2365	2466	2536	2585	2618	2641	2656	2667	2674	2679
15.8	11.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.0	5.4	5.7	6.1
		p	0	548	1056	1496	1854	2131	2338	2487	2593	2667	2718	2753	2777	2793	2804	2812	2817
16.8	12.0	y	0	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.0	4.3	4.7	5.1	5.4	5.8
		p	0	564	1088	1541	1909	2195	2408	2561	2670	2747	2799	2835	2860	2877	2888	2896	2901

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6E: Seismic p-y Curve Data for a Jacket Pile at Boring B-OSS (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
17.8	13.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.0	5.4	5.7	6.1
		p	0	648	1250	1770	2193	2521	2765	2942	3067	3154	3215	3256	3284	3304	3317	3326	3332
18.8	14.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.4	3.8	4.1	4.5	4.8	5.2	5.5
		p	0	943	1817	2574	3189	3666	4021	4278	4460	4587	4675	4735	4777	4804	4823	4836	4845
19.8	15.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.6	4.0	4.4	4.7	5.1	5.5	5.8
		p	0	1069	2061	2918	3616	4157	4560	4851	5058	5202	5302	5370	5416	5448	5470	5484	5494
20.8	16.0	y	0	0.4	0.8	1.2	1.5	1.9	2.3	2.7	3.1	3.5	3.8	4.2	4.6	5.0	5.4	5.8	6.2
		p	0	1203	2319	3285	4070	4679	5132	5460	5693	5855	5967	6044	6096	6132	6156	6173	6184
21.8	17.0	y	0	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.5	4.9	5.3	5.7	6.1	6.5
		p	0	1345	2593	3673	4551	5231	5738	6105	6365	6546	6672	6758	6816	6856	6883	6901	6914
22.8	18.0	y	0	0.4	0.8	1.3	1.7	2.1	2.5	3.0	3.4	3.8	4.2	4.7	5.1	5.5	5.9	6.4	6.8
		p	0	1495	2882	4082	5058	5814	6378	6785	7074	7276	7415	7511	7576	7620	7650	7671	7684
23.8	19.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	4.9	5.3	5.8	6.2	6.7	7.1
		p	0	1653	3187	4513	5592	6428	7051	7502	7821	8044	8198	8303	8376	8425	8458	8480	8496
24.8	20.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.5	7.0	7.5
		p	0	1822	3512	4974	6164	7085	7772	8268	8620	8866	9036	9152	9232	9286	9322	9347	9364
25.8	21.0	y	0	0.5	1.0	1.5	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	6.3	6.8	7.3	7.8
		p	0	1999	3854	5458	6763	7774	8527	9072	9458	9728	9914	10042	10129	10188	10229	10256	10274
26.8	22.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1
		p	0	2185	4211	5963	7390	8494	9317	9913	10335	10630	10833	10973	11068	11133	11177	11206	11227
27.8	23.0	y	0	0.5	1.1	1.6	2.1	2.6	3.2	3.7	4.2	4.8	5.3	5.8	6.3	6.9	7.4	7.9	8.5
		p	0	2378	4584	6492	8044	9247	10143	10791	11250	11571	11792	11944	12048	12119	12166	12199	12221
28.8	24.0	y	0	0.5	1.1	1.6	2.2	2.7	3.3	3.8	4.4	4.9	5.5	6.0	6.6	7.1	7.7	8.2	8.8
		p	0	2580	4972	7042	8726	10031	11003	11706	12204	12552	12792	12957	13070	13146	13198	13233	13257

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6E: Seismic p-y Curve Data for a Jacket Pile at Boring B-OSS (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
29.8	25.0	y	0	0.6	1.1	1.7	2.3	2.9	3.4	4.0	4.6	5.1	5.7	6.3	6.8	7.4	8.0	8.6	9.1
		p	0	2789	5377	7615	9436	10847	11897	12658	13197	13573	13833	14011	14133	14215	14271	14309	14335
30.8	26.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	3007	5797	8210	10173	11694	12827	13647	14228	14633	14914	15106	15237	15326	15386	15427	15455
31.8	27.0	y	0	0.6	1.2	1.8	2.5	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.4	8.0	8.6	9.2	9.8
		p	0	3234	6233	8827	10938	12573	13791	14673	15298	15734	16035	16241	16382	16478	16543	16587	16617
32.8	28.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	8.2	8.9	9.5	10.1
		p	0	3468	6684	9466	11731	13484	14791	15736	16406	16874	17197	17418	17569	17672	17742	17789	17821
33.8	29.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.9	8.5	9.2	9.8	10.5
		p	0	3710	7152	10128	12551	14427	15825	16836	17553	18053	18399	18636	18798	18908	18982	19033	19067
34.8	30.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.7	5.4	6.1	6.8	7.4	8.1	8.8	9.5	10.1	10.8
		p	0	3961	7635	10812	13399	15402	16894	17973	18739	19273	19642	19895	20067	20185	20265	20319	20355
35.8	31.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
36.8	32.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
37.8	33.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
38.8	34.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
39.8	35.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
40.8	36.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6E: Seismic p-y Curve Data for a Jacket Pile at Boring B-OSS (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
41.8	37.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
42.8	38.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
43.8	39.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
44.8	40.0	y	0	0.0	0.0	0.3	0.8	1.9	4.0	7.5	12.7	20.4	31.0	45.4	64.4	88.6	119.2	157.1	196.4
		p	0	199	397	596	794	993	1191	1390	1588	1787	1985	2184	2382	2581	2779	2978	2978
45.8	41.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	6974	13443	19037	23591	27117	29744	31645	32993	33933	34583	35028	35332	35539	35679	35775	35839
46.8	42.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7145	13773	19505	24170	27783	30475	32423	33803	34767	35432	35889	36200	36412	36556	36653	36719
47.8	43.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7317	14103	19973	24750	28450	31206	33200	34614	35600	36282	36749	37068	37285	37433	37532	37600
48.8	44.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7488	14433	20440	25330	29116	31937	33978	35424	36434	37132	37610	37937	38159	38309	38411	38480
49.8	45.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7659	14764	20908	25909	29782	32667	34755	36235	37268	37981	38471	38805	39032	39186	39290	39361
50.8	46.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.4	11.3	12.2	13.1	13.9
		p	0	7831	15094	21376	26489	30448	33398	35533	37045	38101	38831	39331	39673	39905	40062	40169	40241
51.8	47.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8002	15424	21844	27068	31114	34129	36310	37856	38935	39681	40192	40541	40778	40939	41048	41122
52.8	48.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8173	15754	22311	27648	31781	34860	37088	38667	39769	40530	41052	41409	41651	41815	41927	42002

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 6E: Seismic p-y Curve Data for a Jacket Pile at Boring B-OSS (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
53.8	49.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8345	16085	22779	28227	32447	35590	37865	39477	40602	41380	41913	42277	42524	42692	42806	42883
54.8	50.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8516	16415	23247	28807	33113	36321	38643	40288	41436	42229	42773	43145	43397	43569	43685	43763
55.8	51.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.8	8.7	9.6	10.5	11.3	12.2	13.1	13.9
		p	0	8687	16745	23714	29387	33779	37052	39420	41098	42270	43079	43634	44013	44270	44445	44564	44644

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 7A: Axial and Lateral Capacity Input Analysis Parameters for a Monopile at Boring B-3 (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
SP	0	18.7	8.64	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	9.1			79.0														
SP-SM	9.1	18.4	8.33	79.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	14.9			127.2														
CL	14.9	18.4	8.33	127.2	80.3	80.3						API Soft Clay					0.25	0.010
	17.7			150.1	80.3	80.3												
SP-SM	17.7	18.5	8.48	150.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	20.1			170.7														
CL	20.1	18.2	8.17	170.7	77.2	94.6						API Soft Clay					0.25	0.010
	24.7			208.1	77.2	94.6												
SP/SW/SC	24.7	18.8	8.72	208.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	32.9			279.8														
CL	32.9	18.5	8.48	279.8	111.9	111.9						Stiff Clay w/ Free Water			270000	110000		0.005
	35.7			303.1	111.9	111.9												
SP-SM	35.7	18.4	8.33	303.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	39.9			338.6														
MH	39.9	18.1	8.01	338.6	74.0	125.0						Stiff Clay w/ Free Water			270000	110000		0.005
	43.0			363.1	102.0	153.1												
SP-SM	43.0	18.4	8.33	208.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	45.7			230.9														
SC/SP-SM	45.7	18.6	8.56	279.8			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	57.3			379.0														
SC/SP-SM	57.3	18.7	8.64	303.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	63.4			355.8														
CL	63.4	18.7	8.64	338.6	185.2	197.0						Stiff Clay w/ Free Water			270000	110000		0.005
	65.2			354.4	185.2	197.0												

Table 7B: Axial and Lateral Capacity Input Analysis Parameters for a Monopile at Boring B-6 (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
SP	0	18.1	8.0	0.0			0.21	0.8	8	47.8	1900	API Sand	34	19800				
	1.2			9.8														
OL	1.2	18.5	8.5	9.8	11.5	20.5						API Soft Clay					0.50	0.020
	3.0			25.3	11.5	20.5												
SP	3.0	18.5	8.5	25.3			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	9.8			82.2														
CL	9.8	18.4	8.3	82.2	24.9	24.9						API Soft Clay					0.50	0.020
	18.9			158.3	112.0	112.0												
SM	18.9	18.5	8.5	158.3			0.29	0.8	12	67.0	3000	API Sand	31	13200				
	26.5			222.9														
CL	26.5	18.7	8.6	222.9	93.7	163.8						Stiff w/ Free Water			270000	110000		0.005
	30.5			257.2	93.7	163.8												
SP/SP-SM	30.5	18.6	8.6	257.2			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	40.2			340.7														
CL	40.2	18.6	8.6	340.7	136.3	136.3						Stiff w/ Free Water			270000	110000		0.005
	42.1			356.3	136.3	136.3												
SP	42.1	18.6	8.6	356.3			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	50.3			426.8														
CL	50.3	18.5	8.5	426.8	175.3	175.3						Stiff w/ Free Water			270000	110000		0.005
	53.0			450.1	175.3	175.3												
SP-SM	53.0	18.6	8.6	450.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	57.6			489.2														
CL	57.6	18.6	8.6	489.2	195.5	195.5						Stiff w/ Free Water			270000	110000		0.005
	59.1			502.2	195.5	195.5												
SP-SM	59.1	18.6	8.6	502.2			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	64.0			544.0														
CL	64.0	18.6	8.6	544.0	181.0	208.1						Stiff w/ Free Water			540000	220000		0.004
	67.4			572.7	181.0	208.1												

Table 7C: Axial and Lateral Capacity Input Analysis Parameters for a Monopile at Boring B-10 (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
SP/SW	0	18.7	8.6	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	17.7			152.7														
SC	17.7	18.9	8.8	152.7			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	19.2			166.1														
CL	19.2	18.8	8.7	166.1	50.3	50.3						API Soft Clay					0.3	0.010
	24.4			211.3	50.3	50.3												
CL	24.4	18.5	8.5	211.3	50.3	50.3						API Soft Clay					0.3	0.010
	26.8			232.0	50.3	50.3												
CH	26.8	18.4	8.3	232.0	50.3	50.3						API Soft Clay					0.3	0.010
	35.7			305.6	148.4	148.4												
CH	35.7	18.1	8.1	305.6	110.1	110.1						Stiff w/ Free Water			270000	110000		0.005
	46.3			391.9	110.1	110.1												
SW-SM	46.3	18.9	8.8	391.9			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	51.8			440.2														
SP/SP-SM	51.8	18.7	8.6	440.2			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	60.4			513.9														
CL	60.4	18.7	8.6	513.9	205.5	205.5						Stiff w/ Free Water			540000	220000		0.004
	62.2			529.7	205.5	205.5												
SP	62.2	18.7	8.6	529.7			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	64.6			550.8														
CL	64.6	18.7	8.6	550.8	200.4	219.0						Stiff w/ Free Water			540000	220000		0.004
	66.3			565.3	200.4	219.0												

Table 7D: Axial and Lateral Capacity Input Analysis Parameters for a Monopile at Boring B-11/11A (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
SP	0	18.7	8.6	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	15.2			131.7														
CL	15.2	18.6	8.6	131.7	75.3	104.5						Stiff w/ Free Water			270000	110000		0.005
	17.7			152.5	75.3	104.5												
SP	17.7	18.5	8.5	152.5			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	22.6			193.9														
ML	22.6	18.5	8.4	193.9			0.21	0.8	8	47.8	1900	API Sand	35	22000				
	25.9			222.1														
SP/SP-SM	25.9	18.5	8.4	222.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	36.6			311.7														
SP	36.6	18.5	8.5	311.7			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	45.1			384.1														
SW/SP	45.1	18.6	8.6	384.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	66.6			567.7														

Table 7E: Axial and Lateral Capacity Input Analysis Parameters for a Monopile at Boring B-OSS (page 1 of 1)

Soil Profile							Axial Pile Parameters					LPile Parameters						
Design Profile	Depth Below Scour Pit	Total Unit Weight	Effective Unit Weight	Effective Stress	Remolded Shear Strength	Intact Shear Strength	β	K_o	N_q	Max Side Friction	Max End Bearing	p-y Model Type	Friction Angle	k	ks	kc	J	ε50
-	(m)	(kN/m^3)	(kN/m^3)	(kPa)	(kPa)	(kPa)	-	-	-	(kPa)	(kPa)	-	(degrees)	(kN/m^3)	(kN/m^3)	(kN/m^3)	-	-
SP	0	18.5	8.5	0.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	7.9			67.2														
SM	7.9	18.5	8.5	67.2			0.29	0.8	12	67.0	3000	API Sand	31	13200				
	11.0			93.1														
SP-SM	11.0	18.5	8.5	93.1			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	15.8			134.4														
SM	15.8	17.9	7.9	134.4			0.21	0.8	8	47.8	1900	API Sand	31	13200				
	18.3			153.6														
SP	18.3	18.4	8.3	153.6			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	23.8			199.3														
SP/SP-SM	23.8	18.6	8.6	199.3			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	35.4			298.4														
CL	35.4	18.5	8.5	298.4	114.1	135.6						Stiff w/ Free Water			270000	110000		0.005
	41.5			350.1	114.1	135.6												
CL	41.5	18.2	8.2	350.1	114.1	135.6						Stiff w/ Free Water			270000	110000		0.005
	45.1			380.0	114.1	135.6												
SP	45.1	18.5	8.5	380.0			0.29	0.8	12	67.0	3000	API Sand	34	19800				
	59.4			501.5														
CL	59.4	18.6	8.6	501.5	194.0	194.0						Stiff w/ Free Water			270000	110000		0.005
	65.5			553.7	194.0	194.0												

Table 8A: Unfactored Static Capacity for a Monopile at Boring B-3 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	0.0	0	0	0	0
0.5	0.5	9	106	115	70
1.0	1.0	34	227	261	153
1.5	1.5	75	363	438	248
2.0	2.0	132	515	646	355
2.5	2.5	204	682	885	475
3.0	3.0	291	864	1156	608
3.5	3.5	395	1062	1457	753
4.0	4.0	514	1275	1789	911
4.5	4.5	649	1504	2153	1081
5.0	5.0	799	1748	2547	1264
5.5	5.5	965	2007	2972	1459
6.0	6.0	1147	2282	3429	1667
6.5	6.5	1345	2572	3916	1888
7.0	7.0	1558	2877	4435	2121
7.5	7.5	1786	3198	4985	2366
8.0	8.0	2031	3534	5565	2624
8.5	8.5	2291	3886	6177	2895
9.0	9.0	2567	4253	6820	3178
9.5	9.5	2858	4632	7490	3474
10.0	10.0	3164	5026	8190	3781
10.5	10.5	3486	5435	8920	4101
11.0	11.0	3823	5858	9680	4433
11.5	11.5	4174	6296	10470	4776
12.0	12.0	4541	6749	11290	5132
12.5	12.5	4923	7217	12140	5500
13.0	13.0	5320	7699	13020	5881
13.5	13.5	5732	8197	13929	6273
14.0	14.0	6160	8709	14869	6677
14.5	14.5	6602	9236	15839	7094
15.0	15.0	7094	8311	15405	7550
15.5	15.5	7735	8940	16675	8125
16.0	16.0	8387	9579	17966	8709
16.5	16.5	9048	10228	19276	9300
17.0	17.0	9720	10887	20606	9900
17.5	17.5	10401	11555	21956	10507
18.0	18.0	11007	14210	25217	11055
18.5	18.5	11570	14858	26428	11568
19.0	19.0	12150	15521	27671	12094
19.5	19.5	12744	16199	28943	12632
20.0	20.0	13354	16892	30246	13182
20.5	20.5	14119	15384	29503	13857
21.0	21.0	14929	16102	31031	14567
21.5	21.5	15748	16828	32576	15285

Table 8A: Unfactored Static Capacity for a Monopile at Boring B-3 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
22.0	22.0	16577	17562	34139	16010
22.5	22.5	17414	18305	35719	16743
23.0	23.0	18261	19056	37317	17483
23.5	23.5	19117	19814	38931	18230
24.0	24.0	19981	20580	40561	18984
24.5	24.5	20854	21355	42209	19745
25.0	25.0	21638	25224	46863	20435
25.5	25.5	22413	26082	48495	21117
26.0	26.0	23204	26956	50160	21812
26.5	26.5	24011	27845	51856	22520
27.0	27.0	24833	28749	53583	23241
27.5	27.5	25671	29669	55340	23973
28.0	28.0	26513	30592	57106	24709
28.5	28.5	27355	31516	58871	25445
29.0	29.0	28197	32440	60637	26181
29.5	29.5	29039	33363	62402	26917
30.0	30.0	29881	34207	64088	27654
30.5	30.5	30723	35034	65757	28390
31.0	31.0	31565	35860	67425	29126
31.5	31.5	32407	36686	69093	29862
32.0	32.0	33249	37512	70761	30598
32.5	32.5	34091	38338	72429	31334
33.0	33.0	35040	35549	70590	32156
33.5	33.5	36157	36645	72802	33112
34.0	34.0	37282	37749	75031	34074
34.5	34.5	38415	38861	77276	35043
35.0	35.0	39556	39981	79537	36019
35.5	35.5	40706	41109	81815	37001
36.0	36.0	41610	45717	87327	37787
36.5	36.5	42452	46543	88995	38523
37.0	37.0	43294	47369	90664	39259
37.5	37.5	44136	48195	92332	39995
38.0	38.0	44978	49022	94000	40731
38.5	38.5	45820	49848	95668	41467
39.0	39.0	46662	50674	97336	42203
39.5	39.5	47504	51500	99004	42939
40.0	40.0	48526	48877	97404	43819
40.5	40.5	49841	49910	99751	44934
41.0	41.0	51187	50999	102186	46073
41.5	41.5	52563	52142	104705	47236
42.0	42.0	53970	53323	107293	48424
42.5	42.5	55407	54538	109944	49636
43.0	43.0	56746	58743	115489	50770
43.5	43.5	57588	59569	117157	51506

Table 8A: Unfactored Static Capacity for a Monopile at Boring B-3 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
44.0	44.0	58430	60395	118825	52242
44.5	44.5	59272	61221	120494	52978
45.0	45.0	60114	62048	122162	53714
45.5	45.5	60956	62874	123830	54450
46.0	46.0	61798	63700	125498	55186
46.5	46.5	62640	64526	127166	55922
47.0	47.0	63482	65352	128834	56658
47.5	47.5	64324	66178	130502	57394
48.0	48.0	65166	67005	132170	58131
48.5	48.5	66008	67831	133838	58867
49.0	49.0	66850	68657	135507	59603

Table 8B: Unfactored Static Capacity for a Monopile at Boring B-6 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	0.0	0	0	0	0
0.5	0.5	6	66	72	68
1.0	1.0	23	142	166	144
1.5	1.5	100	420	520	267
2.0	2.0	218	500	718	424
2.5	2.5	345	591	935	588
3.0	3.0	479	645	1124	758
3.5	3.5	579	1093	1672	901
4.0	4.0	694	1300	1994	1055
4.5	4.5	824	1523	2347	1222
5.0	5.0	970	1761	2731	1401
5.5	5.5	1131	2013	3145	1592
6.0	6.0	1308	2281	3589	1796
6.5	6.5	1500	2564	4064	2012
7.0	7.0	1707	2862	4570	2241
7.5	7.5	1930	3176	5106	2481
8.0	8.0	2168	3504	5672	2734
8.5	8.5	2422	3847	6269	3000
9.0	9.0	2691	4206	6896	3277
9.5	9.5	2975	4579	7554	3567
10.0	10.0	3271	3534	6805	3866
10.5	10.5	3589	3927	7516	4183
11.0	11.0	3940	4352	8292	4527
11.5	11.5	4323	4808	9131	4895
12.0	12.0	4738	5295	10033	5290
12.5	12.5	5183	5813	10996	5709
13.0	13.0	5659	6361	12020	6152
13.5	13.5	6166	6938	13105	6620
14.0	14.0	6703	7546	14248	7112
14.5	14.5	7269	8182	15451	7627
15.0	15.0	7866	8847	16713	8167
15.5	15.5	8491	9542	18033	8730
16.0	16.0	9147	10265	19412	9317
16.5	16.5	9831	11017	20848	9927
17.0	17.0	10545	11798	22343	10560
17.5	17.5	11287	12608	23895	11217
18.0	18.0	12059	13445	25505	11897
18.5	18.5	12860	14311	27171	12600
19.0	19.0	13637	16809	30446	13284
19.5	19.5	14224	17480	31705	13816
20.0	20.0	14827	18166	32993	14361
20.5	20.5	15445	18867	34312	14918
21.0	21.0	16078	19584	35662	15487
21.5	21.5	16727	20315	37042	16068

Table 8B: Unfactored Static Capacity for a Monopile at Boring B-6 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
22.0	22.0	17391	21061	38453	16662
22.5	22.5	18071	21823	39894	17268
23.0	23.0	18766	22599	41365	17887
23.5	23.5	19476	23391	42867	18518
24.0	24.0	20202	24198	44400	19161
24.5	24.5	20943	25020	45963	19816
25.0	25.0	21700	25857	47557	20484
25.5	25.5	22472	26709	49181	21164
26.0	26.0	23259	27576	50835	21856
26.5	26.5	24140	26257	50396	22623
27.0	27.0	25345	27151	52495	23650
27.5	27.5	26561	28053	54614	24685
28.0	28.0	27789	28964	56753	25730
28.5	28.5	29028	29884	58912	26784
29.0	29.0	30279	30811	61090	27847
29.5	29.5	31540	31747	63287	28918
30.0	30.0	32812	32691	65504	29999
30.5	30.5	34006	36467	70473	31016
31.0	31.0	34848	37293	72141	31752
31.5	31.5	35690	38119	73810	32488
32.0	32.0	36532	38945	75478	33224
32.5	32.5	37374	39772	77146	33960
33.0	33.0	38216	40598	78814	34697
33.5	33.5	39058	41424	80482	35433
34.0	34.0	39900	42250	82150	36169
34.5	34.5	40742	43076	83818	36905
35.0	35.0	41584	43902	85486	37641
35.5	35.5	42426	44728	87154	38377
36.0	36.0	43268	45555	88823	39113
36.5	36.5	44110	46381	90491	39849
37.0	37.0	44952	47207	92159	40585
37.5	37.5	45794	48033	93827	41321
38.0	38.0	46636	48859	95495	42057
38.5	38.5	47478	49685	97163	42793
39.0	39.0	48320	50512	98831	43529
39.5	39.5	49161	51338	100499	44265
40.0	40.0	50003	52164	102167	45001
40.5	40.5	51255	50080	101335	46064
41.0	41.0	52616	51416	104031	47216
41.5	41.5	53985	52759	106745	48374
42.0	42.0	55363	54111	109475	49539
42.5	42.5	56205	58249	114455	50275
43.0	43.0	57047	59076	116123	51011
43.5	43.5	57889	59902	117791	51747

Table 8B: Unfactored Static Capacity for a Monopile at Boring B-6 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
44.0	44.0	58731	60728	119459	52483
44.5	44.5	59573	61554	121127	53219
45.0	45.0	60415	62380	122795	53955
45.5	45.5	61257	63206	124463	54691
46.0	46.0	62099	64033	126131	55427
46.5	46.5	62941	64859	127800	56163
47.0	47.0	63783	65685	129468	56899
47.5	47.5	64625	66511	131136	57635
48.0	48.0	65467	67337	132804	58371
48.5	48.5	66309	68163	134472	59107
49.0	49.0	67151	68990	136140	59843
49.5	49.5	67992	69816	137808	60579
50.0	50.0	68834	70642	139476	61315
50.5	50.5	70202	69328	139530	62472
51.0	51.0	71927	71020	142947	63914

Table 8C: Unfactored Static Capacity for a Monopile at Boring B-10 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	0.0	0	0	0	0
0.5	0.5	9	106	115	70
1.0	1.0	34	227	261	153
1.5	1.5	75	363	438	248
2.0	2.0	132	515	646	355
2.5	2.5	204	682	885	475
3.0	3.0	291	864	1156	608
3.5	3.5	395	1062	1457	753
4.0	4.0	514	1275	1789	911
4.5	4.5	649	1504	2153	1081
5.0	5.0	799	1748	2547	1264
5.5	5.5	965	2007	2972	1459
6.0	6.0	1147	2282	3429	1667
6.5	6.5	1345	2572	3916	1888
7.0	7.0	1558	2877	4435	2121
7.5	7.5	1786	3198	4985	2366
8.0	8.0	2031	3534	5565	2624
8.5	8.5	2291	3886	6177	2895
9.0	9.0	2567	4253	6820	3178
9.5	9.5	2858	4635	7494	3474
10.0	10.0	3165	5033	8198	3782
10.5	10.5	3488	5446	8934	4103
11.0	11.0	3827	5875	9701	4436
11.5	11.5	4181	6319	10499	4782
12.0	12.0	4551	6778	11328	5140
12.5	12.5	4936	7252	12189	5511
13.0	13.0	5337	7742	13080	5894
13.5	13.5	5754	8248	14002	6290
14.0	14.0	6187	8768	14955	6699
14.5	14.5	6635	9305	15939	7120
15.0	15.0	7099	9856	16955	7553
15.5	15.5	7578	10423	18001	7999
16.0	16.0	8073	11005	19079	8458
16.5	16.5	8584	11603	20187	8929
17.0	17.0	9111	12216	21327	9413
17.5	17.5	9653	12844	22497	9909
18.0	18.0	10211	13489	23700	10418
18.5	18.5	10785	14151	24936	10940
19.0	19.0	11375	14829	26204	11474
19.5	19.5	11961	12582	24543	12005
20.0	20.0	12543	13153	25696	12534
20.5	20.5	13133	13732	26864	13068
21.0	21.0	13729	14317	28047	13608
21.5	21.5	14333	14910	29243	14153

Table 8C: Unfactored Static Capacity for a Monopile at Boring B-10 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
22.0	22.0	14944	15509	30454	14705
22.5	22.5	15562	16116	31678	15261
23.0	23.0	16187	16729	32917	15824
23.5	23.5	16819	17349	34167	16391
24.0	24.0	17451	17969	35420	16960
24.5	24.5	18083	18589	36672	17528
25.0	25.0	18715	19209	37924	18096
25.5	25.5	19347	19830	39177	18664
26.0	26.0	19979	20450	40429	19232
26.5	26.5	20611	21070	41681	19800
27.0	27.0	21252	21735	42987	20375
27.5	27.5	21953	22516	44469	20999
28.0	28.0	22714	23355	46069	21670
28.5	28.5	23515	24234	47749	22373
29.0	29.0	24356	25152	49508	23108
29.5	29.5	25235	26108	51343	23875
30.0	30.0	26153	27101	53254	24671
30.5	30.5	27108	28131	55239	25498
31.0	31.0	28100	29197	57297	26354
31.5	31.5	29129	30299	59428	27239
32.0	32.0	30194	31436	61630	28154
32.5	32.5	31295	32609	63904	29097
33.0	33.0	32431	33816	66247	30068
33.5	33.5	33602	35058	68660	31068
34.0	34.0	34808	36334	71142	32095
34.5	34.5	36049	37644	73693	33150
35.0	35.0	37324	38988	76312	34232
35.5	35.5	38633	40365	78998	35342
36.0	36.0	39821	40925	80747	36356
36.5	36.5	40982	42064	83045	37346
37.0	37.0	42149	43209	85359	38343
37.5	37.5	43325	44363	87687	39346
38.0	38.0	44507	45523	90030	40354
38.5	38.5	45697	46691	92388	41369
39.0	39.0	46895	47866	94761	42389
39.5	39.5	48100	49048	97148	43416
40.0	40.0	49312	50238	99549	44448
40.5	40.5	50531	51434	101965	45486
41.0	41.0	51758	52637	104395	46529
41.5	41.5	52991	53848	106839	47579
42.0	42.0	54232	55065	109297	48634
42.5	42.5	55480	56290	111770	49695
43.0	43.0	56735	57521	114256	50761
43.5	43.5	57996	58759	116756	51833

Table 8C: Unfactored Static Capacity for a Monopile at Boring B-10 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
44.0	44.0	59265	60004	119270	52910
44.5	44.5	60541	61256	121797	53993
45.0	45.0	61823	62515	124338	55082
45.5	45.5	63113	63780	126893	56176
46.0	46.0	64409	65052	129461	57275
46.5	46.5	65435	69810	135244	58158
47.0	47.0	66277	70636	136912	58894
47.5	47.5	67118	71462	138580	59630
48.0	48.0	67960	72288	140248	60366
48.5	48.5	68802	73114	141917	61102
49.0	49.0	69644	73940	143585	61838
49.5	49.5	70486	74766	145253	62574
50.0	50.0	71328	75593	146921	63310

Table 8D: Unfactored Static Capacity for a Monopile at Boring B-11/11A (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	0.0	0	0	0	0
0.5	0.5	9	106	116	70
1.0	1.0	35	228	262	153
1.5	1.5	76	365	440	248
2.0	2.0	132	517	649	356
2.5	2.5	205	685	889	476
3.0	3.0	293	868	1161	609
3.5	3.5	397	1067	1464	755
4.0	4.0	516	1281	1797	913
4.5	4.5	652	1511	2162	1084
5.0	5.0	803	1756	2559	1267
5.5	5.5	970	2016	2986	1463
6.0	6.0	1152	2292	3445	1672
6.5	6.5	1351	2584	3935	1893
7.0	7.0	1565	2891	4455	2127
7.5	7.5	1795	3213	5008	2373
8.0	8.0	2040	3551	5591	2632
8.5	8.5	2302	3904	6206	2903
9.0	9.0	2579	4273	6851	3188
9.5	9.5	2871	4657	7528	3484
10.0	10.0	3180	5056	8236	3794
10.5	10.5	3504	5471	8976	4116
11.0	11.0	3844	5902	9746	4450
11.5	11.5	4200	6348	10548	4797
12.0	12.0	4572	6809	11381	5157
12.5	12.5	4959	7286	12245	5529
13.0	13.0	5362	7778	13140	5914
13.5	13.5	5781	8286	14067	6312
14.0	14.0	6215	8809	15024	6722
14.5	14.5	6666	9348	16013	7144
15.0	15.0	7131	9902	17033	7580
15.5	15.5	7767	9311	17078	8150
16.0	16.0	8517	9936	18454	8813
16.5	16.5	9279	10571	19850	9485
17.0	17.0	10053	11215	21268	10166
17.5	17.5	10837	11869	22706	10857
18.0	18.0	11492	14188	25680	11443
18.5	18.5	12067	14847	26914	11966
19.0	19.0	12658	15522	28179	12500
19.5	19.5	13264	16211	29475	13048
20.0	20.0	13885	16916	30801	13607
20.5	20.5	14522	17636	32158	14179
21.0	21.0	15175	18371	33546	14764
21.5	21.5	15843	19122	34964	15361

Table 8D: Unfactored Static Capacity for a Monopile at Boring B-11/11A (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
22.0	22.0	16526	19887	36413	15970
22.5	22.5	17225	20668	37893	16591
23.0	23.0	17742	19793	37535	17067
23.5	23.5	18270	20374	38645	17553
24.0	24.0	18809	20966	39776	18046
24.5	24.5	19360	21569	40929	18549
25.0	25.0	19921	22183	42104	19061
25.5	25.5	20494	22808	43302	19582
26.0	26.0	21167	25196	46363	20183
26.5	26.5	21988	26096	48084	20902
27.0	27.0	22825	27011	49835	21634
27.5	27.5	23667	27931	51598	22370
28.0	28.0	24509	28851	53360	23106
28.5	28.5	25351	29772	55122	23842
29.0	29.0	26193	30692	56885	24578
29.5	29.5	27035	31561	58596	25314
30.0	30.0	27877	32387	60264	26050
30.5	30.5	28718	33214	61932	26786
31.0	31.0	29560	34040	63600	27522
31.5	31.5	30402	34866	65268	28258
32.0	32.0	31244	35692	66936	28994
32.5	32.5	32086	36518	68604	29730
33.0	33.0	32928	37344	70273	30466
33.5	33.5	33770	38171	71941	31202
34.0	34.0	34612	38997	73609	31938
34.5	34.5	35454	39823	75277	32674
35.0	35.0	36296	40649	76945	33410
35.5	35.5	37138	41475	78613	34146
36.0	36.0	37980	42301	80281	34882
36.5	36.5	38822	43127	81949	35618
37.0	37.0	39664	43954	83617	36354
37.5	37.5	40506	44780	85286	37090
38.0	38.0	41348	45606	86954	37827
38.5	38.5	42190	46432	88622	38563
39.0	39.0	43032	47258	90290	39299
39.5	39.5	43874	48084	91958	40035
40.0	40.0	44715	48911	93626	40771
40.5	40.5	45557	49737	95294	41507
41.0	41.0	46399	50563	96962	42243
41.5	41.5	47241	51389	98630	42979
42.0	42.0	48083	52215	100299	43715
42.5	42.5	48925	53041	101967	44451
43.0	43.0	49767	53868	103635	45187
43.5	43.5	50609	54694	105303	45923

Table 8D: Unfactored Static Capacity for a Monopile at Boring B-11/11A (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
44.0	44.0	51451	55520	106971	46659
44.5	44.5	52293	56346	108639	47395
45.0	45.0	53135	57172	110307	48131
45.5	45.5	53977	57998	111975	48867
46.0	46.0	54819	58825	113643	49603
46.5	46.5	55661	59651	115311	50339
47.0	47.0	56503	60477	116980	51075
47.5	47.5	57345	61303	118648	51811
48.0	48.0	58187	62129	120316	52547
48.5	48.5	59029	62955	121984	53283
49.0	49.0	59871	63781	123652	54019
49.5	49.5	60712	64608	125320	54755
50.0	50.0	61554	65434	126988	55491
50.5	50.5	62396	66260	128656	56227

Table 8E: Unfactored Static Capacity for a Monopile at Boring B-OSS (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
0.0	0.0	0	0	0	0
0.5	0.5	9	104	113	70
1.0	1.0	34	222	256	152
1.5	1.5	74	356	430	247
2.0	2.0	129	505	635	353
2.5	2.5	200	669	870	472
3.0	3.0	286	849	1135	604
3.5	3.5	388	1043	1431	748
4.0	4.0	505	1252	1757	904
4.5	4.5	637	1477	2114	1072
5.0	5.0	785	1717	2501	1253
5.5	5.5	948	1971	2919	1446
6.0	6.0	1127	2241	3368	1651
6.5	6.5	1320	2526	3846	1869
7.0	7.0	1530	2826	4356	2099
7.5	7.5	1755	3141	4896	2341
8.0	8.0	1995	3471	5466	2595
8.5	8.5	2250	3817	6067	2862
9.0	9.0	2521	4177	6698	3141
9.5	9.5	2807	4553	7360	3433
10.0	10.0	3109	4943	8052	3737
10.5	10.5	3426	5349	8775	4053
11.0	11.0	3758	5770	9528	4381
11.5	11.5	4106	6206	10312	4722
12.0	12.0	4469	6657	11126	5075
12.5	12.5	4848	7123	11971	5440
13.0	13.0	5242	7604	12846	5818
13.5	13.5	5651	8100	13752	6208
14.0	14.0	6076	8612	14688	6610
14.5	14.5	6516	9138	15655	7025
15.0	15.0	6972	9680	16652	7452
15.5	15.5	7443	10237	17680	7891
16.0	16.0	7875	9744	17619	8299
16.5	16.5	8237	10159	18396	8652
17.0	17.0	8610	10583	19193	9012
17.5	17.5	8994	11018	20011	9382
18.0	18.0	9387	11463	20850	9759
18.5	18.5	9853	13135	22989	10194
19.0	19.0	10426	13791	24217	10715
19.5	19.5	11014	14461	25475	11248
20.0	20.0	11617	15146	26763	11793
20.5	20.5	12236	15845	28081	12350
21.0	21.0	12869	16560	29429	12919
21.5	21.5	13518	17289	30807	13501

Table 8E: Unfactored Static Capacity for a Monopile at Boring B-OSS (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
22.0	22.0	14181	18033	32215	14094
22.5	22.5	14860	18793	33653	14700
23.0	23.0	15554	19566	35121	15317
23.5	23.5	16263	20355	36618	15947
24.0	24.0	16987	21161	38148	16589
24.5	24.5	17727	21982	39710	17243
25.0	25.0	18483	22819	41302	17910
25.5	25.5	19254	23672	42925	18589
26.0	26.0	20040	24539	44579	19281
26.5	26.5	20842	25422	46264	19985
27.0	27.0	21660	26320	47980	20702
27.5	27.5	22493	27234	49727	21431
28.0	28.0	23335	28155	51491	22167
28.5	28.5	24177	29077	53255	22903
29.0	29.0	25019	29999	55019	23639
29.5	29.5	25861	30921	56782	24375
30.0	30.0	26703	31804	58507	25111
30.5	30.5	27545	32630	60176	25847
31.0	31.0	28387	33457	61844	26583
31.5	31.5	29229	34283	63512	27319
32.0	32.0	30071	35109	65180	28055
32.5	32.5	30913	35935	66848	28791
33.0	33.0	31755	36761	68516	29527
33.5	33.5	32597	37587	70184	30263
34.0	34.0	33439	38414	71852	31000
34.5	34.5	34281	39240	73520	31736
35.0	35.0	35123	40066	75189	32472
35.5	35.5	36133	37694	73828	33343
36.0	36.0	37403	38838	76241	34421
36.5	36.5	38682	39989	78671	35507
37.0	37.0	39970	41148	81118	36600
37.5	37.5	41267	42315	83582	37699
38.0	38.0	42572	43490	86062	38806
38.5	38.5	43886	44673	88559	39920
39.0	39.0	45208	45863	91072	41040
39.5	39.5	46539	47061	93601	42167
40.0	40.0	47879	48267	96146	43301
40.5	40.5	49227	49480	98707	44442
41.0	41.0	50583	50701	101284	45590
41.5	41.5	51947	51929	103877	46744
42.0	42.0	53320	53165	106485	47904
42.5	42.5	54700	54407	109108	49071
43.0	43.0	56089	55657	111746	50244
43.5	43.5	57485	56914	114399	51424

Table 8E: Unfactored Static Capacity for a Monopile at Boring B-OSS (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	$Q_{f,c}$, External Compressive Skin Friction (kN)	Q_p, End Bearing (kN)	Q_c, Compressive Axial Capacity (kN)	Q_t, Tensile Axial Capacity (kN)
44.0	44.0	58889	58178	117067	52609
44.5	44.5	60301	59448	119749	53801
45.0	45.0	61720	60726	122446	54999
45.5	45.5	62562	64875	127437	55735
46.0	46.0	63404	65701	129105	56471
46.5	46.5	64246	66527	130773	57207
47.0	47.0	65088	67353	132441	57943
47.5	47.5	65930	68179	134109	58679
48.0	48.0	66772	69005	135777	59415
48.5	48.5	67614	69832	137445	60152
49.0	49.0	68456	70658	139114	60888

Table 9A: t-z Curve Data for a Monopile at Boring B-3 (page 1 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
0.0	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
1.0	1.0	2.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.75	1.25	1.87	2.24	2.49	2.49	--
2.0	2.0	5.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.50	2.49	3.74	4.49	4.99	4.99	--
3.0	3.0	7.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.24	3.74	5.61	6.73	7.48	7.48	--
4.0	4.0	10.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.99	4.99	7.48	8.98	9.98	9.98	--
5.0	5.0	12.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.74	6.24	9.35	11.22	12.47	12.47	--
6.0	6.0	15.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.49	7.48	11.22	13.47	14.96	14.96	--
7.0	7.0	17.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.24	8.73	13.09	15.71	17.46	17.46	--
8.0	8.0	20.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.99	9.98	14.96	17.96	19.95	19.95	--
9.0	9.0	22.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.73	11.22	16.83	20.20	22.45	22.45	--
10.0	10.0	24.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.46	12.43	18.65	22.38	24.86	24.86	--
11.0	11.0	27.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.18	13.63	20.45	24.54	27.27	27.27	--
12.0	12.0	29.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.90	14.84	22.26	26.71	29.68	29.68	--
13.0	13.0	32.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.62	16.04	24.06	28.87	32.08	32.08	--
14.0	14.0	34.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.35	17.24	25.87	31.04	34.49	34.49	--
15.0	15.0	50.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.16	25.27	37.90	45.48	50.54	35.38	35.38
16.0	16.0	52.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.65	26.08	39.12	46.94	52.16	36.51	36.51
17.0	17.0	53.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	16.12	26.87	40.30	48.36	53.73	37.61	37.61
18.0	18.0	44.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.24	22.07	33.10	39.72	44.13	44.13	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9A: t-z Curve Data for a Monopile at Boring B-3 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
19.0	19.0	46.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.97	23.29	34.93	41.92	46.58	46.58	--
20.0	20.0	49.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.71	24.51	36.77	44.13	49.03	49.03	--
21.0	21.0	64.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	19.42	32.37	48.56	58.27	64.75	45.32	45.32
22.0	22.0	66.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	19.87	33.11	49.66	59.60	66.22	46.35	46.35
23.0	23.0	67.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	20.30	33.83	50.74	60.89	67.66	47.36	47.36
24.0	24.0	69.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	20.72	34.53	51.80	62.16	69.07	48.35	48.35
25.0	25.0	60.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.27	30.46	45.69	54.82	60.91	60.91	--
26.0	26.0	63.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.03	31.72	47.58	57.09	63.44	63.44	--
27.0	27.0	66.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.79	32.98	49.47	59.36	65.96	65.96	--
28.0	28.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
29.0	29.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
30.0	30.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
31.0	31.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
32.0	32.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.0	33.0	88.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	26.54	44.23	66.34	79.61	88.46	61.92	61.92
34.0	34.0	89.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	26.94	44.89	67.34	80.81	89.78	62.85	62.85
35.0	35.0	91.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.33	45.55	68.32	81.98	91.09	63.76	63.76
36.0	36.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
37.0	37.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9A: t-z Curve Data for a Monopile at Boring B-3 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
38.0	38.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
39.0	39.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
40.0	40.0	103.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.95	51.58	77.37	92.84	103.15	72.21	72.21
41.0	41.0	108.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.42	54.03	81.04	97.25	108.05	75.64	75.64
42.0	42.0	112.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	33.87	56.45	84.68	101.61	112.90	79.03	79.03
43.0	43.0	67.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	20.10	33.50	50.25	60.30	67.00	46.90	46.90
44.0	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
45.0	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
46.0	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.0	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.0	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.0	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9B: t-z Curve Data for a Monopile at Boring B-6 (page 1 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type		t-z Curve Points							
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
0.0	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
1.0	1.0	1.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.50	0.84	1.26	1.51	1.68	1.68	--
2.0	2.0	9.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	2.91	4.85	7.28	8.73	9.70	6.79	6.79
3.0	3.0	10.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	3.16	5.26	7.89	9.47	10.52	7.37	7.37
4.0	4.0	9.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.89	4.82	7.23	8.68	9.64	9.64	--
5.0	5.0	12.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.63	6.05	9.07	10.88	12.09	12.09	--
6.0	6.0	14.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.36	7.27	10.91	13.09	14.54	14.54	--
7.0	7.0	17.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.10	8.50	12.74	15.29	16.99	16.99	--
8.0	8.0	19.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.83	9.72	14.58	17.50	19.44	19.44	--
9.0	9.0	21.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.57	10.94	16.42	19.70	21.89	21.89	--
10.0	10.0	23.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	7.11	11.86	17.79	21.34	23.71	16.60	16.60
11.0	11.0	29.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	8.69	14.48	21.72	26.07	28.96	20.27	20.27
12.0	12.0	34.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	10.19	16.99	25.49	30.58	33.98	23.79	23.79
13.0	13.0	38.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	11.66	19.43	29.15	34.98	38.87	27.21	27.21
14.0	14.0	43.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	13.10	21.83	32.75	39.29	43.66	30.56	30.56
15.0	15.0	48.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	14.52	24.20	36.29	43.55	48.39	33.87	33.87
16.0	16.0	53.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.92	26.54	39.80	47.77	53.07	37.15	37.15
17.0	17.0	57.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	17.32	28.86	43.29	51.95	57.72	40.40	40.40
18.0	18.0	62.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	18.70	31.17	46.75	56.10	62.34	43.64	43.64

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9B: t-z Curve Data for a Monopile at Boring B-6 (page 2 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
19.0	19.0	46.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.80	23.00	34.50	41.40	46.00	46.00	--
20.0	20.0	48.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.53	24.22	36.34	43.60	48.45	48.45	--
21.0	21.0	50.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.27	25.45	38.17	45.81	50.90	50.90	--
22.0	22.0	53.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.00	26.67	40.01	48.01	53.35	53.35	--
23.0	23.0	55.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.74	27.90	41.85	50.22	55.80	55.80	--
24.0	24.0	58.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	17.47	29.12	43.68	52.42	58.25	58.25	--
25.0	25.0	60.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.21	30.35	45.52	54.63	60.69	60.69	--
26.0	26.0	63.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.94	31.57	47.36	56.83	63.14	63.14	--
27.0	27.0	96.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.88	48.13	72.19	86.63	96.26	67.38	67.38
28.0	28.0	98.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.42	49.04	73.55	88.26	98.07	68.65	68.65
29.0	29.0	99.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.96	49.93	74.89	89.87	99.85	69.90	69.90
30.0	30.0	101.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.48	50.80	76.20	91.44	101.60	71.12	71.12
31.0	31.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
32.0	32.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.0	33.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
34.0	34.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
35.0	35.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
36.0	36.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
37.0	37.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9B: t-z Curve Data for a Monopile at Boring B-6 (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
38.0	38.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
39.0	39.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
40.0	40.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
41.0	41.0	108.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.58	54.29	81.44	97.73	108.59	76.01	76.01
42.0	42.0	109.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.98	54.96	82.44	98.93	109.92	76.94	76.94
43.0	43.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
44.0	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
45.0	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
46.0	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.0	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.0	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.0	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.0	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
51.0	51.0	137.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	41.25	68.76	103.13	123.76	137.51	96.26	96.26

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9C: t-z Curve Data for a Monopile at Boring B-10 (page 1 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
0.0	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
1.0	1.0	2.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.75	1.25	1.87	2.24	2.49	2.49	--
2.0	2.0	5.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.50	2.49	3.74	4.49	4.99	4.99	--
3.0	3.0	7.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.24	3.74	5.61	6.73	7.48	7.48	--
4.0	4.0	10.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.99	4.99	7.48	8.98	9.98	9.98	--
5.0	5.0	12.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.74	6.24	9.35	11.22	12.47	12.47	--
6.0	6.0	15.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.49	7.48	11.22	13.47	14.96	14.96	--
7.0	7.0	17.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.24	8.73	13.09	15.71	17.46	17.46	--
8.0	8.0	20.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.99	9.98	14.96	17.96	19.95	19.95	--
9.0	9.0	22.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.73	11.22	16.83	20.20	22.45	22.45	--
10.0	10.0	24.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.48	12.47	18.71	22.45	24.94	24.94	--
11.0	11.0	27.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.23	13.72	20.58	24.69	27.43	27.43	--
12.0	12.0	29.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.98	14.96	22.45	26.94	29.93	29.93	--
13.0	13.0	32.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.73	16.21	24.32	29.18	32.42	32.42	--
14.0	14.0	34.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.47	17.46	26.19	31.42	34.92	34.92	--
15.0	15.0	37.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.22	18.71	28.06	33.67	37.41	37.41	--
16.0	16.0	39.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.97	19.95	29.93	35.91	39.90	39.90	--
17.0	17.0	42.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	12.72	21.20	31.80	38.16	42.40	42.40	--
18.0	18.0	44.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.47	22.45	33.68	40.42	44.91	44.91	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9C: t-z Curve Data for a Monopile at Boring B-10 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
19.0	19.0	47.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.24	23.73	35.60	42.72	47.46	47.46	--
20.0	20.0	46.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	13.97	23.28	34.92	41.90	46.56	32.59	32.59
21.0	21.0	47.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	14.32	23.86	35.79	42.95	47.72	33.40	33.40
22.0	22.0	48.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	14.66	24.43	36.64	43.97	48.85	34.20	34.20
23.0	23.0	50.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	14.99	24.98	37.47	44.96	49.96	34.97	34.97
24.0	24.0	50.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.09	25.15	37.73	45.27	50.30	35.21	35.21
25.0	25.0	50.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.09	25.15	37.73	45.27	50.30	35.21	35.21
26.0	26.0	50.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.09	25.15	37.73	45.27	50.30	35.21	35.21
27.0	27.0	52.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	15.75	26.25	39.38	47.25	52.50	36.75	36.75
28.0	28.0	61.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	18.56	30.93	46.39	55.67	61.86	43.30	43.30
29.0	29.0	68.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	20.45	34.08	51.12	61.34	68.16	47.71	47.71
30.0	30.0	74.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	22.27	37.11	55.67	66.80	74.23	51.96	51.96
31.0	31.0	80.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	24.04	40.06	60.09	72.11	80.12	56.09	56.09
32.0	32.0	85.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	25.76	42.94	64.41	77.29	85.88	60.12	60.12
33.0	33.0	91.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.46	45.76	68.64	82.37	91.53	64.07	64.07
34.0	34.0	97.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.12	48.54	72.81	87.37	97.08	67.96	67.96
35.0	35.0	102.6	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.77	51.28	76.92	92.30	102.55	71.79	71.79
36.0	36.0	92.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.59	45.98	68.97	82.77	91.96	64.37	64.37
37.0	37.0	93.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	27.95	46.58	69.87	83.85	93.17	65.22	65.22

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9C: t-z Curve Data for a Monopile at Boring B-10 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
38.0	38.0	94.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.31	47.18	70.76	84.92	94.35	66.05	66.05
39.0	39.0	95.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	28.66	47.76	71.64	85.97	95.53	66.87	66.87
40.0	40.0	96.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.01	48.34	72.51	87.02	96.68	67.68	67.68
41.0	41.0	97.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.35	48.91	73.37	88.05	97.83	68.48	68.48
42.0	42.0	99.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	29.69	49.48	74.22	89.06	98.96	69.27	69.27
43.0	43.0	100.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.02	50.04	75.06	90.07	100.08	70.06	70.06
44.0	44.0	101.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.36	50.59	75.89	91.07	101.19	70.83	70.83
45.0	45.0	102.3	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.68	51.14	76.71	92.05	102.28	71.60	71.60
46.0	46.0	103.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	31.01	51.68	77.52	93.03	103.36	72.35	72.35
47.0	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.0	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.0	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.0	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9D: t-z Curve Data for a Monopile at Boring B-11/11A (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type		t-z Curve Points							
					1	2	3	4	5	6	7	8
0.0	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
1.0	1.0	2.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.75	1.25	1.88	2.25	2.51	2.51	--
2.0	2.0	5.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.50	2.51	3.76	4.51	5.01	5.01	--
3.0	3.0	7.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.25	3.76	5.64	6.76	7.52	7.52	--
4.0	4.0	10.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.01	5.01	7.52	9.02	10.02	10.02	--
5.0	5.0	12.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.76	6.26	9.40	11.27	12.53	12.53	--
6.0	6.0	15.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.51	7.52	11.27	13.53	15.03	15.03	--
7.0	7.0	17.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.26	8.77	13.15	15.78	17.54	17.54	--
8.0	8.0	20.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.01	10.02	15.03	18.04	20.04	20.04	--
9.0	9.0	22.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.76	11.27	16.91	20.29	22.55	22.55	--
10.0	10.0	25.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.52	12.53	18.79	22.55	25.06	25.06	--
11.0	11.0	27.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.27	13.78	20.67	24.80	27.56	27.56	--
12.0	12.0	30.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.02	15.03	22.55	27.06	30.07	30.07	--
13.0	13.0	32.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.77	16.29	24.43	29.31	32.57	32.57	--
14.0	14.0	35.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.52	17.54	26.31	31.57	35.08	35.08	--
15.0	15.0	37.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.27	18.79	28.19	33.82	37.58	37.58	--
16.0	16.0	60.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	18.02	30.04	45.06	54.07	60.08	42.06	42.06
17.0	17.0	61.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	18.57	30.96	46.44	55.72	61.91	43.34	43.34
18.0	18.0	45.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.51	22.51	33.77	40.53	45.03	45.03	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9D: t-z Curve Data for a Monopile at Boring B-11/11A (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
19.0	19.0	47.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.25	23.74	35.62	42.74	47.49	47.49	--
20.0	20.0	49.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.98	24.97	37.46	44.95	49.95	49.95	--
21.0	21.0	52.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.72	26.20	39.31	47.17	52.41	52.41	--
22.0	22.0	54.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.46	27.43	41.15	49.38	54.87	54.87	--
23.0	23.0	41.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	12.45	20.75	31.13	37.36	41.51	41.51	--
24.0	24.0	43.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	12.98	21.64	32.45	38.94	43.27	43.27	--
25.0	25.0	45.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.51	22.52	33.78	40.53	45.04	45.04	--
26.0	26.0	64.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.39	32.31	48.47	58.17	64.63	64.63	--
27.0	27.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
28.0	28.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
29.0	29.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
30.0	30.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
31.0	31.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
32.0	32.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.0	33.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
34.0	34.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
35.0	35.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
36.0	36.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
37.0	37.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9D: t-z Curve Data for a Monopile at Boring B-11/11A (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
38.0	38.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
39.0	39.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
40.0	40.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
41.0	41.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
42.0	42.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
43.0	43.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
44.0	44.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
45.0	45.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
46.0	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.0	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.0	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.0	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
50.0	50.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9E: t-z Curve Data for a Monopile at Boring B-OSS (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
0.0	0.0	0.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
1.0	1.0	2.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	0.73	1.22	1.84	2.20	2.45	2.45	--
2.0	2.0	4.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	1.47	2.45	3.67	4.41	4.90	4.90	--
3.0	3.0	7.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.20	3.67	5.51	6.61	7.35	7.35	--
4.0	4.0	9.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	2.94	4.90	7.35	8.82	9.80	9.80	--
5.0	5.0	12.2	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	3.67	6.12	9.19	11.02	12.25	12.25	--
6.0	6.0	14.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	4.41	7.35	11.02	13.23	14.70	14.70	--
7.0	7.0	17.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.14	8.57	12.86	15.43	17.15	17.15	--
8.0	8.0	19.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	5.88	9.80	14.70	17.64	19.60	19.60	--
9.0	9.0	22.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	6.61	11.02	16.53	19.84	22.05	22.05	--
10.0	10.0	24.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	7.35	12.25	18.37	22.05	24.49	24.49	--
11.0	11.0	26.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.08	13.47	20.21	24.25	26.94	26.94	--
12.0	12.0	29.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.82	14.70	22.05	26.45	29.39	29.39	--
13.0	13.0	31.8	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.55	15.92	23.88	28.66	31.84	31.84	--
14.0	14.0	34.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	10.29	17.15	25.72	30.86	34.29	34.29	--
15.0	15.0	36.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	11.02	18.37	27.56	33.07	36.74	36.74	--
16.0	16.0	28.4	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	8.51	14.18	21.27	25.52	28.35	28.35	--
17.0	17.0	30.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.00	15.00	22.50	27.00	30.00	30.00	--
18.0	18.0	31.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	9.50	15.83	23.74	28.49	31.65	31.65	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9E: t-z Curve Data for a Monopile at Boring B-OSS (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	t_{max} (kPa)	Soil Type	t-z Curve Points								
					1	2	3	4	5	6	7	8
19.0	19.0	46.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	13.82	23.04	34.56	41.47	46.07	46.07	--
20.0	20.0	48.5	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	14.54	24.24	36.36	43.63	48.48	48.48	--
21.0	21.0	50.9	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.27	25.44	38.17	45.80	50.89	50.89	--
22.0	22.0	53.3	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	15.99	26.65	39.97	47.97	53.30	53.30	--
23.0	23.0	55.7	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	16.71	27.85	41.78	50.13	55.70	55.70	--
24.0	24.0	58.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	17.44	29.07	43.60	52.32	58.13	58.13	--
25.0	25.0	60.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.18	30.30	45.46	54.55	60.61	60.61	--
26.0	26.0	63.1	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	18.93	31.54	47.32	56.78	63.09	63.09	--
27.0	27.0	65.6	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	19.67	32.78	49.18	59.01	65.57	65.57	--
28.0	28.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
29.0	29.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
30.0	30.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
31.0	31.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
32.0	32.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
33.0	33.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
34.0	34.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
35.0	35.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
36.0	36.0	101.4	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.41	50.68	76.02	91.22	101.36	70.95	70.95
37.0	37.0	102.8	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	30.83	51.38	77.07	92.48	102.76	71.93	71.93

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 9E: t-z Curve Data for a Monopile at Boring B-OSS (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	t_{max}	Soil Type	t-z Curve Points								
(m)	(m)	(kPa)			1	2	3	4	5	6	7	8
38.0	38.0	104.1	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	31.24	52.07	78.11	93.73	104.14	72.90	72.90
39.0	39.0	105.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	31.65	52.75	79.13	94.96	105.51	73.86	73.86
40.0	40.0	106.9	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.06	53.43	80.14	96.17	106.86	74.80	74.80
41.0	41.0	108.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.46	54.10	81.14	97.37	108.19	75.73	75.73
42.0	42.0	109.5	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	32.84	54.74	82.11	98.53	109.48	76.63	76.63
43.0	43.0	110.7	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	33.22	55.37	83.05	99.66	110.73	77.51	77.51
44.0	44.0	112.0	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	33.59	55.99	83.98	100.78	111.97	78.38	78.38
45.0	45.0	113.2	Clay	z	0.00	0.39	0.76	1.39	1.95	2.44	4.88	244.00
				t	0.00	33.96	56.60	84.90	101.88	113.20	79.24	79.24
46.0	46.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
47.0	47.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
48.0	48.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--
49.0	49.0	67.0	Sand	z	0.00	0.39	0.76	1.39	1.95	2.44	244.00	--
				t	0.00	20.10	33.50	50.25	60.30	67.00	67.00	--

Notes:
t = mobilized soil skin friction (kPA)
z = local pile deflection (cm)

Table 10A: Q-z Curve Data for a Monopile at Boring B-3 (page 1 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
0.0	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
1.0	1.0	227	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	57	113	170	227	227	227
2.0	2.0	515	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	129	257	386	515	515	515
3.0	3.0	864	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	216	432	648	864	864	864
4.0	4.0	1275	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	319	638	956	1275	1275	1275
5.0	5.0	1748	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	437	874	1311	1748	1748	1748
6.0	6.0	2282	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	570	1141	1711	2282	2282	2282
7.0	7.0	2877	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	719	1439	2158	2877	2877	2877
8.0	8.0	3534	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	884	1767	2651	3534	3534	3534
9.0	9.0	4253	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1063	2126	3190	4253	4253	4253
10.0	10.0	5026	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1257	2513	3770	5026	5026	5026
11.0	11.0	5858	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1464	2929	4393	5858	5858	5858
12.0	12.0	6749	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1687	3374	5062	6749	6749	6749
13.0	13.0	7699	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1925	3850	5775	7699	7699	7699
14.0	14.0	8709	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2177	4355	6532	8709	8709	8709
15.0	15.0	8311	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2078	4155	6233	8311	8311	8311
16.0	16.0	9579	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2395	4790	7184	9579	9579	9579
17.0	17.0	10887	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2722	5443	8165	10887	10887	10887
18.0	18.0	14210	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3553	7105	10658	14210	14210	14210

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10A: Q-z Curve Data for a Monopile at Boring B-3 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
19.0	19.0	15521	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3880	7760	11641	15521	15521	15521
20.0	20.0	16892	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4223	8446	12669	16892	16892	16892
21.0	21.0	16102	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4025	8051	12076	16102	16102	16102
22.0	22.0	17562	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4391	8781	13172	17562	17562	17562
23.0	23.0	19056	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4764	9528	14292	19056	19056	19056
24.0	24.0	20580	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5145	10290	15435	20580	20580	20580
25.0	25.0	25224	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6306	12612	18918	25224	25224	25224
26.0	26.0	26956	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6739	13478	20217	26956	26956	26956
27.0	27.0	28749	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7187	14375	21562	28749	28749	28749
28.0	28.0	30592	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7648	15296	22944	30592	30592	30592
29.0	29.0	32440	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8110	16220	24330	32440	32440	32440
30.0	30.0	34207	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8552	17104	25656	34207	34207	34207
31.0	31.0	35860	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8965	17930	26895	35860	35860	35860
32.0	32.0	37512	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9378	18756	28134	37512	37512	37512
33.0	33.0	35549	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8887	17775	26662	35549	35549	35549
34.0	34.0	37749	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9437	18874	28312	37749	37749	37749
35.0	35.0	39981	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9995	19990	29986	39981	39981	39981
36.0	36.0	45717	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11429	22858	34288	45717	45717	45717
37.0	37.0	47369	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11842	23685	35527	47369	47369	47369

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10A: Q-z Curve Data for a Monopile at Boring B-3 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
38.0	38.0	49022	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12255	24511	36766	49022	49022	49022
39.0	39.0	50674	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12668	25337	38005	50674	50674	50674
40.0	40.0	48877	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12219	24439	36658	48877	48877	48877
41.0	41.0	50999	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12750	25499	38249	50999	50999	50999
42.0	42.0	53323	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13331	26661	39992	53323	53323	53323
43.0	43.0	58743	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	14686	29371	44057	58743	58743	58743
44.0	44.0	60395	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15099	30198	45296	60395	60395	60395
45.0	45.0	62048	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15512	31024	46536	62048	62048	62048
46.0	46.0	63700	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15925	31850	47775	63700	63700	63700
47.0	47.0	65352	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16338	32676	49014	65352	65352	65352
48.0	48.0	67005	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16751	33502	50253	67005	67005	67005
49.0	49.0	68657	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	17164	34328	51493	68657	68657	68657

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10B: Q-z Curve Data for a Monopile at Boring B-6 (page 1 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
0.0	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
1.0	1.0	142	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	36	71	107	142	142	142
2.0	2.0	500	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	125	250	375	500	500	500
3.0	3.0	645	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	161	322	484	645	645	645
4.0	4.0	1300	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	325	650	975	1300	1300	1300
5.0	5.0	1761	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	440	880	1320	1761	1761	1761
6.0	6.0	2281	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	570	1141	1711	2281	2281	2281
7.0	7.0	2862	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	716	1431	2147	2862	2862	2862
8.0	8.0	3504	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	876	1752	2628	3504	3504	3504
9.0	9.0	4206	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1051	2103	3154	4206	4206	4206
10.0	10.0	3534	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	884	1767	2651	3534	3534	3534
11.0	11.0	4352	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1088	2176	3264	4352	4352	4352
12.0	12.0	5295	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1324	2648	3972	5295	5295	5295
13.0	13.0	6361	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1590	3180	4771	6361	6361	6361
14.0	14.0	7546	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1886	3773	5659	7546	7546	7546
15.0	15.0	8847	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2212	4424	6636	8847	8847	8847
16.0	16.0	10265	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2566	5133	7699	10265	10265	10265
17.0	17.0	11798	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2950	5899	8849	11798	11798	11798
18.0	18.0	13445	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3361	6723	10084	13445	13445	13445

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10B: Q-z Curve Data for a Monopile at Boring B-6 (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
19.0	19.0	16809	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4202	8405	12607	16809	16809	16809
20.0	20.0	18166	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4542	9083	13625	18166	18166	18166
21.0	21.0	19584	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4896	9792	14688	19584	19584	19584
22.0	22.0	21061	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5265	10531	15796	21061	21061	21061
23.0	23.0	22599	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5650	11300	16950	22599	22599	22599
24.0	24.0	24198	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6049	12099	18148	24198	24198	24198
25.0	25.0	25857	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6464	12928	19393	25857	25857	25857
26.0	26.0	27576	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6894	13788	20682	27576	27576	27576
27.0	27.0	27151	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6788	13575	20363	27151	27151	27151
28.0	28.0	28964	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7241	14482	21723	28964	28964	28964
29.0	29.0	30811	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7703	15406	23109	30811	30811	30811
30.0	30.0	32691	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8173	16346	24519	32691	32691	32691
31.0	31.0	37293	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9323	18647	27970	37293	37293	37293
32.0	32.0	38945	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9736	19473	29209	38945	38945	38945
33.0	33.0	40598	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10149	20299	30448	40598	40598	40598
34.0	34.0	42250	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10563	21125	31688	42250	42250	42250
35.0	35.0	43902	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10976	21951	32927	43902	43902	43902
36.0	36.0	45555	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11389	22777	34166	45555	45555	45555
37.0	37.0	47207	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11802	23603	35405	47207	47207	47207

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10B: Q-z Curve Data for a Monopile at Boring B-6 (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
38.0	38.0	48859	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12215	24430	36644	48859	48859	48859
39.0	39.0	50512	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12628	25256	37884	50512	50512	50512
40.0	40.0	52164	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13041	26082	39123	52164	52164	52164
41.0	41.0	51416	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12854	25708	38562	51416	51416	51416
42.0	42.0	54111	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13528	27056	40584	54111	54111	54111
43.0	43.0	59076	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	14769	29538	44307	59076	59076	59076
44.0	44.0	60728	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15182	30364	45546	60728	60728	60728
45.0	45.0	62380	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15595	31190	46785	62380	62380	62380
46.0	46.0	64033	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16008	32016	48024	64033	64033	64033
47.0	47.0	65685	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16421	32842	49264	65685	65685	65685
48.0	48.0	67337	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16834	33669	50503	67337	67337	67337
49.0	49.0	68990	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	17247	34495	51742	68990	68990	68990
50.0	50.0	70642	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	17660	35321	52981	70642	70642	70642
51.0	51.0	71020	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	17755	35510	53265	71020	71020	71020

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10C: Q-z Curve Data for a Monopile at Boring B-10 (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
0.0	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
1.0	1.0	227	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	57	113	170	227	227	227
2.0	2.0	515	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	129	257	386	515	515	515
3.0	3.0	864	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	216	432	648	864	864	864
4.0	4.0	1275	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	319	638	956	1275	1275	1275
5.0	5.0	1748	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	437	874	1311	1748	1748	1748
6.0	6.0	2282	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	570	1141	1711	2282	2282	2282
7.0	7.0	2877	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	719	1439	2158	2877	2877	2877
8.0	8.0	3534	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	884	1767	2651	3534	3534	3534
9.0	9.0	4253	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1063	2126	3190	4253	4253	4253
10.0	10.0	5033	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1258	2517	3775	5033	5033	5033
11.0	11.0	5875	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1469	2937	4406	5875	5875	5875
12.0	12.0	6778	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1694	3389	5083	6778	6778	6778
13.0	13.0	7742	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1936	3871	5807	7742	7742	7742
14.0	14.0	8768	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2192	4384	6576	8768	8768	8768
15.0	15.0	9856	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2464	4928	7392	9856	9856	9856
16.0	16.0	11005	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2751	5503	8254	11005	11005	11005
17.0	17.0	12216	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3054	6108	9162	12216	12216	12216
18.0	18.0	13489	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3372	6745	10117	13489	13489	13489

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10C: Q-z Curve Data for a Monopile at Boring B-10 (page 2 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points						
(m)	(m)	(kN)		1	2	3	4	5	6	7
19.0	19.0	14829	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3707	7414	11122	14829	14829	14829
20.0	20.0	13153	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3288	6577	9865	13153	13153	13153
21.0	21.0	14317	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3579	7159	10738	14317	14317	14317
22.0	22.0	15509	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3877	7755	11632	15509	15509	15509
23.0	23.0	16729	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4182	8365	12547	16729	16729	16729
24.0	24.0	17969	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4492	8984	13477	17969	17969	17969
25.0	25.0	19209	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4802	9605	14407	19209	19209	19209
26.0	26.0	20450	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5112	10225	15337	20450	20450	20450
27.0	27.0	21735	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5434	10868	16302	21735	21735	21735
28.0	28.0	23355	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5839	11678	17517	23355	23355	23355
29.0	29.0	25152	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6288	12576	18864	25152	25152	25152
30.0	30.0	27101	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6775	13550	20326	27101	27101	27101
31.0	31.0	29197	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7299	14598	21898	29197	29197	29197
32.0	32.0	31436	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7859	15718	23577	31436	31436	31436
33.0	33.0	33816	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8454	16908	25362	33816	33816	33816
34.0	34.0	36334	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9084	18167	27251	36334	36334	36334
35.0	35.0	38988	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9747	19494	29241	38988	38988	38988
36.0	36.0	40925	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10231	20463	30694	40925	40925	40925
37.0	37.0	43209	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10802	21605	32407	43209	43209	43209

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10C: Q-z Curve Data for a Monopile at Boring B-10 (page 3 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points						
(m)	(m)	(kN)		1	2	3	4	5	6	7
38.0	38.0	45523	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11381	22762	34142	45523	45523	45523
39.0	39.0	47866	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11966	23933	35899	47866	47866	47866
40.0	40.0	50238	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12559	25119	37678	50238	50238	50238
41.0	41.0	52637	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13159	26319	39478	52637	52637	52637
42.0	42.0	55065	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13766	27533	41299	55065	55065	55065
43.0	43.0	57521	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	14380	28761	43141	57521	57521	57521
44.0	44.0	60004	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15001	30002	45003	60004	60004	60004
45.0	45.0	62515	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15629	31257	46886	62515	62515	62515
46.0	46.0	65052	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16263	32526	48789	65052	65052	65052
47.0	47.0	70636	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	17659	35318	52977	70636	70636	70636
48.0	48.0	72288	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	18072	36144	54216	72288	72288	72288
49.0	49.0	73940	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	18485	36970	55455	73940	73940	73940
50.0	50.0	75593	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	18898	37796	56694	75593	75593	75593

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10D: Q-z Curve Data for a Monopile at Boring B-11/11A (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
0.0	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
1.0	1.0	228	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	57	114	171	228	228	228
2.0	2.0	517	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	129	258	388	517	517	517
3.0	3.0	868	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	217	434	651	868	868	868
4.0	4.0	1281	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	320	641	961	1281	1281	1281
5.0	5.0	1756	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	439	878	1317	1756	1756	1756
6.0	6.0	2292	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	573	1146	1719	2292	2292	2292
7.0	7.0	2891	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	723	1445	2168	2891	2891	2891
8.0	8.0	3551	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	888	1775	2663	3551	3551	3551
9.0	9.0	4273	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1068	2136	3205	4273	4273	4273
10.0	10.0	5056	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1264	2528	3792	5056	5056	5056
11.0	11.0	5902	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1475	2951	4426	5902	5902	5902
12.0	12.0	6809	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1702	3405	5107	6809	6809	6809
13.0	13.0	7778	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1945	3889	5834	7778	7778	7778
14.0	14.0	8809	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2202	4405	6607	8809	8809	8809
15.0	15.0	9902	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2475	4951	7426	9902	9902	9902
16.0	16.0	9936	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2484	4968	7452	9936	9936	9936
17.0	17.0	11215	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2804	5608	8412	11215	11215	11215
18.0	18.0	14188	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3547	7094	10641	14188	14188	14188

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10D: Q-z Curve Data for a Monopile at Boring B-11/11A (page 2 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
19.0	19.0	15522	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3880	7761	11641	15522	15522	15522
20.0	20.0	16916	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4229	8458	12687	16916	16916	16916
21.0	21.0	18371	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4593	9186	13779	18371	18371	18371
22.0	22.0	19887	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4972	9944	14915	19887	19887	19887
23.0	23.0	19793	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4948	9897	14845	19793	19793	19793
24.0	24.0	20966	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5242	10483	15725	20966	20966	20966
25.0	25.0	22183	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5546	11092	16637	22183	22183	22183
26.0	26.0	25196	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6299	12598	18897	25196	25196	25196
27.0	27.0	27011	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6753	13505	20258	27011	27011	27011
28.0	28.0	28851	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7213	14426	21638	28851	28851	28851
29.0	29.0	30692	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7673	15346	23019	30692	30692	30692
30.0	30.0	32387	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8097	16194	24291	32387	32387	32387
31.0	31.0	34040	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8510	17020	25530	34040	34040	34040
32.0	32.0	35692	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8923	17846	26769	35692	35692	35692
33.0	33.0	37344	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9336	18672	28008	37344	37344	37344
34.0	34.0	38997	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9749	19498	29248	38997	38997	38997
35.0	35.0	40649	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10162	20325	30487	40649	40649	40649
36.0	36.0	42301	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10575	21151	31726	42301	42301	42301
37.0	37.0	43954	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10988	21977	32965	43954	43954	43954

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10D: Q-z Curve Data for a Monopile at Boring B-11/11A (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
38.0	38.0	45606	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11401	22803	34204	45606	45606	45606
39.0	39.0	47258	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11815	23629	35444	47258	47258	47258
40.0	40.0	48911	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12228	24455	36683	48911	48911	48911
41.0	41.0	50563	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12641	25281	37922	50563	50563	50563
42.0	42.0	52215	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13054	26108	39161	52215	52215	52215
43.0	43.0	53868	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13467	26934	40401	53868	53868	53868
44.0	44.0	55520	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13880	27760	41640	55520	55520	55520
45.0	45.0	57172	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	14293	28586	42879	57172	57172	57172
46.0	46.0	58825	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	14706	29412	44118	58825	58825	58825
47.0	47.0	60477	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15119	30238	45358	60477	60477	60477
48.0	48.0	62129	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15532	31065	46597	62129	62129	62129
49.0	49.0	63781	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15945	31891	47836	63781	63781	63781
50.0	50.0	65434	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16358	32717	49075	65434	65434	65434

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10E: Q-z Curve Data for a Monopile at Boring B-OSS (page 1 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
0.0	0.0	0	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	0	0	0	0	0	0
1.0	1.0	222	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	56	111	167	222	222	222
2.0	2.0	505	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	126	253	379	505	505	505
3.0	3.0	849	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	212	424	637	849	849	849
4.0	4.0	1252	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	313	626	939	1252	1252	1252
5.0	5.0	1717	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	429	858	1287	1717	1717	1717
6.0	6.0	2241	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	560	1121	1681	2241	2241	2241
7.0	7.0	2826	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	706	1413	2119	2826	2826	2826
8.0	8.0	3471	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	868	1736	2603	3471	3471	3471
9.0	9.0	4177	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1044	2089	3133	4177	4177	4177
10.0	10.0	4943	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1236	2472	3707	4943	4943	4943
11.0	11.0	5770	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1442	2885	4327	5770	5770	5770
12.0	12.0	6657	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1664	3328	4993	6657	6657	6657
13.0	13.0	7604	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	1901	3802	5703	7604	7604	7604
14.0	14.0	8612	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2153	4306	6459	8612	8612	8612
15.0	15.0	9680	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2420	4840	7260	9680	9680	9680
16.0	16.0	9744	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2436	4872	7308	9744	9744	9744
17.0	17.0	10583	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2646	5292	7937	10583	10583	10583
18.0	18.0	11463	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	2866	5731	8597	11463	11463	11463

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10E: Q-z Curve Data for a Monopile at Boring B-OSS (page 2 of 3)

Depth Below Mudline	Depth Below Scour Pit	Q_{max}	Q-z Curve Points							
(m)	(m)	(kN)		1	2	3	4	5	6	7
19.0	19.0	13791	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3448	6895	10343	13791	13791	13791
20.0	20.0	15146	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	3786	7573	11359	15146	15146	15146
21.0	21.0	16560	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4140	8280	12420	16560	16560	16560
22.0	22.0	18033	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4508	9017	13525	18033	18033	18033
23.0	23.0	19566	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	4892	9783	14675	19566	19566	19566
24.0	24.0	21161	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5290	10580	15870	21161	21161	21161
25.0	25.0	22819	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	5705	11410	17114	22819	22819	22819
26.0	26.0	24539	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6135	12270	18404	24539	24539	24539
27.0	27.0	26320	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	6580	13160	19740	26320	26320	26320
28.0	28.0	28155	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7039	14078	21117	28155	28155	28155
29.0	29.0	29999	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7500	15000	22499	29999	29999	29999
30.0	30.0	31804	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	7951	15902	23853	31804	31804	31804
31.0	31.0	33457	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8364	16728	25092	33457	33457	33457
32.0	32.0	35109	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	8777	17554	26332	35109	35109	35109
33.0	33.0	36761	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9190	18381	27571	36761	36761	36761
34.0	34.0	38414	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9603	19207	28810	38414	38414	38414
35.0	35.0	40066	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10016	20033	30049	40066	40066	40066
36.0	36.0	38838	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	9709	19419	29128	38838	38838	38838
37.0	37.0	41148	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10287	20574	30861	41148	41148	41148

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 10E: Q-z Curve Data for a Monopile at Boring B-OSS (page 3 of 3)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Q_{max} (kN)	Q-z Curve Points							
				1	2	3	4	5	6	7
38.0	38.0	43490	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	10873	21745	32618	43490	43490	43490
39.0	39.0	45863	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	11466	22932	34397	45863	45863	45863
40.0	40.0	48267	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12067	24133	36200	48267	48267	48267
41.0	41.0	50701	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	12675	25351	38026	50701	50701	50701
42.0	42.0	53165	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13291	26582	39874	53165	53165	53165
43.0	43.0	55657	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	13914	27829	41743	55657	55657	55657
44.0	44.0	58178	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	14544	29089	43633	58178	58178	58178
45.0	45.0	60726	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	15182	30363	45545	60726	60726	60726
46.0	46.0	65701	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16425	32850	49276	65701	65701	65701
47.0	47.0	67353	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	16838	33677	50515	67353	67353	67353
48.0	48.0	69005	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	17251	34503	51754	69005	69005	69005
49.0	49.0	70658	z	0.00	0.49	3.17	10.25	17.81	24.40	244.00
			Q	0	17664	35329	52993	70658	70658	70658

Notes:
Q = mobilized tip resistance (kN)
z = localized pile tip deflection (cm)

Table 11A: Static p-y Curve Data for a Monopile at Boring B-3 (page 1 of 5)

Depth Below Mudline	Depth Below Scour Pit		Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.7	1.4	2.1	2.8	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.2	10.0	10.7	11.4
		p	0	139	268	380	470	541	593	631	658	677	689	698	704	709	711	713	714
2.0	2.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	294	566	802	994	1143	1253	1334	1390	1430	1457	1476	1489	1498	1504	1508	1510
3.0	3.0	y	0	0.8	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9	8.7	9.4	10.2	11.0	11.8	12.6
		p	0	462	890	1261	1562	1796	1970	2096	2185	2247	2290	2320	2340	2353	2363	2369	2373
4.0	4.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.5	7.4	8.2	9.0	9.8	10.6	11.5	12.3	13.1
		p	0	640	1234	1747	2165	2489	2730	2905	3028	3115	3174	3215	3243	3262	3275	3284	3290
5.0	5.0	y	0	0.8	1.7	2.5	3.4	4.2	5.1	5.9	6.8	7.6	8.5	9.3	10.1	11.0	11.8	12.7	13.5
		p	0	826	1592	2255	2794	3212	3523	3748	3908	4019	4096	4149	4185	4210	4226	4237	4245
6.0	6.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	6.9	7.8	8.7	9.5	10.4	11.3	12.1	13.0	13.9
		p	0	1017	1960	2776	3440	3954	4337	4615	4811	4948	5043	5108	5152	5182	5203	5217	5226
7.0	7.0	y	0	0.9	1.8	2.7	3.5	4.4	5.3	6.2	7.1	8.0	8.8	9.7	10.6	11.5	12.4	13.3	14.1
		p	0	1210	2332	3303	4093	4705	5161	5491	5724	5888	6000	6078	6130	6166	6191	6207	6218
8.0	8.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.3
		p	0	1403	2704	3829	4745	5454	5982	6364	6635	6825	6955	7045	7106	7148	7176	7195	7208
9.0	9.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1592	3068	4346	5385	6190	6790	7223	7531	7746	7894	7996	8065	8112	8144	8166	8181
10.0	10.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.1	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1770	3411	4831	5986	6881	7548	8030	8372	8611	8776	8889	8966	9018	9054	9078	9094
11.0	11.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.4
		p	0	1938	3736	5291	6556	7536	8266	8795	9169	9431	9611	9735	9820	9877	9916	9942	9960
12.0	12.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.1	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.3
		p	0	2095	4039	5720	7088	8148	8937	9508	9913	10196	10391	10525	10616	10678	10720	10749	10768

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11A: Static p-y Curve Data for a Monopile at Boring B-3 (page 2 of 5)

Depth Below Mudline	Depth Below Scour Pit		Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.2	7.0	7.9	8.8	9.7	10.6	11.5	12.3	13.2	14.1
		p	0	2239	4315	6111	7573	8705	9548	10158	10591	10893	11101	11244	11342	11408	11453	11484	11505
14.0	14.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.0	6.9	7.8	8.6	9.5	10.4	11.2	12.1	13.0	13.8
		p	0	2365	4559	6457	8002	9198	10089	10734	11191	11509	11730	11881	11984	12054	12102	12134	12156
15.0	15.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	237	474	710	947	1184	1421	1657	1894	2131	2368	2605	2841	3078	3315	3552	3552
16.0	16.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	243	485	728	970	1213	1455	1698	1940	2183	2425	2668	2910	3153	3396	3638	3638
17.0	17.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	248	497	745	993	1242	1490	1738	1986	2235	2483	2731	2980	3228	3476	3725	3725
18.0	18.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.8	10.5	11.2
		p	0	2458	4738	6710	8315	9558	10483	11154	11628	11960	12189	12346	12453	12526	12575	12609	12632
19.0	19.0	y	0	0.7	1.3	2.0	2.7	3.3	4.0	4.7	5.3	6.0	6.7	7.3	8.0	8.7	9.3	10.0	10.6
		p	0	2472	4765	6749	8363	9613	10544	11218	11696	12029	12259	12417	12525	12598	12648	12682	12705
20.0	20.0	y	0	0.6	1.3	1.9	2.5	3.1	3.8	4.4	5.0	5.7	6.3	6.9	7.5	8.2	8.8	9.4	10.0
		p	0	2456	4733	6703	8307	9548	10473	11143	11617	11948	12177	12334	12441	12514	12563	12597	12619
21.0	21.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	303	606	909	1212	1515	1818	2121	2424	2727	3030	3333	3636	3939	4242	4545	4545
22.0	22.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	309	618	927	1236	1545	1854	2163	2472	2781	3090	3399	3708	4017	4326	4635	4635
23.0	23.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	315	630	945	1260	1575	1890	2204	2519	2834	3149	3464	3779	4094	4409	4724	4724
24.0	24.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	321	642	963	1283	1604	1925	2246	2567	2888	3209	3530	3850	4171	4492	4813	4813

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11A: Static p-y Curve Data for a Monopile at Boring B-3 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	5.9	6.5	7.1	7.7	8.3	8.9	9.5
		p	0	2908	5605	7937	9836	11306	12401	13194	13755	14148	14418	14604	14731	14817	14876	14915	14942
26.0	26.0	y	0	0.6	1.2	1.8	2.5	3.1	3.7	4.3	4.9	5.5	6.2	6.8	7.4	8.0	8.6	9.2	9.9
		p	0	3132	6037	8549	10594	12178	13357	14211	14816	15239	15530	15730	15867	15960	16023	16066	16094
27.0	27.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.5	5.1	5.7	6.4	7.0	7.6	8.3	8.9	9.6	10.2
		p	0	3364	6485	9184	11381	13082	14349	15266	15916	16370	16683	16898	17045	17145	17212	17258	17289
28.0	28.0	y	0	0.7	1.3	2.0	2.6	3.3	4.0	4.6	5.3	5.9	6.6	7.2	7.9	8.6	9.2	9.9	10.5
		p	0	3605	6949	9841	12195	14018	15376	16359	17055	17541	17877	18107	18265	18371	18444	18493	18526
29.0	29.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.8	5.4	6.1	6.8	7.5	8.2	8.8	9.5	10.2	10.9
		p	0	3854	7429	10521	13037	14986	16438	17489	18233	18753	19112	19358	19526	19640	19718	19770	19806
30.0	30.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.8	10.5	11.2
		p	0	4111	7925	11223	13907	15986	17535	18656	19450	20005	20388	20650	20829	20951	21034	21090	21128
31.0	31.0	y	0	0.7	1.4	2.2	2.9	3.6	4.3	5.1	5.8	6.5	7.2	7.9	8.7	9.4	10.1	10.8	11.6
		p	0	4377	8437	11948	14806	17019	18668	19861	20706	21297	21704	21984	22175	22304	22393	22452	22493
32.0	32.0	y	0	0.7	1.5	2.2	3.0	3.7	4.5	5.2	5.9	6.7	7.4	8.2	8.9	9.7	10.4	11.2	11.9
		p	0	4651	8964	12695	15732	18083	19835	21103	22001	22629	23062	23359	23562	23700	23793	23857	23899
33.0	33.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2697	3814	4443	4852	5131	5318	5432	5489	5498	5464	5394	5295	3818	2341	863	863
34.0	34.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2697	3814	4443	4852	5131	5318	5432	5489	5498	5464	5394	5295	3818	2341	863	863
35.0	35.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2697	3814	4443	4852	5131	5318	5432	5489	5498	5464	5394	5295	3818	2341	863	863
36.0	36.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.5	10.3	11.1	11.9	12.7
		p	0	5600	10795	15288	18945	21777	23887	25413	26495	27250	27772	28130	28374	28540	28653	28729	28781

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11A: Static p-y Curve Data for a Monopile at Boring B-3 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.8	1.6	2.4	3.3	4.1	4.9	5.7	6.5	7.3	8.2	9.0	9.8	10.6	11.4	12.2	13.1
		p	0	5902	11376	16110	19964	22948	25171	26780	27920	28716	29265	29642	29900	30075	30193	30274	30328
38.0	38.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.9	6.7	7.5	8.4	9.2	10.0	10.9	11.7	12.5	13.4
		p	0	6211	11971	16954	21009	24149	26489	28182	29381	30219	30798	31194	31465	31649	31774	31859	31916
39.0	39.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.6	9.4	10.3	11.1	12.0	12.8	13.7
		p	0	6527	12582	17819	22081	25381	27840	29620	30881	31761	32369	32786	33070	33264	33395	33484	33544
40.0	40.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3034	4291	4999	5459	5773	5983	6112	6176	6186	6148	6070	5957	4295	2633	972	972
41.0	41.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3253	4600	5359	5852	6189	6414	6552	6621	6631	6591	6507	6386	4605	2823	1041	1041
42.0	42.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3471	4909	5719	6245	6605	6845	6993	7066	7076	7033	6944	6815	4914	3013	1111	1111
43.0	43.0	y	0	0.9	1.8	2.7	3.6	4.5	5.3	6.2	7.1	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.3
		p	0	7495	14448	20461	25355	29145	31968	34011	35459	36470	37168	37647	37974	38196	38347	38449	38518
44.0	44.0	y	0	0.9	1.8	2.7	3.6	4.6	5.5	6.4	7.3	8.2	9.1	10.0	10.9	11.9	12.8	13.7	14.6
		p	0	7843	15118	21410	26530	30496	33451	35589	37104	38162	38892	39393	39735	39968	40125	40232	40305
45.0	45.0	y	0	0.9	1.9	2.8	3.7	4.7	5.6	6.5	7.5	8.4	9.3	10.3	11.2	12.1	13.0	14.0	14.9
		p	0	8198	15803	22380	27733	31879	34967	37202	38786	39891	40655	41179	41536	41779	41944	42056	42132
46.0	46.0	y	0	1.0	1.9	2.9	3.8	4.8	5.7	6.7	7.6	8.6	9.5	10.5	11.4	12.4	13.3	14.3	15.2
		p	0	8564	16507	23377	28969	33299	36525	38860	40514	41669	42467	43014	43387	43641	43813	43930	44009
47.0	47.0	y	0	1.0	1.9	2.9	3.9	4.9	5.8	6.8	7.8	8.8	9.7	10.7	11.7	12.7	13.6	14.6	15.6
		p	0	8942	17236	24409	30248	34769	38138	40575	42303	43509	44342	44913	45303	45568	45748	45870	45952
48.0	48.0	y	0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	8.9	9.9	10.9	11.9	12.9	13.9	14.9	15.9
		p	0	9328	17980	25464	31554	36271	39785	42328	44130	45388	46257	46853	47260	47536	47724	47851	47937

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11A: Static p-y Curve Data for a Monopile at Boring B-3 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	1.0	2.0	3.0	4.1	5.1	6.1	7.1	8.1	9.1	10.1	11.2	12.2	13.2	14.2	15.2	16.2
		p	0	9722	18741	26540	32889	37805	41467	44118	45996	47307	48213	48834	49258	49546	49742	49874	49964

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11B: Static p-y Curve Data for a Monopile at Boring B-6 (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.7	1.3	2.0	2.6	3.3	4.0	4.6	5.3	6.0	6.6	7.3	7.9	8.6	9.3	9.9	10.6
		p	0	129	249	353	438	503	552	587	612	629	641	650	655	659	662	663	665
2.0	2.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	43	85	128	171	214	256	299	342	384	427	470	513	555	598	641	641
3.0	3.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	5.0	5.7	6.4	7.1	7.8	8.5	9.2	9.9	10.6	11.3
		p	0	415	800	1133	1403	1613	1769	1883	1963	2019	2057	2084	2102	2114	2123	2128	2132
4.0	4.0	y	0	0.7	1.5	2.2	3.0	3.7	4.5	5.2	6.0	6.7	7.4	8.2	8.9	9.7	10.4	11.2	11.9
		p	0	582	1121	1588	1968	2262	2481	2640	2752	2830	2885	2922	2947	2964	2976	2984	2989
5.0	5.0	y	0	0.8	1.5	2.3	3.1	3.9	4.6	5.4	6.2	7.0	7.7	8.5	9.3	10.1	10.8	11.6	12.4
		p	0	757	1459	2066	2560	2943	3228	3435	3581	3683	3753	3802	3835	3857	3872	3883	3890
6.0	6.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8
		p	0	938	1808	2560	3172	3647	4000	4256	4437	4563	4651	4710	4751	4779	4798	4811	4819
7.0	7.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.6	7.4	8.2	9.0	9.8	10.7	11.5	12.3	13.1
		p	0	1122	2162	3062	3795	4362	4784	5090	5307	5458	5563	5634	5683	5717	5739	5754	5765
8.0	8.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.4	9.2	10.0	10.9	11.7	12.5	13.4
		p	0	1306	2517	3565	4418	5078	5570	5926	6179	6355	6476	6560	6617	6656	6682	6700	6712
9.0	9.0	y	0	0.8	1.7	2.5	3.4	4.2	5.1	5.9	6.8	7.6	8.5	9.3	10.1	11.0	11.8	12.7	13.5
		p	0	1488	2868	4062	5033	5786	6346	6752	7039	7240	7379	7474	7538	7583	7613	7633	7647
10.0	10.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	111	222	333	444	555	666	778	889	1000	1111	1222	1333	1444	1555	1666	1666
11.0	11.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	140	281	421	561	702	842	982	1122	1263	1403	1543	1684	1824	1964	2105	2105
12.0	12.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	170	340	511	681	851	1021	1191	1361	1532	1702	1872	2042	2212	2382	2553	2553

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11B: Static p-y Curve Data for a Monopile at Boring B-6 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	201	401	602	803	1003	1204	1405	1605	1806	2007	2207	2408	2609	2809	3010	3010
14.0	14.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	232	464	695	927	1159	1391	1623	1855	2086	2318	2550	2782	3014	3245	3477	3477
15.0	15.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	264	527	791	1054	1318	1582	1845	2109	2372	2636	2900	3163	3427	3690	3954	3954
16.0	16.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	296	592	888	1184	1480	1776	2072	2368	2664	2960	3256	3552	3848	4144	4440	4440
17.0	17.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	329	658	987	1316	1645	1974	2304	2633	2962	3291	3620	3949	4278	4607	4936	4936
18.0	18.0	y	0	0.1	0.8	2.6	6.1	11.9	20.5	32.5	48.5	69.1	94.8	126.2	163.8	208.3	260.2	320.0	340.0
		p	0	363	726	1088	1451	1814	2177	2539	2902	3265	3628	3991	4353	4716	5079	5442	5442
19.0	19.0	y	0	0.7	1.4	2.1	2.7	3.4	4.1	4.8	5.5	6.2	6.9	7.5	8.2	8.9	9.6	10.3	11.0
		p	0	1698	3273	4635	5744	6602	7242	7705	8033	8262	8420	8529	8603	8653	8687	8710	8726
20.0	20.0	y	0	0.6	1.3	1.9	2.6	3.2	3.9	4.5	5.2	5.8	6.5	7.1	7.8	8.4	9.1	9.7	10.4
		p	0	1694	3265	4624	5730	6587	7225	7687	8014	8242	8400	8508	8582	8632	8666	8690	8705
21.0	21.0	y	0	0.6	1.2	1.8	2.4	3.0	3.7	4.3	4.9	5.5	6.1	6.7	7.3	7.9	8.5	9.1	9.7
		p	0	1666	3211	4548	5636	6478	7106	7560	7882	8107	8262	8368	8441	8490	8524	8546	8562
22.0	22.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	8.2	8.9	9.5	10.1
		p	0	1814	3496	4951	6135	7053	7736	8230	8581	8825	8994	9110	9189	9243	9279	9304	9321
23.0	23.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.3	5.9	6.6	7.2	7.9	8.5	9.2	9.8	10.5
		p	0	1968	3793	5371	6656	7651	8392	8928	9309	9574	9757	9883	9969	10027	10067	10093	10112
24.0	24.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.8	5.4	6.1	6.8	7.5	8.2	8.8	9.5	10.2	10.9
		p	0	2128	4101	5808	7197	8273	9075	9655	10066	10353	10551	10687	10780	10843	10886	10915	10934

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11B: Static p-y Curve Data for a Monopile at Boring B-6 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.2	9.9	10.6	11.3
		p	0	2294	4422	6262	7760	8920	9784	10409	10853	11162	11376	11522	11622	11690	11736	11768	11789
26.0	26.0	y	0	0.7	1.5	2.2	2.9	3.6	4.4	5.1	5.8	6.6	7.3	8.0	8.7	9.5	10.2	10.9	11.6
		p	0	2466	4754	6733	8343	9591	10520	11192	11669	12001	12231	12388	12496	12569	12619	12652	12675
27.0	27.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3948	5583	6504	7102	7511	7784	7952	8035	8047	7999	7896	7750	5588	3426	1264	1264
28.0	28.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3948	5583	6504	7102	7511	7784	7952	8035	8047	7999	7896	7750	5588	3426	1264	1264
29.0	29.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3948	5583	6504	7102	7511	7784	7952	8035	8047	7999	7896	7750	5588	3426	1264	1264
30.0	30.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3948	5583	6504	7102	7511	7784	7952	8035	8047	7999	7896	7750	5588	3426	1264	1264
31.0	31.0	y	0	0.6	1.2	1.8	2.3	2.9	3.5	4.1	4.7	5.3	5.8	6.4	7.0	7.6	8.2	8.8	9.3
		p	0	3540	6823	9663	11975	13765	15098	16063	16747	17224	17554	17780	17934	18039	18111	18159	18192
32.0	32.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.7	7.3	7.9	8.5	9.1	9.7
		p	0	3785	7295	10331	12802	14716	16141	17173	17904	18414	18767	19009	19174	19286	19362	19414	19449
33.0	33.0	y	0	0.6	1.3	1.9	2.5	3.1	3.8	4.4	5.0	5.6	6.3	6.9	7.5	8.1	8.8	9.4	10.0
		p	0	4037	7782	11021	13657	15699	17219	18320	19100	19644	20021	20279	20455	20574	20655	20710	20748
34.0	34.0	y	0	0.6	1.3	1.9	2.6	3.2	3.9	4.5	5.2	5.8	6.5	7.1	7.8	8.4	9.1	9.7	10.3
		p	0	4298	8285	11733	14540	16713	18332	19504	20335	20914	21315	21589	21777	21904	21991	22049	22089
35.0	35.0	y	0	0.7	1.3	2.0	2.7	3.3	4.0	4.7	5.3	6.0	6.7	7.3	8.0	8.7	9.3	10.0	10.7
		p	0	4567	8804	12468	15450	17760	19480	20725	21608	22224	22649	22941	23140	23275	23367	23430	23472
36.0	36.0	y	0	0.7	1.4	2.1	2.8	3.4	4.1	4.8	5.5	6.2	6.9	7.6	8.3	8.9	9.6	10.3	11.0
		p	0	4845	9338	13225	16388	18838	20663	21984	22919	23573	24024	24334	24545	24688	24786	24852	24897

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11B: Static p-y Curve Data for a Monopile at Boring B-6 (page 4 of 5)

Depth Below Mudline	Depth Below Scour Pit	Static p-y Curve Points																	
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.7	1.4	2.1	2.8	3.5	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.2	9.9	10.6	11.3
		p	0	5130	9889	14004	17354	19948	21880	23279	24270	24962	25440	25767	25991	26143	26246	26316	26364
38.0	38.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.8	6.6	7.3	8.0	8.8	9.5	10.2	11.0	11.7
		p	0	5424	10454	14806	18347	21089	23132	24611	25659	26390	26895	27242	27478	27639	27748	27822	27872
39.0	39.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	5725	11036	15629	19368	22263	24420	25980	27086	27859	28392	28758	29007	29177	29292	29370	29423
40.0	40.0	y	0	0.8	1.5	2.3	3.1	3.9	4.6	5.4	6.2	6.9	7.7	8.5	9.3	10.0	10.8	11.6	12.3
		p	0	6035	11634	16475	20416	23468	25741	27387	28553	29367	29929	30314	30578	30757	30878	30960	31016
41.0	41.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3285	4645	5412	5910	6250	6477	6617	6686	6696	6656	6571	6449	4650	2851	1052	1052
42.0	42.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3285	4645	5412	5910	6250	6477	6617	6686	6696	6656	6571	6449	4650	2851	1052	1052
43.0	43.0	y	0	0.9	1.7	2.6	3.4	4.3	5.2	6.0	6.9	7.7	8.6	9.5	10.3	11.2	12.0	12.9	13.8
		p	0	7229	13934	19734	24454	28109	30833	32803	34200	35175	35848	36310	36625	36839	36985	37083	37150
44.0	44.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.2	7.0	7.9	8.8	9.7	10.6	11.5	12.3	13.2	14.1
		p	0	7577	14604	20683	25630	29461	32315	34381	35845	36866	37572	38056	38386	38611	38764	38867	38937
45.0	45.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.4
		p	0	7933	15290	21654	26834	30845	33833	35995	37528	38598	39337	39843	40189	40424	40584	40692	40765
46.0	46.0	y	0	0.9	1.8	2.8	3.7	4.6	5.5	6.5	7.4	8.3	9.2	10.1	11.1	12.0	12.9	13.8	14.8
		p	0	8296	15992	22648	28065	32260	35385	37647	39250	40369	41141	41672	42033	42279	42446	42559	42636
47.0	47.0	y	0	0.9	1.9	2.8	3.8	4.7	5.7	6.6	7.5	8.5	9.4	10.4	11.3	12.3	13.2	14.2	15.1
		p	0	8669	16709	23664	29324	33707	36973	39336	41010	42179	42987	43541	43919	44176	44350	44468	44548
48.0	48.0	y	0	1.0	1.9	2.9	3.9	4.8	5.8	6.8	7.7	8.7	9.6	10.6	11.6	12.5	13.5	14.5	15.4
		p	0	9049	17442	24702	30610	35186	38595	41062	42810	44030	44873	45451	45845	46114	46296	46419	46503

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11B: Static p-y Curve Data for a Monopile at Boring B-6 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	1.0	2.0	3.0	3.9	4.9	5.9	6.9	7.9	8.9	9.9	10.8	11.8	12.8	13.8	14.8	15.8
		p	0	9437	18191	25762	31924	36696	40251	42824	44647	45920	46799	47402	47814	48093	48283	48412	48499

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11C: Static p-y Curve Data for a Monopile at Boring B-10 (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.7	1.4	2.1	2.8	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.2	10.0	10.7	11.4
		p	0	139	268	380	470	541	593	631	658	677	689	698	704	709	711	713	714
2.0	2.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	294	566	802	994	1143	1253	1334	1390	1430	1457	1476	1489	1498	1504	1508	1510
3.0	3.0	y	0	0.8	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9	8.7	9.4	10.2	11.0	11.8	12.6
		p	0	462	890	1261	1562	1796	1970	2096	2185	2247	2290	2320	2340	2353	2363	2369	2373
4.0	4.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.5	7.4	8.2	9.0	9.8	10.6	11.5	12.3	13.1
		p	0	640	1234	1747	2165	2489	2730	2905	3028	3115	3174	3215	3243	3262	3275	3284	3290
5.0	5.0	y	0	0.8	1.7	2.5	3.4	4.2	5.1	5.9	6.8	7.6	8.5	9.3	10.1	11.0	11.8	12.7	13.5
		p	0	826	1592	2255	2794	3212	3523	3748	3908	4019	4096	4149	4185	4210	4226	4237	4245
6.0	6.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	6.9	7.8	8.7	9.5	10.4	11.3	12.1	13.0	13.9
		p	0	1017	1960	2776	3440	3954	4337	4615	4811	4948	5043	5108	5152	5182	5203	5217	5226
7.0	7.0	y	0	0.9	1.8	2.7	3.5	4.4	5.3	6.2	7.1	8.0	8.8	9.7	10.6	11.5	12.4	13.3	14.1
		p	0	1210	2332	3303	4093	4705	5161	5491	5724	5888	6000	6078	6130	6166	6191	6207	6218
8.0	8.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.3
		p	0	1403	2704	3829	4745	5454	5982	6364	6635	6825	6955	7045	7106	7148	7176	7195	7208
9.0	9.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1592	3068	4346	5385	6190	6790	7223	7531	7746	7894	7996	8065	8112	8144	8166	8181
10.0	10.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.4	7.3	8.2	9.1	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1775	3422	4846	6005	6903	7572	8056	8398	8638	8803	8917	8994	9047	9082	9107	9123
11.0	11.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.3	8.2	9.1	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1950	3759	5323	6596	7582	8317	8848	9225	9488	9669	9794	9879	9937	9976	10003	10021
12.0	12.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.4
		p	0	2113	4073	5769	7148	8217	9013	9589	9997	10282	10479	10614	10706	10769	10811	10840	10860

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11C: Static p-y Curve Data for a Monopile at Boring B-10 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.9	1.8	2.7	3.6	4.5	5.3	6.2	7.1	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.2
		p	0	2262	4361	6176	7653	8797	9649	10266	10703	11008	11219	11363	11462	11529	11575	11605	11626
14.0	14.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	2395	4616	6537	8100	9311	10213	10866	11329	11652	11875	12028	12132	12203	12251	12284	12306
15.0	15.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.6	9.4	10.3	11.1	12.0	12.8	13.7
		p	0	2507	4833	6845	8482	9750	10694	11378	11862	12200	12434	12594	12703	12778	12828	12862	12885
16.0	16.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.6	7.5	8.3	9.1	10.0	10.8	11.6	12.5	13.3
		p	0	2598	5007	7092	8788	10101	11080	11788	12290	12640	12882	13048	13162	13239	13291	13326	13350
17.0	17.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8
		p	0	2663	5134	7270	9009	10356	11359	12085	12600	12959	13207	13377	13493	13572	13626	13662	13687
18.0	18.0	y	0	0.8	1.5	2.3	3.1	3.8	4.6	5.4	6.1	6.9	7.7	8.4	9.2	10.0	10.8	11.5	12.3
		p	0	2702	5208	7376	9140	10507	11524	12261	12783	13147	13399	13572	13690	13770	13824	13861	13886
19.0	19.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.8	6.6	7.3	8.0	8.8	9.5	10.2	11.0	11.7
		p	0	2713	5229	7405	9176	10548	11569	12309	12833	13199	13451	13625	13743	13823	13878	13915	13940
20.0	20.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	218	435	653	871	1089	1306	1524	1742	1960	2177	2395	2613	2831	3048	3266	3266
21.0	21.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	223	446	670	893	1116	1339	1562	1786	2009	2232	2455	2679	2902	3125	3348	3348
22.0	22.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	229	457	686	915	1143	1372	1601	1830	2058	2287	2516	2744	2973	3202	3430	3430
23.0	23.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	234	468	703	937	1171	1405	1639	1873	2108	2342	2576	2810	3044	3278	3513	3513
24.0	24.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	240	479	719	959	1198	1438	1678	1917	2157	2396	2636	2876	3115	3355	3595	3595

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11C: Static p-y Curve Data for a Monopile at Boring B-10 (page 3 of 5)

Depth Below Mudline	Depth Below Scour Pit	Static p-y Curve Points																	
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	241	483	724	966	1207	1449	1690	1932	2173	2414	2656	2897	3139	3380	3622	3622
26.0	26.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	241	483	724	966	1207	1449	1690	1932	2173	2414	2656	2897	3139	3380	3622	3622
27.0	27.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	252	504	756	1008	1260	1512	1764	2016	2268	2520	2772	3024	3276	3528	3780	3780
28.0	28.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	296	592	888	1184	1479	1775	2071	2367	2663	2959	3255	3551	3847	4142	4438	4438
29.0	29.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	331	661	992	1322	1653	1984	2314	2645	2975	3306	3637	3967	4298	4628	4959	4959
30.0	30.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	366	731	1097	1463	1828	2194	2560	2925	3291	3657	4022	4388	4754	5119	5485	5485
31.0	31.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	401	802	1203	1604	2006	2407	2808	3209	3610	4011	4412	4813	5214	5616	6017	6017
32.0	32.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	437	874	1311	1748	2185	2622	3058	3495	3932	4369	4806	5243	5680	6117	6554	6554
33.0	33.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	473	946	1419	1892	2365	2839	3312	3785	4258	4731	5204	5677	6150	6623	7096	7096
34.0	34.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	510	1019	1529	2039	2548	3058	3567	4077	4587	5096	5606	6116	6625	7135	7645	7645
35.0	35.0	y	0	0.0	0.4	1.3	3.0	5.9	10.2	16.3	24.3	34.6	47.4	63.1	81.9	104.2	130.1	160.0	170.0
		p	0	547	1093	1640	2186	2733	3279	3826	4372	4919	5465	6012	6559	7105	7652	8198	8198
36.0	36.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11C: Static p-y Curve Data for a Monopile at Boring B-10 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
38.0	38.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
39.0	39.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
40.0	40.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
41.0	41.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
42.0	42.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
43.0	43.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
44.0	44.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
45.0	45.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
46.0	46.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2653	3752	4372	4774	5049	5232	5345	5401	5409	5376	5308	5210	3756	2303	850	850
47.0	47.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	5.0	5.7	6.4	7.1	7.8	8.5	9.2	9.9	10.6	11.3
		p	0	6506	12540	17759	22006	25296	27747	29520	30777	31654	32260	32676	32959	33152	33283	33372	33432
48.0	48.0	y	0	0.7	1.5	2.2	2.9	3.6	4.4	5.1	5.8	6.6	7.3	8.0	8.8	9.5	10.2	10.9	11.7
		p	0	6842	13189	18678	23146	26606	29183	31048	32370	33293	33930	34368	34666	34869	35006	35100	35163

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11C: Static p-y Curve Data for a Monopile at Boring B-10 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	7187	13854	19620	24313	27948	30655	32615	34003	34972	35642	36101	36415	36628	36772	36870	36937

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11D: Static p-y Curve Data for a Monopile at Boring B-11/11A (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.7	1.4	2.1	2.8	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.2	10.0	10.7	11.4
		p	0	139	268	380	470	541	593	631	658	677	689	698	704	709	711	713	714
2.0	2.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	294	566	802	994	1143	1253	1334	1390	1430	1457	1476	1489	1498	1504	1508	1510
3.0	3.0	y	0	0.8	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9	8.7	9.4	10.2	11.0	11.8	12.6
		p	0	462	890	1261	1562	1796	1970	2096	2185	2247	2290	2320	2340	2353	2363	2369	2373
4.0	4.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.5	7.4	8.2	9.0	9.8	10.6	11.5	12.3	13.1
		p	0	640	1234	1747	2165	2489	2730	2905	3028	3115	3174	3215	3243	3262	3275	3284	3290
5.0	5.0	y	0	0.8	1.7	2.5	3.4	4.2	5.1	5.9	6.8	7.6	8.5	9.3	10.1	11.0	11.8	12.7	13.5
		p	0	826	1592	2255	2794	3212	3523	3748	3908	4019	4096	4149	4185	4210	4226	4237	4245
6.0	6.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	6.9	7.8	8.7	9.5	10.4	11.3	12.1	13.0	13.9
		p	0	1017	1960	2776	3440	3954	4337	4615	4811	4948	5043	5108	5152	5182	5203	5217	5226
7.0	7.0	y	0	0.9	1.8	2.7	3.5	4.4	5.3	6.2	7.1	8.0	8.8	9.7	10.6	11.5	12.4	13.3	14.1
		p	0	1210	2332	3303	4093	4705	5161	5491	5724	5888	6000	6078	6130	6166	6191	6207	6218
8.0	8.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.3
		p	0	1403	2704	3829	4745	5454	5982	6364	6635	6825	6955	7045	7106	7148	7176	7195	7208
9.0	9.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1592	3068	4346	5385	6190	6790	7223	7531	7746	7894	7996	8065	8112	8144	8166	8181
10.0	10.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.4	7.3	8.2	9.1	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1775	3422	4846	6005	6903	7572	8056	8398	8638	8803	8917	8994	9047	9082	9107	9123
11.0	11.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.3	8.2	9.1	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	1950	3759	5323	6596	7582	8317	8848	9225	9488	9669	9794	9879	9937	9976	10003	10021
12.0	12.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.4
		p	0	2113	4073	5769	7148	8217	9013	9589	9997	10282	10479	10614	10706	10769	10811	10840	10860

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11D: Static p-y Curve Data for a Monopile at Boring B-11/11A (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.9	1.8	2.7	3.6	4.5	5.3	6.2	7.1	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.2
		p	0	2262	4361	6176	7653	8797	9649	10266	10703	11008	11219	11363	11462	11529	11575	11605	11626
14.0	14.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	2395	4616	6537	8100	9311	10213	10866	11329	11652	11875	12028	12132	12203	12251	12284	12306
15.0	15.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.6	9.4	10.3	11.1	12.0	12.8	13.7
		p	0	2507	4833	6845	8482	9750	10694	11378	11862	12200	12434	12594	12703	12778	12828	12862	12885
16.0	16.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2518	3562	4149	4531	4792	4966	5073	5126	5134	5103	5038	4945	3565	2186	806	806
17.0	17.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	2518	3562	4149	4531	4792	4966	5073	5126	5134	5103	5038	4945	3565	2186	806	806
18.0	18.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.8	10.5	11.2
		p	0	2471	4762	6745	8358	9607	10538	11211	11689	12022	12252	12410	12518	12591	12641	12674	12697
19.0	19.0	y	0	0.7	1.3	2.0	2.7	3.3	4.0	4.7	5.3	6.0	6.7	7.4	8.0	8.7	9.4	10.0	10.7
		p	0	2484	4788	6781	8402	9658	10594	11271	11751	12086	12317	12476	12584	12658	12708	12742	12765
20.0	20.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.0	5.7	6.3	6.9	7.6	8.2	8.8	9.5	10.1
		p	0	2466	4754	6732	8343	9590	10519	11191	11668	12000	12230	12387	12495	12568	12618	12651	12674
21.0	21.0	y	0	0.6	1.2	1.8	2.4	2.9	3.5	4.1	4.7	5.3	5.9	6.5	7.1	7.6	8.2	8.8	9.4
		p	0	2415	4655	6593	8169	9391	10300	10959	11425	11751	11976	12130	12235	12307	12356	12389	12411
22.0	22.0	y	0	0.6	1.2	1.8	2.4	3.0	3.7	4.3	4.9	5.5	6.1	6.7	7.3	7.9	8.5	9.1	9.7
		p	0	2618	5047	7148	8858	10182	11168	11882	12388	12741	12985	13152	13266	13344	13397	13432	13456
23.0	23.0	y	0	0.6	1.2	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.3	7.9	8.6	9.2	9.8
		p	0	3053	5884	8333	10326	11870	13019	13852	14441	14853	15137	15332	15465	15556	15617	15659	15687
24.0	24.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.0	5.7	6.3	6.9	7.6	8.2	8.8	9.5	10.1
		p	0	3289	6340	8979	11126	12789	14029	14925	15561	16004	16311	16521	16664	16762	16828	16873	16903

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11D: Static p-y Curve Data for a Monopile at Boring B-11/11A (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.8	10.4
		p	0	3534	6813	9648	11956	13743	15075	16038	16721	17198	17527	17753	17907	18012	18083	18131	18164
26.0	26.0	y	0	0.7	1.4	2.1	2.8	3.5	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.7	10.4	11.0
		p	0	3508	6761	9575	11866	13639	14961	15917	16595	17068	17394	17618	17771	17875	17946	17994	18026
27.0	27.0	y	0	0.7	1.4	2.1	2.8	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.2	9.9	10.7	11.4
		p	0	3750	7228	10236	12684	14580	15993	17015	17740	18245	18595	18834	18998	19109	19184	19235	19270
28.0	28.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.8	6.6	7.3	8.0	8.8	9.5	10.2	11.0	11.7
		p	0	4000	7710	10918	13530	15553	17059	18150	18922	19462	19834	20090	20264	20383	20463	20518	20555
29.0	29.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	4258	8207	11623	14403	16556	18160	19320	20143	20717	21114	21386	21571	21698	21783	21841	21880
30.0	30.0	y	0	0.8	1.5	2.3	3.1	3.9	4.6	5.4	6.2	6.9	7.7	8.5	9.3	10.0	10.8	11.6	12.3
		p	0	4524	8720	12349	15302	17590	19294	20527	21401	22011	22432	22721	22919	23053	23144	23205	23247
31.0	31.0	y	0	0.8	1.6	2.4	3.2	4.0	4.7	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.1	11.9	12.7
		p	0	4798	9248	13096	16229	18655	20462	21770	22697	23344	23791	24097	24306	24449	24545	24611	24655
32.0	32.0	y	0	0.8	1.6	2.4	3.2	4.1	4.9	5.7	6.5	7.3	8.1	8.9	9.7	10.6	11.4	12.2	13.0
		p	0	5079	9791	13866	17183	19751	21665	23049	24031	24716	25189	25513	25735	25885	25988	26057	26104
33.0	33.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3	9.2	10.0	10.8	11.7	12.5	13.3
		p	0	5369	10350	14657	18163	20878	22901	24365	25402	26126	26626	26969	27203	27363	27471	27544	27593
34.0	34.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.5	9.4	10.2	11.1	11.9	12.8	13.6
		p	0	5667	10924	15470	19171	22036	24171	25716	26811	27575	28103	28465	28712	28880	28994	29072	29124
35.0	35.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.3	12.2	13.1	14.0
		p	0	5973	11513	16305	20205	23226	25476	27104	28258	29063	29620	30001	30262	30439	30559	30640	30696
36.0	36.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.1	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.3
		p	0	6287	12118	17162	21267	24446	26814	28528	29742	30590	31176	31577	31852	32038	32164	32250	32308

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11D: Static p-y Curve Data for a Monopile at Boring B-11/11A (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.9	1.8	2.7	3.7	4.6	5.5	6.4	7.3	8.2	9.1	10.1	11.0	11.9	12.8	13.7	14.6
		p	0	6609	12740	18042	22358	25700	28190	29992	31269	32160	32776	33198	33486	33682	33815	33905	33966
38.0	38.0	y	0	0.9	1.9	2.8	3.7	4.7	5.6	6.5	7.5	8.4	9.3	10.3	11.2	12.1	13.1	14.0	15.0
		p	0	6941	13380	18948	23481	26991	29606	31498	32839	33775	34422	34865	35168	35373	35513	35608	35672
39.0	39.0	y	0	1.0	1.9	2.9	3.8	4.8	5.7	6.7	7.6	8.6	9.6	10.5	11.5	12.4	13.4	14.3	15.3
		p	0	7281	14035	19877	24631	28313	31056	33041	34447	35429	36107	36573	36890	37106	37252	37352	37419
40.0	40.0	y	0	1.0	2.0	2.9	3.9	4.9	5.9	6.8	7.8	8.8	9.8	10.7	11.7	12.7	13.7	14.6	15.6
		p	0	7629	14706	20827	25808	29666	32540	34620	36094	37123	37833	38321	38653	38880	39033	39137	39207
41.0	41.0	y	0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	13.9	14.9	15.9
		p	0	7985	15392	21799	27013	31051	34059	36236	37779	38855	39599	40110	40458	40694	40855	40964	41038
42.0	42.0	y	0	1.0	2.0	3.1	4.1	5.1	6.1	7.1	8.1	9.2	10.2	11.2	12.2	13.2	14.2	15.3	16.3
		p	0	8350	16094	22793	28245	32467	35612	37888	39501	40627	41405	41939	42303	42550	42718	42832	42909
43.0	43.0	y	0	1.0	2.1	3.1	4.2	5.2	6.2	7.3	8.3	9.3	10.4	11.4	12.5	13.5	14.5	15.6	16.6
		p	0	8722	16812	23809	29504	33914	37200	39578	41263	42439	43251	43808	44189	44447	44623	44742	44822
44.0	44.0	y	0	1.1	2.1	3.2	4.2	5.3	6.3	7.4	8.5	9.5	10.6	11.6	12.7	13.8	14.8	15.9	16.9
		p	0	9102	17545	24847	30791	35393	38822	41303	43062	44289	45137	45719	46116	46385	46569	46693	46777
45.0	45.0	y	0	1.1	2.2	3.2	4.3	5.4	6.5	7.6	8.6	9.7	10.8	11.9	12.9	14.0	15.1	16.2	17.3
		p	0	9491	18294	25908	32104	36903	40479	43066	44899	46179	47063	47670	48083	48365	48556	48685	48773
46.0	46.0	y	0	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11.0	12.1	13.2	14.3	15.4	16.5	17.6
		p	0	9889	19062	26996	33453	38454	42179	44875	46786	48119	49041	49672	50104	50397	50596	50730	50822
47.0	47.0	y	0	1.1	2.2	3.4	4.5	5.6	6.7	7.8	9.0	10.1	11.2	12.3	13.4	14.6	15.7	16.8	17.9
		p	0	10297	19847	28107	34831	40037	43916	46723	48712	50100	51060	51717	52166	52472	52679	52819	52914
48.0	48.0	y	0	1.1	2.3	3.4	4.6	5.7	6.8	8.0	9.1	10.3	11.4	12.6	13.7	14.8	16.0	17.1	18.3
		p	0	10712	20648	29241	36235	41652	45687	48607	50677	52121	53119	53803	54270	54588	54804	54950	55048

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11D: Static p-y Curve Data for a Monopile at Boring B-11/11A (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	1.2	2.3	3.5	4.6	5.8	7.0	8.1	9.3	10.5	11.6	12.8	13.9	15.1	16.3	17.4	18.6
		p	0	11135	21464	30397	37668	43299	47493	50529	52680	54182	55219	55930	56416	56746	56970	57122	57225

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11E: Static p-y Curve Data for a Monopile at Boring B-OSS (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.8	10.5	11.2
		p	0	137	265	375	465	534	586	624	650	669	681	690	696	700	703	705	706
2.0	2.0	y	0	0.7	1.5	2.2	3.0	3.7	4.5	5.2	5.9	6.7	7.4	8.2	8.9	9.7	10.4	11.1	11.9
		p	0	290	560	793	983	1129	1239	1318	1374	1413	1440	1459	1472	1480	1486	1490	1493
3.0	3.0	y	0	0.8	1.6	2.3	3.1	3.9	4.7	5.4	6.2	7.0	7.8	8.6	9.3	10.1	10.9	11.7	12.5
		p	0	456	880	1246	1544	1775	1947	2071	2159	2221	2263	2293	2313	2326	2335	2341	2346
4.0	4.0	y	0	0.8	1.6	2.4	3.2	4.0	4.9	5.7	6.5	7.3	8.1	8.9	9.7	10.5	11.3	12.1	12.9
		p	0	633	1220	1727	2140	2460	2698	2871	2993	3078	3137	3178	3205	3224	3237	3245	3251
5.0	5.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.4	9.2	10.0	10.9	11.7	12.5	13.4
		p	0	816	1574	2229	2762	3175	3482	3705	3863	3973	4049	4101	4136	4161	4177	4188	4196
6.0	6.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.9	7.7	8.6	9.4	10.3	11.1	12.0	12.9	13.7
		p	0	1005	1937	2744	3400	3908	4287	4561	4755	4891	4984	5048	5092	5122	5142	5156	5165
7.0	7.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	1196	2305	3265	4046	4650	5101	5427	5658	5819	5931	6007	6059	6095	6119	6135	6146
8.0	8.0	y	0	1.1	2.2	3.3	4.4	5.4	6.5	7.6	8.7	9.8	10.9	12.0	13.1	14.2	15.2	16.3	17.4
		p	0	1135	2188	3099	3840	4414	4842	5151	5370	5523	5629	5702	5751	5785	5808	5823	5834
9.0	9.0	y	0	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	10.9	12.0	13.1	14.2	15.3	16.4	17.5
		p	0	1284	2475	3505	4344	4993	5477	5827	6075	6248	6368	6450	6506	6544	6569	6587	6599
10.0	10.0	y	0	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11.0	12.0	13.1	14.2	15.3	16.4	17.5
		p	0	1428	2752	3897	4829	5551	6089	6478	6754	6947	7079	7171	7233	7275	7304	7323	7337
11.0	11.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.5	7.3	8.1	8.9	9.7	10.5	11.3	12.1	12.9
		p	0	1736	3346	4738	5871	6749	7403	7876	8211	8445	8607	8718	8794	8845	8880	8904	8920
12.0	12.0	y	0	0.9	1.8	2.7	3.6	4.5	5.3	6.2	7.1	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.2
		p	0	2089	4026	5702	7065	8121	8908	9478	9881	10163	10357	10491	10582	10644	10686	10714	10733

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11E: Static p-y Curve Data for a Monopile at Boring B-OSS (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.2	7.0	7.9	8.8	9.7	10.6	11.4	12.3	13.2	14.1
		p	0	2236	4310	6104	7564	8695	9537	10146	10578	10880	11088	11231	11329	11395	11440	11470	11491
14.0	14.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	6.9	7.8	8.6	9.5	10.4	11.2	12.1	13.0	13.8
		p	0	2367	4562	6461	8006	9203	10095	10740	11197	11516	11737	11888	11991	12061	12109	12141	12163
15.0	15.0	y	0	0.8	1.7	2.5	3.4	4.2	5.1	5.9	6.8	7.6	8.5	9.3	10.1	11.0	11.8	12.7	13.5
		p	0	2478	4777	6765	8383	9636	10570	11246	11724	12058	12289	12448	12556	12629	12679	12713	12736
16.0	16.0	y	0	1.0	2.0	3.0	4.0	4.9	5.9	6.9	7.9	8.9	9.9	10.9	11.9	12.8	13.8	14.8	15.8
		p	0	2060	3970	5623	6967	8009	8785	9346	9744	10022	10214	10345	10435	10496	10538	10566	10585
17.0	17.0	y	0	0.9	1.9	2.8	3.8	4.7	5.7	6.6	7.6	8.5	9.5	10.4	11.4	12.3	13.3	14.2	15.2
		p	0	2099	4047	5731	7102	8164	8954	9527	9932	10215	10411	10545	10637	10699	10741	10770	10789
18.0	18.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.4
		p	0	2118	4083	5782	7165	8236	9034	9612	10021	10306	10504	10639	10731	10794	10837	10866	10885
19.0	19.0	y	0	0.7	1.4	2.1	2.9	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.6	9.3	10.0	10.7	11.4
		p	0	2650	5107	7233	8963	10303	11301	12023	12535	12892	13139	13308	13424	13502	13556	13592	13616
20.0	20.0	y	0	0.7	1.3	2.0	2.7	3.4	4.0	4.7	5.4	6.0	6.7	7.4	8.0	8.7	9.4	10.1	10.7
		p	0	2622	5055	7159	8871	10197	11185	11900	12407	12760	13005	13172	13286	13364	13417	13453	13477
21.0	21.0	y	0	0.6	1.2	1.9	2.5	3.1	3.7	4.4	5.0	5.6	6.2	6.9	7.5	8.1	8.7	9.4	10.0
		p	0	2560	4935	6990	8661	9956	10921	11619	12113	12459	12697	12861	12972	13048	13100	13135	13158
22.0	22.0	y	0	0.6	1.3	1.9	2.6	3.2	3.9	4.5	5.1	5.8	6.4	7.1	7.7	8.4	9.0	9.7	10.3
		p	0	2769	5337	7558	9365	10765	11808	12563	13098	13471	13729	13906	14027	14109	14165	14202	14228
23.0	23.0	y	0	0.7	1.3	2.0	2.7	3.3	4.0	4.6	5.3	6.0	6.6	7.3	8.0	8.6	9.3	10.0	10.6
		p	0	2985	5753	8147	10096	11605	12730	13543	14120	14522	14800	14991	15121	15210	15270	15310	15338
24.0	24.0	y	0	0.7	1.4	2.1	2.7	3.4	4.1	4.8	5.5	6.2	6.8	7.5	8.2	8.9	9.6	10.3	10.9
		p	0	3209	6186	8761	10857	12480	13689	14564	15184	15616	15915	16120	16260	16355	16420	16464	16493

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11E: Static p-y Curve Data for a Monopile at Boring B-OSS (page 3 of 5)

Depth Below Mudline	Depth Below Scour Pit	Static p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.1	7.8	8.5	9.2	9.9	10.6	11.3
		p	0	3446	6643	9407	11657	13400	14698	15638	16303	16768	17089	17309	17460	17562	17631	17678	17710
26.0	26.0	y	0	0.7	1.5	2.2	2.9	3.6	4.4	5.1	5.8	6.5	7.3	8.0	8.7	9.4	10.2	10.9	11.6
		p	0	3691	7115	10076	12486	14352	15743	16749	17462	17960	18304	18539	18700	18810	18884	18934	18968
27.0	27.0	y	0	0.7	1.5	2.2	3.0	3.7	4.5	5.2	6.0	6.7	7.5	8.2	9.0	9.7	10.5	11.2	12.0
		p	0	3944	7602	10767	13342	15336	16822	17897	18659	19191	19558	19810	19982	20099	20179	20232	20269
28.0	28.0	y	0	0.8	1.5	2.3	3.1	3.8	4.6	5.4	6.1	6.9	7.7	8.5	9.2	10.0	10.8	11.5	12.3
		p	0	4205	8106	11480	14225	16352	17936	19082	19895	20462	20854	21122	21306	21430	21515	21572	21611
29.0	29.0	y	0	0.8	1.6	2.4	3.2	3.9	4.7	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.0	11.8	12.6
		p	0	4475	8625	12215	15137	17399	19085	20305	21169	21773	22189	22475	22670	22803	22893	22954	22995
30.0	30.0	y	0	0.8	1.6	2.4	3.2	4.1	4.9	5.7	6.5	7.3	8.1	8.9	9.7	10.5	11.3	12.2	13.0
		p	0	4752	9160	12973	16076	18478	20269	21564	22482	23123	23566	23869	24077	24217	24313	24378	24422
31.0	31.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3	9.1	10.0	10.8	11.6	12.5	13.3
		p	0	5038	9711	13752	17042	19589	21487	22861	23834	24513	24983	25304	25524	25673	25775	25843	25890
32.0	32.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.5	9.4	10.2	11.1	11.9	12.8	13.6
		p	0	5332	10277	14555	18036	20732	22741	24194	25224	25943	26440	26780	27013	27171	27278	27351	27400
33.0	33.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	5634	10859	15379	19058	21906	24029	25565	26653	27413	27937	28297	28543	28710	28823	28900	28952
34.0	34.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.3
		p	0	5944	11457	16226	20107	23113	25352	26972	28120	28922	29476	29855	30115	30291	30410	30491	30546
35.0	35.0	y	0	0.9	1.8	2.7	3.7	4.6	5.5	6.4	7.3	8.2	9.2	10.1	11.0	11.9	12.8	13.7	14.6
		p	0	6262	12071	17095	21184	24350	26710	28417	29627	30471	31054	31455	31728	31913	32039	32125	32182
36.0	36.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11E: Static p-y Curve Data for a Monopile at Boring B-OSS (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Static p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
38.0	38.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
39.0	39.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
40.0	40.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
41.0	41.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
42.0	42.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
43.0	43.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
44.0	44.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
45.0	45.0	y	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	24.0	33.6	43.2	45.6
		p	0	3268	4622	5384	5880	6218	6444	6583	6652	6662	6621	6537	6416	4626	2836	1046	1046
46.0	46.0	y	0	0.9	1.9	2.8	3.8	4.7	5.6	6.6	7.5	8.5	9.4	10.3	11.3	12.2	13.2	14.1	15.0
		p	0	8450	16288	23067	28584	32857	36040	38343	39976	41115	41902	42442	42811	43061	43231	43346	43424
47.0	47.0	y	0	1.0	1.9	2.9	3.8	4.8	5.8	6.7	7.7	8.6	9.6	10.6	11.5	12.5	13.4	14.4	15.4
		p	0	8823	17007	24086	29847	34308	37632	40037	41742	42932	43753	44317	44702	44963	45141	45261	45343
48.0	48.0	y	0	1.0	2.0	2.9	3.9	4.9	5.9	6.9	7.8	8.8	9.8	10.8	11.8	12.8	13.7	14.7	15.7
		p	0	9205	17742	25127	31137	35791	39258	41768	43546	44787	45645	46233	46634	46907	47092	47218	47303

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 11E: Static p-y Curve Data for a Monopile at Boring B-OSS (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Static p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0
		p	0	9594	18493	26190	32454	37305	40920	43535	45388	46682	47576	48189	48607	48892	49085	49215	49304

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12A: Seismic p-y Curve Data for a Monopile at Boring B-3 (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.5	1.8	2.0	2.2	2.4	2.6	2.9	3.1	3.3	3.5
		p	0	43	83	118	146	168	184	196	204	210	214	217	219	220	221	221	222
2.0	2.0	y	0	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.9
		p	0	94	182	258	320	367	403	429	447	460	468	474	479	481	483	485	485
3.0	3.0	y	0	0.3	0.5	0.8	1.0	1.3	1.6	1.8	2.1	2.4	2.6	2.9	3.1	3.4	3.7	3.9	4.2
		p	0	154	297	420	521	599	657	699	728	749	763	773	780	784	788	790	791
4.0	4.0	y	0	0.3	0.6	0.9	1.1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.3	4.5
		p	0	222	427	605	750	862	945	1005	1048	1078	1099	1113	1123	1129	1134	1137	1139
5.0	5.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.7	4.0	4.3	4.6	4.9
		p	0	297	573	812	1006	1156	1268	1349	1407	1447	1475	1494	1507	1515	1521	1525	1528
6.0	6.0	y	0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.2	4.6	4.9	5.2
		p	0	381	735	1041	1290	1483	1626	1730	1804	1856	1891	1915	1932	1943	1951	1956	1960
7.0	7.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.8	5.2	5.5
		p	0	473	913	1293	1602	1841	2019	2149	2240	2304	2348	2378	2399	2413	2422	2429	2433
8.0	8.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9
		p	0	574	1106	1566	1941	2231	2447	2604	2714	2792	2845	2882	2907	2924	2936	2943	2949
9.0	9.0	y	0	0.4	0.8	1.2	1.6	1.9	2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.0	5.4	5.8	6.2
		p	0	682	1315	1862	2308	2653	2910	3096	3228	3320	3383	3427	3456	3477	3490	3500	3506
10.0	10.0	y	0	0.4	0.8	1.2	1.6	2.0	2.4	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5
		p	0	796	1535	2174	2694	3097	3397	3614	3767	3875	3949	4000	4035	4058	4074	4085	4092
11.0	11.0	y	0	0.4	0.9	1.3	1.7	2.1	2.6	3.0	3.4	3.8	4.3	4.7	5.1	5.6	6.0	6.4	6.8
		p	0	918	1770	2506	3106	3570	3916	4166	4343	4467	4553	4611	4651	4679	4697	4710	4718
12.0	12.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	4.9	5.4	5.8	6.3	6.7	7.1
		p	0	1048	2019	2860	3544	4074	4468	4754	4957	5098	5195	5262	5308	5339	5360	5374	5384

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12A: Seismic p-y Curve Data for a Monopile at Boring B-3 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.5	7.0	7.5
		p	0	1185	2284	3235	4009	4608	5055	5378	5607	5767	5877	5953	6005	6040	6064	6080	6091
14.0	14.0	y	0	0.5	1.0	1.5	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.3	5.8	6.3	6.8	7.3	7.8
		p	0	1331	2565	3632	4501	5174	5675	6038	6295	6474	6598	6683	6741	6781	6807	6825	6838
15.0	15.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	679	855	1077	1233	1357	1462	1554	1710	1842	2109	2321	2500	2657	2445	2233	2233
16.0	16.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	695	875	1103	1262	1389	1497	1590	1750	1886	2158	2376	2559	2719	2532	2345	2345
17.0	17.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	711	895	1128	1291	1421	1531	1627	1790	1929	2208	2430	2618	2782	2621	2460	2460
18.0	18.0	y	0	0.4	0.8	1.3	1.7	2.1	2.5	3.0	3.4	3.8	4.2	4.6	5.1	5.5	5.9	6.3	6.8
		p	0	1486	2864	4056	5026	5777	6336	6741	7028	7229	7367	7462	7527	7571	7601	7621	7635
19.0	19.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.6	7.1
		p	0	1645	3171	4490	5564	6396	7016	7464	7782	8004	8157	8262	8334	8382	8416	8438	8453
20.0	20.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.2	3.7	4.2	4.6	5.1	5.6	6.0	6.5	7.0	7.4
		p	0	1812	3493	4947	6130	7047	7729	8223	8573	8818	8987	9102	9181	9235	9272	9296	9313
21.0	21.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	875	1103	1390	1591	1751	1886	2004	2206	2376	2720	2994	3225	3427	3260	3094	3094
22.0	22.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	892	1124	1416	1621	1784	1921	2042	2247	2421	2771	3050	3285	3491	3355	3219	3219
23.0	23.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	908	1144	1442	1650	1817	1957	2079	2289	2465	2822	3106	3346	3556	3451	3346	3346
24.0	24.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	925	1165	1468	1680	1849	1992	2117	2330	2510	2873	3162	3407	3620	3548	3477	3477

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12A: Seismic p-y Curve Data for a Monopile at Boring B-3 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.5	1.0	1.4	1.9	2.4	2.9	3.3	3.8	4.3	4.8	5.2	5.7	6.2	6.7	7.1	7.6
		p	0	2325	4482	6348	7866	9042	9918	10552	11001	11315	11531	11680	11781	11850	11897	11929	11950
26.0	26.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	7.9
		p	0	2525	4868	6894	8543	9820	10771	11460	11948	12288	12524	12685	12795	12870	12921	12955	12979
27.0	27.0	y	0	0.5	1.0	1.6	2.1	2.6	3.1	3.6	4.1	4.7	5.2	5.7	6.2	6.7	7.3	7.8	8.3
		p	0	2734	5270	7463	9248	10630	11660	12406	12934	13302	13557	13732	13851	13932	13987	14024	14050
28.0	28.0	y	0	0.5	1.1	1.6	2.2	2.7	3.2	3.8	4.3	4.9	5.4	5.9	6.5	7.0	7.5	8.1	8.6
		p	0	2951	5687	8054	9981	11473	12584	13389	13959	14357	14632	14820	14949	15036	15096	15136	15163
29.0	29.0	y	0	0.6	1.1	1.7	2.2	2.8	3.4	3.9	4.5	5.0	5.6	6.2	6.7	7.3	7.8	8.4	9.0
		p	0	3175	6121	8668	10742	12348	13544	14409	15023	15451	15747	15950	16088	16182	16246	16290	16319
30.0	30.0	y	0	0.6	1.2	1.7	2.3	2.9	3.5	4.1	4.6	5.2	5.8	6.4	7.0	7.6	8.1	8.7	9.3
		p	0	3409	6570	9305	11531	13254	14538	15468	16126	16586	16903	17121	17270	17371	17439	17486	17517
31.0	31.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6
		p	0	3650	7036	9964	12347	14193	15568	16563	17268	17760	18101	18334	18493	18601	18675	18724	18758
32.0	32.0	y	0	0.6	1.2	1.9	2.5	3.1	3.7	4.4	5.0	5.6	6.2	6.9	7.5	8.1	8.7	9.4	10.0
		p	0	3900	7517	10646	13192	15164	16633	17696	18450	18975	19339	19588	19758	19874	19952	20005	20041
33.0	33.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	754	1378	1882	2275	2565	2765	2885	2942	2954	2942	2885	2765	1941	1118	294	294
34.0	34.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	754	1378	1882	2275	2565	2765	2885	2942	2954	2942	2885	2765	1941	1118	294	294
35.0	35.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	754	1378	1882	2275	2565	2765	2885	2942	2954	2942	2885	2765	1941	1118	294	294
36.0	36.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.8	5.5	6.1	6.8	7.5	8.2	8.9	9.6	10.2	10.9
		p	0	4802	9257	13109	16245	18673	20482	21792	22719	23367	23814	24121	24331	24473	24570	24635	24679

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12A: Seismic p-y Curve Data for a Monopile at Boring B-3 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0	7.7	8.4	9.1	9.8	10.5	11.2
		p	0	5082	9795	13872	17190	19760	21674	23060	24041	24727	25200	25525	25746	25897	25999	26068	26115
38.0	38.0	y	0	0.7	1.4	2.2	2.9	3.6	4.3	5.1	5.8	6.5	7.2	8.0	8.7	9.4	10.1	10.8	11.6
		p	0	5369	10349	14656	18162	20877	22900	24363	25400	26124	26625	26968	27202	27361	27469	27542	27592
39.0	39.0	y	0	0.7	1.5	2.2	3.0	3.7	4.5	5.2	5.9	6.7	7.4	8.2	8.9	9.7	10.4	11.1	11.9
		p	0	5664	10918	15462	19161	22025	24158	25703	26797	27561	28088	28450	28697	28865	28979	29056	29108
40.0	40.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	848	1551	2118	2559	2886	3111	3247	3310	3324	3310	3247	3111	2184	1258	331	331
41.0	41.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	909	1662	2270	2744	3094	3335	3480	3549	3563	3549	3480	3335	2342	1348	355	355
42.0	42.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	970	1774	2423	2928	3302	3559	3714	3787	3803	3787	3714	3559	2499	1439	379	379
43.0	43.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.5	10.3	11.1	11.9	12.7
		p	0	6688	12891	18256	22623	26004	28523	30346	31638	32540	33163	33591	33882	34080	34215	34306	34368
44.0	44.0	y	0	0.8	1.6	2.4	3.3	4.1	4.9	5.7	6.5	7.3	8.2	9.0	9.8	10.6	11.4	12.2	13.1
		p	0	7017	13525	19154	23736	27284	29927	31840	33195	34142	34795	35244	35550	35758	35899	35994	36059
45.0	45.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.9	6.7	7.5	8.4	9.2	10.0	10.9	11.7	12.5	13.4
		p	0	7354	14175	20074	24876	28594	31364	33369	34790	35781	36467	36936	37257	37475	37623	37723	37791
46.0	46.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.9	7.7	8.6	9.4	10.3	11.1	12.0	12.8	13.7
		p	0	7700	14843	21021	26049	29942	32843	34942	36430	37468	38186	38678	39013	39242	39397	39502	39573
47.0	47.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.2	14.0
		p	0	8059	15535	22000	27263	31338	34374	36571	38128	39215	39965	40480	40832	41071	41233	41343	41417
48.0	48.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.4
		p	0	8426	16242	23002	28504	32765	35939	38237	39864	41001	41786	42324	42691	42941	43111	43226	43303

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12A: Seismic p-y Curve Data for a Monopile at Boring B-3 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	0.9	1.8	2.8	3.7	4.6	5.5	6.4	7.4	8.3	9.2	10.1	11.0	11.9	12.9	13.8	14.7
		p	0	8802	16966	24027	29774	34224	37540	39939	41640	42827	43646	44209	44593	44853	45031	45151	45232

Notes:

p = mobilized lateral resistance (kN/m)

y = localized lateral pile deflection (cm)

Table 12B: Seismic p-y Curve Data for a Monopile at Boring B-6 (page 1 of 5)

Depth Below Mudline	Depth Below Scour Pit		Seismic p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.3
		p	0	40	77	110	136	156	171	182	190	195	199	202	203	205	205	206	206
2.0	2.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	122	153	193	221	244	262	279	307	331	378	417	449	477	283	88	88
3.0	3.0	y	0	0.2	0.4	0.6	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.6	2.8	3.0	3.2	3.4
		p	0	125	241	342	424	487	534	568	592	609	621	629	634	638	641	642	643
4.0	4.0	y	0	0.2	0.5	0.7	0.9	1.2	1.4	1.6	1.9	2.1	2.4	2.6	2.8	3.1	3.3	3.5	3.8
		p	0	184	354	502	622	715	784	834	870	894	911	923	931	937	940	943	945
5.0	5.0	y	0	0.3	0.5	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.6	2.8	3.1	3.3	3.6	3.8	4.1
		p	0	250	483	684	847	974	1068	1137	1185	1219	1242	1258	1269	1276	1281	1285	1287
6.0	6.0	y	0	0.3	0.6	0.8	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.9	4.2	4.4
		p	0	325	627	888	1100	1265	1387	1476	1539	1582	1613	1633	1648	1657	1664	1668	1671
7.0	7.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8
		p	0	408	786	1114	1380	1586	1740	1851	1930	1985	2023	2049	2067	2079	2087	2093	2097
8.0	8.0	y	0	0.3	0.6	1.0	1.3	1.6	1.9	2.2	2.6	2.9	3.2	3.5	3.8	4.1	4.5	4.8	5.1
		p	0	499	962	1362	1688	1940	2128	2264	2360	2427	2474	2506	2528	2542	2552	2559	2564
9.0	9.0	y	0	0.3	0.7	1.0	1.4	1.7	2.0	2.4	2.7	3.1	3.4	3.7	4.1	4.4	4.8	5.1	5.4
		p	0	598	1152	1632	2022	2325	2550	2713	2828	2909	2965	3003	3029	3047	3059	3067	3072
10.0	10.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	290	366	461	527	580	625	664	731	788	902	993	1069	1136	1113	1090	1090
11.0	11.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	365	460	579	663	730	786	836	920	991	1134	1248	1345	1429	1421	1413	1413
12.0	12.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	442	556	701	802	883	951	1011	1113	1199	1372	1510	1627	1729	1614	1499	1499

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12B: Seismic p-y Curve Data for a Monopile at Boring B-6 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	520	655	825	945	1040	1120	1190	1310	1411	1616	1778	1915	2035	1822	1609	1609
14.0	14.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	600	756	952	1090	1200	1293	1374	1512	1629	1864	2052	2211	2349	2043	1738	1738
15.0	15.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	682	859	1082	1239	1364	1469	1561	1718	1851	2119	2332	2512	2670	2275	1881	1881
16.0	16.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	766	964	1215	1391	1531	1649	1753	1929	2078	2379	2618	2820	2997	2517	2038	2038
17.0	17.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	851	1072	1351	1546	1702	1833	1948	2144	2310	2644	2910	3135	3331	2769	2207	2207
18.0	18.0	y	0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	32.0	40.0	60.0	80.0	100.0	120.0	360.0	600.0	640.0
		p	0	938	1182	1489	1705	1876	2021	2148	2364	2546	2915	3208	3456	3672	3030	2388	2388
19.0	19.0	y	0	0.4	0.9	1.3	1.8	2.2	2.6	3.1	3.5	4.0	4.4	4.8	5.3	5.7	6.2	6.6	7.0
		p	0	1091	2103	2978	3690	4242	4653	4950	5161	5308	5409	5479	5527	5559	5581	5596	5606
20.0	20.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.6	5.1	5.6	6.0	6.5	7.0	7.4
		p	0	1210	2333	3304	4094	4706	5162	5492	5725	5889	6001	6079	6131	6167	6192	6208	6219
21.0	21.0	y	0	0.5	1.0	1.5	2.0	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.3	6.8	7.3	7.8
		p	0	1336	2575	3646	4519	5194	5697	6061	6319	6500	6624	6709	6768	6807	6834	6852	6865
22.0	22.0	y	0	0.5	1.0	1.5	2.0	2.6	3.1	3.6	4.1	4.6	5.1	5.6	6.1	6.7	7.2	7.7	8.2
		p	0	1468	2829	4006	4964	5706	6259	6659	6943	7141	7277	7371	7435	7479	7508	7528	7542
23.0	23.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.7	4.3	4.8	5.4	5.9	6.4	7.0	7.5	8.0	8.6
		p	0	1605	3095	4383	5431	6243	6847	7285	7595	7812	7961	8064	8134	8182	8214	8236	8250
24.0	24.0	y	0	0.6	1.1	1.7	2.2	2.8	3.4	3.9	4.5	5.0	5.6	6.2	6.7	7.3	7.8	8.4	8.9
		p	0	1750	3372	4776	5918	6803	7462	7939	8277	8513	8676	8788	8864	8916	8951	8975	8991

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12B: Seismic p-y Curve Data for a Monopile at Boring B-6 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.6	1.2	1.7	2.3	2.9	3.5	4.1	4.7	5.2	5.8	6.4	7.0	7.6	8.2	8.7	9.3
		p	0	1900	3662	5186	6427	7388	8103	8621	8988	9245	9422	9543	9626	9682	9720	9746	9764
26.0	26.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.9	5.5	6.1	6.7	7.3	7.9	8.5	9.1	9.7
		p	0	2056	3964	5614	6956	7996	8771	9332	9729	10006	10198	10329	10419	10480	10521	10549	10568
27.0	27.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	1103	2017	2755	3330	3755	4047	4224	4307	4324	4307	4224	4048	2842	1636	431	431
28.0	28.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	1103	2017	2755	3330	3755	4047	4224	4307	4324	4307	4224	4048	2842	1636	431	431
29.0	29.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	1103	2017	2755	3330	3755	4047	4224	4307	4324	4307	4224	4048	2842	1636	431	431
30.0	30.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	1103	2017	2755	3330	3755	4047	4224	4307	4324	4307	4224	4048	2842	1636	431	431
31.0	31.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9
		p	0	2989	5761	8158	10110	11621	12747	13561	14139	14542	14820	15011	15141	15230	15290	15331	15358
32.0	32.0	y	0	0.5	1.0	1.5	2.1	2.6	3.1	3.6	4.1	4.6	5.1	5.7	6.2	6.7	7.2	7.7	8.2
		p	0	3215	6197	8776	10876	12501	13713	14589	15210	15644	15943	16149	16289	16384	16449	16493	16522
33.0	33.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.7	4.3	4.8	5.3	5.9	6.4	7.0	7.5	8.0	8.6
		p	0	3450	6650	9417	11670	13414	14713	15654	16320	16785	17107	17327	17478	17580	17649	17696	17728
34.0	34.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.6	6.1	6.7	7.2	7.8	8.3	8.9
		p	0	3693	7118	10080	12491	14358	15749	16756	17469	17967	18311	18547	18708	18817	18892	18942	18976
35.0	35.0	y	0	0.6	1.2	1.7	2.3	2.9	3.5	4.0	4.6	5.2	5.8	6.3	6.9	7.5	8.1	8.6	9.2
		p	0	3944	7601	10765	13340	15334	16819	17895	18656	19188	19556	19807	19979	20096	20176	20229	20266
36.0	36.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6
		p	0	4203	8101	11472	14217	16342	17925	19070	19882	20449	20841	21109	21292	21417	21502	21559	21598

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12B: Seismic p-y Curve Data for a Monopile at Boring B-6 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.6	1.2	1.9	2.5	3.1	3.7	4.3	4.9	5.6	6.2	6.8	7.4	8.0	8.7	9.3	9.9
		p	0	4470	8616	12202	15121	17381	19065	20283	21147	21750	22166	22452	22647	22779	22869	22930	22971
38.0	38.0	y	0	0.6	1.3	1.9	2.6	3.2	3.8	4.5	5.1	5.7	6.4	7.0	7.7	8.3	8.9	9.6	10.2
		p	0	4745	9147	12954	16053	18452	20240	21533	22450	23090	23532	23835	24042	24183	24278	24343	24387
39.0	39.0	y	0	0.7	1.3	2.0	2.6	3.3	4.0	4.6	5.3	5.9	6.6	7.3	7.9	8.6	9.2	9.9	10.6
		p	0	5029	9694	13728	17012	19555	21450	22821	23792	24470	24939	25260	25479	25628	25730	25798	25845
40.0	40.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.8	5.4	6.1	6.8	7.5	8.2	8.8	9.5	10.2	10.9
		p	0	5321	10256	14525	17999	20690	22694	24145	25173	25890	26386	26726	26958	27115	27223	27295	27344
41.0	41.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	918	1679	2293	2771	3124	3367	3515	3584	3598	3584	3515	3368	2365	1362	358	358
42.0	42.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	918	1679	2293	2771	3124	3367	3515	3584	3598	3584	3515	3368	2365	1362	358	358
43.0	43.0	y	0	0.8	1.6	2.3	3.1	3.9	4.7	5.5	6.2	7.0	7.8	8.6	9.4	10.2	10.9	11.7	12.5
		p	0	6565	12655	17922	22209	25529	28002	29792	31060	31946	32557	32977	33263	33458	33590	33679	33740
44.0	44.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	12.8
		p	0	6897	13295	18829	23332	26820	29418	31298	32631	33561	34204	34644	34945	35149	35288	35382	35446
45.0	45.0	y	0	0.8	1.6	2.5	3.3	4.1	4.9	5.8	6.6	7.4	8.2	9.0	9.9	10.7	11.5	12.3	13.2
		p	0	7238	13951	19757	24483	28143	30869	32842	34240	35216	35890	36353	36668	36883	37029	37127	37194
46.0	46.0	y	0	0.8	1.7	2.5	3.4	4.2	5.1	5.9	6.7	7.6	8.4	9.3	10.1	11.0	11.8	12.7	13.5
		p	0	7586	14622	20708	25661	29497	32355	34423	35888	36911	37618	38102	38433	38658	38811	38914	38984
47.0	47.0	y	0	0.9	1.7	2.6	3.5	4.3	5.2	6.1	6.9	7.8	8.6	9.5	10.4	11.2	12.1	13.0	13.8
		p	0	7942	15309	21681	26867	30883	33875	36040	37575	38646	39386	39893	40239	40475	40635	40743	40816
48.0	48.0	y	0	0.9	1.8	2.7	3.5	4.4	5.3	6.2	7.1	8.0	8.9	9.7	10.6	11.5	12.4	13.3	14.2
		p	0	8307	16012	22677	28101	32301	35430	37695	39300	40420	41194	41725	42087	42333	42500	42613	42690

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12B: Seismic p-y Curve Data for a Monopile at Boring B-6 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.2	9.1	10.0	10.9	11.8	12.7	13.6	14.5
		p	0	8680	16731	23694	29362	33751	37021	39387	41064	42234	43043	43597	43976	44233	44408	44526	44606

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12C: Seismic p-y Curve Data for a Monopile at Boring B-10 (page 1 of 5)

Depth Below Mudline	Depth Below Scour Pit	Seismic p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.5	1.8	2.0	2.2	2.4	2.6	2.9	3.1	3.3	3.5
		p	0	43	83	118	146	168	184	196	204	210	214	217	219	220	221	221	222
2.0	2.0	y	0	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.9
		p	0	94	182	258	320	367	403	429	447	460	468	474	479	481	483	485	485
3.0	3.0	y	0	0.3	0.5	0.8	1.0	1.3	1.6	1.8	2.1	2.4	2.6	2.9	3.1	3.4	3.7	3.9	4.2
		p	0	154	297	420	521	599	657	699	728	749	763	773	780	784	788	790	791
4.0	4.0	y	0	0.3	0.6	0.9	1.1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.3	4.5
		p	0	222	427	605	750	862	945	1005	1048	1078	1099	1113	1123	1129	1134	1137	1139
5.0	5.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.7	4.0	4.3	4.6	4.9
		p	0	297	573	812	1006	1156	1268	1349	1407	1447	1475	1494	1507	1515	1521	1525	1528
6.0	6.0	y	0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.2	4.6	4.9	5.2
		p	0	381	735	1041	1290	1483	1626	1730	1804	1856	1891	1915	1932	1943	1951	1956	1960
7.0	7.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.8	5.2	5.5
		p	0	473	913	1293	1602	1841	2019	2149	2240	2304	2348	2378	2399	2413	2422	2429	2433
8.0	8.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9
		p	0	574	1106	1566	1941	2231	2447	2604	2714	2792	2845	2882	2907	2924	2936	2943	2949
9.0	9.0	y	0	0.4	0.8	1.2	1.6	1.9	2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.0	5.4	5.8	6.2
		p	0	682	1315	1862	2308	2653	2910	3096	3228	3320	3383	3427	3456	3477	3490	3500	3506
10.0	10.0	y	0	0.4	0.8	1.2	1.6	2.0	2.5	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5
		p	0	799	1540	2181	2702	3106	3407	3625	3779	3887	3961	4012	4047	4071	4087	4098	4105
11.0	11.0	y	0	0.4	0.9	1.3	1.7	2.1	2.6	3.0	3.4	3.9	4.3	4.7	5.2	5.6	6.0	6.4	6.9
		p	0	924	1780	2521	3124	3591	3939	4191	4370	4494	4580	4639	4680	4707	4726	4738	4747
12.0	12.0	y	0	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.2
		p	0	1057	2037	2884	3574	4108	4506	4795	4999	5141	5240	5307	5353	5384	5406	5420	5430

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12C: Seismic p-y Curve Data for a Monopile at Boring B-10 (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.5	0.9	1.4	1.9	2.4	2.8	3.3	3.8	4.2	4.7	5.2	5.7	6.1	6.6	7.1	7.5
		p	0	1198	2309	3270	4052	4657	5108	5435	5666	5828	5939	6016	6068	6104	6128	6144	6155
14.0	14.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9
		p	0	1347	2596	3677	4557	5238	5745	6112	6372	6554	6680	6766	6824	6864	6891	6910	6922
15.0	15.0	y	0	0.5	1.0	1.5	2.1	2.6	3.1	3.6	4.1	4.6	5.1	5.6	6.2	6.7	7.2	7.7	8.2
		p	0	1504	2900	4107	5089	5850	6417	6827	7117	7320	7460	7556	7622	7667	7697	7717	7731
16.0	16.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.7	4.3	4.8	5.3	5.9	6.4	6.9	7.5	8.0	8.5
		p	0	1670	3219	4559	5649	6494	7123	7578	7901	8126	8282	8388	8461	8511	8544	8567	8582
17.0	17.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.5	6.1	6.7	7.2	7.8	8.3	8.9
		p	0	1844	3554	5033	6237	7169	7864	8367	8723	8972	9143	9261	9341	9396	9433	9458	9475
18.0	18.0	y	0	0.6	1.2	1.7	2.3	2.9	3.5	4.0	4.6	5.2	5.8	6.3	6.9	7.5	8.1	8.6	9.2
		p	0	2027	3906	5532	6855	7880	8643	9196	9587	9861	10049	10179	10267	10327	10368	10396	10414
19.0	19.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6
		p	0	2219	4278	6058	7508	8630	9466	10071	10500	10799	11006	11147	11244	11310	11355	11385	11405
20.0	20.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	586	738	930	1065	1172	1263	1342	1477	1591	1821	2004	2159	2294	2294	2294	2294
21.0	21.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	601	757	954	1092	1202	1295	1376	1515	1632	1868	2056	2215	2353	2353	2353	2353
22.0	22.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	616	776	978	1120	1233	1328	1411	1553	1673	1915	2108	2270	2413	2413	2413	2413
23.0	23.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	631	796	1002	1147	1263	1360	1446	1591	1714	1962	2159	2326	2472	2472	2472	2472
24.0	24.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	647	815	1026	1175	1293	1393	1480	1629	1755	2009	2211	2382	2531	2531	2531	2531

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12C: Seismic p-y Curve Data for a Monopile at Boring B-10 (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	662	833	1050	1202	1323	1425	1515	1667	1796	2056	2262	2437	2590	2590	2590	2590
26.0	26.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	667	840	1059	1212	1334	1437	1527	1681	1811	2073	2281	2458	2612	2612	2612	2612
27.0	27.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	696	877	1105	1265	1393	1500	1594	1755	1890	2164	2381	2565	2726	2726	2726	2726
28.0	28.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	798	1005	1267	1450	1596	1719	1827	2011	2166	2479	2729	2939	3124	3124	3124	3124
29.0	29.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	890	1122	1413	1618	1781	1918	2038	2244	2417	2767	3045	3280	3486	3486	3486	3486
30.0	30.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	984	1240	1562	1788	1968	2120	2252	2479	2671	3057	3365	3625	3852	3852	3852	3852
31.0	31.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	1078	1359	1712	1960	2157	2323	2469	2717	2927	3351	3688	3973	4222	4222	4222	4222
32.0	32.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	1174	1479	1863	2133	2348	2529	2688	2958	3186	3648	4015	4325	4596	4596	4596	4596
33.0	33.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	1270	1601	2017	2308	2541	2737	2909	3201	3448	3947	4345	4680	4974	4974	4974	4974
34.0	34.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	1368	1724	2172	2486	2736	2947	3132	3447	3713	4251	4678	5040	5355	5339	5322	5322
35.0	35.0	y	0	1.0	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	30.0	40.0	50.0	60.0	180.0	300.0	320.0
		p	0	1467	1848	2328	2665	2933	3160	3358	3695	3981	4557	5015	5403	5741	5614	5487	5487
36.0	36.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12C: Seismic p-y Curve Data for a Monopile at Boring B-10 (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
38.0	38.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
39.0	39.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
40.0	40.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
41.0	41.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
42.0	42.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
43.0	43.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
44.0	44.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
45.0	45.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
46.0	46.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	741	1356	1852	2238	2524	2720	2839	2895	2907	2895	2839	2721	1910	1100	290	290
47.0	47.0	y	0	0.6	1.1	1.7	2.3	2.8	3.4	4.0	4.5	5.1	5.7	6.2	6.8	7.4	7.9	8.5	9.1
		p	0	5203	10030	14205	17602	20233	22193	23612	24617	25319	25804	26136	26363	26517	26622	26693	26741
48.0	48.0	y	0	0.6	1.2	1.8	2.3	2.9	3.5	4.1	4.7	5.3	5.9	6.5	7.0	7.6	8.2	8.8	9.4
		p	0	5511	10624	15045	18644	21431	23507	25009	26074	26817	27331	27683	27923	28087	28197	28273	28323

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12C: Seismic p-y Curve Data for a Monopile at Boring B-10 (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	0.6	1.2	1.8	2.4	3.0	3.7	4.3	4.9	5.5	6.1	6.7	7.3	7.9	8.5	9.1	9.7
		p	0	5828	11233	15909	19714	22661	24856	26445	27570	28356	28899	29272	29526	29698	29816	29895	29949

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12D: Seismic p-y Curve Data for a Monopile at Boring B-11/11A (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.5	1.8	2.0	2.2	2.4	2.6	2.9	3.1	3.3	3.5
		p	0	43	83	118	146	168	184	196	204	210	214	217	219	220	221	221	222
2.0	2.0	y	0	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.9
		p	0	94	182	258	320	367	403	429	447	460	468	474	479	481	483	485	485
3.0	3.0	y	0	0.3	0.5	0.8	1.0	1.3	1.6	1.8	2.1	2.4	2.6	2.9	3.1	3.4	3.7	3.9	4.2
		p	0	154	297	420	521	599	657	699	728	749	763	773	780	784	788	790	791
4.0	4.0	y	0	0.3	0.6	0.9	1.1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.3	4.5
		p	0	222	427	605	750	862	945	1005	1048	1078	1099	1113	1123	1129	1134	1137	1139
5.0	5.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.7	4.0	4.3	4.6	4.9
		p	0	297	573	812	1006	1156	1268	1349	1407	1447	1475	1494	1507	1515	1521	1525	1528
6.0	6.0	y	0	0.3	0.7	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.3	3.6	3.9	4.2	4.6	4.9	5.2
		p	0	381	735	1041	1290	1483	1626	1730	1804	1856	1891	1915	1932	1943	1951	1956	1960
7.0	7.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.8	5.2	5.5
		p	0	473	913	1293	1602	1841	2019	2149	2240	2304	2348	2378	2399	2413	2422	2429	2433
8.0	8.0	y	0	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9
		p	0	574	1106	1566	1941	2231	2447	2604	2714	2792	2845	2882	2907	2924	2936	2943	2949
9.0	9.0	y	0	0.4	0.8	1.2	1.6	1.9	2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.0	5.4	5.8	6.2
		p	0	682	1315	1862	2308	2653	2910	3096	3228	3320	3383	3427	3456	3477	3490	3500	3506
10.0	10.0	y	0	0.4	0.8	1.2	1.6	2.0	2.5	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5
		p	0	799	1540	2181	2702	3106	3407	3625	3779	3887	3961	4012	4047	4071	4087	4098	4105
11.0	11.0	y	0	0.4	0.9	1.3	1.7	2.1	2.6	3.0	3.4	3.9	4.3	4.7	5.2	5.6	6.0	6.4	6.9
		p	0	924	1780	2521	3124	3591	3939	4191	4370	4494	4580	4639	4680	4707	4726	4738	4747
12.0	12.0	y	0	0.5	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.1	4.5	5.0	5.4	5.9	6.3	6.8	7.2
		p	0	1057	2037	2884	3574	4108	4506	4795	4999	5141	5240	5307	5353	5384	5406	5420	5430

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12D: Seismic p-y Curve Data for a Monopile at Boring B-11/11A (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.5	0.9	1.4	1.9	2.4	2.8	3.3	3.8	4.2	4.7	5.2	5.7	6.1	6.6	7.1	7.5
		p	0	1198	2309	3270	4052	4657	5108	5435	5666	5828	5939	6016	6068	6104	6128	6144	6155
14.0	14.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9
		p	0	1347	2596	3677	4557	5238	5745	6112	6372	6554	6680	6766	6824	6864	6891	6910	6922
15.0	15.0	y	0	0.5	1.0	1.5	2.1	2.6	3.1	3.6	4.1	4.6	5.1	5.6	6.2	6.7	7.2	7.7	8.2
		p	0	1504	2900	4107	5089	5850	6417	6827	7117	7320	7460	7556	7622	7667	7697	7717	7731
16.0	16.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	704	1287	1758	2124	2396	2582	2695	2747	2759	2747	2695	2582	1813	1044	275	275
17.0	17.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	704	1287	1758	2124	2396	2582	2695	2747	2759	2747	2695	2582	1813	1044	275	275
18.0	18.0	y	0	0.4	0.9	1.3	1.7	2.1	2.6	3.0	3.4	3.8	4.3	4.7	5.1	5.5	6.0	6.4	6.8
		p	0	1498	2888	4090	5069	5826	6391	6799	7089	7291	7430	7526	7591	7636	7666	7686	7700
19.0	19.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	4.9	5.4	5.8	6.2	6.7	7.1
		p	0	1658	3196	4526	5609	6448	7072	7524	7844	8068	8223	8328	8401	8450	8483	8506	8521
20.0	20.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.5	7.0	7.5
		p	0	1826	3520	4985	6177	7100	7788	8286	8639	8885	9055	9172	9251	9305	9342	9367	9384
21.0	21.0	y	0	0.5	1.0	1.5	2.0	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.3	6.8	7.3	7.8
		p	0	2002	3859	5465	6772	7784	8538	9084	9471	9741	9927	10055	10143	10202	10242	10269	10288
22.0	22.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1
		p	0	2186	4213	5967	7394	8500	9323	9919	10341	10636	10840	10979	11075	11139	11183	11213	11233
23.0	23.0	y	0	0.5	1.0	1.5	2.0	2.6	3.1	3.6	4.1	4.6	5.1	5.6	6.1	6.7	7.2	7.7	8.2
		p	0	2559	4933	6986	8657	9951	10915	11612	12107	12452	12690	12854	12965	13041	13092	13127	13151
24.0	24.0	y	0	0.5	1.1	1.6	2.1	2.7	3.2	3.7	4.3	4.8	5.3	5.9	6.4	6.9	7.5	8.0	8.5
		p	0	2775	5348	7574	9386	10789	11834	12590	13126	13501	13759	13936	14057	14140	14195	14233	14259

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12D: Seismic p-y Curve Data for a Monopile at Boring B-11/11A (page 3 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.6	1.1	1.7	2.2	2.8	3.3	3.9	4.4	5.0	5.5	6.1	6.6	7.2	7.7	8.3	8.8
		p	0	2999	5781	8186	10144	11661	12790	13608	14187	14592	14871	15063	15193	15282	15343	15384	15411
26.0	26.0	y	0	0.6	1.2	1.8	2.4	2.9	3.5	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.8	9.4
		p	0	2998	5779	8184	10141	11657	12787	13604	14183	14587	14867	15058	15189	15278	15338	15379	15407
27.0	27.0	y	0	0.6	1.2	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	6.7	7.3	7.9	8.5	9.2	9.8
		p	0	3221	6208	8792	10895	12524	13737	14615	15237	15671	15971	16177	16318	16413	16478	16522	16552
28.0	28.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.0	5.7	6.3	6.9	7.6	8.2	8.8	9.5	10.1
		p	0	3452	6653	9422	11676	13421	14721	15662	16329	16794	17116	17336	17487	17589	17659	17706	17737
29.0	29.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.8	10.4
		p	0	3690	7113	10074	12483	14349	15739	16745	17458	17956	18300	18535	18696	18806	18880	18930	18964
30.0	30.0	y	0	0.7	1.3	2.0	2.7	3.4	4.0	4.7	5.4	6.0	6.7	7.4	8.1	8.7	9.4	10.1	10.7
		p	0	3937	7589	10747	13318	15308	16791	17865	18625	19156	19523	19774	19946	20063	20142	20196	20232
31.0	31.0	y	0	0.7	1.4	2.1	2.8	3.5	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.7	10.4	11.1
		p	0	4192	8080	11442	14179	16299	17878	19020	19830	20395	20786	21054	21236	21361	21445	21502	21541
32.0	32.0	y	0	0.7	1.4	2.1	2.8	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.3	10.0	10.7	11.4
		p	0	4454	8586	12159	15068	17320	18998	20212	21073	21673	22088	22373	22567	22699	22789	22850	22891
33.0	33.0	y	0	0.7	1.5	2.2	2.9	3.7	4.4	5.1	5.9	6.6	7.3	8.1	8.8	9.5	10.3	11.0	11.7
		p	0	4725	9108	12898	15983	18372	20152	21440	22353	22990	23430	23732	23938	24078	24173	24238	24281
34.0	34.0	y	0	0.8	1.5	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0
		p	0	5004	9645	13659	16926	19456	21340	22704	23671	24346	24812	25132	25350	25498	25599	25667	25713
35.0	35.0	y	0	0.8	1.5	2.3	3.1	3.9	4.6	5.4	6.2	7.0	7.7	8.5	9.3	10.1	10.8	11.6	12.4
		p	0	5290	10197	14441	17895	20570	22563	24005	25027	25740	26233	26571	26802	26958	27065	27137	27186
36.0	36.0	y	0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.3	7.1	7.9	8.7	9.5	10.3	11.1	11.9	12.7
		p	0	5585	10765	15245	18891	21715	23819	25341	26420	27173	27694	28050	28294	28459	28572	28648	28699

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12D: Seismic p-y Curve Data for a Monopile at Boring B-11/11A (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.8	1.6	2.4	3.3	4.1	4.9	5.7	6.5	7.3	8.1	9.0	9.8	10.6	11.4	12.2	13.0
		p	0	5888	11349	16073	19917	22894	25112	26718	27855	28649	29197	29574	29830	30005	30123	30204	30258
38.0	38.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3	9.2	10.0	10.9	11.7	12.5	13.4
		p	0	6200	11951	16926	20974	24109	26445	28135	29333	30169	30747	31143	31413	31597	31722	31806	31864
39.0	39.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.6	9.4	10.3	11.1	12.0	12.8	13.7
		p	0	6521	12569	17801	22058	25356	27812	29590	30849	31729	32336	32753	33037	33230	33362	33450	33511
40.0	40.0	y	0	0.9	1.8	2.6	3.5	4.4	5.3	6.1	7.0	7.9	8.8	9.6	10.5	11.4	12.3	13.1	14.0
		p	0	6849	13203	18697	23170	26633	29213	31081	32404	33327	33965	34403	34702	34905	35043	35136	35199
41.0	41.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.4	14.3
		p	0	7186	13851	19616	24309	27942	30649	32608	33996	34965	35635	36094	36407	36620	36765	36863	36929
42.0	42.0	y	0	0.9	1.8	2.8	3.7	4.6	5.5	6.4	7.3	8.3	9.2	10.1	11.0	11.9	12.8	13.8	14.7
		p	0	7531	14516	20557	25475	29282	32119	34172	35627	36643	37344	37825	38154	38377	38528	38631	38701
43.0	43.0	y	0	0.9	1.9	2.8	3.8	4.7	5.6	6.6	7.5	8.4	9.4	10.3	11.3	12.2	13.1	14.1	15.0
		p	0	7884	15196	21520	26668	30654	33624	35773	37296	38359	39094	39597	39941	40175	40333	40441	40513
44.0	44.0	y	0	1.0	1.9	2.9	3.8	4.8	5.8	6.7	7.7	8.6	9.6	10.5	11.5	12.5	13.4	14.4	15.3
		p	0	8244	15891	22505	27889	32057	35163	37411	39003	40115	40883	41410	41769	42014	42179	42292	42368
45.0	45.0	y	0	1.0	2.0	2.9	3.9	4.9	5.9	6.9	7.8	8.8	9.8	10.8	11.7	12.7	13.7	14.7	15.7
		p	0	8613	16603	23512	29136	33492	36736	39085	40748	41910	42712	43263	43638	43894	44067	44184	44264
46.0	46.0	y	0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0
		p	0	8992	17333	24547	30419	34966	38353	40805	42542	43754	44592	45167	45559	45825	46006	46129	46212
47.0	47.0	y	0	1.0	2.0	3.1	4.1	5.1	6.1	7.1	8.2	9.2	10.2	11.2	12.3	13.3	14.3	15.3	16.3
		p	0	9380	18080	25605	31729	36472	40006	42563	44375	45640	46513	47113	47522	47800	47988	48116	48203
48.0	48.0	y	0	1.0	2.1	3.1	4.2	5.2	6.3	7.3	8.3	9.4	10.4	11.5	12.5	13.5	14.6	15.6	16.7
		p	0	9775	18843	26685	33068	38010	41693	44358	46246	47564	48475	49100	49526	49816	50012	50146	50236

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12D: Seismic p-y Curve Data for a Monopile at Boring B-11/11A (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	1.1	2.1	3.2	4.3	5.3	6.4	7.4	8.5	9.6	10.6	11.7	12.8	13.8	14.9	15.9	17.0
		p	0	10179	19621	27787	34433	39580	43415	46190	48156	49529	50477	51128	51571	51873	52078	52217	52311

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12E: Seismic p-y Curve Data for a Monopile at Boring B-OSS (page 1 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.0	0.0	y	0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9	2.0
		p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.0	1.0	y	0	0.2	0.4	0.7	0.9	1.1	1.3	1.5	1.7	2.0	2.2	2.4	2.6	2.8	3.1	3.3	3.5
		p	0	43	82	116	144	166	182	194	202	208	211	214	216	217	218	219	219
2.0	2.0	y	0	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.1	2.4	2.6	2.9	3.1	3.3	3.6	3.8
		p	0	93	180	255	316	363	398	424	442	454	463	469	473	476	478	479	480
3.0	3.0	y	0	0.3	0.5	0.8	1.0	1.3	1.6	1.8	2.1	2.3	2.6	2.9	3.1	3.4	3.6	3.9	4.2
		p	0	152	293	415	515	592	649	690	720	740	754	764	771	775	778	780	782
4.0	4.0	y	0	0.3	0.6	0.8	1.1	1.4	1.7	2.0	2.2	2.5	2.8	3.1	3.4	3.6	3.9	4.2	4.5
		p	0	219	422	598	741	852	934	994	1036	1066	1086	1100	1110	1116	1120	1123	1125
5.0	5.0	y	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8
		p	0	294	567	802	994	1143	1254	1334	1391	1430	1458	1476	1489	1498	1504	1508	1510
6.0	6.0	y	0	0.3	0.6	1.0	1.3	1.6	1.9	2.2	2.6	2.9	3.2	3.5	3.9	4.2	4.5	4.8	5.1
		p	0	377	727	1029	1275	1466	1608	1710	1783	1834	1869	1893	1910	1921	1928	1933	1937
7.0	7.0	y	0	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.7	3.1	3.4	3.8	4.1	4.4	4.8	5.1	5.5
		p	0	468	902	1277	1583	1820	1996	2124	2214	2277	2321	2351	2371	2385	2394	2401	2405
8.0	8.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	4.9	5.3	5.8	6.2	6.7	7.1
		p	0	464	895	1268	1571	1806	1981	2107	2197	2260	2303	2333	2353	2367	2376	2382	2386
9.0	9.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.8	4.2	4.7	5.2	5.6	6.1	6.6	7.0	7.5
		p	0	550	1061	1502	1862	2140	2347	2497	2603	2678	2729	2764	2788	2804	2815	2823	2828
10.0	10.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9
		p	0	642	1238	1754	2173	2498	2740	2915	3039	3126	3186	3227	3255	3274	3287	3296	3301
11.0	11.0	y	0	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.0	5.4	5.7	6.1
		p	0	822	1585	2244	2781	3197	3507	3731	3890	4000	4077	4130	4165	4190	4206	4217	4225
12.0	12.0	y	0	0.4	0.9	1.3	1.8	2.2	2.7	3.1	3.6	4.0	4.5	4.9	5.3	5.8	6.2	6.7	7.1
		p	0	1044	2013	2851	3533	4061	4454	4739	4941	5081	5179	5245	5291	5322	5343	5357	5367

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12E: Seismic p-y Curve Data for a Monopile at Boring B-OSS (page 2 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
13.0	13.0	y	0	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.5	7.0	7.5
		p	0	1184	2282	3231	4004	4603	5049	5372	5600	5760	5870	5946	5998	6033	6056	6073	6083
14.0	14.0	y	0	0.5	1.0	1.5	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	6.3	6.8	7.3	7.8
		p	0	1331	2566	3634	4504	5177	5678	6041	6298	6478	6602	6687	6745	6784	6811	6829	6842
15.0	15.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.6	8.1
		p	0	1487	2866	4059	5030	5782	6342	6747	7035	7235	7374	7469	7533	7578	7607	7628	7641
16.0	16.0	y	0	0.6	1.3	1.9	2.5	3.2	3.8	4.4	5.1	5.7	6.3	7.0	7.6	8.3	8.9	9.5	10.2
		p	0	1324	2552	3615	4479	5149	5647	6008	6264	6443	6566	6651	6708	6748	6774	6792	6805
17.0	17.0	y	0	0.7	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.6	7.2	7.9	8.5	9.2	9.8	10.5
		p	0	1453	2802	3968	4917	5652	6199	6595	6876	7072	7208	7301	7364	7407	7436	7456	7469
18.0	18.0	y	0	0.7	1.4	2.0	2.7	3.4	4.1	4.7	5.4	6.1	6.8	7.4	8.1	8.8	9.5	10.2	10.8
		p	0	1589	3062	4337	5374	6177	6776	7209	7516	7730	7878	7979	8049	8096	8128	8149	8164
19.0	19.0	y	0	0.6	1.2	1.8	2.3	2.9	3.5	4.1	4.7	5.3	5.8	6.4	7.0	7.6	8.2	8.8	9.3
		p	0	2168	4179	5918	7333	8429	9246	9837	10256	10548	10750	10889	10983	11047	11091	11121	11141
20.0	20.0	y	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.5	9.1	9.7
		p	0	2360	4549	6443	7984	9177	10067	10710	11166	11484	11704	11855	11958	12028	12075	12107	12129
21.0	21.0	y	0	0.6	1.2	1.9	2.5	3.1	3.7	4.4	5.0	5.6	6.2	6.9	7.5	8.1	8.7	9.4	10.0
		p	0	2560	4935	6990	8661	9956	10921	11619	12113	12459	12697	12861	12972	13048	13100	13135	13158
22.0	22.0	y	0	0.6	1.3	1.9	2.6	3.2	3.9	4.5	5.1	5.8	6.4	7.1	7.7	8.4	9.0	9.7	10.3
		p	0	2769	5337	7558	9365	10765	11808	12563	13098	13471	13729	13906	14027	14109	14165	14202	14228
23.0	23.0	y	0	0.7	1.3	2.0	2.7	3.3	4.0	4.6	5.3	6.0	6.6	7.3	8.0	8.6	9.3	10.0	10.6
		p	0	2985	5753	8147	10096	11605	12730	13543	14120	14522	14800	14991	15121	15210	15270	15310	15338
24.0	24.0	y	0	0.7	1.4	2.1	2.7	3.4	4.1	4.8	5.5	6.2	6.8	7.5	8.2	8.9	9.6	10.3	10.9
		p	0	3209	6186	8761	10857	12480	13689	14564	15184	15616	15915	16120	16260	16355	16420	16464	16493

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12E: Seismic p-y Curve Data for a Monopile at Boring B-OSS (page 3 of 5)

Depth Below Mudline	Depth Below Scour Pit	Seismic p-y Curve Points																
(m)	(m)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
25.0	25.0	y	0	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.1	7.8	8.5	9.2	9.9	10.6	11.3
		p	0	3446	6643	9407	11657	13400	14698	15638	16303	16768	17089	17309	17460	17562	17631	17678	17710
26.0	26.0	y	0	0.7	1.5	2.2	2.9	3.6	4.4	5.1	5.8	6.5	7.3	8.0	8.7	9.4	10.2	10.9	11.6
		p	0	3691	7115	10076	12486	14352	15743	16749	17462	17960	18304	18539	18700	18810	18884	18934	18968
27.0	27.0	y	0	0.7	1.5	2.2	3.0	3.7	4.5	5.2	6.0	6.7	7.5	8.2	9.0	9.7	10.5	11.2	12.0
		p	0	3944	7602	10767	13342	15336	16822	17897	18659	19191	19558	19810	19982	20099	20179	20232	20269
28.0	28.0	y	0	0.8	1.5	2.3	3.1	3.8	4.6	5.4	6.1	6.9	7.7	8.5	9.2	10.0	10.8	11.5	12.3
		p	0	4205	8106	11480	14225	16352	17936	19082	19895	20462	20854	21122	21306	21430	21515	21572	21611
29.0	29.0	y	0	0.8	1.6	2.4	3.2	3.9	4.7	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.0	11.8	12.6
		p	0	4475	8625	12215	15137	17399	19085	20305	21169	21773	22189	22475	22670	22803	22893	22954	22995
30.0	30.0	y	0	0.8	1.6	2.4	3.2	4.1	4.9	5.7	6.5	7.3	8.1	8.9	9.7	10.5	11.3	12.2	13.0
		p	0	4752	9160	12973	16076	18478	20269	21564	22482	23123	23566	23869	24077	24217	24313	24378	24422
31.0	31.0	y	0	0.8	1.7	2.5	3.3	4.2	5.0	5.8	6.7	7.5	8.3	9.1	10.0	10.8	11.6	12.5	13.3
		p	0	5038	9711	13752	17042	19589	21487	22861	23834	24513	24983	25304	25524	25673	25775	25843	25890
32.0	32.0	y	0	0.9	1.7	2.6	3.4	4.3	5.1	6.0	6.8	7.7	8.5	9.4	10.2	11.1	11.9	12.8	13.6
		p	0	5332	10277	14555	18036	20732	22741	24194	25224	25943	26440	26780	27013	27171	27278	27351	27400
33.0	33.0	y	0	0.9	1.7	2.6	3.5	4.4	5.2	6.1	7.0	7.9	8.7	9.6	10.5	11.4	12.2	13.1	14.0
		p	0	5634	10859	15379	19058	21906	24029	25565	26653	27413	27937	28297	28543	28710	28823	28900	28952
34.0	34.0	y	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.3
		p	0	5944	11457	16226	20107	23113	25352	26972	28120	28922	29476	29855	30115	30291	30410	30491	30546
35.0	35.0	y	0	0.9	1.8	2.7	3.7	4.6	5.5	6.4	7.3	8.2	9.2	10.1	11.0	11.9	12.8	13.7	14.6
		p	0	6262	12071	17095	21184	24350	26710	28417	29627	30471	31054	31455	31728	31913	32039	32125	32182
36.0	36.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

Table 12E: Seismic p-y Curve Data for a Monopile at Boring B-OSS (page 4 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)		Seismic p-y Curve Points																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
37.0	37.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
38.0	38.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
39.0	39.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
40.0	40.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
41.0	41.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
42.0	42.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
43.0	43.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
44.0	44.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
45.0	45.0	y	0	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	9.8	13.8	17.7	18.7
		p	0	913	1670	2281	2756	3108	3350	3497	3565	3580	3565	3497	3351	2353	1355	357	357
46.0	46.0	y	0	0.9	1.8	2.7	3.6	4.5	5.3	6.2	7.1	8.0	8.9	9.8	10.7	11.6	12.5	13.4	14.3
		p	0	8012	15443	21870	27101	31153	34171	36355	37902	38983	39729	40241	40590	40828	40989	41098	41172
47.0	47.0	y	0	0.9	1.8	2.7	3.6	4.6	5.5	6.4	7.3	8.2	9.1	10.0	10.9	11.8	12.8	13.7	14.6
		p	0	8375	16144	22863	28332	32567	35722	38005	39623	40753	41533	42068	42433	42681	42850	42964	43041
48.0	48.0	y	0	0.9	1.9	2.8	3.7	4.7	5.6	6.5	7.5	8.4	9.3	10.3	11.2	12.1	13.1	14.0	14.9
		p	0	8747	16861	23878	29590	34013	37308	39692	41382	42562	43376	43935	44317	44576	44752	44871	44952

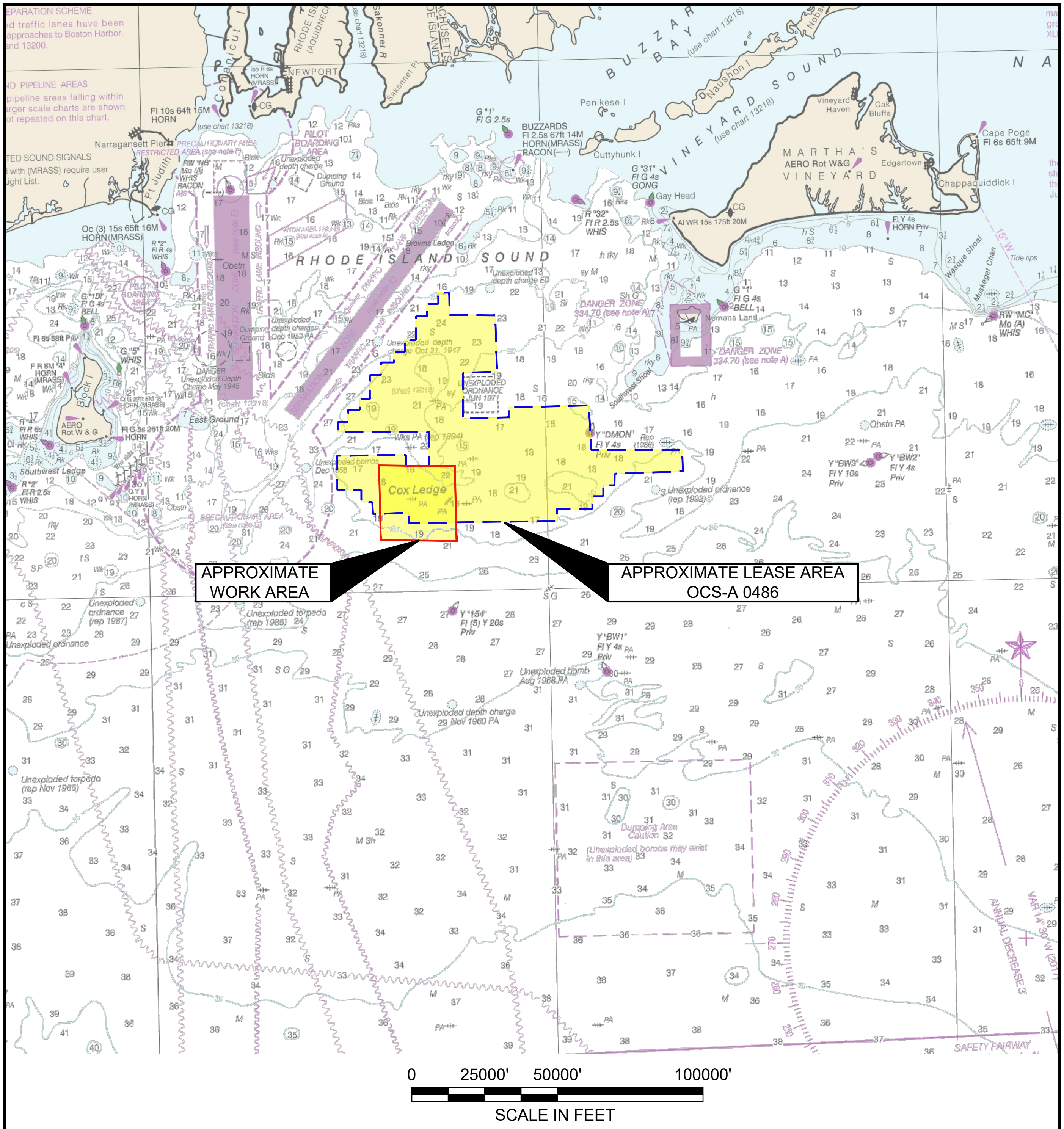
Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

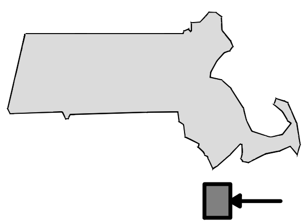
Table 12E: Seismic p-y Curve Data for a Monopile at Boring B-OSS (page 5 of 5)

Depth Below Mudline (m)	Depth Below Scour Pit (m)	Seismic p-y Curve Points																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
49.0	49.0	y	0	1.0	1.9	2.9	3.8	4.8	5.7	6.7	7.6	8.6	9.5	10.5	11.4	12.4	13.3	14.3	15.2
		p	0	9127	17593	24915	30874	35490	38928	41416	43179	44410	45260	45843	46241	46512	46695	46820	46904

Notes:
p = mobilized lateral resistance (kN/m)
y = localized lateral pile deflection (cm)

FIGURES





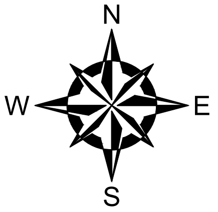
QUADRANGLE LOCATION

SOURCE:

BASE MAP DEVELOPED FROM ARCGIS GEOTOOL WEB MAP APRIL, 2018

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY ARCGIS.SERVER

CONTOUR ELEVATIONS REFERENCE NAVD 88, CONTOURS ARE SHOWN IN FEET AT 10' INTERVALS



GEOTECHNICAL SURVEY
SOUTH FORK WIND FARM

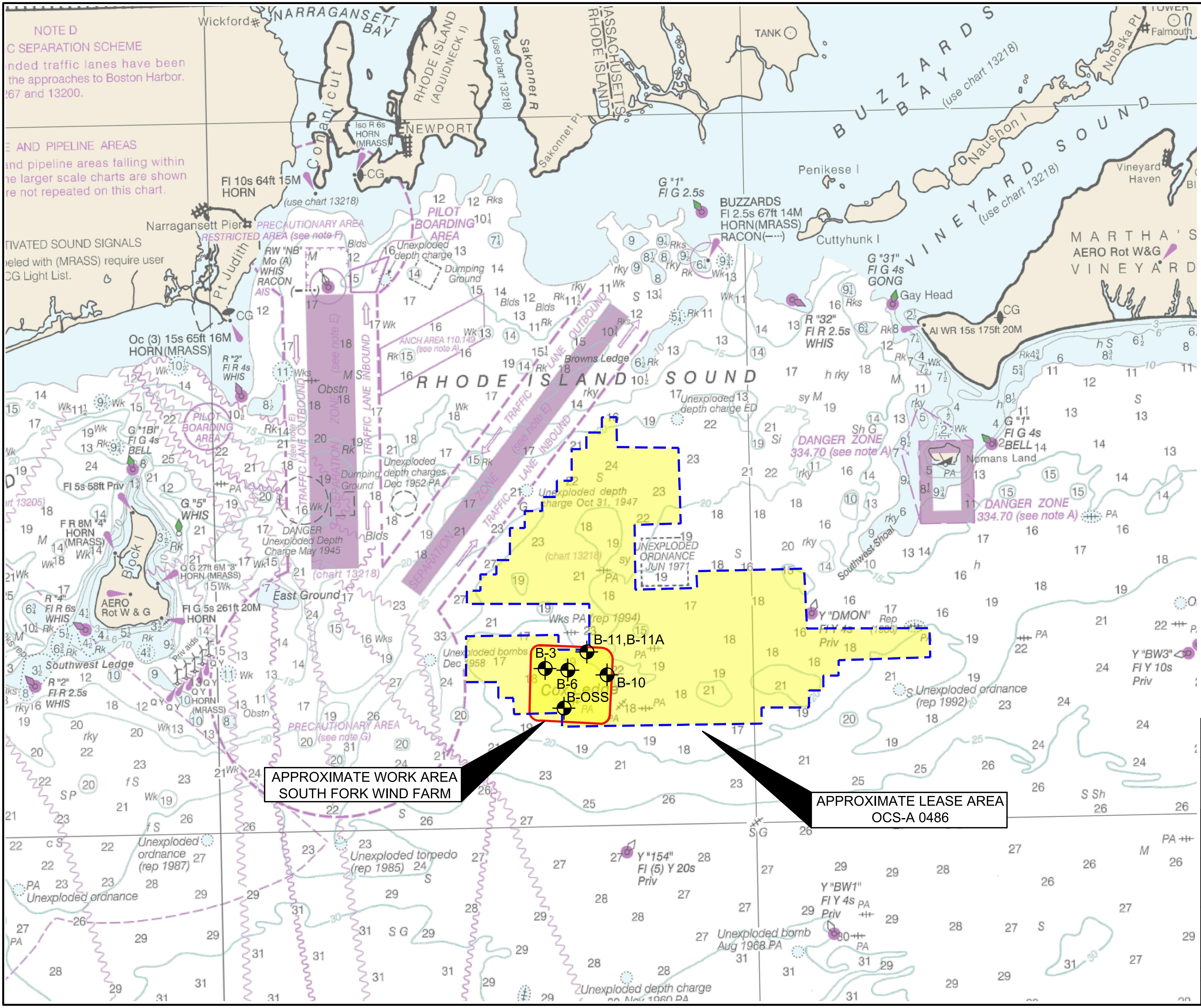
PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
DEEPWATER WIND
50 EXCHANGE TERRACE, SUITE 300
PROVIDENCE, RI 02903

LOCUS PLAN

PROJ MGR: JJM	REVIEWED BY: JJM	CHECKED BY: MEA	FIGURE
DESIGNED BY: MBL	DRAWN BY: GRB	SCALE: AS NOTED	1
DATE: NOVEMBER 2018	PROJECT NO. 34480.00	REVISION NO. 0	SHEET NO. 1 OF 2

© 2018 – GZA GeoEnvironmental, Inc. GZA-J:\GEO\34480.JJM\FIGURES\CAD\DWGS\34480_EXP PLAN_FIG-2.DWG LOCUS NOVEMBER 2, 2018 LISA THERIAULT



LEGEND:

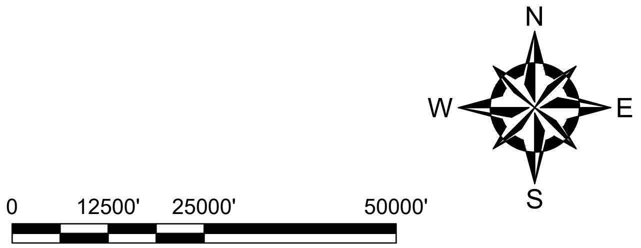
B-3 — INDICATES BORINGS PERFORMED BY DOSECC AND OBSERVED BY GZA PERSONNEL BETWEEN AUGUST 6, 2018 AND SEPTEMBER 7, 2018..

— — — APPROXIMATE LEASE AREA OCS-A 0486

——— APPROXIMATE WORK AREA

REFERENCE NOTES:

1. BASE MAP DEVELOPED FROM ELECTRONIC IMAGE FILE "NOAA MAP FOR SOUTH FORK.PDF", TITLED "SJWF GEOTECHNICAL SURVEY AREA", PUBLISHED BY "NATIONAL OCEAN SERVICE", ORIGINAL SCALE 1"=80.000', DATED FEBRUARY 2018.
2. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY GPS. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.



SCALE IN FEET 1" = 25000'

NO.	ISSUE/DESCRIPTION	BY	DATE

GEOTECHNICAL SURVEY
SOUTH FORK WIND FARM

EXPLORATION LOCATION PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
DEEPWATER WIND
50 EXCHANGE TERRACE, SUITE 300
PROVIDENCE, RHODE ISLAND 02903

PROJ MGR: JJM	REVIEWED BY: JJM	CHECKED BY: MEA	FIGURE 2
DESIGNED BY: MBL	DRAWN BY: GRB	SCALE: AS NOTED	
DATE: NOVEMBER, 2018	PROJECT NO. 34480.00	REVISION NO. 0	SHEET NO. 2 OF 2

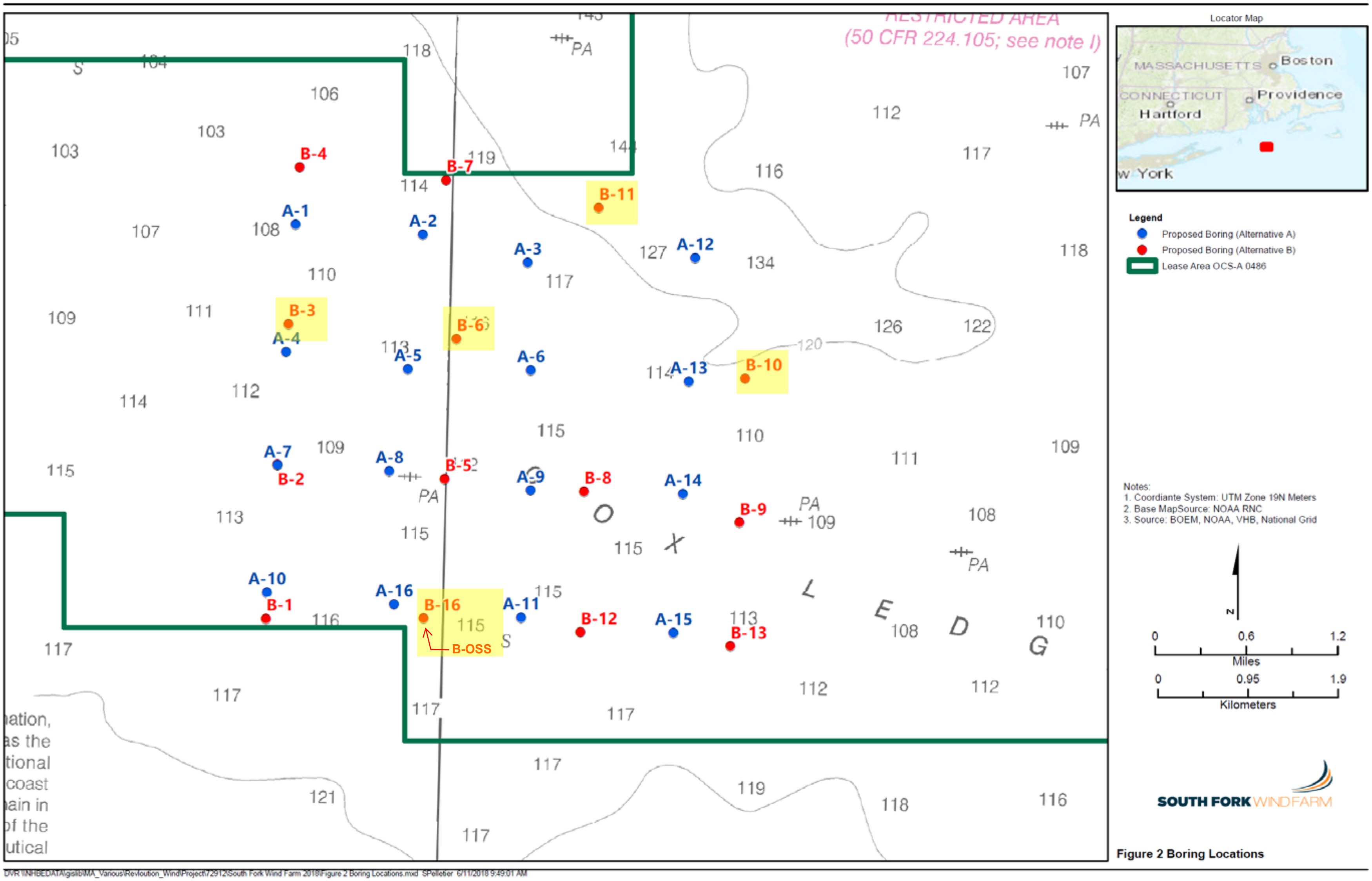


Figure 2. Geotechnical Boring Locations.

FIGURE 2A - COP SURVEY PLAN BORING ALTERNATIVES

GZA GeoEnvironmental, Inc.
Engineers and Scientists

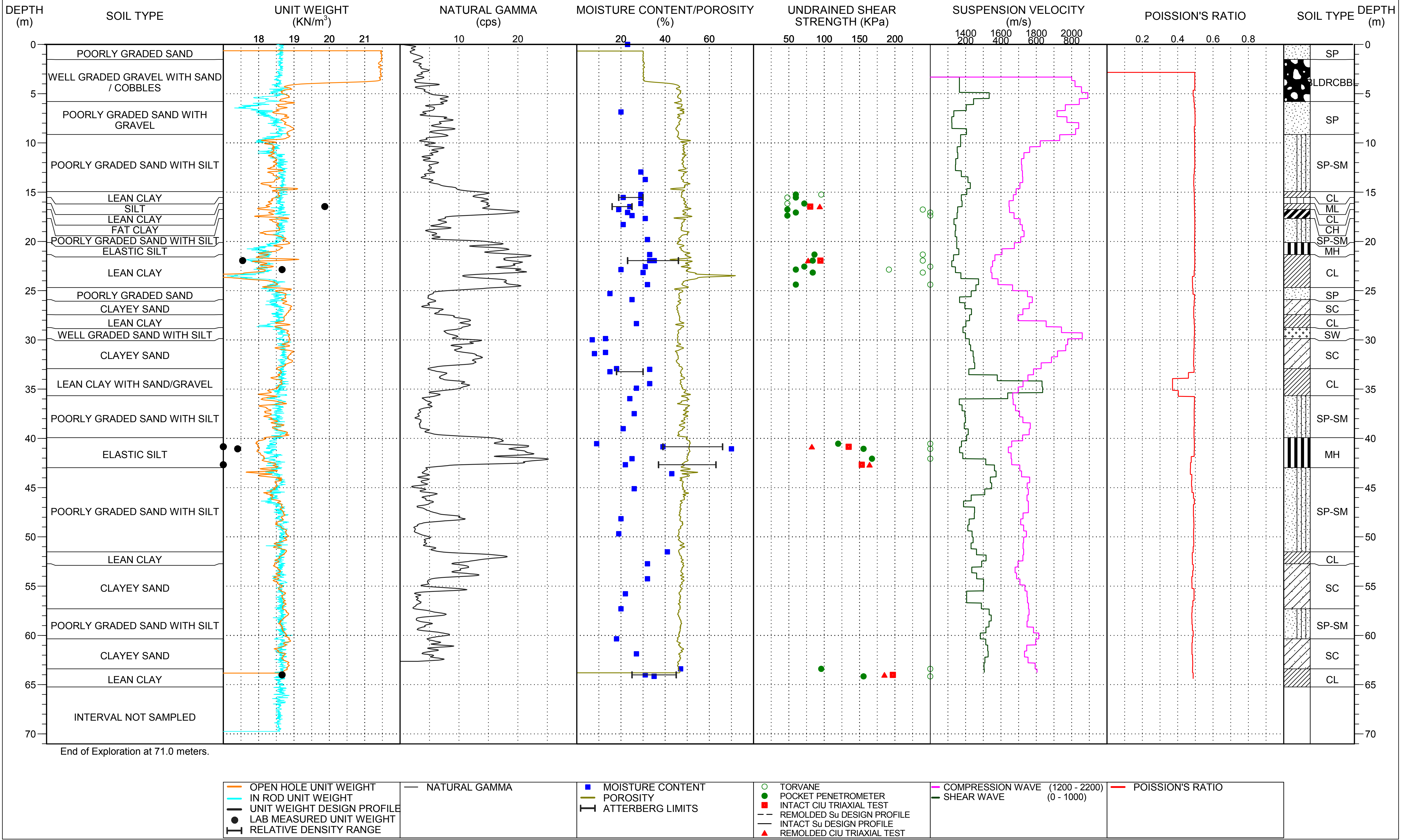
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

EXPLORATION NO.: B-3
SHEET: 1 of 1
PROJECT NO: 34480.00
REVIEWED BY: JJM

FIGURE 3A
SOIL PROPERTIES

B-3



End of Exploration at 71.0 meters.

GZA GeoEnvironmental, Inc.
Engineers and Scientists

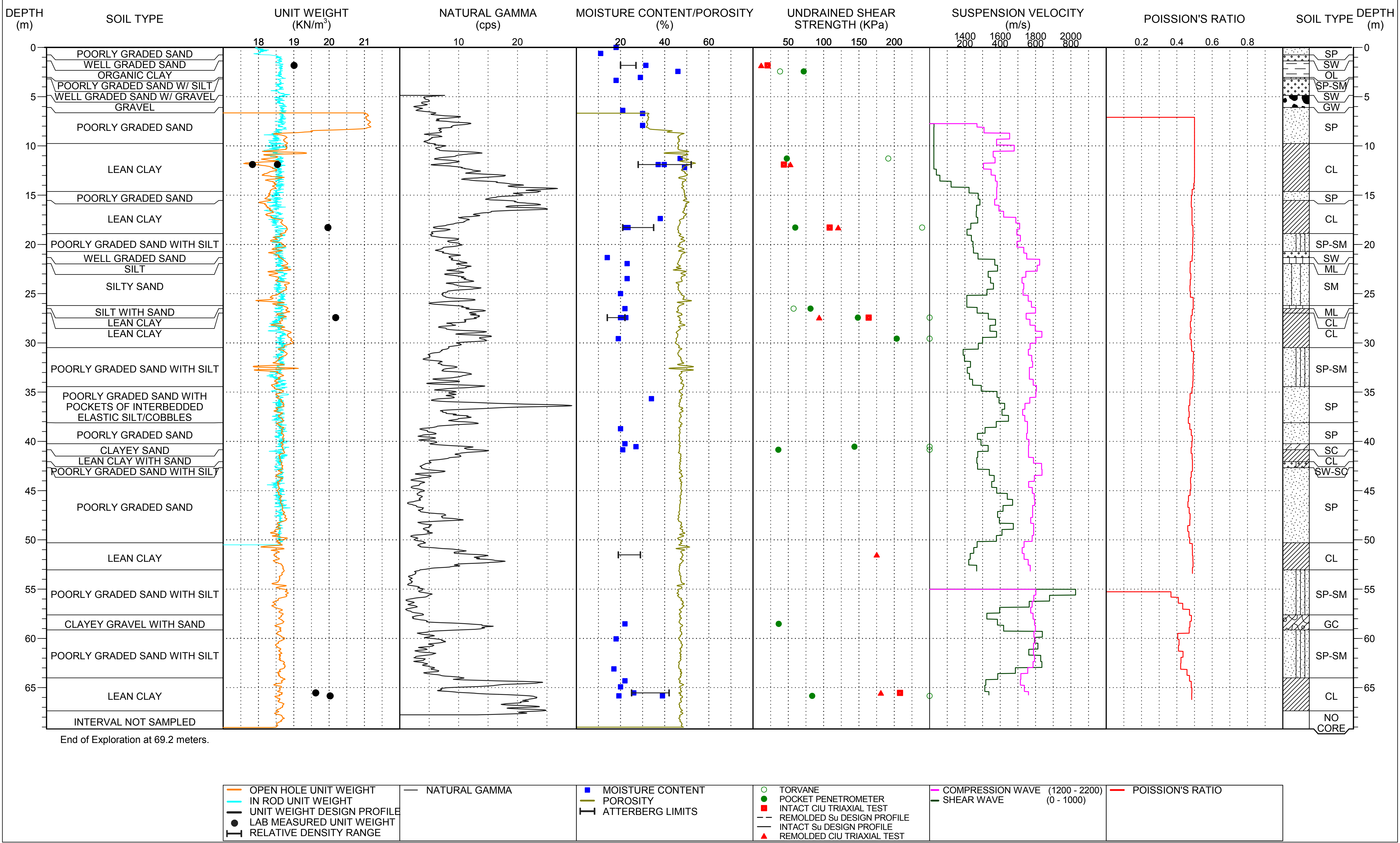
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

EXPLORATION NO.: B-6
SHEET: 1 of 1
PROJECT NO: 34480.00
REVIEWED BY: JJM

FIGURE 3B
SOIL PROPERTIES

B-6



End of Exploration at 69.2 meters.

GZA GeoEnvironmental, Inc.
Engineers and Scientists

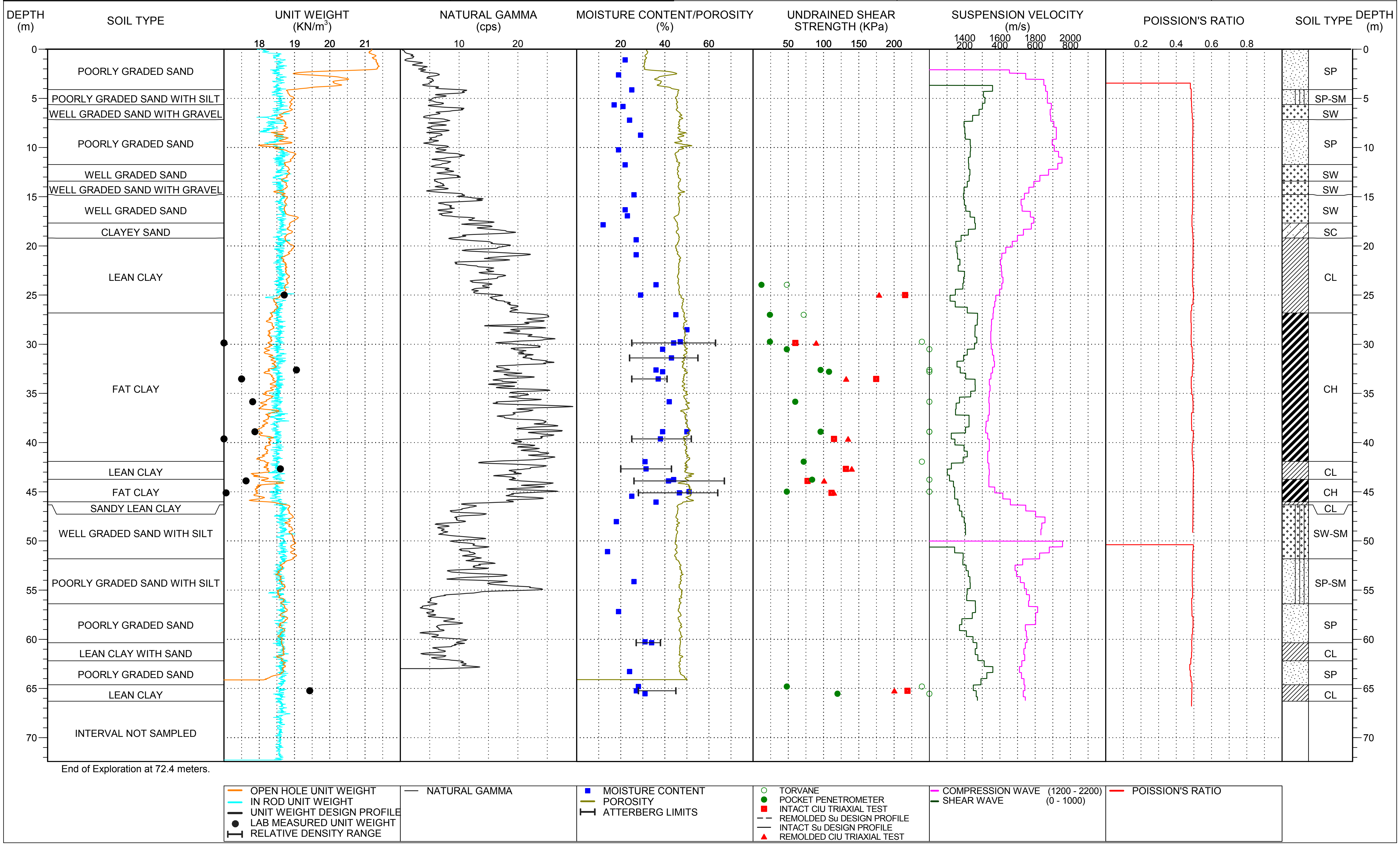
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

EXPLORATION NO.: B-10
SHEET: 1 of 1
PROJECT NO: 34480.00
REVIEWED BY: JJM

FIGURE 3C
SOIL PROPERTIES

B-10



GZA GeoEnvironmental, Inc.
Engineers and Scientists

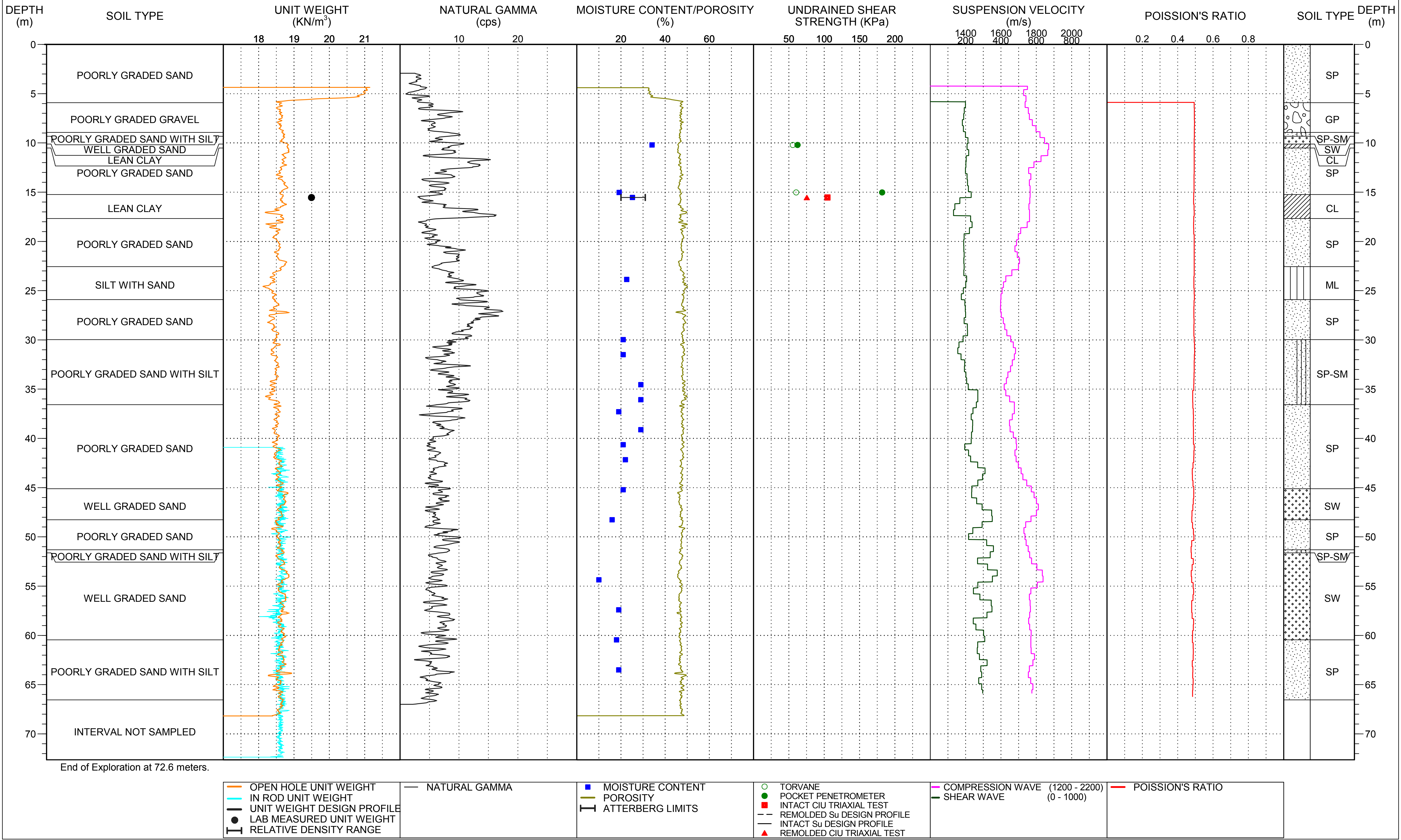
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	See Plan
Water Depth (m):	37.5
Final Boring Depth (m):	72.6
Date Start - Finish:	8/6/2018 - 9/7/2018

EXPLORATION NO.:	B-11/11A
SHEET:	1 of 1
PROJECT NO:	34480.00
REVIEWED BY:	JJM

FIGURE 3D
SOIL PROPERTIES

B-11/11A



End of Exploration at 72.6 meters.

GZA GeoEnvironmental, Inc.
Engineers and Scientists

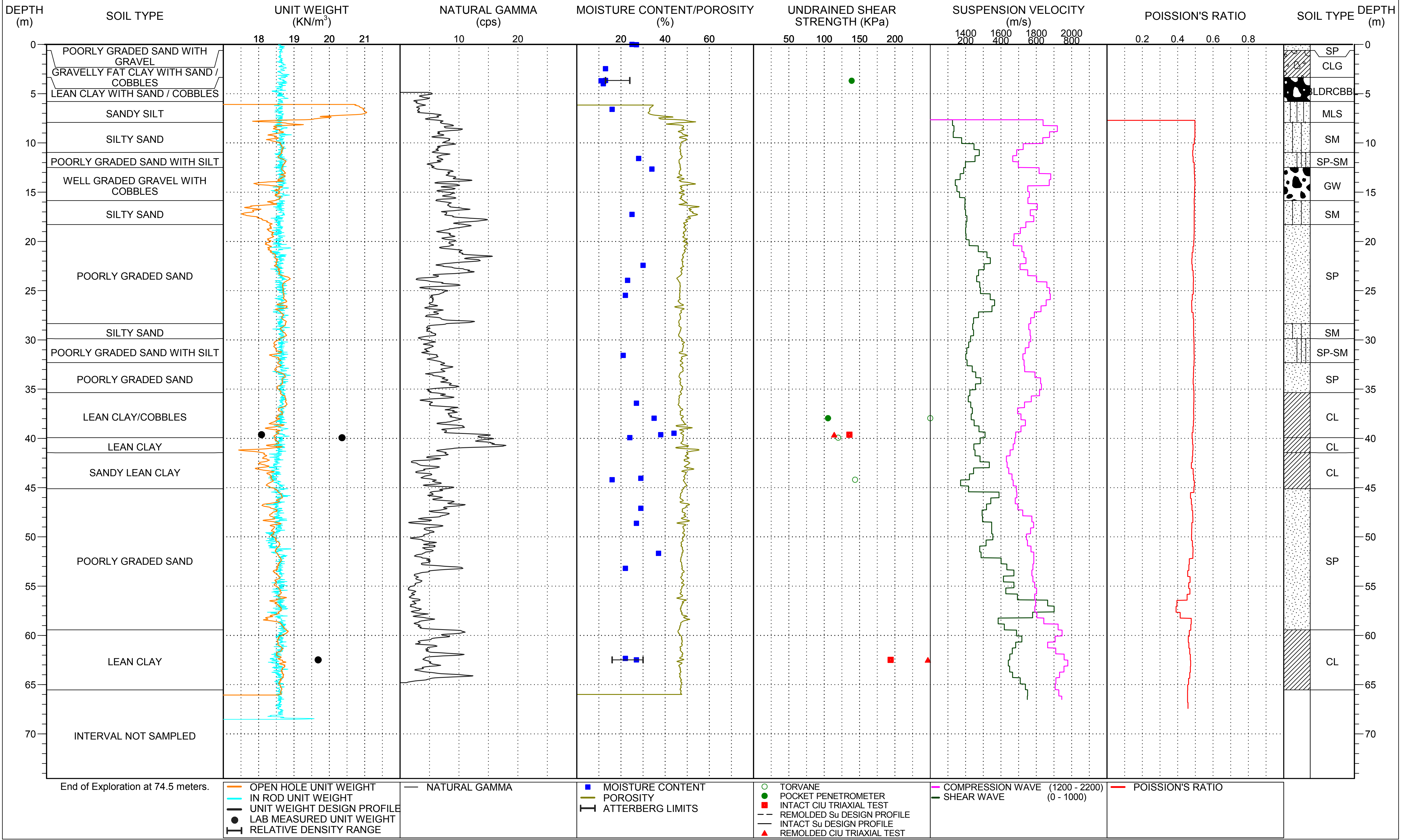
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	See Plan
Water Depth (m):	36.6
Final Boring Depth (m):	74.5
Date Start - Finish:	8/17/2018 - 8/22/2018

EXPLORATION NO.:	B-OSS
SHEET:	1 of 1
PROJECT NO:	34480.00
REVIEWED BY:	JJM

FIGURE 3E
SOIL PROPERTIES

B-OSS



End of Exploration at 74.5 meters.

GZA
GeoEnvironmental, Inc.
Engineers and Scientists

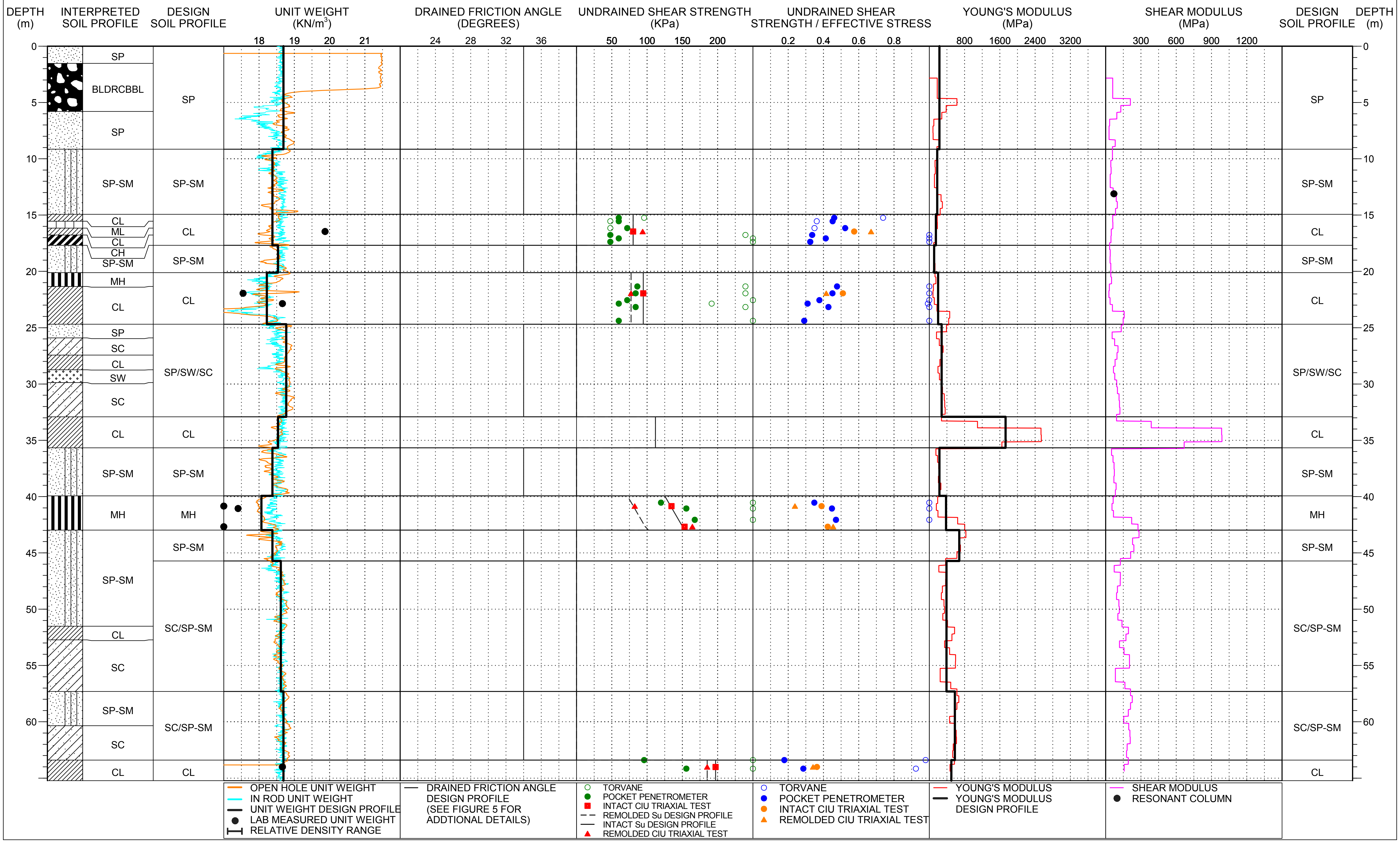
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	See Plan
Water Depth (m):	34.4
Final Boring Depth (m):	71.0
Date Start - Finish:	8/25/2018 - 8/28/2018

EXPLORATION NO.:	B-3
PROJECT NO:	34480.00
REVIEWED BY:	JJM

FIGURE 4A
DESIGN PARAMETERS WITHOUT SCOUR

B-3



GZA GeoEnvironmental, Inc.
Engineers and Scientists

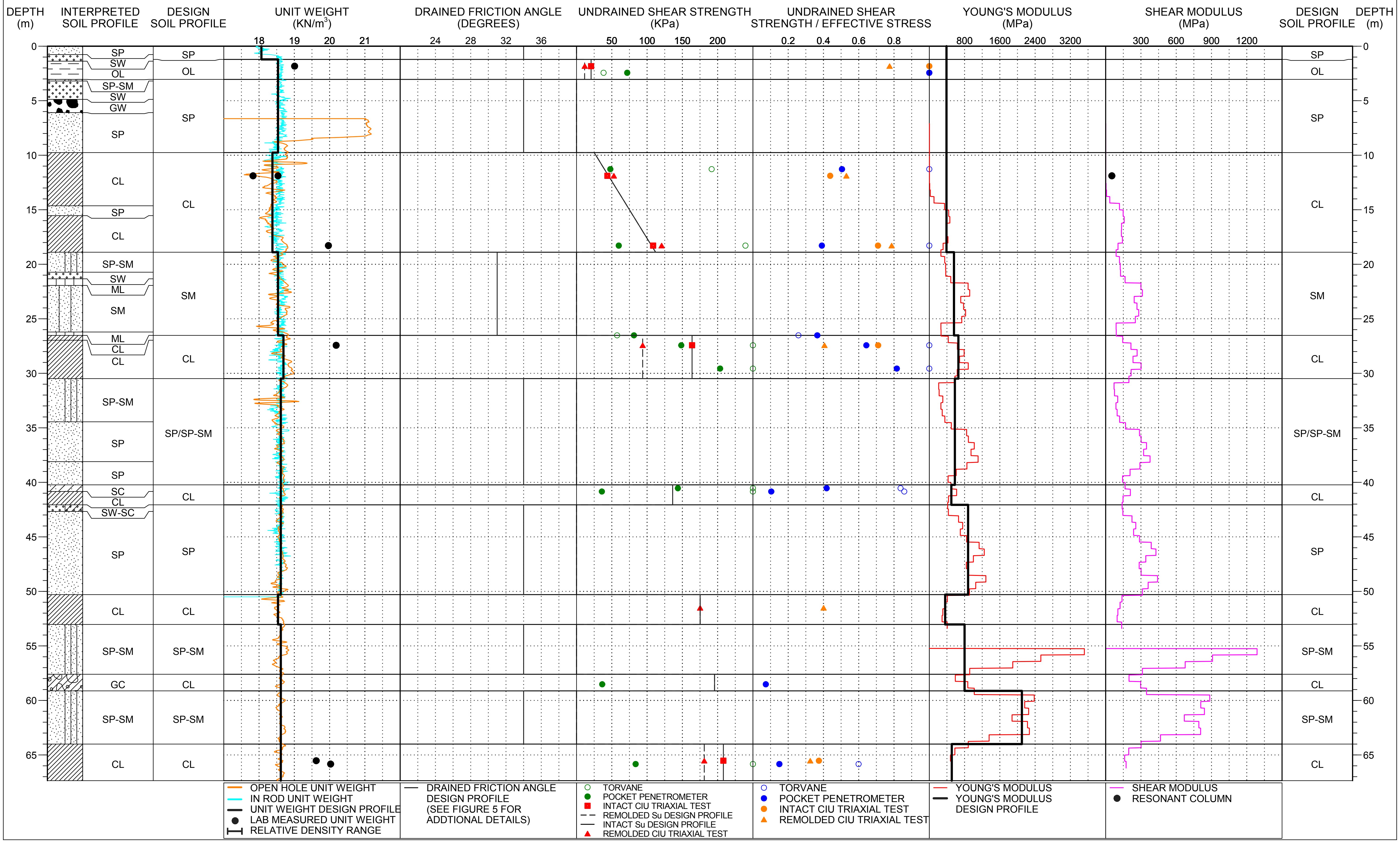
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	**See Plan**
Water Depth (m):	**35.7**
Final Boring Depth (m):	**69.2**
Date Start - Finish:	**8/12/2018 - 8/16/2018**

EXPLORATION NO.:	**B-6**
PROJECT NO:	**34480.00**
REVIEWED BY:	**JJM**

FIGURE 4B
DESIGN PARAMETERS WITHOUT SCOUR

B-6



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

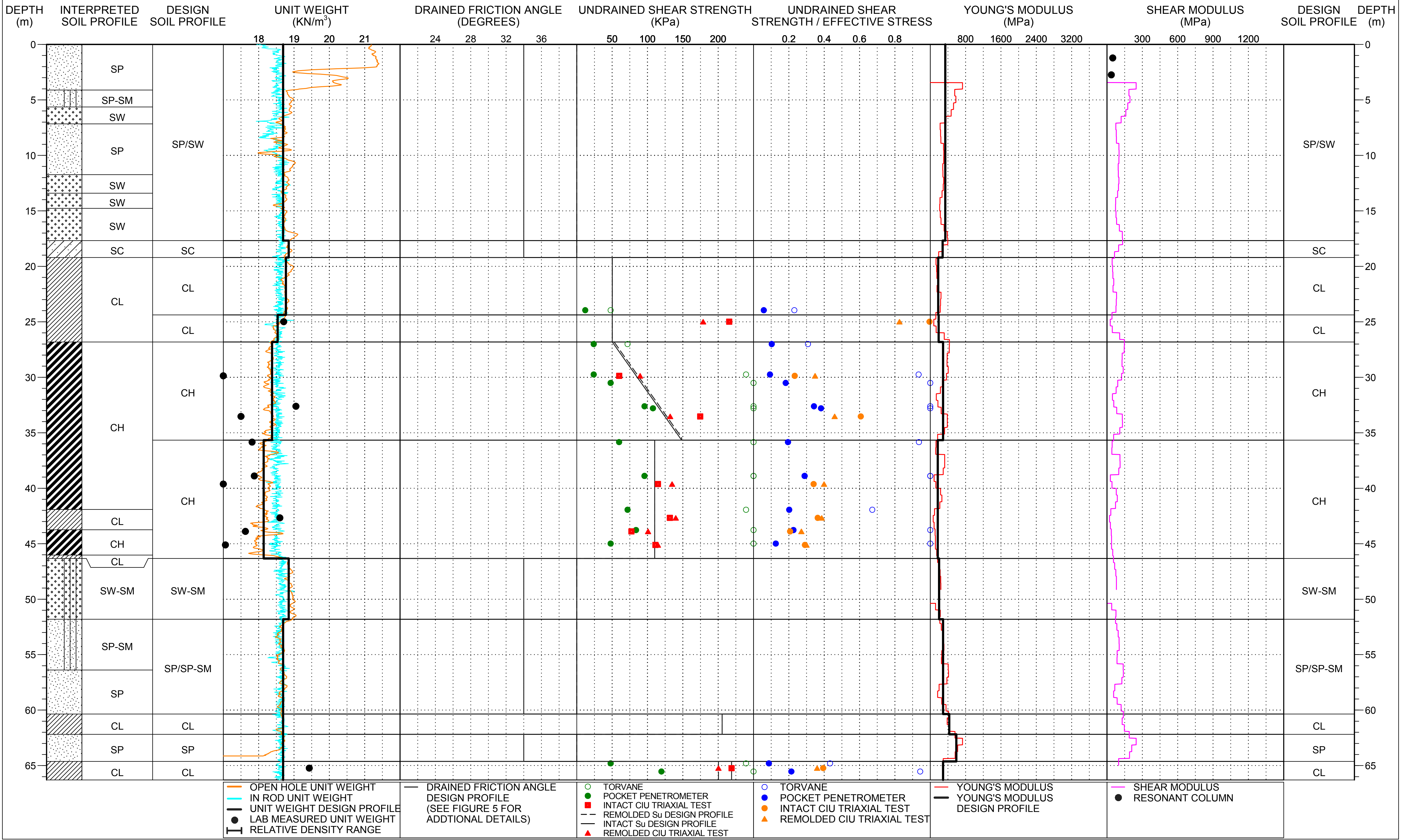
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

EXPLORATION NO.: B-10
PROJECT NO: 34480.00
REVIEWED BY: JJM

FIGURE 4C
DESIGN PARAMETERS WITHOUT SCOUR

B-10



GZA GeoEnvironmental, Inc.
Engineers and Scientists

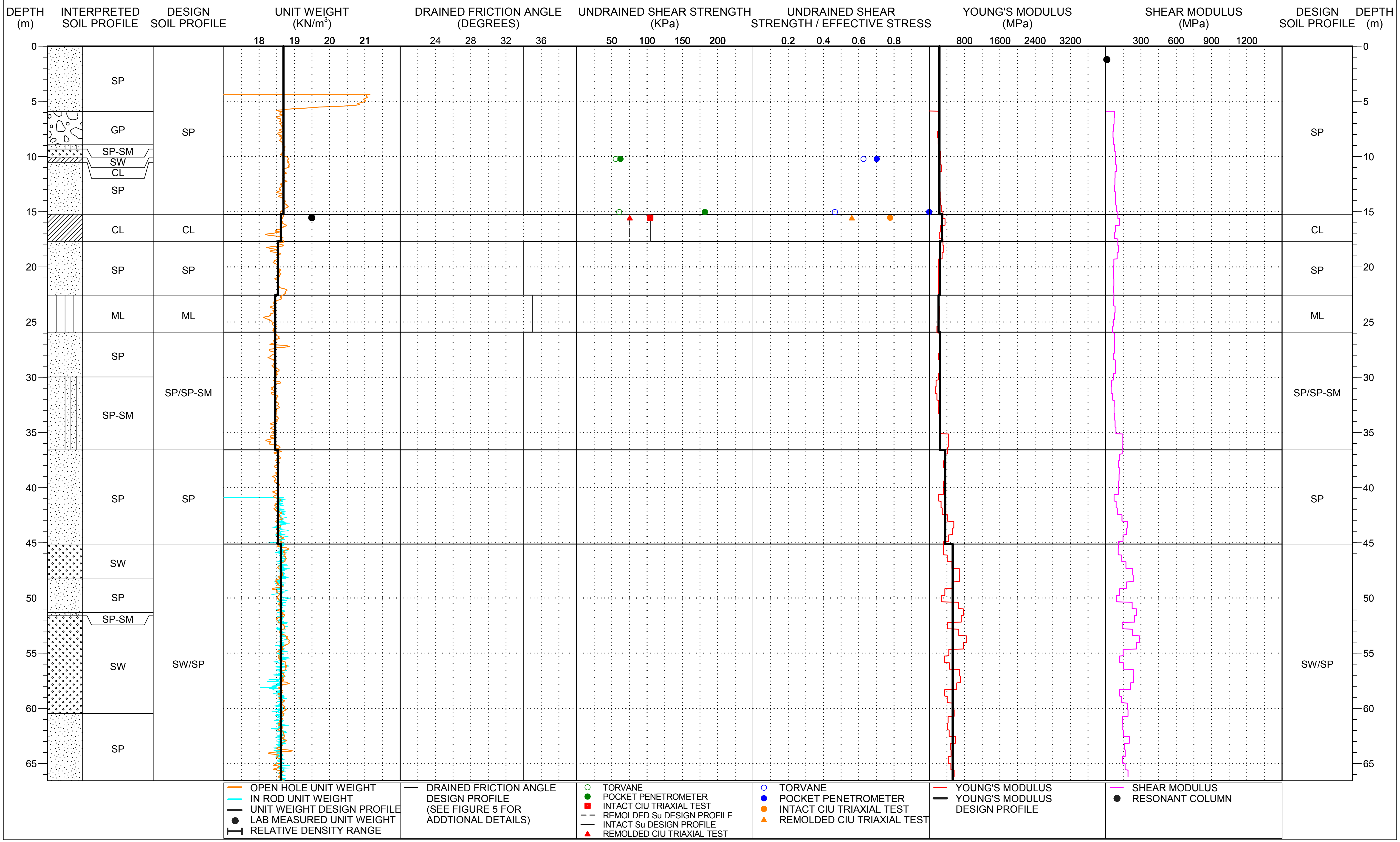
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	**See Plan**
Water Depth (m):	**37.5**
Final Boring Depth (m):	**72.6**
Date Start - Finish:	**8/6/2018 - 9/7/2018**

EXPLORATION NO.:	**B-11/11A**
PROJECT NO:	**34480.00**
REVIEWED BY:	**JJM**

FIGURE 4D
DESIGN PARAMETERS WITHOUT SCOUR

B-11/11A



GZA GeoEnvironmental, Inc.
Engineers and Scientists

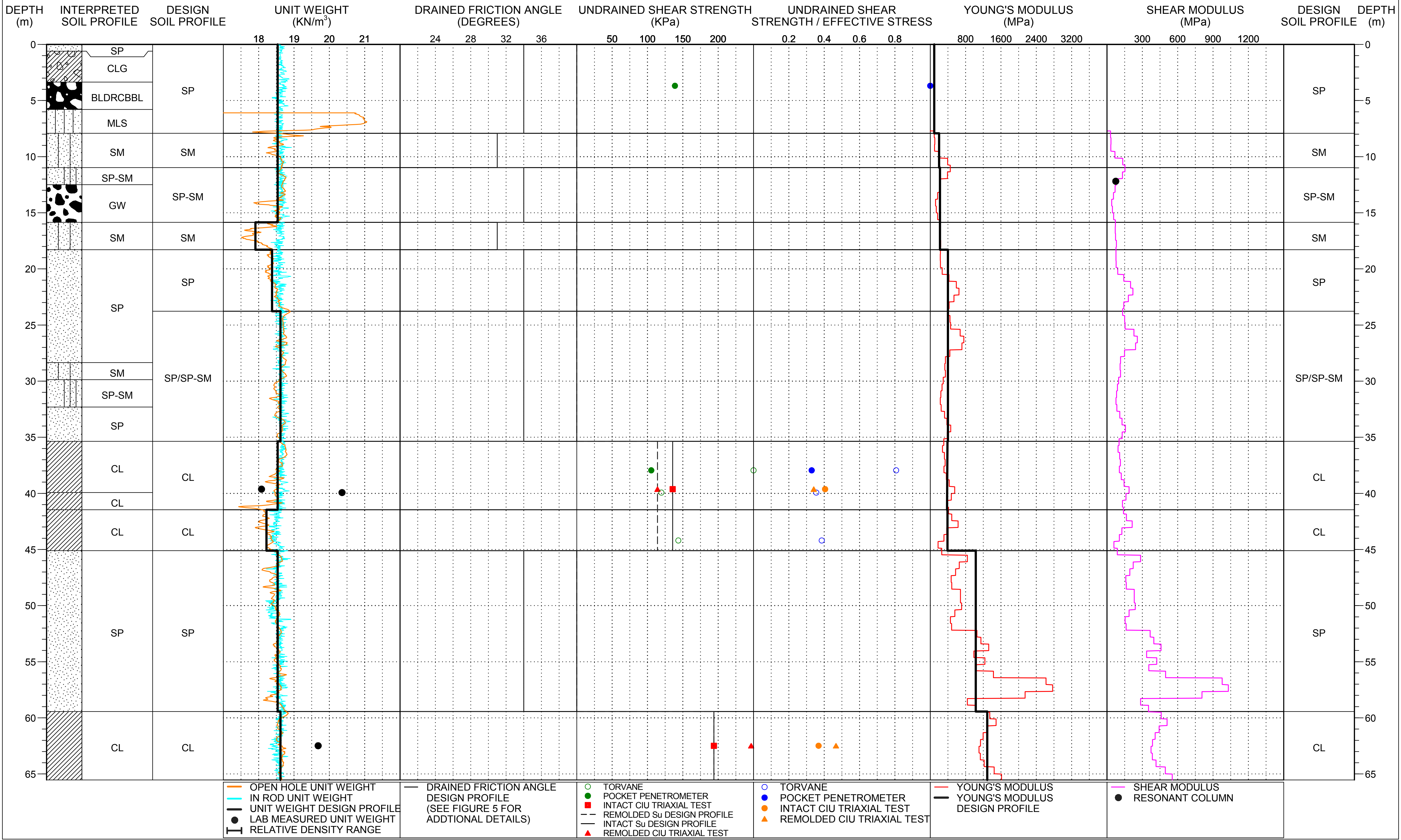
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	See Plan
Water Depth (m):	36.6
Final Boring Depth (m):	74.5
Date Start - Finish:	8/17/2018 - 8/22/2018

EXPLORATION NO.:	B-OSS
PROJECT NO:	34480.00
REVIEWED BY:	JJM

FIGURE 4E
DESIGN PARAMETERS WITHOUT SCOUR

B-OSS



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

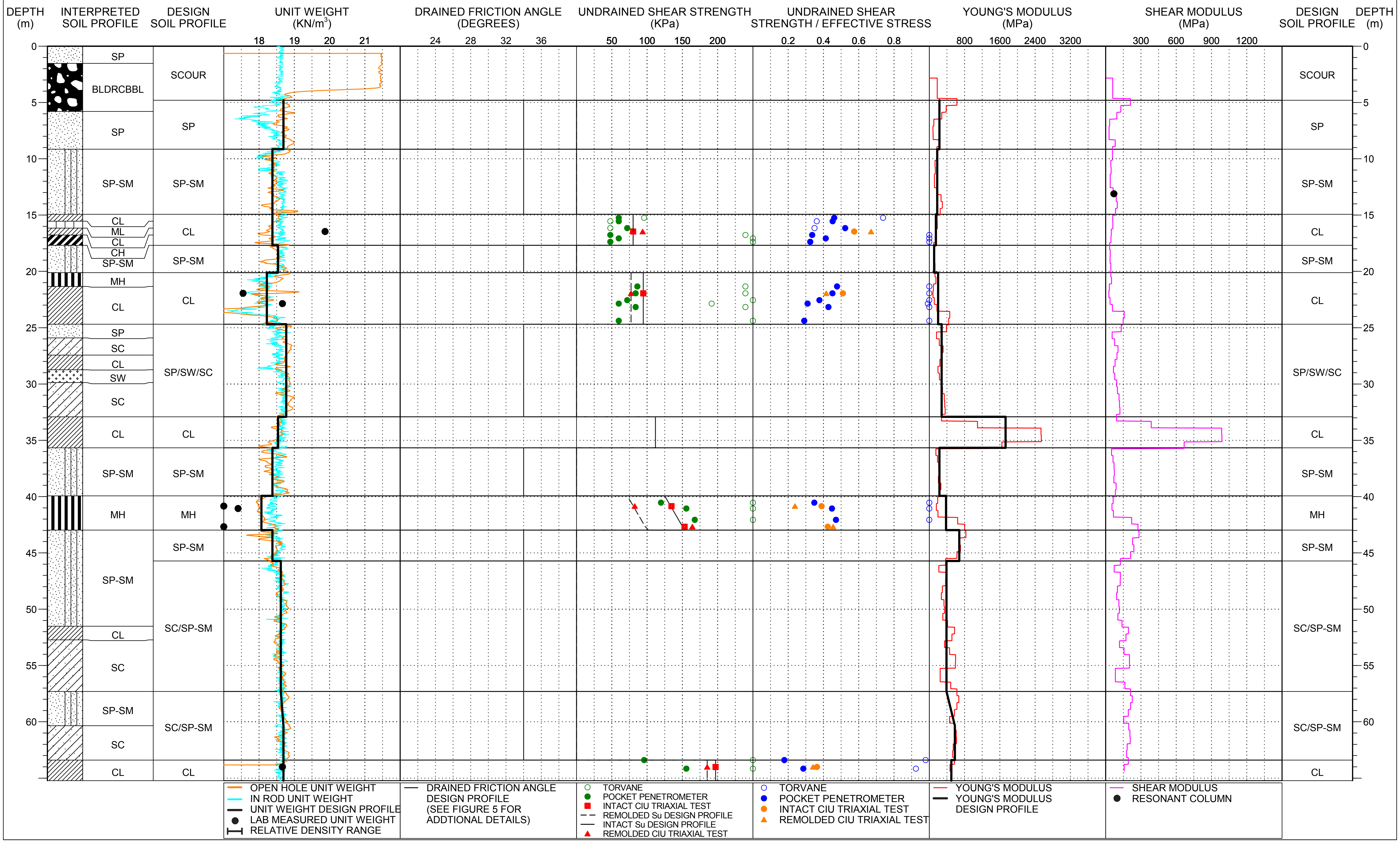
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	See Plan
Water Depth (m):	34.4
Final Boring Depth (m):	71.0
Date Start - Finish:	8/25/2018 - 8/28/2018

EXPLORATION NO.:	B-3
PROJECT NO:	34480.00
REVIEWED BY:	JJM

FIGURE 5A
DESIGN PARAMETERS WITH SCOUR

B-3



GZA GeoEnvironmental, Inc.
Engineers and Scientists

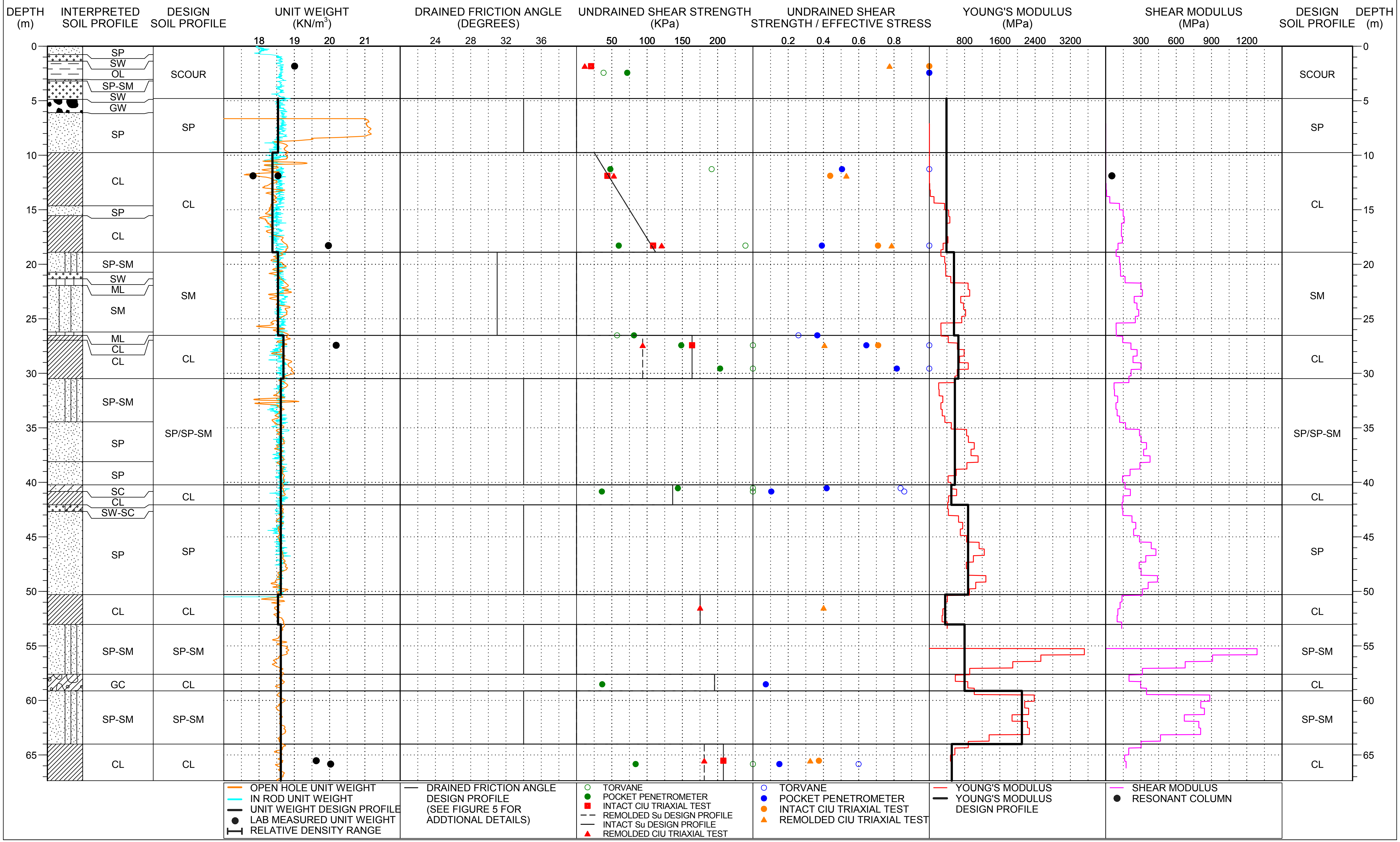
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

EXPLORATION NO.: B-6
PROJECT NO: 34480.00
REVIEWED BY: JJM

FIGURE 5B
DESIGN PARAMETERS WITH SCOUR

B-6



GZA GeoEnvironmental, Inc.
Engineers and Scientists

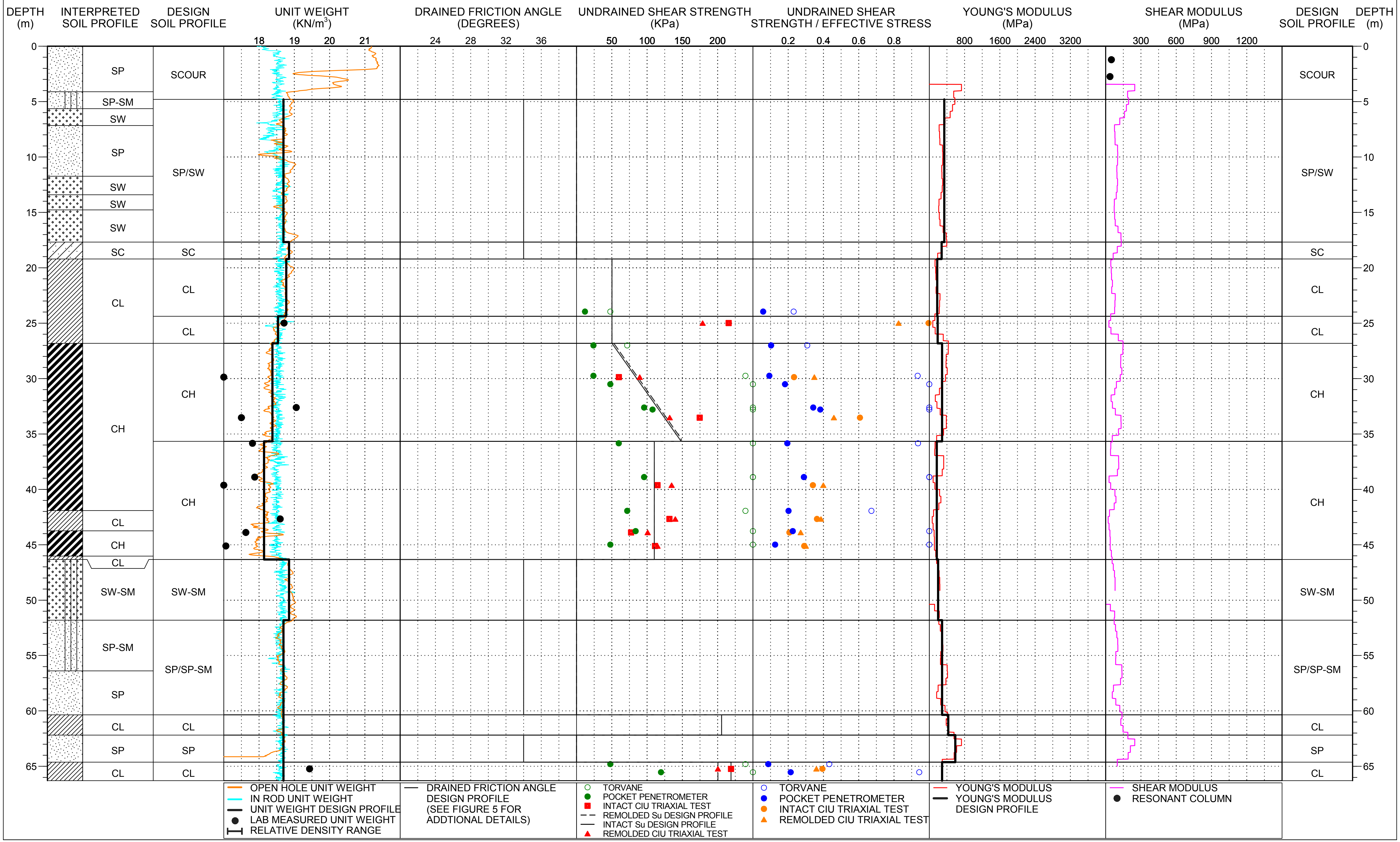
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	See Plan
Water Depth (m):	34.1
Final Boring Depth (m):	72.4
Date Start - Finish:	8/31/2018 - 9/2/2018

EXPLORATION NO.:	B-10
PROJECT NO:	34480.00
REVIEWED BY:	JJM

FIGURE 5C
DESIGN PARAMETERS WITH SCOUR

B-10



GZA GeoEnvironmental, Inc.
Engineers and Scientists

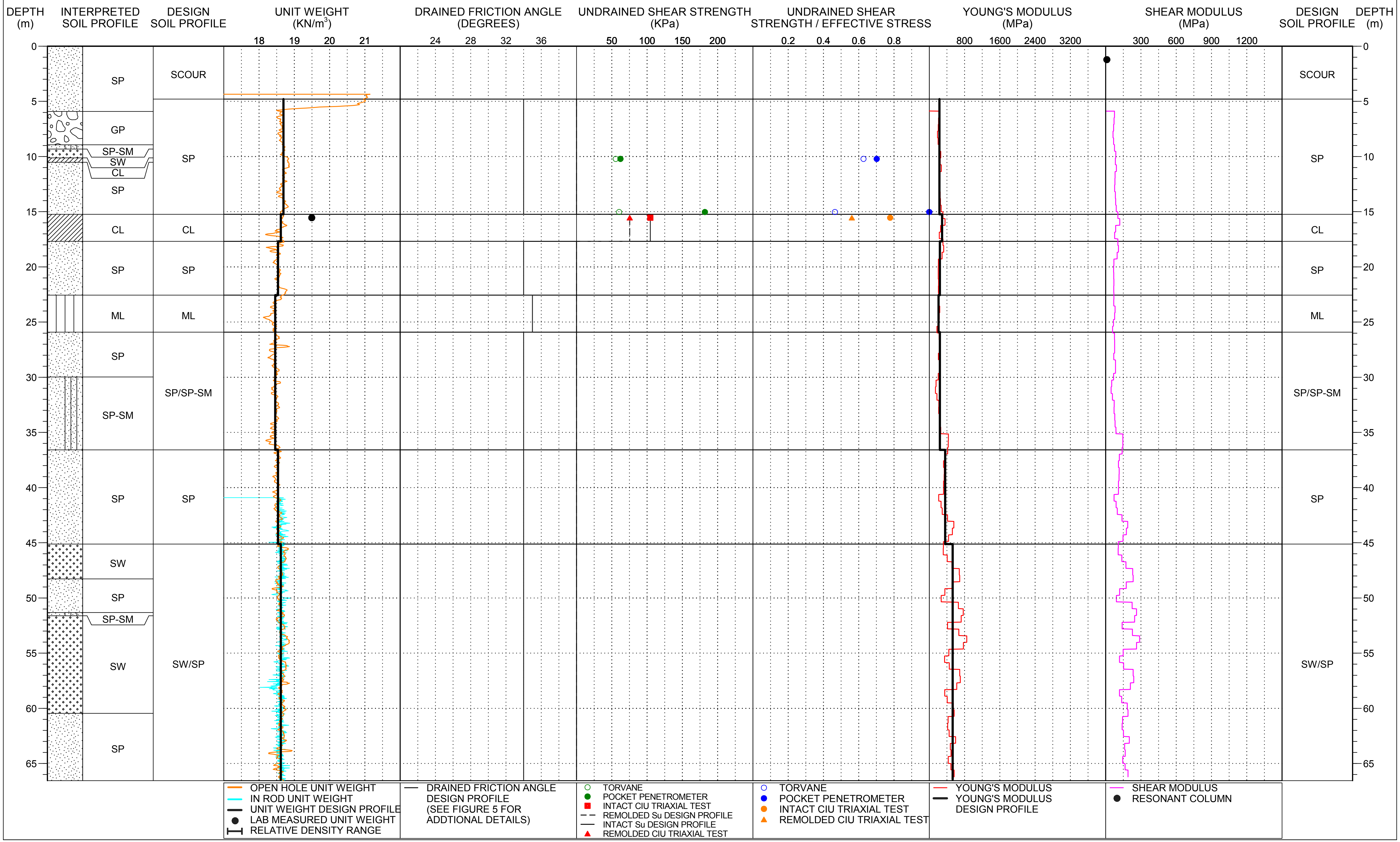
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 8/6/2018 - 9/7/2018

EXPLORATION NO.: B-11/11A
PROJECT NO: 34480.00
REVIEWED BY: JJM

FIGURE 5D
DESIGN PARAMETERS WITH SCOUR

B-11/11A



GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

Boring Location:	See Plan
Water Depth (m):	36.6
Final Boring Depth (m):	74.5
Date Start - Finish:	8/17/2018 - 8/22/2018

EXPLORATION NO.:	B-OSS
PROJECT NO:	34480.00
REVIEWED BY:	JJM

FIGURE 5E
DESIGN PARAMETERS WITH SCOUR

B-OSS

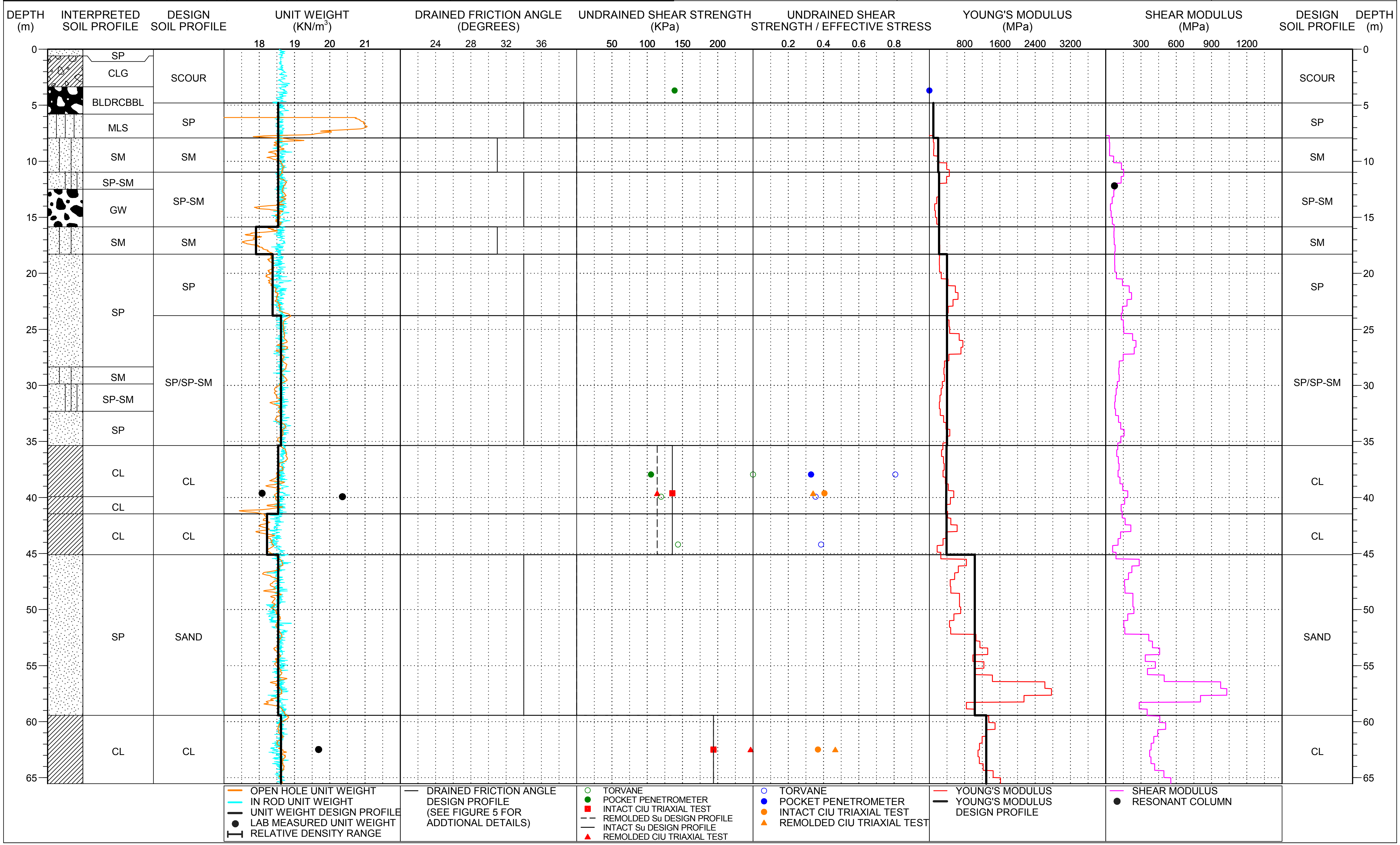


Figure 6A: CD Triaxial Results for SP Soils

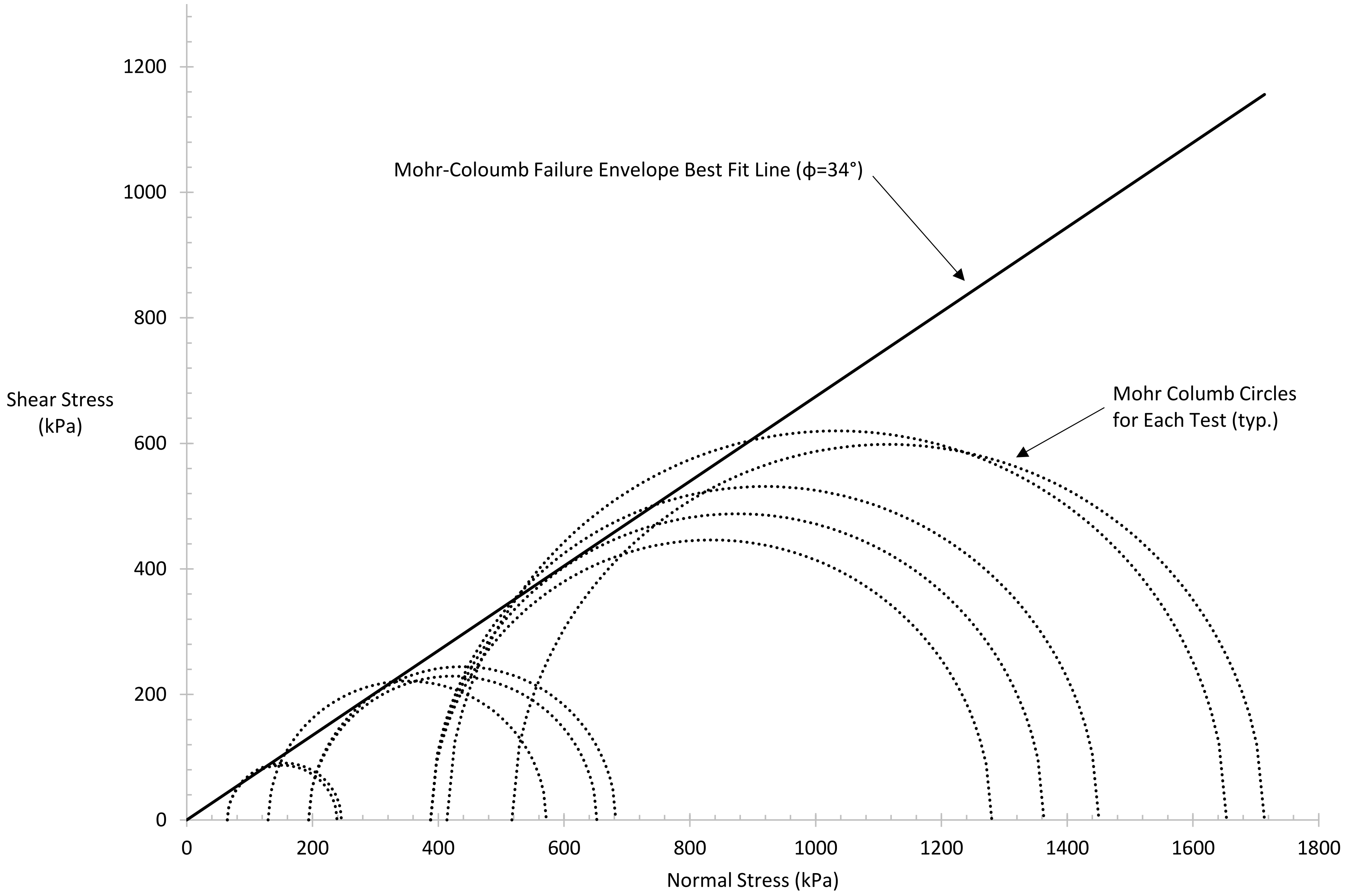


Figure 6B: CD Triaxial Results for SP-SM Soils

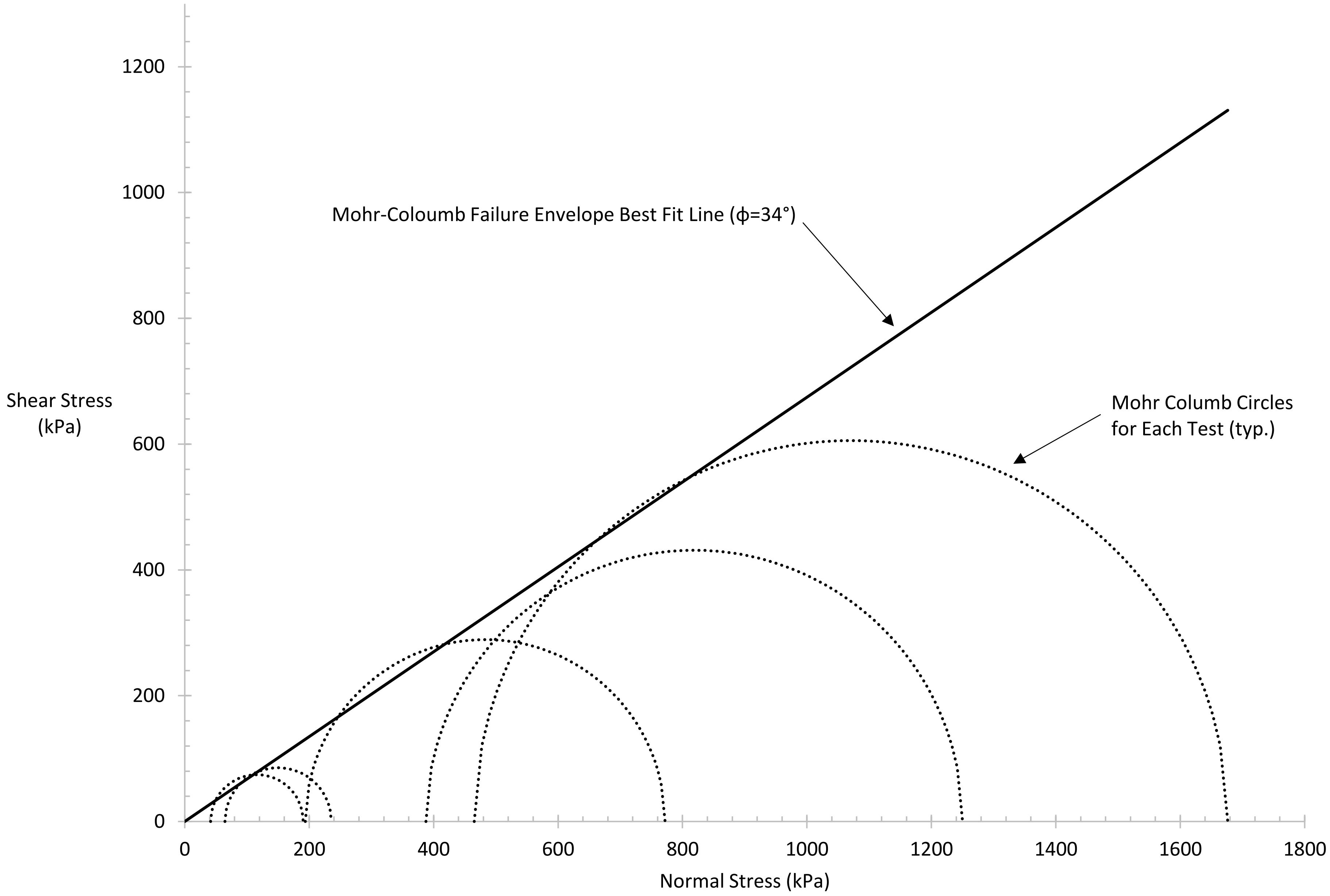


Figure 6C: CD Triaxial Results for SM Soils

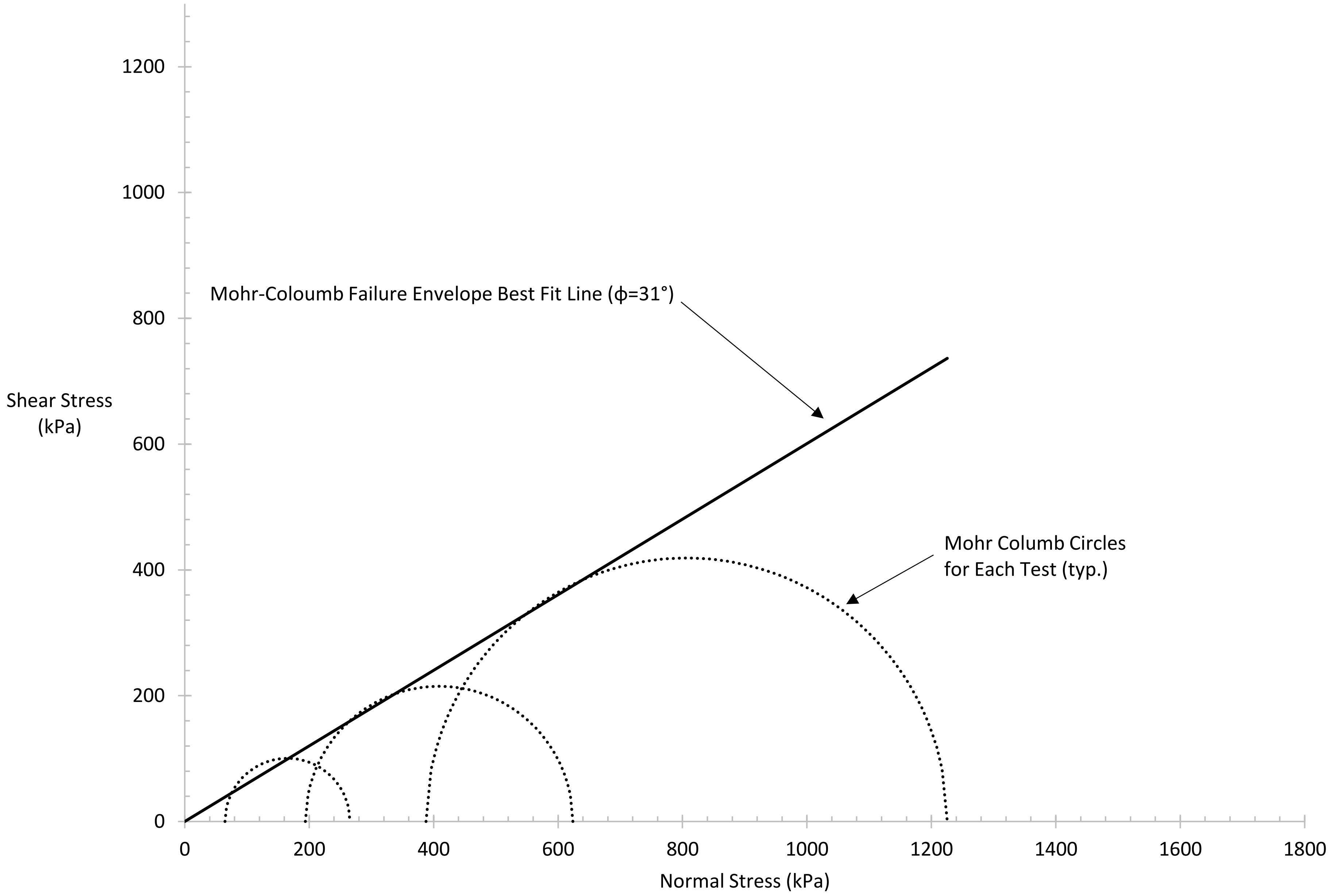


Figure 6D: CD Triaxial Results for ML Soils

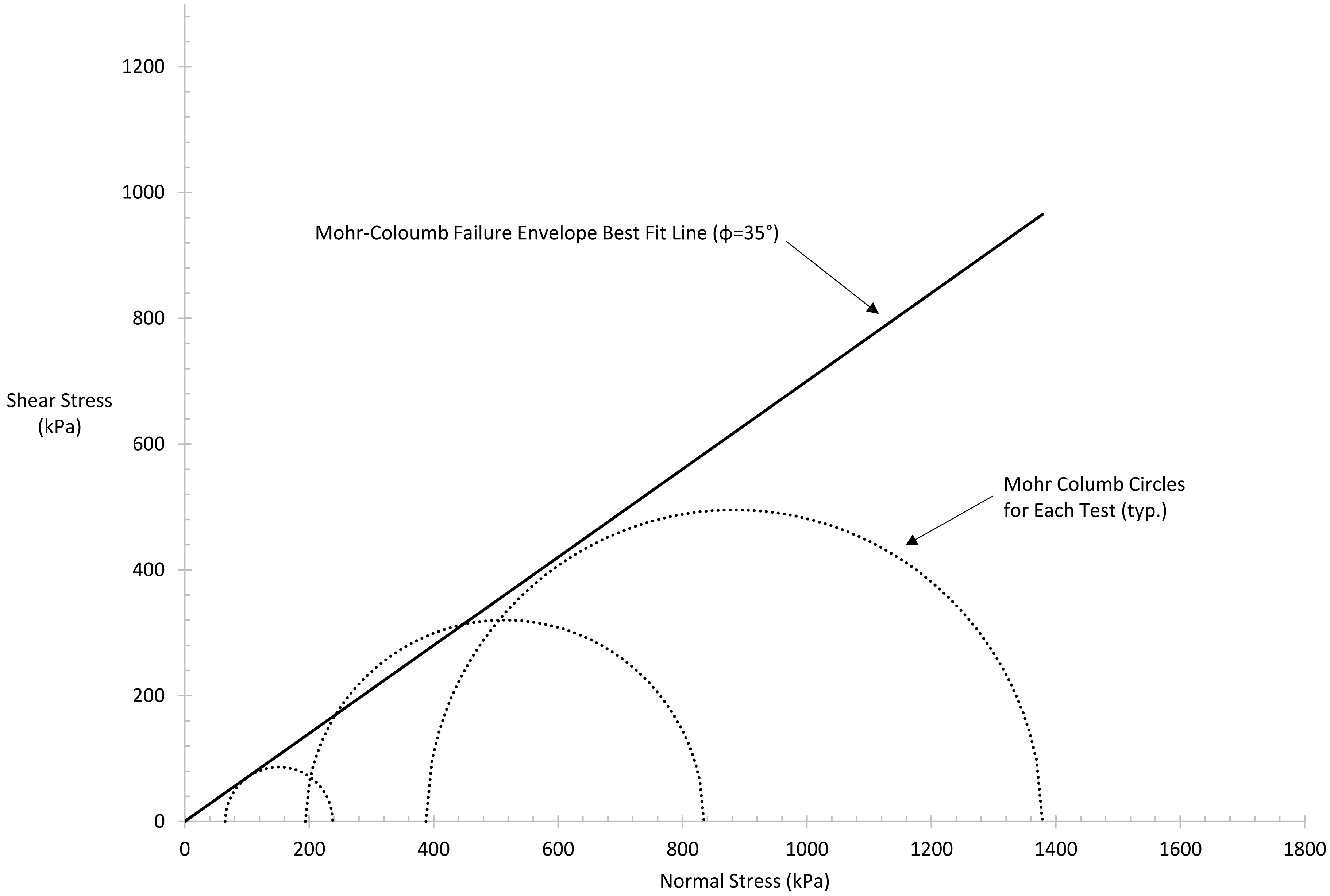


Figure 7A: CIU Su/σ'$_v$ Results for CL Soils

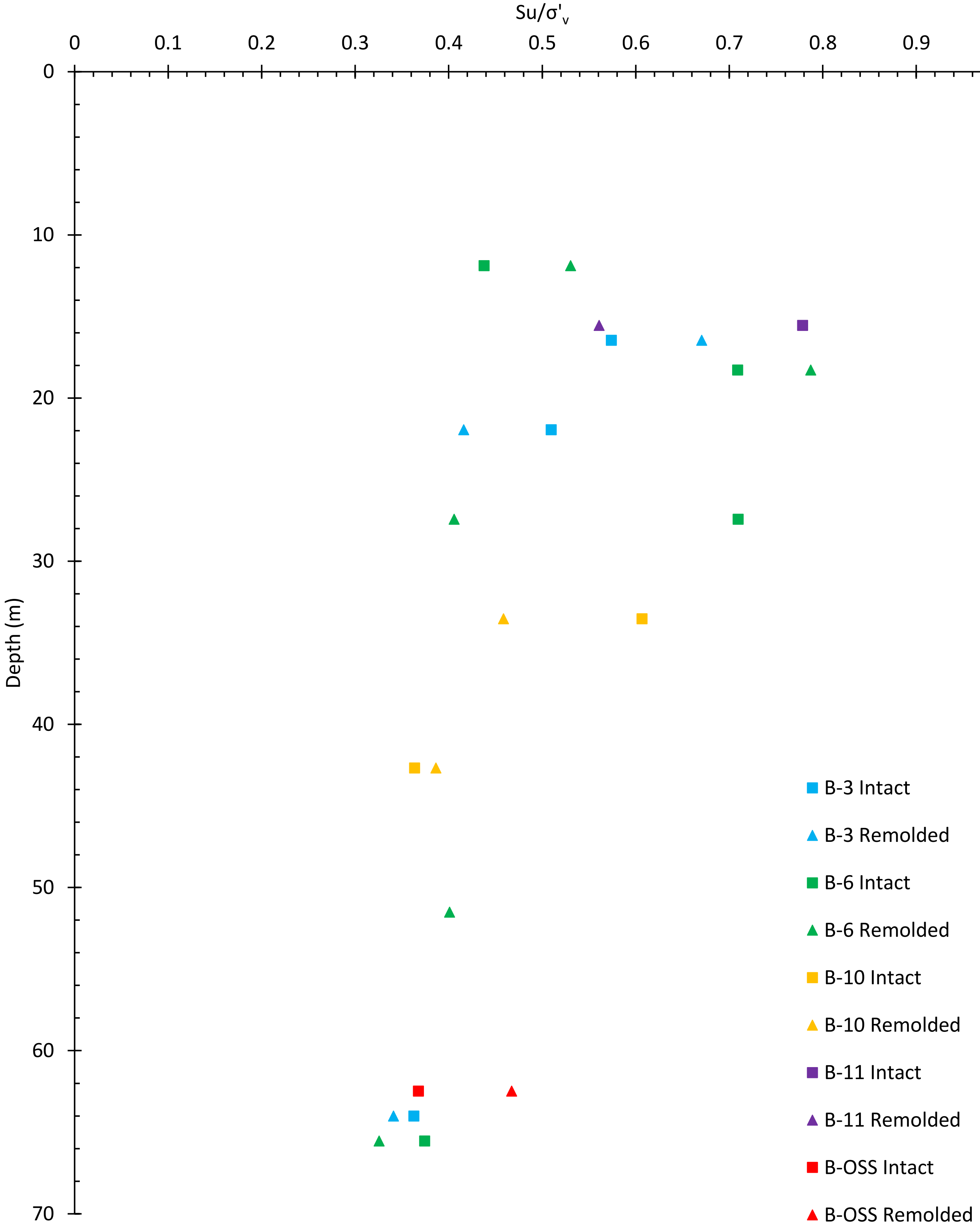


Figure 7B: CIU Su/σ'$_v$ Results for CH Soils

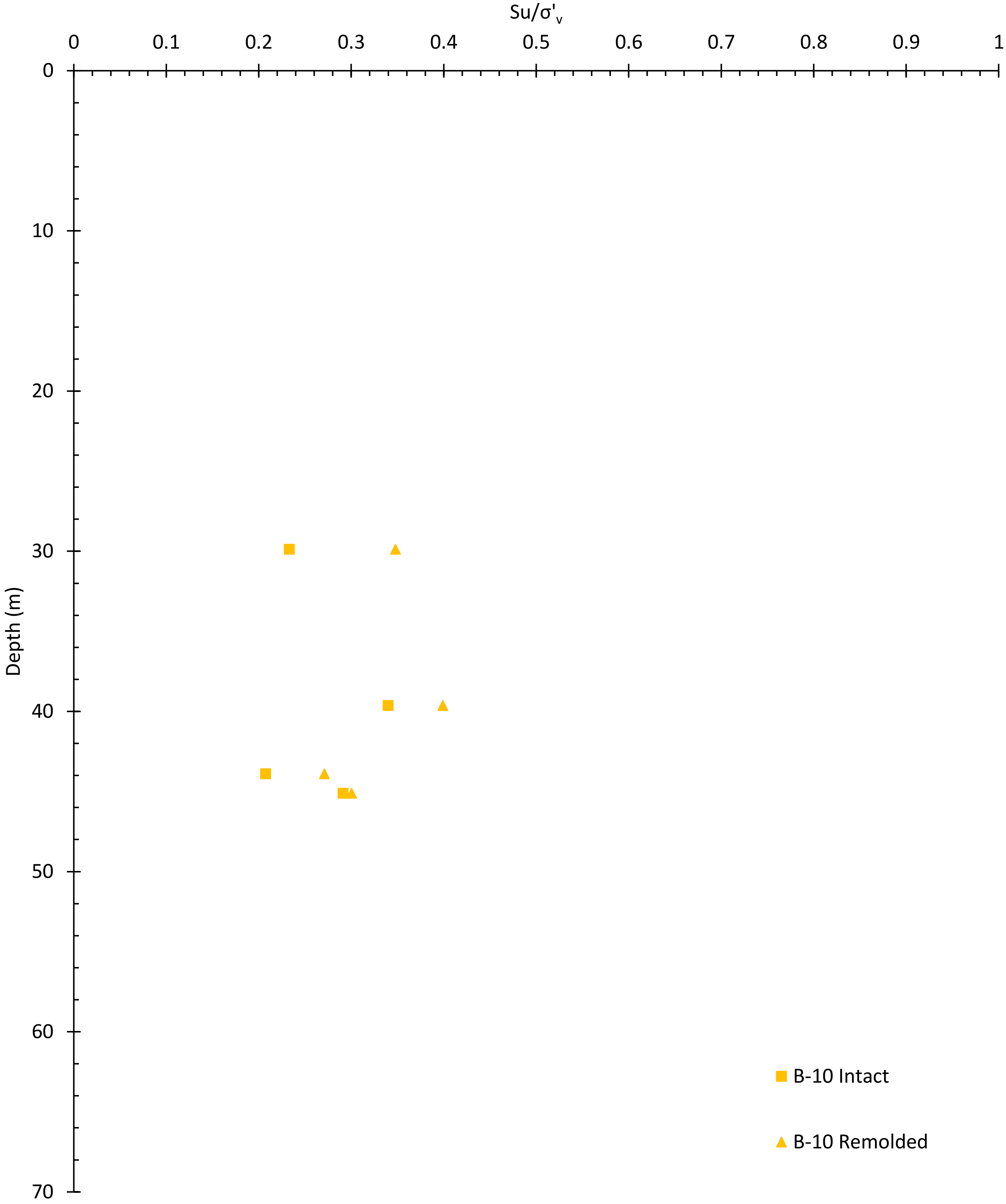
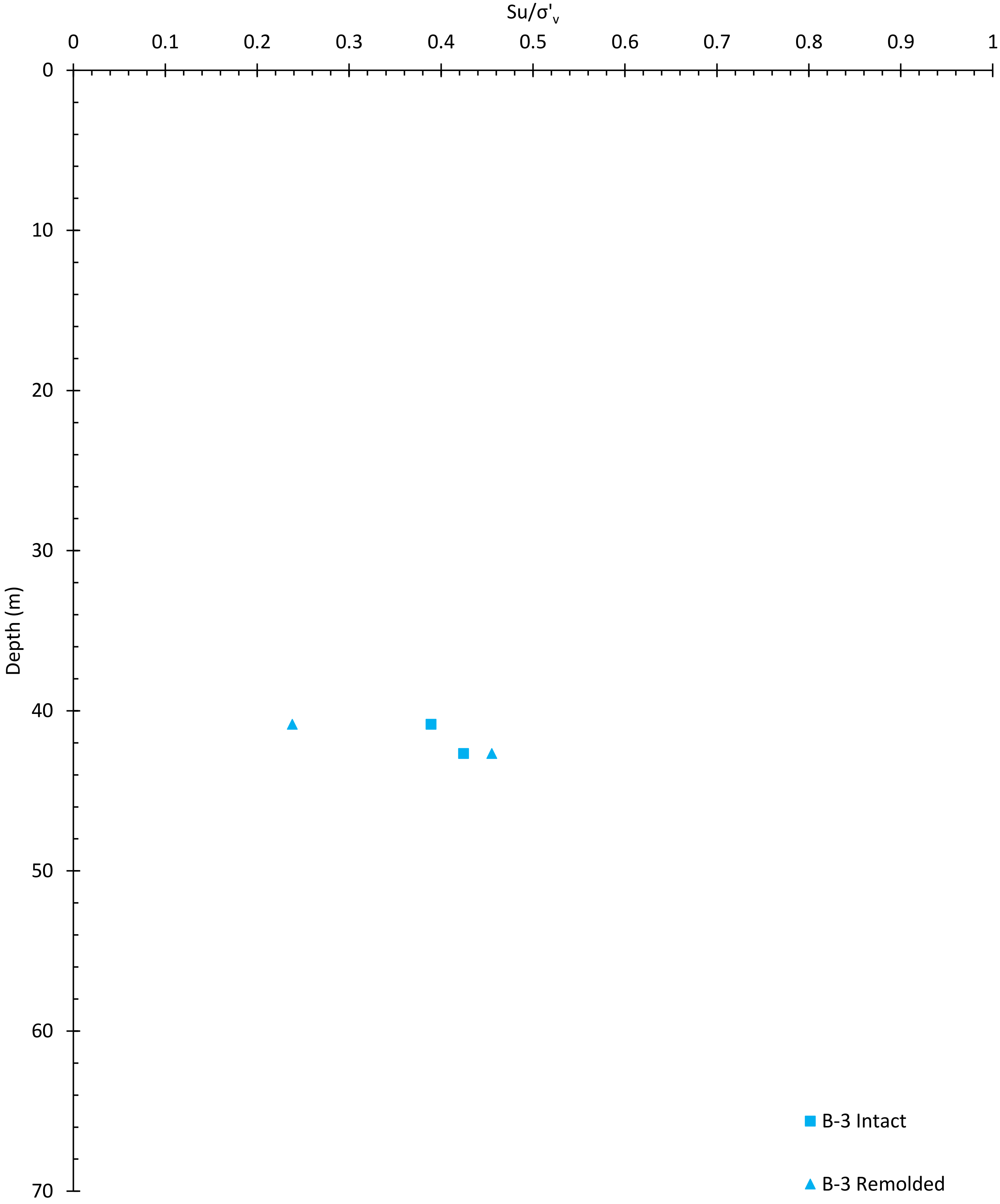
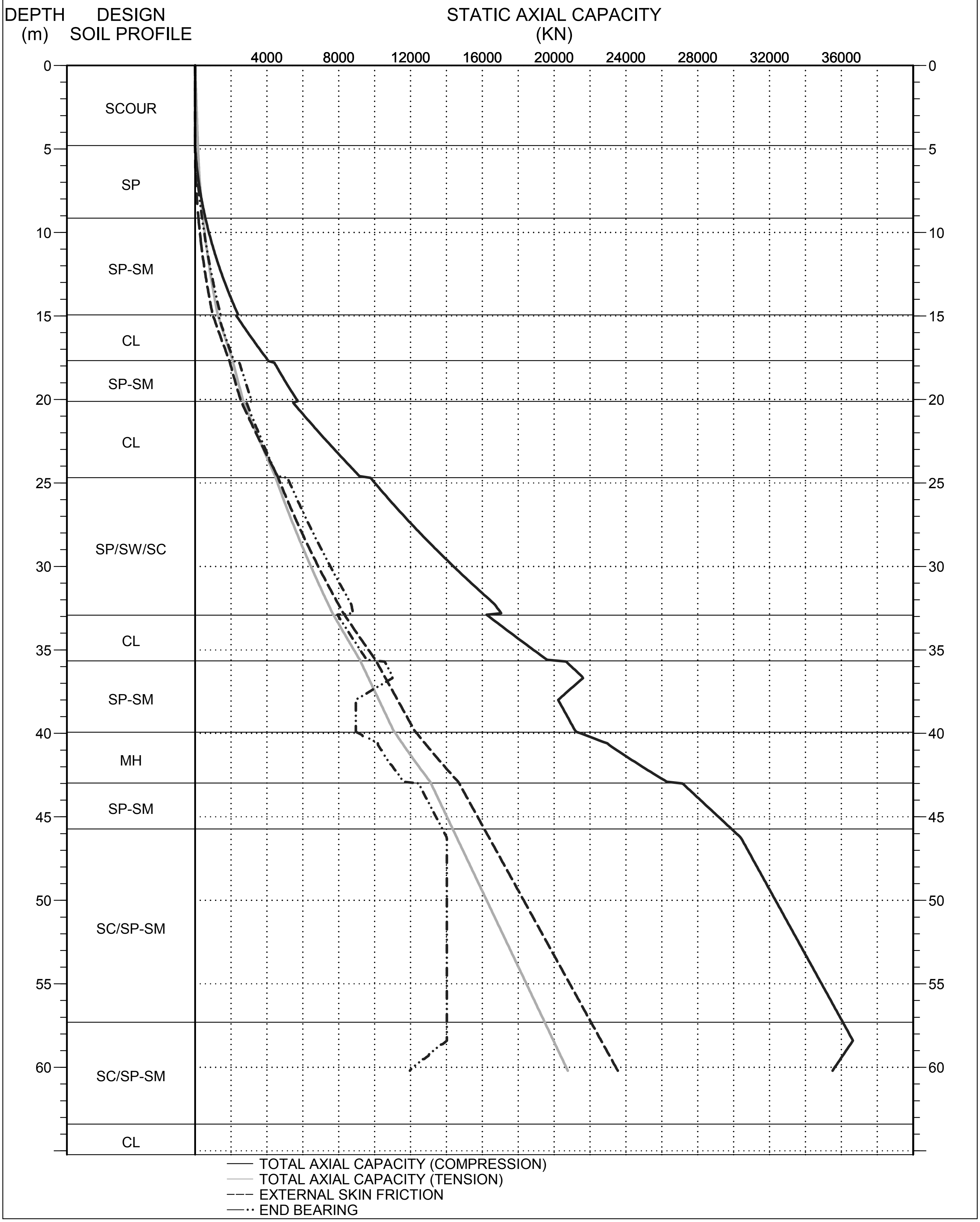


Figure 7C: CIU Su/σ'$_v$ Results for MH Soils



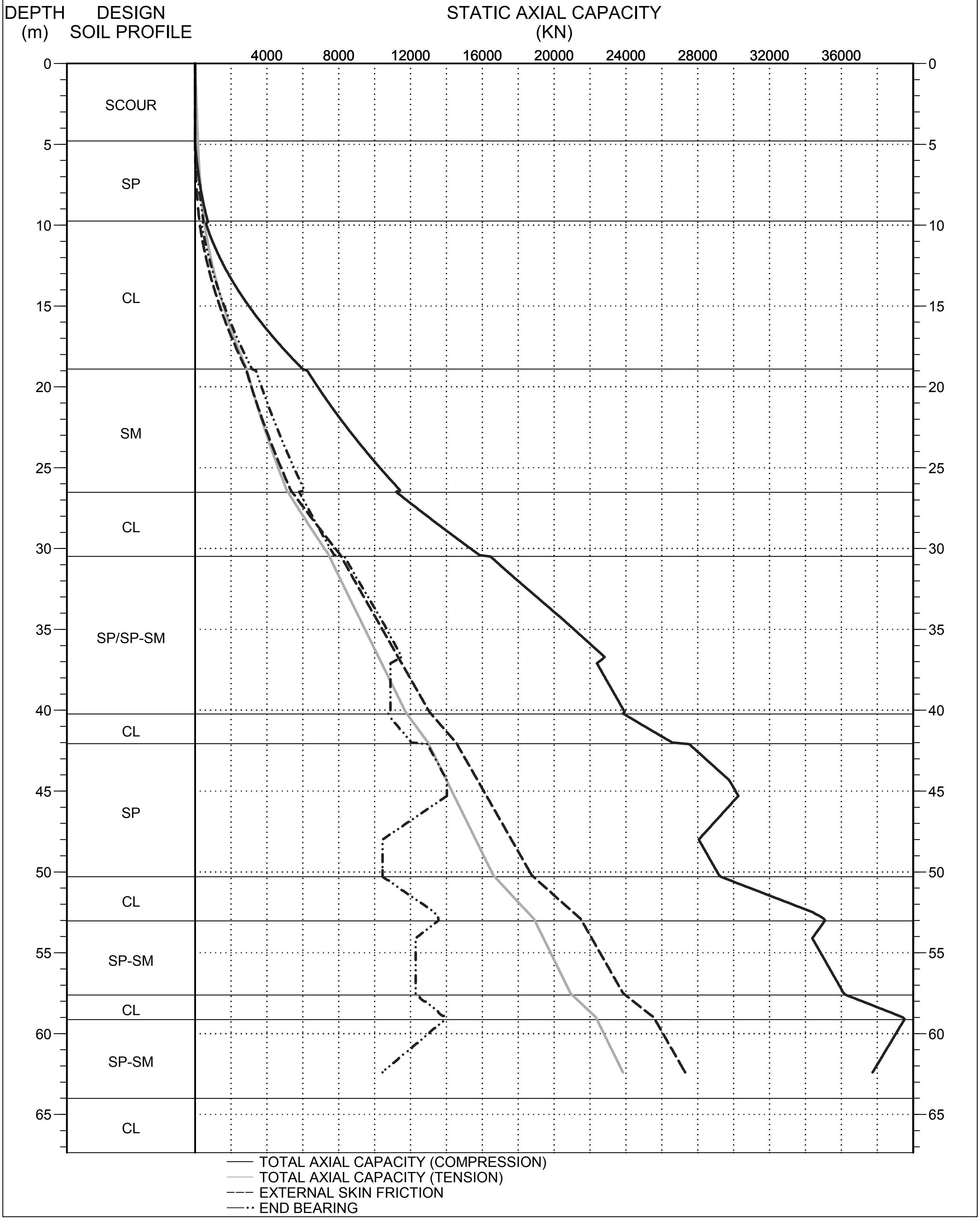
GZA
GeoEnvironmental, Inc.
Engineers and Scientists

FIGURE 8A: UNFACTORED STATIC AXIAL CAPACITY FOR A JACKET PILE AT BORING B-3



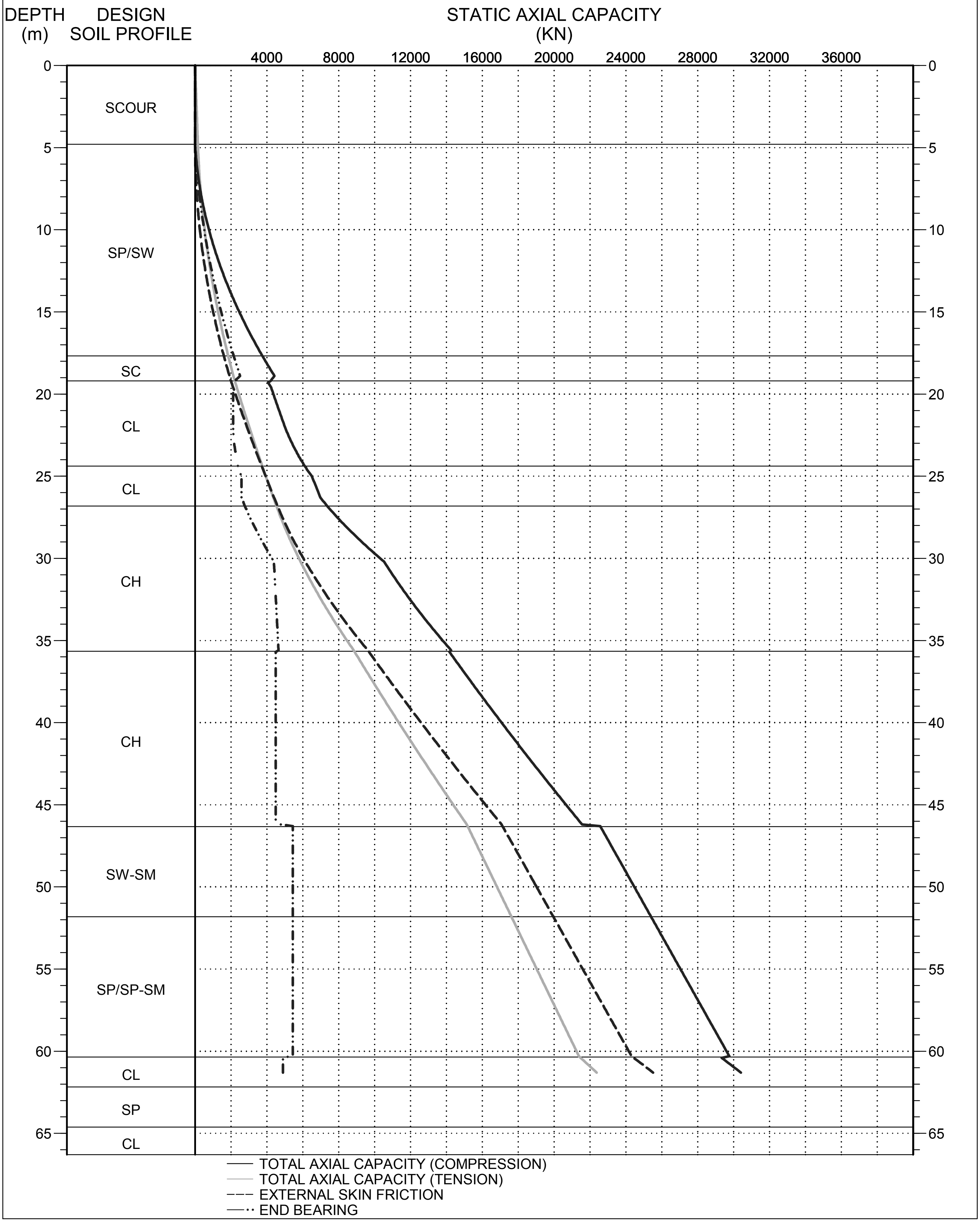
DWW FIGURE 8 - 34480.00 DEEPWATER WIND COMBINED.GPJ - 12/18/18 03:37 - J:\GEO\34480.JJM\WORK\GINT\34480.00 DEEPWATER WIND COMBINED.GPJ

FIGURE 8B: UNFACTORED STATIC AXIAL CAPACITY FOR A JACKET PILE AT BORING B-6



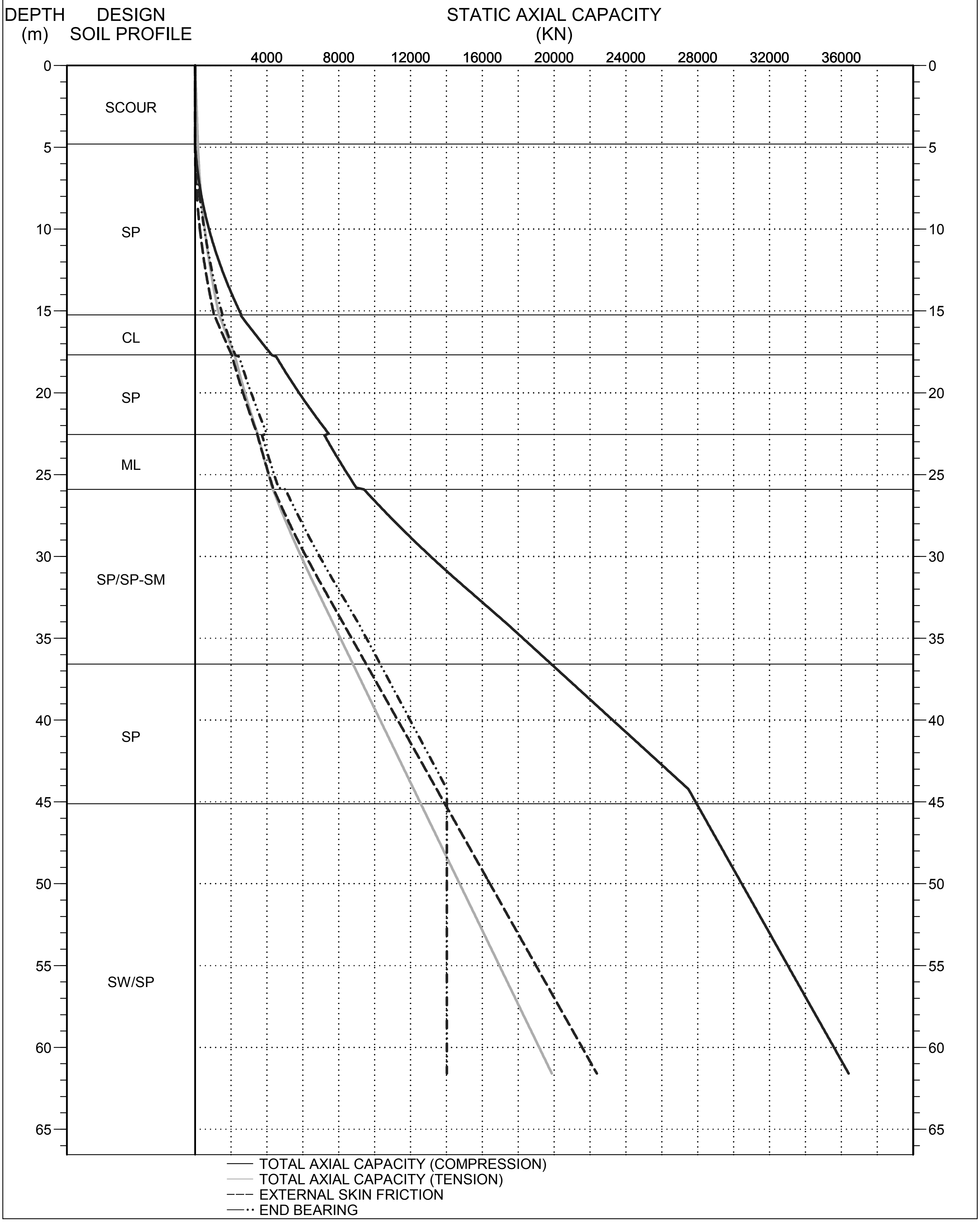
GZA GeoEnvironmental, Inc.
Engineers and Scientists

FIGURE 8C: UNFACTORED STATIC AXIAL CAPACITY FOR A JACKET PILE AT BORING B-10



DWW FIGURE 8 - 34480.00 DEEPWATER WIND COMBINED.GPJ - 12/18/18 03:37 - J:\GEO\34480.JJM\WORK\GINT\34480.00 DEEPWATER WIND COMBINED.GPJ

FIGURE 8D: UNFACTORED STATIC AXIAL CAPACITY FOR A JACKET PILE AT BORING B-11/11A



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

FIGURE 8E: UNFACTORED STATIC AXIAL CAPACITY FOR A JACKET PILE AT BORING B-OSS

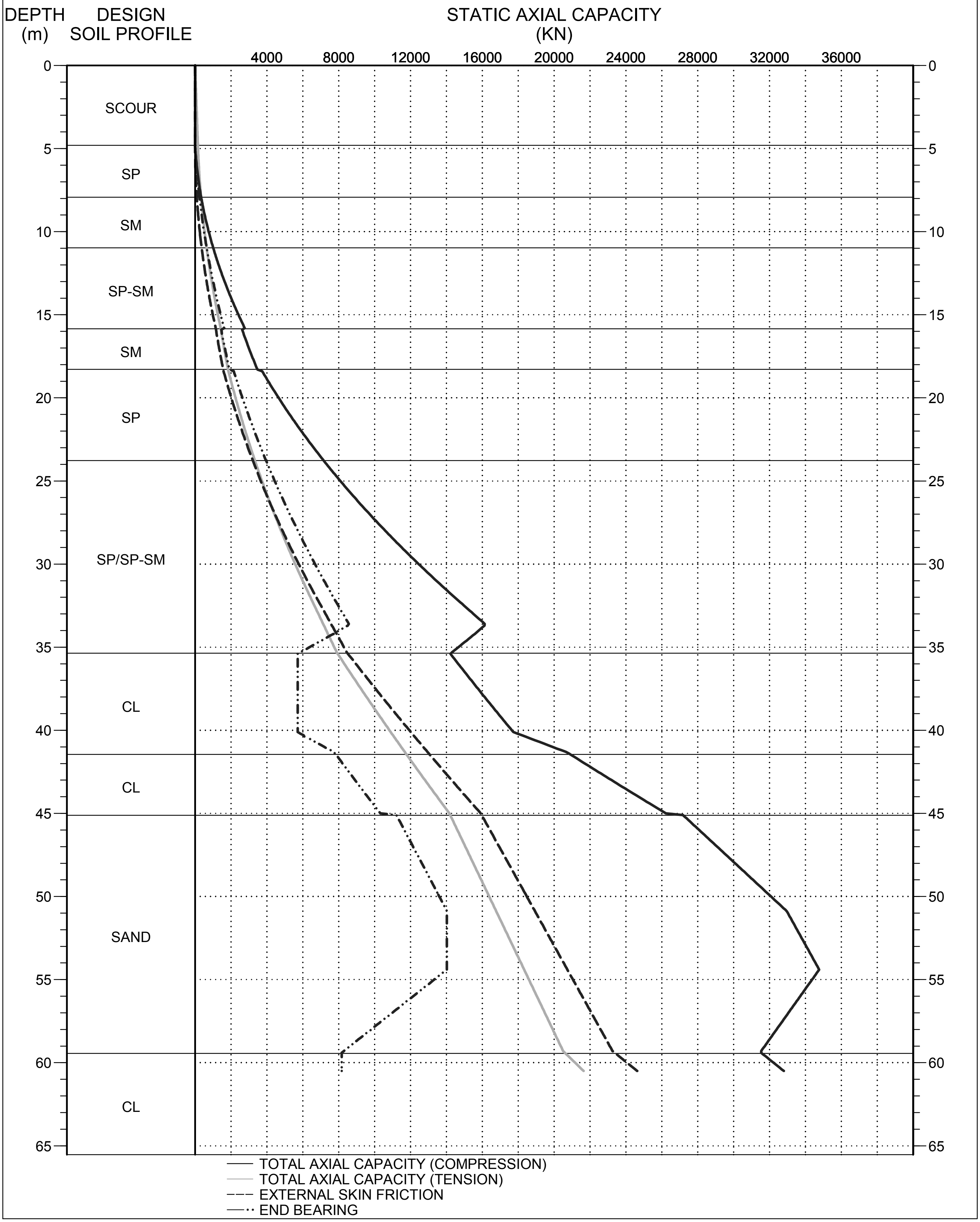


FIGURE 9A: UNFACTORED STATIC AXIAL CAPACITY FOR A MONOPILE PILE AT BORING B-3

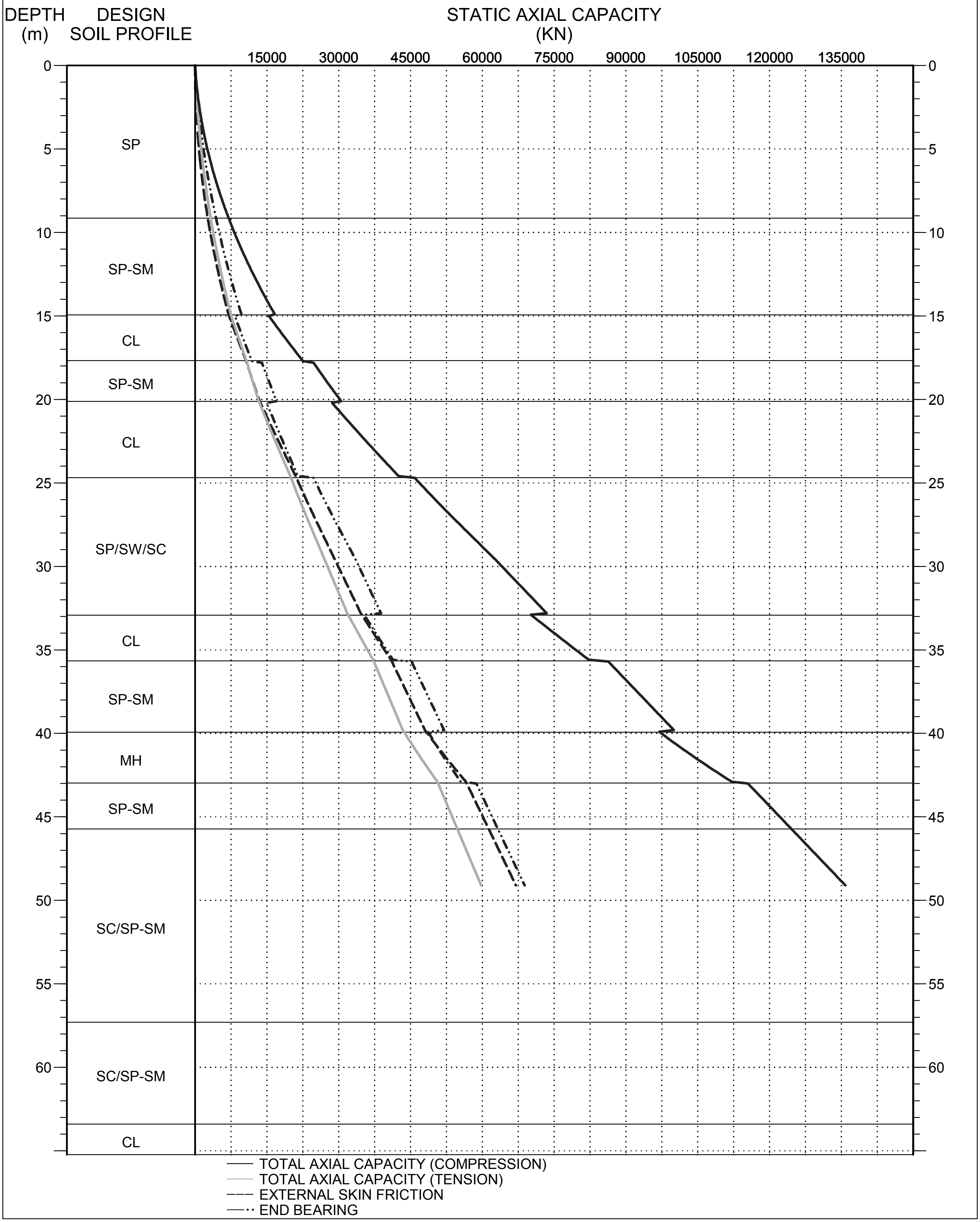
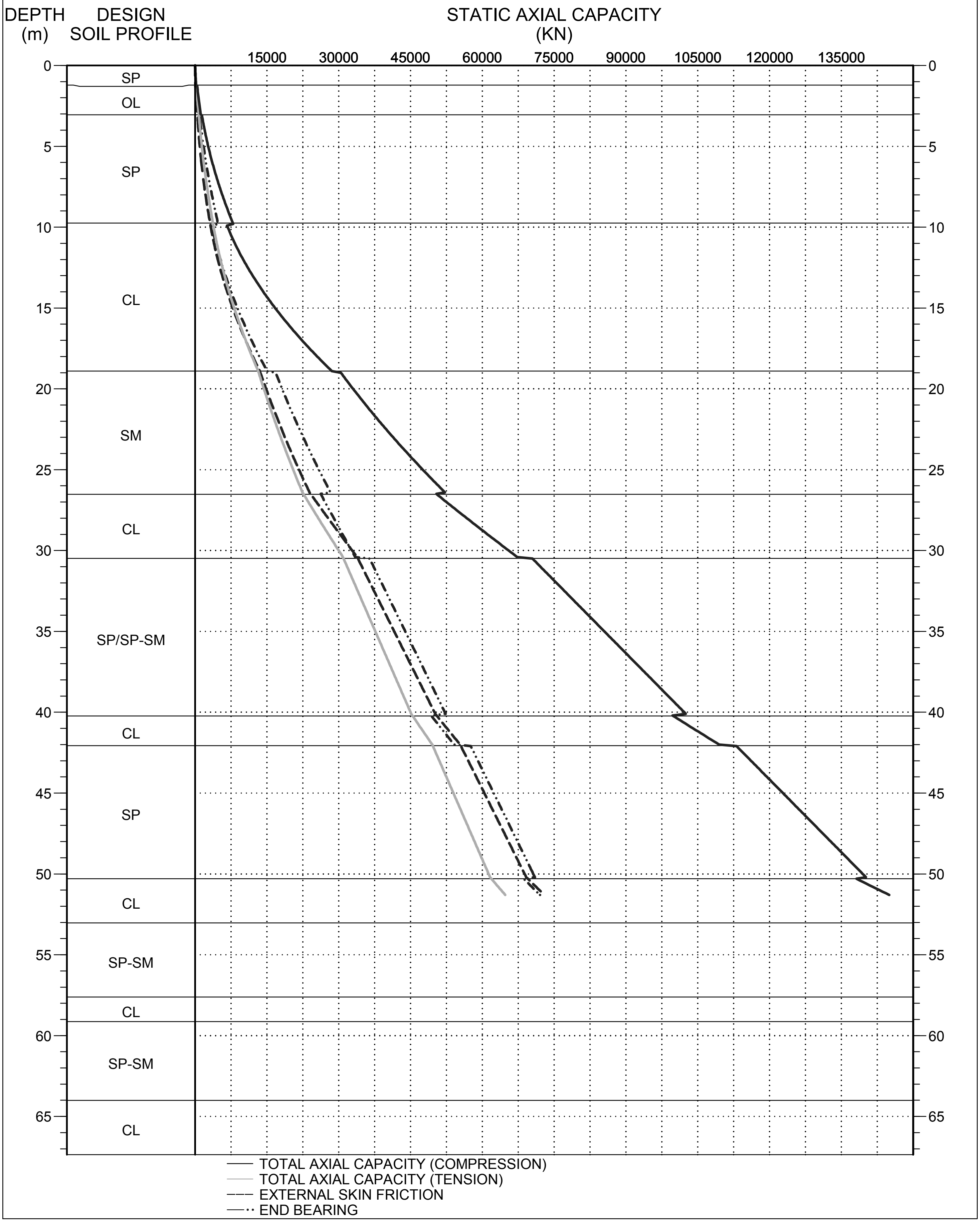
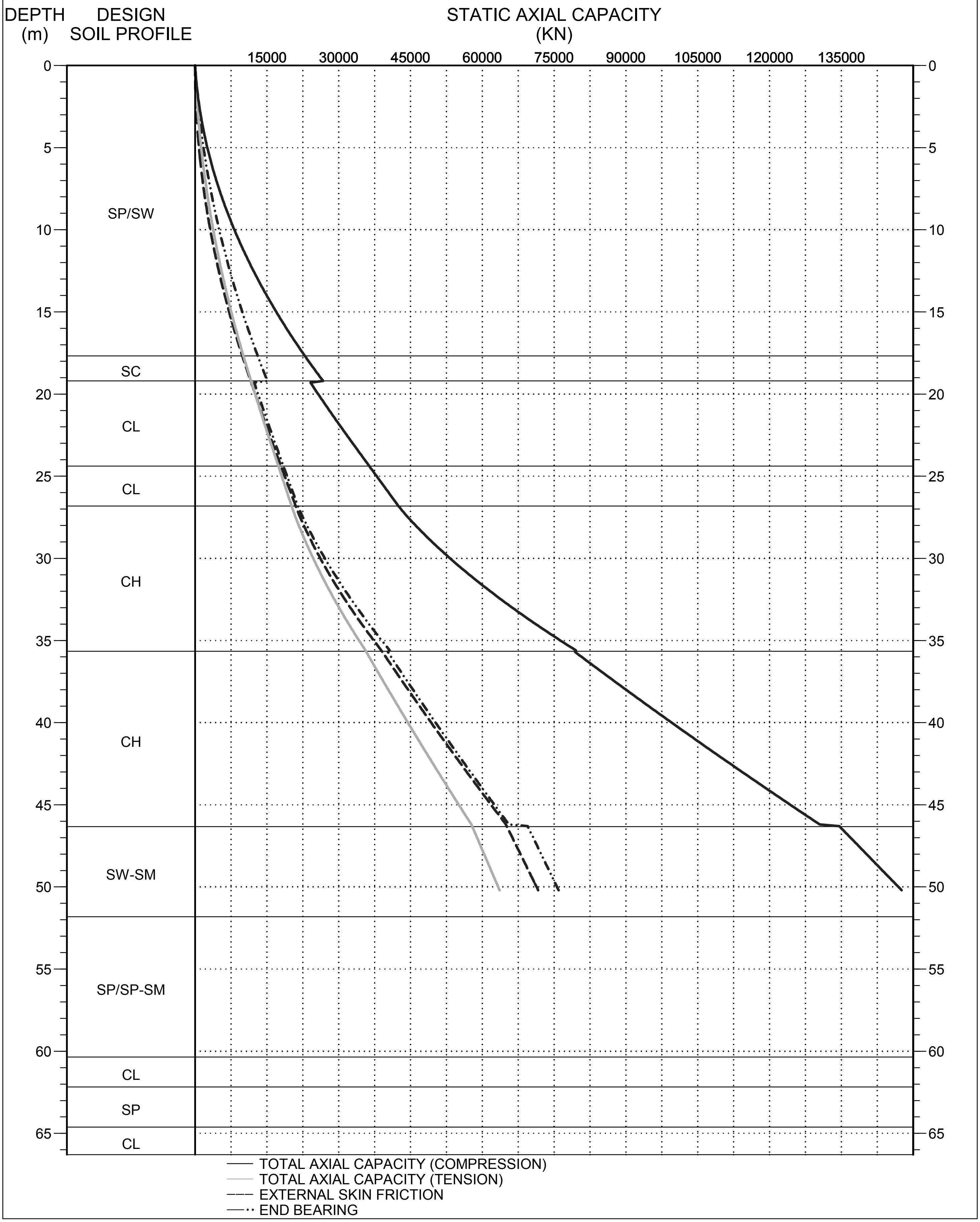


FIGURE 9B: UNFACTORED STATIC AXIAL CAPACITY FOR A MONOPILE PILE AT BORING B-6



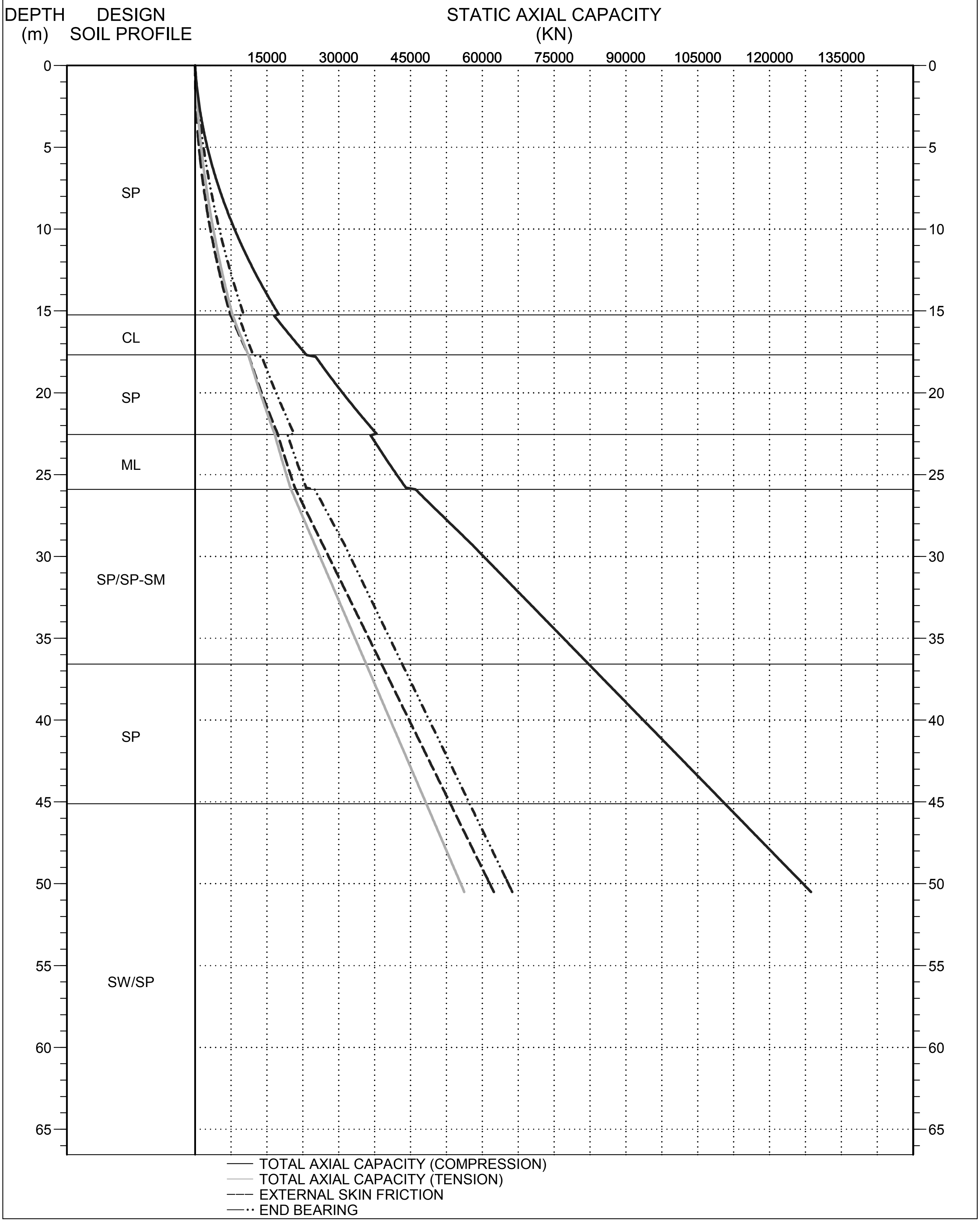
GZA
GeoEnvironmental, Inc.
Engineers and Scientists

FIGURE 9C: UNFACTORED STATIC AXIAL CAPACITY FOR A MONOPILE PILE AT BORING B-10



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

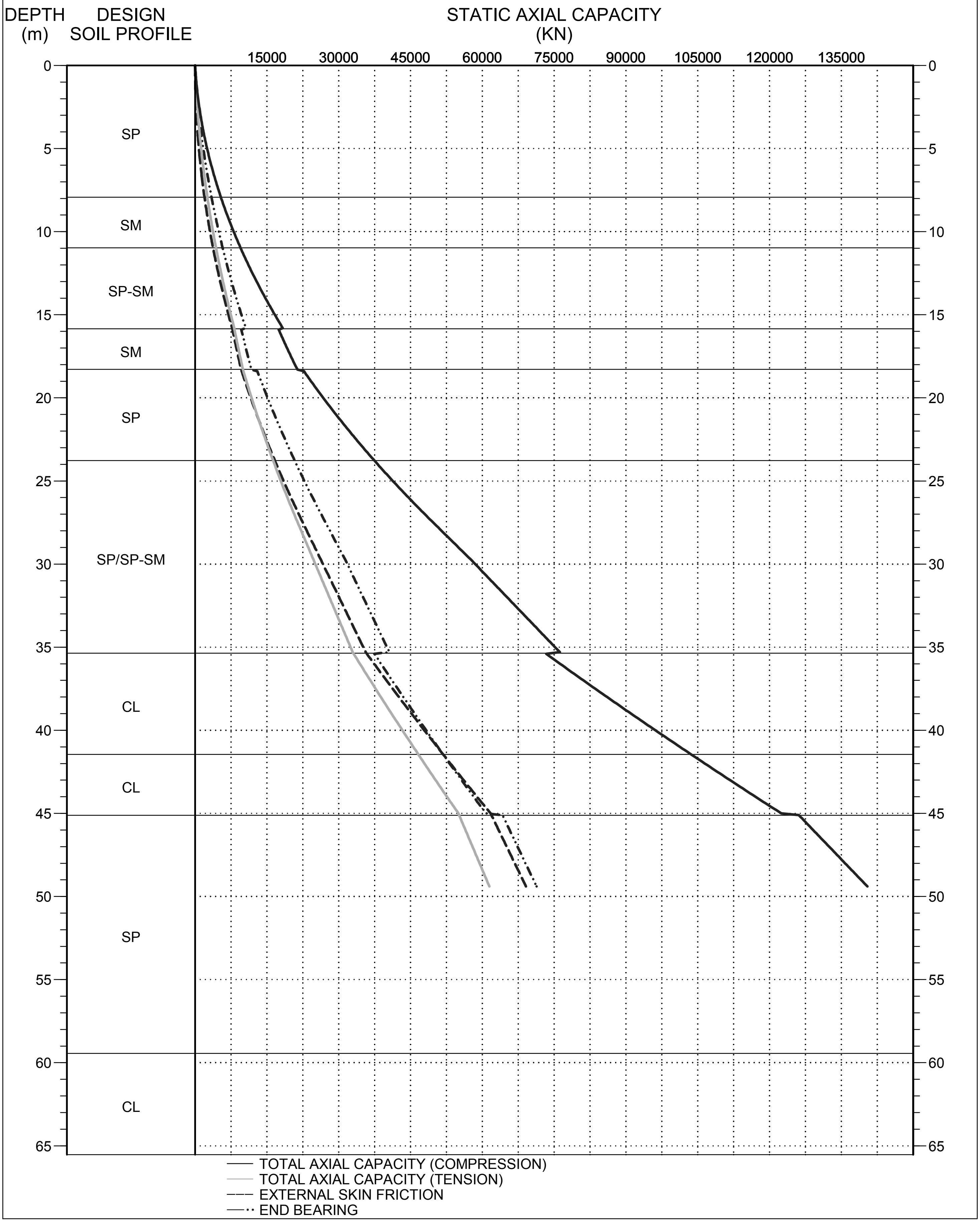
FIGURE 9D: UNFACTORED STATIC AXIAL CAPACITY FOR A MONOPILE PILE AT BORING B-11/11A



DWW FIGURE 9 - 34480.00 DEEPWATER WIND COMBINED.GPJ - 12/18/18 03:38 - J:\GEO\34480.JJM\WORK\GINT\34480.00 DEEPWATER WIND COMBINED.GPJ

GZA
GeoEnvironmental, Inc.
Engineers and Scientists

FIGURE 9E: UNFACTORED STATIC AXIAL CAPACITY FOR A MONOPILE PILE AT BORING B-OSS



APPENDIX A

LIMITATIONS

USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the contract documents, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in Proposal for Services and/or Report, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. If conditions other than those described in this report are found at the subject location(s), or the design has been altered in any way, GZA shall be so notified and afforded the opportunity to revise the report,as appropriate, to reflect the unanticipated changed conditions .

3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

SUBSURFACE CONDITIONS

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

6. In preparing this report, GZA relied on certain information provided by the Client, state and local officials, and other parties referenced therein which were made available to GZA at the time of our evaluation. GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.

7. Water level readings have been made in test holes (as described in this Report) and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this Report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The water table encountered in the course of the work may differ from that indicated in the Report.

8. GZA's services did not include an assessment of the presence of oil or hazardous materials at the property. Consequently, we did not consider the potential impacts (if any) that contaminants in soil or groundwater may have on construction activities, or the use of structures on the property.

9. Recommendations for foundation drainage, waterproofing, and moisture control address the conventional geotechnical engineering aspects of seepage control. These recommendations may not preclude an environment that allows the infestation of mold or other biological pollutants.

COMPLIANCE WITH CODES AND REGULATIONS

10. We used reasonable care in identifying and interpreting applicable codes and regulations. These codes and regulations are subject to various, and possibly contradictory, interpretations. Compliance with codes and regulations by other parties is beyond our control.

COST ESTIMATES

11. Unless otherwise stated, our cost estimates are only for comparative and general planning purposes. These estimates may involve approximate quantity evaluations. Note that these quantity estimates are not intended to be sufficiently accurate to develop construction bids, or to predict the actual cost of work addressed in this Report. Further, since we have no control over either when the work will take place or the labor and material costs required to plan and execute the anticipated work, our cost estimates were made by relying on our experience, the experience of others, and other sources of readily available information. Actual costs may vary over time and could be significantly more, or less, than stated in the Report.

ADDITIONAL SERVICES

12. GZA recommends that we be retained to provide services during any future: site observations, design, implementation activities, construction and/or property development/redevelopment. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

APPENDIX B

BORING LOGS

TEST BORING LOG

GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-3**
SHEET: **1 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
	HPC-1	0.15 - 1.68	0.34			23	HPC-1: Poorly Graded Sand (SP), fine sand, trace organic silt, gray, organic odor, little fine to coarse sand sized shell fragments			POORLY GRADED SAND		░
1												░
									1.5			░
2												●
	HPC-2	2.29 - 3.81	0.18				HPC-2: Well Graded Gravel with Sand (GW), fine to coarse. rounded to subrouded gravel, few fine to coarse sand particles, trace non-plastic fines, gray to black					●
	ALN-1	2.47 - 3.81	0.11				ALN-1: Well Graded Gravel (GW), fine to coarse, rounded gravel, 90% (by volume) rounded cobbles, gray	1				●
3										WELL GRADED GRAVEL WITH SAND / COBBLES		●
4	ALN-2	3.81 - 6.86	0.21				ALN-2: Well Graded Gravel with Cobbles (GW), fine to coarse, rounded to angular, gravel, 20% (by volume) rounded cobbles, white, brown, gray	2				●
5												●
									5.8			●
6												░
7	HPC-3	6.86 - 8.38	0.30			20	HPC-3: Poorly Graded Sand with Gravel (SP), fine to coarse sand, some fine to coarse, rounded to subrounded gravel, brown					░
	ALN-3	7.16 - 12.95	0.21				ALN-3: Poorly Graded Gravel with Cobbles (GP), coarse, rounded to subrounded gravel, little fine, subrounded to subangular gravel, trace fine to coarse sand, 50% (by volume) cobbles, brown to gray	3 4		POORLY GRADED SAND WITH GRAVEL		░
8												░
9									9.1			░

REMARKS

1 - Cobble lodged in sample recovery basket. All finer material likely washed out while taking sample
2 - Cobble lodged in sample recovery basket. All finer material likely washed out while taking sample
3 - Caving in material from above prevented the drill from advancing. After several attempts, with the ALN sampler equipped, the drill was able to be advanced from 7.16 meters to 12.95 meters while maintaining hole stability.
4 - Finer material likely washed out while taking sample

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-3**
SHEET: **2 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

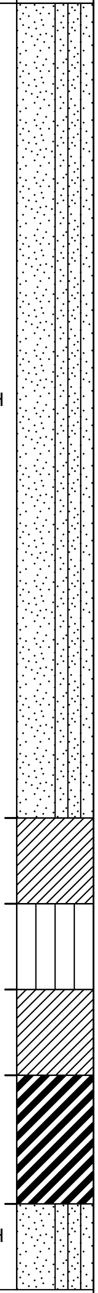
Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark
10								
11								
12								
13	HPC-4	12.95 - 14.48	0.64			29	HPC-4: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few silt, brown	
14	HPC-5	13.72 - 15.24	0.69			31	HPC-5: Poorly Graded Sand (SP), fine sand, trace non-plastic fines, brown	
15								
16	HPC-6	15.24 - 16.76	1.52	100 50 50	125 125 150	29 21 29	HPC-6A [TOP 0.30m]: Lean Clay (CL), soft, medium dry strength, slow dilatancy, medium plasticity, low toughness, lean clay, some non-plastic silt, 10% (by volume) cobbles, gray HPC-6B [MIDDLE 0.61m]: Silt (ML), very soft, no dry strength, high dilatancy, gray HPC-6C [BOTTOM 0.61m]: Lean Clay (CL) soft, high dry strength, slow dilatancy, medium plasticity, low toughness, little silt, gray	
17	UP-1	16.76 - 17.53	0.00	250	100	19	UP-1: NO RECOVERY	5
	HPC-7	16.77 - 18.29	0.91	350 400	125 100	23 25 31	HPC-7A to HPC-7C [TOP 0.51m]: Fat Clay (CH), firm, high dry strength, no dilatancy, high toughness, high plasticity, gray HPC-7D [BOTTOM 0.40m]: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, brown	
18								

Depth (m)	Interpreted Soil Profile	Elev. (m)
	POORLY GRADED SAND WITH SILT	
14.9	LEAN CLAY	
15.5	SILT	
16.2	LEAN CLAY	
16.8	FAT CLAY	
17.7	POORLY GRADED SAND WITH SILT	

Stratum Graphic



REMARKS

5 - Pushed a Shelby tube at approximate depth 16.75 meters with no recovery; resampled at the same depth with HPC sampler.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-3
SHEET: 3 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	HPC-8	18.29 - 19.81	1.52			21	HPC-8: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, brown					
19										POORLY GRADED SAND WITH SILT		
20	HPC-9	19.81 - 21.34	0.61			32	HPC-9: Elastic Silt (MH), soft, medium dry strength, slow dilatancy, medium plasticity, brown elastic silt HPC-9 NOSE: Poorly Graded Gravel (GP), fine subrounded to subangular gravel		20.1			
										ELASTIC SILT		
21									21.3			
	HPC-10	21.34 - 22.86	1.52	250	180	33	HPC-10: Fat Clay (CH), firm, high dry strength, no dilatancy, high toughness, high plasticity, gray, fat clay					
22				250	175	33						
				750	150	31						
23	HPC-11	22.86 - 24.38	0.82	200	125	20	HPC-11: Lean Clay (CL), firm, medium strength, slow dilatancy, medium toughness, medium plasticity, gray lean clay					
				250	175	30				LEAN CLAY		
24												
	HPC-12	24.38 - 25.91	1.52	350	125	32	HPC-12A [TOP 0.30m]: Fat Clay (CH), soft, high strength, no dilatancy, high toughness, high plasticity, gray fat clay		24.7			
25							HPC-12B [MIDDLE 0.61m]: Silty Sand(SM), fine sand, little non-plastic fines, brown					
						15	HPC-12C [BOTTOM 0.61m]: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, brown			POORLY GRADED SAND		
26	HPC-13	25.91 - 27.43	0.46			25	HPC-13: Clayey Sand (SC) fine to coarse, subangular sand, little plastic silt, few subangular to sub rounded coarse gravel, brown		25.9			
										CLAYEY SAND		
27									27.4			

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-3**
SHEET: **4 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark
28	ALN-4	27.74 - 28.35	0.00				ALN-4: NO RECOVERY	
	HPC-14	28.35 - 29.87	0.52			27	HPC-14 [TOP 0.42m]: Lean Clay (CL), very soft, medium dry strength, slow dilatancy, low toughness, medium plasticity, gray lean clay HPC-14 [BOT 0.10m]: Well Graded Sand with Silt (SW-SM), fine to course sand, few non plastic fines, brown	
29								
30	HPC-15 ALN-5	29.87 - 31.39 29.99 - 31.39	0.11 1.40			13 7	HPC-15: [Nose]: Clayey Sand (SC), fine to medium sand, some lean clay, gray ALN-5A [TOP 1.30m]: Well Graded Sand (SW), fine to coarse sand, trace non-plastic fines ALN-5B [BOTTOM 0.10m): Clayey Sand (SC), fine to medium sand, some lean clay, gray	6 7
31								
	ALN-6	31.39 - 32.92	0.00			13 8	ALN-6: NO RECOVERY	
32								
33	HPC-16 ALN-7	32.92 - 34.44 32.99 - 34.44	0.06 0.06			18 33	HPC-16: Well Graded Gravel with Sand (GW), fine to coarse subrounded to subangular gravel, little, fine to coarse sand, brown ALN-7: Lean Clay with Gravel (CL), soft, medium dry strength, slow dilatancy, medium toughness, medium plasticity lean clay, little fine to coarse gravel, gray	8
34								
	HPC-17	34.44 - 35.97	1.10			33 27	HPC-17A [TOP 0.55m]: Lean Clay with Sand (CL), soft, medium dry strength, slow dilatancy, medium toughness, medium plasticity lean clay, little fine to medium sand, gray HPC17B [BOTTOM 0.55m]: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few plastic fines, gray	
35								
36	HPC-18	35.97 - 37.49	1.04			24	HPC-18: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines	

Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	LEAN CLAY		▨
28.7	WELL GRADED SAND WITH SILT		░
29.9	CLAYEY SAND		▨
32.9	LEAN CLAY WITH SAND/GRAVEL		▨
35.7	POORLY GRADED SAND WITH SILT		░

REMARKS

6 - Sample taken from Nose of HPC sampler
7 - Top of sample presumed drill wash
8 - Presumed caved in material

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-3
SHEET: 5 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
37											
	HPC-19	37.49 - 39.01	0.73			26	HPC-19: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, gray				
38										POORLY GRADED SAND WITH SILT	
39	HPC-20	39.01 - 40.54	0.67			21	HPC-20: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, gray				
40									39.9		
	HPC-21	40.54 - 42.06	0.88	650	250	9	HPC-21: Lean Clay (CL), hard, medium dry strength, no dilatacy, medium toughness, medium plasticity lean clay, trace fine sand, gray				
41				700	325	70				ELASTIC SILT	
42	UP-2	42.06 - 42.98	0.82	850	350	25	UP-2: Fat Clay (CH), hard, high dry strength, no dilatancy, high plasticity, gray fat clay	9			
43									43.0		
	HPC-22	43.59 - 45.11	0.52			43	HPC-22: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non plastic fines, gray				
44										POORLY GRADED SAND WITH SILT	
45	HPC-23	45.11 - 46.63	0.61			26	HPC-23: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, gray				

REMARKS

9 - Shelby Tube sample taken from 42 meters to 43 meters. Advance drill two feet to 43.5 meters and continue sampling.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-3
SHEET: 6 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
46												
47	HPC-24	46.63 - 48.16	0.00				HPC-24 NOSE: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, gray					
48	HPC-25	48.16 - 49.68	0.61			20	HPC-25: Well Graded Sand with Silt (SW-SM), fine to coarse, subangular, subrounded sand, few non-plastic fines, gray			POORLY GRADED SAND WITH SILT		
49												
50	HPC-26	49.68 - 51.21	0.76			19	HPC-26: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, gray					
51	HPC-27	51.21 - 52.73	0.00				HPC-27: NO RECOVERY		51.5			
52	ALN-8	51.51 - 52.73	0.43			41	ALN-8: Lean Clay (CL), hard, medium dry strength, no dilatancy, high toughness, high plasticity, gray lean clay			LEAN CLAY		
53	HPC-28	52.73 - 54.25	0.76			32	HPC-28: Clayey Sand (SC), fine to medium sand, some plastic fines, gray		52.7	CLAYEY SAND		
54	HPC-29	54.25 - 55.78	0.12			32	HPC-29: Clayey Sand (SC), fine to medium sand, some plastic fines, gray					

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-3**
SHEET: **7 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
55												
56	HPC-30	55.78 - 57.30	0.18			22	HPC-30: Clayey Sand (SC), fine to coarse sand, little plastic fines, gray			CLAYEY SAND		
57												
	HPC-31	57.30 - 58.83	0.24			20	HPC-31: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, gray		57.3			
58												
59	HPC-32 ALN-9	58.83 - 60.35 58.90 - 60.35	0.00 0.00				HPC-32: NO RECOVERY ALN-8: NO RECOVERY			POORLY GRADED SAND WITH SILT		
60												
	HPC-33	60.35 - 61.87	0.12			18	HPC-33: Clayey Sand (SC), fine to coarse sand, little plastic fines, gray		60.4			
61												
62	HPC-34	61.87 - 63.40	0.15			27	HPC-34: Clayey Sand (SC), fine to medium sand, little plastic fines, gray			CLAYEY SAND		
63												
	HPC-35	63.40 - 64.92	0.76	550	200	47	HPC-35: Lean Clay (CL), hard, medium dry strenth, no dilatancy, medium toughness, medium plasticity lean clay, trace fine sand, gray		63.4	LEAN CLAY		
64												

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-3**
SHEET: **8 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: TWS / KET / MBL
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 34.4
Final Boring Depth (m): 71.0
Date Start - Finish: 8/25/2018 - 8/28/2018

Latitude: 41.1022
Longitude: -71.1867
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
	ALN-10	64.16 - 65.23	0.61	525	325	35	ALN-10: Lean Clay (CL), hard, medium dry strenth, no dilatancy, medium toughness, medium plasticity lean clay, trace fine sand, gray			LEAN CLAY		▨
65								10	65.2			▨
66												
67												
68										INTERVAL NOT SAMPLED		
69												
70												
71									71.0			
							End of exploration at 71.02 meters					
72												
73												

REMARKS

10 - Sampling depth achieved, drill was advanced to 71 meters to accomodate geophysical logging.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-3

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-6**
SHEET: **1 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

Latitude: 41.1012
Longitude: -71.1655
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w		
	HPC-1	0.00 - 0.03	0.03			18	HPC-1: Poorly Graded Sand (SP), fine to medium sand, brown	1
	HPC-2	0.03 - 3.05	2.90			11	HPC-2: A: [TOP 0.61m]: Poorly Graded Sand (SP), fine to medium sand, trace silt, gray, 1% (by volume) rounded cobble, little fine to medium sized shell, organic odor B: [MIDDLE 0.61m]: Well Graded Sand (SW), fine to coarse sand, fine subrounded gravel, trace silt, gray, little fine to coarse sand sized shell, organic odor C - E: [BOTTOM 1.68m]: Organic Clay (OL), trace fine sand, very soft, gray, trace fine to medium sand sized shell, trace organic fiber, organic odor	
1								
2								
				40	150	46		
3								
	UP-1	3.05 - 3.96	0.00			29	UP-1: NO RECOVERY	
	HPC-3	3.08 - 6.10	0.55			18	HPC-3: [TOP 0.12m]: Poorly Graded Sand with Silt (SP-SM), few non-plastic fines, gray, trace organic fiber, trace fine to medium sand sized shells [BOTTOM 0.43m]: Well Graded Sand with Gravel (SW), fine to coarse sand, some fine to coarse gravel, gray, trace medium to coarse sand sized shells	2
4								
5								
6								
	HPC-4	6.10 - 7.62	0.15			21	HPC-4: Well Graded Gravel (GW): Well graded, subangular, subrounded, fine to coarse gravel, trace fine to coarse sand , trace fine to coarse sized shells, gray-brown	3
						30	[NOSE]: Silt (ML), trace fine sand, trace fine gravel, gray	
	EXN-1	6.13 - 9.14	2.13				EXN-1: Poorly Graded Sand (SP): Fine to medium angular sand, trace fines, trace fine gravel, trace fine to medium sand sized shells, brown [NOSE]: Lean Clay (CL), Lean clay, gray, trace fine to medium sand sized shells, trace fine sand	
7								
8						30		
9								

Depth (m)	Interpreted Soil Profile	Elev. (m)
	POORLY GRADED SAND	
0.8	WELL GRADED SAND	
1.4	ORGANIC CLAY	
3.0	POORLY GRADED SAND W/ SILT	
3.2	WELL GRADED SAND W/ GRAVEL	
4.9	GRAVEL	
6.1	POORLY GRADED SAND	

REMARKS

1 - HPC-1 fired above the sea floor. Sample recovered from the tip
2 - Driller notes gravel like drilling conditions
3 - Full penetration not achieved. Depth resampled with EXN-1.
4 - Cobbles found lodged in nose cone of EXN-2

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-6

DWW GZA TEMPLATE TEST BORING METRI - GZA PLOG DATA TEMPLATE 03-20-18.GDT - 12/19/18 16:06 - J:\GEO\34480.JJM\WORK\GINT\34480.00 DEEPWATER WIND COMBINED.GPJ

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*	**Deepwater Wind** **South Fork Wind Farm** **Rhode Island Sound**	**EXPLORATION NO.:** **B-6** **SHEET:** **2 of 8** **PROJECT NO:** **34480.00** **REVIEWED BY:** **JJM**
Logged By: NEH / TWS / JJM / DYB **Drilling Co.:** DOSECC **Foreman:** Justin Blouin / Steve Cole	**Boring Location:** See Plan **Water Depth (m):** 35.7 **Final Boring Depth (m):** 69.2 **Date Start - Finish:** 8/12/2018 - 8/16/2018	**Latitude:** 41.1012 **Longitude:** -71.1655 **Datum:** MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
	EXN-2	9.14 - 10.67	0.00				EXN-2: NO RECOVERY	4		POORLY GRADED SAND		░
									9.8			
10												▨
11												▨
	ALN-1	11.28 - 14.33	1.40	200	100	47	ALN-1: Lean Clay (CL): Lean clay, high plasticity, medium to low dilatancy, trace fine sand, gray					▨
12												▨
						49				LEAN CLAY		▨
13												▨
14												▨
	ALN-2	14.33 - 17.37	0.79				ALN-2: Pooly Graded Sand (SP): Fine to coarse, angular, sand, brown, trace fine to coarse sand sized shells [NOSE]: Lean Clay (CL), High plasticity, medium to low dilatancy, gray lean clay		14.6			▨
15										POORLY GRADED SAND		░
									15.5			░
16												▨
17										LEAN CLAY		▨
	EXN-3	17.37 - 18.14	0.40			38	EXN-3: Lean Clay (CL): Lean Clay, high plasticity, medium to low dilatancy, trace fine to medium sand, trace fine gravel					▨
18												▨
	ALN-3	18.14 -	0.27									▨

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-6

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-6
SHEET: 3 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

Latitude: 41.1012
Longitude: -71.1655
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark
		20.42		250	125	22	ALN-3: Lean Clay (CL): Lean clay, high plasticity, low diltancy, gray	
19								
20								
	HPC-5	20.42 - 21.95	0.91				HPC-5: A: [TOP 0.30m], Poorly Graded Sand with Silt (SP-SM): Fine to medium angular sand with few fines, brown B: [BOTTOM 0.61m], Well Graded Sand (SW): Fine to coarse angular sand, trace fines, brown	
21								
	ALN-4	21.34 - 21.95	0.06			14	ALN-4: Silt (ML), non-plastic silt, trace fine sand, gray	
22	HPC-6	21.95 - 23.47	1.10			23	HPC-6: Silty Sand (SM), fine sand, little non-plastic silt, gray	
23								
	HPC-7	23.47 - 24.99	0.82			23	HPC-7: A: [TOP 0.30m], Silty Sand (SM), fine sand, little non-plastic silt, gray B: [BOT 0.52m], Silty Sand (SM), fine sand, some non-plastic fines, gray	
24								
25	HPC-8	24.99 - 26.52	0.30			20	HPC-8: Silty Sand (SM), fine sand, little non-plastic fines, gray	5
26								
	HPC-9 ALN-5	26.52 - 28.04 26.55 - 29.57	0.27 1.62	60	170	22	HPC-9: Lean Clay (CL), slow dilatancy, medium toughness lean clay, trace fine to coarse sand, trace fine, subrounded gravel ALN-5: A: [TOP 0.15m], Silt with Sand (ML), silt, some fine sand, brown	
27								

Depth (m)	Interpreted Soil Profile	Elev. (m)
	LEAN CLAY	
18.9	POORLY GRADED SAND WITH SILT	
20.7	WELL GRADED SAND	
21.3	SILT	
21.9	SILTY SAND	
26.2	SILT WITH SAND	
26.5	LEAN CLAY	
27.0	LEAN CLAY	

REMARKS

5 - Fine gravel observed in the nose of HPC-8. Driller notes gravel like conditions from 25 meters to 26.21 meters below sea floor.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-6

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-6**
SHEET: **4 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

Latitude: 41.1012
Longitude: -71.1655
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
				340	310	20	A: [MIDDLE 0.40m], Lean Clay (CL), slow dilatancy, medium toughness lean clay, trace fine sand, gray B - C: [BOTTOM 0.10m] Fat Clay (CH), no dilatancy, high toughness, fat clay, trace fine sand, gray					
28												
29										LEAN CLAY		
	ALN-6	29.57 - 32.61	0.43	510	425	19	ALN-6: Fat Clay (CH), no dilatancy, high toughness, fat clay, trace fine sand, gray					
30												
									30.5			
31												
32										POORLY GRADED SAND WITH SILT		
	HPC-10	32.61 - 34.14	0.00				HPC-10: NO RECOVERY	6				
33	ALN-7	32.64 - 35.66	0.24				ALN-7: A: Poorly Graded Sand with Silt and Cobbles (SP-SM), fine sand, few non-plastic fines, 50% subrounded cobbles, gray NOSE: Elastic Silt with Sand (MH), slow dilatancy, low toughness, medium dry strength, medium plasticity elastic silt, little fine sand, gray to black					
34												
									34.4			
35										POORLY GRADED SAND WITH POCKETS OF INTERBEDDED ELASTIC SILT/COBBLES		
	HPC-11	35.66 - 37.19	0.00			34	HPC-11: NOSE: Poorly Graded Gravel with Cobbles (GP), subrounded fine gravel, 50% subrounded cobbles	7				
36	ALN-8	35.69 - 38.71	0.15				ALN-8: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, gray to white					

REMARKS

6 - Two subrounded cobbles lodged in sample recovery basket
7 - Two angular cobbles lodged in sample recovery basket

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-6

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-6
SHEET: 5 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

Latitude: 41.1012
Longitude: -71.1655
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark
							interbedded with Elastic Silt with Sand (MH), slow dilatancy, low toughness, medium dry strength, medium plasticity elastic silt, little fine sand, gray to black	
37								
38								
	HPC-12	38.71 - 40.23	0.85			20	HPC-12: Poorly Graded Sand (SP), fine to medium sand, trace silt, white to gray	
39								
40								
	ALN-9	40.23 - 43.28	0.67			22	ALN-9: A: [TOP 0.15m], Clayey Sand (SC): Fine to medium angular sand, little lean clay, soft, low dilatancy, light plasticity, gray	
				300	300	27		
41				310	75	21	B:[MIDDLE 0.27m], Lean Clay with Sand (CL): Low to medium dilitancy, low toughness, moderate plasticity, soft lean clay, little fine sand, gray C: [BOTTOM 0.24m], Poorly Graded Sand with Silt (SP-SM): Fine to medium angular sand, few fines, gray	
42								
43								
	ALN-10	43.28 - 44.81	0.09				ALN-10: Poorly Graded Sand (SP): Fine sand, trace fines, gray	8
44								
45	ALN-11	44.81 - 47.85	0.00				ALN-11: NO RECOVERY	

Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	POORLY GRADED SAND WITH POCKETS OF INTERBEDDED ELASTIC SILT/COBBLES		⁘
38.1	POORLY GRADED SAND		⁘
40.2	CLAYEY SAND		▨
40.8	LEAN CLAY WITH SAND		▨
42.1	POORLY GRADED SAND WITH SILT		⁘ ▨
42.7	POORLY GRADED SAND		⁘

REMARKS

8 - Driller did not add lexan liner to sampler. Sample retrieved from bare sampler.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-6

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-6**
SHEET: **6 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

Latitude: 41.1012
Longitude: -71.1655
Datum: MSL

	HPC/EXN/ALN/UP			Field Test Data								
Depth (m)	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
46												
47												
48	EXN-4 ALN-12	47.85 - 50.90 47.86 - 50.90	0.00 0.00				EXN-4: NO RECOVERY ALN-12: NO RECOVERY	9		POORLY GRADED SAND		
49	HPC-13	48.76 - 51.81	0.00				HPC-13: NO RECOVERY	10				
50									50.3			
51	ALN-13	50.90 - 53.95	0.95				ALN-13: Fat Clay (CH): stiff, medium to high toughness, medium to high plasticity, low to no dilatancy fat clay, trace fine sand, gray			LEAN CLAY		
52												
53									53.0			
54	EXN-5	53.95 - 57.00	0.08				EXN-5: NO RECOVERY			POORLY GRADED SAND WITH SILT		

REMARKS

9 - EXN-4 could not be advanced through soil. Sampler retracted, segment to be sampled with ALN.
10 - HPC-13 inserted into the drill string but not fire; resampled with alien sampler at the same depth.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-6

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

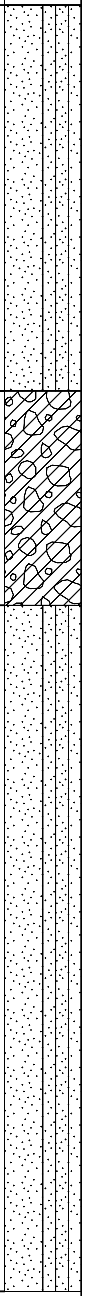
Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-6**
SHEET: **7 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

Latitude: 41.1012
Longitude: -71.1655
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
55												
56										POORLY GRADED SAND WITH SILT		
57	HPC-14 ALN-14	57.00 - 58.52 57.23 - 58.52	0.20 0.03				HPC-14: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, white to gray ALN-14: [NOSE]: Poorly Graded Sand (SP), fine to medium sand, trace silt, brown	11	57.6			
58										CLAYEY GRAVEL WITH SAND		
	HPC-15	58.52 - 60.05	1.07		76	22	HPC-15: A: [Top 0.61m], Clayey Gravel with Sand (GC), fine subrounded gravel, some slow dilatancy, medium toughness, and medium plasticity lean clay, little fine to coarse sand, gray B: [BOTTOM 0.46m], Gravelly Lean Clay (CL), slow dilatancy, medium toughness, medium plasticity lean clay, some fine, subrounded gravel, few fine to coarse sand, gray		59.1			
59												
60	HPC-16	60.05 - 63.09	1.59			18	HPC-16: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, white to gray					
61												
62										POORLY GRADED SAND WITH SILT		
63	HPC-17	63.09 - 66.14	1.22			17	HPC-17: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, white to gray					
64									64.0			

REMARKS

11 - HPC-14 inserted into the drill string but did not fire due to ruptured hose on drill rig. HPC-14 was re-fired upon fixing the hose

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-6

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-6**
SHEET: **8 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 35.7
Final Boring Depth (m): 69.2
Date Start - Finish: 8/12/2018 - 8/16/2018

Latitude: 41.1012
Longitude: -71.1655
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
	ALN-15	64.31 - 67.36	1.98			22	ALN-15: A: [TOP 0.20m] Poorly Graded Sand with Silt (SP-SM), fine to medium sand with few plastic fines, gray B: [MIDDLE 0.41m] Fat Clay (CH), No to low dilantancy, high toughness, high plasticity, firm, fat clay, trace fine sand, gray C-E: [BOTTOM 1.37m] Fat Clay (CH), No dilatancy, high toughness, high plasticity, firm, fat clay, gray					▨
65						20						▨
66				350	175	39 19.3				LEAN CLAY		▨
67												▨
								12	67.4			
68										INTERVAL NOT SAMPLED		
69									69.2			
							End of exploration at 69.19 meters					
70												
71												
72												
73												

REMARKS

12 - Borehole advanced from 67.4 meters to 69.2 meters for geophysical logging. Interval not sampled.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-6

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-10
SHEET: 1 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
	HPC-1	0.00 - 1.52	0.00				HPC-1: NO RECOVERY	1				
	HPC-2	0.00 - 1.52	0.00				HPC-2: NO RECOVERY					
	ALN-1	0.01 - 1.52	0.00				ALN-1: NO RECOVERY					
1												
	HPC-3	1.10 - 2.62	0.91			22	HPC-3: Poorly Graded Sand (SP), fine to medium sand, few fine to coarse angular gravel, trace fine to coarse sand sized shells, trace non-plastic fines, gray					
2										POORLY GRADED SAND		
	HPC-4	2.62 - 4.15	1.14			19	HPC-4A [TOP 0.53m]: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, trace fine to medium sand sized shells, gray HPC-4B [BOTTOM 0.61]: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, trace subrounded fine gravel, gray					
3												
4									4.1			
	HPC-5	4.15 - 5.67	0.00			25	HPC-5: NO RECOVERY					
	ALN-2	4.15 - 5.67	0.06				ALN-2: Poorly Graded Sand with Silt: fine to medium sand, few fines, trace fine to medium sand sized shells					
5										POORLY GRADED SAND WITH SILT		
									5.6			
	HPC-6	5.67 - 7.19	0.15			17	HPC-6: Well Graded Sand with Gravel (SW), fine to coarse subangular to subrounded sand, some fine to coarse, subangular to subrounded gravel, trace, fine to medium sand sized shells					
6	ALN-3	5.82 - 7.19	0.09			21	ALN-3: Well Graded Sand (SW), fine to coarse, subangular to subrounded sand, trace fine to coarse sand sized shells			WELL GRADED SAND WITH GRAVEL		
7									7.2			
	HPC-7	7.19 - 8.72	0.03			24	HPC-7: Poorly Graded Gravel (GP), fine, subangular to subrounded gravel, few coarse sand, brown, gray					
	ALN-4	7.22 - 8.72	1.28				ALN-4: Poorly Graded Sand (SP), fine to medium sand, trace fine to coarse sand sized shells, trace non-plastic fines, brown					
8										POORLY GRADED SAND		
	HPC-8	8.72 - 10.24	0.00			29	HPC-8: NO RECOVERY					
9	ALN-5	8.72 - 10.24	0.91									

REMARKS

1 - Unable to retrieve sample at seafloor. Drill string advanced to 1 meter bsf for initial sample.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-10**
SHEET: **2 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
							ALN-5: Poorly Graded Sand (SP), fine to medium sand, trace fine to coarse sand sized shells, trace non-plastic fines, brown					
10												
	ALN-6	10.24 - 11.77	0.30			19	ALN-6: Poorly Graded Sand (SP), fine to medium sand, few fine to coarse sand sized shells, trace non-plastic fines, brown	2		POORLY GRADED SAND		
11												
									11.7			
12	ALN-7	11.77 - 13.29	0.30			22	ALN-7: Well Graded Sand (SW), fine to coarse sand, few fine, subangular to subrounded gravel, few fine to coarse sand sized shells, trace non-plastic fines, brown			WELL GRADED SAND		
13												
	ALN-8	13.29 - 14.81	0.12				ALN-8: Well Graded Sand with Gravel (SW), fine to coarse sand, some fine, subangular to subrounded gravel, few fine to coarse sand sized shells, trace non-plastic fines, brown	3	13.4	WELL GRADED SAND WITH GRAVEL		
14												
									14.8			
15	ALN-9	14.81 - 16.34	1.22			26	ALN-9: Poorly Graded Sand (SP), fine to medium sand, few fine, subangular to subrounded gravel, few fine to coarse sand sized shells, trace non-plastic fines, brown					
16										WELL GRADED SAND		
	ALN-10	16.34 - 17.86	0.76			22	ALN-10A [TOP 0.61m]: Well Graded Sand (SW), fine to coarse sand, few fine, subangular to subrounded gravel, few fine to coarse sand sized shells, trace non plastic fines, brown					
17						23	ALN-10B [BOTTOM 0.15m]: Clayey Sand (SC), fine to coarse sand, little plastic fines, trace fine to coarse sand sized shells, gray-brown					
									17.7			
18	ALN-11	17.86 - 19.39	0.61			12	ALN-11: Clayey Sand (SC), fine to coarse sand, little plastic fines, trace fine to coarse sand sized shells, gray, brown			CLAYEY SAND		

REMARKS

2 - Well Graded Gravel noted in nose of ALN sampler.
3 - Lean Clay in nose of ALN sampler, not sufficient sample recovery to perform field tests.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-10**
SHEET: **3 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
19										CLAYEY SAND		▨
									19.2			
	ALN-12	19.39 - 20.91	0.40			27	ALN 12: Lean Clay (CL), firm, slow dilatancy, medium toughness, medium plasticity lean clay, few fine to coarse sand sized particles, gray	4				▨
20												
21	ALN-13	20.91 - 23.96	0.10			27	ALN-13: Sandy Lean Clay (CL), Medium dry strength, low toughness, low plasticity, low dilatancy, some fine to coarse angular sand, gray	5				
22												
23										LEAN CLAY		
24	HPC-9	23.96 - 25.48	1.52	50	25	36	HPC-9: Lean Clay with Sand (CL), low dilatancy, low plasticity, low toughness lean clay, little fine sand, gray					
25												
	UP-1	25.48 - 26.24	0.00				UP-1: NO RECOVERY	6				
26												
	ALN-14A	26.24 - 27.01	0.00				ALN-14A: NO RECOVERY					
									26.8			
27	HPC-10	27.01 - 28.53	0.91	75	50	45	HPC-10: Lean Clay (CL): medium dry strength, low to no dilatancy, high plasticity, medium toughness, soft, gray lean clay,			FAT CLAY		▨

REMARKS

4 - Sample heavily disturbed. Unable to perform field tests.
5 - Sample recovered from nose of ALN sampler
6 - Shelby tube sampler lost upon extraction. Drillers advance drill string beyond sample interval.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-10**
SHEET: **4 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
28												▨
	HPC-11	28.53 - 29.75	1.22			50	HPC-11: Lean Clay (CL), medium dry strength, low dilatancy, low plasticity, low toughness, very soft, gray	7				
29												
30	UP-2	29.75 - 30.51	0.53	250	50	47	UP-2: Lean Clay (CL), medium dry strength, low to no diltancy, high plasticity, low toughness, soft, gray					
	HPC-12	30.51 - 32.80	2.29	350	100	39	HPC-12: Lean Clay (CL): medium dry strength, low to no dilatancy, high plasticity, low toughness, soft, gray					
31												
32										FAT CLAY		
	HPC-13	32.64 - 34.17	1.45	350	200	36	HPC-13: Fat Clay (CH), high dry strength, no dilatancy, high plasticity, high toughness, firm, gray fat clay	8				
33	HPC-14	32.67 - 35.72	3.05	400	225	39	HPC-14: Fat Clay (CH), high dry strength, no dilatancy, high plasticity, high toughness, firm, gray fat clay					
34												
35												
36	HPC-15	35.84 - 38.89	2.74	300	125	42	HPC-15: Fat Clay (CH), high dry strength, no dilatancy, high plasticity, high toughness, firm, gray fat clay					

REMARKS

7 - Sample heavily disturbed, unable to perform field strength tests.
8 - Driller sampled 10 foot HPC from same depth of 32.64 meters bsf.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-10
SHEET: 5 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
37											
38											
39	UP-3 HPC-16	38.89 - 39.81 38.90 - 41.94	0.91 2.29	350 675	200 200	50 39	UP-3: Fat Clay (CH), high dry strength, no dilatancy, high plasticity, high toughness, hard, gray fat clay HPC-16: Fat Clay (CH), high dry strength, no dilatancy, high plasticity, high toughness, firm, gray fat clay	9		FAT CLAY	
40											
41											
42	HPC-17	41.94 - 44.99	3.05	250	150	31	HPC-17 A,B,C [TOP 1.83m]: Lean Clay (CL), medium dry strength, slow dilatancy, medium plasticity, medium toughness, soft, gray lean clay HPC-17 D,E [BOTTOM 1.22m]: Fat Clay (CH), high dry strength, no dilatancy, high plasticity, high toughness, firm, gray fat clay		41.9	LEAN CLAY	
43											
44				650	175	44			43.7	FAT CLAY	
45	HPC-18	44.99 - 48.04	1.30	500	100	51 25	HPC-18A [TOP 0.46m]: Lean Clay (CL), medium dry strength, slow dilatancy, medium plasticty, medium toughness, soft, gray lean clay				

REMARKS

9 - Shelby Tube sample pushed additional 0.15 meters, driller sampled 3 meter HPC from depth of 38.90 bsf.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-10
SHEET: 6 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
46						36	HPC-18B [MIDDLE 0.61m]: Lean Clay (CL), medium dry strength, slow dilatancy, medium plasticity, medium toughness, soft, lean clay, few fine to coarse sand sized particles, gray HPC-18C [BOTTOM 0.23m]: Sandy Lean Clay (CL), medium dry strength, slow dilatancy, medium plasticity, medium toughness, lean clay, some fine to coarse sand sized particles, gray		46.0 46.3	FAT CLAY SANDY LEAN CLAY		▨
47												
48	HPC-19	48.04 - 51.08	3.05			18	HPC-19: Well Graded Sand with Silt (SW-SM), fine to coarse, subangular to subrounded sand, few non-plastic fines, gray	10				
49										WELL GRADED SAND WITH SILT		
50												
51	HPC-20	51.08 - 54.13	2.44			14	HPC-20: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, trace fine, subangular gravel, gray, moderate cementation		51.8			
52												
53										POORLY GRADED SAND WITH SILT		
54	HPC-21	54.13 - 57.18	2.29			26	HPC-21: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, trace fine, subangular gravel, gray					

REMARKS

10 - Cobble observed lodged in nose of HPC sampler.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-10**
SHEET: **7 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
55												
56										POORLY GRADED SAND WITH SILT		
									56.4			
57	HPC-22	57.18 - 60.23	2.13			19	HPC-22: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, gray					
58										POORLY GRADED SAND		
59												
60												
	HPC-23 ALN-14B	60.23 - 63.28 60.23 - 63.28	0.05 0.45			31	HPC 23: NO RECOVERY ALN-14B: Lean Clay with Sand (CL), medium dry strength, low to no dilatancy, low plasticity, low toughnes, very soft, lean clay, little fine to medium sand, gray	11 12	60.4			
61										LEAN CLAY WITH SAND		
62									62.2			
63										POORLY GRADED SAND		
	HPC-24	63.28 - 64.80	1.37			24	HPC-24: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, gray					
64												

REMARKS

11 - Depth interval resampled with ALN sampler due to poor recovery.
12 - Sample moderately disturbed, could not perfrom field strength tests.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-10**
SHEET: **8 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 34.1
Final Boring Depth (m): 72.4
Date Start - Finish: 8/31/2018 - 9/2/2018

Latitude: 41.0981
Longitude: -71.1291
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC kPa)	%w						
										POORLY GRADED SAND		⁘
									64.6			
65	HPC-25	64.80 - 66.32	0.76	250	100	28	HPC-25A: [TOP 0.18m] Clayey Sand (SC), fine to medium sand, little plastic fines, trace angular fine gravel, gray			LEAN CLAY		▨
				550	250	31	HPC-25B: [BOTTOM 0.58m] Fat Clay, (CH), non-dilative, high plasticity, high toughness, firm, gray					▨
66												▨
								13	66.3			
67												
68												
69										INTERVAL NOT SAMPLED		
70												
71												
72									72.4			
							End of exploration at 72.42 meters					
73												

REMARKS

13 - Borehole advanced to 72.42 meters for geophysical logging. Depth interval 66.32 meters bsf to 72.42 meters bsf not sampled.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-10

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-11
SHEET: 1 of 7
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 37.8
Final Boring Depth (m): 57.6
Date Start - Finish: 8/6/2018 - 8/11/2018

Latitude: 41.114
Longitude: -71.1481
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
	HPC-1	0.00 - 1.31	1.31				HPC-1: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, gray, little medium to coarse sand sized shells, Slight organic odor	1			
1								2			
2											
3										POORLY GRADED SAND	
4											
5											
6	HPC-2 ALN-1 ALN-2	5.92 - 8.90 5.92 - 5.92 5.92 - 5.92	0.09 0.00 0.00				HPC-2: A: [CAVE IN FROM ABOVE], Poorly Graded Sand (SP), coarse sand, black, gray, and white, little fine to coarse sand sized shell B: [BOT .1m], Poorly Graded Gravel with Sand (GP), fine to coarse subrounded gravel, little coarse sand, black, gray, and white, little medium to coarse gravel sized shell. ALN-1: No Recovery ALN-2: No Recovery		5.9		
7										POORLY GRADED GRAVEL	
8											
9	HPC-3	8.72 - 10.21	1.01				HPC-3: A: [TOP .2m], Poorly Graded Gravel (GP), fine subrounded gravel, gray to black, 1% (by volume) subangular		8.9	POORLY GRADED SAND WITH	

REMARKS

1 - HPC-1 fired above sea floor.
2 - Drill string refusal on apparent obstruction at 1.3 meter bsf. DOSECC retracts the drill string from the hole to inspect the rods. DOSECC advances to 4.35 meters using non coring assembly with little resistance.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-11
SHEET: 2 of 7
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 37.8
Final Boring Depth (m): 57.6
Date Start - Finish: 8/6/2018 - 8/11/2018

Latitude: 41.114
Longitude: -71.1481
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
							cobbles, little fine to medium gravel sized shell B: [MID .4m], Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic fines, gray, trace medium to coarse sand sized shell		9.3	SILT		
										WELL GRADED SAND		
10							C: [BOT .4m], Well Graded Sand (SW), fine to coarse sand, brown		10.1	LEAN CLAY		
	HPC-4	10.22 - 11.71	0.58	58	130	34.1	HPC-4: A: [TOP .35m], Lean Clay (CL), gray B: [BOT .25m], Poorly Graded Sand (SP), fine to medium sand, trace silt, brown		10.5			
11												
12												
	HPC-5 HPC-6	12.02 - 13.51 12.03 - 13.52	1.16 1.19				HPC-5: A+B: [Top 1m], Poorly Graded Sand (SP), medium to coarse sand, trace coarse gravel, brown, trace coarse sand sized shells C: [MID 0.13m], Silty Sand (SM), fine sand, little silt, gray D: [BOT 0.02m], Silt (ML), trace fine sand, gray HPC-6: Poorly Graded Sand (SP), medium to coarse sand, trace fine gravel, brown, trace medium to coarse sand sized shells			POORLY GRADED SAND		
13												
	ALN-3	13.52 - 15.01	0.21				ALN-3: Poorly Graded Sand (SP), fine sand, trace plastic fines, gray					
14												
15									15.0			
	ALN-4	15.02 - 18.00	0.82	63	380	19.2	ALN-4: Lean Clay (CL), no dilatancy, low toughness, firm, gray	3		LEAN CLAY		
16												
17									17.8			
18	HPC-7	17.86 - 20.85	2.29				HPC-7: Poorly Graded Sand (SP), fine to medium sand, trace fine rounded gravel, trace plastic fines, gray			POORLY GRADED SAND		

REMARKS

3 - Lean Clay (CL) observed in the tip of the steel sample recovery catcher.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11**
SHEET: **3 of 7**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 37.8
Final Boring Depth (m): 57.6
Date Start - Finish: 8/6/2018 - 8/11/2018

Latitude: 41.114
Longitude: -71.1481
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
19											
20										POORLY GRADED SAND	
21	ALN-5	20.86 - 23.85	0.00				ALN-5: No Recovery	4			
22											
									22.5		
23											
24	HPC-8 HPC-8.1	23.86 - 26.85 23.87 - 26.86	0.40 2.01			22.6	HPC-8: Silt with Sand (ML), little fine sand, gray HPC-8.1: Silt with Sand (ML), little fine sand, gray			SILT WITH SAND	
25											
26									26.0		
27										POORLY GRADED SAND	
	EXN-1	27.26 -	0.00								

REMARKS

4 - The steel core catcher was inverted during sample retrieval. The stratum was inferred to be sand.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11**
SHEET: **4 of 7**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 37.8
Final Boring Depth (m): 57.6
Date Start - Finish: 8/6/2018 - 8/11/2018

Latitude: 41.114
Longitude: -71.1481
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su, kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
		30.25					EXN-1: Poorly Graded Sand (SP), fine sand, trace plastic fines, gray				
28											
29											
30											
	HPC-9	30.26 - 33.25	1.01				HPC-9: Poorly Graded Sand (SP), fine sand, trace fine subrounded gravel, trace plastic fines, gray				
31											
										POORLY GRADED SAND	
32											
33											
	HPC-10	33.36 - 34.85	0.00				HPC-10: No Recovery, HPC not fired	5 6 7			
34											
35											
									35.6		
								8	35.8	CLAY	
36											
										SILTY SAND	
	HPC-11	36.36 -	0.00					9			

REMARKS

5 - Driller could not advance drill string due to high torque. Drillers extracted drill string and removed three bent rods.
6 - Hole caved in at 109.2' bsf.
7 - HPC-10 did not fire due to sand infiltration into drill string.
8 - The driller reported an 8" clay layer as a result of increased water pressure and a potentially clogged drill bit.
9 - HPC-11 did not fire. Approximately nine feet of sand blown into the bottom of the drill string. Temporary artesian conditions encountered.
10 - HPC lowered to 119.3' bsf to sample blown in sand. A small sample was collected from the core catcher.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

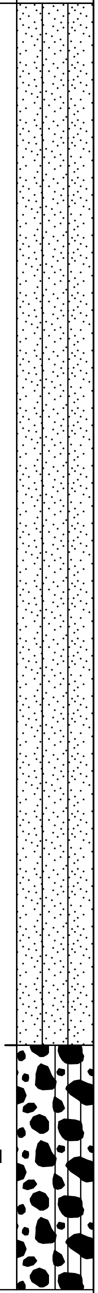
Exploration No.:
B-11

TEST BORING LOG

GZA **GeoEnvironmental, Inc.** *Engineers and Scientists*	**Deepwater Wind** **South Fork Wind Farm** **Rhode Island Sound**	**EXPLORATION NO.:** **B-11** **SHEET:** **5 of 7** **PROJECT NO:** **34480.00** **REVIEWED BY:** **JJM**
Logged By: NEH / TWS / JJM / DYB **Drilling Co.:** DOSECC **Foreman:** Justin Blouin / Steve Cole	**Boring Location:** See Plan **Water Depth (m):** 37.8 **Final Boring Depth (m):** 57.6 **Date Start - Finish:** 8/6/2018 - 8/11/2018	**Latitude:** 41.114 **Longitude:** -71.1481 **Datum:** MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w					
	HPC-11.1	37.85 36.36 -					HPC-11: No Recovery, HPC not fired HPC-11.1: Clayey Sand (SC), fine to coarse sand, little plastic fines, gray.	10			
37											
38											
39											
40										SILTY SAND	
41											
42											
43											
44									44.0		
								11		WELL GRADED GRAVEL WITH COBBLES	
45											

Stratum Graphic



REMARKS

11 - The driller reported change in stratum based on increased drill pressure.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11**
SHEET: **6 of 7**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / JJM / DYB
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 37.8
Final Boring Depth (m): 57.6
Date Start - Finish: 8/6/2018 - 8/11/2018

Latitude: 41.114
Longitude: -71.1481
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
46												
47												
								12				
48												
49												
50										WELL GRADED GRAVEL WITH COBBLES		
51												
52												
53												
54									54.0			
										WELL GRADED GRAVEL WITH SILT/COBBLES		
	ALN-6	54.71 -						13				

REMARKS

12 - Driller could not advance the drill string with the non-coring assembly (NCA). NCA was retrieved and cleaned. ALN sampler was attached to drill back to sample depth. While lowering ALN sampler, blown in sands created binding between the inner and outer casing. The ALN sampler could not be retrieved by wire line. The drill string was retracted and the hole was re-drilled.
13 - Driller could not advance or rotate drill string due to high torque. ALN-6 sample was removed from the nose of the ALN sampler that was used to advance to 189.3' bsf.
14 - Drilling Wash Samples Recovered during ALN tool retrieval.
DW-1: Well Graded Sand with Clay (SW-SC), fine to coarse sand, few plastic fines, gray
DW-2: Poorly Graded Sand with Clay (SP-SC), medium sand, few plastic fines, gray

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*	**Deepwater Wind** **South Fork Wind Farm** **Rhode Island Sound**	**EXPLORATION NO.: B-11** **SHEET: 7 of 7** **PROJECT NO: 34480.00** **REVIEWED BY: JJM**
Logged By: NEH / TWS / JJM / DYB **Drilling Co.:** DOSECC **Foreman:** Justin Blouin / Steve Cole	**Boring Location:** See Plan **Water Depth (m):** 37.8 **Final Boring Depth (m):** 57.6 **Date Start - Finish:** 8/6/2018 - 8/11/2018	**Latitude:** 41.114 **Longitude:** -71.1481 **Datum:** MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
55							ALN-6: Well Graded Gravel with Silt and Sand (GW-GM), fine to coarse subrounded and subangular gravel, some fine to medium sand, few plastic fines, gray, 15% (by volume) subrounded cobbles	14				
56										WELL GRADED GRAVEL WITH SILT/COBBLES		
57									57.6			
							End of exploration at 57.61 meters					
58												
59												
60												
61												
62												
63												
64												

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-11

TEST BORING LOG

GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11A**
SHEET: **1 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
								1		INTERVAL NOT SAMPLED		
1												
2												
3												
4												
5												
6												
7												
8												
9												

REMARKS

1 - Start of non-coring assembly for advancement of drill string to 30 meters below sea floor (bsf).

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11A**
SHEET: **2 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
10												
11												
12												
13												
14										INTERVAL NOT SAMPLED		
15												
16												
17												
18												

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11A**
SHEET: **3 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su, kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
19												
20												
21												
22												
23										INTERVAL NOT SAMPLED		
24												
25												
26												
27												

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-11A
SHEET: 4 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
28												
29										INTERVAL NOT SAMPLED		
30	HPC-1	29.98 - 31.50	1.37			21	HPC-1: Poorly Graded Sand (SP), fine sand, trace non-plastic fines, gray	2	30.0			
31												
	HPC-2	31.50 - 34.55	2.74			21	HPC-2: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, gray					
32												
33										POORLY GRADED SAND WITH SILT		
34												
	HPC-3	34.55 - 36.07	1.37			29	HPC-3: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, gray, trace fine gravel, subangular, black					
35												
36	HPC-4	36.07 - 39.12	3.05			29	HPC-4A: [TOP 2'] Silty Sand (SM), fine sand, some non-plastic fines, gray					

REMARKS

2 - End of advancement of drill string without sampling.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11A**
SHEET: **5 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
							HPC-4B-E: [BOTTOM 8'] Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, trace fine to coarse gravel, subangular, gray		36.7			
37												
						19						
38												
39												
	HPC-5	39.12 - 40.65	1.52			29	HPC-5: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, trace fine gravel, subangular, gray					
40												
	HPC-6	40.65 - 42.17	1.22			21	HPC-6: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, trace fine gravel, subangular, gray					
41										POORLY GRADED SAND		
42												
	HPC-7	42.17 - 45.22	2.13			22	HPC-7: Poorly Graded Sand (SP), fine to medium gray sand, trace fine gravel, angular, trace non-plastic fines					
43												
44												
45												
									45.2			
	HPC-8	45.22 - 48.27	2.44			21	HPC-8: Well Graded Sand (SW), fine to coarse sand, angular, trace non-plastic fines, gray			WELL GRADED SAND		

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-11A**
SHEET: **6 of 8**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	 Depth (m)	 Rec. (m)	Field Test Data TV (Su kPa)	 PP (UC, kPa)	 %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
46											
47										WELL GRADED SAND	
48									48.3		
	HPC-9	48.27 - 51.31	2.13			16	HPC-9: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, gray				
49											
50										POORLY GRADED SAND	
51									51.3		
	HPC-10	51.31 - 54.36	2.59				HPC-10A: [TOP 11"] Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few non-plastic silt, gray HPC-10B-E: [BOTTOM 7'7"] Well Graded Sand with Silt (SW-SM), fine to coarse sand, angular, few non-plastic fines, gray		51.6	POORLY GRADED SAND WITH SILT	
52											
53										WELL GRADED SAND	
54											
	HPC-11	54.36 - 57.41	2.13			10	HPC-11: Well Graded Sand (SW), fine to coarse sand, subangular to sub rounded, few fine gravel, subangular to				

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-11A
SHEET: 7 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su, kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
55							subrounded, trace non plastic fines, gray					
56												
57												
	HPC-12	57.41 - 60.46	1.83			19	HPC-12: Well Graded Sand (SW), fine to coarse sand, subangular to subrounded, trace non-plastic fines, gray			WELL GRADED SAND		
58												
59												
60												
									60.5			
	HPC-13	60.46 - 63.51	1.83			18	HPC-13: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few fines, gray					
61												
62										POORLY GRADED SAND WITH SILT		
63												
	HPC-14	63.51 - 66.55	2.29			19	HPC-14: Poorly Graded Sand with Silt (SP-SM), fine to medium sand, few fines, gray					
64												

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-11A
SHEET: 8 of 8
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: MBL / NEH
Drilling Co.: DOSECC
Foreman: Justin Blouin / Jamie Cook

Boring Location: See Plan
Water Depth (m): 37.5
Final Boring Depth (m): 72.6
Date Start - Finish: 9/4/2018 - 9/7/2018

Latitude: 41.114
Longitude: -71.148
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
65												
66										POORLY GRADED SAND WITH SILT		
								3	66.6			
67												
68												
69												
70										INTERVAL NOT SAMPLED		
71												
72									72.6			
73							End of exploration at 72.65 meters					

REMARKS

3 - Borehole advanced to 238.35 feet fir geophysical logging. Depth interval 218.35 feet bsf to 238.35 feet bsf not sampled.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-11A

TEST BORING LOG

GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-OSS**
SHEET: **1 of 9**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	 Depth (m)	 Rec. (m)	Field Test Data TV (Su kPa)	 PP (UC, kPa)	 %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
	HPC-1	0.00 - 0.37	0.37			25	HPC-1: Poorly Graded Sand with Gravel (SP): fine to coarse sand, little fine to coarse gravel, subrounded, trace plastic fines, black, slight organic odor	1		POORLY GRADED SAND WITH GRAVEL	
	HPC-2	0.03 - 0.34	0.23			27	HPC-2: Well Graded Sand with Gravel (SW): fine to coarse sand, little fine to coarse gravel, subrounded, trace plastic fines, black, slight organic odor				
	ALN-1	0.06 - 0.98	0.00				ALN-1: NO RECOVERY		0.6		
	ALN-2	0.18 - 1.55	0.00				ALN-2: NO RECOVERY				
1											
	ALN-3	1.55 - 2.47	0.00				ALN-3: NO RECOVERY	2		GRAVELLY FAT CLAY WITH SAND / COBBLES	
2											
	ALN-4	2.47 - 3.69	0.08			13	ALN-4: Gravelly Fat Clay with Sand (CH): firm, high dry strength, no dilatancy, high toughness, high plasticity, little fine to coarse gravel, subrounded, few fine to medium sand particles, 15% (by volume) cobbles, rounded to subrounded, gray				
3											
									3.4		
	ALN-5	3.69 - 3.99	0.17		290	11	ALN-5: Lean Clay with Sand (CL), firm, medium dry strength, no dilatancy, medium toughness, medium plasticity, little fine to coarse sand, 70% (by volume) cobbles, rounded to subrounded, gray				
4	ALN-6	3.99 - 5.06	0.30			12	ALN-6: Lean Clay with Sand (CL), firm, no dilatancy, medium dry strength, medium toughness, medium plasticity, little fine to coarse sand, 90% (by volume) cobbles, rounded to subrounded, gray			LEAN CLAY WITH SAND / COBBLES	
5											
	ALN-7	5.06 - 6.58	0.08				ALN-7: Poorly Graded Gravel (GP), coarse gravel, rounded to subrounded, 75% (by volume) cobbles, rounded, red, gray	3			
									5.8		
6											
	ALN-8	6.58 - 8.11	0.15			16	ALN-8: Sandy Silt (ML), soft, low dry strength, rapid dilatancy, non-plastic, some fine sand, 10% (by volume) cobble, rounded, brown to gray			SANDY SILT	
7											
									7.9		
8								4		SILTY SAND	
9											

REMARKS

1 - Driller identified heavy resistance with alien sampler at 0.5 feet below ground surface; could not advance; gravel inferred.
2 - Driller reported heavy resistance; boulder inferred; new ALN bit attached to drill string.
3 - Clay or silt sample may have been lost during sampler recovery.
4 - Hole collapsed after obtaining sample ALN-6. 2 drill rods were retracted from the hole prior. The hole was then re-drilled to 36.6 feet below sea floor.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-OSS
SHEET: 2 of 9
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w					
10										SILTY SAND	
11									11.0		
	HPC-3 ALN-9	11.16 - 12.68 11.19 - 12.68	0.03 1.49			28	HPC-3: Silty Sand (SM), fine sand, little non-plastic fines, trace fine gravel, rounded, brown to gray ALN-9: Poorly Graded Sand (SP), fine to medium sand, trace non-plastic fines, brown NOSE: Silty Sand (SM), fine sand, little non-plastic fines, brown to gray			POORLY GRADED SAND WITH SILT	
12											
									12.5		
	ALN-10	12.68 - 14.20	0.05			34	ALN-10: Well Graded Gravel (GW), fine to coarse gravel, rounded to subrounded, 50% (by volume) cobbles, rounded to subrounded, gray				
13											
14										WELL GRADED GRAVEL WITH COBBLES	
	ALN-11	14.20 - 15.73	0.03				ALN-11: Well Graded Gravel (GW), fine to coarse gravel, rounded to subrounded, 50% (by volume) cobbles, rounded to subrounded, gray	5			
15											
	ALN-12	15.73 - 17.25	0.00				ALN-12: NO RECOVERY	6	15.8		
16											
17										SILTY SAND	
	HPC-4	17.25 - 20.30	1.14			25	HPC-4: Silty Sand (SM), fine sand, some silt, gray				
18									18.3		

REMARKS

5 - Cobble was observed in sample nose at approximate depth 46.6 feet below sea floor.
6 - Cobble was observed in sample nose at approximate depth 51.6 feet below sea floor.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

DWW GZA TEMPLATE TEST BORING METRI - GZA PLOG DATA TEMPLATE 03-20-18.GDT - 12/19/18 16:07 - J:\GEO\34480.JJM\WORK\GINT\34480.00 DEEPWATER WIND COMBINED.GPJ

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-OSS**
SHEET: **3 of 9**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	EXN-1	18.39 - 18.39	0.00				EXN-1: NO RECOVERY	7				
	ALN-13	18.40 - 20.91	0.00				ALN-13: NO RECOVERY					
19												
20												
21	EXN-2	20.91 - 20.91	0.10				EXN-2: NO RECOVERY - NOSE: Poorly Graded Sand (SP), fine to medium sand, trace silt, brown					
	ALN-14	20.91 - 22.44	0.00				ALN-14: NO RECOVERY - NOSE: Silty Sand (SM), fine sand, little silt, gray					
22												
	ALN-15	22.43 - 23.96	0.30			30	ALN-15: Poorly Graded Sand (SP), fine to coarse sand, trace silt, gray, some fine to coarse sand sized shells (wash)	8				
23												
24	HPC-5	23.96 - 23.96	0.00			23	HPC-5: NO RECOVERY					
	ALN-16	23.96 - 27.01	0.38				ALN-16: Poorly Graded Sand (SP), fine to medium sand, trace silt, gray, trace fine to medium sand sized shells					
25												
						22						
26												
27												
	ALN-17	27.01 - 28.53	1.52				ALN-17: Poorly Graded Sand (SP), fine sand, trace silt, gray					

REMARKS

7 - Driller could not advance EXN sampler; resampled at the same depth with an ALN sampler.
8 - Driller changed ALN sampler catcher from number 10 to number 5 to allow softer material to push through catcher.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-OSS
SHEET: 4 of 9
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)
28										POORLY GRADED SAND	
									28.3		
	ALN-18	28.53 - 30.05	0.08				ALN-18: Silty Sand (SM), fine sand, little silt, black NOSE: Silty Sand (SM), fine sand, little silt, gray				
29										SILTY SAND	
									29.9		
30											
	HPC-6	30.05 - 30.89	0.84				HPC-6: Poorly Graded Sand with Silt (SP-SM), fine to coarse sand, few non-plastic fines, gray				
	ALN-19	30.74 - 33.10	0.00				ALN-19: Poorly Graded Sand with Silt (SP-SM), fine to coarse sand, few non-plastic fines, gray	9		POORLY GRADED SAND WITH SILT	
31											
						21					
32											
									32.3		
33											
	HPC-7	33.10 - 33.13	0.00				HPC-7: NO RECOVERY	10			
	XALN-1	33.13 - 36.15	0.03				XALN-1: Poorly Graded Sand (SP), fine to coarse sand, trace silt, gray				
34										POORLY GRADED SAND	
35											
									35.4		
36										LEAN CLAY/COBBLES	
								11			
	ALN-20	36.15 - 37.67	0.11				ALN-20: Lean Clay (CL), soft, medium dry strength, no dilatancy, medium toughness, high plasticity, trace fine sand, 50% (by	12			
	ALN-21		0.08			27		13			

REMARKS

9 - Limited sample recovered from ALN sampler nose
10 - Sampler was unable to be fired
11 - XALN-1 sampler tool unaable to be retrieved by overshot tool. All drill rods retracted to salvage sampler. Re-Drill back to 118.6 feet before taking ALN-21
12 - Sample recovered from nose of sampler. Cobbles observed lodged in sampler collector basket
13 - Top of sample presumed to be drill wash or cave in material

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-OSS
SHEET: 5 of 9
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
37		36.42 - 37.95					volume) cobbles, rounded, dark gray ALN-21: [TOP 0.10'] Clayey Sand (SC), fine to coarse sand, some plastic fines, white to light brown [BOT 0.15'] Lean Clay (CL), soft, medium dry strength, no dilatancy, medium plasticity, medium toughness, trace fine sand, 50% (by volume) cobbles, rounded, dark gray					▨
38	ALN-22	37.95 - 39.47	0.24	270	220	35	ALN-22: Lean Clay (CL), soft, medium dry strength, no dilatancy, medium plasticity, medium toughness, trace fine sand, dark gray			LEAN CLAY/COBBLES		▨
39												▨
	ALN-23	39.47 - 41.00	0.52			44	ALN-23: A: [TOP 1.20'], Lean Clay (CL), firm, medium dry strength, no dilatancy, medium plasticity, medium toughness, trace fine sand, dark gray	14	39.9			▨
40				125		24	B: [BOT 0.50'], Lean Clay (CL), firm, medium dry strength, no dilatancy, medium plasticity, medium toughness, trace fine sand, light gray			LEAN CLAY		▨
41	ALN-24	41.00 - 44.04	0.00				ALN-24: NO RECOVERY, clay found in nose, inverted core catcher		41.5			▨
42												▨
43										SANDY LEAN CLAY		▨
44	HPC-8 ALN-25	44.04 - 44.17 44.17 - 47.21	0.12 0.15	150		29 16	HPC-8: Poorly Graded Sand (SP), fine to medium sand, trace plastic fines, gray ALN-25: Sandy Lean Clay (CL), firm, medium dry strength, slow dilatancy, medium plasticity, medium toughness, some fine sand, gray	15				▨
45									45.1	POORLY GRADED SAND		∴

REMARKS

14 - Very thin seam of fine to coarse sand between the each clay sample
15 - Resampled at same depth with ALN sampler due to low recovery with HPC.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-OSS
SHEET: 6 of 9
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
46												
47												
	ALN-26	47.09 - 48.62	0.08			29	ALN-26: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, gray	16				
48												
	ALN-27	48.62 - 50.14	0.55			27	ALN-27: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, light gray					
49												
50												
	HPC-9 ALN-28	50.14 - 50.14 50.17 - 51.69	0.00 0.00				HPC-9: NO RECOVERY ALN:28: NO RECOVERY Nose: Poorly Graded Sand with Silt (SP-SM), fine sand, few non-plastic fines, light gray	17		POORLY GRADED SAND		
51												
	ALN-29	51.66 - 53.19	0.09			37	ALN-29: Sandy Elastic Silt (MH), firm, no dilatancy, medium toughness, medium plasticity, medium toughness, some fine to coarse sand, gray					
52												
53												
	ALN-30	53.19 - 54.71	0.34			22	ALN-30: Poorly Graded Sand with Silt (SP-SM), fine to coarse sand, few non-plastic fines, light gray					
54												
	HPC-10	54.71 -	0.00					18				

REMARKS

16 - Sample catcher inverted while sampling between 154.5 feet and 159.5 feet.
17 - Driller was unable to fire the HPC-9 sampler; resampled at same depth with ALN sampler.
18 - Driller was unable to fire the HPC-10 sampler and was unable to advance the EXN-3 sampler; resampled at same depth with ALN sampler.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-OSS
SHEET: 7 of 9
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	HPC/EXN/ALN/UP Depth (m)	HPC/EXN/ALN/UP Rec. (m)	Field Test Data TV (Su kPa)	Field Test Data PP (UC, kPa)	Field Test Data %w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
55	EXN-3	54.71	0.00				HPC-10: NO RECOVERY					
	ALN-31	54.74 - 54.74	0.00				EXN-3: NO RECOVERY					
		54.77 - 56.30					ALN-31: NO RECOVERY					
56												
	ALN-32	56.24 - 59.28	0.00				ALN-32: NO RECOVERY	19				
57										POORLY GRADED SAND		
58												
59												
	ALN-33	59.28 - 62.33	0.00				ALN-33: NO RECOVERY		59.4			
60												
61										LEAN CLAY		
62												
	ALN-34	62.33 - 65.38	0.21			22	ALN-34: Lean Clay (CL), firm, no dilatancy, medium plasticity, medium toughness, few fine sand particles, dark gray					
63												
64												

REMARKS

19 - Drill rods became stuck while advancing the ALN sampler. Once freed, drill contniued to be advanced

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

TEST BORING LOG

GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: **B-OSS**
SHEET: **8 of 9**
PROJECT NO: **34480.00**
REVIEWED BY: **JJM**

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP Sample	Depth (m)	Rec. (m)	Field Test Data TV (Su, kPa)	PP (UC, kPa)	%w	Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
										LEAN CLAY		▨
65												
								20	65.5			
66												
67												
68												
69										INTERVAL NOT SAMPLED		
70												
71												
72												
73												

REMARKS

20 - Sampling depth of 65 meters achieved. Borehole was advanced to 74.5 meters to accomodate geophysical logging

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

TEST BORING LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Deepwater Wind
South Fork Wind Farm
Rhode Island Sound

EXPLORATION NO.: B-OSS
SHEET: 9 of 9
PROJECT NO: 34480.00
REVIEWED BY: JJM

Logged By: NEH / TWS / KET
Drilling Co.: DOSECC
Foreman: Justin Blouin / Steve Cole

Boring Location: See Plan
Water Depth (m): 36.6
Final Boring Depth (m): 74.5
Date Start - Finish: 8/17/2018 - 8/22/2018

Latitude: 41.0742
Longitude: -71.1688
Datum: MSL

Depth (m)	HPC/EXN/ALN/UP			Field Test Data			Sample Description and Identification Unified Soil Classification System (ASTM D2487)	Remark	Depth (m)	Interpreted Soil Profile	Elev. (m)	Stratum Graphic
	Sample	Depth (m)	Rec. (m)	TV (Su kPa)	PP (UC, kPa)	%w						
74										INTERVAL NOT SAMPLED		
									74.5			
							End of exploration at 74.52 meters					
75												
76												
77												
78												
79												
80												
81												
82												

REMARKS

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.:
B-OSS

APPENDIX C

GEOTECHNICAL LABORATORY TEST RESULTS

Summary of the Lab Tests Performed (page 1 of 2)

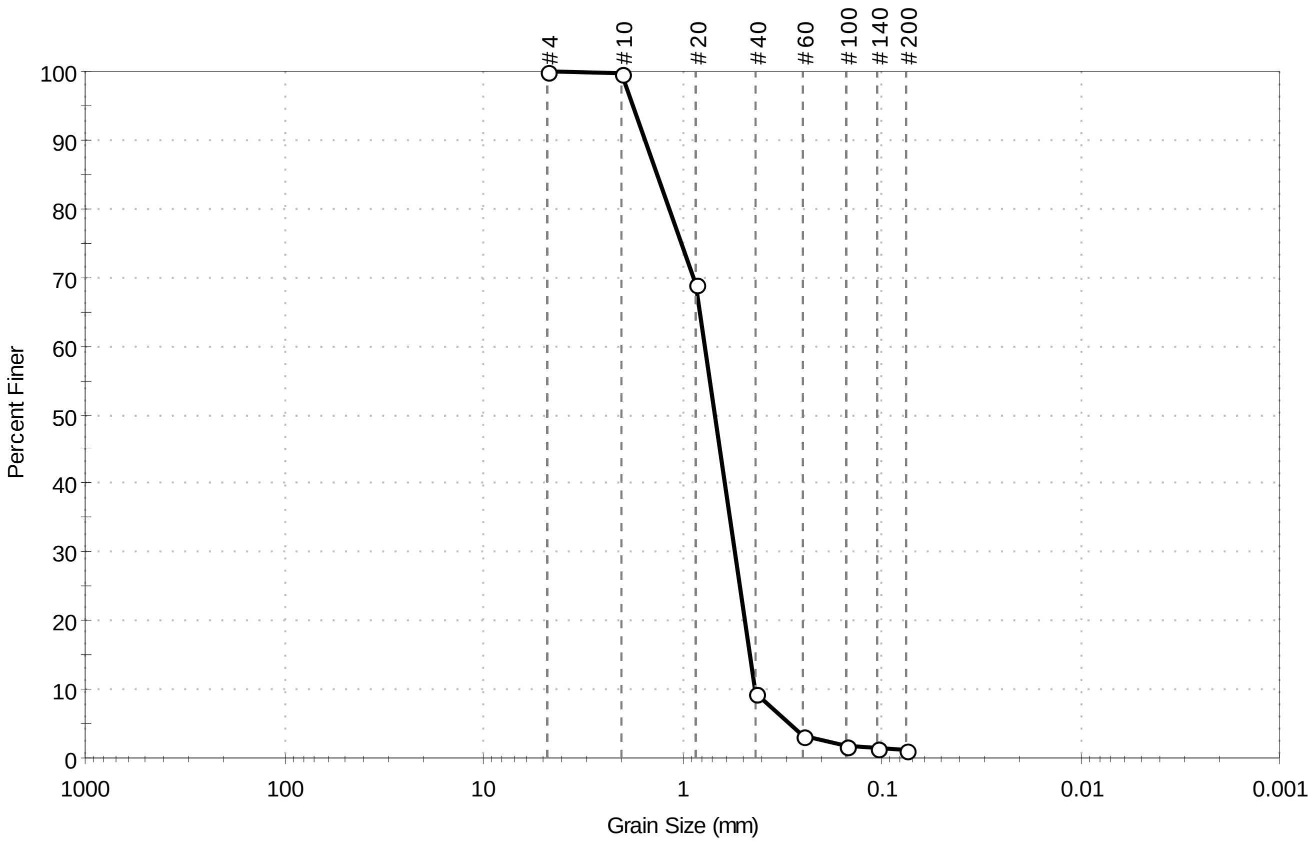
Boring	Sample I.D.	Depth (ft)	Tests Performed														Notes
			Atterberg Limits	Sieve	Hydrometer	Natural Moisture Content	Organic Content	Unit Weight	Specific Gravity	Resonant Column	Intact CU Triaxial	Remolded CU Triaxial	Remolded CD Triaxal	Consolidation	Relative Density	Calcium Carbonate	
B-3	HPC-1	1		X													
B-3	HPC-3	23		X													
B-3	HPC-4	43		X					X	X							
B-3	HPC-6A	51	X	X	X	X											
B-3	HPC-6B	53			X												
B-3	HPC-6C	54	X			X		X			X	X					
B-3	HPC-10A	72	X			X		X			X	X					
B-3	HPC-13	86		X	X												
B-3	ALN-7	109	X														
B-3	HPC-18B	120		X													
B-3	HPC-21A	134	X			X		X			X	X					
B-3	UP-2	140	X			X		X			X	X					
B-3	HPC-26B	165		X									X				CD triaxial tests tested at confining stresses for a depth of 150 feet.
B-3	HPC-28B	175		X	X								X				CD triaxial tests tested at confining stresses for depths of 25, 75, and 150 feet.
B-3	HPC-35A	210	X			X		X			X	X		X			
B-6	HPC-2A	1		X													
B-6	HPC-2E	6	X			X	X	X			X	X		X			
B-6	EXN-1A	21		X													
B-6	EXN-1B	23				X		X									
B-6	ALN-1C	39	X			X		X			X	X		X			
B-6	ALN-1B	39				X		X	X	X							
B-6	ALN-2B	48		X													
B-6	ALN-3	60	X			X		X			X	X					
B-6	HPC-7B	79		X													
B-6	HPC-8	82		X													
B-6	ALN-5C	90	X			X		X			X	X					
B-6	ALN-8	117		X													
B-6	ALN-9A	133		X	X												
B-6	ALN-13B	169	X									X					
B-6	HPC-16B	200		X									X				CD triaxial tests tested at confining stresses for a depth of 200 feet.
B-6	ALN-15D	215	X			X		X			X	X					
B-10	HPC-4A	9		X					X	X							
B-10	ALN-4B	25		X					X	X							
B-10	ALN-9B	50		X									X				CD triaxial tests tested at confining stresses for a depth of 50 feet.
B-10	HPC-9B	82	X			X		X			X	X		X			
B-10	UP-2	98	X			X		X			X	X		X			
B-10	HPC-14B	110	X			X		X			X	X		X			
B-10	HPC-12B	103	X											X			
B-10	UP-3	130	X			X		X			X	X		X			
B-10	HPC-17B	140	X			X		X			X	X		X			
B-10	HPC-17E	144	X			X		X			X	X					
B-10	HPC-18A	148	X			X		X			X	X					
B-10	HPC-19B	160		X									X				CD triaxial tests tested at confining stresses for a depth of 160 feet.
B-10	HPC-21B	180		X	X								X				CD triaxial tests tested at confining stresses for depths of 16 and 180 feet.
B-10	HPC-22B	190		X													
B-10	ALN-14	198	X														
B-10	HPC-25B	214	X			X		X			X	X					
B-11	HPC-1B	4		X					X	X						X	
B-11	HPC-3A	29		X													
B-11	HPC-4B	34		X													
B-11	ALN-4	51	X			X		X			X	X					
B-11	HPC-7B	61		X													
B-11	HPC-8.1B	81		X									X				CD triaxial tests tested at confining stresses for depths of 25, 75, and 150 feet.
B-11	HPC-9B	102		X													
B-11A	HPC-1B&C	101		X									X		X		CD triaxial tests tested at confining stresses for depths of 25, 75, and 150 feet.
B-11A	HPC-4B&C	122		X									X		X		CD triaxial tests tested at confining stresses for depths of 25, 75, and 150 feet.
B-11A	HPC-8B	151		X													
B-11A	HPC-10A	169		X													

Summary of the Lab Tests Performed (page 2 of 2)

Boring	Sample I.D.	Depth (ft)	Tests Performed														Notes
			Atterberg Limits	Sieve	Hydrometer	Natural Moisture Content	Organic Content	Unit Weight	Specific Gravity	Resonant Column	Intact CU Triaxial	Remolded CU Triaxial	Remolded CD Triaxal	Consolidation	Relative Density	Calcium Carbonate	
B-11A	HPC-11B	181		X													
B-OSS	HPC-1	1		X													
B-OSS	ALN-5	12	X														
B-OSS	ALN-9B	40		X					X	X							
B-OSS	HPC-4B&A	58		X									X		X		CD triaxial tests tested at confining stresses for depths of 25, 75, and 150 feet.
B-OSS	ALN-16	79		X													
B-OSS	ALN-17B&C	92		X									X		X		CD triaxial tests tested at confining stresses for depths of 25, 75, and 150 feet.
B-OSS	HPC-6B	100		X													
B-OSS	XALN-1	109		X													
B-OSS	ALN-23A	130	X			X		X			X	X					
B-OSS	ALN-27	160		X													
B-OSS	ALN-34	205	X			X		X			X	X					

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B OSS
Sample Type: tube
Tested By: jbr
Sample ID: ALN-16
Test Date: 10/01/18
Checked By: emm
Depth : ---
Test Id: 473654
Test Comment: ---
Visual Description: Moist, brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	98.8	1.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	69		
#40	0.42	9		
#60	0.25	3		
#100	0.15	2		
#140	0.11	1		
#200	0.075	1.2		

Coefficients

D_{85} = 1.3272 mm
D_{30} = 0.5403 mm
D_{60} = 0.7664 mm
D_{15} = 0.4537 mm
D_{50} = 0.6821 mm
D_{10} = 0.4280 mm
C_u = 1.791
C_c = 0.890

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

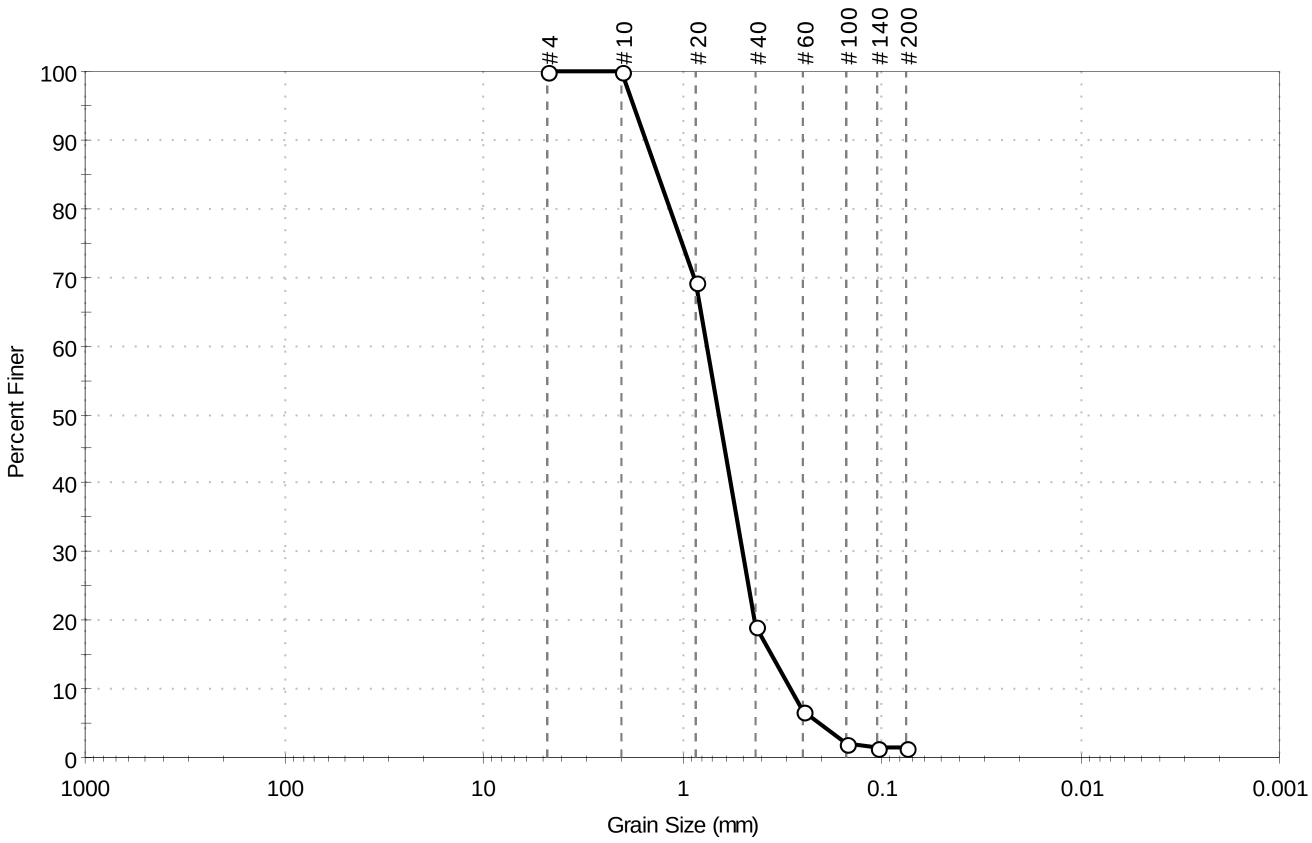
Sand/Gravel Hardness : ---

printed 10/11/2018 4:55:59 PM

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B OSS
Sample Type: tube
Tested By: jbr
Sample ID: ALN-17B
Test Date: 10/01/18
Checked By: emm
Depth : ---
Test Id: 473655
Test Comment: ---
Visual Description: Moisr, gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	98.6	1.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	69		
#40	0.42	19		
#60	0.25	7		
#100	0.15	2		
#140	0.11	2		
#200	0.075	1.4		

Coefficients

D_{85} = 1.3157 mm
D_{30} = 0.4928 mm
D_{60} = 0.7464 mm
D_{15} = 0.3543 mm
D_{50} = 0.6499 mm
D_{10} = 0.2869 mm
C_u = 2.602
C_c = 1.134

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

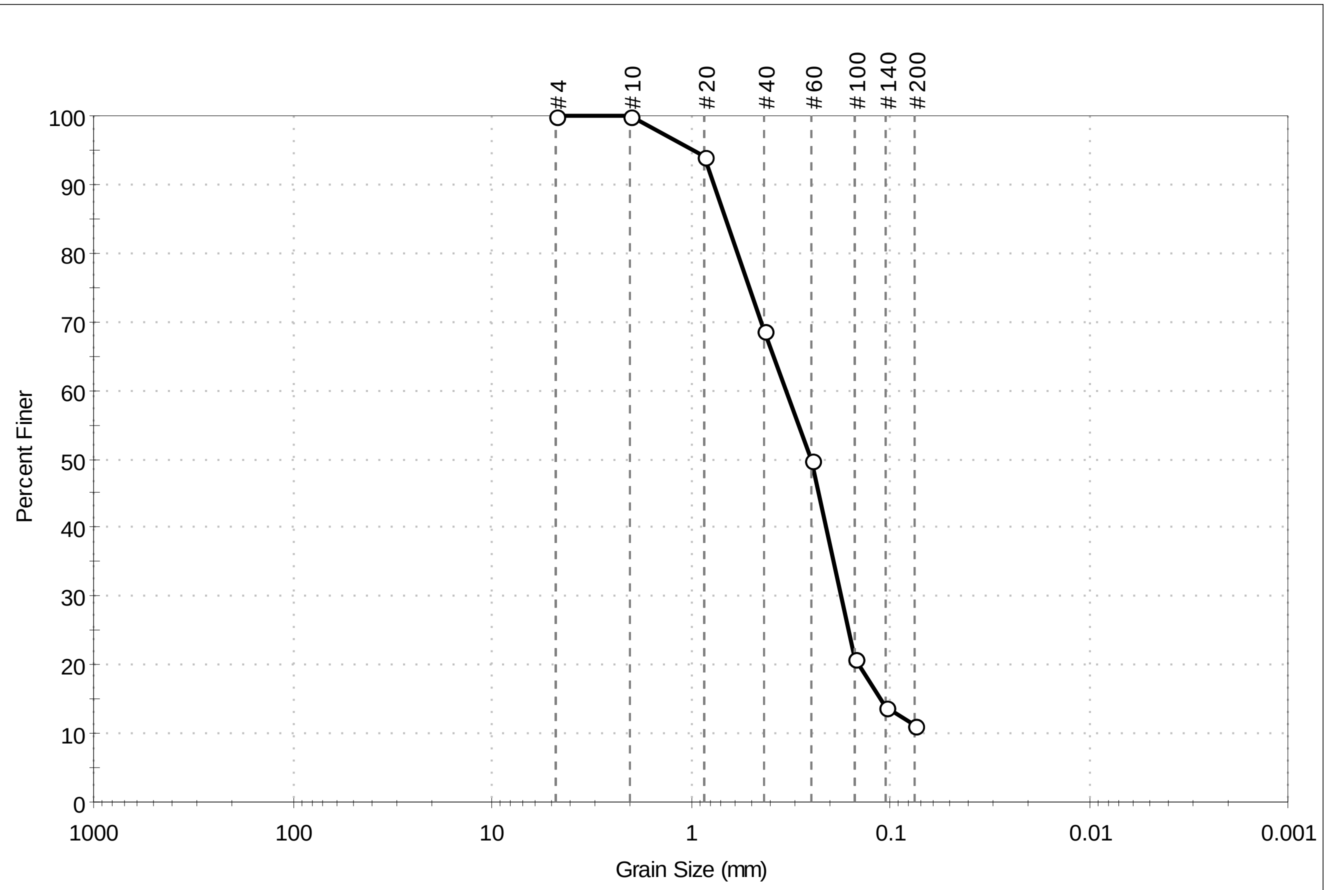
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B OSS	Sample Type:	tube	Tested By:	jbr
Sample ID:	ALN-27	Test Date:	10/03/18	Checked By:	emm
Depth :	---	Test Id:	473653		

Test Comment: ---
Visual Description: Moist, gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	88.7	11.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	94		
#40	0.42	69		
#60	0.25	50		
#100	0.15	21		
#140	0.11	14		
#200	0.075	11		

Coefficients

D_{85} =0.6631 mm
D_{30} =0.1760 mm
D_{60} =0.3319 mm
D_{15} =0.1124 mm
D_{50} =0.2509 mm
D_{10} =N/A
C_u =N/A
C_c =N/A

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

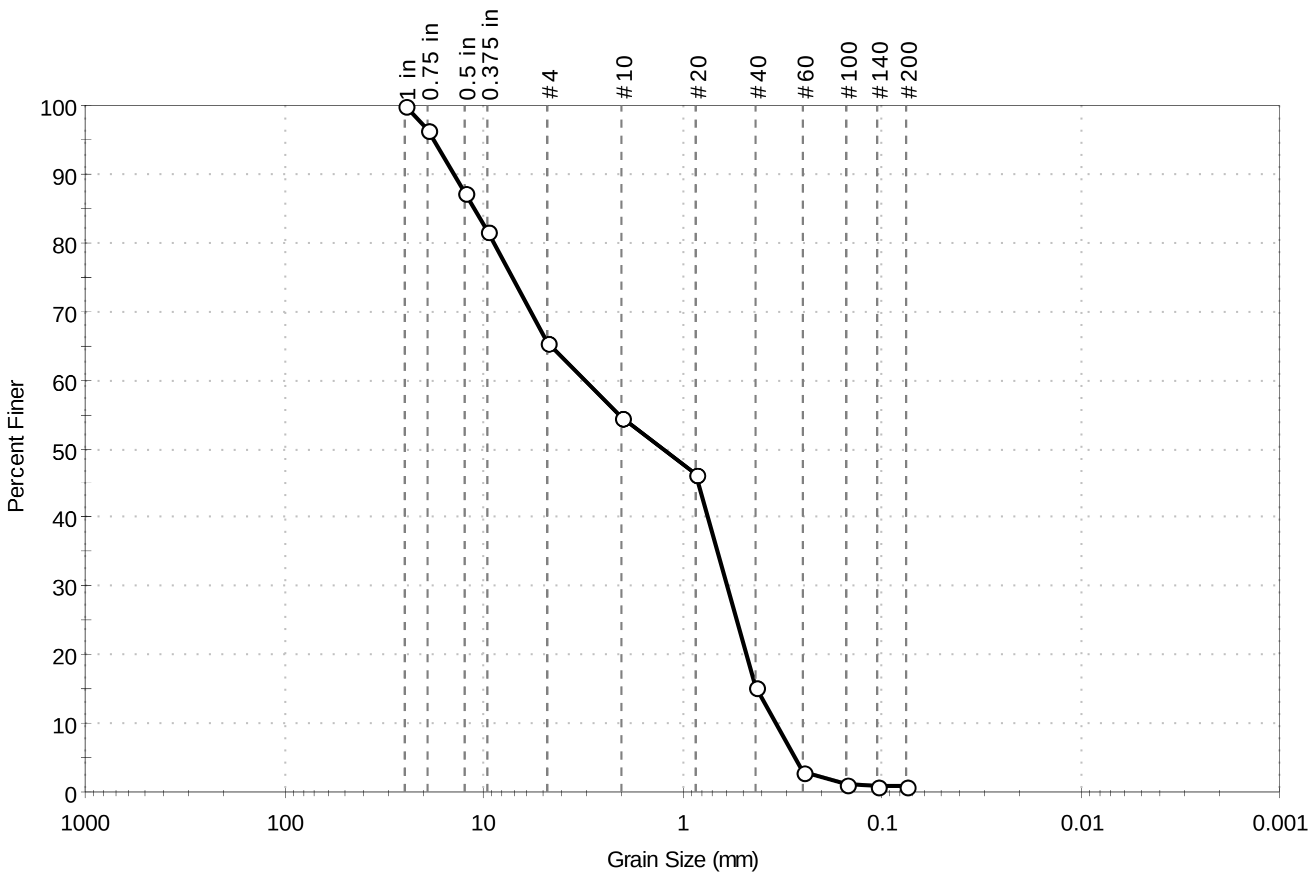
printed 10/11/2018 4:56:00 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B OSS
Sample ID: HPC-1
Depth : ---
Sample Type: tube
Test Date: 10/02/18
Test Id: 473652
Tested By: jbr
Checked By: emm

Test Comment: ---
Visual Description: Moist, dark gray sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	34.5	64.6	0.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	96		
0.5 in	12.50	87		
0.375 in	9.50	82		
#4	4.75	66		
#10	2.00	54		
#20	0.85	46		
#40	0.42	15		
#60	0.25	3		
#100	0.15	1		
#140	0.11	1		
#200	0.075	0.9		

Coefficients

D_{85} = 11.1963 mm
D_{30} = 0.5909 mm
D_{60} = 3.0862 mm
D_{15} = 0.4190 mm
D_{50} = 1.2616 mm
D_{10} = 0.3384 mm
C_u = 9.120
C_c = 0.334

Classification

ASTM Poorly graded SAND with Gravel (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

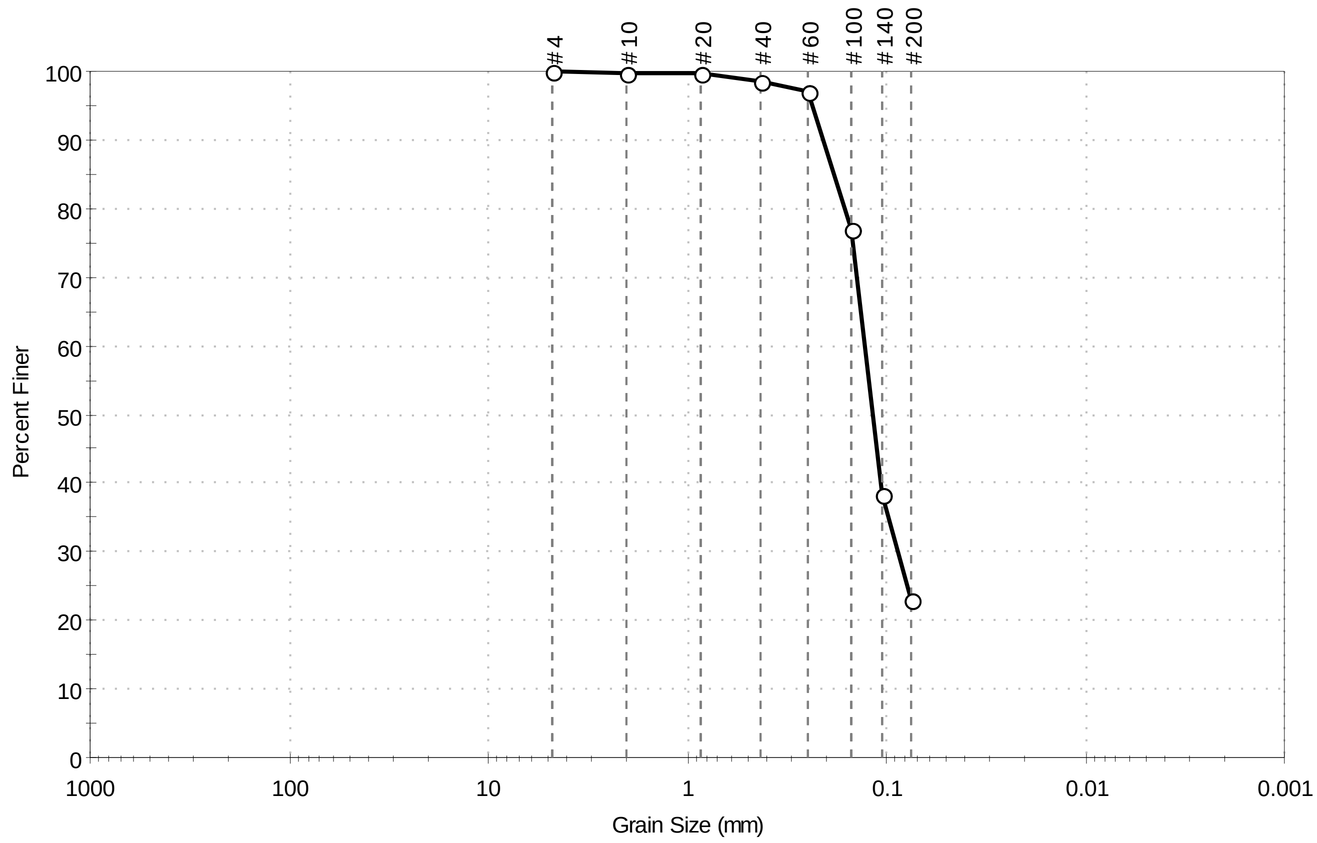
Sand/Gravel Hardness : HARD

printed 10/11/2018 4:56:01 PM

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B OSS
Sample Type: tube
Tested By: jbr
Sample ID: HPC-4B
Test Date: 09/27/18
Checked By: emm
Depth : ---
Test Id: 473657
Test Comment: ---
Visual Description: Moist, gray silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	77.1	22.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	97		
#100	0.15	77		
#140	0.11	38		
#200	0.075	23		

Coefficients

D_{85} =0.1833 mm
D_{30} =0.0879 mm
D_{60} =0.1287 mm
D_{15} =N/A
D_{50} =0.1177 mm
D_{10} =N/A
C_u =N/A
C_c =N/A

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

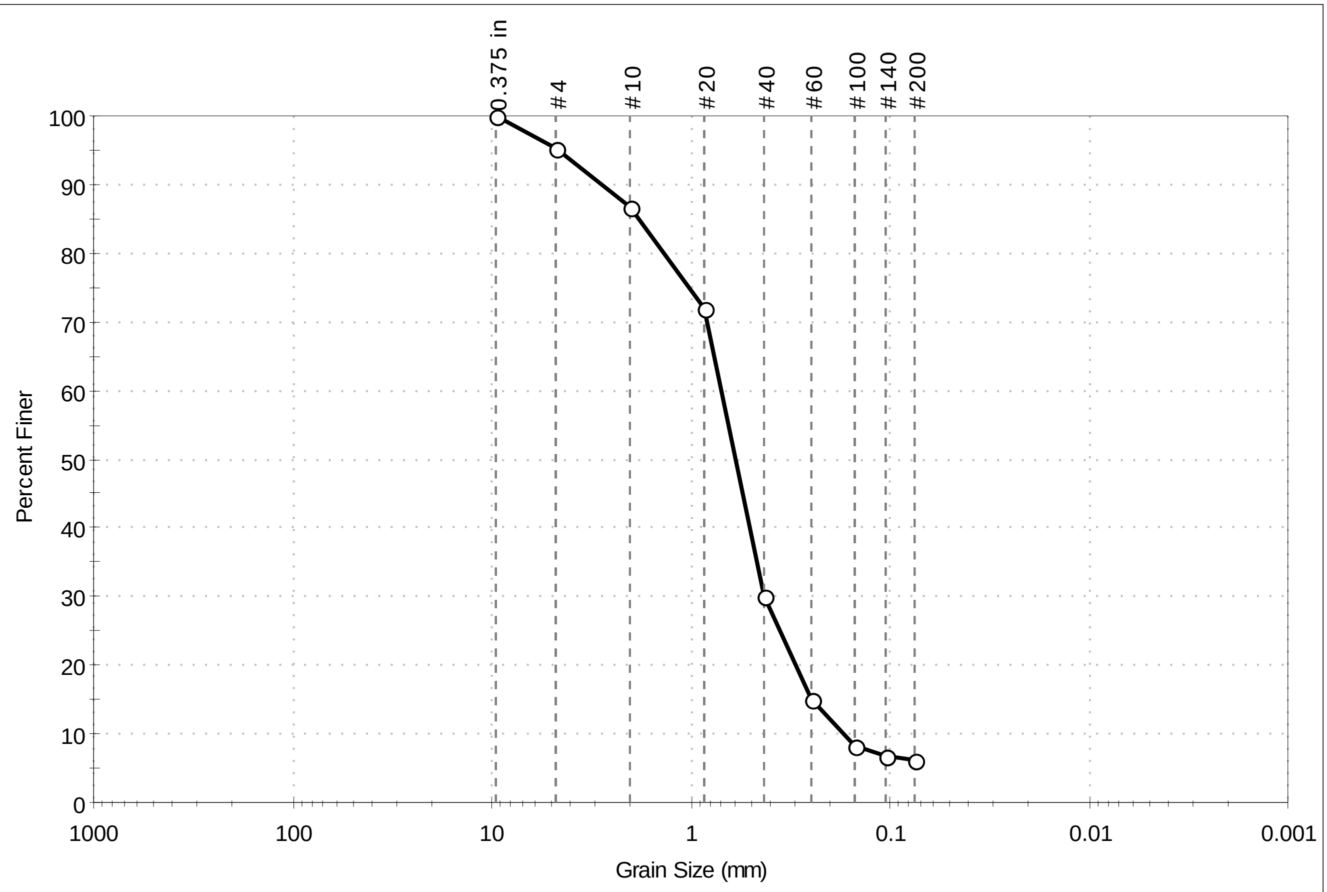
printed 10/11/2018 4:56:02 PM

GeoTesting EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B OSS	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-6B	Test Date:	10/01/18	Checked By:	emm
Depth :	---	Test Id:	473656		

Test Comment: ---
Visual Description: Moist, gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	4.8	89.1	6.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	95		
#10	2.00	87		
#20	0.85	72		
#40	0.42	30		
#60	0.25	15		
#100	0.15	8		
#140	0.11	7		
#200	0.075	6.1		

Coefficients

D_{85} = 1.8161 mm	D_{30} = 0.4225 mm
D_{60} = 0.6977 mm	D_{15} = 0.2493 mm
D_{50} = 0.5909 mm	D_{10} = 0.1714 mm
C_u = 4.071	C_c = 1.493

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

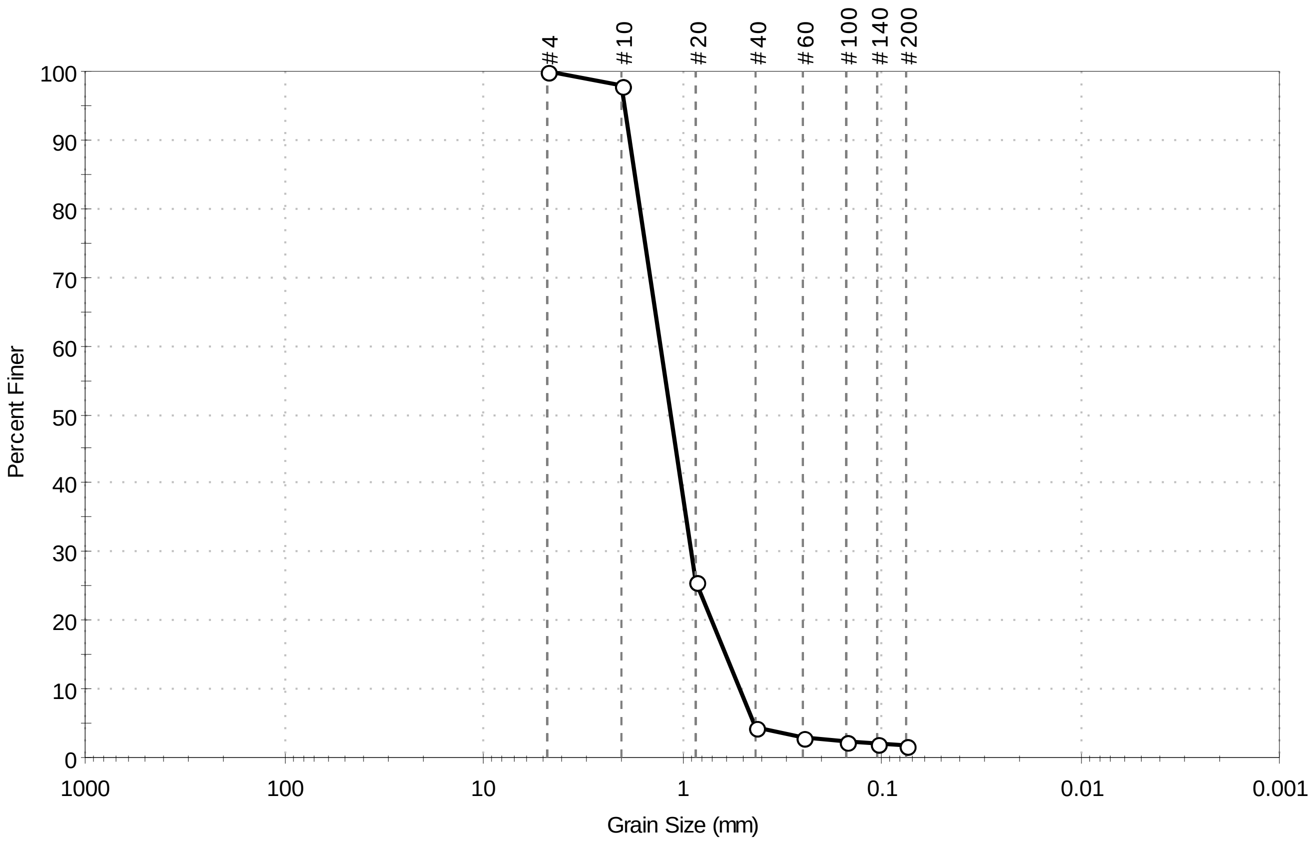
Sand/Gravel Hardness : HARD

printed 10/11/2018 4:56:03 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B OSS	Sample Type:	tube	Tested By:	jbr
Sample ID:	XALN-1	Test Date:	10/04/18	Checked By:	emm
Depth :	---	Test Id:	473658		

Test Comment: ---
Visual Description: Moist, yellowish brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	98.2	1.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	98		
#20	0.85	26		
#40	0.42	4		
#60	0.25	3		
#100	0.15	2		
#140	0.11	2		
#200	0.075	1.8		

Coefficients

D_{85} = 1.7158 mm
D_{30} = 0.8952 mm
D_{60} = 1.2765 mm
D_{15} = 0.6000 mm
D_{50} = 1.1341 mm
D_{10} = 0.5093 mm
C_u = 2.506
C_c = 1.233

Classification

ASTM	Poorly graded SAND (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

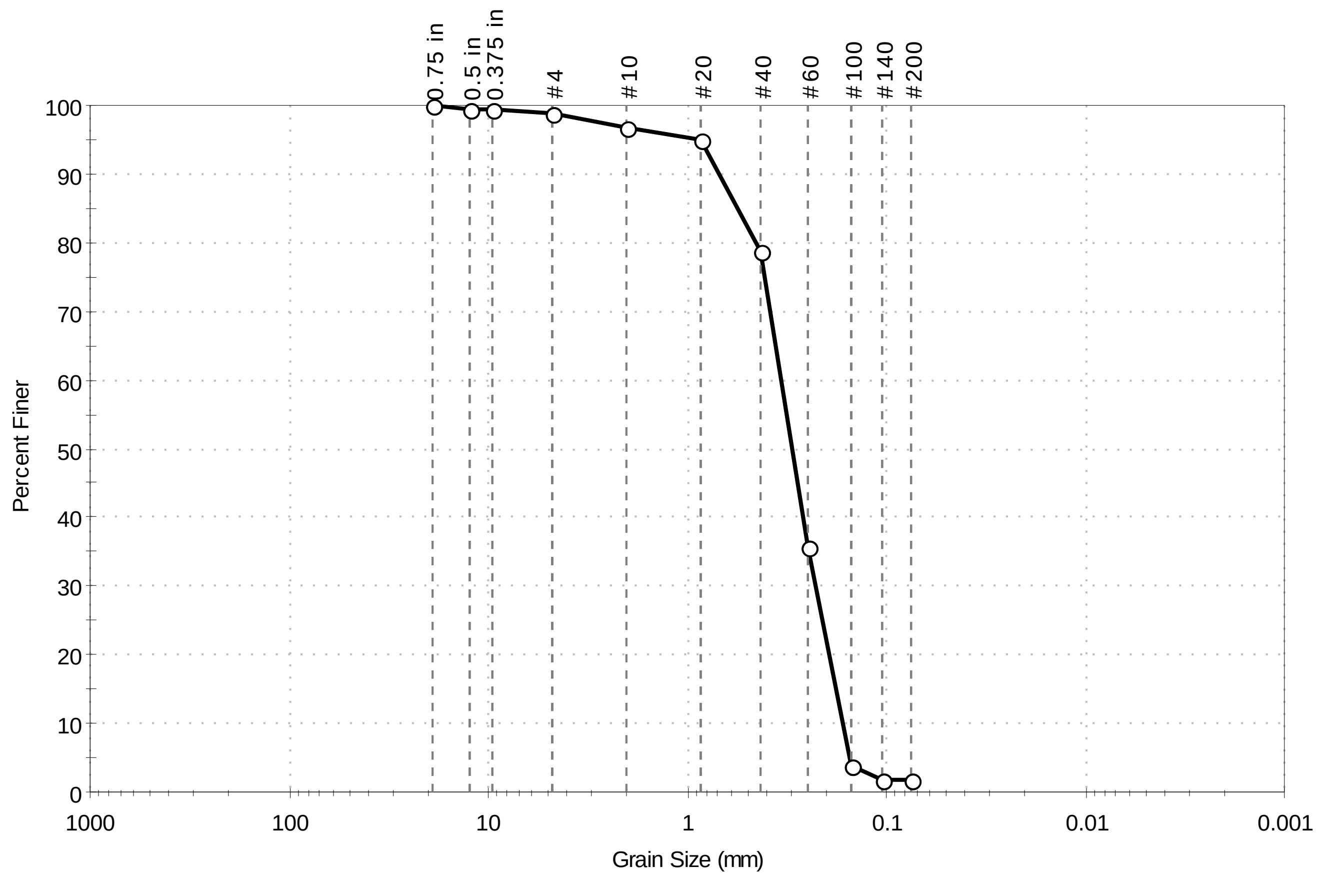
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:03 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-3
Sample Type: tube
Tested By: jbr
Sample ID: HPC-1
Test Date: 10/05/18
Checked By: emm
Depth : ---
Test Id: 473645
Test Comment: ---
Visual Description: Moist, brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	1.1	97.1	1.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	99		
0.375 in	9.50	99		
#4	4.75	99		
#10	2.00	97		
#20	0.85	95		
#40	0.42	79		
#60	0.25	36		
#100	0.15	4		
#140	0.11	2		
#200	0.075	1.8		

Coefficients

D_{85} = 0.5540 mm
D_{30} = 0.2282 mm
D_{60} = 0.3372 mm
D_{15} = 0.1795 mm
D_{50} = 0.2981 mm
D_{10} = 0.1657 mm
C_u = 2.035
C_c = 0.932

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:04 PM

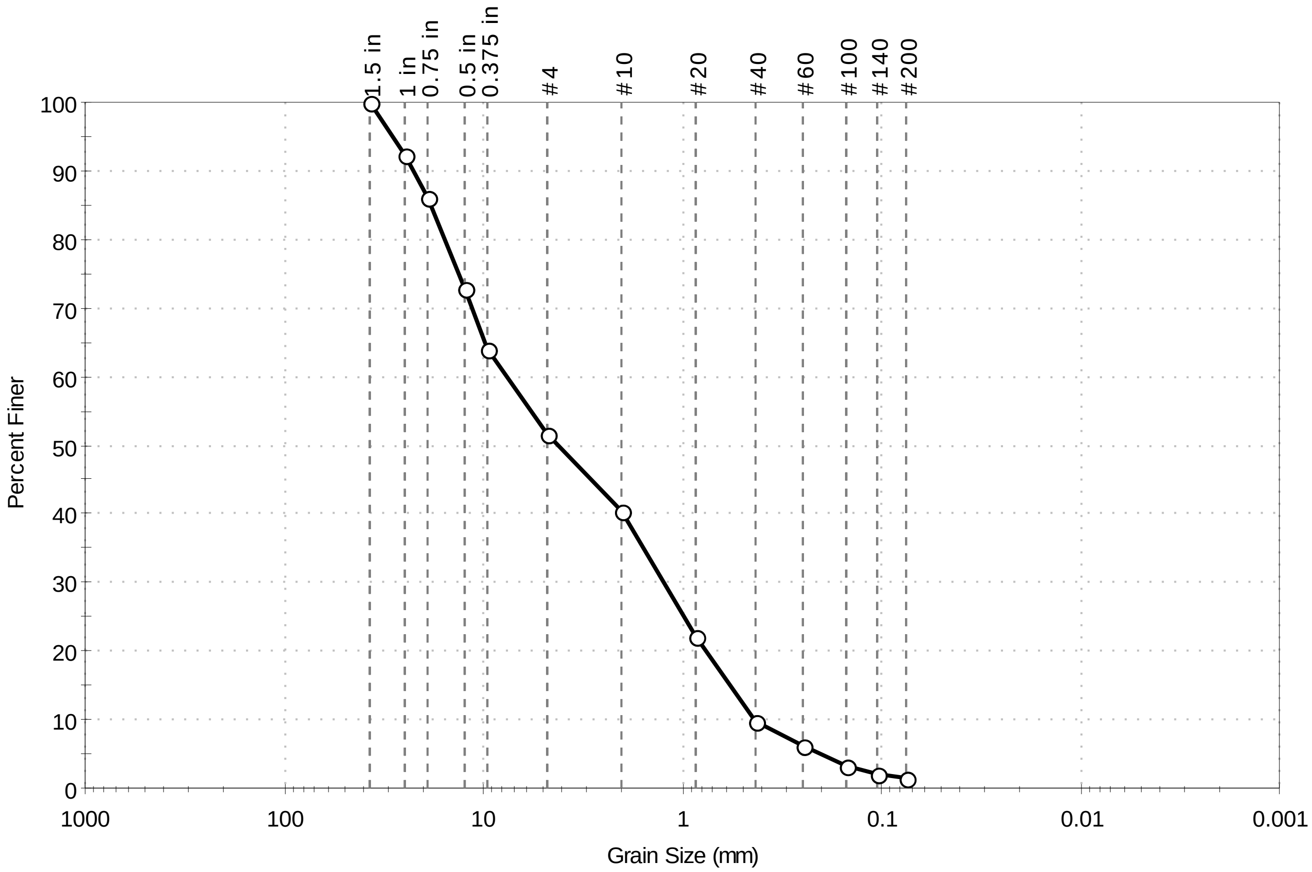
Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-3	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-3	Test Date:	10/05/18	Checked By:	emm
Depth :	---	Test Id:	473644		

Test Comment: ---

Visual Description: Moist, light gray sand with gravel

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	48.2	50.2	1.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	92		
0.75 in	19.00	86		
0.5 in	12.50	73		
0.375 in	9.50	64		
#4	4.75	52		
#10	2.00	40		
#20	0.85	22		
#40	0.42	10		
#60	0.25	6		
#100	0.15	3		
#140	0.11	2		
#200	0.075	1.6		

Coefficients

D_{85} =18.4102 mm	D_{30} =1.2335 mm
D_{60} =7.5528 mm	D_{15} =0.5712 mm
D_{50} =4.1587 mm	D_{10} =0.4305 mm
C_u =17.544	C_c =0.468

Classification

ASTM	Poorly graded SAND with Gravel (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-a (1))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

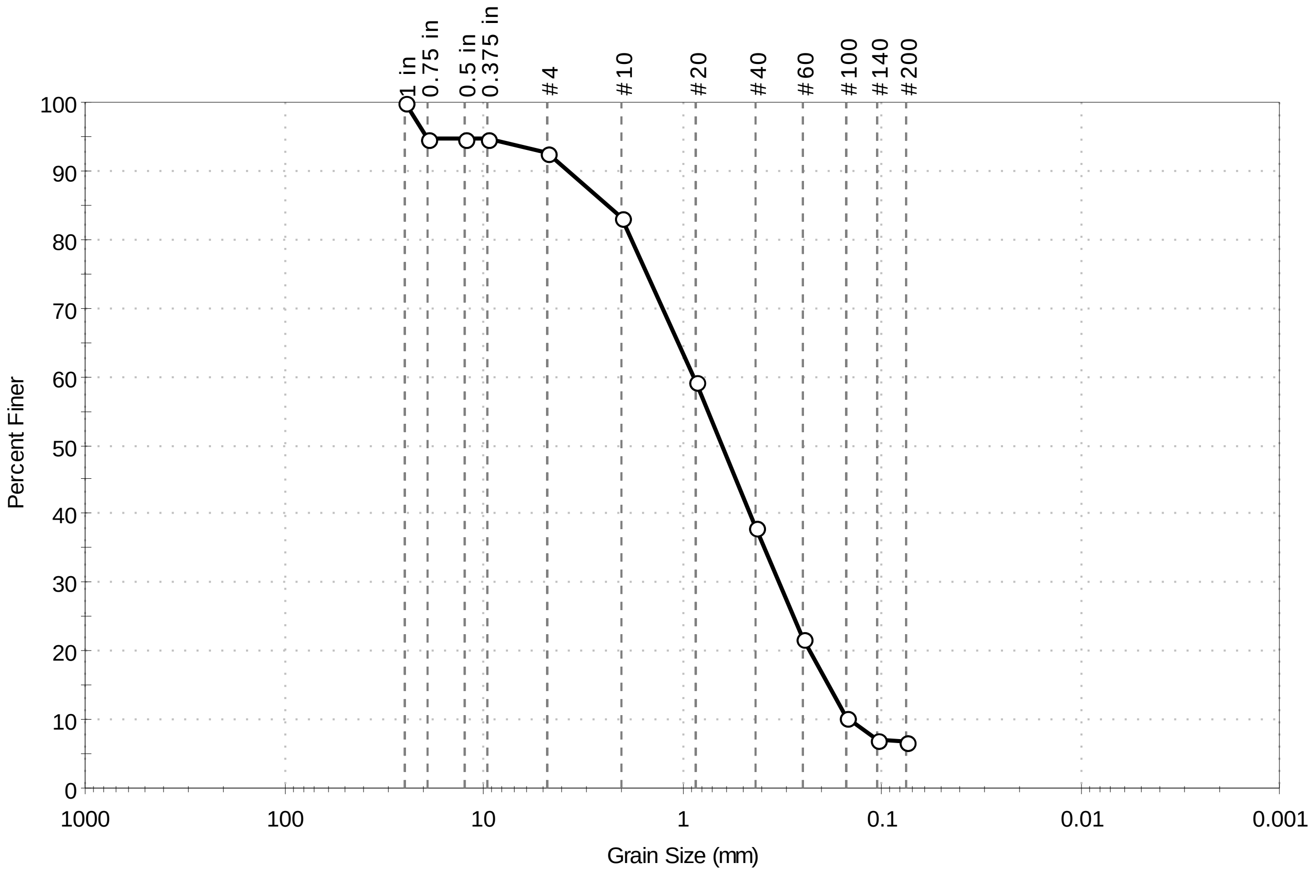
printed 10/11/2018 4:56:04 PM

GeoTesting
EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-3	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-4	Test Date:	10/05/18	Checked By:	emm
Depth :	---	Test Id:	473647		

Test Comment: ---
Visual Description: Moist, brown sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	7.5	85.6	6.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	95		
0.5 in	12.50	95		
0.375 in	9.50	95		
#4	4.75	93		
#10	2.00	83		
#20	0.85	59		
#40	0.42	38		
#60	0.25	22		
#100	0.15	10		
#140	0.11	7		
#200	0.075	6.9		

Coefficients

D_{85} =2.3472 mm	D_{30} =0.3275 mm
D_{60} =0.8681 mm	D_{15} =0.1847 mm
D_{50} =0.6272 mm	D_{10} =0.1448 mm
C_u =5.995	C_c =0.853

Classification

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

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

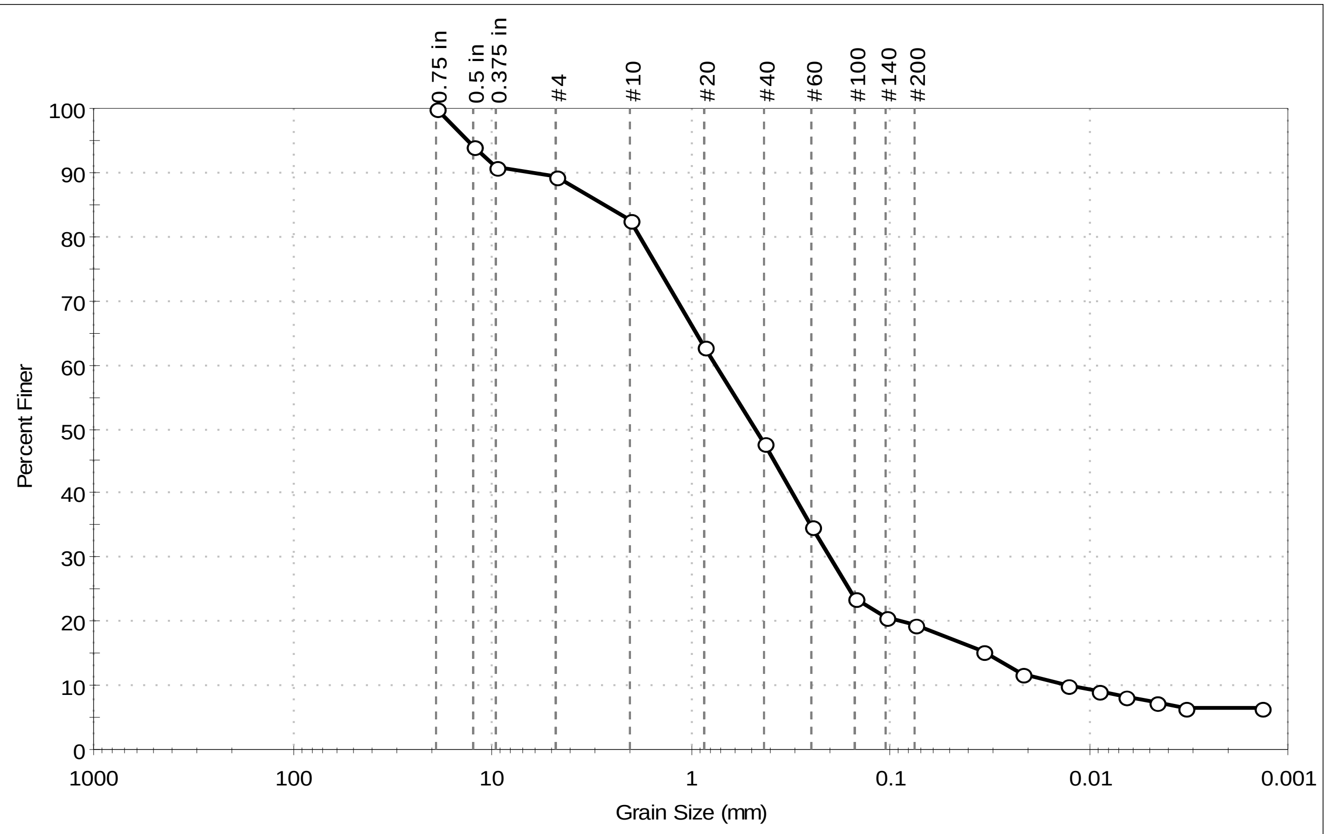
Sand/Gravel Hardness : HARD

printed 10/11/2018 4:56:05 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-3	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-13	Test Date:	10/10/18	Checked By:	emm
Depth :	---	Test Id:	473683		

Test Comment: ---
Visual Description: Moist, brown silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	10.6	70.0	19.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	94		
0.375 in	9.50	91		
#4	4.75	89		
#10	2.00	83		
#20	0.85	63		
#40	0.42	48		
#60	0.25	35		
#100	0.15	24		
#140	0.11	21		
#200	0.075	19		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0342	15		
---	0.0218	12		
---	0.0128	10		
---	0.0089	9		
---	0.0066	8		
---	0.0047	7		
---	0.0033	6		
---	0.0014	6		

Coefficients

D_{85} = 2.7170 mm	D_{30} = 0.2017 mm
D_{60} = 0.7433 mm	D_{15} = 0.0331 mm
D_{50} = 0.4702 mm	D_{10} = 0.0129 mm
C_u = 57.620	C_c = 4.243

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

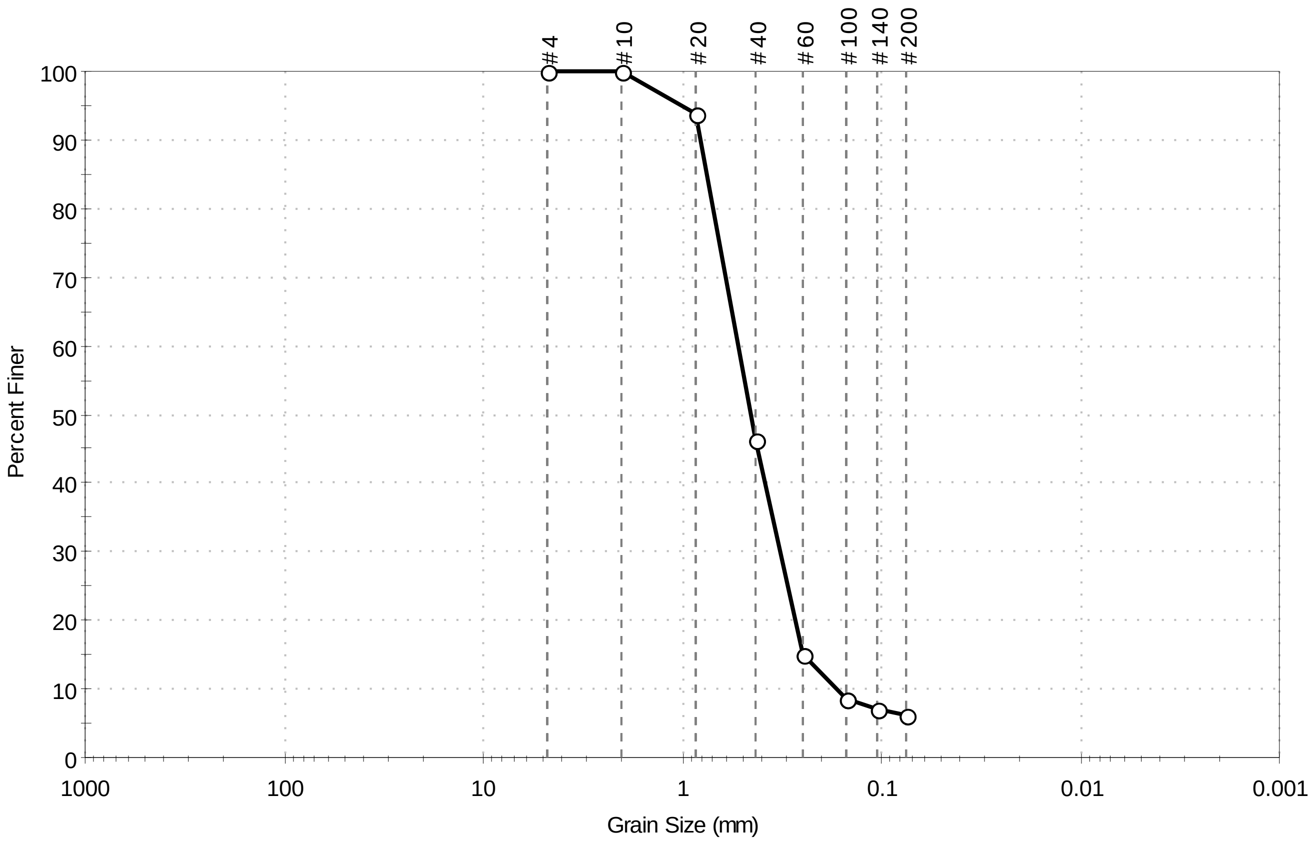
Separation of Sample: #200 Sieve

printed 10/11/2018 4:56:05 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-3	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-18B	Test Date:	10/05/18	Checked By:	emm
Depth :	---	Test Id:	473643		

Test Comment: ---
Visual Description: Moist, gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	93.8	6.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	94		
#40	0.42	46		
#60	0.25	15		
#100	0.15	9		
#140	0.11	7		
#200	0.075	6.2		

Coefficients

D_{85} = 0.7467 mm
D_{30} = 0.3222 mm
D_{60} = 0.5184 mm
D_{15} = 0.2501 mm
D_{50} = 0.4480 mm
D_{10} = 0.1676 mm
C_u = 3.093
C_c = 1.195

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

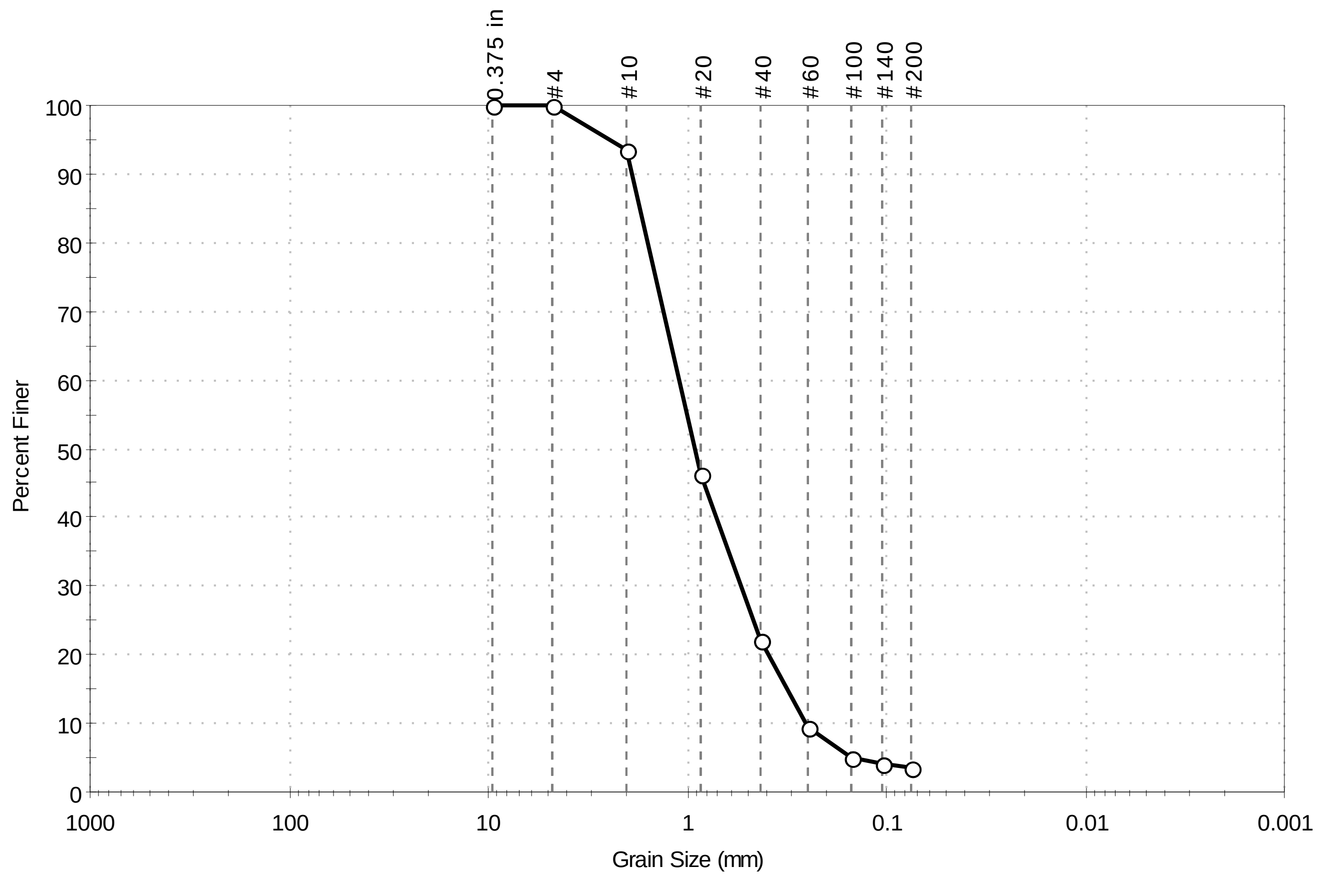
Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:06 PM

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-3
Sample Type: tube
Tested By: jbr
Sample ID: HPC-26B
Test Date: 10/02/18
Checked By: emm
Depth : ---
Test Id: 473646
Test Comment: ---
Visual Description: Moist, light gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.2	96.2	3.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	93		
#20	0.85	46		
#40	0.42	22		
#60	0.25	10		
#100	0.15	5		
#140	0.11	4		
#200	0.075	3.6		

Coefficients

D_{85} =1.7176 mm	D_{30} =0.5320 mm
D_{60} =1.0909 mm	D_{15} =0.3143 mm
D_{50} =0.9097 mm	D_{10} =0.2550 mm
C_u =4.278	C_c =1.017

Classification

ASTM	Poorly graded SAND (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

printed 10/11/2018 4:56:06 PM

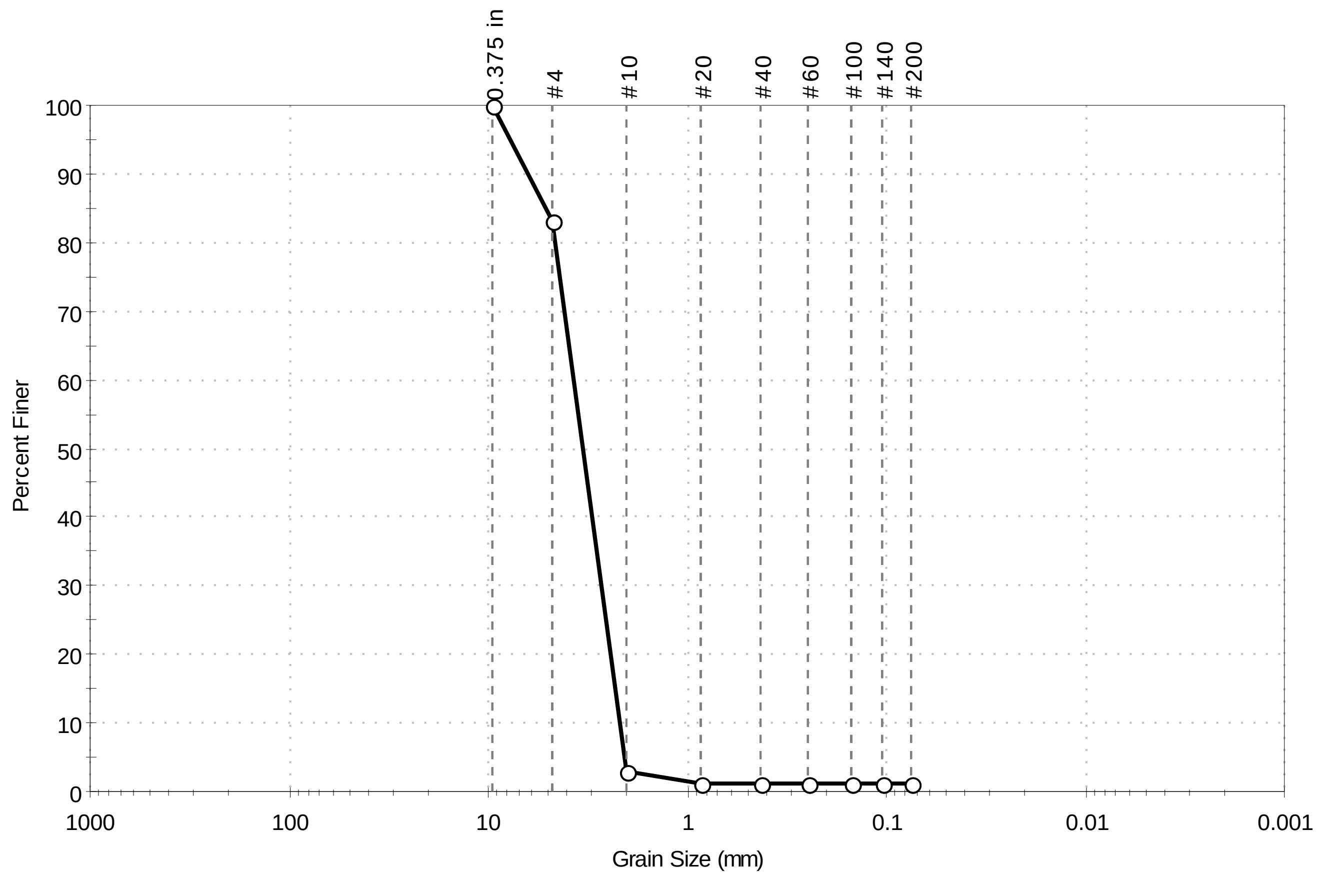
GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-6
Sample Type: tube
Tested By: jbr
Sample ID: ALN-2B
Test Date: 09/27/18
Checked By: emm
Depth : ---
Test Id: 473660

Test Comment: ---
Visual Description: Moist dark gray sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	16.8	82.1	1.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	83		
#10	2.00	3		
#20	0.85	1		
#40	0.42	1		
#60	0.25	1		
#100	0.15	1		
#140	0.11	1		
#200	0.075	1.1		

Coefficients

D_{85} = 5.1183 mm	D_{30} = 2.6765 mm
D_{60} = 3.6990 mm	D_{15} = 2.2767 mm
D_{50} = 3.3208 mm	D_{10} = 2.1572 mm
C_u = 1.715	C_c = 0.898

Classification

ASTM	Poorly graded SAND with Gravel (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-a (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

printed 10/11/2018 4:56:07 PM

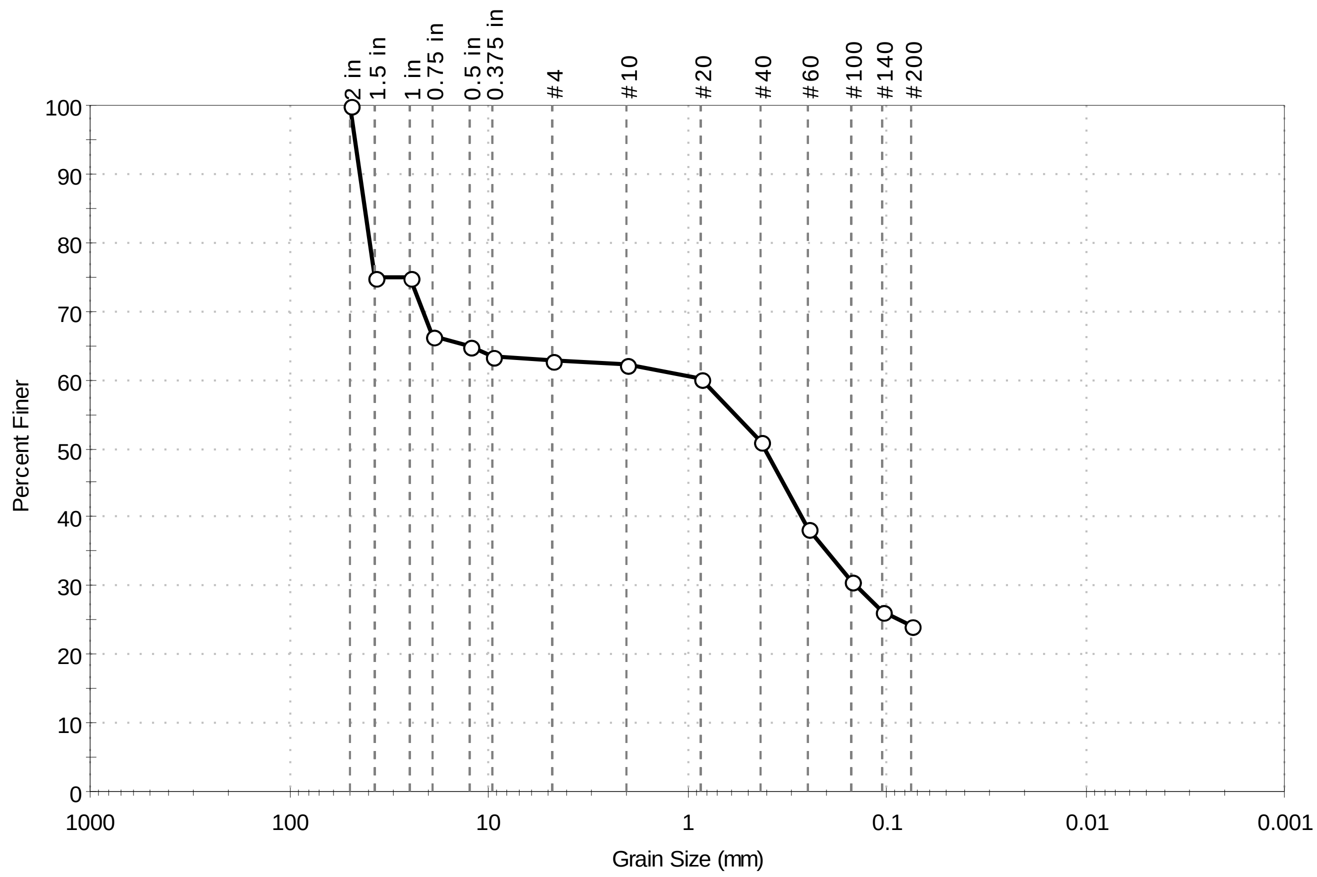
Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-6	Sample Type:	tube	Tested By:	jbr
Sample ID:	ALN-8	Test Date:	10/05/18	Checked By:	emm
Depth :	---	Test Id:	473663		

Test Comment: ---

Visual Description: Moist, dark gray silty sand with gravel

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	37.2	38.5	24.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
2 in	50.00	100		
1.5 in	37.50	75		
1 in	25.00	75		
0.75 in	19.00	66		
0.5 in	12.50	65		
0.375 in	9.50	63		
#4	4.75	63		
#10	2.00	62		
#20	0.85	60		
#40	0.42	51		
#60	0.25	38		
#100	0.15	31		
#140	0.11	26		
#200	0.075	24		

Coefficients

D_{85} = 42.0752 mm	D_{30} = 0.1426 mm
D_{60} = 0.8390 mm	D_{15} = N/A
D_{50} = 0.4093 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

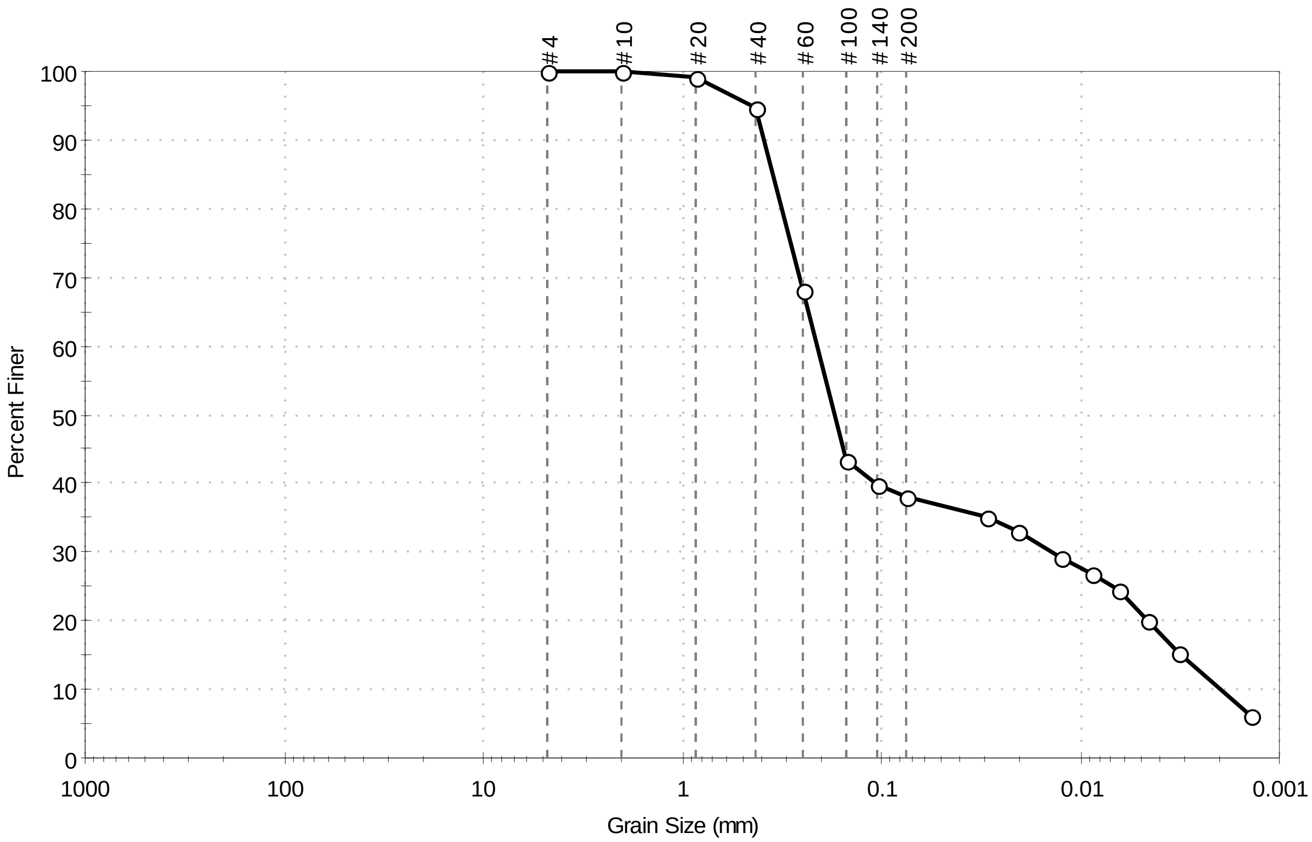
printed 10/11/2018 4:56:07 PM

GeoTesting
EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-6	Sample Type:	tube	Tested By:	jbr
Sample ID:	ALN-9A	Test Date:	10/10/18	Checked By:	emm
Depth :	---	Test Id:	473670		

Test Comment: ---
Visual Description: Moist, gray silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	62.0	38.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	95		
#60	0.25	68		
#100	0.15	44		
#140	0.11	40		
#200	0.075	38		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0296	35		
---	0.0206	33		
---	0.0124	29		
---	0.0087	27		
---	0.0065	25		
---	0.0046	20		
---	0.0033	15		
---	0.0014	6		

Coefficients

D_{85} =0.3500 mm
D_{30} =0.0140 mm
D_{60} =0.2110 mm
D_{15} =0.0032 mm
D_{50} =0.1716 mm
D_{10} =0.0020 mm
C_u =105.500
C_c =0.464

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

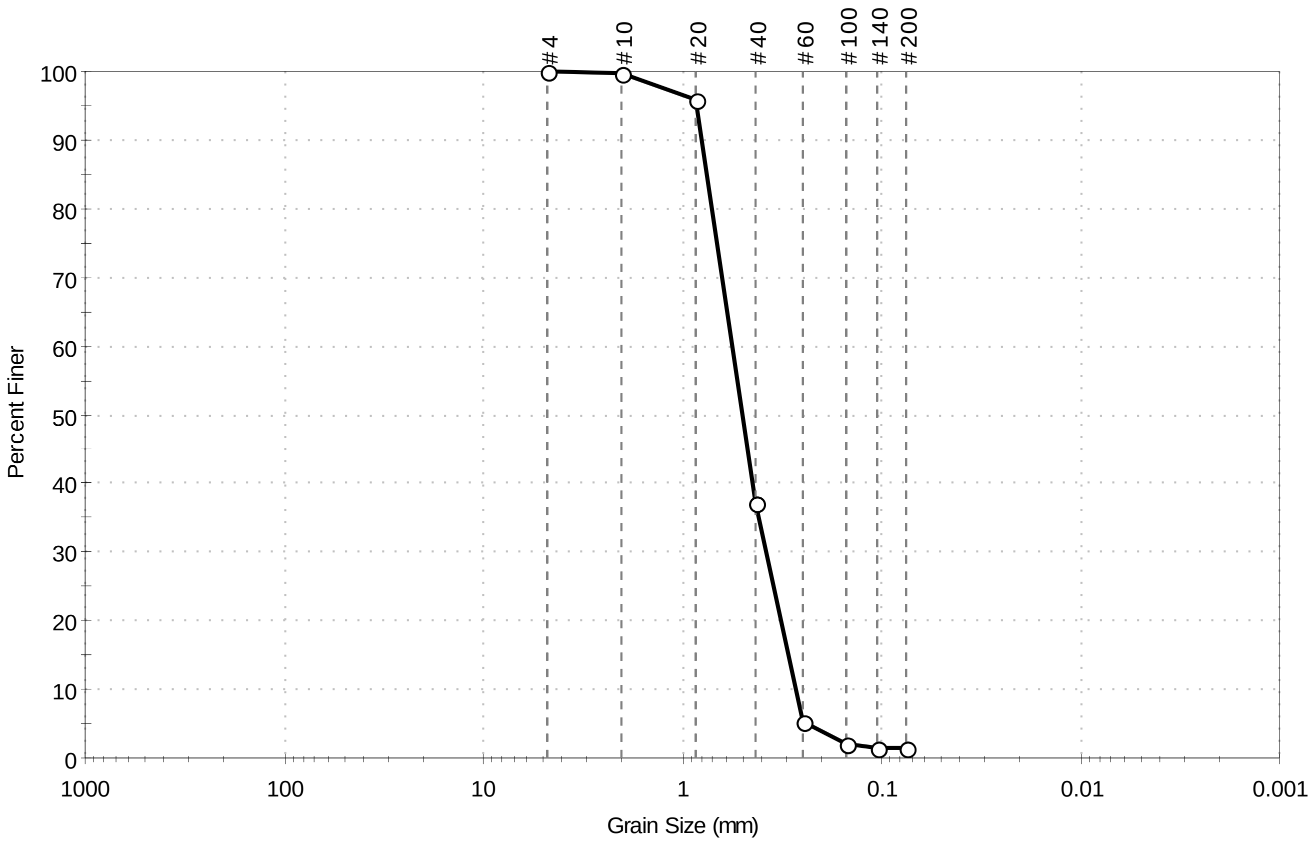
Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

printed 10/11/2018 4:56:08 PM

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-6
Sample Type: tube
Tested By: jbr
Sample ID: EXN-1A
Test Date: 10/01/18
Checked By: emm
Depth : ---
Test Id: 473665
Test Comment: ---
Visual Description: Moist, brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	98.5	1.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	96		
#40	0.42	37		
#60	0.25	5		
#100	0.15	2		
#140	0.11	2		
#200	0.075	1.5		

Coefficients

D_{85} =0.7470 mm
D_{30} =0.3772 mm
D_{60} =0.5564 mm
D_{15} =0.2935 mm
D_{50} =0.4946 mm
D_{10} =0.2699 mm
C_u =2.062
C_c =0.947

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

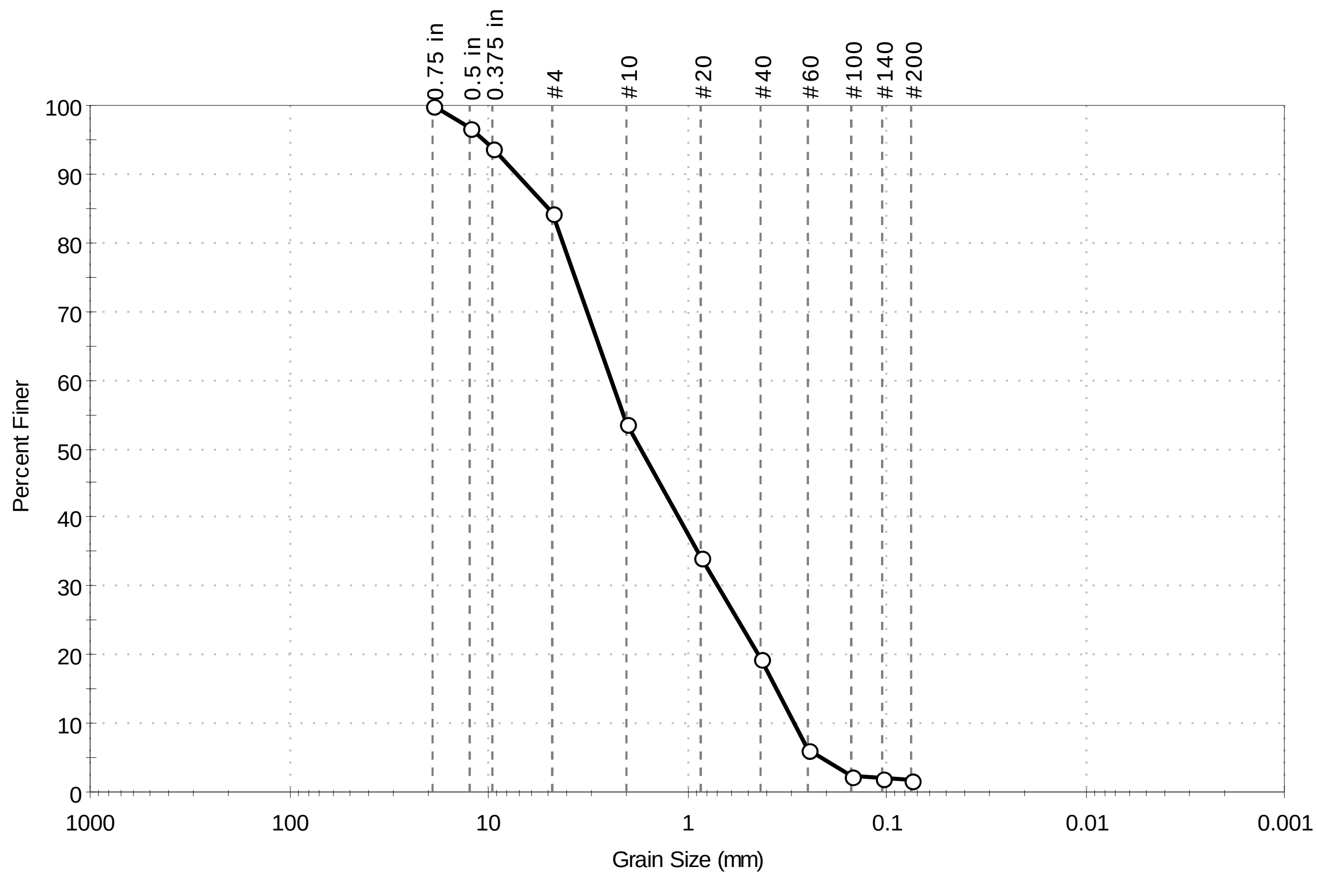
printed 10/11/2018 4:56:08 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-6
Sample ID: HPC-2A
Depth : ---
Sample Type: tube
Test Date: 09/27/18
Test Id: 473664
Tested By: jbr
Checked By: emm

Test Comment: ---
Visual Description: Moist, dark gray sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	15.6	82.6	1.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	97		
0.375 in	9.50	94		
#4	4.75	84		
#10	2.00	54		
#20	0.85	34		
#40	0.42	19		
#60	0.25	6		
#100	0.15	2		
#140	0.11	2		
#200	0.075	1.8		

Coefficients

D_{85} =4.9481 mm
D_{30} =0.6958 mm
D_{60} =2.3809 mm
D_{15} =0.3551 mm
D_{50} =1.6914 mm
D_{10} =0.2905 mm
C_u =8.196
C_c =0.700

Classification

ASTM Poorly graded SAND with Gravel (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

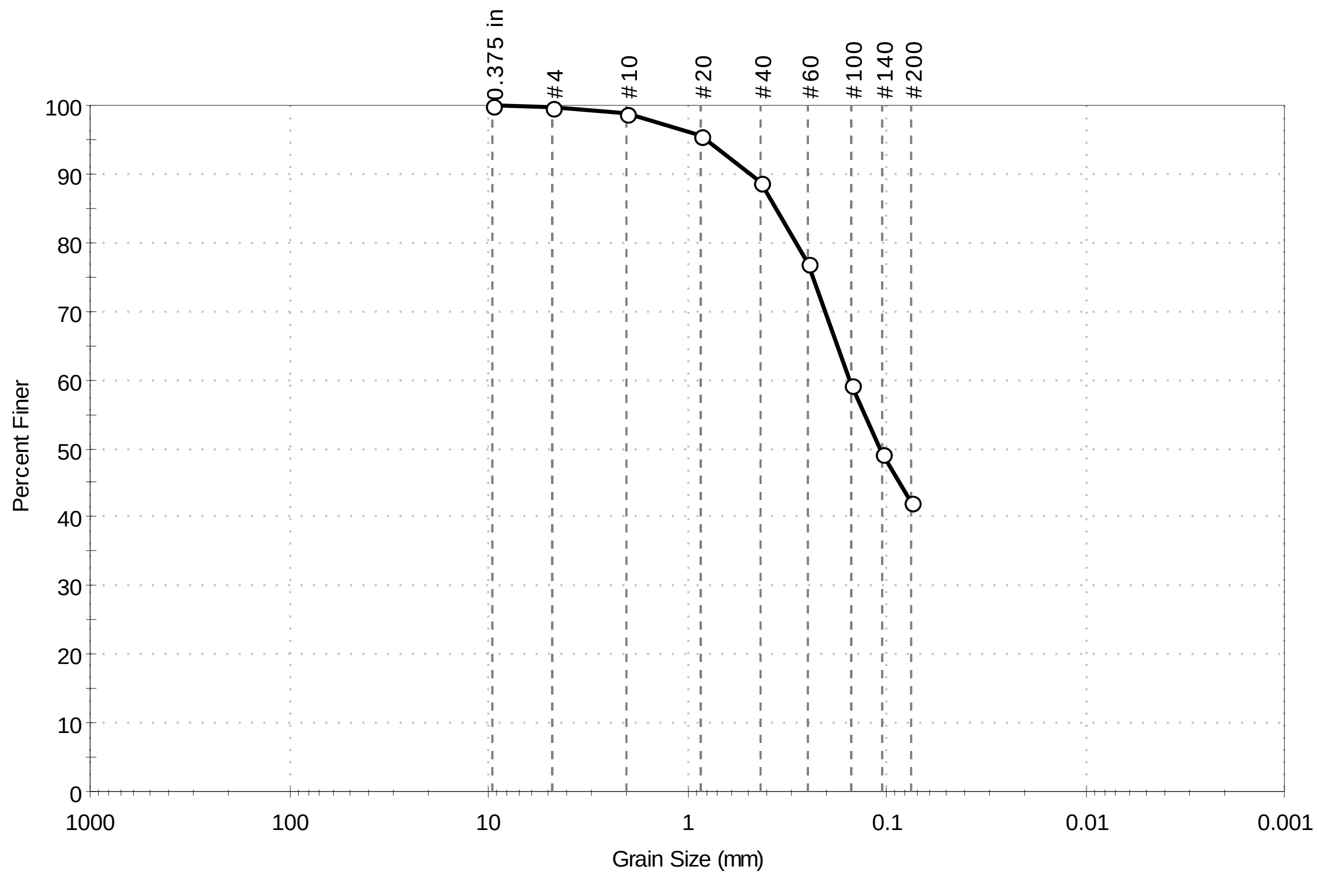
printed 10/11/2018 4:56:09 PM

GeoTesting
EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-6	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-7B	Test Date:	10/02/18	Checked By:	emm
Depth :	---	Test Id:	473661		

Test Comment: ---
Visual Description: Moist, dark gray silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.2	57.6	42.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	95		
#40	0.42	89		
#60	0.25	77		
#100	0.15	59		
#140	0.11	49		
#200	0.075	42		

Coefficients

D_{85} = 0.3577 mm	D_{30} = N/A
D_{60} = 0.1534 mm	D_{15} = N/A
D_{50} = 0.1085 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

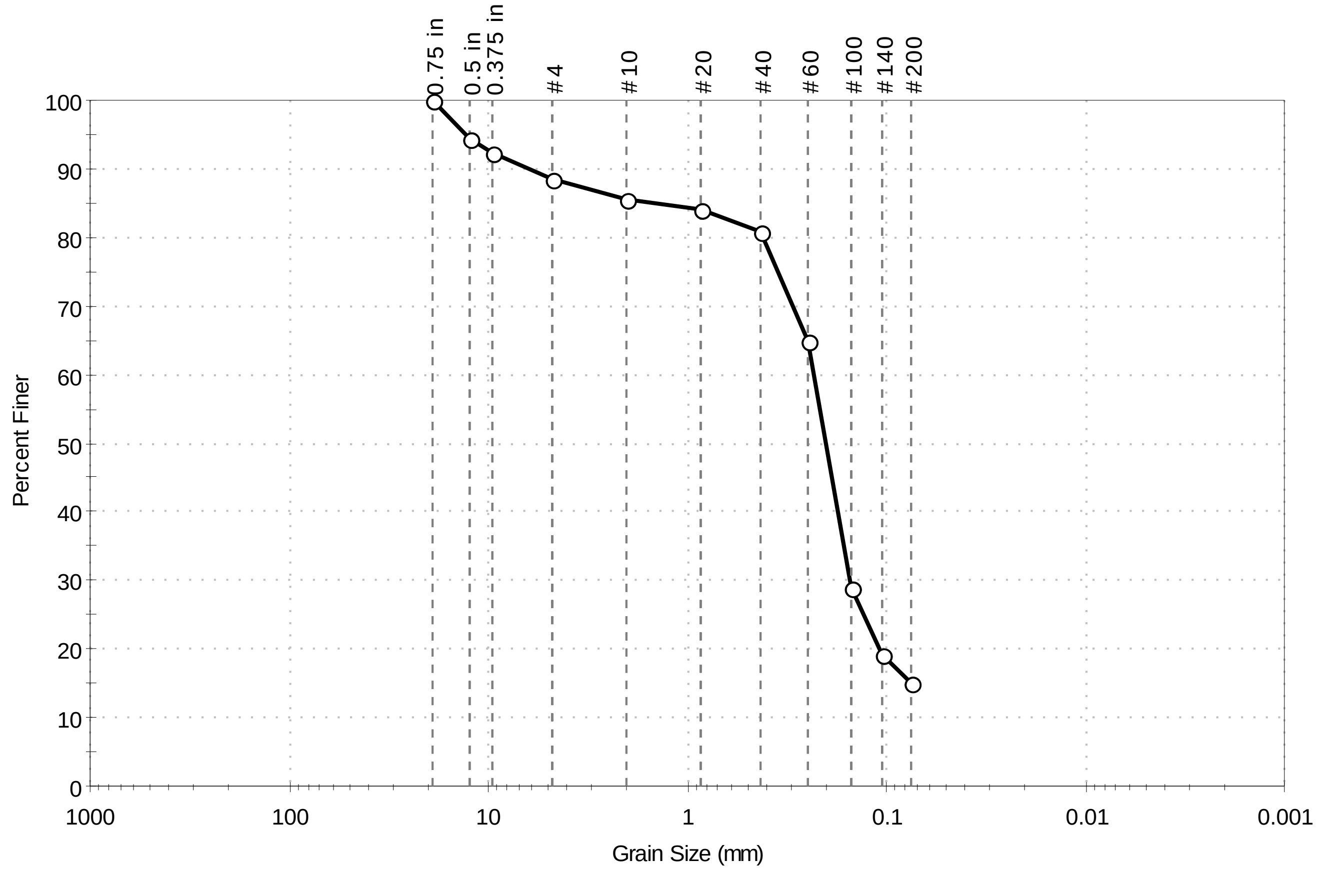
Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:09 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-6	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-8	Test Date:	10/02/18	Checked By:	emm
Depth :	---	Test Id:	473662		

Test Comment: ---
Visual Description: Moist, dark gray silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	11.6	73.4	15.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	95		
0.375 in	9.50	92		
#4	4.75	88		
#10	2.00	86		
#20	0.85	84		
#40	0.42	81		
#60	0.25	65		
#100	0.15	29		
#140	0.11	19		
#200	0.075	15		

Coefficients

D_{85} = 1.4294 mm	D_{30} = 0.1522 mm
D_{60} = 0.2330 mm	D_{15} = 0.0753 mm
D_{50} = 0.2021 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

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

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

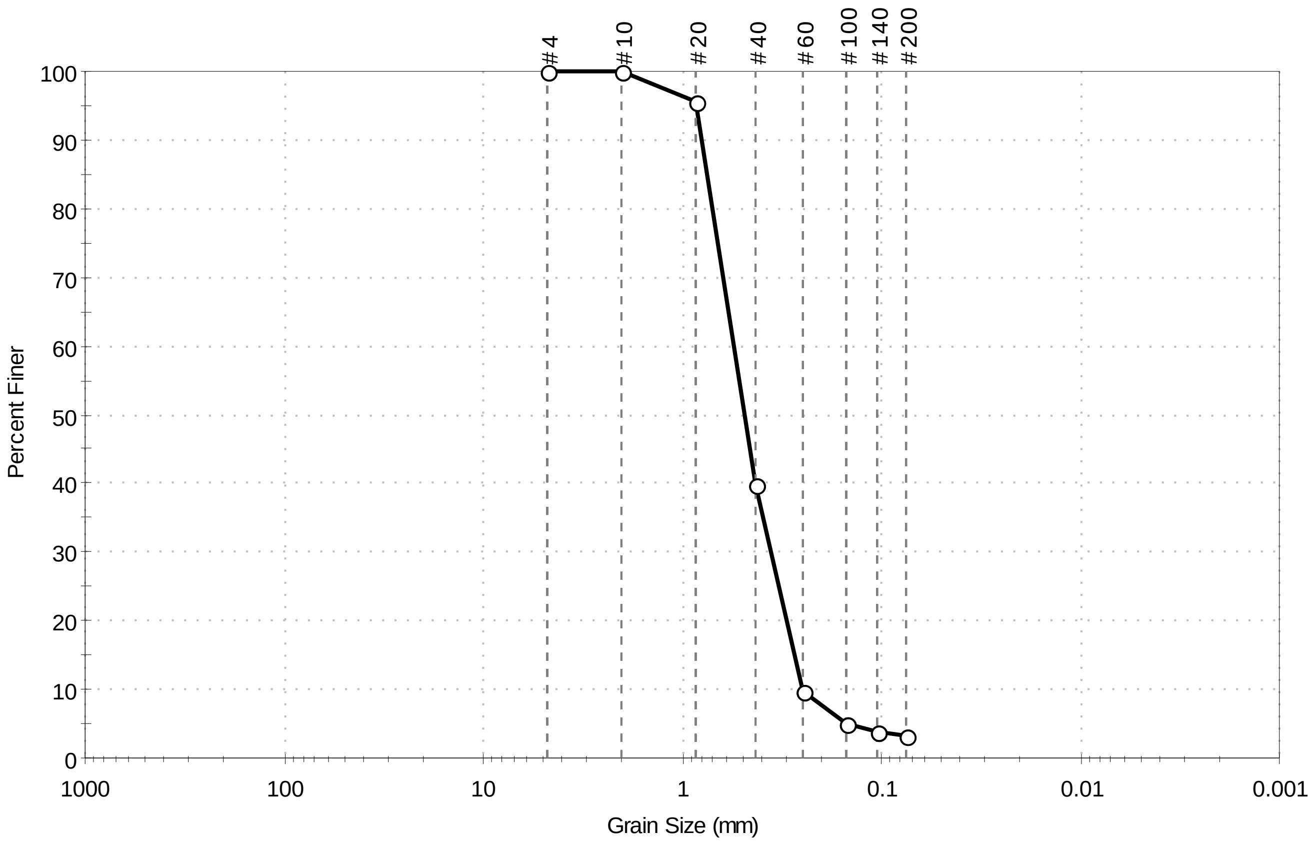
printed 10/11/2018 4:56:10 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-6
Sample ID: HPC-16B
Depth : ---
Sample Type: tube
Test Date: 10/01/18
Test Id: 473666
Tested By: jbr
Checked By: emm

Test Comment: ---
Visual Description: Moist, pale gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	96.7	3.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	96		
#40	0.42	40		
#60	0.25	10		
#100	0.15	5		
#140	0.11	4		
#200	0.075	3.3		

Coefficients

D_{85} =0.7452 mm
D_{30} =0.3571 mm
D_{60} =0.5458 mm
D_{15} =0.2745 mm
D_{50} =0.4819 mm
D_{10} =0.2515 mm
C_u =2.170
C_c =0.929

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:10 PM

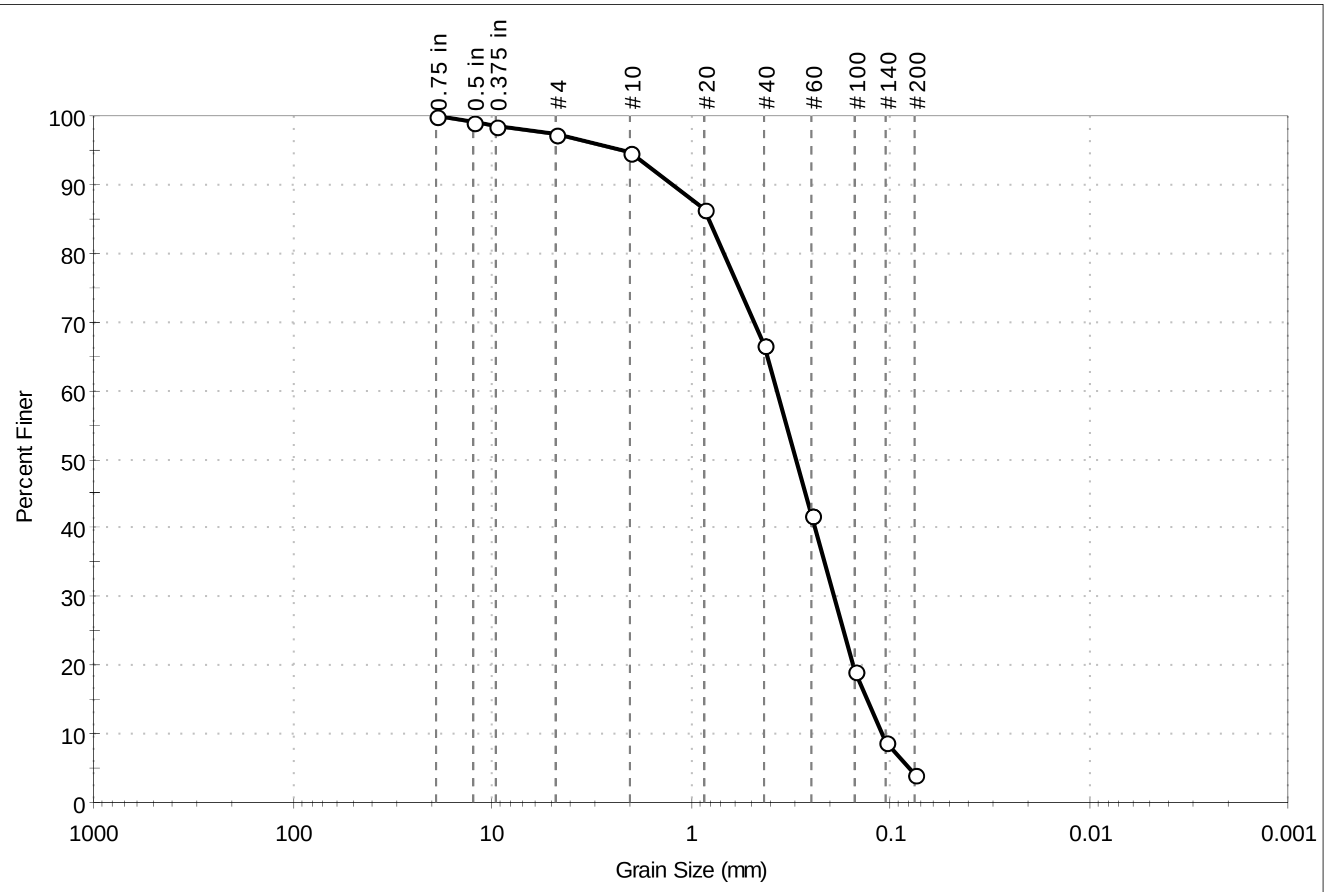
GeoTesting
EXPRESS

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764

Boring ID:	B-10	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-4A	Test Date:	10/11/18	Checked By:	emm
Depth :	---	Test Id:	473617		

Test Comment: ---
Visual Description: Moist, grayish brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	2.7	93.1	4.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	99		
0.375 in	9.50	99		
#4	4.75	97		
#10	2.00	95		
#20	0.85	86		
#40	0.42	67		
#60	0.25	42		
#100	0.15	19		
#140	0.11	9		
#200	0.075	4.2		

Coefficients

D_{85} =0.8108 mm	D_{30} =0.1916 mm
D_{60} =0.3691 mm	D_{15} =0.1302 mm
D_{50} =0.2980 mm	D_{10} =0.1098 mm
C_u =3.362	C_c =0.906

Classification

ASTM	Poorly graded SAND (SP)
AASHTO	Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

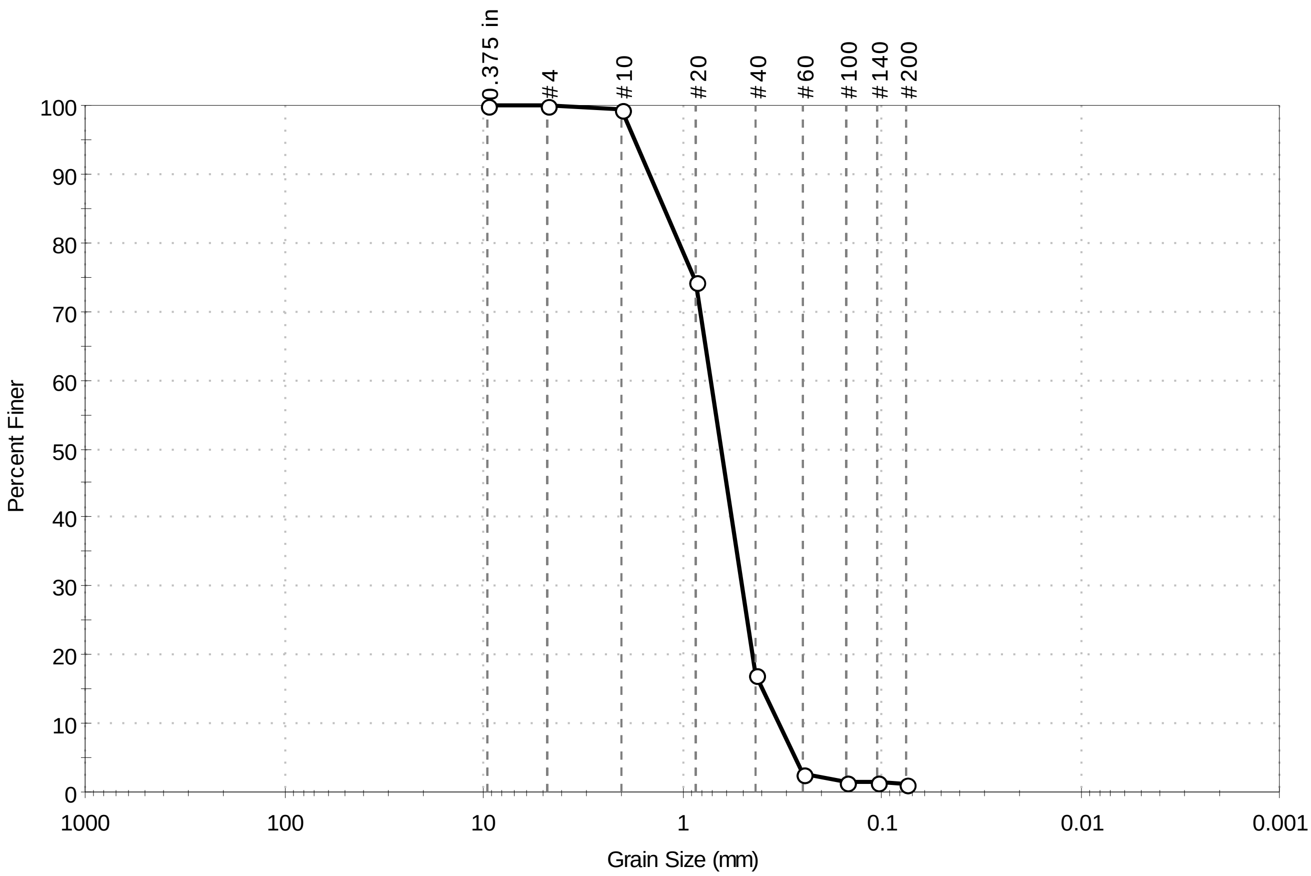
Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:11 PM

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-10
Sample Type: tube
Tested By: jbr
Sample ID: ALN-4B
Test Date: 10/05/18
Checked By: emm
Depth : ---
Test Id: 473616
Test Comment: ---
Visual Description: Moist, brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.1	98.6	1.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	74		
#40	0.42	17		
#60	0.25	3		
#100	0.15	2		
#140	0.11	1		
#200	0.075	1.3		

Coefficients

D_{85} = 1.2257 mm	D_{30} = 0.4969 mm
D_{60} = 0.7150 mm	D_{15} = 0.3934 mm
D_{50} = 0.6333 mm	D_{10} = 0.3274 mm
C_u = 2.184	C_c = 1.055

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

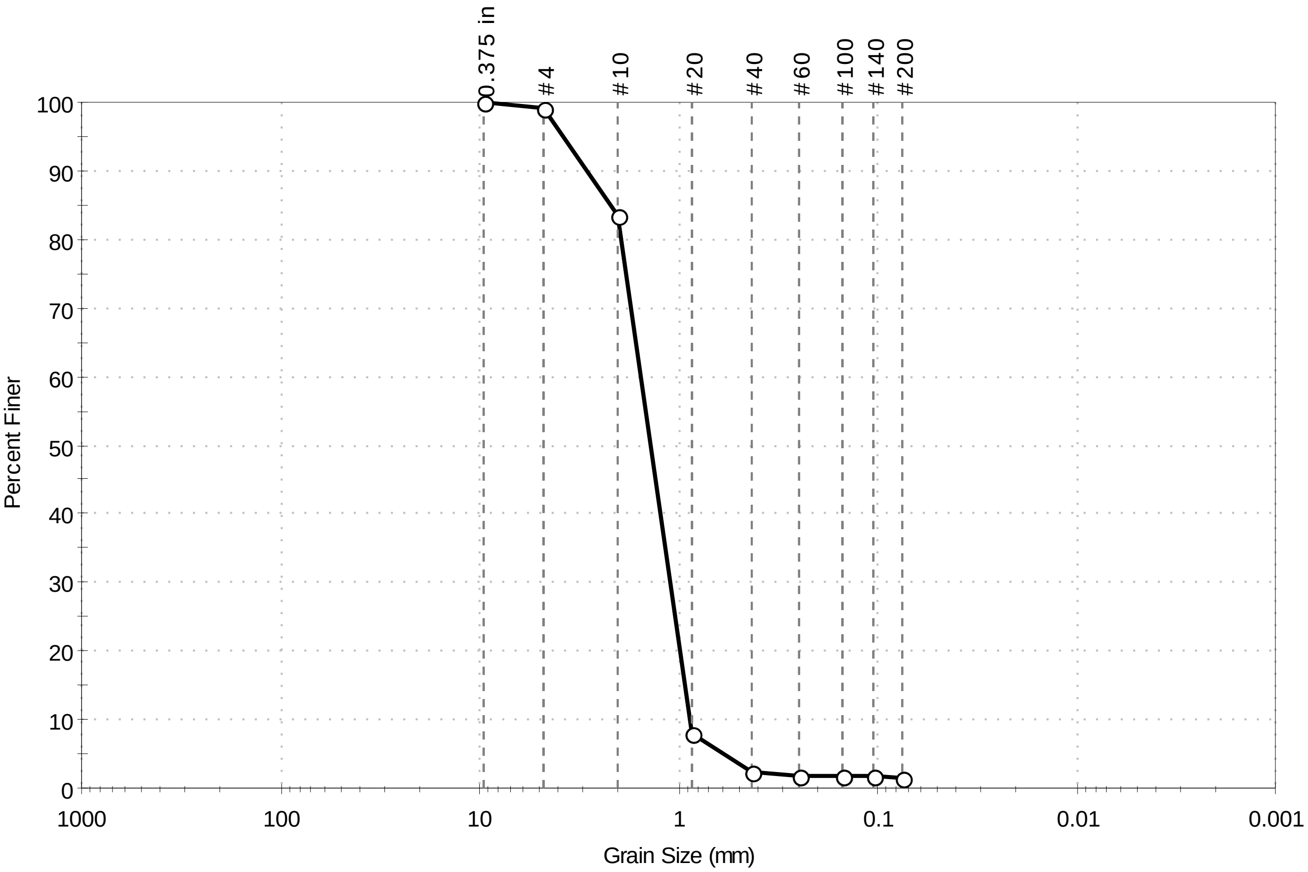
Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:11 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-10	Sample Type:	tube	Tested By:	jbr
Sample ID:	ALN-9B	Test Date:	10/05/18	Checked By:	emm
Depth :	---	Test Id:	473615		

Test Comment: ---
Visual Description: Moist, grayish yellow sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.7	97.7	1.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	83		
#20	0.85	8		
#40	0.42	2		
#60	0.25	2		
#100	0.15	2		
#140	0.11	2		
#200	0.075	1.6		

Coefficients

D_{85} = 2.1853 mm	D_{30} = 1.0919 mm
D_{60} = 1.5343 mm	D_{15} = 0.9211 mm
D_{50} = 1.3698 mm	D_{10} = 0.8703 mm
C_u = 1.763	C_c = 0.893

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

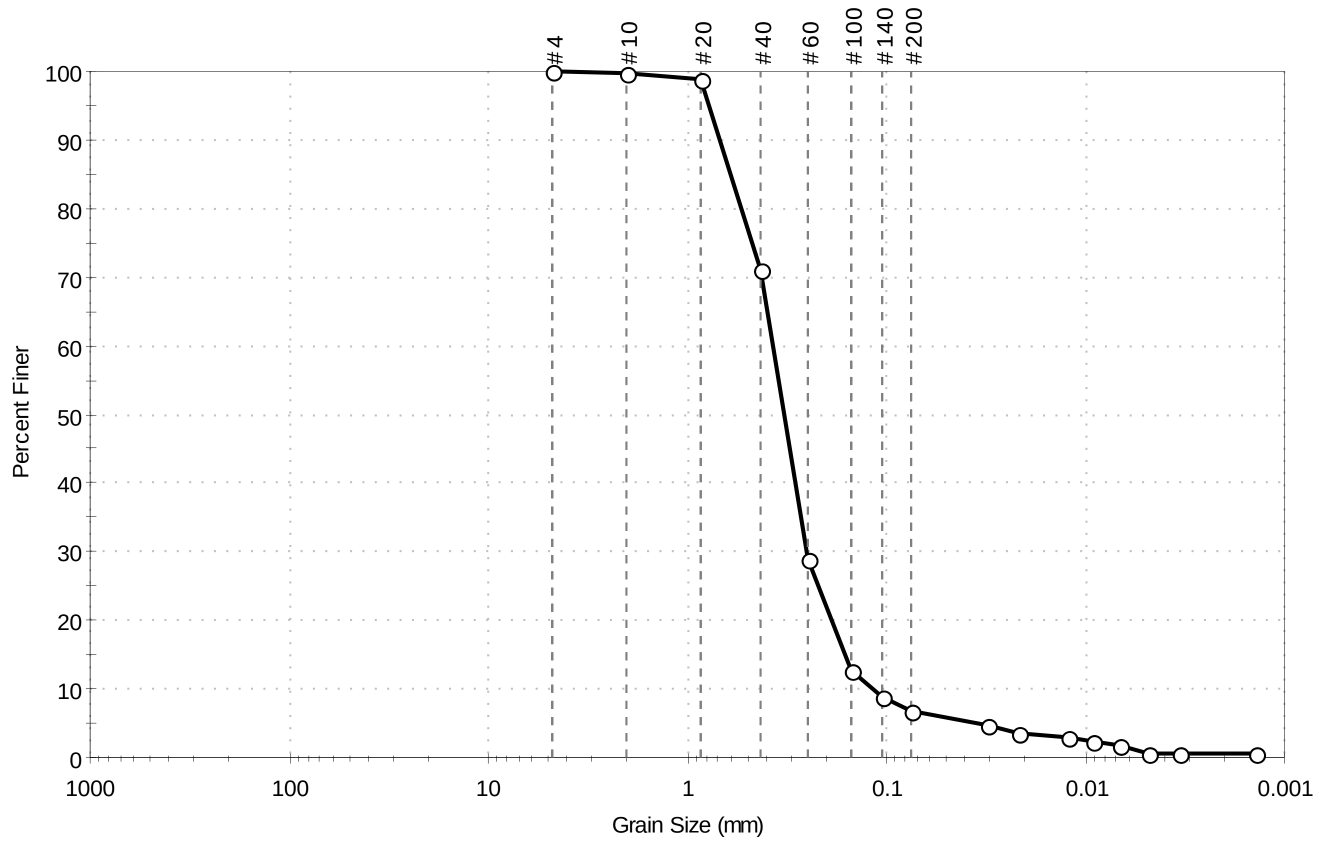
Sand/Gravel Hardness : HARD

printed 10/11/2018 4:56:12 PM

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764
Boring ID: B-10	Sample Type: tube	Tested By:	jbr
Sample ID: HPC-21B	Test Date: 10/10/18	Checked By:	emm
Depth : ---	Test Id: 473681		

Test Comment: ---
Visual Description: Moist, dark gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	93.1	6.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	71		
#60	0.25	29		
#100	0.15	13		
#140	0.11	9		
#200	0.075	6.9		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0313	5		
---	0.0217	4		
---	0.0122	3		
---	0.0092	2		
---	0.0068	2		
---	0.0048	1		
---	0.0034	1		
---	0.0014	1		

Coefficients

D_{85} = 0.6015 mm
D_{30} = 0.2537 mm
D_{60} = 0.3693 mm
D_{15} = 0.1619 mm
D_{50} = 0.3258 mm
D_{10} = 0.1188 mm
C_u = 3.109
C_c = 1.467

Classification

ASTM	N/A
AASHTO	Fine Sand (A-3 (1))

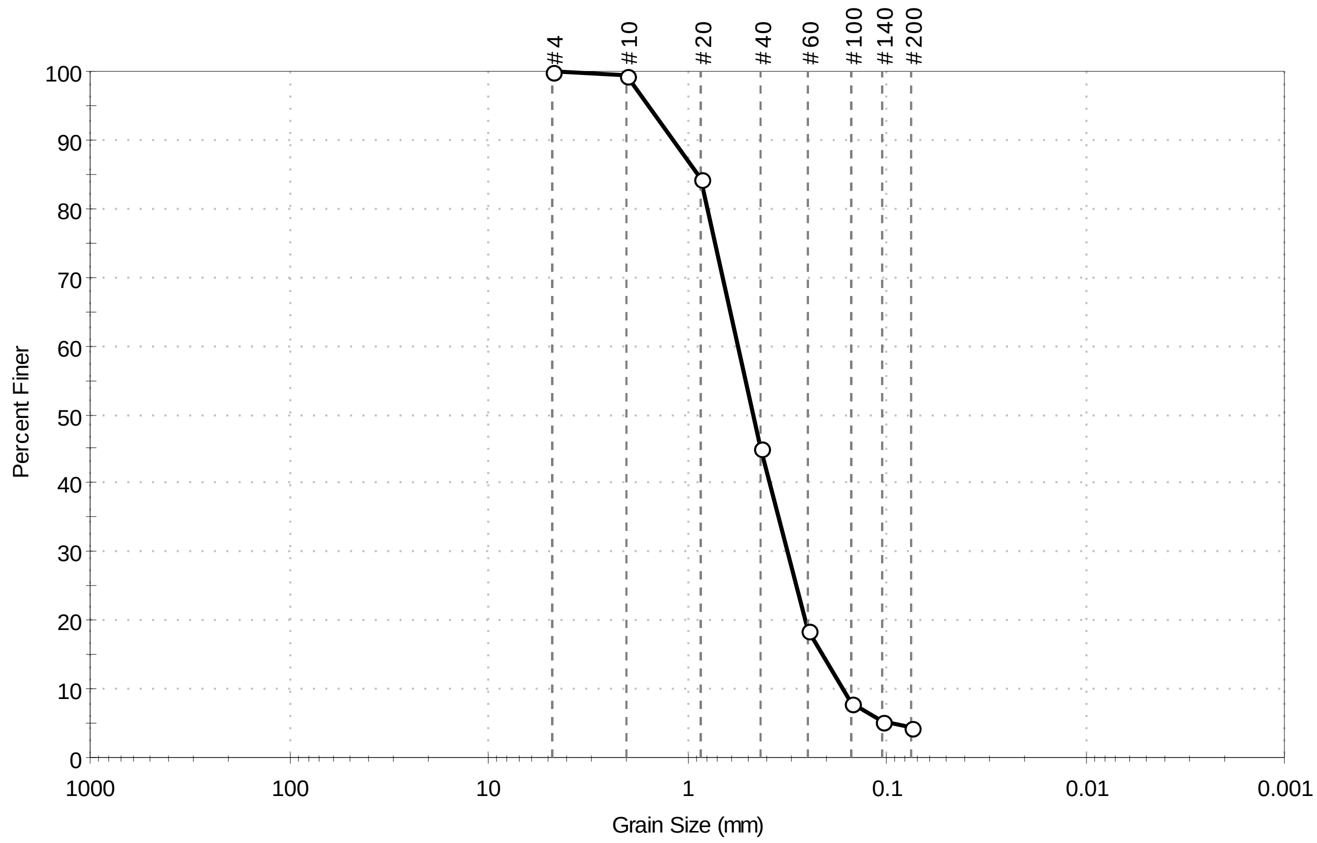
Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-10	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-22B	Test Date:	10/02/18	Checked By:	emm
Depth :	---	Test Id:	473618		

Test Comment: ---
Visual Description: Moist, gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	95.7	4.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	84		
#40	0.42	45		
#60	0.25	19		
#100	0.15	8		
#140	0.11	5		
#200	0.075	4.3		

Coefficients

D_{85} = 0.8779 mm
D_{30} = 0.3144 mm
D_{60} = 0.5531 mm
D_{15} = 0.2102 mm
D_{50} = 0.4639 mm
D_{10} = 0.1650 mm
C_u = 3.352
C_c = 1.083

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

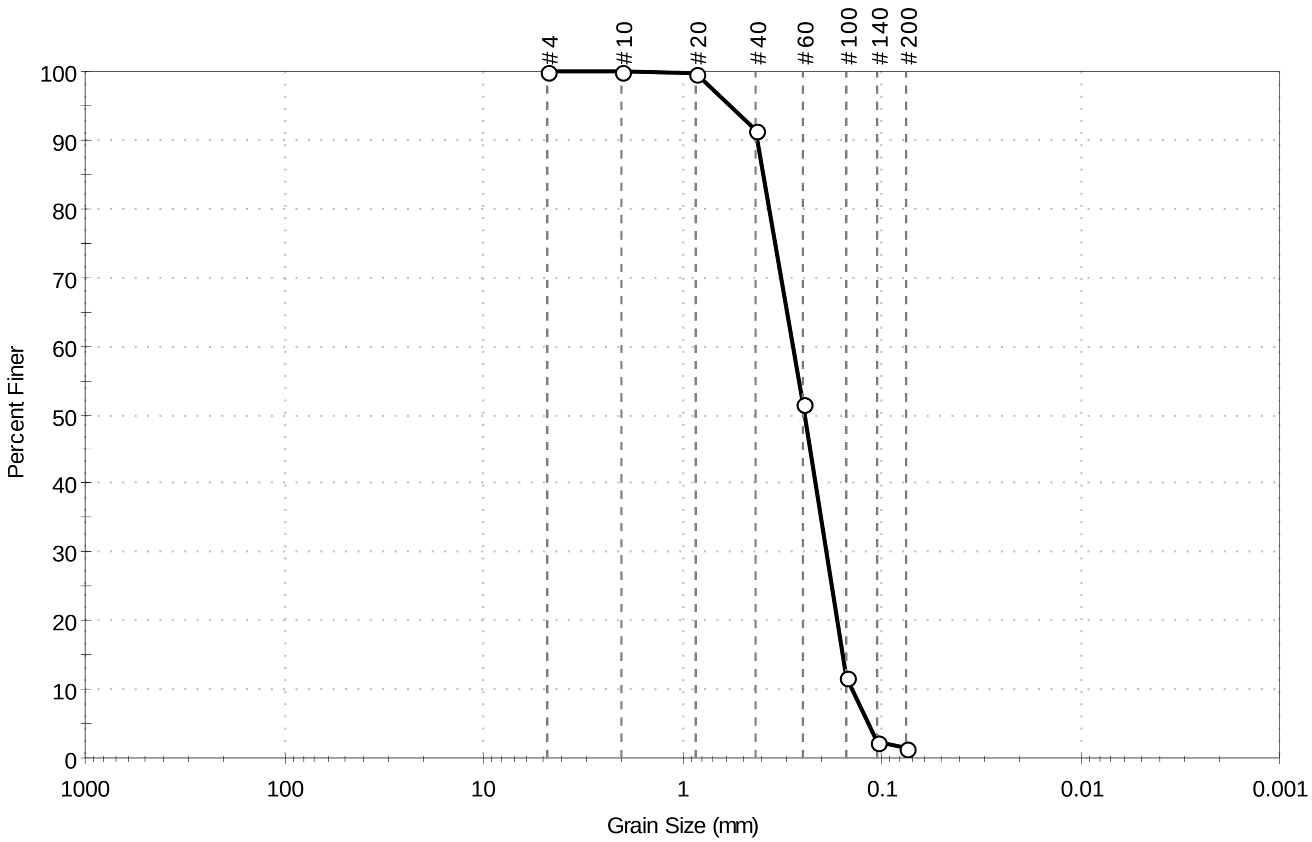
printed 10/11/2018 4:56:13 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-11
Sample ID: HPC-1B
Depth : ---
Sample Type: tube
Test Date: 10/02/18
Test Id: 473634
Tested By: jbr
Checked By: emm

Test Comment: ---
Visual Description: Moist, brown sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.1	98.4	1.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	91		
#60	0.25	52		
#100	0.15	12		
#140	0.11	2		
#200	0.075	1.5		

Coefficients

D_{85} =0.3900 mm
D_{30} =0.1894 mm
D_{60} =0.2793 mm
D_{15} =0.1564 mm
D_{50} =0.2446 mm
D_{10} =0.1407 mm
C_u =1.985
C_c =0.913

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

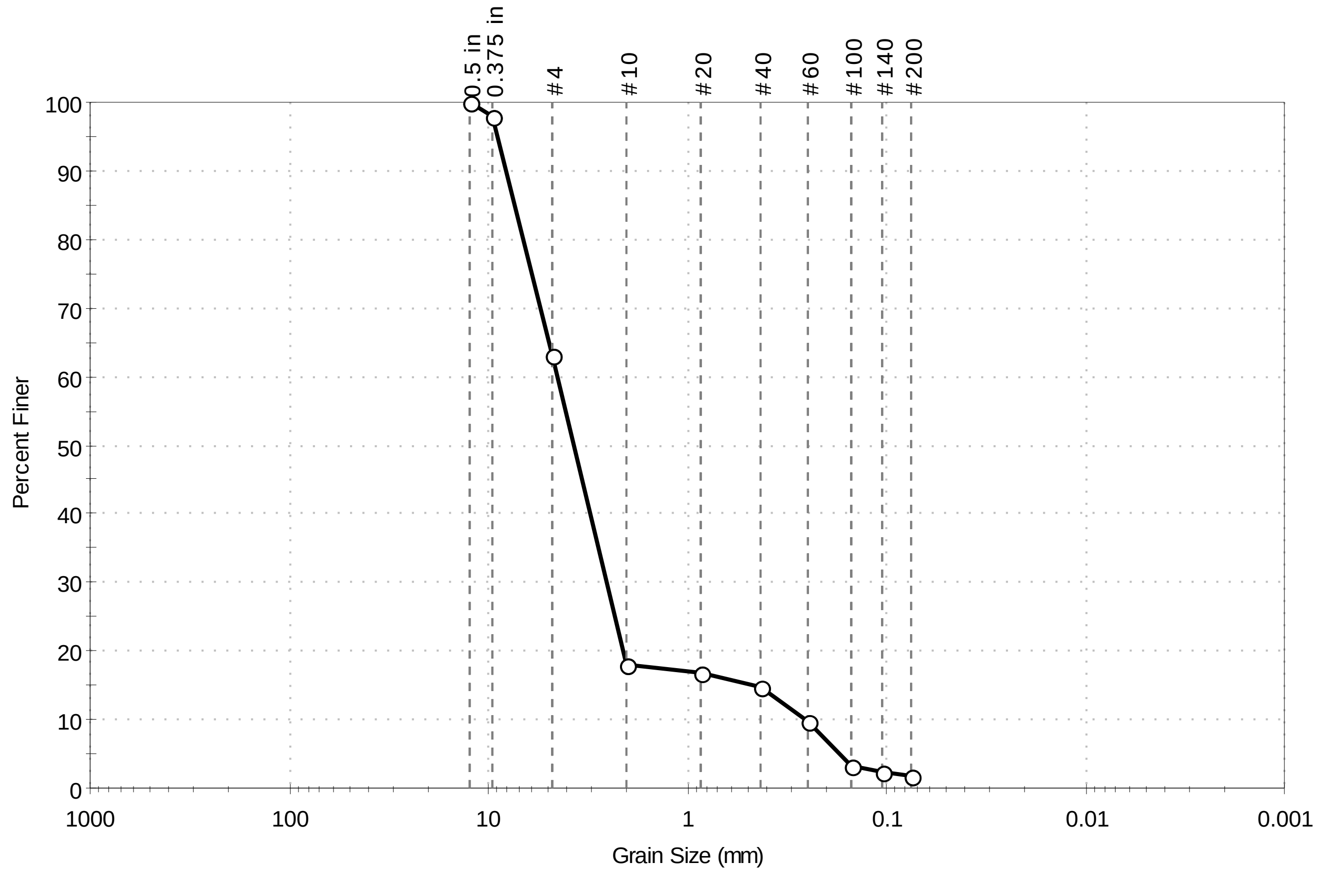
printed 10/11/2018 4:56:13 PM

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764

Boring ID:	B-11	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-3A	Test Date:	09/27/18	Checked By:	emm
Depth :	---	Test Id:	473633		

Test Comment: ---
Visual Description: Moist, light gray sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	36.7	61.4	1.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	98		
#4	4.75	63		
#10	2.00	18		
#20	0.85	17		
#40	0.42	15		
#60	0.25	10		
#100	0.15	3		
#140	0.11	2		
#200	0.075	1.9		

Coefficients

D_{85} = 7.3375 mm
D_{30} = 2.5199 mm
D_{60} = 4.4642 mm
D_{15} = 0.4803 mm
D_{50} = 3.6894 mm
D_{10} = 0.2586 mm
C_u = 17.263
C_c = 5.500

Classification

ASTM	Poorly graded SAND with Gravel (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-a (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

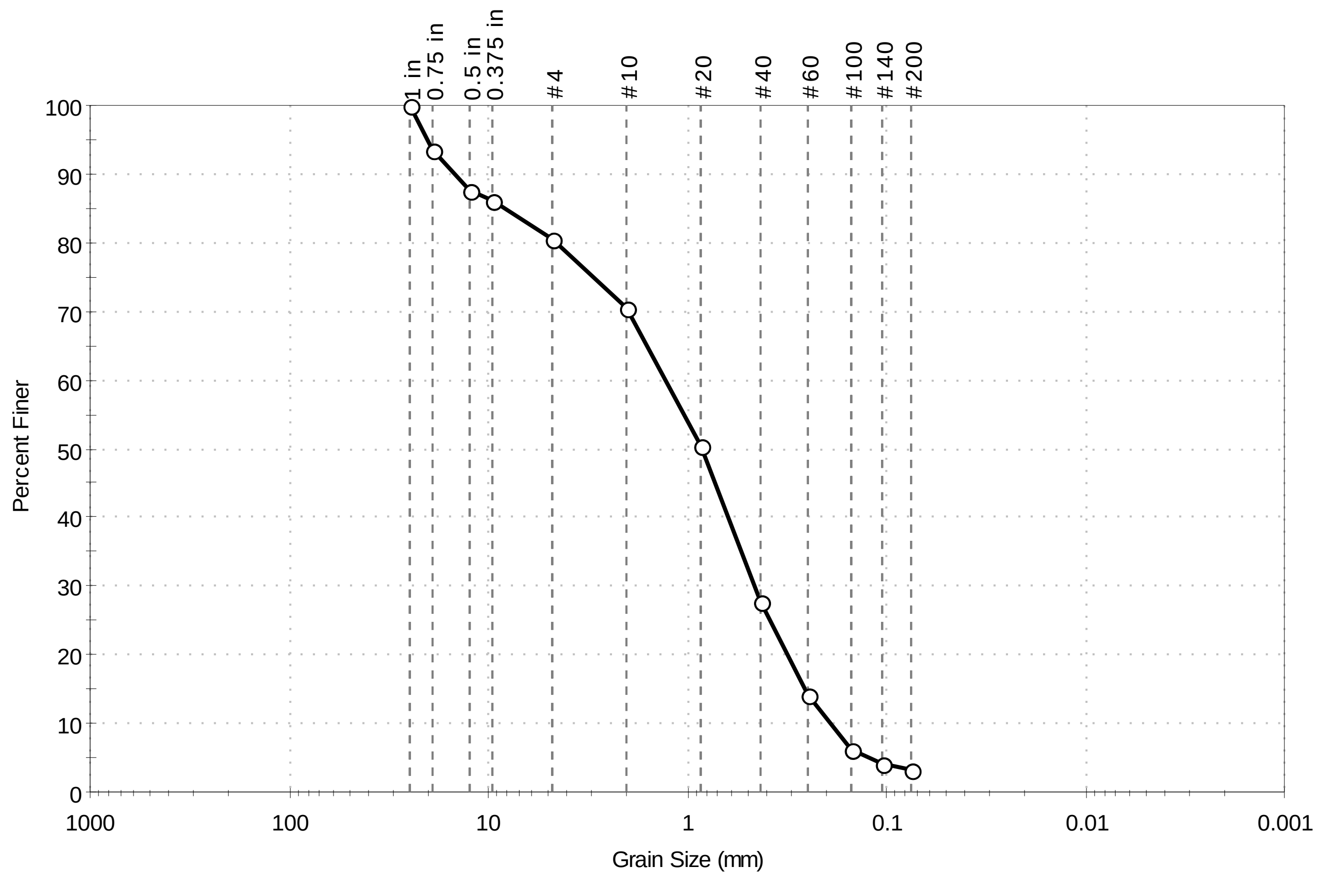
printed 10/11/2018 4:56:14 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-11
Sample Type: tube
Tested By: jbr
Sample ID: HPC-4B
Test Date: 09/27/18
Checked By: emm
Depth : ---
Test Id: 473632

Test Comment: ---
Visual Description: Moist, brown sand with gravel
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	19.6	77.2	3.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	94		
0.5 in	12.50	88		
0.375 in	9.50	86		
#4	4.75	80		
#10	2.00	70		
#20	0.85	50		
#40	0.42	28		
#60	0.25	14		
#100	0.15	6		
#140	0.11	4		
#200	0.075	3.2		

Coefficients

D_{85} = 8.3813 mm	D_{30} = 0.4571 mm
D_{60} = 1.2796 mm	D_{15} = 0.2588 mm
D_{50} = 0.8373 mm	D_{10} = 0.1920 mm
C_u = 6.665	C_c = 0.850

Classification

ASTM	Poorly graded SAND with Gravel (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

printed 10/11/2018 4:56:14 PM

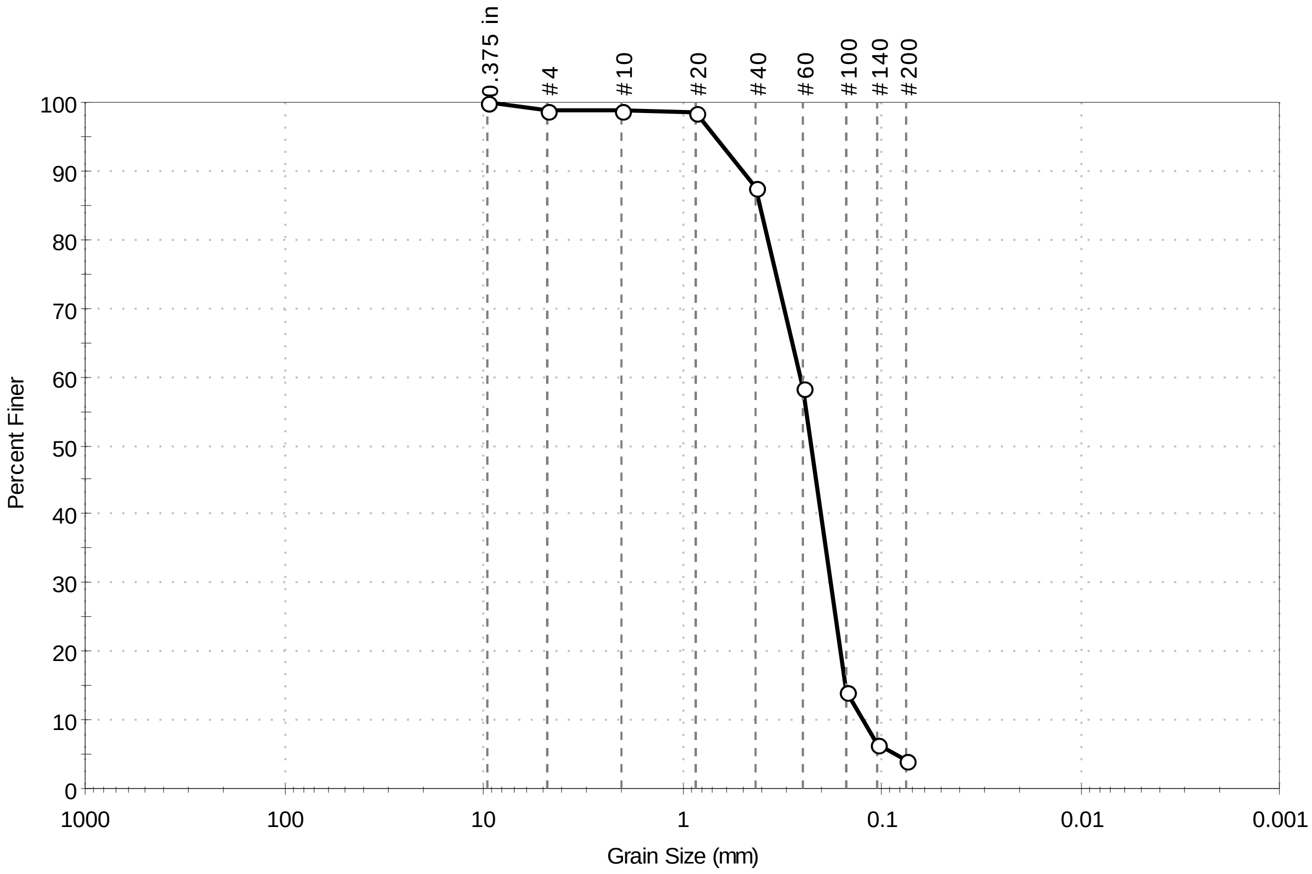
GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-11
Sample ID: HPC-7B
Depth : ---
Sample Type: tube
Test Date: 09/27/18
Test Id: 475017
Tested By: jbr
Checked By: emm

Test Comment: ---
Visual Description: Moist, light gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	1.1	94.7	4.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	99		
#20	0.85	98		
#40	0.42	88		
#60	0.25	58		
#100	0.15	14		
#140	0.11	7		
#200	0.075	4.2		

Coefficients

D_{85} =0.4051 mm
D_{30} =0.1802 mm
D_{60} =0.2571 mm
D_{15} =0.1516 mm
D_{50} =0.2268 mm
D_{10} =0.1243 mm
C_u =2.068
C_c =1.016

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

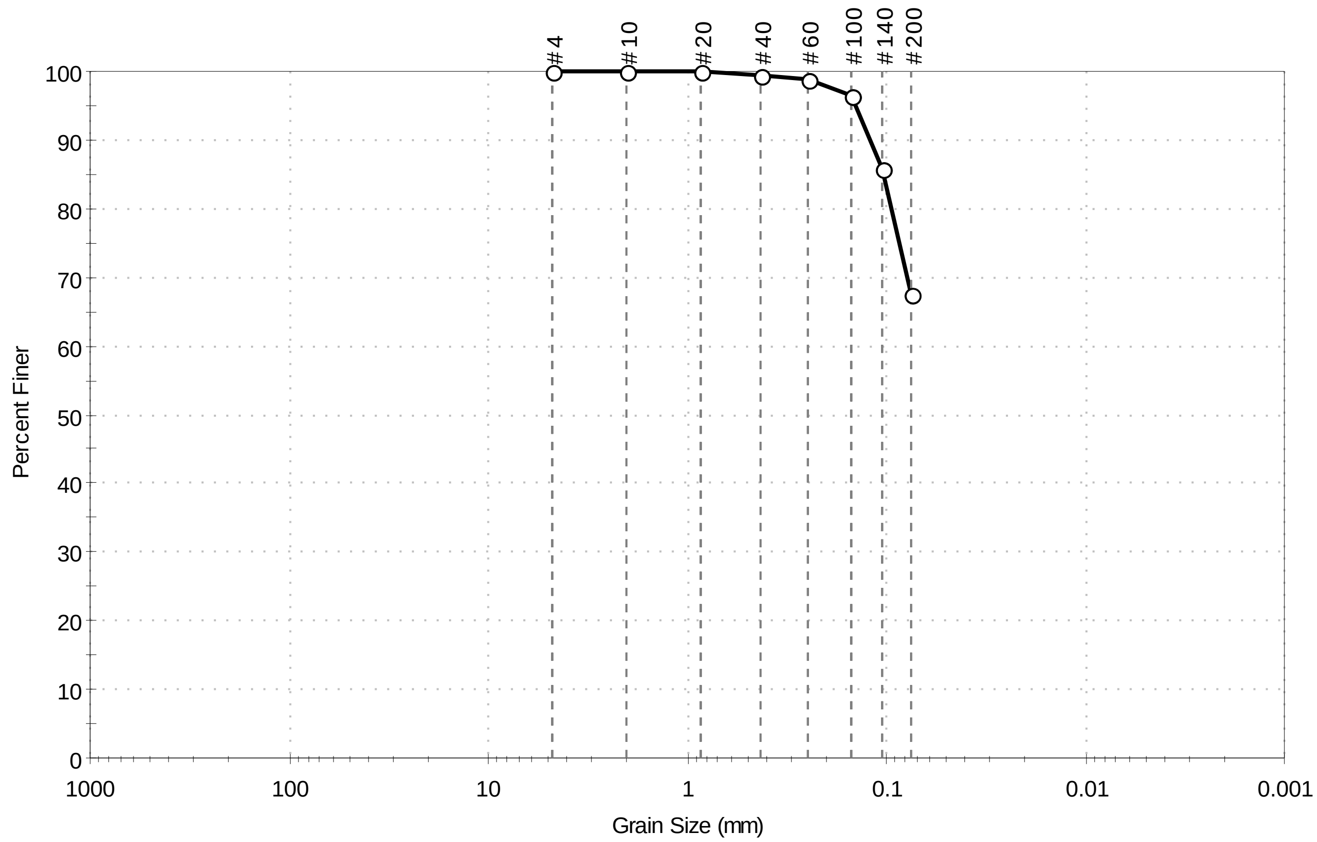
printed 10/11/2018 4:56:15 PM

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764

Boring ID:	B-11	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-8.1B	Test Date:	10/05/18	Checked By:	emm
Depth :	---	Test Id:	473636		

Test Comment: ---
Visual Description: Moist, dark gray sandy silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	32.3	67.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	96		
#140	0.11	86		
#200	0.075	68		

Coefficients

D_{85} = 0.1043 mm
D_{30} = N/A
D_{60} = N/A
D_{15} = N/A
D_{50} = N/A
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

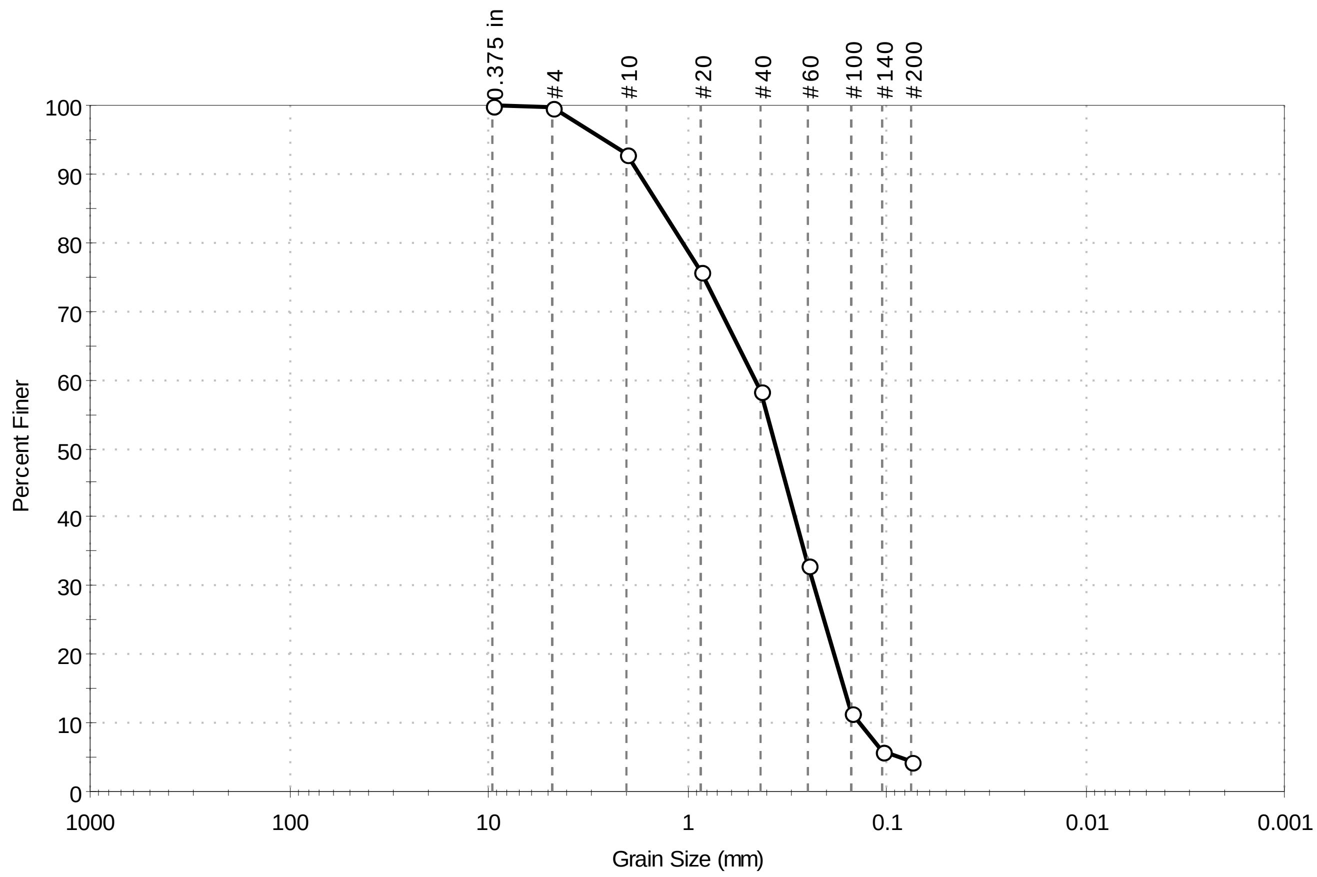
Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:15 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-11	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-9B	Test Date:	10/02/18	Checked By:	emm
Depth :	---	Test Id:	473635		

Test Comment: ---
Visual Description: Moist, dark gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.2	95.5	4.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	93		
#20	0.85	76		
#40	0.42	58		
#60	0.25	33		
#100	0.15	12		
#140	0.11	6		
#200	0.075	4.3		

Coefficients

D_{85} = 1.3503 mm	D_{30} = 0.2333 mm
D_{60} = 0.4546 mm	D_{15} = 0.1628 mm
D_{50} = 0.3573 mm	D_{10} = 0.1362 mm
C_u = 3.338	C_c = 0.879

Classification

ASTM	Poorly graded SAND (SP)
AASHTO	Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

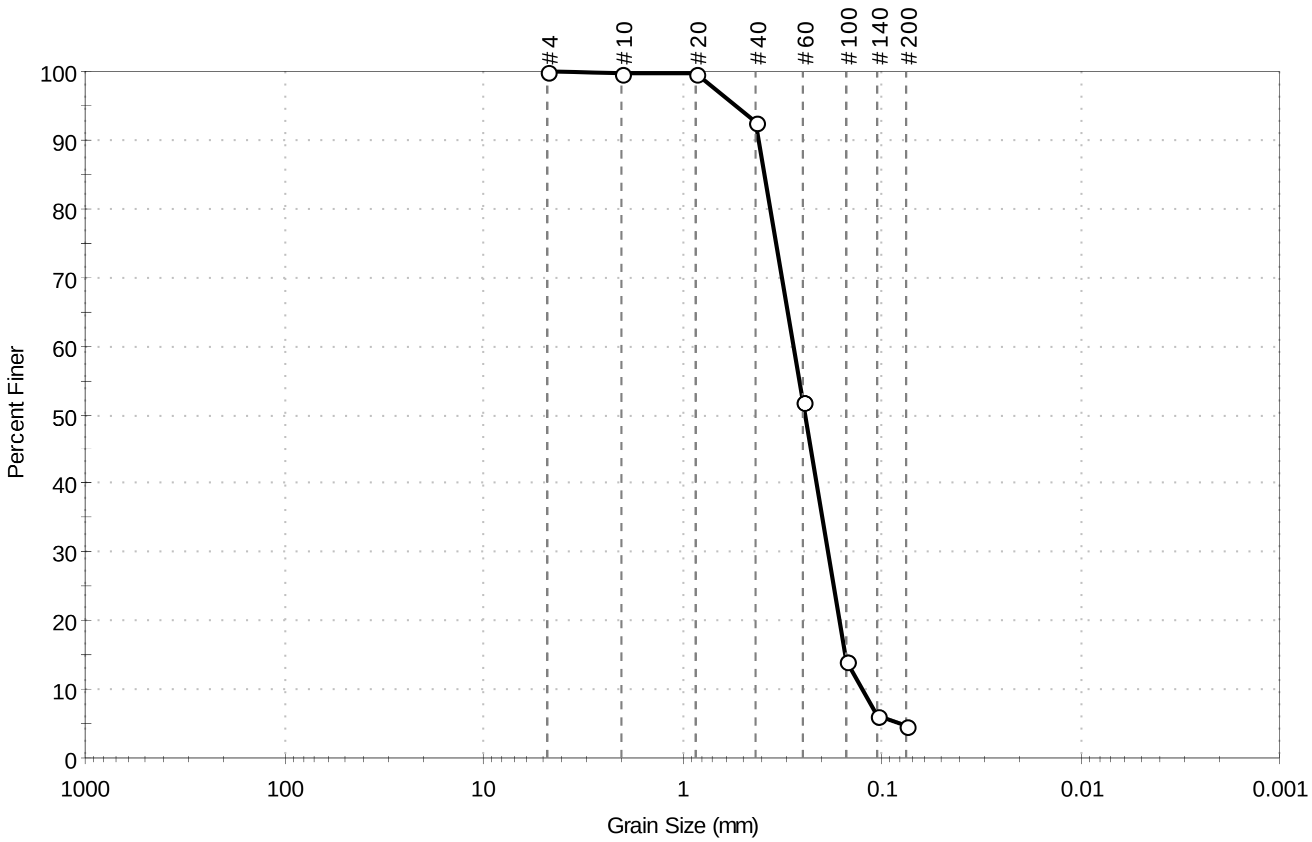
printed 10/11/2018 4:56:15 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-11A
Sample Type: tube
Tested By: jbr
Sample ID: HPC-1B
Test Date: 10/05/18
Checked By: emm
Depth : ---
Test Id: 473638

Test Comment: ---
Visual Description: Moist, gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	95.2	4.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	93		
#60	0.25	52		
#100	0.15	14		
#140	0.11	6		
#200	0.075	4.8		

Coefficients

D_{85} = 0.3854 mm
D_{30} = 0.1862 mm
D_{60} = 0.2782 mm
D_{15} = 0.1520 mm
D_{50} = 0.2440 mm
D_{10} = 0.1253 mm
C_u = 2.220
C_c = 0.995

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

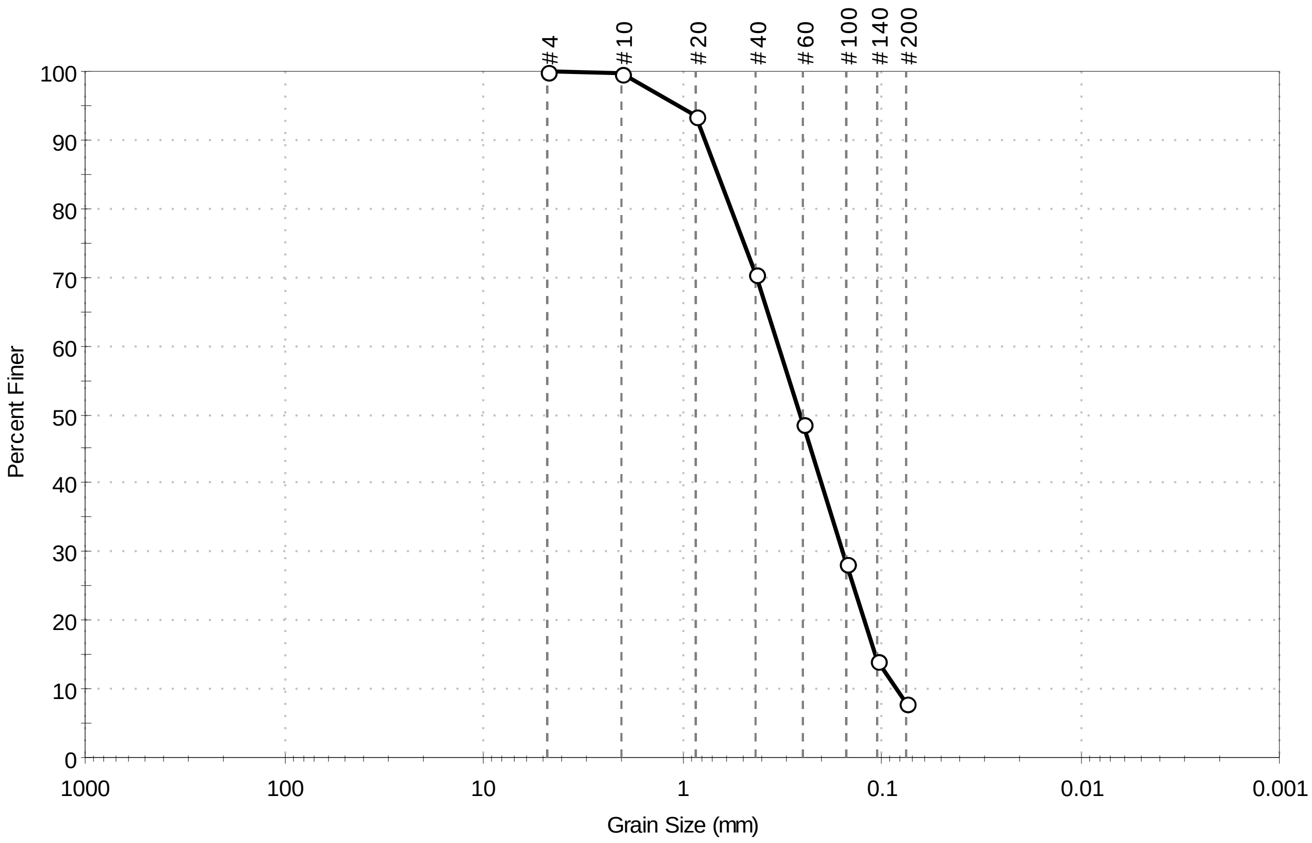
printed 10/11/2018 4:56:16 PM

GeoTesting EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-11A	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-4B	Test Date:	10/02/18	Checked By:	emm
Depth :	---	Test Id:	473642		

Test Comment: ---
Visual Description: Moist, dark gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	92.2	7.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	93		
#40	0.42	71		
#60	0.25	49		
#100	0.15	28		
#140	0.11	14		
#200	0.075	7.8		

Coefficients

D_{85} = 0.6582 mm	D_{30} = 0.1568 mm
D_{60} = 0.3288 mm	D_{15} = 0.1081 mm
D_{50} = 0.2579 mm	D_{10} = 0.0844 mm
C_u = 3.896	C_c = 0.886

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

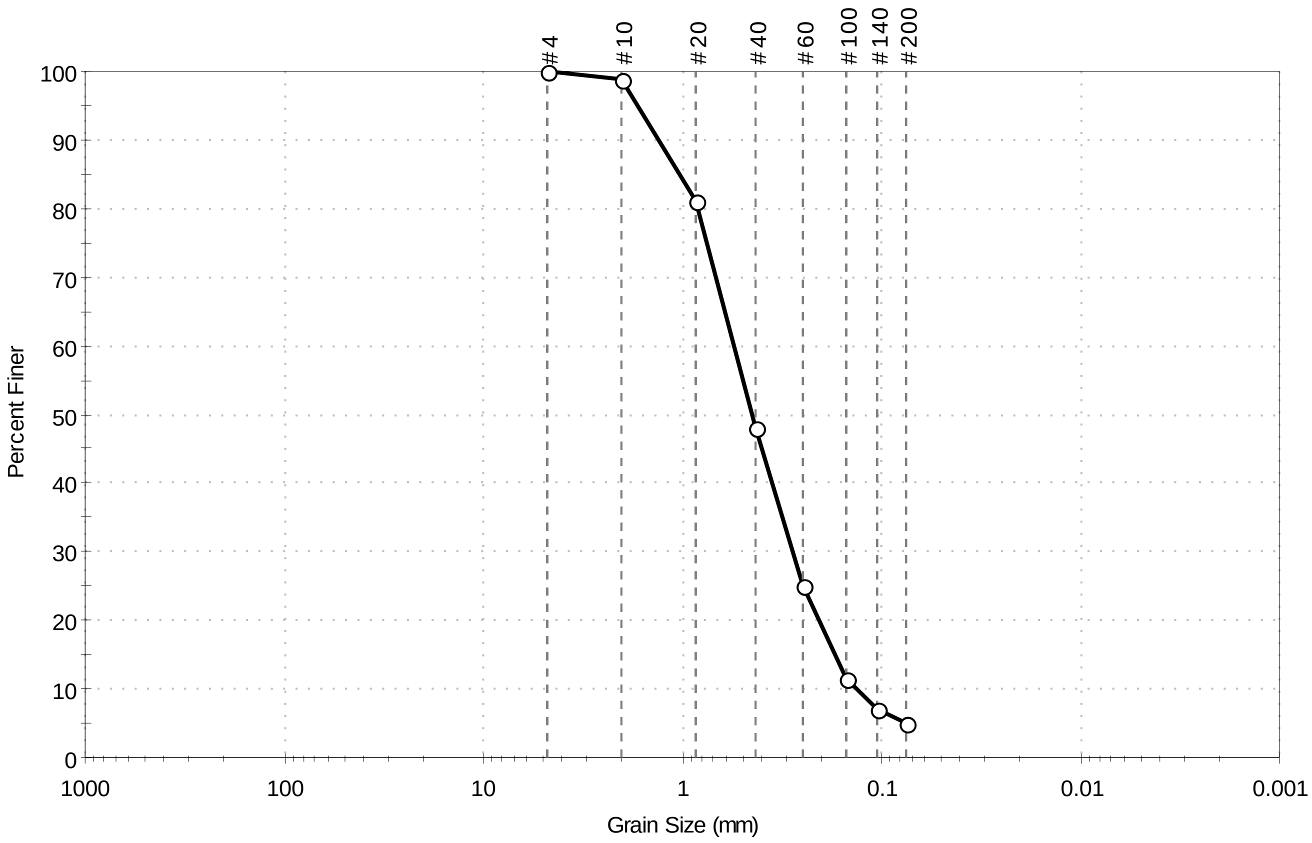
printed 10/11/2018 4:56:16 PM

GeoTesting EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-11A	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-8B	Test Date:	10/01/18	Checked By:	emm
Depth :	---	Test Id:	473640		

Test Comment: ---
Visual Description: Moist, dark gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	95.0	5.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	81		
#40	0.42	48		
#60	0.25	25		
#100	0.15	11		
#140	0.11	7		
#200	0.075	5.0		

Coefficients

D_{85} = 1.0190 mm
D_{30} = 0.2799 mm
D_{60} = 0.5460 mm
D_{15} = 0.1714 mm
D_{50} = 0.4434 mm
D_{10} = 0.1341 mm
C_u = 4.072
C_c = 1.070

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

printed 10/11/2018 4:56:17 PM

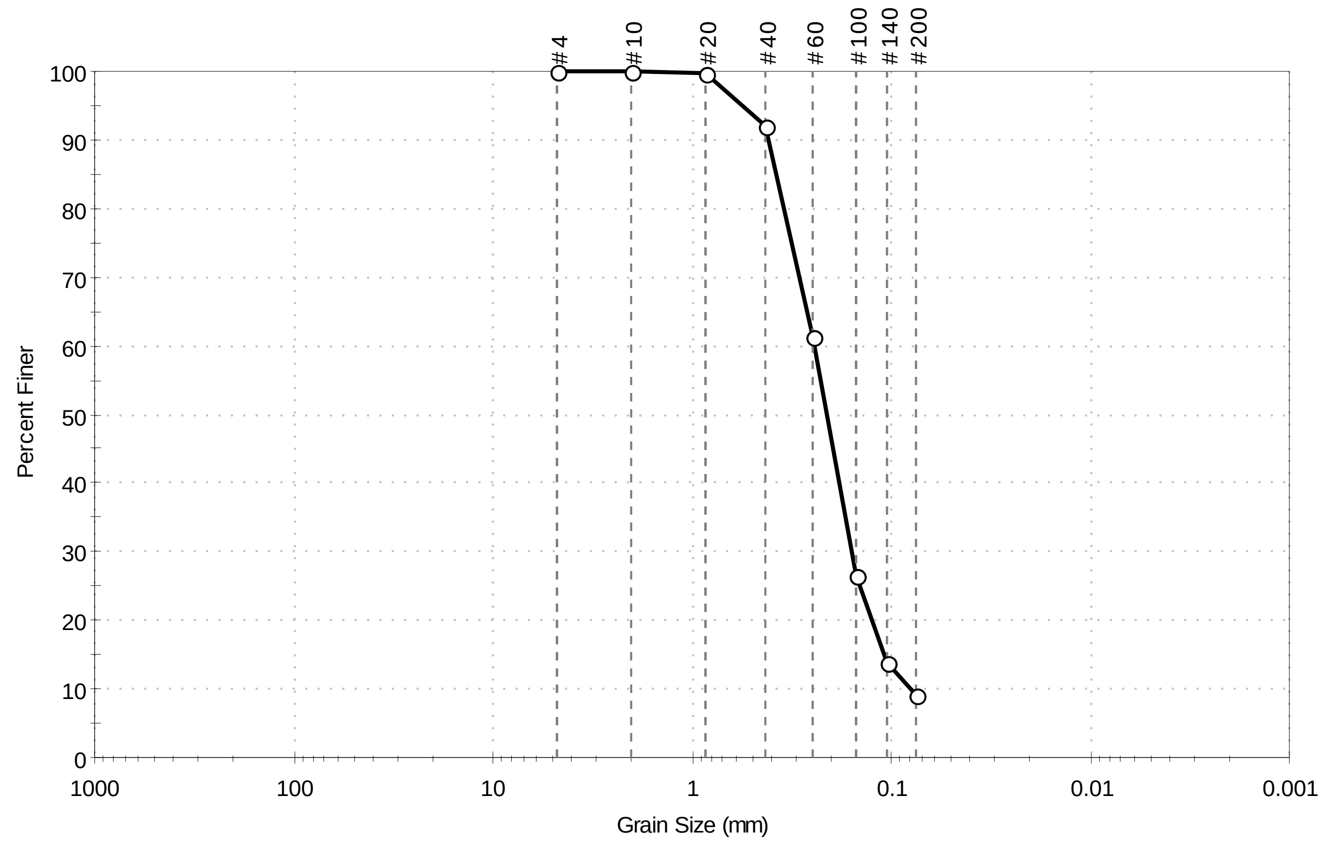
GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID:	B-11A	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-10A	Test Date:	09/27/18	Checked By:	emm
Depth :	---	Test Id:	473641		

Test Comment: ---
Visual Description: Moist, dark gray sand with silt
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	90.7	9.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	92		
#60	0.25	61		
#100	0.15	26		
#140	0.11	14		
#200	0.075	9.3		

Coefficients

D_{85} = 0.3762 mm	D_{30} = 0.1580 mm
D_{60} = 0.2446 mm	D_{15} = 0.1096 mm
D_{50} = 0.2114 mm	D_{10} = 0.0793 mm
C_u = 3.084	C_c = 1.287

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

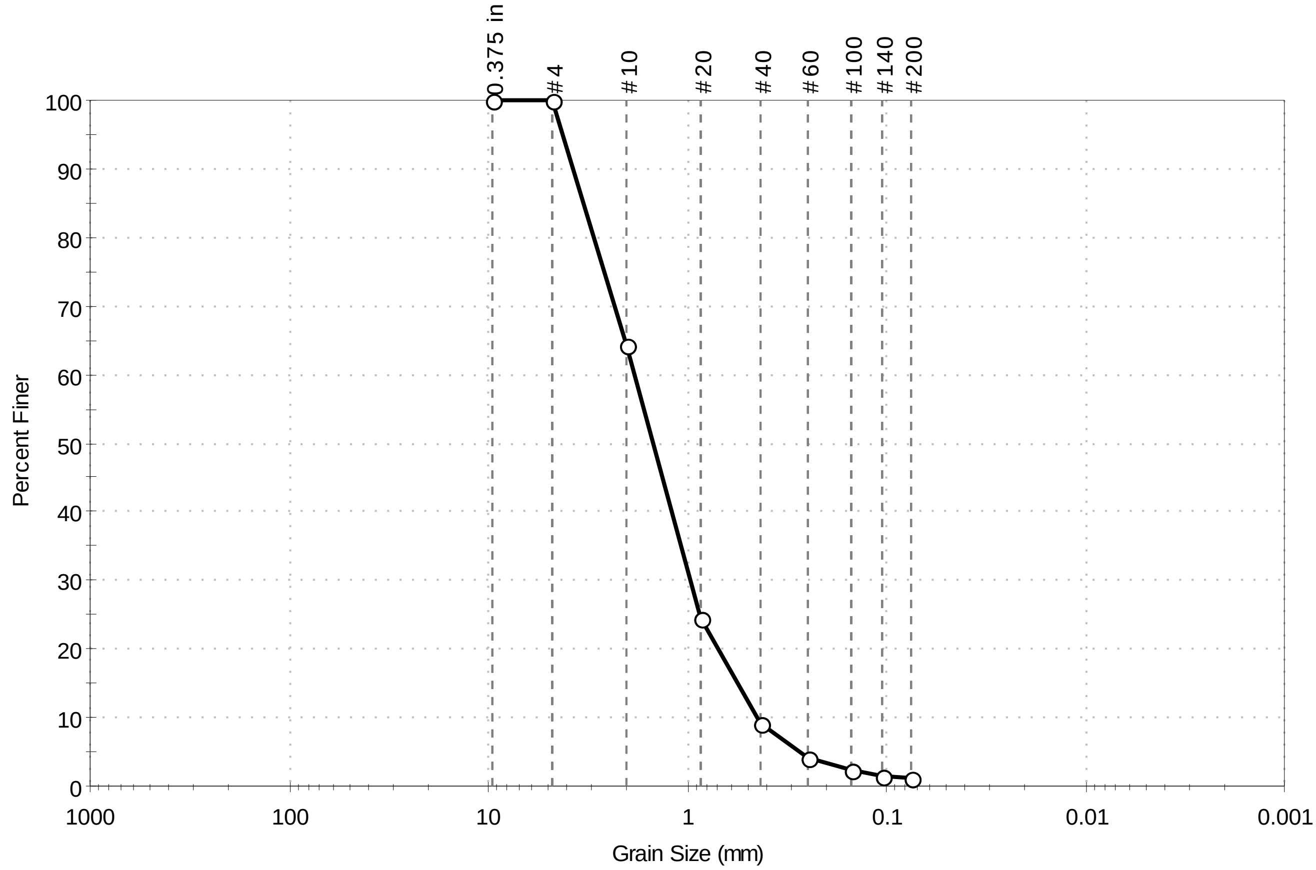
printed 10/11/2018 4:56:17 PM

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764

Boring ID:	B-11A	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-11B	Test Date:	10/02/18	Checked By:	emm
Depth :	---	Test Id:	473639		

Test Comment: ---
Visual Description: Moist, gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.1	98.7	1.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	64		
#20	0.85	25		
#40	0.42	9		
#60	0.25	4		
#100	0.15	2		
#140	0.11	2		
#200	0.075	1.2		

Coefficients

D_{85} =3.3041 mm	D_{30} =0.9565 mm
D_{60} =1.8212 mm	D_{15} =0.5523 mm
D_{50} =1.4694 mm	D_{10} =0.4402 mm
C_u =4.137	C_c =1.141

Classification

ASTM	Poorly graded SAND (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

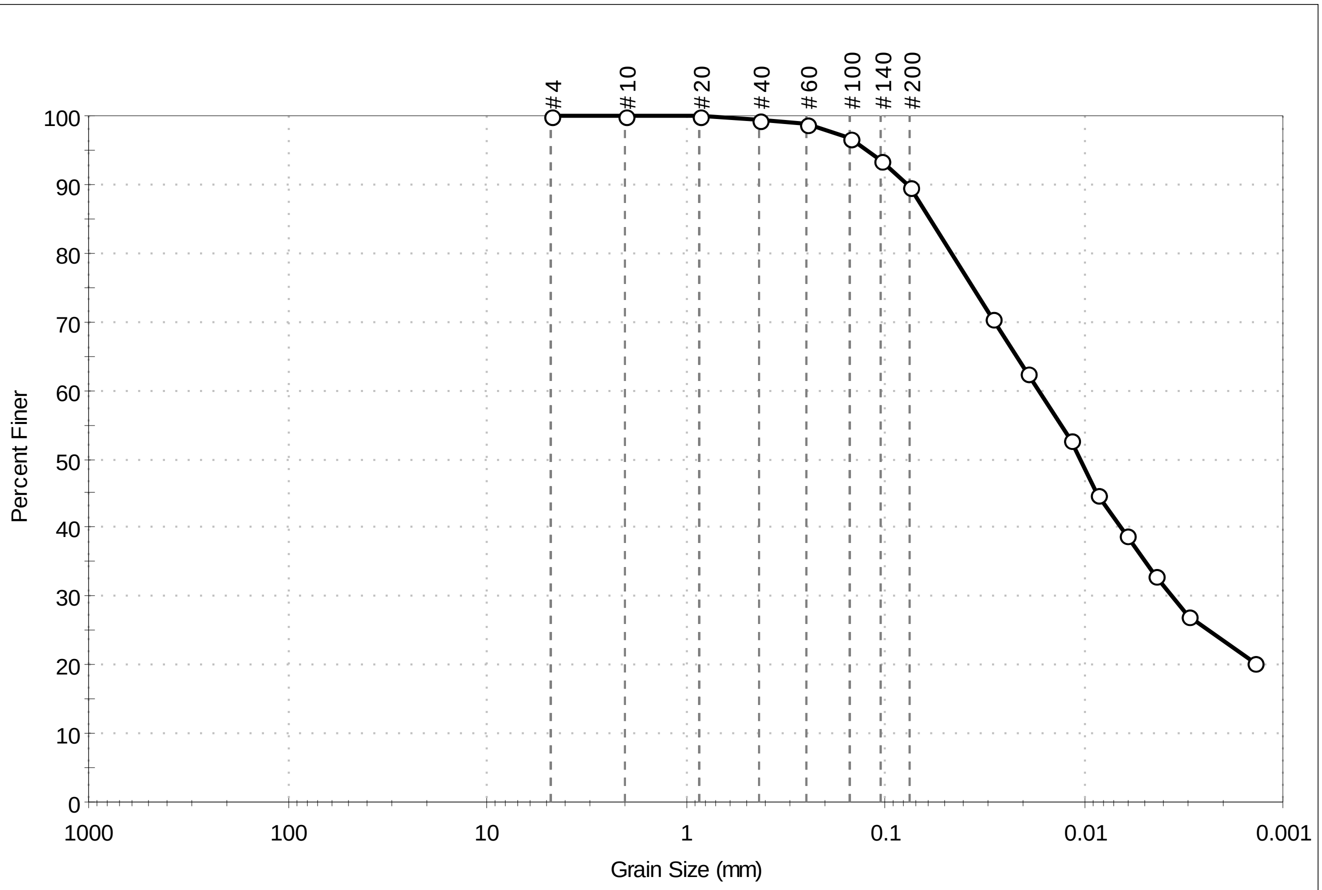
printed 10/11/2018 4:56:18 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-3
Sample Type: tube
Tested By: jbr
Sample ID: HPC-6A
Test Date: 10/16/18
Checked By: emm
Depth : ---
Test Id: 475176

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	10.3	89.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	97		
#140	0.11	94		
#200	0.075	90		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0291	70		
---	0.0191	63		
---	0.0117	53		
---	0.0085	45		
---	0.0061	39		
---	0.0044	33		
---	0.0030	27		
---	0.0014	20		

Coefficients

D_{85} = 0.0594 mm
D_{30} = 0.0036 mm
D_{60} = 0.0168 mm
D_{15} = N/A
D_{50} = 0.0105 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM Lean CLAY (CL)

AASHTO Clayey Soils (A-6 (9))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

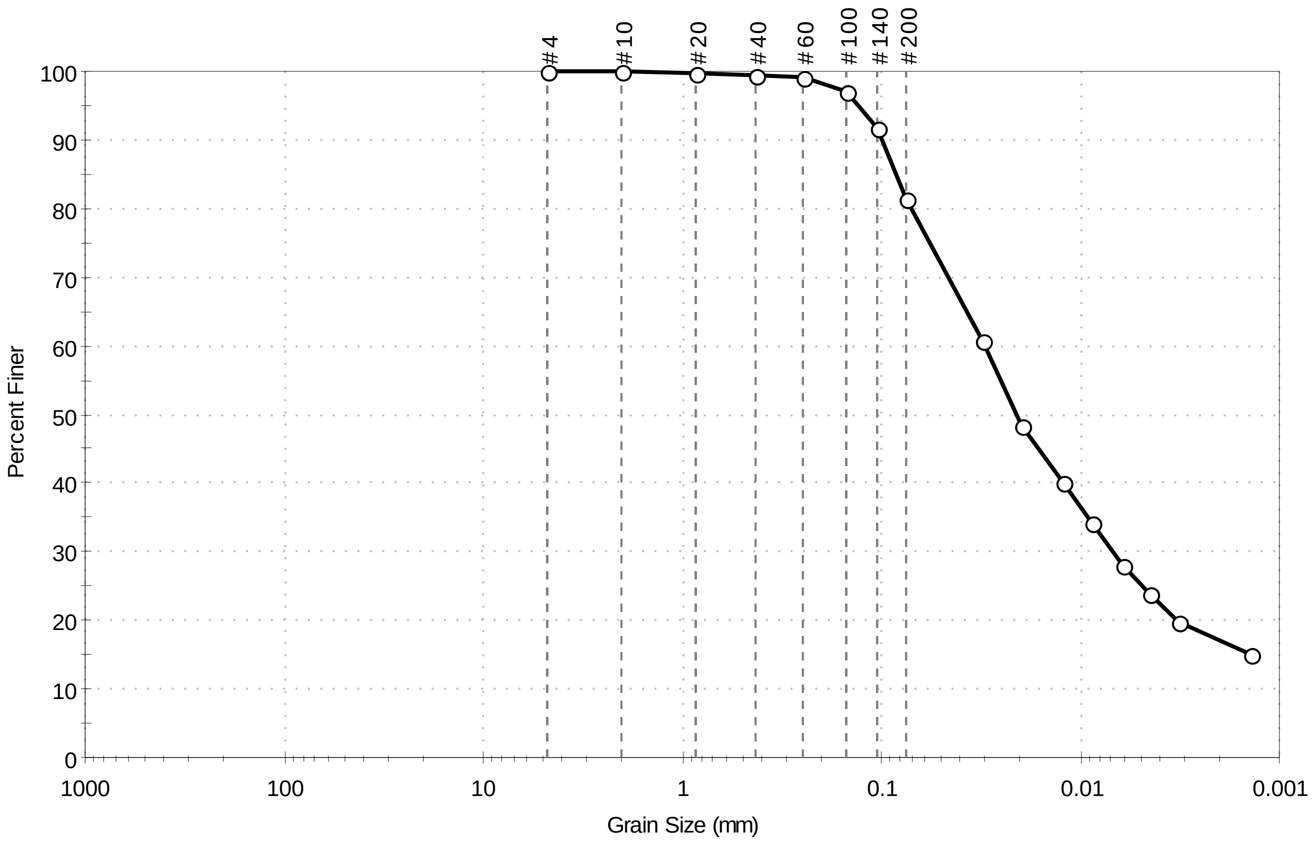
printed 10/25/2018 7:35:32 AM

GeoTesting
EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-3	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-6B	Test Date:	10/12/18	Checked By:	emm
Depth :	---	Test Id:	473686		

Test Comment: ---
Visual Description: Moist, dark gray clay with sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	18.5	81.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	99		
#100	0.15	97		
#140	0.11	92		
#200	0.075	82		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0310	61		
---	0.0200	48		
---	0.0123	40		
---	0.0088	34		
---	0.0061	28		
---	0.0045	24		
---	0.0032	20		
---	0.0014	15		

Coefficients

D_{85} = 0.0844 mm
D_{30} = 0.0069 mm
D_{60} = 0.0302 mm
D_{15} = N/A
D_{50} = 0.0211 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device : Apparatus A - Mech Mixer
Dispersion Period : 1 minute
Est. Specific Gravity : 2.65
Separation of Sample: #200 Sieve

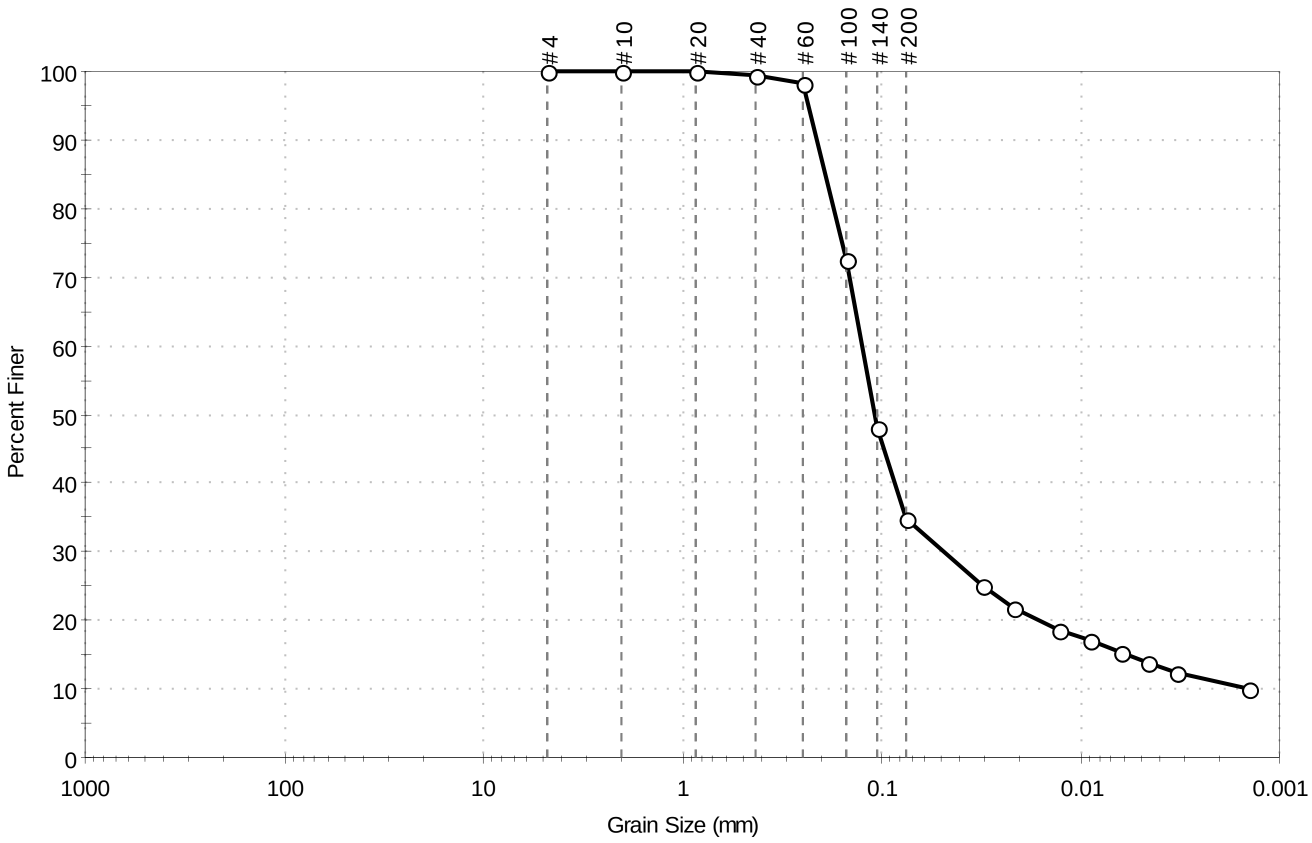
printed 10/25/2018 7:36:09 AM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-3
Sample ID: HPC-28B
Depth : ---
Sample Type: tube
Test Date: 10/12/18
Test Id: 473684
Tested By: jbr
Checked By: emm

Test Comment: ---
Visual Description: Moist, gray silty sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913/D7928



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	65.1	34.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	72		
#140	0.11	48		
#200	0.075	35		
Hydrometer	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0312	25		
---	0.0218	22		
---	0.0129	19		
---	0.0091	17		
---	0.0064	15		
---	0.0046	14		
---	0.0033	12		
---	0.0014	10		

Coefficients

D_{85} =0.1921 mm
D_{30} =0.0486 mm
D_{60} =0.1255 mm
D_{15} =0.0058 mm
D_{50} =0.1089 mm
D_{10} =N/A
C_u =N/A
C_c =N/A

Classification

ASTM N/A

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device : Apparatus A - Mech Mixer

Dispersion Period : 1 minute

Est. Specific Gravity : 2.65

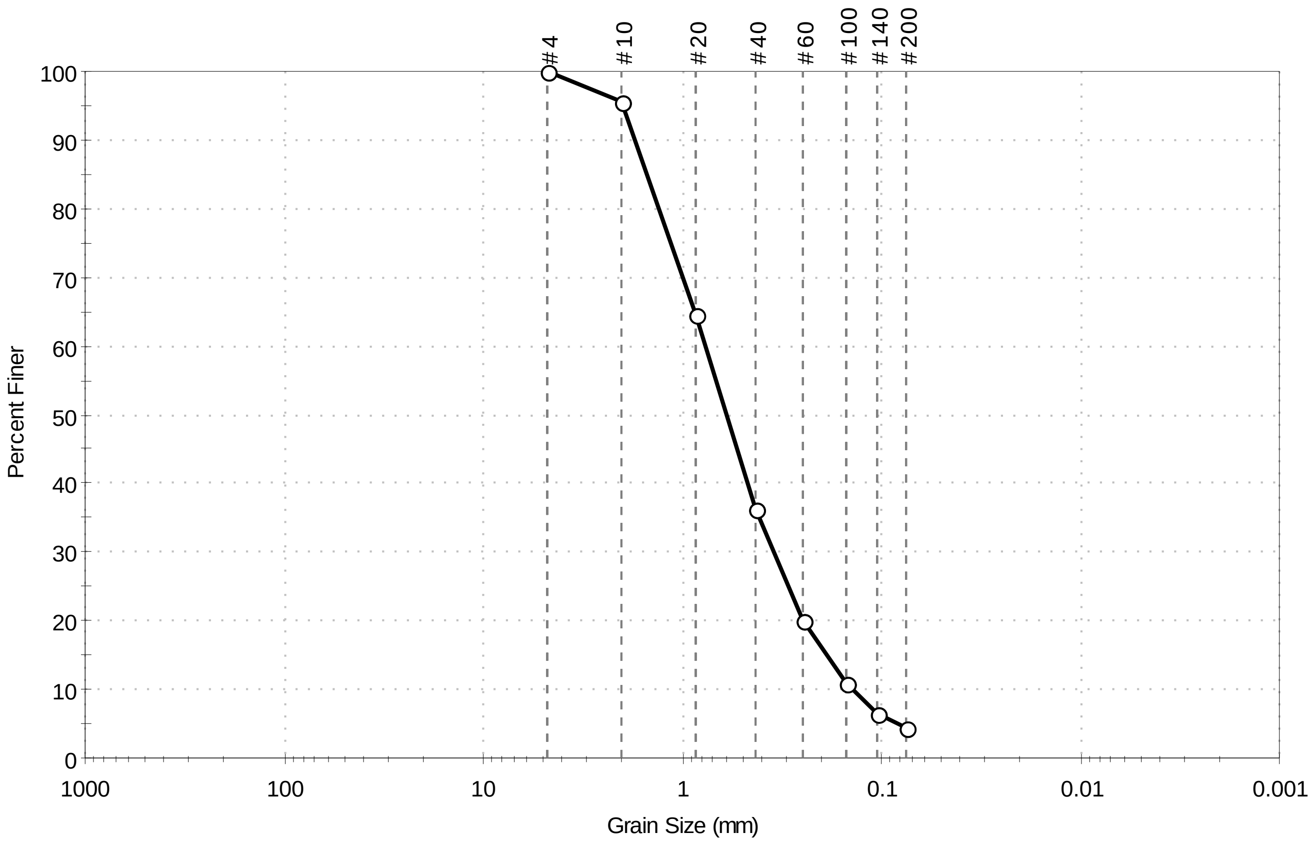
Separation of Sample: #200 Sieve

printed 10/25/2018 7:37:41 AM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-10	Sample Type:	tube	Tested By:	jbr
Sample ID:	HPC-19B	Test Date:	10/29/18	Checked By:	emm
Depth :	---	Test Id:	479553		

Test Comment: ---
Visual Description: Moist, dark gray sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	95.4	4.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	96		
#20	0.85	65		
#40	0.42	36		
#60	0.25	20		
#100	0.15	11		
#140	0.11	7		
#200	0.075	4.6		

Coefficients

D_{85} = 1.4917 mm	D_{30} = 0.3463 mm
D_{60} = 0.7605 mm	D_{15} = 0.1882 mm
D_{50} = 0.5956 mm	D_{10} = 0.1398 mm
C_u = 5.440	C_c = 1.128

Classification

ASTM Poorly graded SAND (SP)

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

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

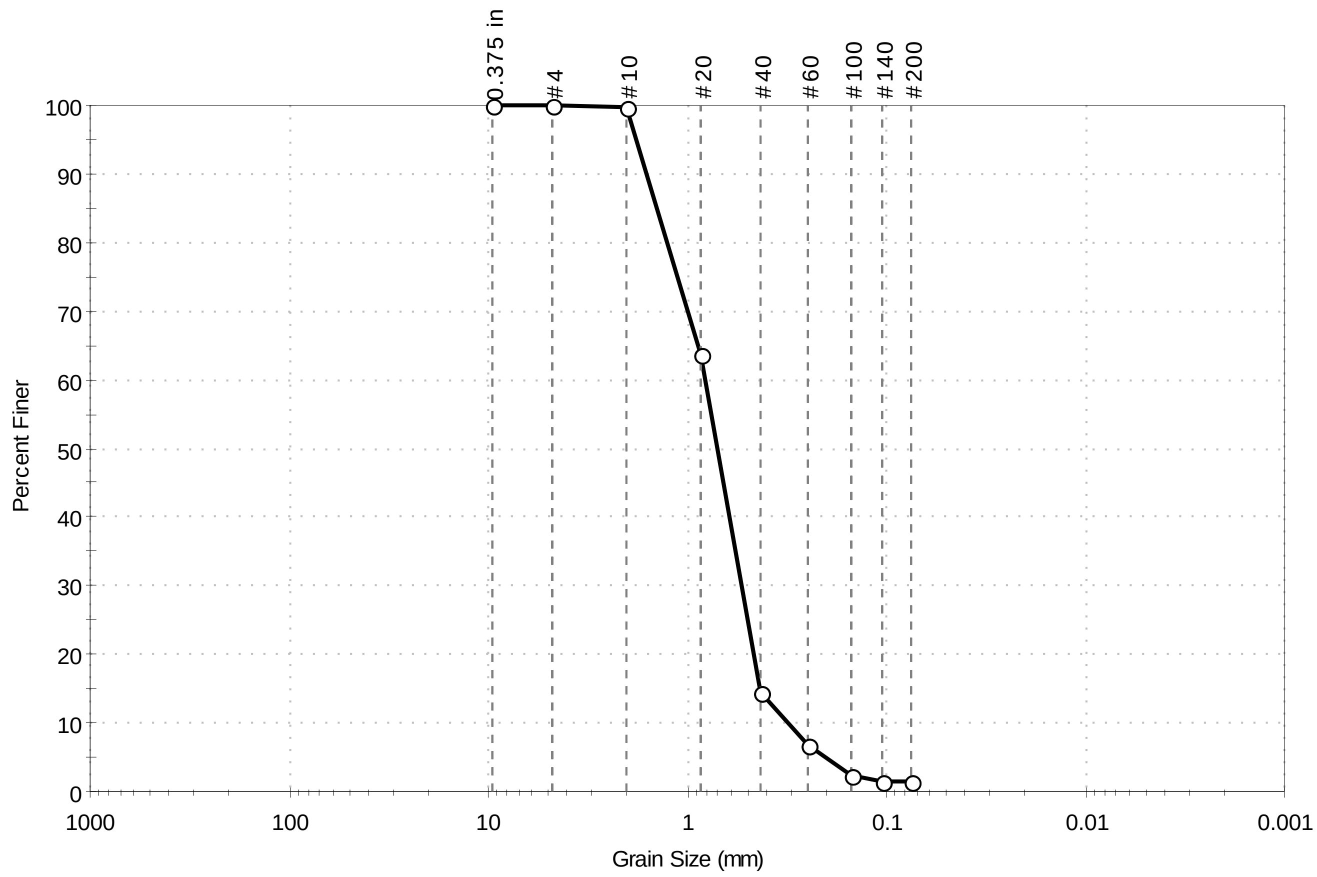
printed 11/13/2018 4:18:02 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B OSS
Sample ID: ALN-9B
Depth : ---
Sample Type: tube
Test Date: 12/20/18
Test Id: 480449
Tested By: ckg
Checked By: emm

Test Comment: ---
Visual Description: Moist, yellow and black sand
Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	0.0	98.6	1.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	64		
#40	0.42	15		
#60	0.25	7		
#100	0.15	2		
#140	0.11	2		
#200	0.075	1.4		

Coefficients

D_{85} = 1.4100 mm	D_{30} = 0.5286 mm
D_{60} = 0.8069 mm	D_{15} = 0.4278 mm
D_{50} = 0.7008 mm	D_{10} = 0.3132 mm
C_u = 2.576	C_c = 1.106

Classification

ASTM	Poorly graded SAND (SP)
AASHTO	Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

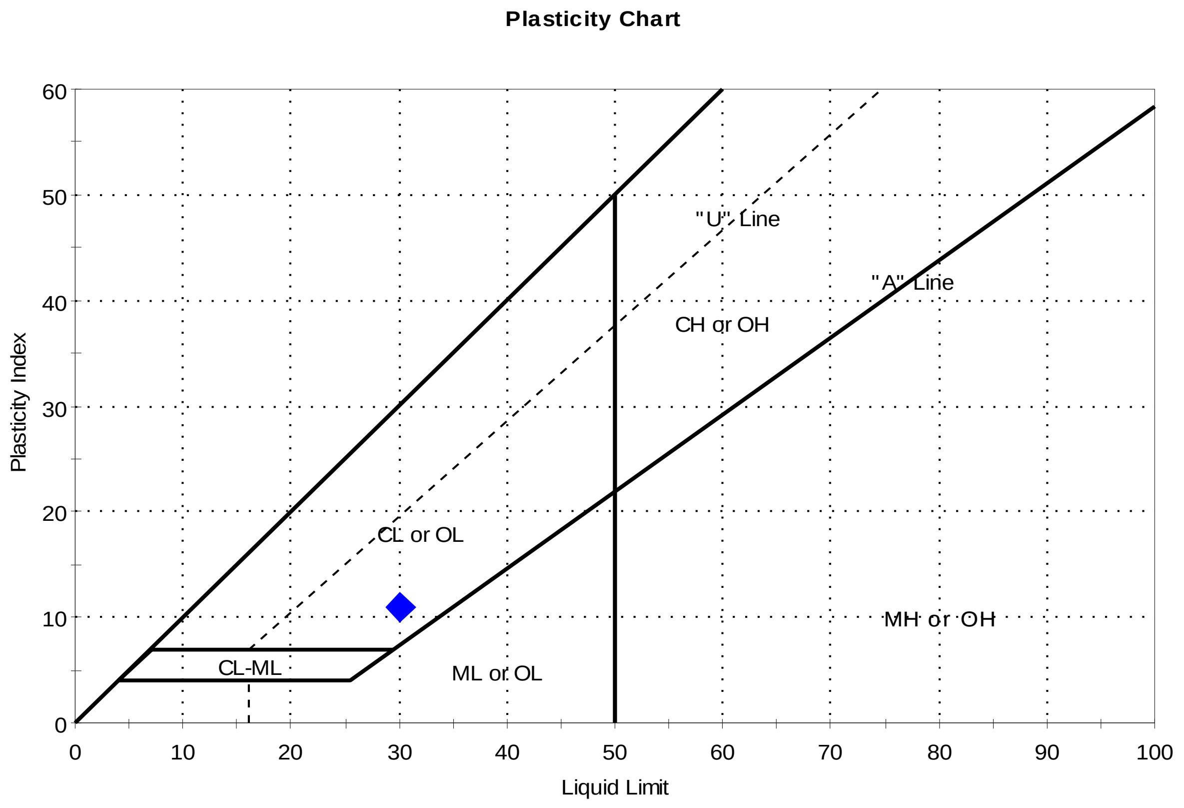
printed 12/21/2018 4:32:42 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location: Project No: GTX-308764

Boring ID: B-3 Sample Type: tube Tested By: cam
Sample ID: HPC-6A Test Date: 10/04/18 Checked By: emm
Depth : --- Test Id: 473688

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-6A	B-3	---	29	30	19	11	0.9	Lean CLAY (CL)

Sample Prepared using the WET method

1% Retained on #40 Sieve

Dry Strength: VERY HIGH

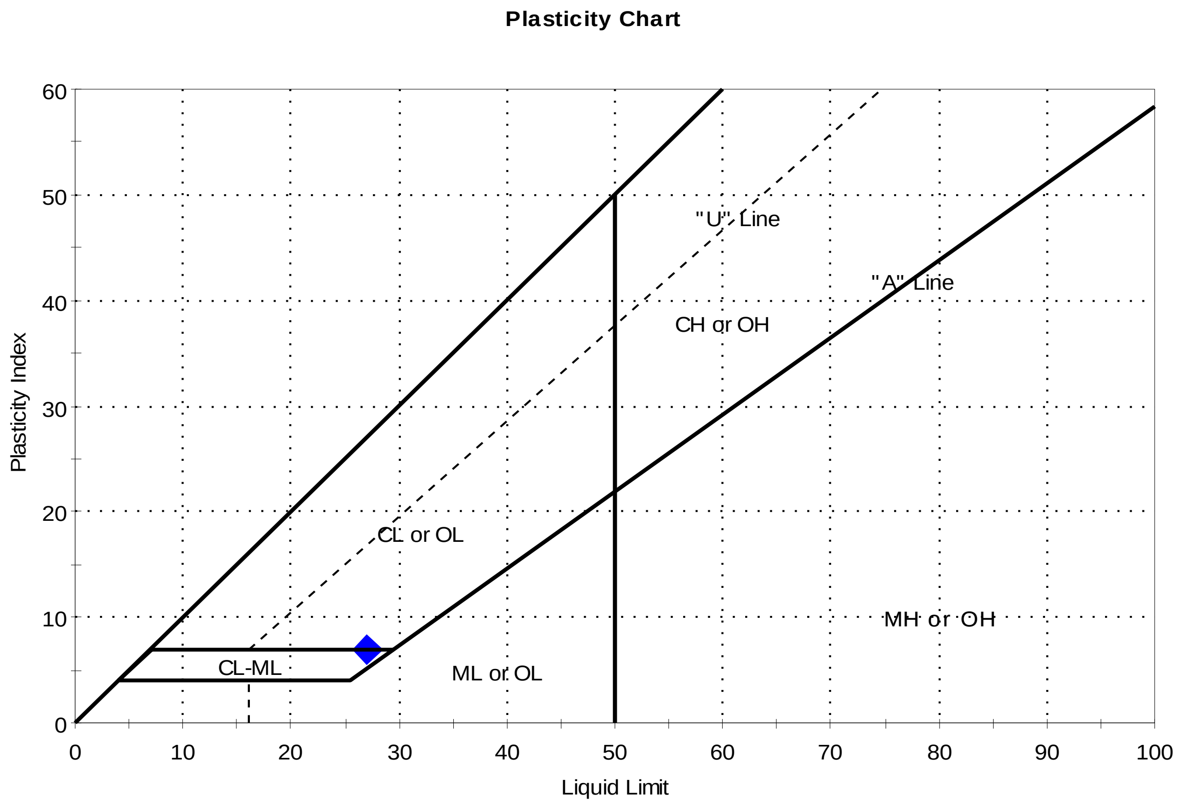
Dilatancy: SLOW

Toughness: LOW

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-6	Sample Type:	tube	Tested By:	cam
Sample ID:	HPC-2E	Test Date:	10/17/18	Checked By:	emm
Depth :	---	Test Id:	475717		

Test Comment: ---
Visual Description: Moist, dark gray silty clay with sand
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-2E	B-6	---	30	27	20	7	1.4	

Sample Prepared using the WET method

Dry Strength: HIGH

Dilatancy: SLOW

Toughness: LOW

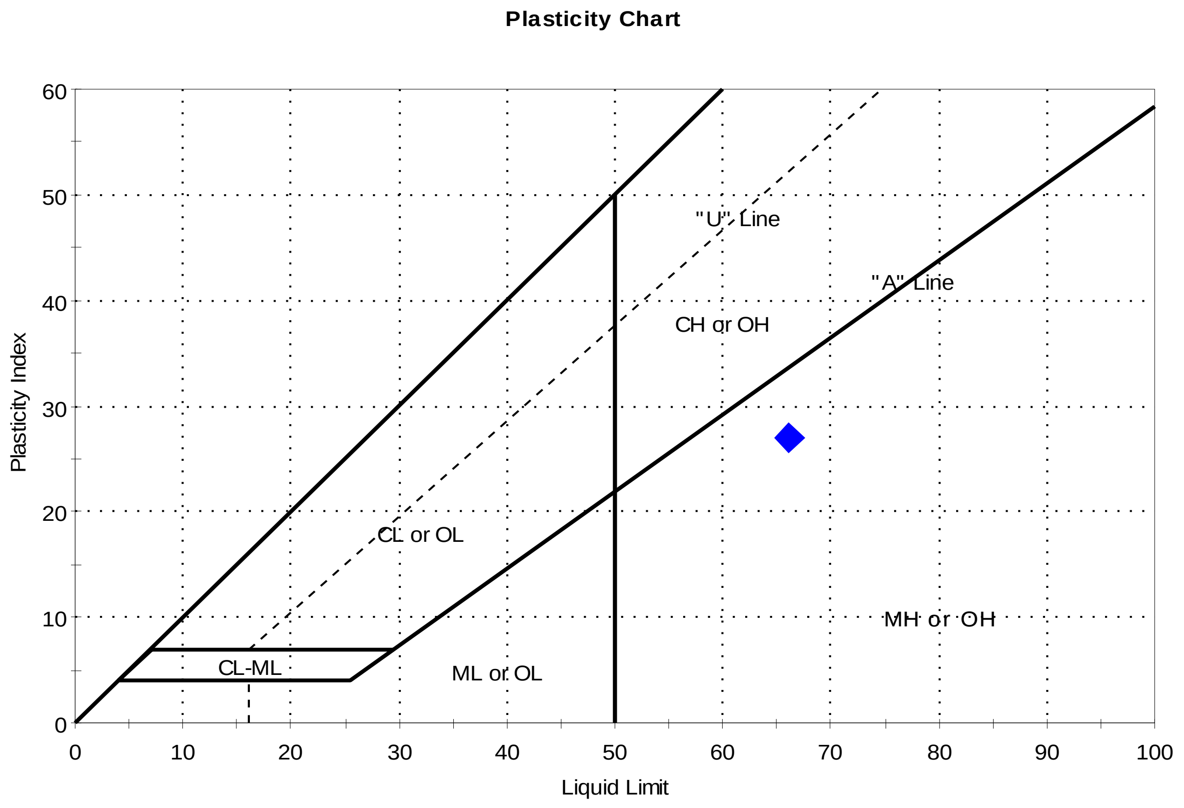
In order to properly describe the soil an Oven Dried Liquid Limit test was performed.
The Oven Dried Liquid Limit was determined to be non-plastic.

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764

Boring ID:	B-3	Sample Type:	tube	Tested By:	cam
Sample ID:	HPC-21A	Test Date:	11/20/18	Checked By:	emm
Depth :	---	Test Id:	477593		

Test Comment: ---
Visual Description: Moist, very dark gray silt
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-21A	B-3	---	39	66	39	27	0	

Sample Prepared using the WET method

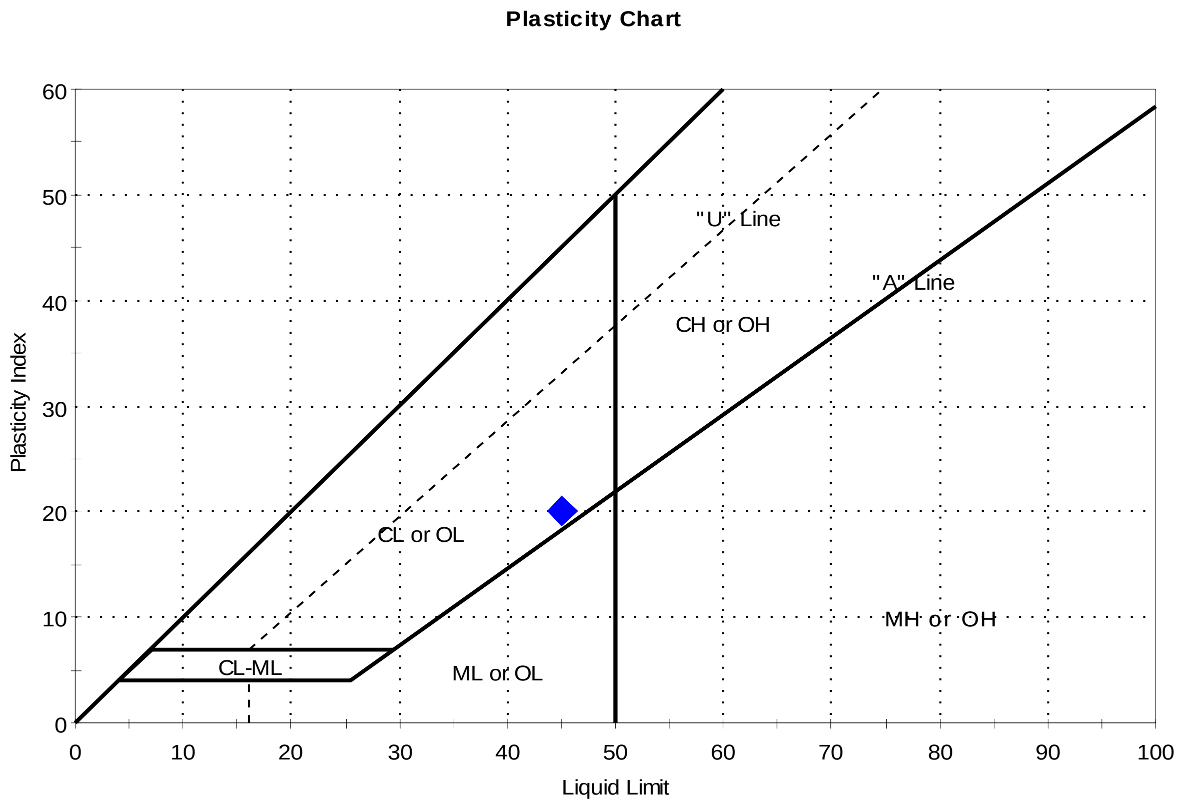
Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-3
Sample Type: tube
Tested By: cam
Sample ID: HPC-35A
Test Date: 11/29/18
Checked By: emm
Depth : ---
Test Id: 482329

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-35A	B-3	---	31	45	25	20	0.3	

Sample Prepared using the WET method

Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

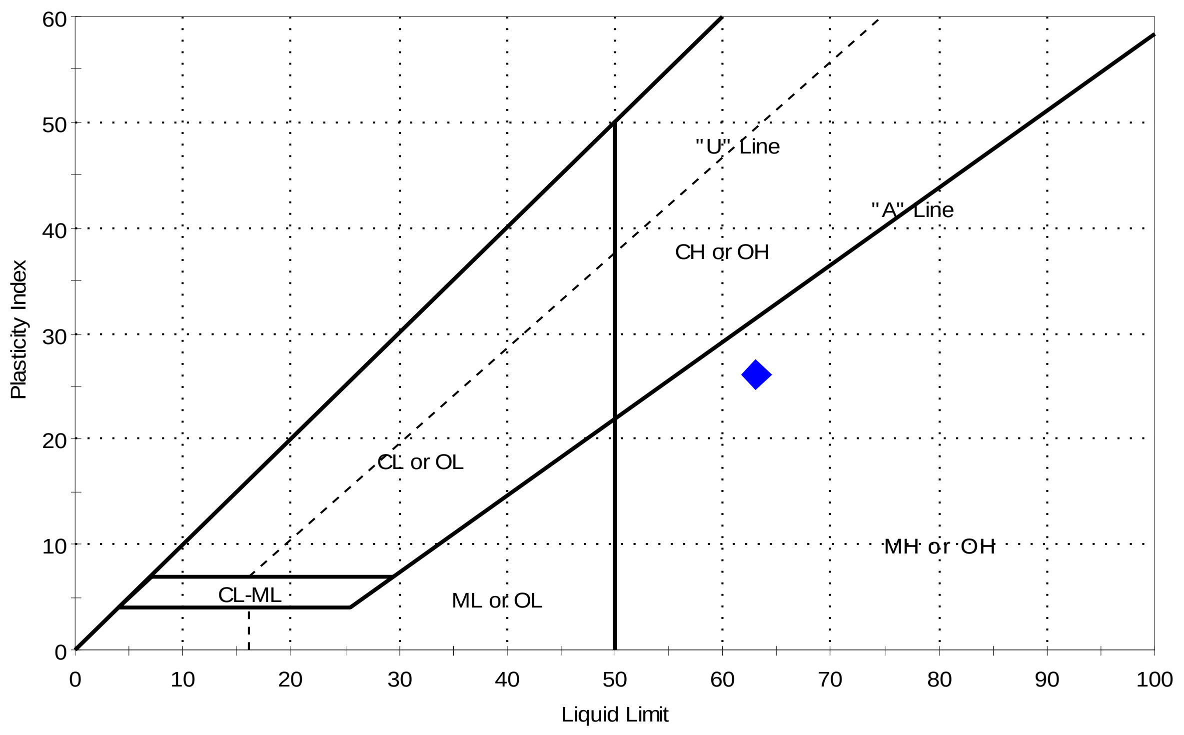
printed 12/3/2018 2:19:43 PM

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-3
Sample Type: tube
Tested By: cam
Sample ID: UP-2B
Test Date: 11/26/18
Checked By: emm
Depth : ---
Test Id: 480996
Test Comment: ---
Visual Description: Moist, dark gray silt
Sample Comment: ---

Atterberg Limits - ASTM D4318

Plasticity Chart



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	UP-2B	B-3	---	22	63	37	26	-0.6	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-10
Sample Type: tube
Tested By: cam
Sample ID: HPC-9B
Test Date: 11/09/18
Checked By: emm
Depth : ---
Test Id: 477592

Test Comment: ---
Visual Description: Moist, dark gray sand with silt
Sample Comment: ---

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-9B	B-10	---	29	n/a	n/a	n/a	n/a	

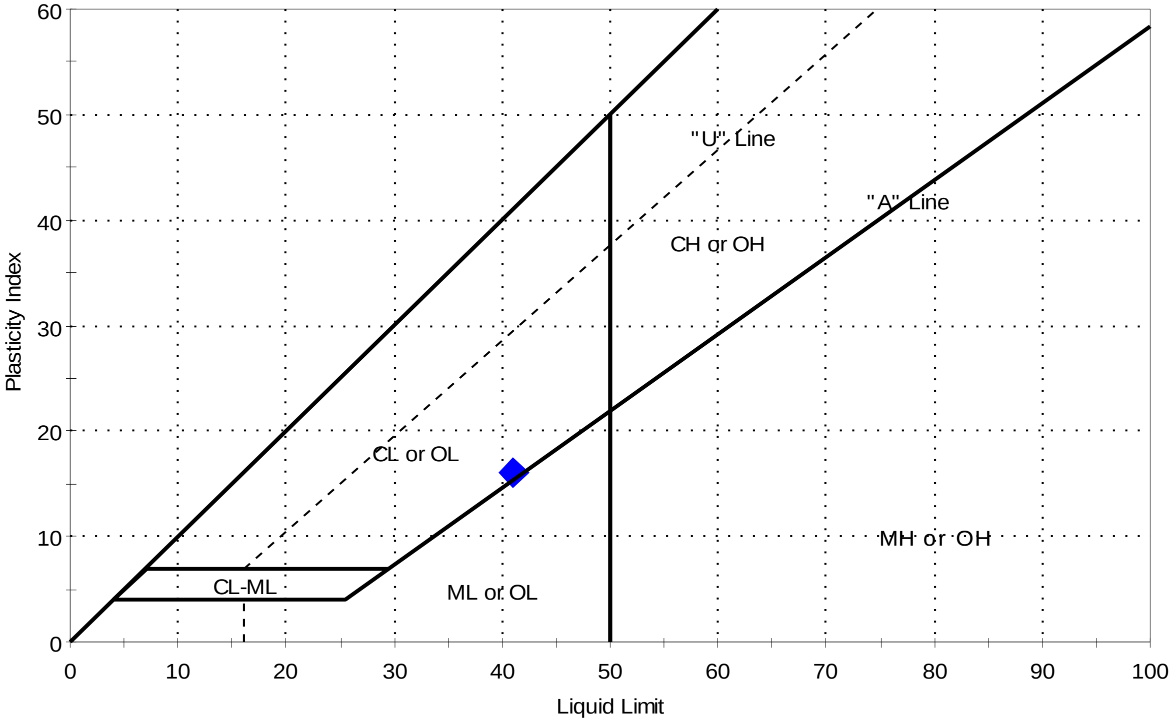
Dry Strength: MEDIUM
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-10	Sample Type:	tube	Tested By:	cam
Sample ID:	HPC-14B	Test Date:	11/09/18	Checked By:	emm
Depth :	---	Test Id:	477584		

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318

Plasticity Chart



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-14B	B-10	---	37	41	25	16	0.7	

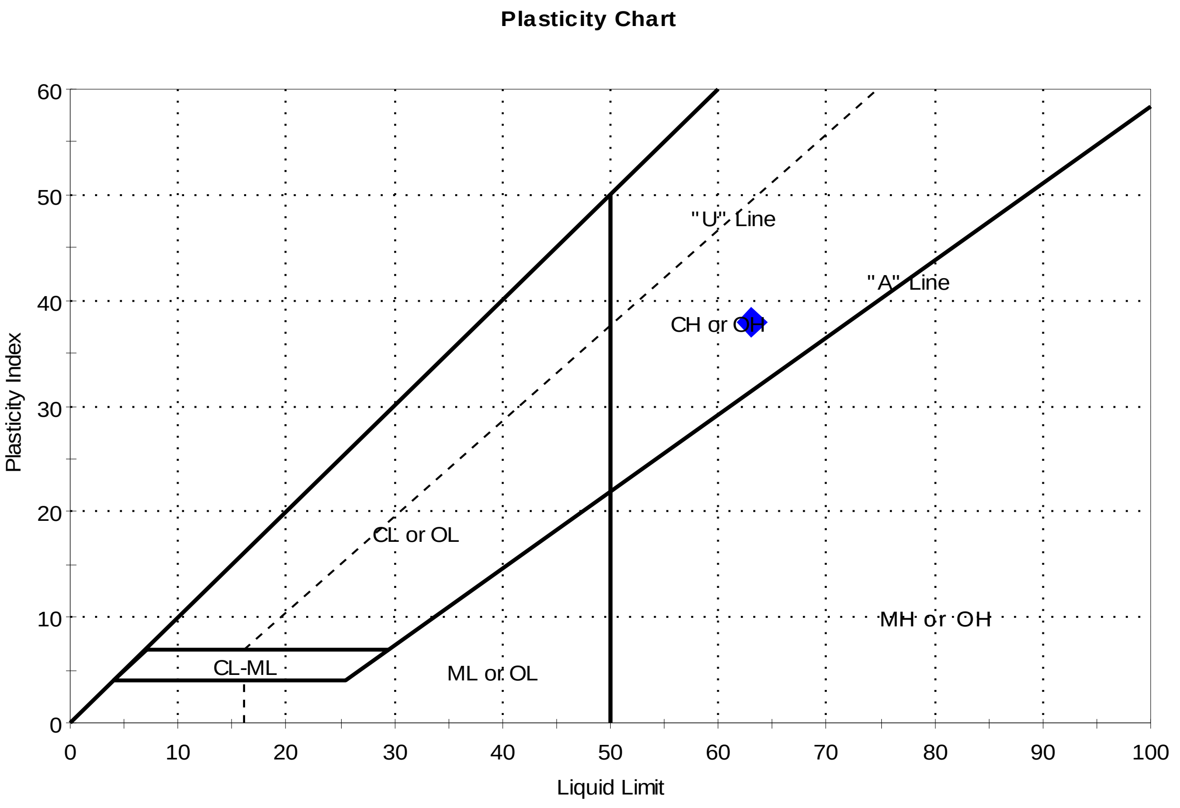
Sample Prepared using the WET method

Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

printed 12/3/2018 2:19:43 PM

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764
Boring ID: B-10	Sample Type: tube	Tested By:	cam
Sample ID: UP-2	Test Date: 11/26/18	Checked By:	emm
Depth : ---	Test Id: 480997		
Test Comment:	---		
Visual Description:	Moist, dark gray clay		
Sample Comment:	---		

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	UP-2	B-10	---	44	63	25	38	0.5	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

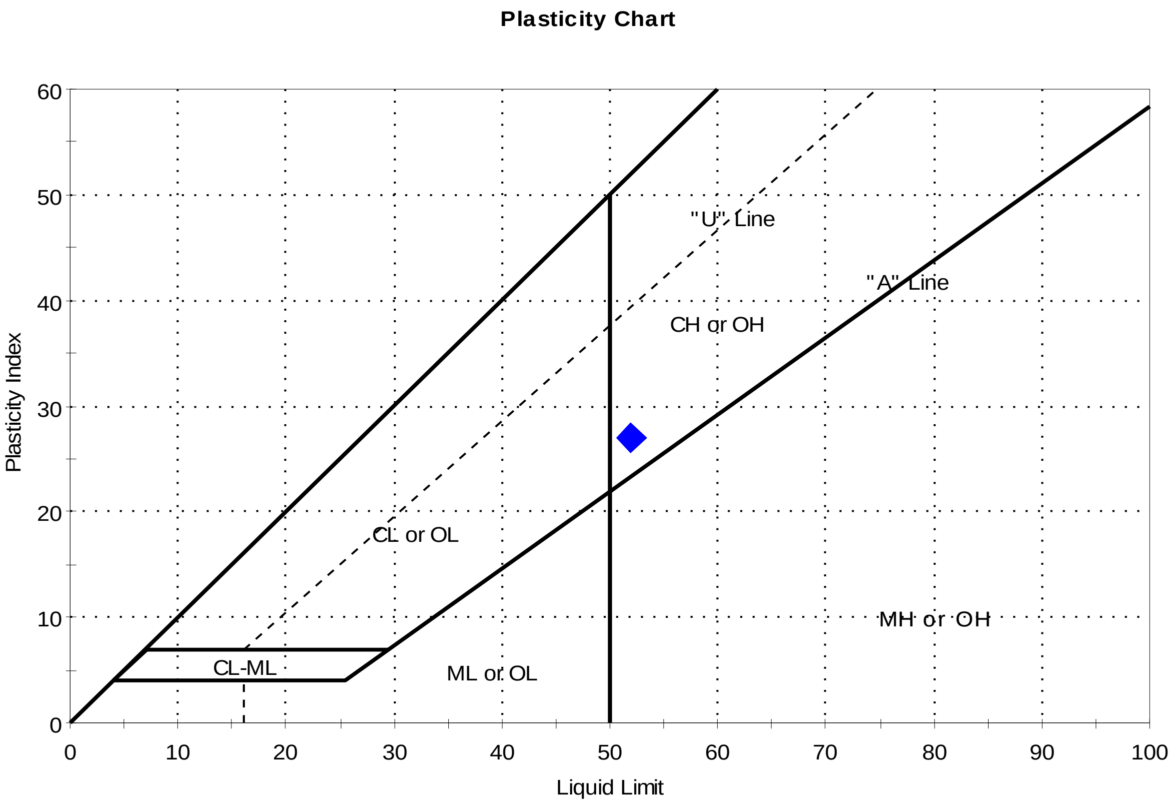
printed 12/3/2018 2:19:44 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-10
Sample Type: tube
Tested By: cam
Sample ID: UP-3B
Test Date: 11/26/18
Checked By: emm
Depth : ---
Test Id: 480998

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	UP-3B	B-10	---	38	52	25	27	0.5	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

printed 12/3/2018 2:19:44 PM

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B OSS
Sample Type: tube
Tested By: cam
Sample ID: ALN-23A
Test Date: 11/19/18
Checked By: emm
Depth : ---
Test Id: 482226

Test Comment: ---
Visual Description: Moist, dark gray silty sand
Sample Comment: ---

Atterberg Limits - ASTM D4318

Sample Determined to be non-plastic

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	ALN-23A	B OSS	---	38	n/a	n/a	n/a	n/a	

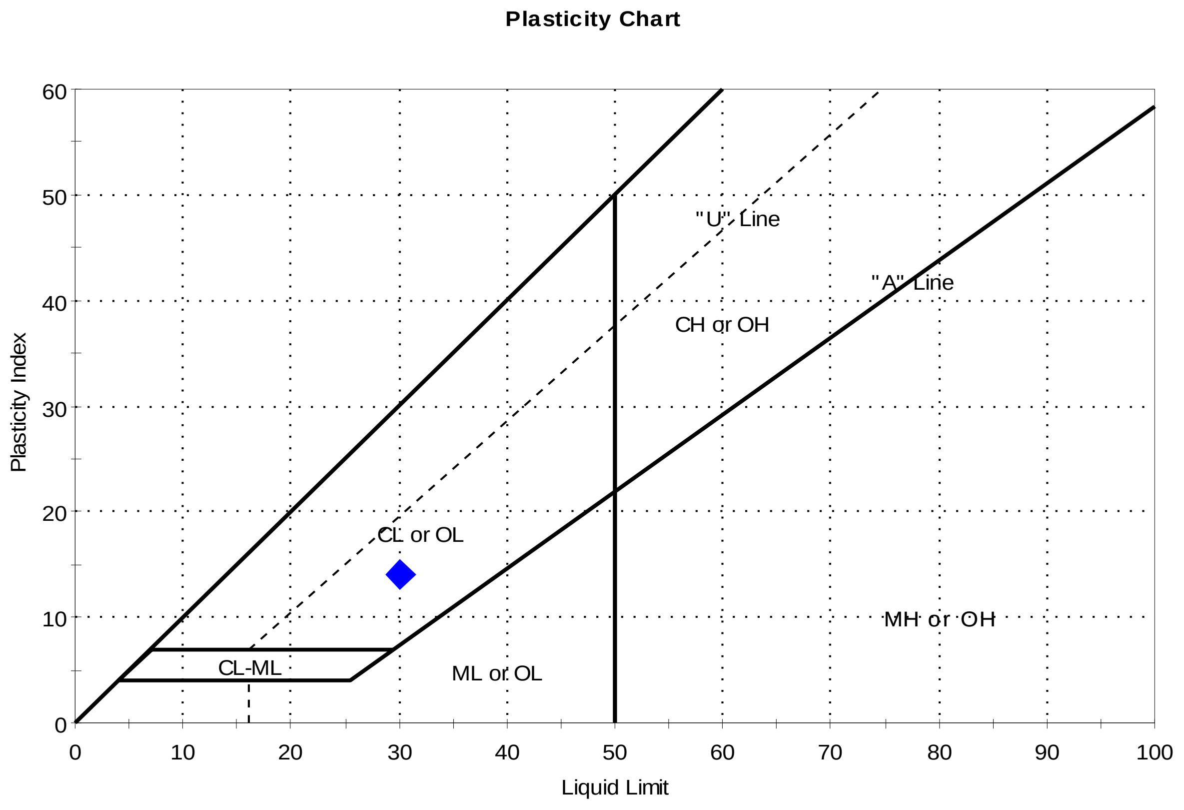
Dry Strength: MEDIUM
Dilatancy: RAPID
Toughness: n/a
The sample was determined to be Non-Plastic

GeoTesting
EXPRESS

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B OSS	Sample Type:	tube	Tested By:	cam
Sample ID:	ALN-34	Test Date:	11/30/18	Checked By:	emm
Depth :	---	Test Id:	477589		

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	ALN-34	B OSS	---	27	30	16	14	0.8	

Sample Prepared using the WET method

Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

printed 12/3/2018 2:19:45 PM

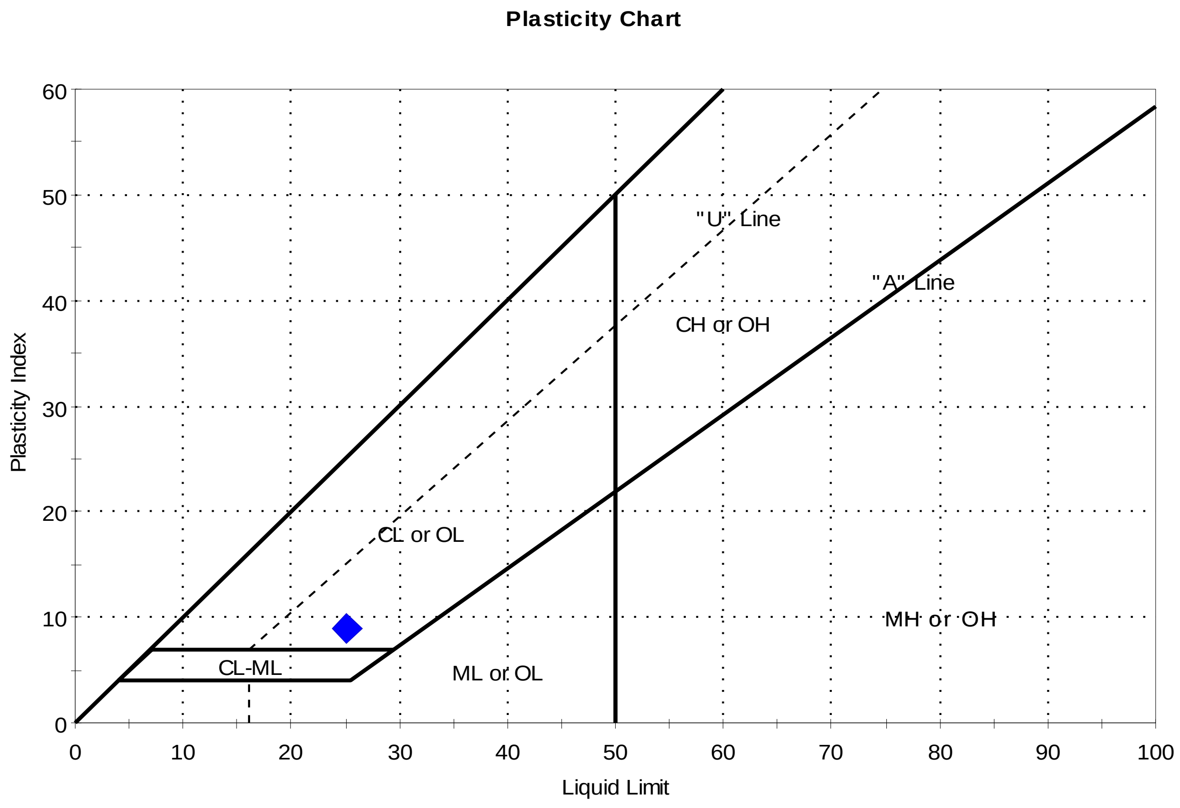
GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-3
Sample ID: HPC-6C
Depth : ---
Sample Type: tube
Test Date: 12/03/18
Test Id: 477586
Tested By: cam
Checked By: emm

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-6C	B-3	---	24	25	16	9	0.8	

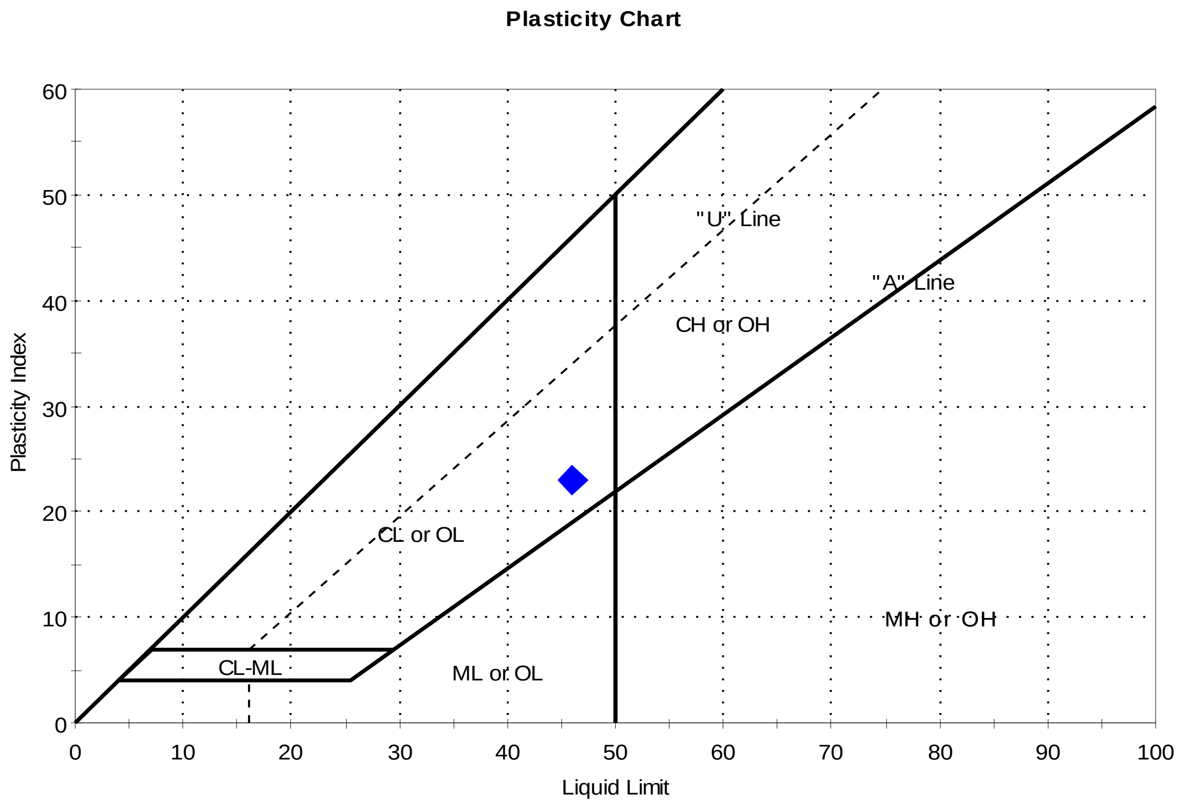
Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-3
Sample Type: tube
Tested By: cam
Sample ID: HPC-10A
Test Date: 11/27/18
Checked By: emm
Depth : ---
Test Id: 482330
Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-10A	B-3	---	36	46	23	23	0.5	

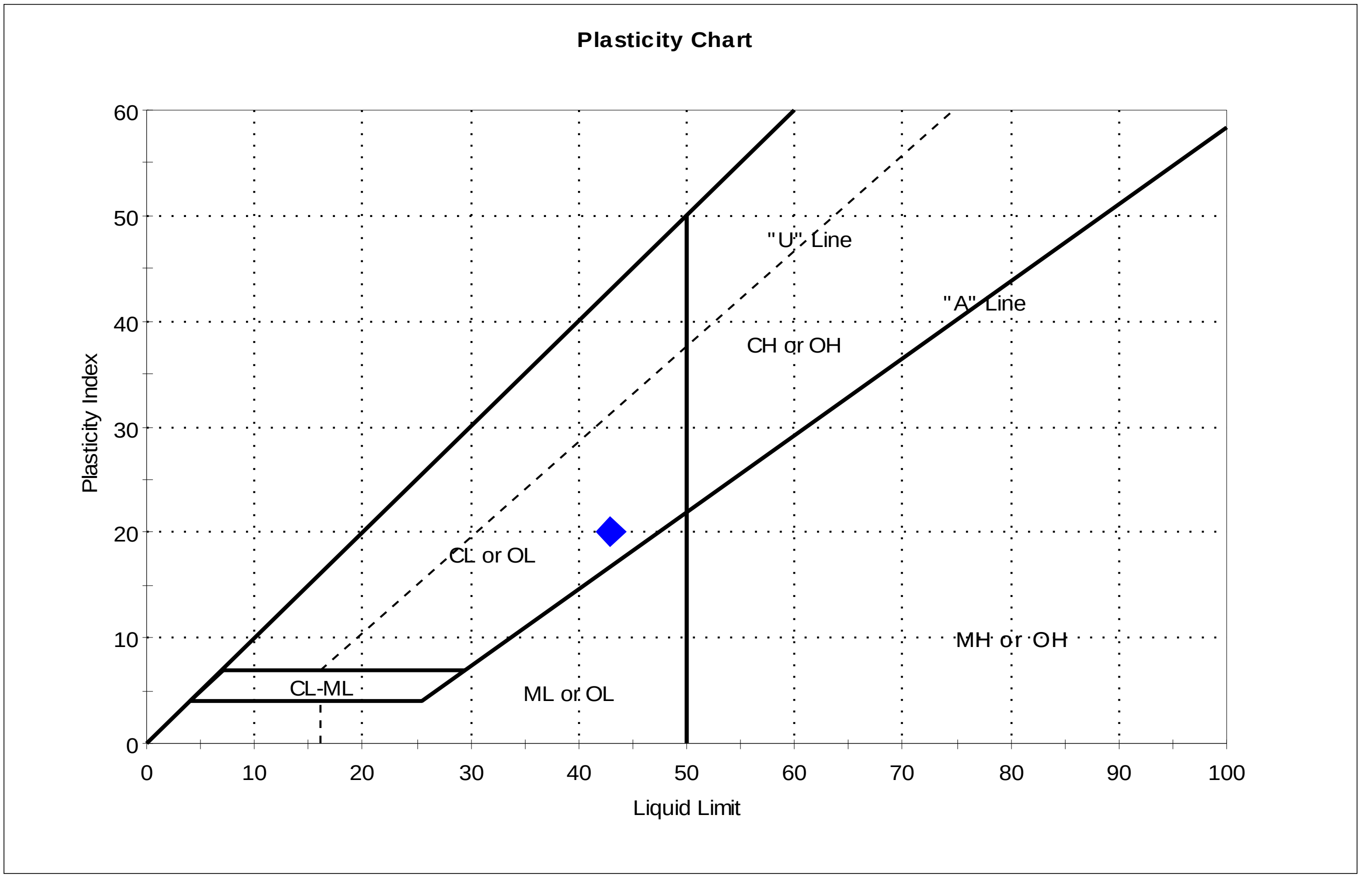
Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-10	Sample Type:	tube	Tested By:	cam
Sample ID:	HPC-17B	Test Date:	12/03/18	Checked By:	emm
Depth :	---	Test Id:	477582		

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-17B	B-10	---	36	43	23	20	0.6	

Sample Prepared using the WET method

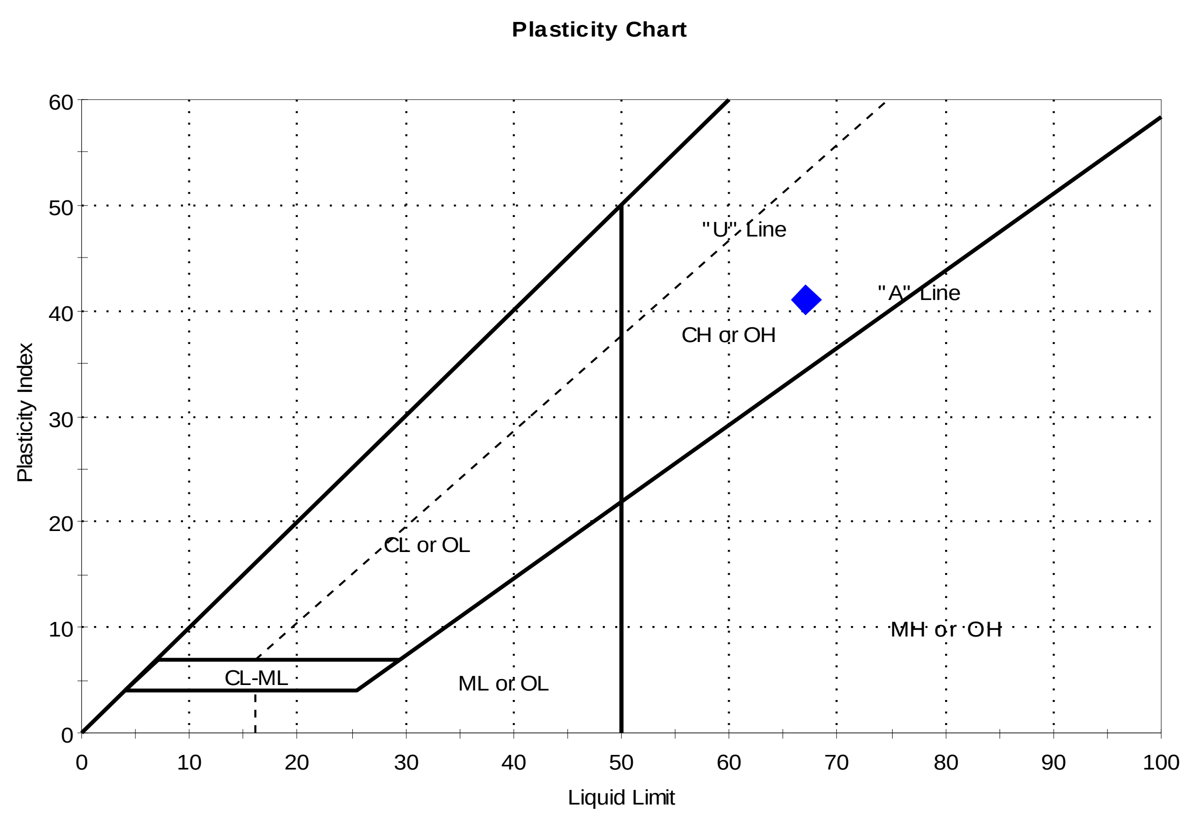
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764

Boring ID:	B-10	Sample Type:	tube	Tested By:	cam
Sample ID:	HPC-17E	Test Date:	12/03/18	Checked By:	emm
Depth :	---	Test Id:	477583		

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-17E	B-10	---	41	67	26	41	0.4	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

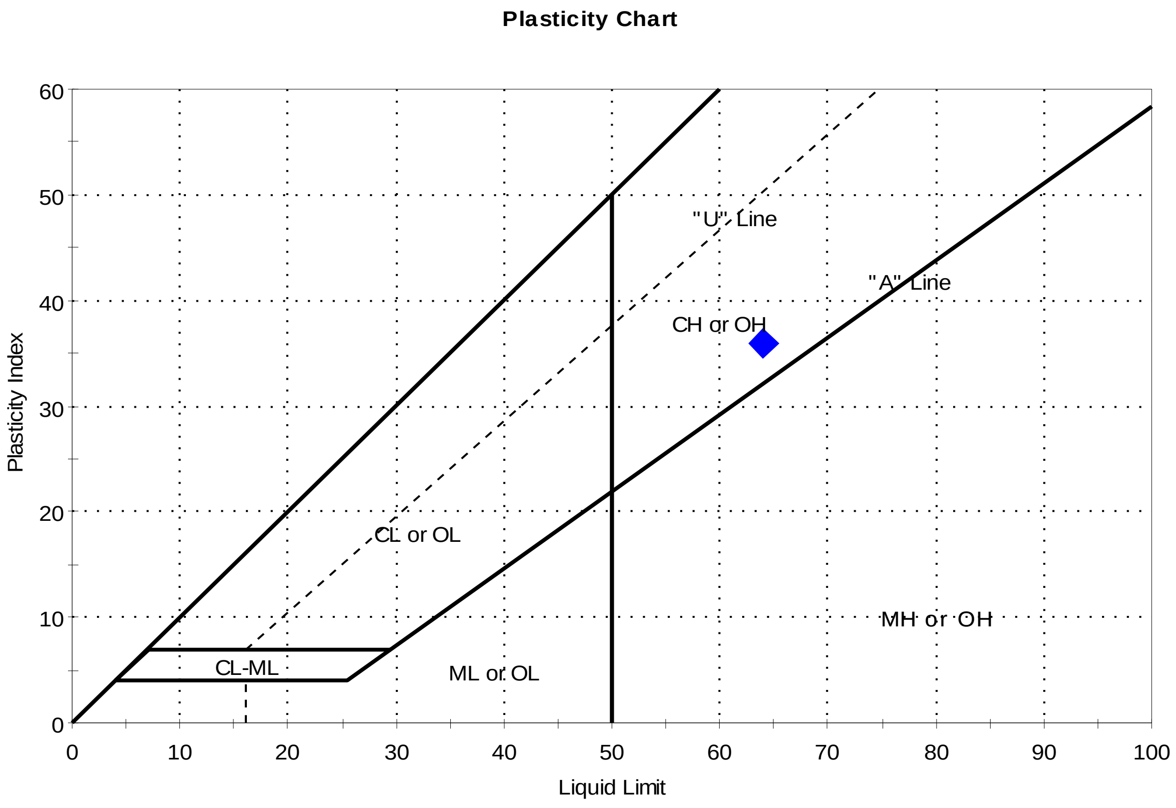
printed 12/7/2018 5:00:04 PM

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764

Boring ID: B-10
Sample ID: HPC-18A
Depth : ---
Sample Type: tube
Test Date: 12/03/18
Test Id: 477591
Tested By: cam
Checked By: emm

Test Comment: ---
Visual Description: Moist, dark grayish brown clay
Sample Comment: ---

Atterberg Limits - ASTM D4318


Plasticity Chart

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-18A	B-10	---	44	64	28	36	0.5	

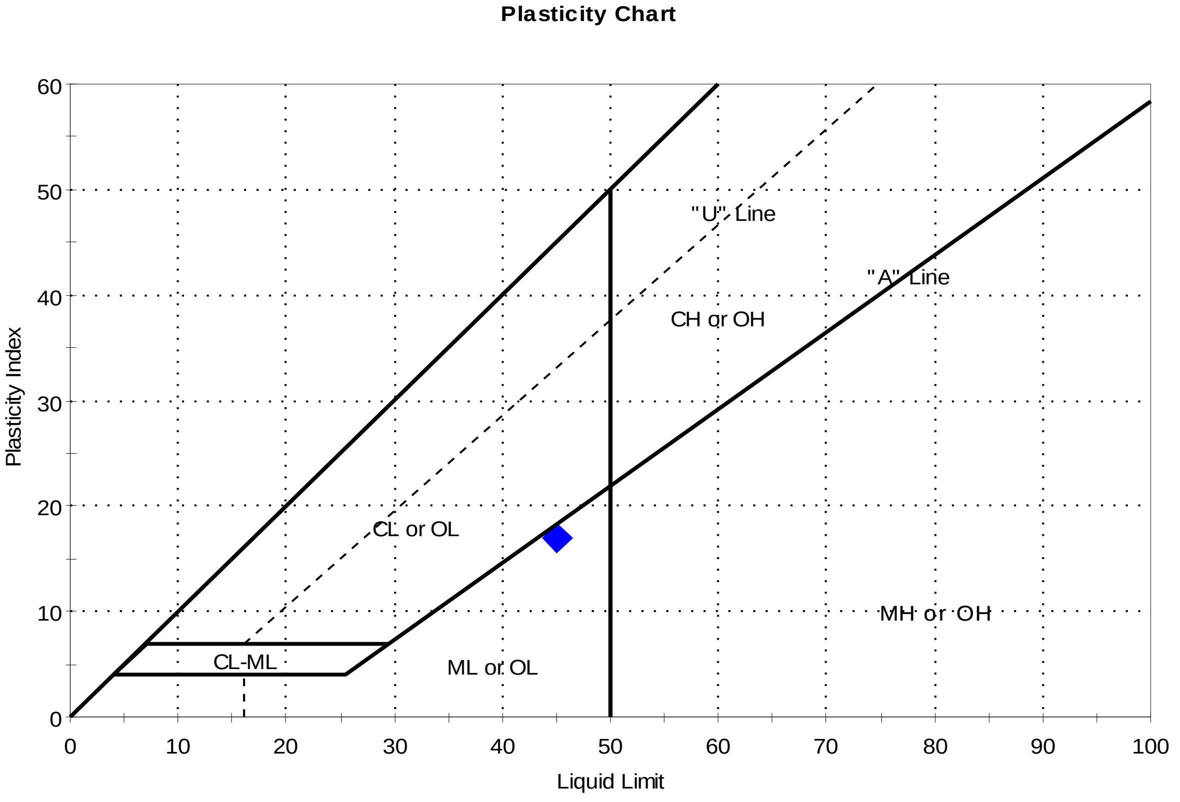
Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-10	Sample Type:	tube	Tested By:	cam
Sample ID:	HPC-25B	Test Date:	12/03/18	Checked By:	emm
Depth :	---	Test Id:	477585		

Test Comment: ---
Visual Description: Moist, dark gray silt
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-25B	B-10	---	27	45	28	17	-0.1	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

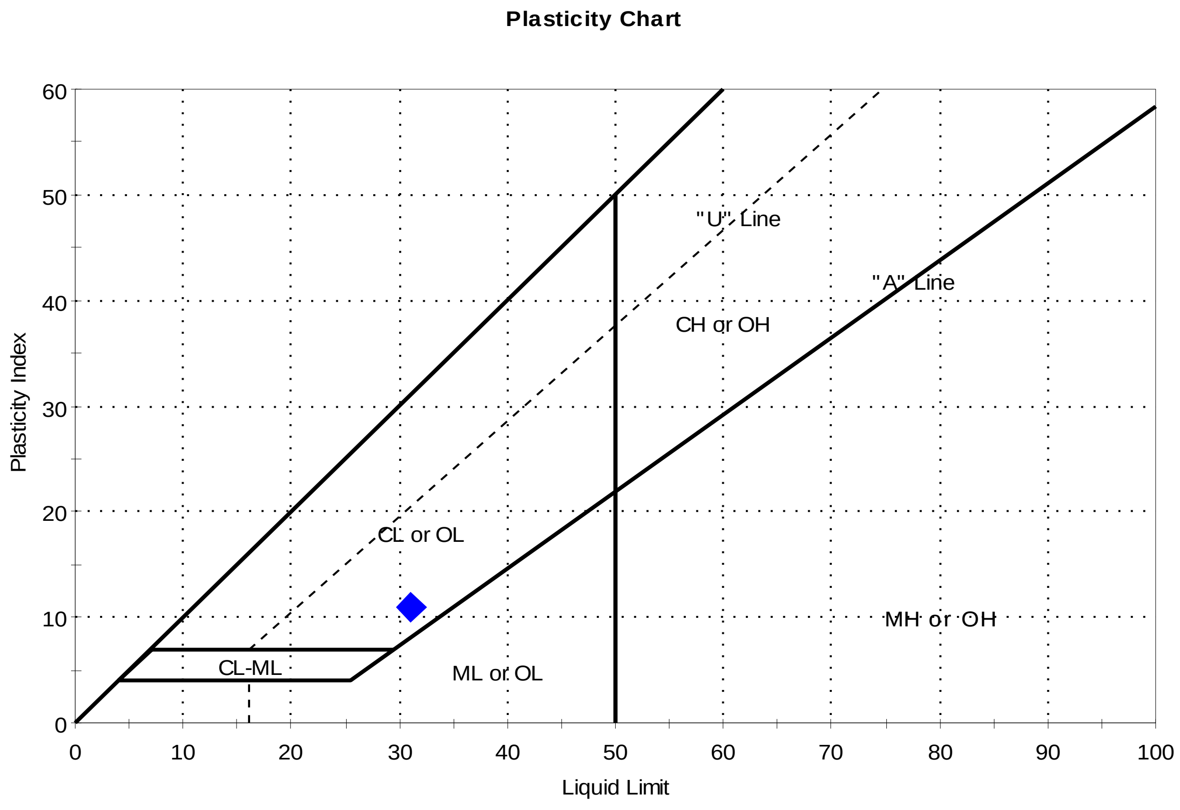
printed 12/7/2018 5:00:05 PM

GeoTesting
EXPRESS

Client:	GZA GeoEnvironmental, Inc.		
Project:	SFWF		
Location:		Project No:	GTX-308764
Boring ID: B-11	Sample Type: tube	Tested By:	cam
Sample ID: ALN-4	Test Date: 12/07/18	Checked By:	emm
Depth : ---	Test Id: 482320		

Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	ALN-4	B-11	---	25	31	20	11	0.5	

Sample Prepared using the WET method

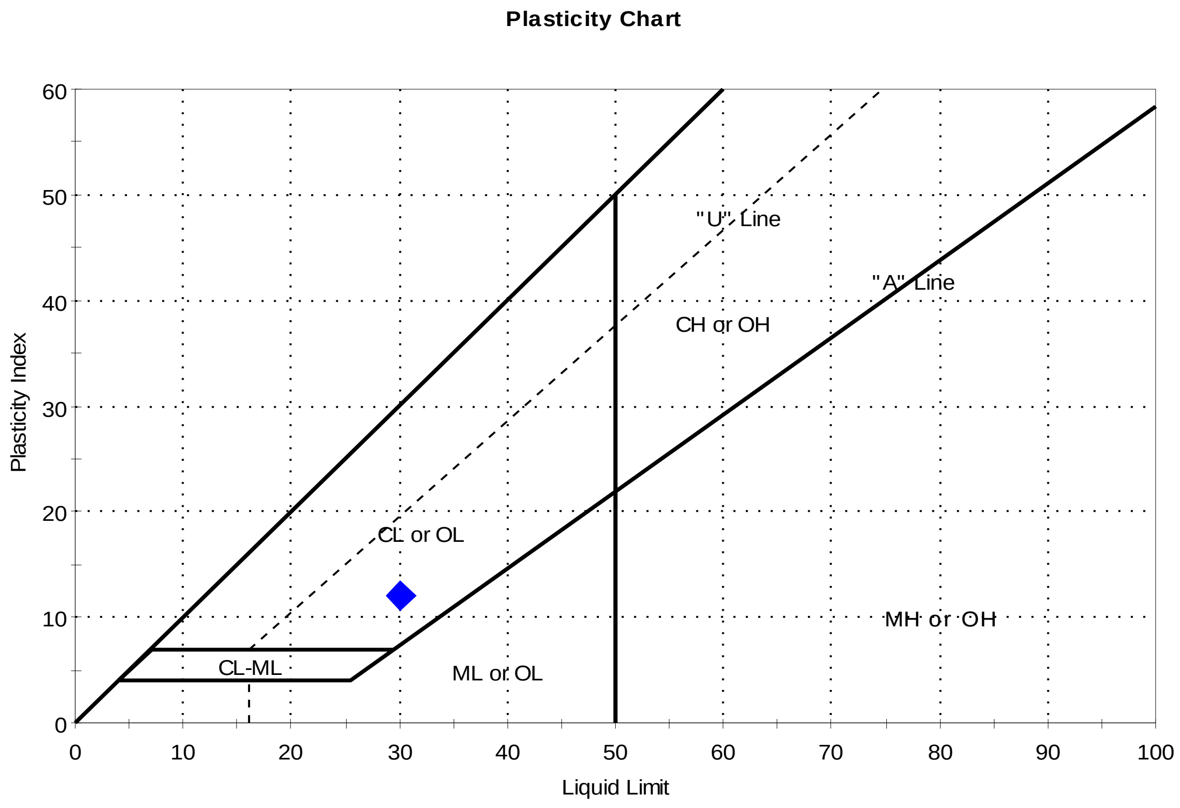
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

printed 12/7/2018 5:00:05 PM

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-3
Sample ID: ALN-7
Depth : ---
Sample Type: tube
Test Date: 12/11/18
Test Id: 477590
Tested By: cam
Checked By: emm
Test Comment: ---
Visual Description: Moist, dark gray clay with gravel
Sample Comment: ---

Atterberg Limits - ASTM D4318



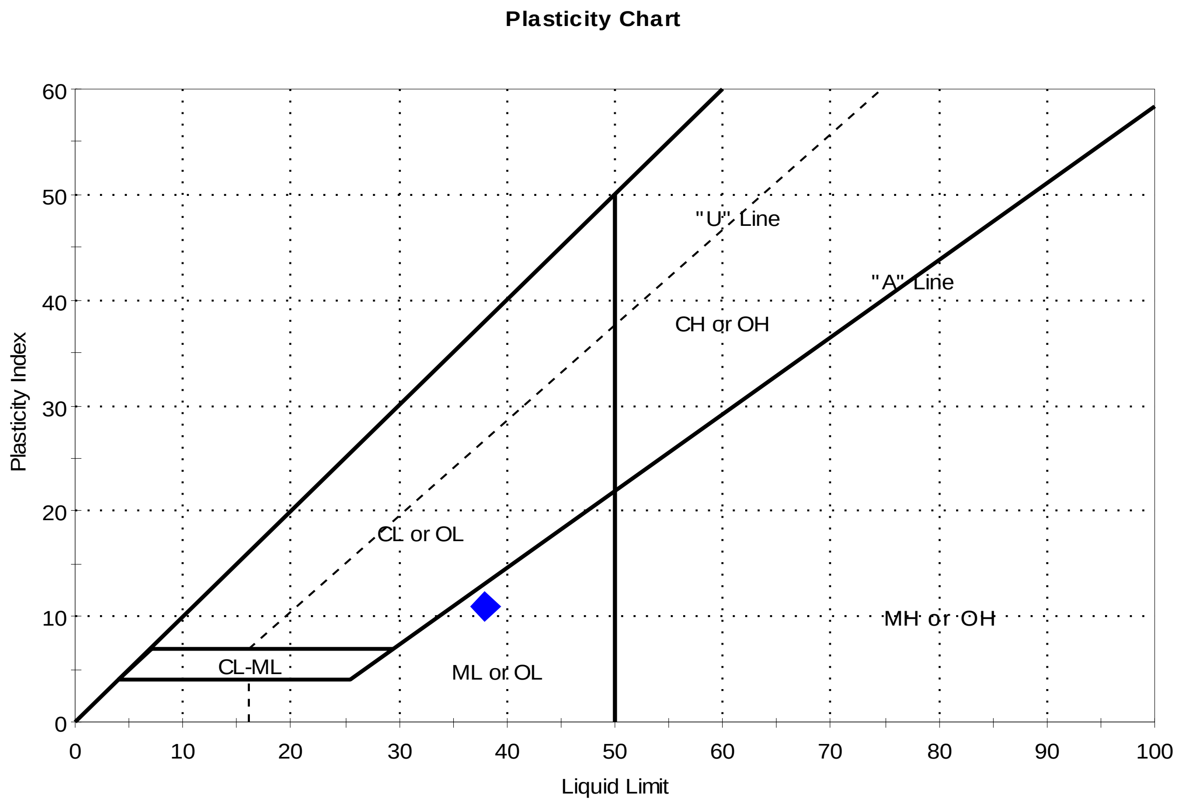
Symbol	Sample ID	Boring	Depth	Natural Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	ALN-7	B-3	---	15	30	18	12	-0.2	

Sample Prepared using the WET method

Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-10
Sample Type: tube
Tested By: cam
Sample ID: ALN-14
Test Date: 12/12/18
Checked By: emm
Depth : ---
Test Id: 477588
Test Comment: ---
Visual Description: Moist, dark gray silt
Sample Comment: ---

Atterberg Limits - ASTM D4318



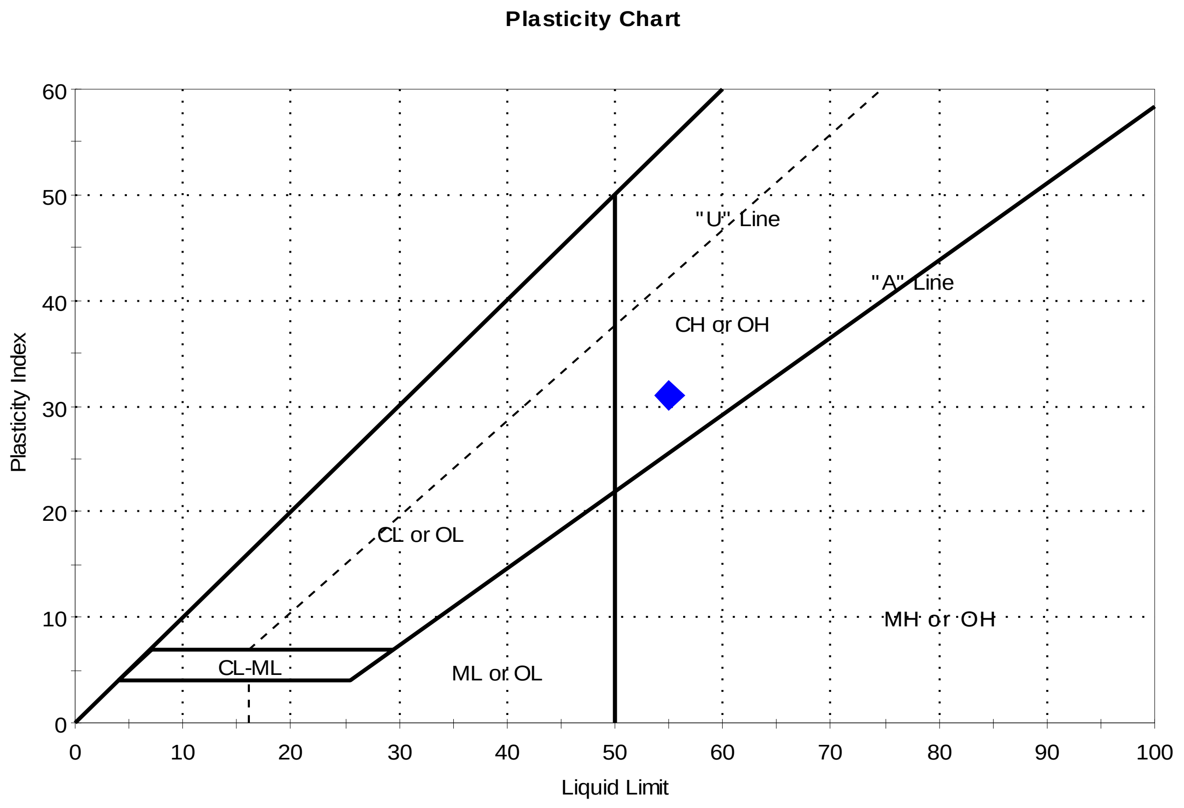
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	ALN-14	B-10	---	34	38	27	11	0.6	

Sample Prepared using the WET method

Dry Strength: HIGH
Dilatancy: SLOW
Toughness: LOW

Client: GZA GeoEnvironmental, Inc.
Project: SFWF
Location:
Project No: GTX-308764
Boring ID: B-10
Sample Type: tube
Tested By: cam
Sample ID: HPC-12B
Test Date: 12/10/18
Checked By: emm
Depth : 112 ft
Test Id: 484332
Test Comment: ---
Visual Description: Moist, dark gray clay
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	HPC-12B	B-10	112 ft	43	55	24	31	0.6	

Sample Prepared using the WET method

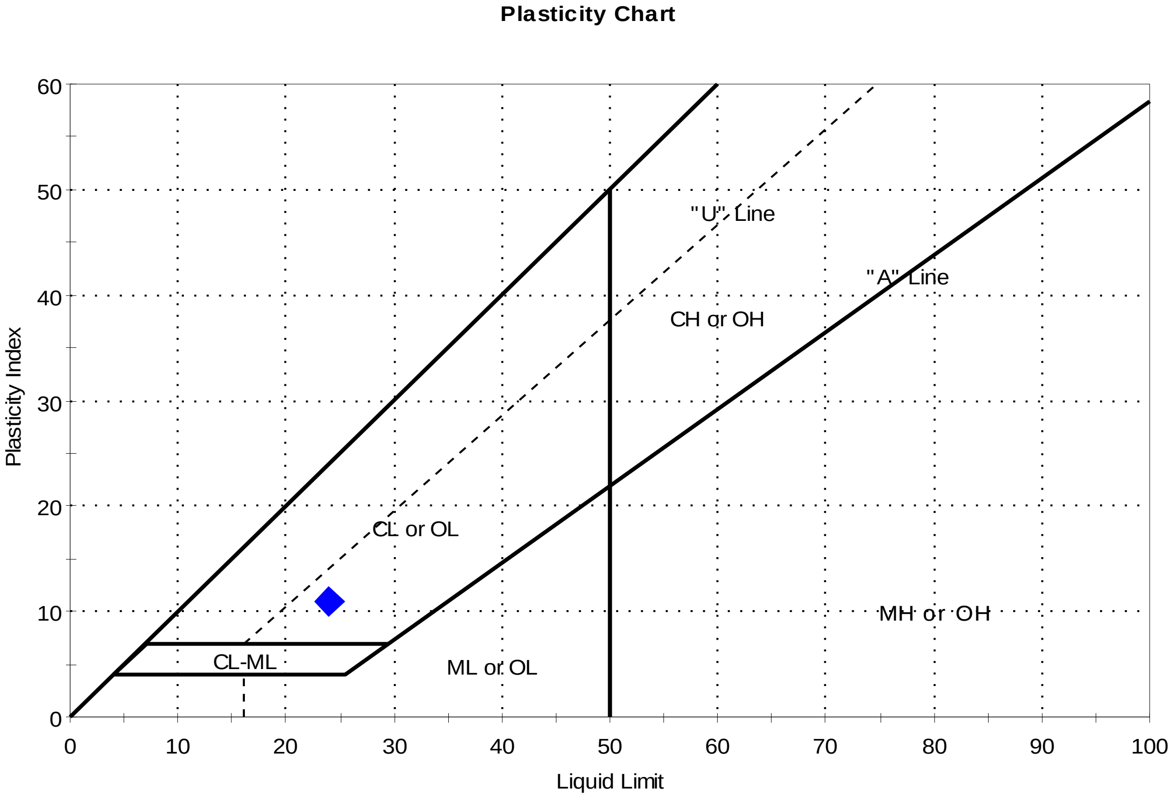
Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

printed 12/12/2018 4:50:40 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B OSS	Sample Type:	tube	Tested By:	cam
Sample ID:	ALN-5	Test Date:	12/11/18	Checked By:	emm
Depth :	---	Test Id:	477587		

Test Comment: ---
Visual Description: Moist, dark gray clay with gravel
Sample Comment: ---

Atterberg Limits - ASTM D4318



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
◆	ALN-5	B OSS	---	13	24	13	11	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilatancy: SLOW
Toughness: LOW

printed 12/12/2018 4:50:40 PM

Client:	GZA GeoEnvironmental, Inc.				
Project:	SFWF				
Location:				Project No:	GTX-308764
Boring ID:	B-6	Sample Type:	tube	Tested By:	cam
Sample ID:	HPC-2E	Test Date:	10/15/18	Checked By:	emm
Depth :	---	Test Id:	475741		

Test Comment: ---
Visual Description: Moist, dark gray silty clay with sand
Sample Comment: ---

Moisture, Ash, and Organic Matter - ASTM D2974

Boring ID	Sample ID	Depth	Description	Moisture Content, %	Ash Content, %	Organic Matter, %
B-6	HPC-2E	---	Moist, dark gray silty clay with sand	30	98.9	1.1

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass;
dried to a constant mass at temperature of 105º C
Ash content and organic matter determined by Method C; dried to constant mass at temperature 440º C

printed 11/9/2018 4:58:41 PM

Client:	GZA GeoEnvironmental, Inc.
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	10/12/18
Tested By:	jbr
Checked By:	emm

Rapid Determination of Carbonate Content of Soils
by ASTM D4373

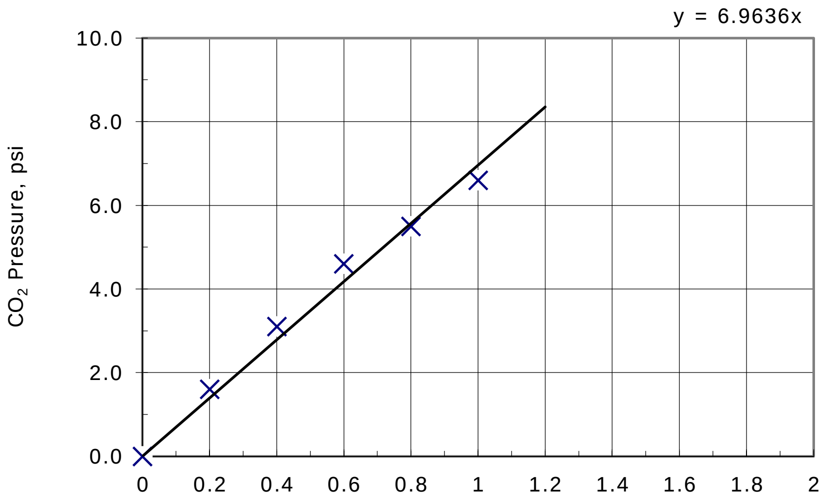
Boring ID	Sample ID	Depth, ft	CO_2 Pressure, psi	Weight of Sample used, g	Weight $CaCO_3$, grams	Calcite Equivalent, %
B-11	HPC-1B	---	0.00	10.00	0.00	0

Notes: Calcium Carbonate content precise to +/- 1.5%

CO_2 Pressure is based on the weight of sample as indicated in the table.

The reported Calcite Equivalent (%) is based on one gram

Figure 1: Calibration Curve



Weight Calcium Carbonate, g
% Calcite Equivalent = Weight x 100

Client:	GZA GeoEnvironmental, Inc.
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	9/24/18-10/5/18
Tested By:	trm
Checked By:	emm

Minimum Index Density and Unit Weight of Soils by ASTM D4254
and
Maximum Index Density and Unit Weight of Soils Using a Vibratory Table by ASTM D4253

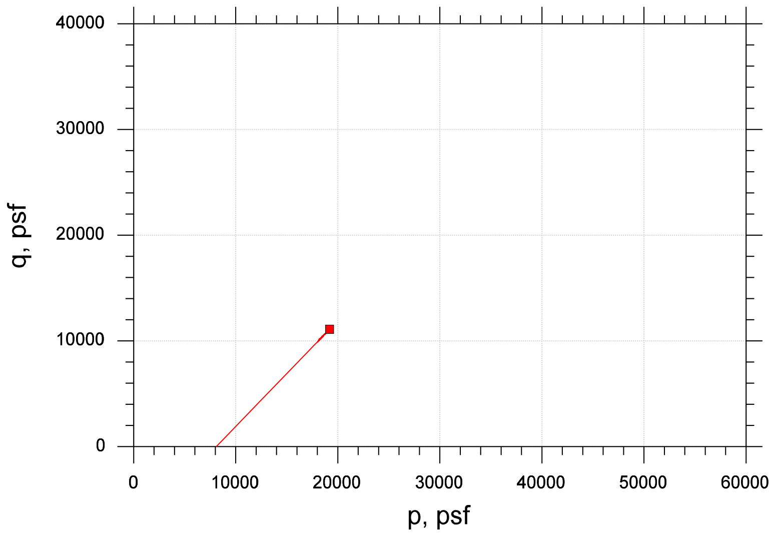
Boring ID	Sample ID	Minimum-Index Unit Weight, g/cm^3	Maximum-Index Unit Weight, g/cm^3	Minimum-Index Unit Weight, lb/ft3	Maximum-Index Unit Weight, lb/ft3
B OSS	ALN-17B/17C	1.446	1.712	90.3	106.9
B OSS	HPC-4A/4B	1.317	1.632	82.2	101.9
B-11A	HPC-1B/1C	1.317	1.596	82.2	99.6
B-11A	HPC-4B/4C	1.354	1.674	84.6	104.5

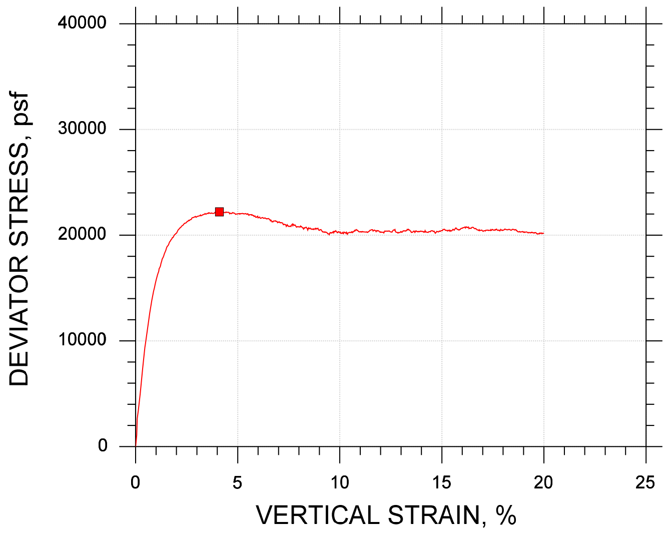
Notes:

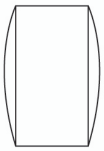
Minimum index unit weight determined on a dry sample by placing the material as loosely as possible into a 0.100 ft^3 mold
Maximum index unit weight determined by the dry method only using a 0.100 ft^3 mold
The double amplitude of vertical vibration was the standard 0.013 ± 0.002 in.
Above listed Sample IDs were composited together per client request.

Client: GZA GeoEnviromental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B-3	
Preparation: Reconstituted	
Description: Moist, light gray sand	
Classification: ---	
Group Symbol: ---	
Liquid Limit: ---	Plastic Limit: ---
Plasticity Index: ---	Estimated Specific Gravity: 2.65

CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

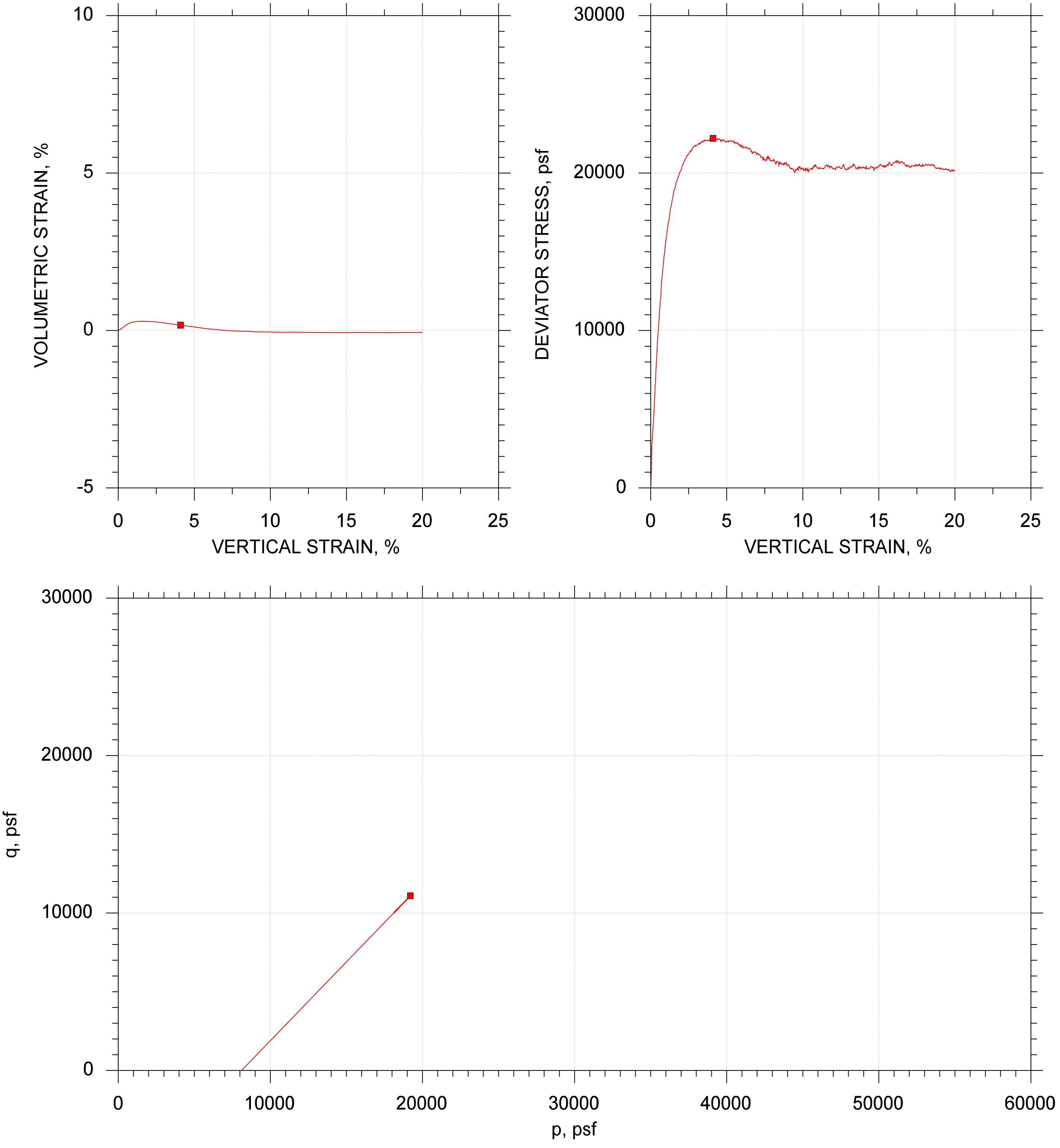




	Symbol	🟥			
	Sample ID	HPC-26B			
	Depth, ft	---			
	Test Number	CD-2-1			
Initial	Height, in	4.000			
	Diameter, in	2.000			
	Moisture Content (from Cuttings), %	10.2			
	Dry Density, pcf	90.8			
	Saturation (Wet Method), %	32.9			
	Void Ratio	0.822			
Before Shear	Moisture Content, %	29.8			
	Dry Density, pcf	92.4			
	Cross-sectional Area (Method A), in²	3.090			
	Saturation, %	100.0			
	Void Ratio	0.790			
	Back Pressure, psf	2.172e+004			
	Vertical Effective Consolidation Stress, psf	8100.			
	Horizontal Effective Consolidation Stress, psf	8099.			
	Vertical Strain after Consolidation, %	0.1528			
	Volumetric Strain after Consolidation, %	1.946			
	Time to 50% Consolidation, min	0.2500			
	Shear Strength, psf	1.110e+004			
	Strain at Failure, %	4.10			
	Strain Rate, %/min	0.01000			
	Deviator Stress at Failure, psf	2.220e+004			
	Effective Minor Principal Stress at Failure, psf	8102.			
	Effective Major Principal Stress at Failure, psf	3.030e+004			
	B-Value	0.95			
	Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:				

System LL, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181



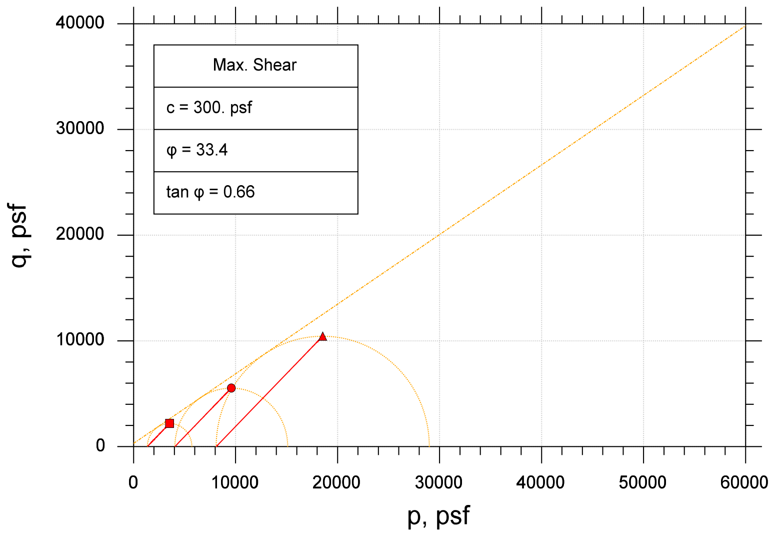
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
🟥	HPC-26B	CD-2-1	---	md/trm	11/1/18	mcm	11/9/18	308764-CD-2-1m.dat

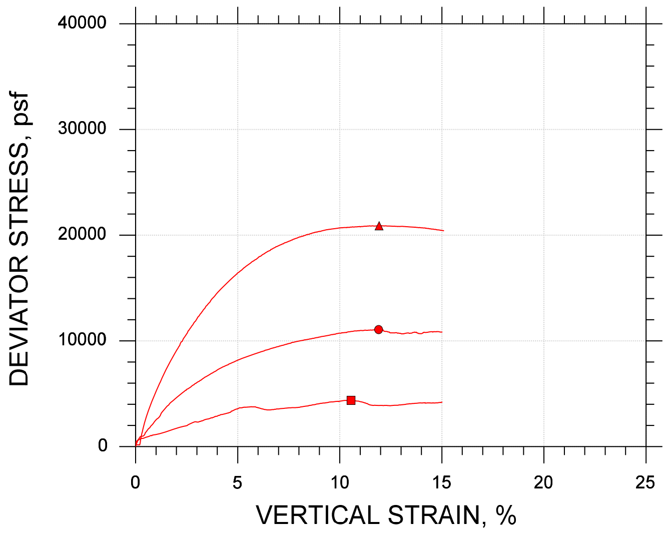
GeoTesting
EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Sample Type: Reconstituted	
Description: Moist, light gray sand		
Remarks: System LL, Target Compaction: 90 pcf (provided by client)		

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md
Checked By: mcm
Boring ID: B-3
Preparation: Reconstituted
Description: Moist, gray silty sand
Classification: ---
Group Symbol: ---
Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---
Estimated Specific Gravity: 2.65

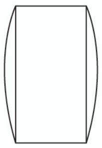
CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

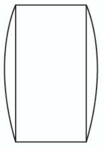


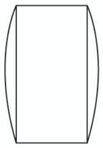


Symbol		■	●	▲
Sample ID		HPC-28B	HPC-28B	HPC-28B
Depth, ft		---	---	---
Test Number		CD-3-1	CD-3-2	CD-3-3
Initial	Height, in	4.000	4.000	4.000
	Diameter, in	2.000	2.000	2.000
	Moisture Content (from Cuttings), %	28.1	29.4	28.2
	Dry Density, pcf	90.0	89.1	90.0
	Saturation (Wet Method), %	88.8	91.0	88.9
	Void Ratio	0.838	0.857	0.839
Before Shear	Moisture Content, %	29.6	28.8	26.4
	Dry Density, pcf	92.8	93.9	97.3
	Cross-sectional Area (Method A), in²	3.099	3.012	2.946
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.783	0.762	0.700
	Back Pressure, psf	2.173e+004	1.858e+004	2.174e+004
Vertical Effective Consolidation Stress, psf		1338.	4037.	8088.
Horizontal Effective Consolidation Stress, psf		1349.	4048.	8100.
Vertical Strain after Consolidation, %		1.196	1.135	1.192
Volumetric Strain after Consolidation, %		1.695	5.430	6.957
Time to 50% Consolidation, min		1.440	0.6400	0.6400
Shear Strength, psf		2186.	5534.	1.044e+004
Strain at Failure, %		10.5	11.9	11.9
Strain Rate, %/min		0.01000	0.01000	0.01000
Deviator Stress at Failure, psf		4372.	1.107e+004	2.089e+004
Effective Minor Principal Stress at Failure, psf		1355.	4048.	8100.
Effective Major Principal Stress at Failure, psf		5726.	1.512e+004	2.899e+004
B-Value		0.95	0.95	0.96

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.



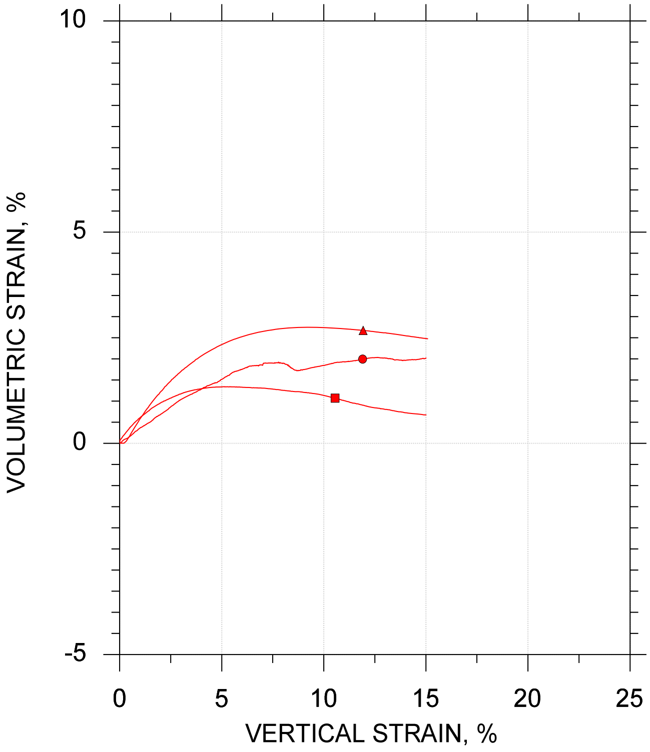


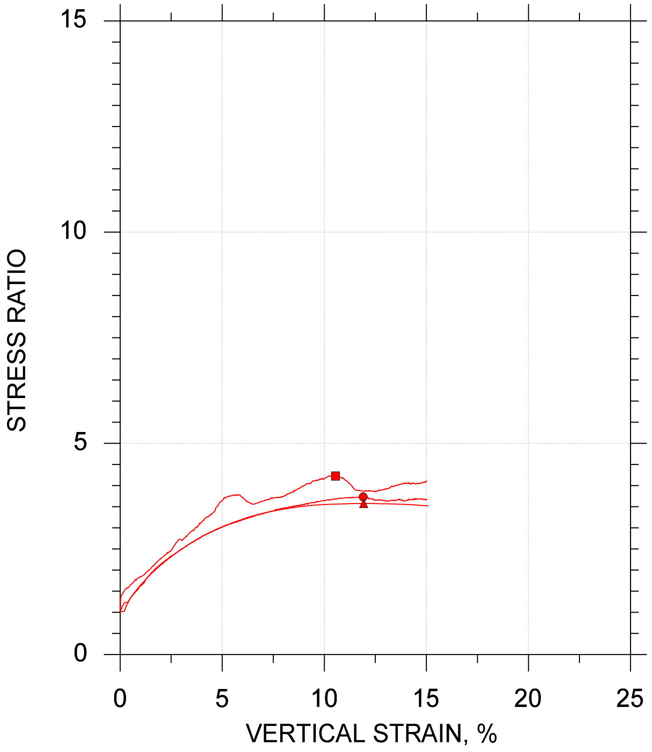


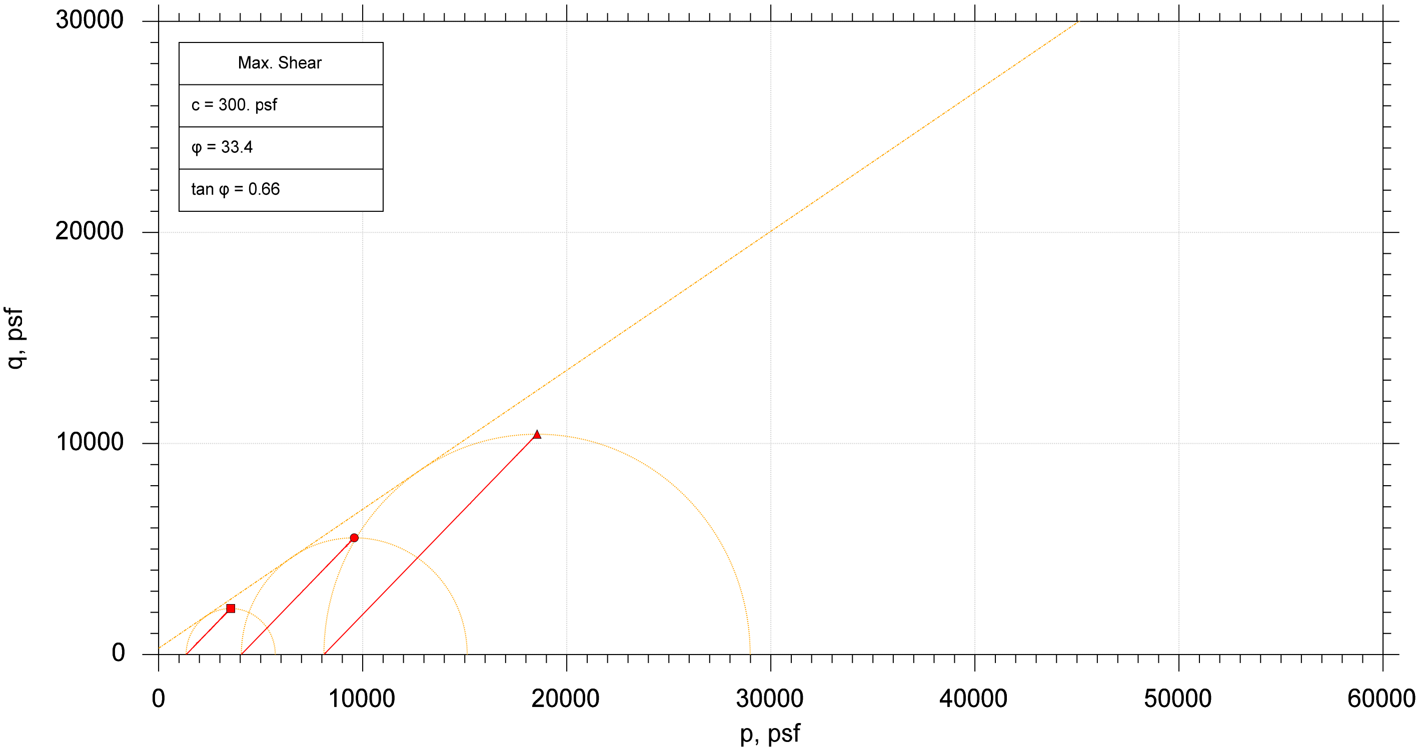
Remarks:

System K, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-28B	CD-3-1	---	md	11/01/18	mcm	11/9/18	308764-CD-3-1m.dat
●	HPC-28B	CD-3-2	---	md	11/01/18	mcm	11/9/18	308764-CD-3-2m.dat
▲	HPC-28B	CD-3-3	---	md/trm	11/01/18	mcm	11/9/18	308764-CD-3-3m.dat

GeoTesting
EXPRESS

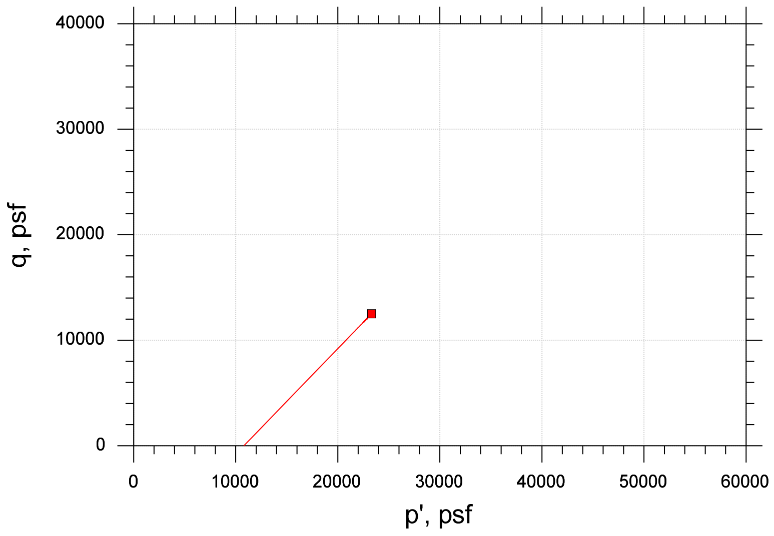
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Sample Type: Reconstituted	

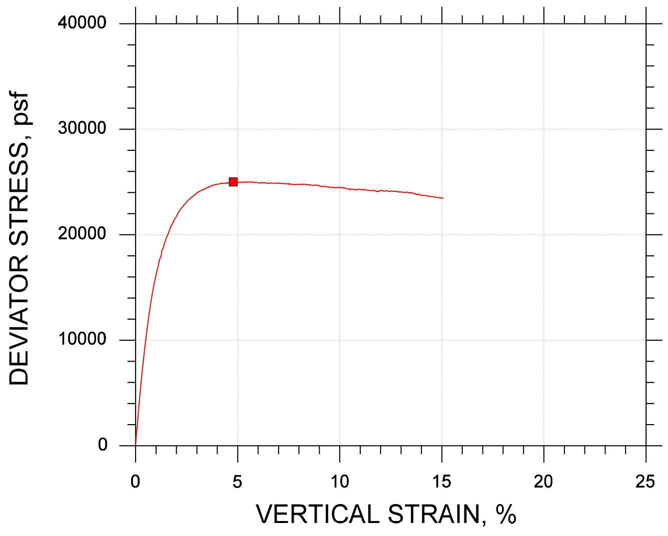
Description: Moist, gray silty sand

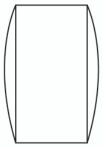
Remarks: System K, Target Compaction: 90 pcf (provided by client)

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm | Checked By: mcm
Boring ID: B-6
Preparation: reconstituted
Description: Moist, pale gray sand
Classification:
Group Symbol:
Liquid Limit: --- | Plastic Limit: ---
Plasticity Index: --- | Estimated Specific Gravity: 2.65

CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

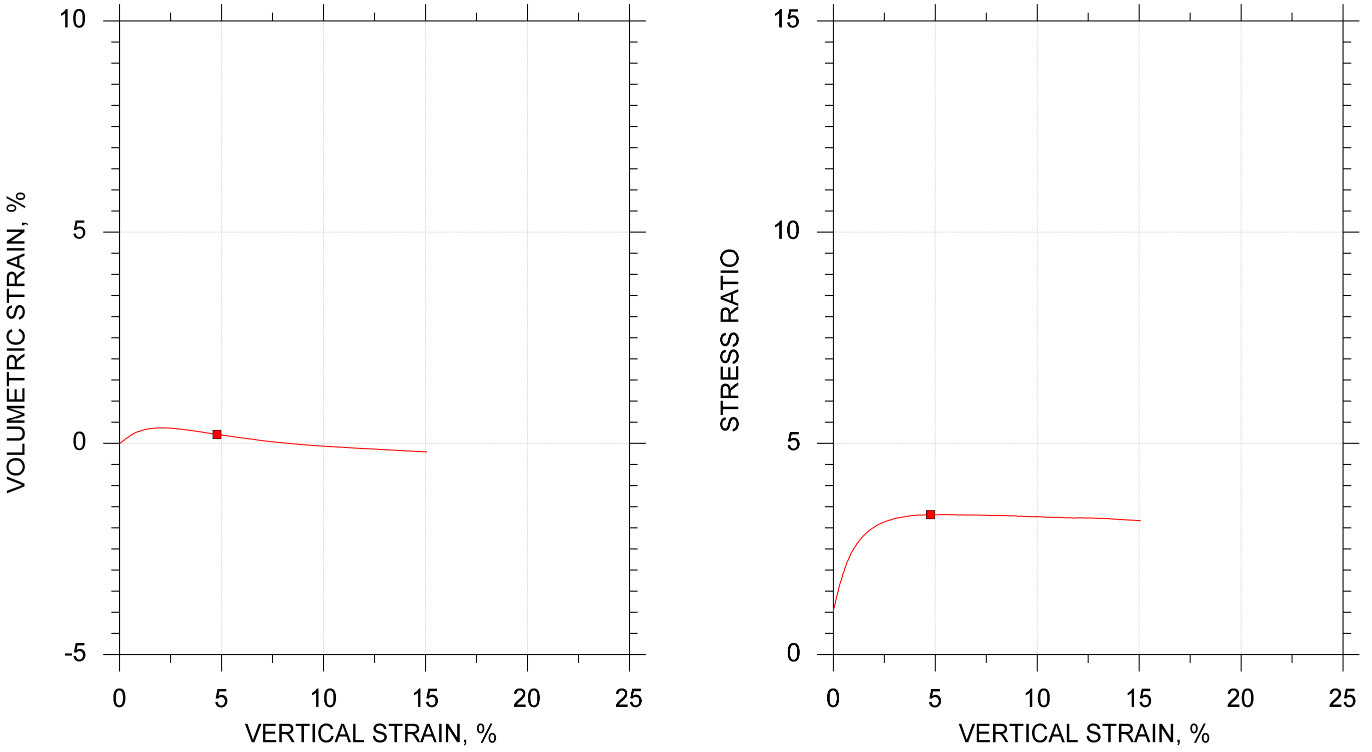


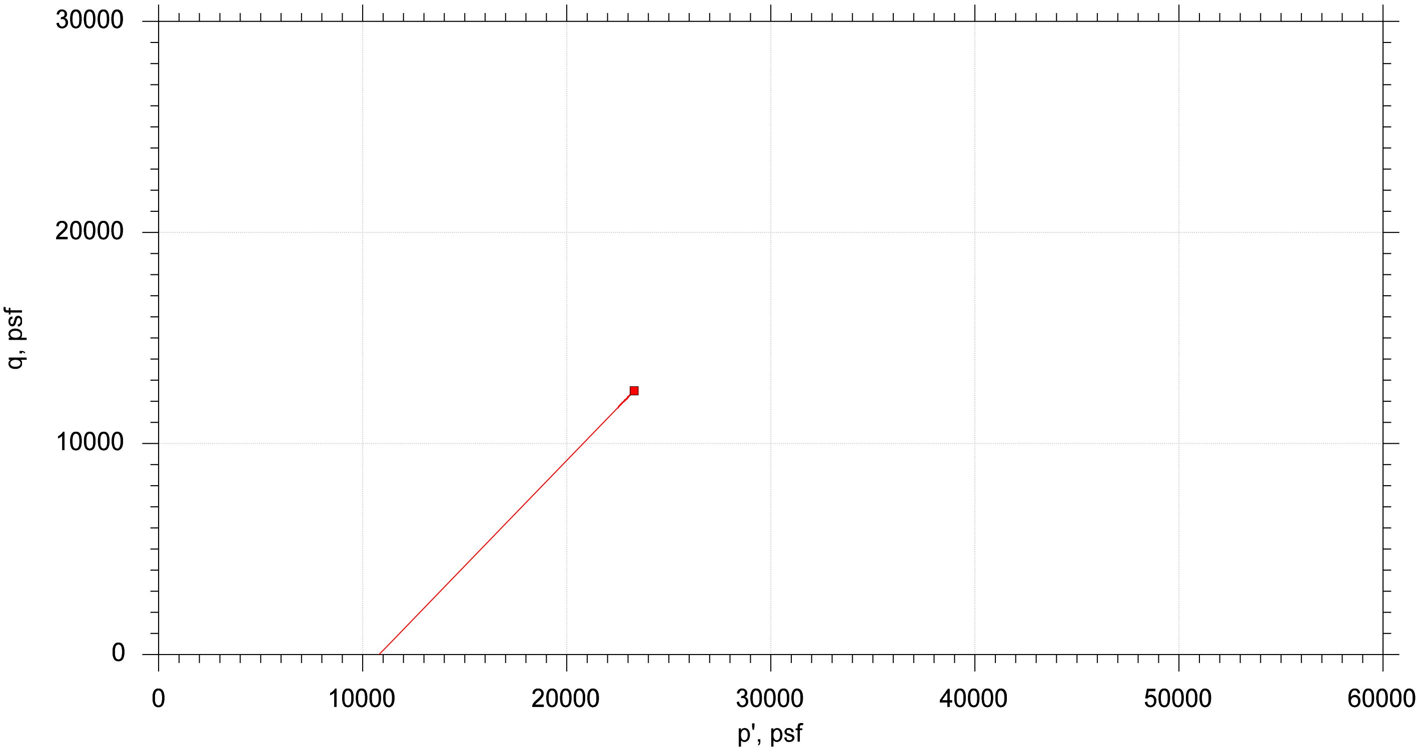


Symbol		🟥			
Sample ID		HPC-16B			
Depth, ft		---			
Test Number		CD-1-1			
Initial	Height, in	4.000			
	Diameter, in	2.000			
	Moisture Content (from Cuttings), %	10.1			
	Dry Density, pcf	90.5			
	Saturation (Wet Method), %	32.3			
	Void Ratio	0.828			
Before Shear	Moisture Content, %	29.6			
	Dry Density, pcf	92.7			
	Cross-sectional Area (Method A), in²	3.082			
	Saturation, %	100.0			
	Void Ratio	0.784			
	Back Pressure, psf	2.315e+004			
Vertical Effective Consolidation Stress, psf		1.080e+004			
Horizontal Effective Consolidation Stress, psf		1.080e+004			
Vertical Strain after Consolidation, %		0.4632			
Volumetric Strain after Consolidation, %		2.187			
Time to 50% Consolidation, min		0.1600			
Shear Strength, psf		1.250e+004			
Strain at Failure, %		4.78			
Strain Rate, %/min		0.01000			
Deviator Stress at Failure, psf		2.500e+004			
Effective Minor Principal Stress at Failure, psf		1.080e+004			
Effective Major Principal Stress at Failure, psf		3.580e+004			
B-Value		0.95			
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System W, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181





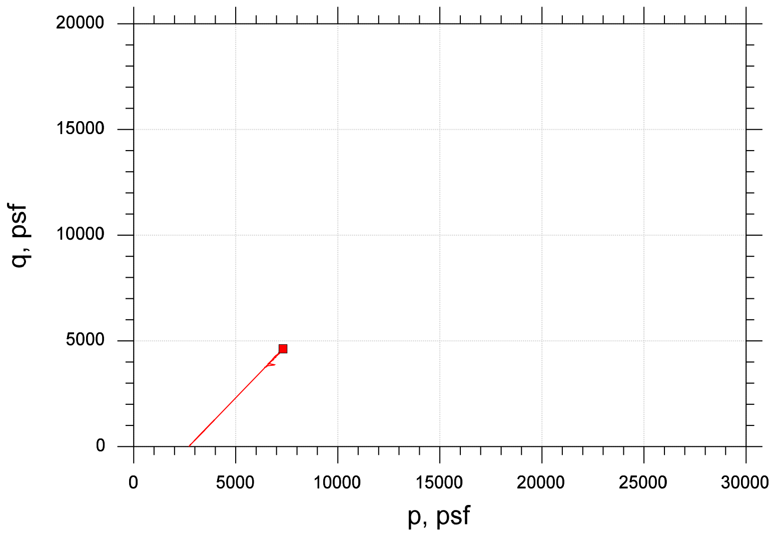
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
🟥	HPC-16B	CD-1-1	---	md/trm	11/1/18	mcm	11/8/18	308764-CD-1-1m.dat

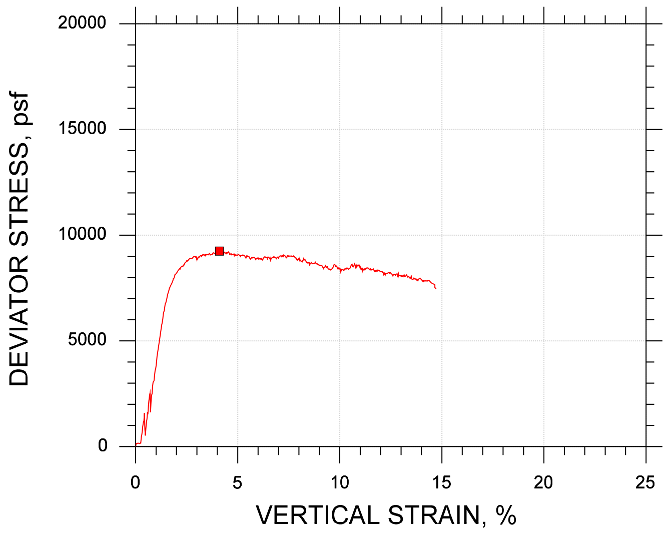
GeoTesting EXPRESS

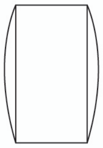
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Sample Type: reconstituted	
Description: Moist, pale gray sand		
Remarks: System W, Target Compaction: 90 pcf (provided by client)		

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md | Checked By: mcm
Boring ID: B-10
Preparation: Reconstituted
Description: Moist, grayish yellow sand
Classification: ---
Group Symbol: ---
Liquid Limit: --- | Plastic Limit: ---
Plasticity Index: --- | Estimated Specific Gravity: 2.65

CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181



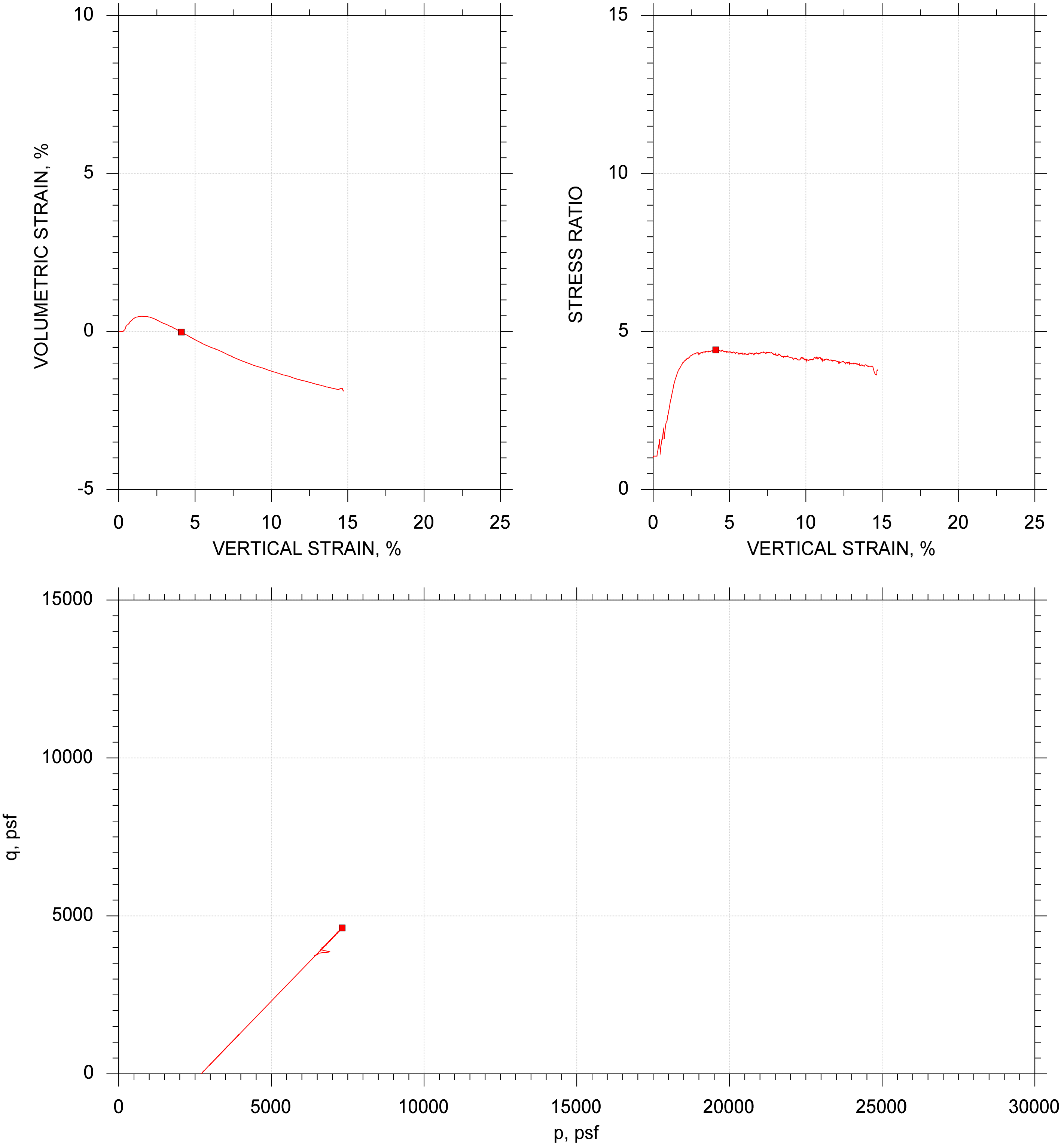


Symbol		🟥			
Sample ID		ALN-9B			
Depth, ft		---			
Test Number		CD-6-1			
Initial	Height, in	4.000			
	Diameter, in	2.000			
	Moisture Content (from Cuttings), %	17.6			
	Dry Density, pcf	89.9			
	Saturation (Wet Method), %	55.5			
	Void Ratio	0.840			
Before Shear	Moisture Content, %	30.8			
	Dry Density, pcf	91.2			
	Cross-sectional Area (Method A), in²	3.098			
	Saturation, %	100.0			
	Void Ratio	0.815			
	Back Pressure, psf	2.202e+004			
Vertical Effective Consolidation Stress, psf		2701.			
Horizontal Effective Consolidation Stress, psf		2700.			
Vertical Strain after Consolidation, %		0.08799			
Volumetric Strain after Consolidation, %		1.700			
Time to 50% Consolidation, min		0.2500			
Shear Strength, psf		4622.			
Strain at Failure, %		4.10			
Strain Rate, %/min		0.01000			
Deviator Stress at Failure, psf		9245.			
Effective Minor Principal Stress at Failure, psf		2702.			
Effective Major Principal Stress at Failure, psf		1.195e+004			
B-Value		0.96			
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System F, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST

ASTM D7181



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
🟥	ALN-9B	CD-6-1	---	md	11/02/18	mcm	11/9/18	308764-CD-6-1m.dat

GeoTesting EXPRESS

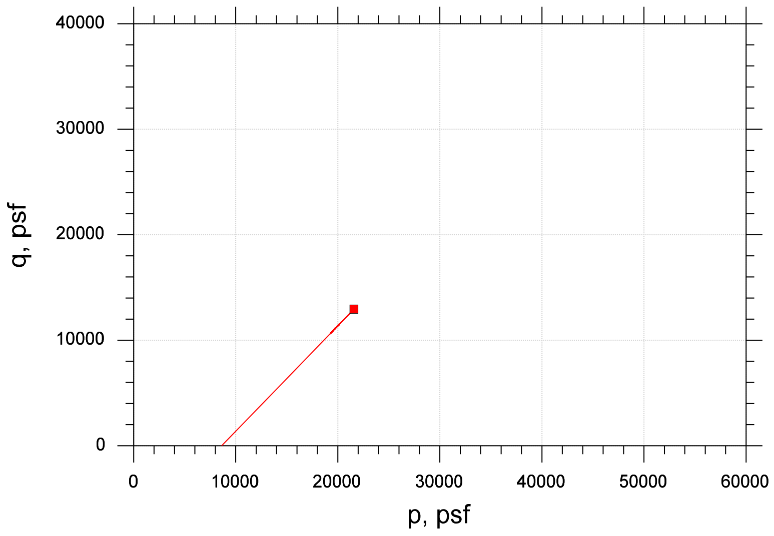
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: Reconstituted	

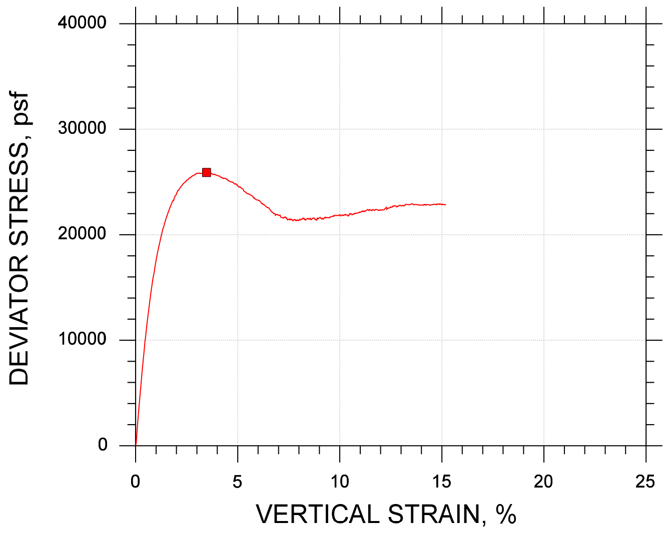
Description: Moist, grayish yellow sand

Remarks: System F, Target Compaction: 90 pcf (provided by client)

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md | Checked By: mcm
Boring ID: B-10
Preparation: Remold
Description: Moist, dark gray sand
Classification: ---
Group Symbol: ---
Liquid Limit: --- | Plastic Limit: ---
Plasticity Index: --- | Estimated Specific Gravity: 2.7

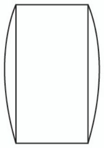
CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181





Symbol		🟥			
Sample ID		HPC-19-B			
Depth, ft		---			
Test Number		CD-4-1			
Initial	Height, in	4.000			
	Diameter, in	2.000			
	Moisture Content (from Cuttings), %	15.8			
	Dry Density, pcf	90.0			
	Saturation (Wet Method), %	48.7			
	Void Ratio	0.874			
Before Shear	Moisture Content, %	31.6			
	Dry Density, pcf	91.0			
	Cross-sectional Area (Method A), in²	3.118			
	Saturation, %	100.0			
	Void Ratio	0.852			
	Back Pressure, psf	2.174e+004			
Vertical Effective Consolidation Stress, psf		8631.			
Horizontal Effective Consolidation Stress, psf		8637.			
Vertical Strain after Consolidation, %		0.6259			
Volumetric Strain after Consolidation, %		1.786			
Time to 50% Consolidation, min		0.2500			
Shear Strength, psf		1.295e+004			
Strain at Failure, %		3.47			
Strain Rate, %/min		0.01000			
Deviator Stress at Failure, psf		2.590e+004			
Effective Minor Principal Stress at Failure, psf		8643.			
Effective Major Principal Stress at Failure, psf		3.454e+004			
B-Value		0.95			

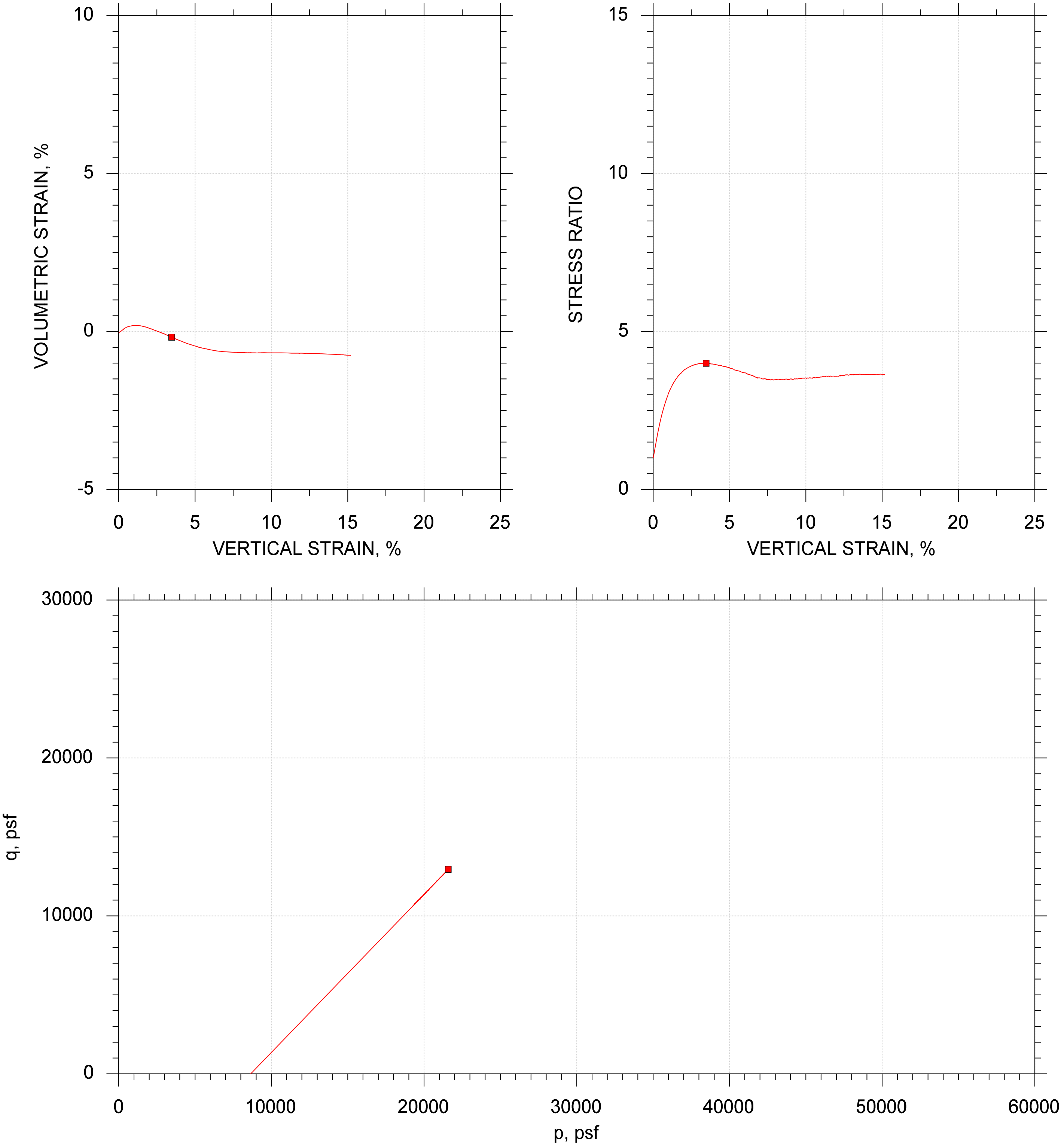
Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.



Remarks:

System K, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181

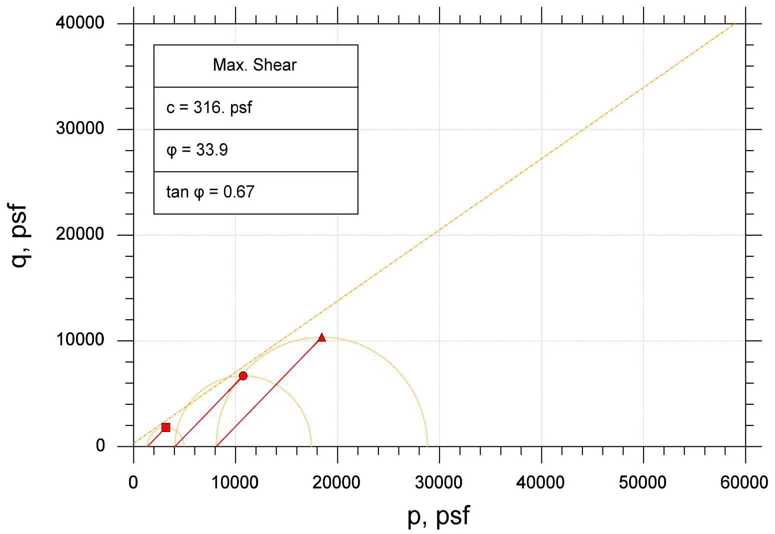


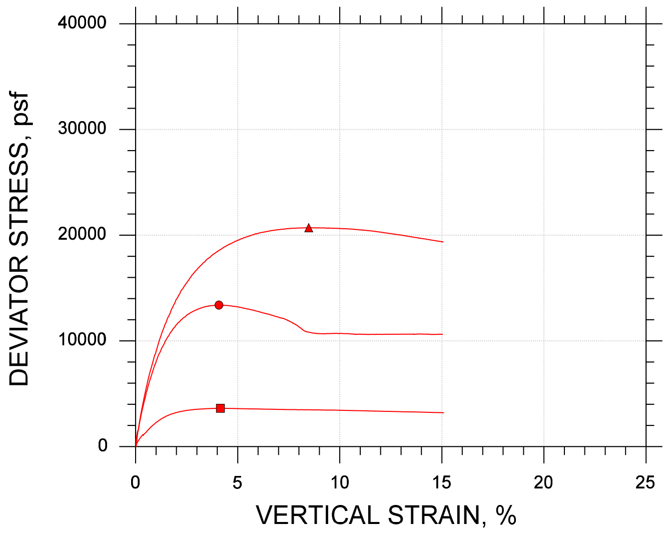
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
🟥	HPC-19-B	CD-4-1	---	md	11/02/18	mcm	11/9/18	308764-CD-4-1m.dat

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: Remold	
Description: Moist, dark gray sand		
Remarks: System K, Target Compaction: 90 pcf (provided by client)		

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md
Checked By: mcm
Boring ID: B-11
Preparation: Reconstituted
Description: Moist, dark gray sandy silt
Classification: ---
Group Symbol: ---
Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---
Estimated Specific Gravity: 2.65

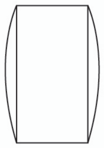
CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

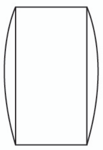


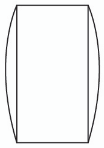


Symbol		■	●	▲
Sample ID		HPC-8.1B	HPC-8.1B	HPC-8.1B
Depth, ft		---	---	---
Test Number		CD-5-1	CD-5-2	CD-5-3
Initial	Height, in	4.000	4.000	4.000
	Diameter, in	2.000	2.000	2.000
	Moisture Content (from Cuttings), %	23.4	22.7	23.8
	Dry Density, pcf	90.3	90.8	90.0
	Saturation (Wet Method), %	74.4	73.1	75.3
	Void Ratio	0.832	0.822	0.839
Before Shear	Moisture Content, %	29.8	29.8	29.3
	Dry Density, pcf	92.4	92.4	93.1
	Cross-sectional Area (Method A), in²	3.090	3.106	3.057
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.790	0.790	0.776
	Back Pressure, psf	2.173e+004	2.170e+004	2.314e+004
Vertical Effective Consolidation Stress, psf		1351.	4053.	8094.
Horizontal Effective Consolidation Stress, psf		1350.	4052.	8098.
Vertical Strain after Consolidation, %		0.1633	0.1799	0.4184
Volumetric Strain after Consolidation, %		0.7770	0.4952	2.517
Time to 50% Consolidation, min		0.2500	0.2500	0.3600
Shear Strength, psf		1809.	6690.	1.035e+004
Strain at Failure, %		4.15	4.08	8.48
Strain Rate, %/min		0.01000	0.01000	0.01000
Deviator Stress at Failure, psf		3618.	1.338e+004	2.070e+004
Effective Minor Principal Stress at Failure, psf		1353.	4049.	8098.
Effective Major Principal Stress at Failure, psf		4972.	1.743e+004	2.880e+004
B-Value		0.95	0.95	0.95

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.



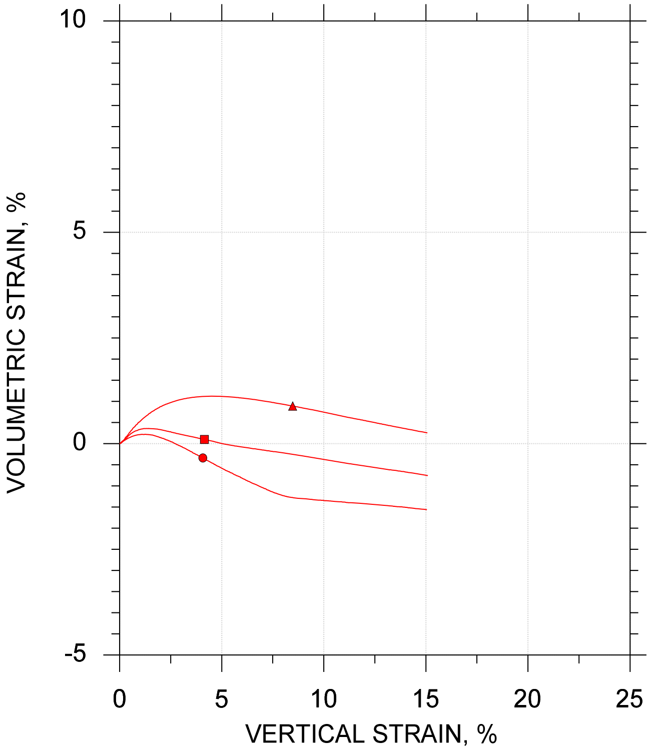


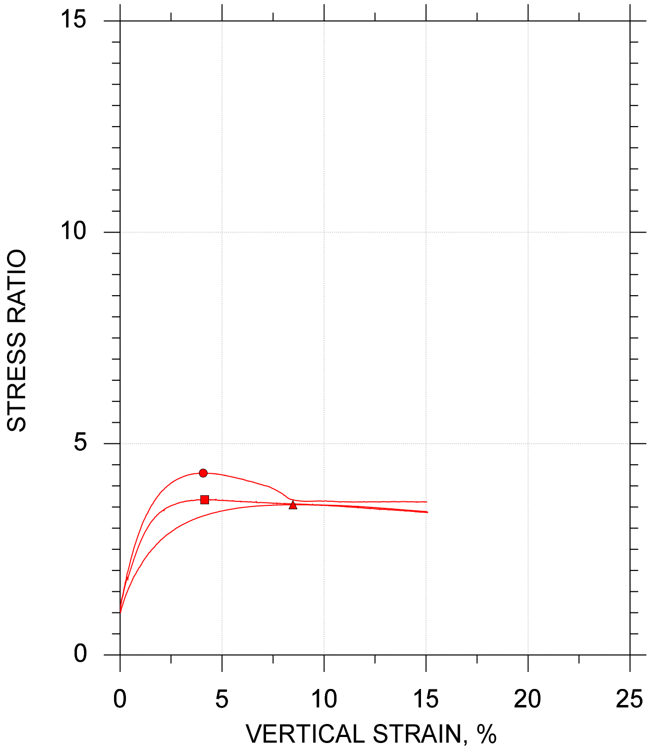


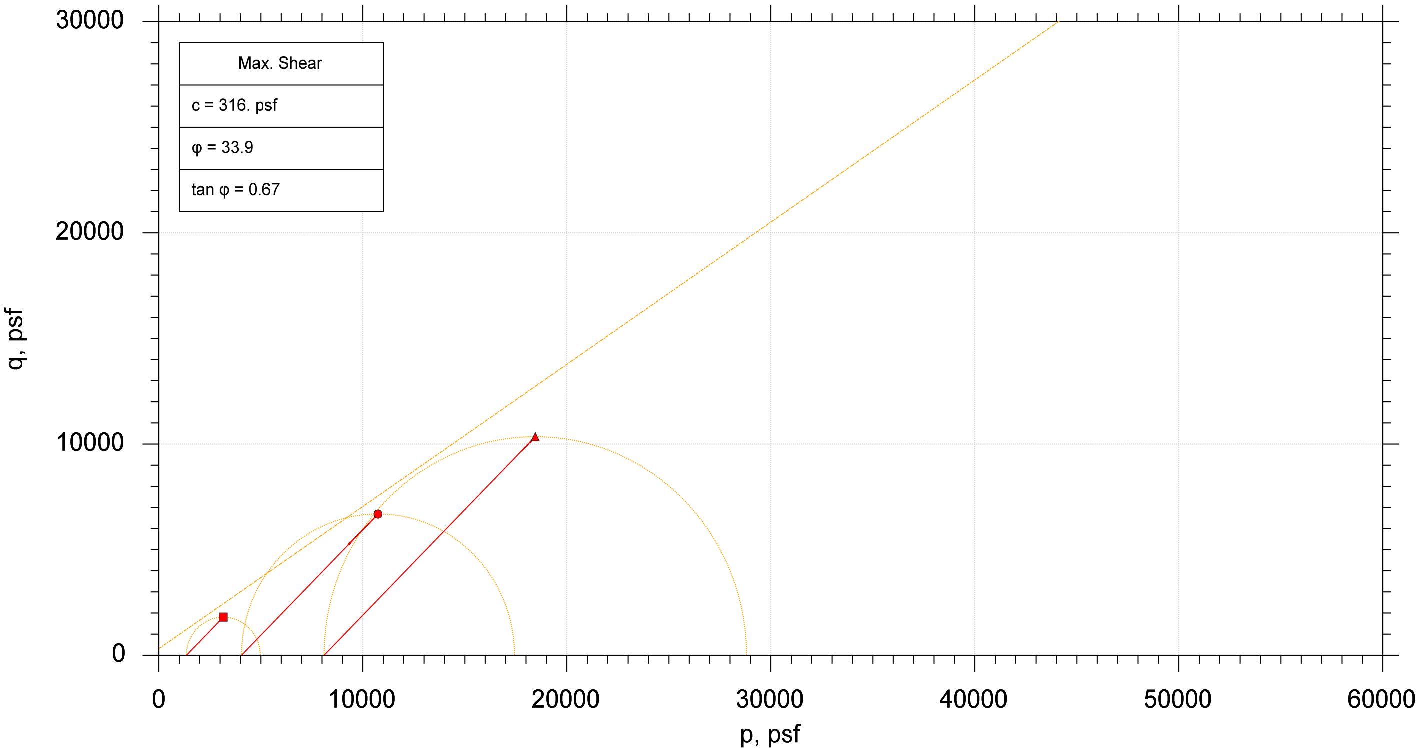
Remarks:

System R, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-8.1B	CD-5-1	---	md	11/02/18	mcm	11/9/18	308764-CD-5-1m.dat
●	HPC-8.1B	CD-5-2	---	md	11/02/18	mcm	11/9/18	308764-CD-5-2m.dat
▲	HPC-8.1B	CD-5-3	---	md	11/02/18	mcm	11/9/18	308764-CD-5-3m.dat

GeoTesting
EXPRESS

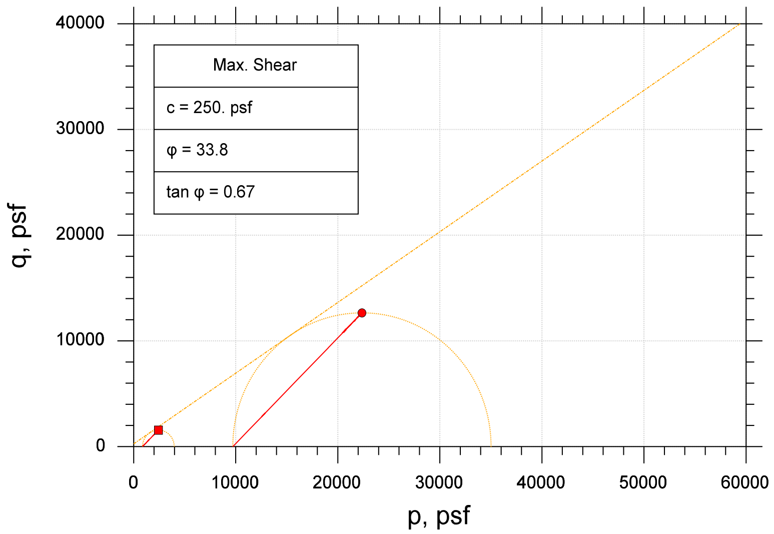
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-11	Sample Type: Reconstituted	

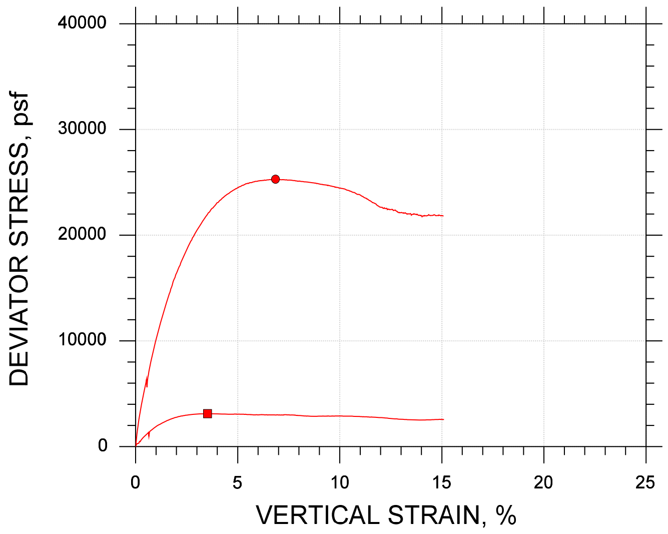
Description: Moist, dark gray sandy silt

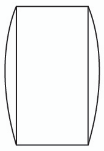
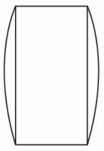
Remarks: System R, Target Compaction: 90 pcf (provided by client)

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B-10	
Preparation: reconstituted	
Description: Moist, dark gray sand with silt	
Classification: ---	
Group Symbol: ---	
Liquid Limit: ---	Plastic Limit: ---
Plasticity Index: ---	Estimated Specific Gravity: 2.65

CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

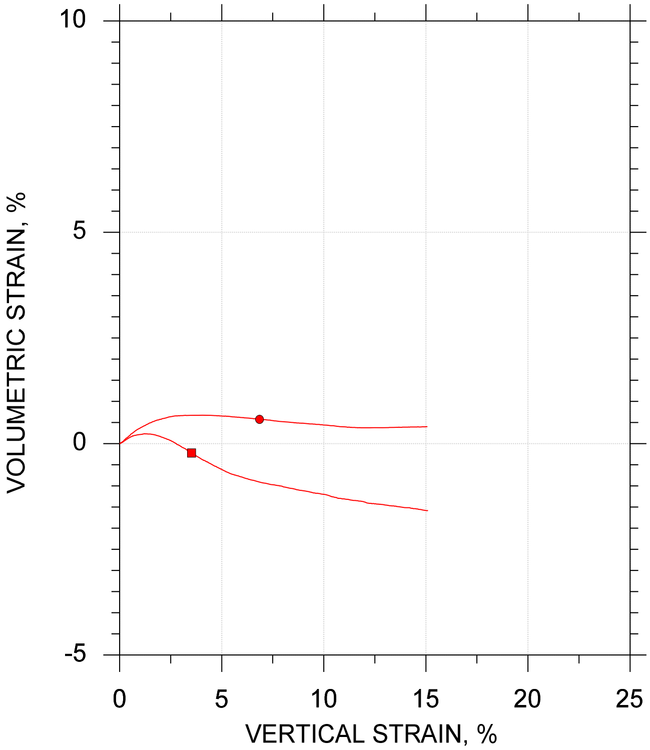


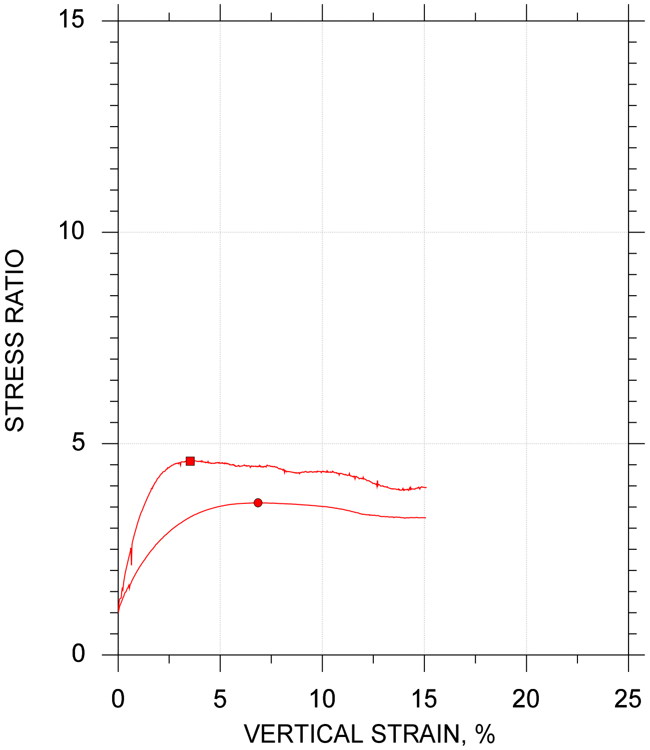


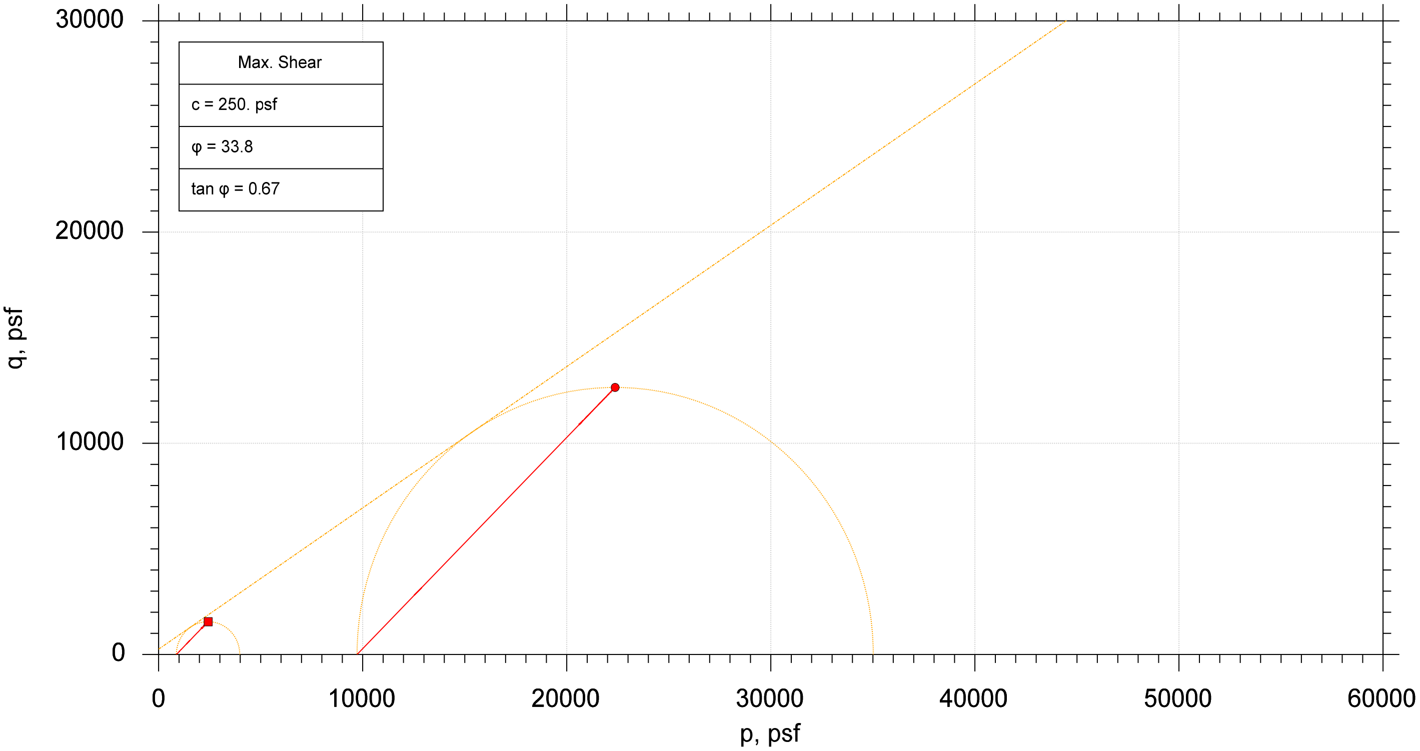
Symbol		🟥	●		
Sample ID		HPC-21B	HPC-21B		
Depth, ft		---	---		
Test Number		CD-7-1	CD-7-2		
Initial	Height, in	4.000	4.000		
	Diameter, in	2.000	2.000		
	Moisture Content (from Cuttings), %	24.4	25.7		
	Dry Density, pcf	90.9	90.0		
	Saturation (Wet Method), %	78.7	81.0		
	Void Ratio	0.820	0.839		
Before Shear	Moisture Content, %	30.6	28.9		
	Dry Density, pcf	91.4	93.7		
	Cross-sectional Area (Method A), in²	3.127	3.054		
	Saturation, %	100.0	100.0		
	Void Ratio	0.810	0.766		
	Back Pressure, psf	2.117e+004	1.886e+004		
Vertical Effective Consolidation Stress, psf		864.6	9711.		
Horizontal Effective Consolidation Stress, psf		863.5	9720.		
Vertical Strain after Consolidation, %		0.03391	0.9084		
Volumetric Strain after Consolidation, %		0.4357	2.988		
Time to 50% Consolidation, min		0.3600	0.2500		
Shear Strength, psf		1555.	1.265e+004		
Strain at Failure, %		3.53	6.85		
Strain Rate, %/min		0.01000	0.01000		
Deviator Stress at Failure, psf		3111.	2.529e+004		
Effective Minor Principal Stress at Failure, psf		867.1	9719.		
Effective Major Principal Stress at Failure, psf		3978.	3.501e+004		
B-Value		0.95	0.95		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System Q, Target Compaction 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-21B	CD-7-1	---	md/trm	11/5/18	mcm	11/13/18	308764-CD-7-1m.dat
●	HPC-21B	CD-7-2	---	md	11/02/18	mcm	11/13/18	308764-CD-7-2m.dat

GeoTesting EXPRESS

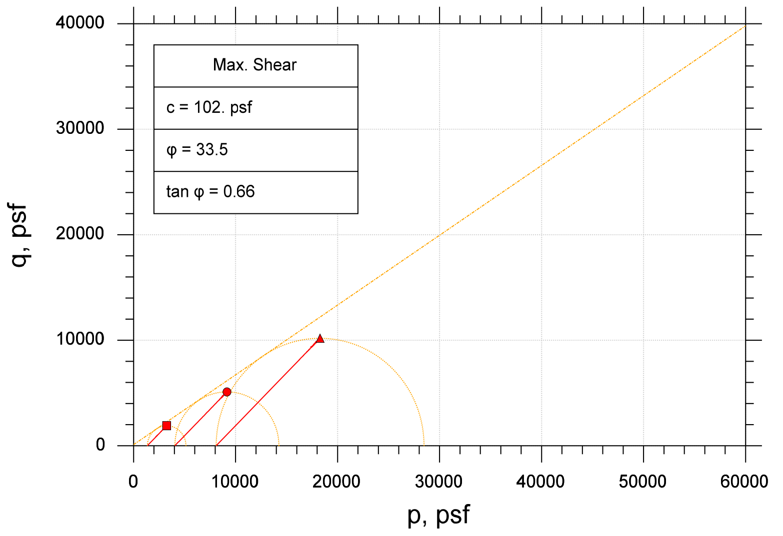
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: reconstituted	

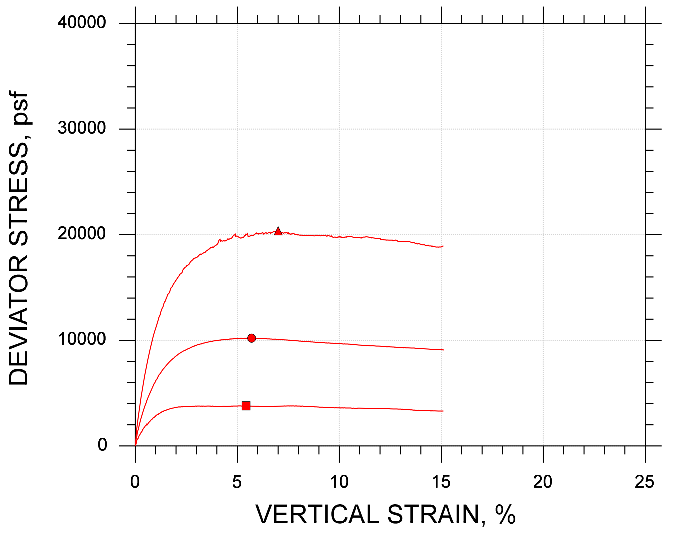
Description: Moist, dark gray sand with silt

Remarks: System Q, Target Compaction 90 pcf (provided by client)

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md	Checked By: mcm
Boring ID: B-11A	
Preparation: Reconstituted	
Description: Moist, gray sand	
Classification: ---	
Group Symbol: ---	
Liquid Limit: ---	Plastic Limit: ---
Plasticity Index: ---	Estimated Specific Gravity: 2.65

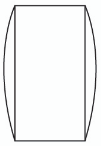
CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

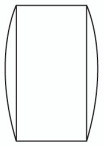


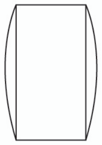


Symbol		■	●	▲	
Sample ID		HPC-1B-1C	HPC-1B-1C	BPC-1B-1C	
Depth, ft		---	---	---	
Test Number		CD-8-1	CD-8-2	CD-8-3	
Initial	Height, in	4.000	4.000	4.000	
	Diameter, in	2.000	2.000	2.000	
	Moisture Content (from Cuttings), %	10.7	10.2	10.8	
	Dry Density, pcf	89.4	89.8	89.3	
	Saturation (Wet Method), %	33.3	32.2	33.6	
	Void Ratio	0.850	0.843	0.853	
Before Shear	Moisture Content, %	32.0	28.2	30.7	
	Dry Density, pcf	89.6	94.7	91.2	
	Cross-sectional Area (Method A), in²	3.133	3.023	3.077	
	Saturation, %	100.0	100.0	100.0	
	Void Ratio	0.847	0.748	0.813	
	Back Pressure, psf	2.169e+004	2.171e+004	2.170e+004	
Vertical Effective Consolidation Stress, psf		1353.	4048.	8096.	
Horizontal Effective Consolidation Stress, psf		1349.	4049.	8097.	
Vertical Strain after Consolidation, %		0.02133	0.2905	0.1718	
Volumetric Strain after Consolidation, %		0.5376	1.688	2.361	
Time to 50% Consolidation, min		0.2500	0.3600	0.3600	
Shear Strength, psf		1895.	5102.	1.019e+004	
Strain at Failure, %		5.43	5.70	7.00	
Strain Rate, %/min		0.01000	0.01000	0.01000	
Deviator Stress at Failure, psf		3789.	1.020e+004	2.037e+004	
Effective Minor Principal Stress at Failure, psf		1349.	4049.	8097.	
Effective Major Principal Stress at Failure, psf		5139.	1.425e+004	2.847e+004	
B-Value		0.96	0.95	0.95	

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.





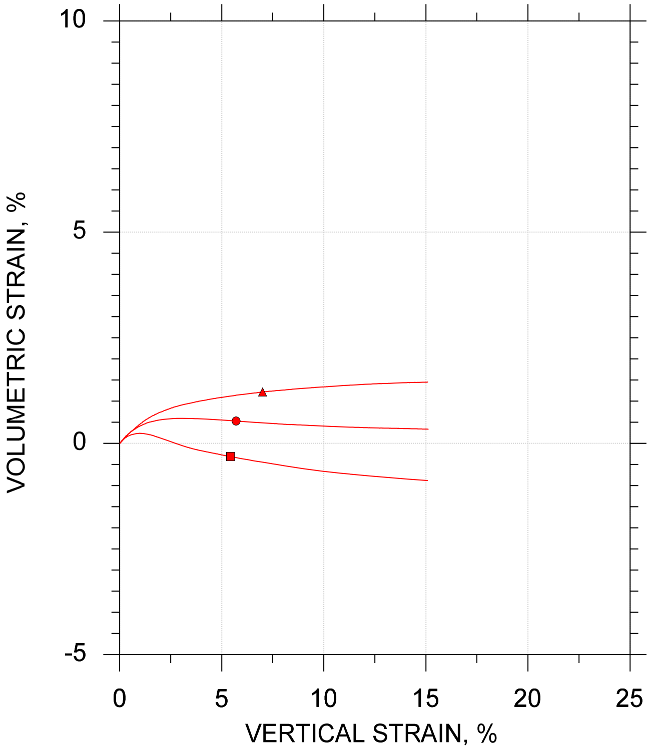


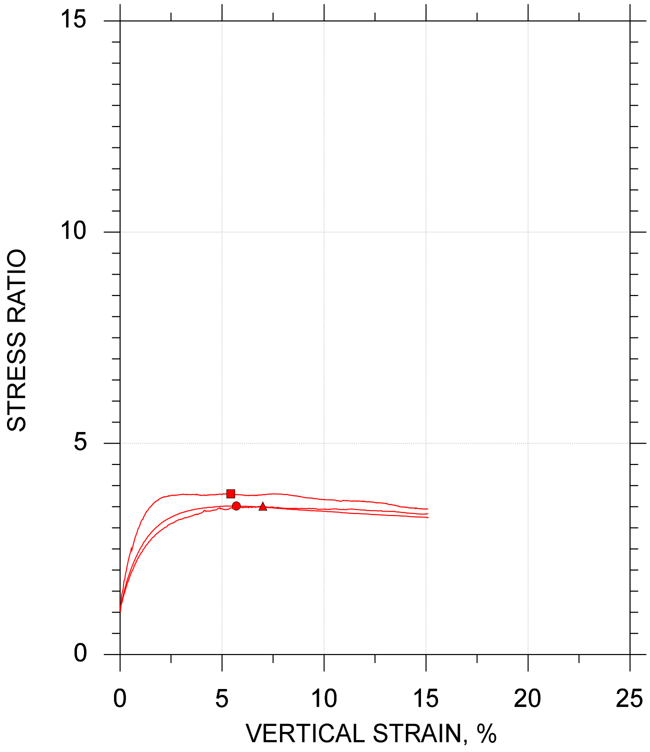
Remarks:

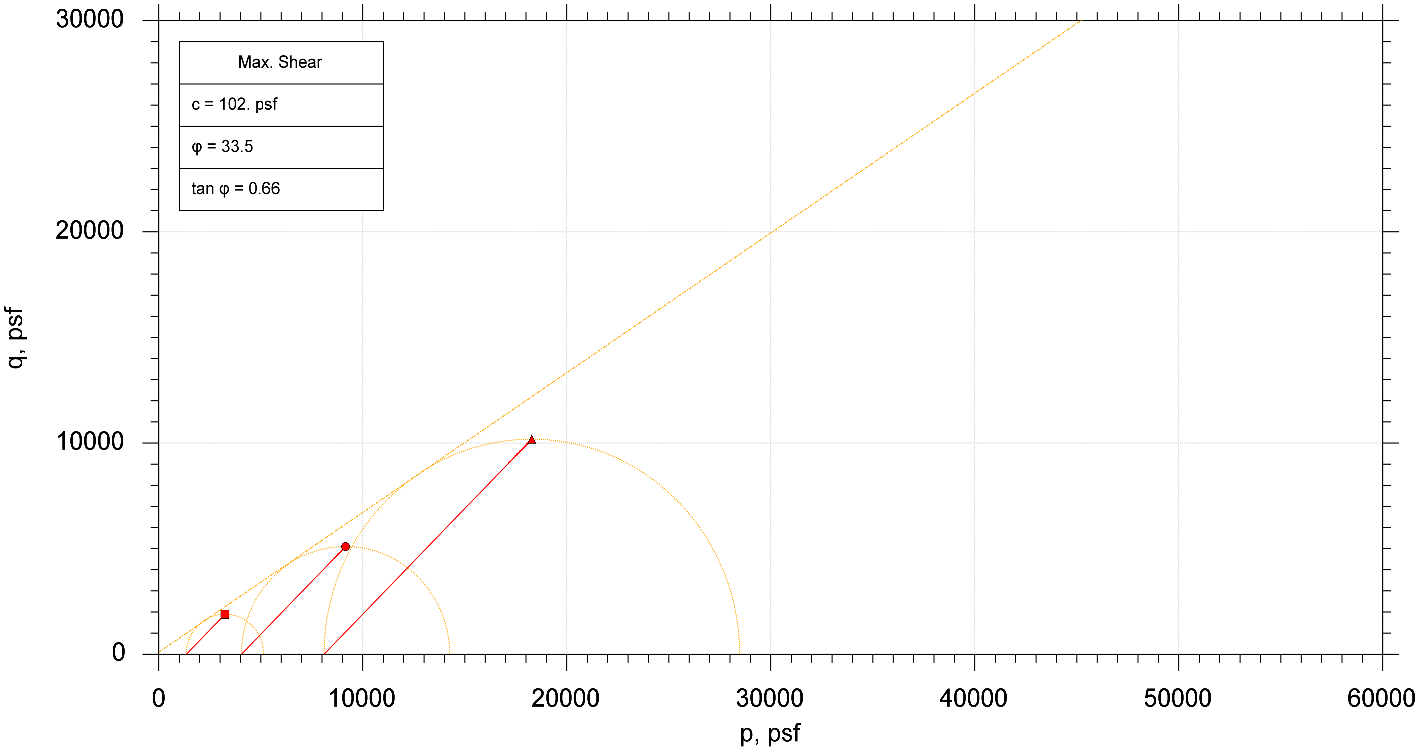
System S, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST

ASTM D7181







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-1B-1C	CD-8-1	---	md	11/05/18	mcm	11/13/18	308764-CD-8-1m.dat
●	HPC-1B-1C	CD-8-2	---	md	11/05/18	mcm	11/13/18	308764-CD-8-2m.dat
▲	BPC-1B-1C	CD-8-3	---	md/trm	11/5/18	mcm	11/13/18	308764-CD-8-3m.dat

GeoTesting EXPRESS

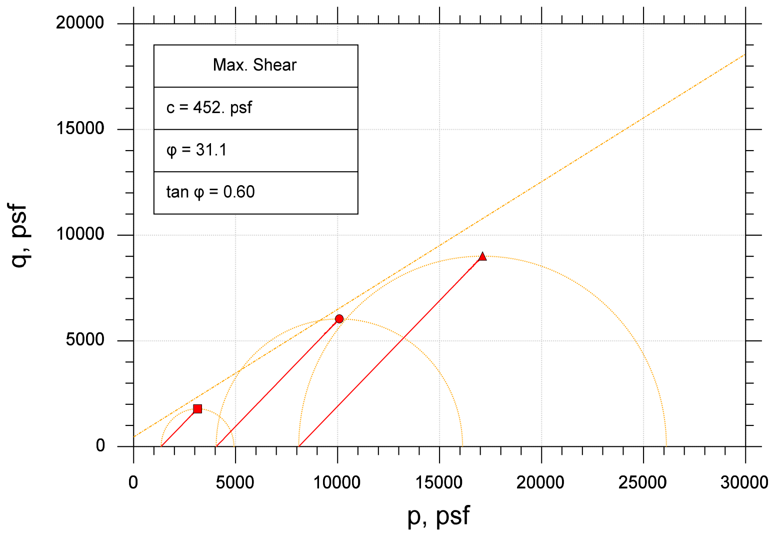
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-11A	Sample Type: Reconstituted	

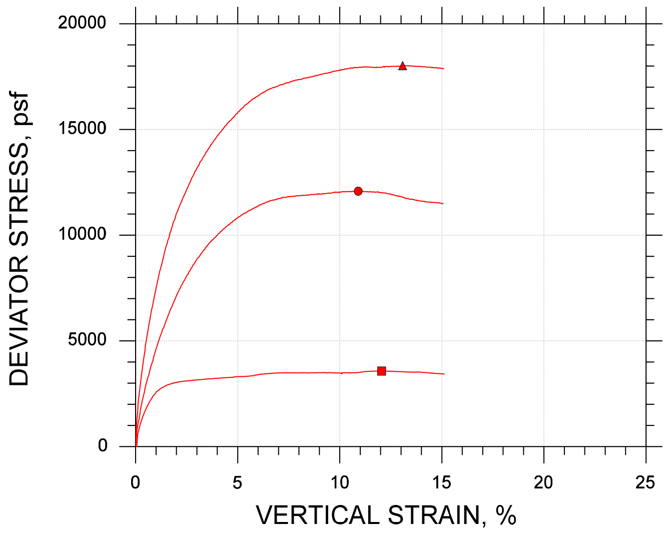
Description: Moist, gray sand

Remarks: System S, Target Compaction: 90 pcf (provided by client)

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm
Checked By: mcm
Boring ID: B-11A
Preparation: Reconstituted
Description: Moist, gray sand
Classification: ---
Group Symbol: ---
Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---
Estimated Specific Gravity: 2.65

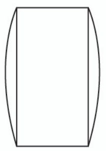
CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

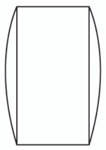


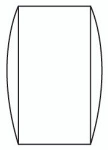


Symbol		🟥	●	▲	
Sample ID		HPC-4B/C	HPC-4B/C	HPC-4B/C	
Depth, ft		---	---	---	
Test Number		CD-10-1	CD-10-2	CD-10-3	
Initial	Height, in	4.000	4.000	4.000	
	Diameter, in	2.000	2.000	2.000	
	Moisture Content (from Cuttings), %	10.4	10.3	10.3	
	Dry Density, pcf	89.6	89.7	89.7	
	Saturation (Wet Method), %	32.6	32.3	31.7	
	Void Ratio	0.846	0.844	0.879	
Before Shear	Moisture Content, %	31.7	29.6	30.3	
	Dry Density, pcf	90.0	92.7	92.7	
	Cross-sectional Area (Method A), in²	3.125	3.058	3.048	
	Saturation, %	100.0	100.0	100.0	
	Void Ratio	0.839	0.784	0.817	
	Back Pressure, psf	1.938e+004	2.227e+004	2.314e+004	
Vertical Effective Consolidation Stress, psf		1352.	4046.	8093.	
Horizontal Effective Consolidation Stress, psf		1349.	4048.	8097.	
Vertical Strain after Consolidation, %		-0.004847	0.3926	0.4831	
Volumetric Strain after Consolidation, %		0.8540	2.620	3.779	
Time to 50% Consolidation, min		0.1600	0.1600	0.1600	
Shear Strength, psf		1786.	6040.	9009.	
Strain at Failure, %		12.1	10.9	13.1	
Strain Rate, %/min		0.01000	0.01000	0.01000	
Deviator Stress at Failure, psf		3572.	1.208e+004	1.802e+004	
Effective Minor Principal Stress at Failure, psf		1349.	4047.	8097.	
Effective Major Principal Stress at Failure, psf		4921.	1.613e+004	2.612e+004	
B-Value		0.95	0.95	0.95	

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.



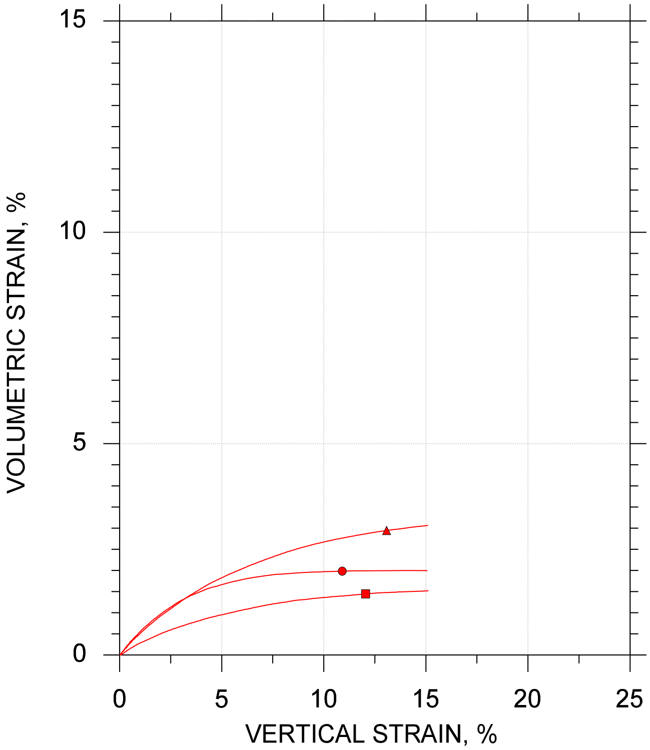


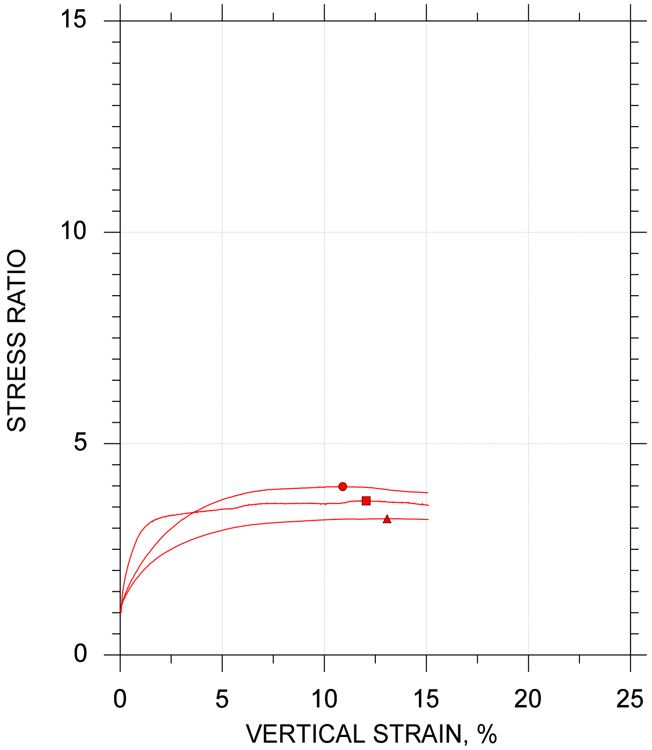


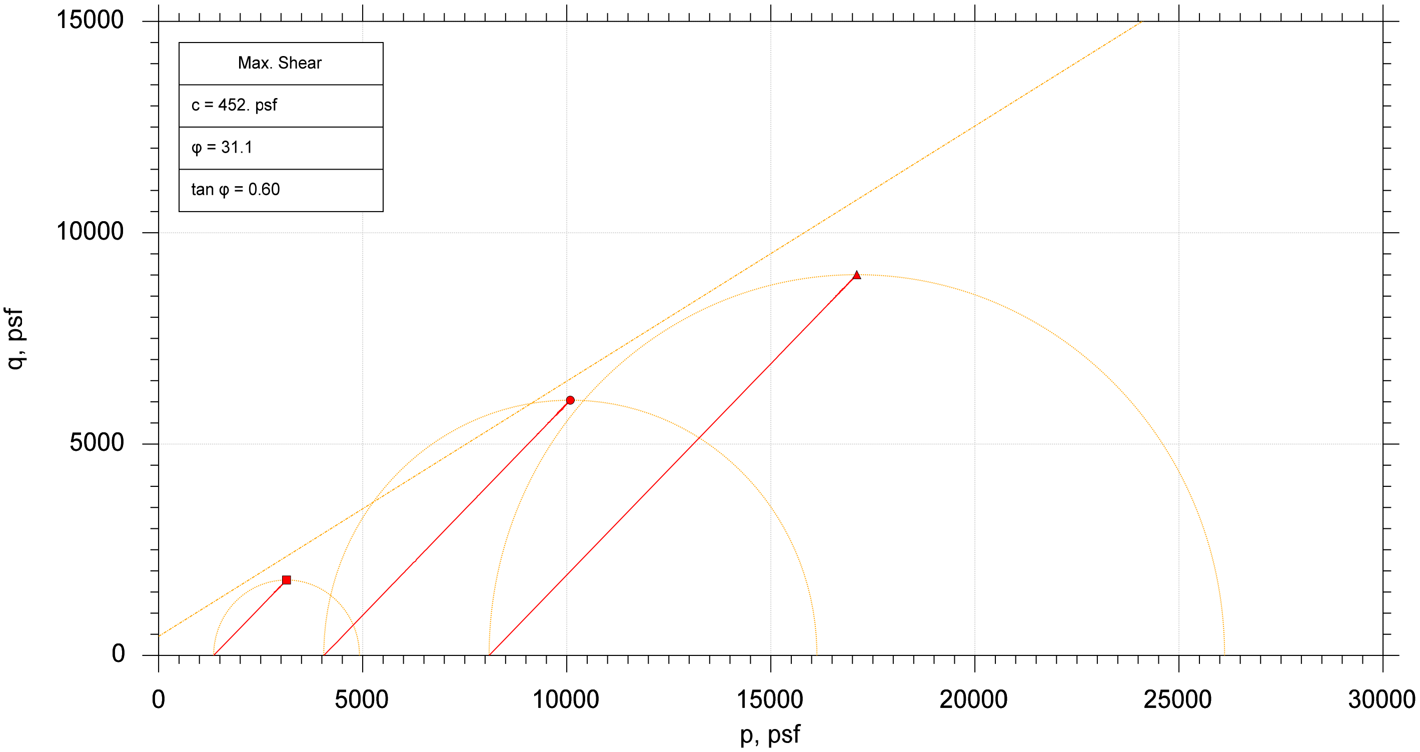
Remarks:

System JJ, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-4B/C	CD-10-1	---	md/trm	11/5/18	mcm	11/13/18	308764-CD-10-1m.dat
●	HPC-4B/C	CD-10-2	---	md/trm	11/5/18	mcm	11/18/18	308764-CD-10-2m.dat
▲	HPC-4B/C	CD-10-3	---	md/trm	11/5/18	mcm	11/13/18	308764-CD-10-3m.dat

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-11A	Sample Type: Reconstituted	

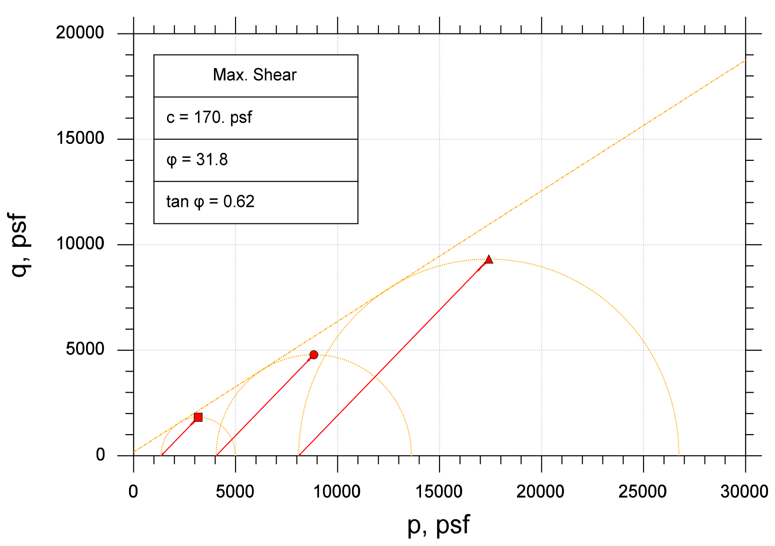
Description: Moist, gray sand

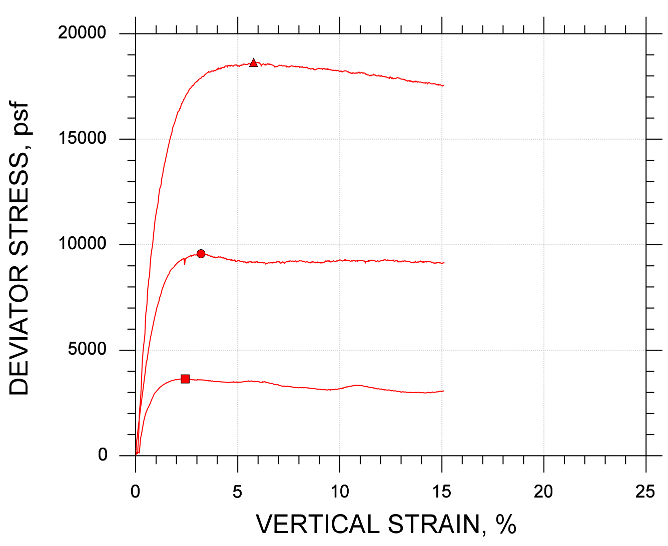
Remarks: System JJ, Target Compaction: 90 pcf (provided by client)

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md
Checked By: mcm
Boring ID: B OSS
Preparation: Reconstituted
Description: Moist, gray sand
Classification: ---
Group Symbol: ---
Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---
Estimated Specific Gravity: 2.65

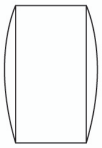
CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181

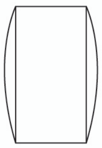


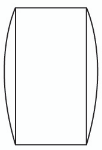


Symbol		■	●	▲
Sample ID		ALN-17B/C	ALN-17B/C	ALN-17B/C
Depth, ft		---	---	---
Test Number		CD-11-1	CD-11-2	CD-11-3
Initial	Height, in	4.000	4.000	4.000
	Diameter, in	2.000	2.000	2.000
	Moisture Content (from Cuttings), %	10.8	10.6	10.6
	Dry Density, pcf	89.4	89.5	89.4
	Saturation (Wet Method), %	33.5	32.3	32.4
	Void Ratio	0.852	0.884	0.884
Before Shear	Moisture Content, %	30.5	31.3	30.9
	Dry Density, pcf	91.5	91.4	91.9
	Cross-sectional Area (Method A), in²	3.084	3.090	3.073
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.808	0.844	0.835
	Back Pressure, psf	2.028e+004	2.229e+004	2.170e+004
Vertical Effective Consolidation Stress, psf		1347.	4046.	8097.
Horizontal Effective Consolidation Stress, psf		1347.	4048.	8099.
Vertical Strain after Consolidation, %		-0.001209	0.2625	0.1987
Volumetric Strain after Consolidation, %		0.7220	1.521	1.901
Time to 50% Consolidation, min		0.1600	0.1600	0.1600
Shear Strength, psf		1821.	4786.	9320.
Strain at Failure, %		2.43	3.20	5.78
Strain Rate, %/min		0.01000	0.01000	0.01000
Deviator Stress at Failure, psf		3641.	9571.	1.864e+004
Effective Minor Principal Stress at Failure, psf		1349.	4050.	8102.
Effective Major Principal Stress at Failure, psf		4990.	1.362e+004	2.674e+004
B-Value		0.95	0.95	0.95

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.



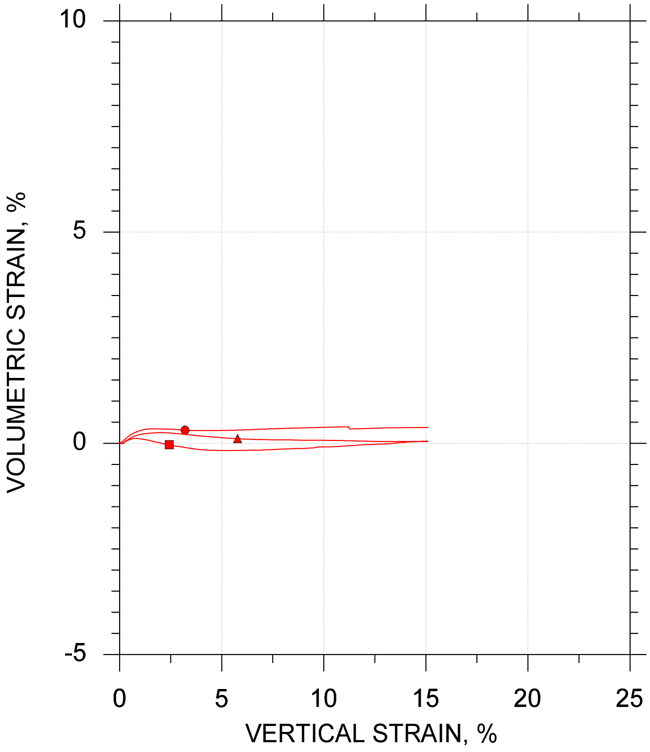


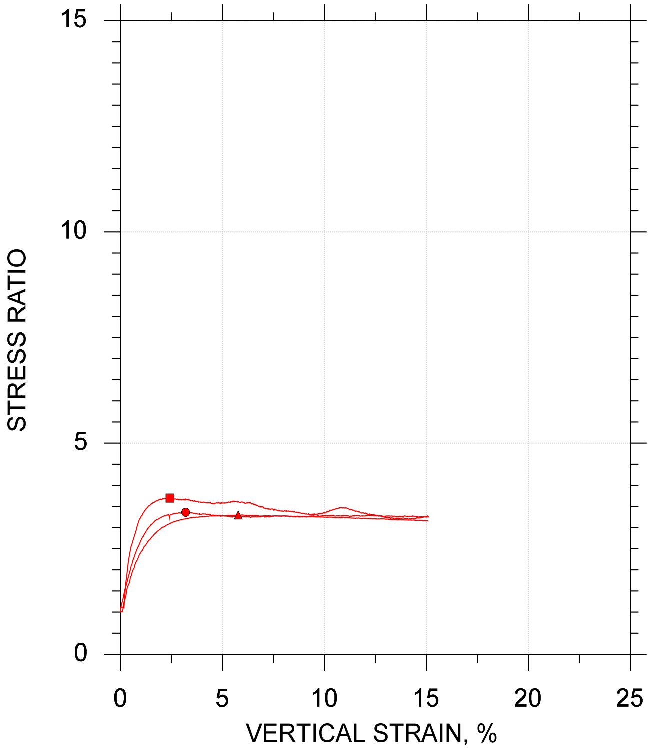


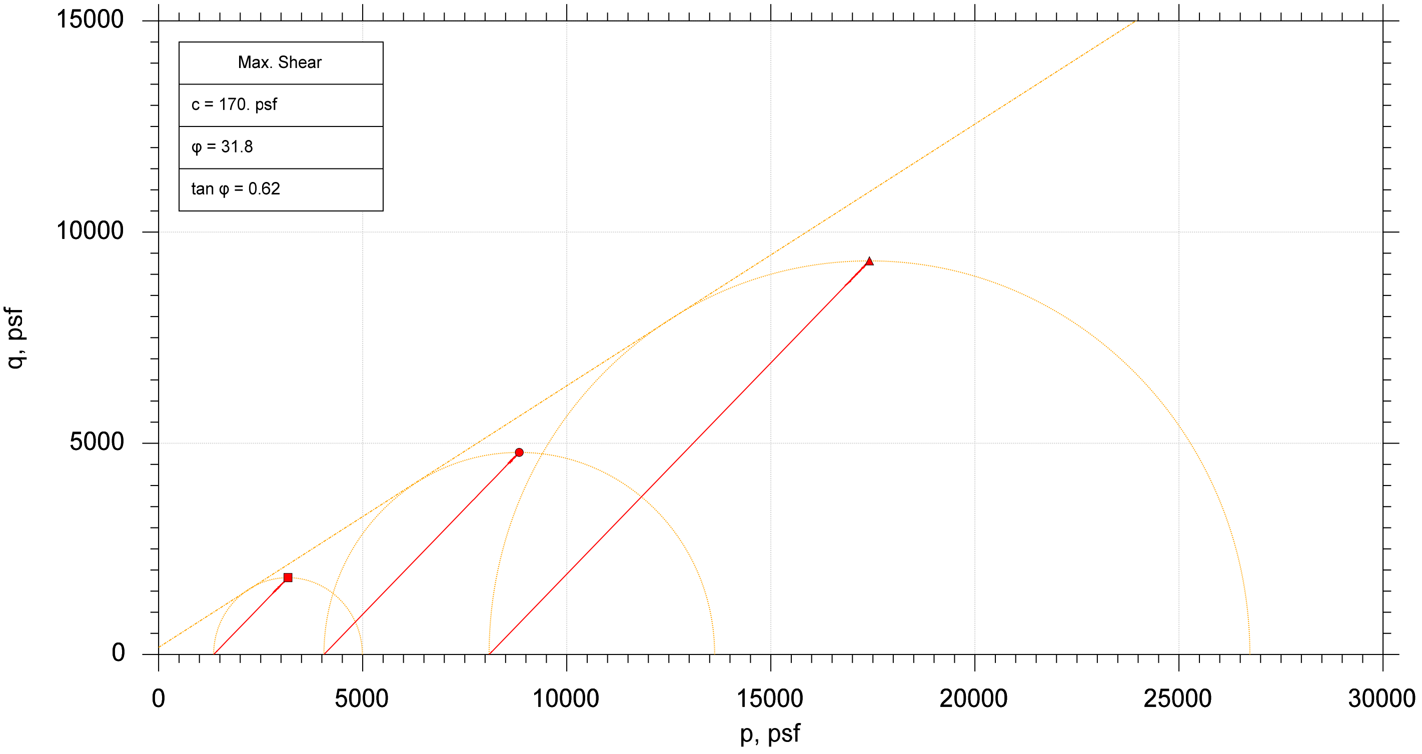
Remarks:

System II, Target Compaction: 90 pcf (provided by Client)

CONSOLIDATED DRAINED TRIAXIAL TEST
ASTM D7181







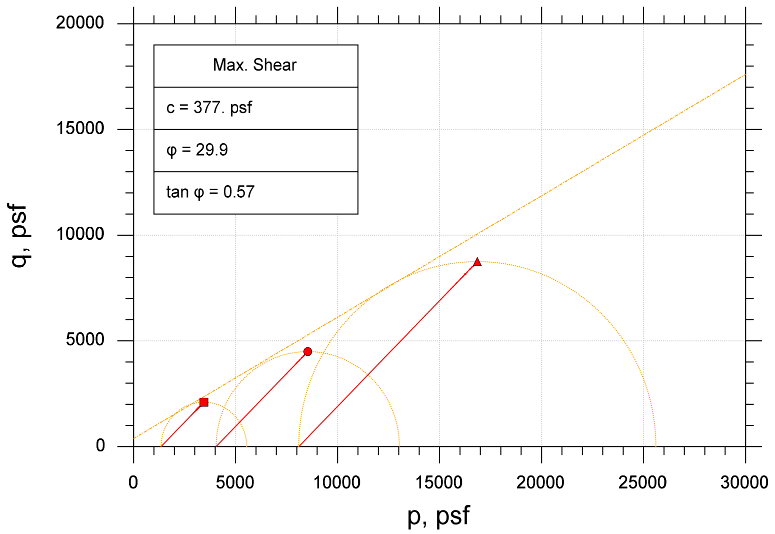
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-17B/C	CD-11-1	---	md	11/05/18	mcm	11/13/18	308764-CD-11-1m.dat
●	ALN-17B/C	CD-11-2	---	trm	11/5/18	mcm	11/13/18	308764-CD-11-2m.dat
▲	ALN-17B/C	CD-11-3	---	md/trm	11/5/18	mcm	11/13/18	308764-CD-11-3m.dat

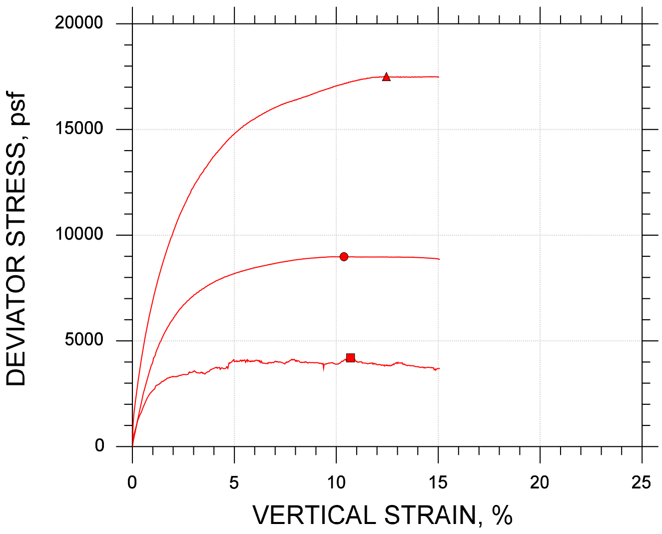
GeoTesting EXPRESS

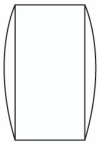
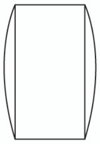
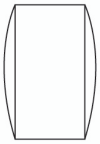
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B OSS	Sample Type: Reconstituted	
Description: Moist, gray sand		
Remarks: System II, Target Compaction: 90 pcf (provided by Client)		

Client: GZA GeoEnviromental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B 0SS	
Preparation: Reconstituted	
Description: Moist, gray sand	
Classification: ---	
Group Symbol: ---	
Liquid Limit: ---	Plastic Limit: ---
Plasticity Index: ---	Estimated Specific Gravity: 2.65

CONSOLIDATED DRAINED TRIAXIAL TEST ASTM D7181



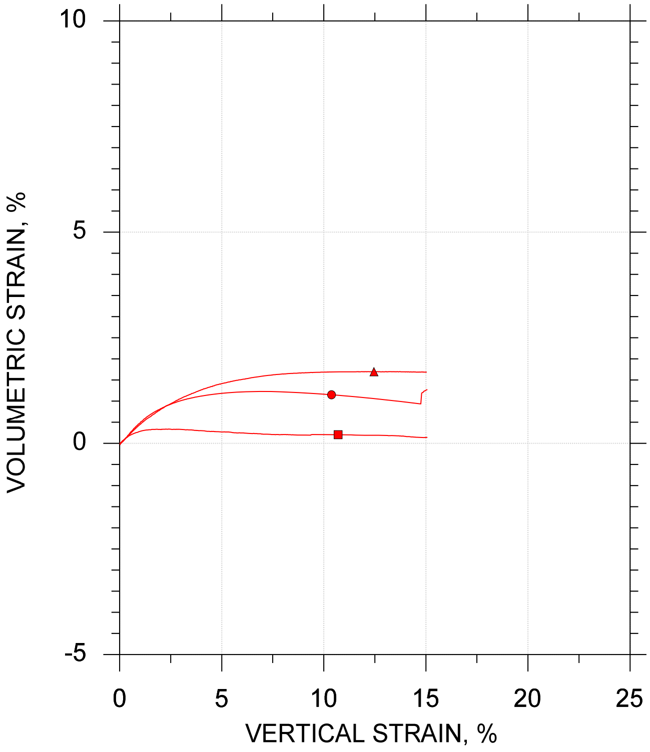


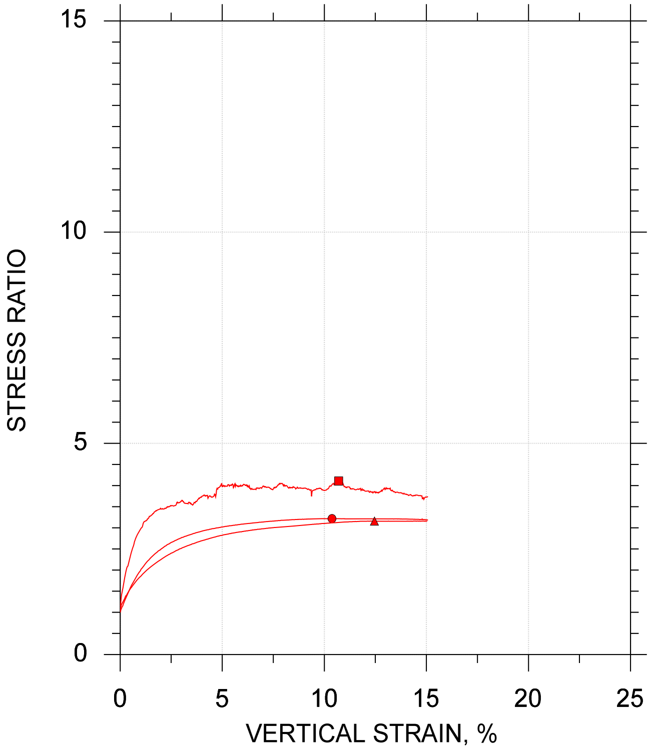
Symbol		■	●	▲	
Sample ID		HPC-4A/B	HPC-4A/B	HPC-4A/B	
Depth, ft		---	---	---	
Test Number		CD-9-1	CD-9-2	CD-9-3	
Initial	Height, in	4.000	4.000	4.000	
	Diameter, in	2.000	2.000	2.000	
	Moisture Content (from Cuttings), %	10.4	10.8	11.5	
	Dry Density, pcf	89.6	89.3	88.8	
	Saturation (Wet Method), %	32.6	33.5	35.2	
	Void Ratio	0.846	0.852	0.864	
Before Shear	Moisture Content, %	31.4	29.4	31.0	
	Dry Density, pcf	90.3	93.0	90.8	
	Cross-sectional Area (Method A), in²	3.120	3.057	3.099	
	Saturation, %	100.0	100.0	100.0	
	Void Ratio	0.833	0.778	0.821	
	Back Pressure, psf	2.169e+004	2.169e+004	2.170e+004	
Vertical Effective Consolidation Stress, psf		1352.	4043.	8089.	
Horizontal Effective Consolidation Stress, psf		1350.	4049.	8103.	
Vertical Strain after Consolidation, %		0.001169	0.5346	1.199	
Volumetric Strain after Consolidation, %		0.7001	1.623	3.019	
Time to 50% Consolidation, min		0.1600	0.2500	0.2500	
Shear Strength, psf		2098.	4491.	8751.	
Strain at Failure, %		10.7	10.4	12.5	
Strain Rate, %/min		0.01000	0.01000	0.01000	
Deviator Stress at Failure, psf		4196.	8983.	1.750e+004	
Effective Minor Principal Stress at Failure, psf		1350.	4049.	8100.	
Effective Major Principal Stress at Failure, psf		5546.	1.303e+004	2.560e+004	
B-Value		0.95	0.95	0.95	
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

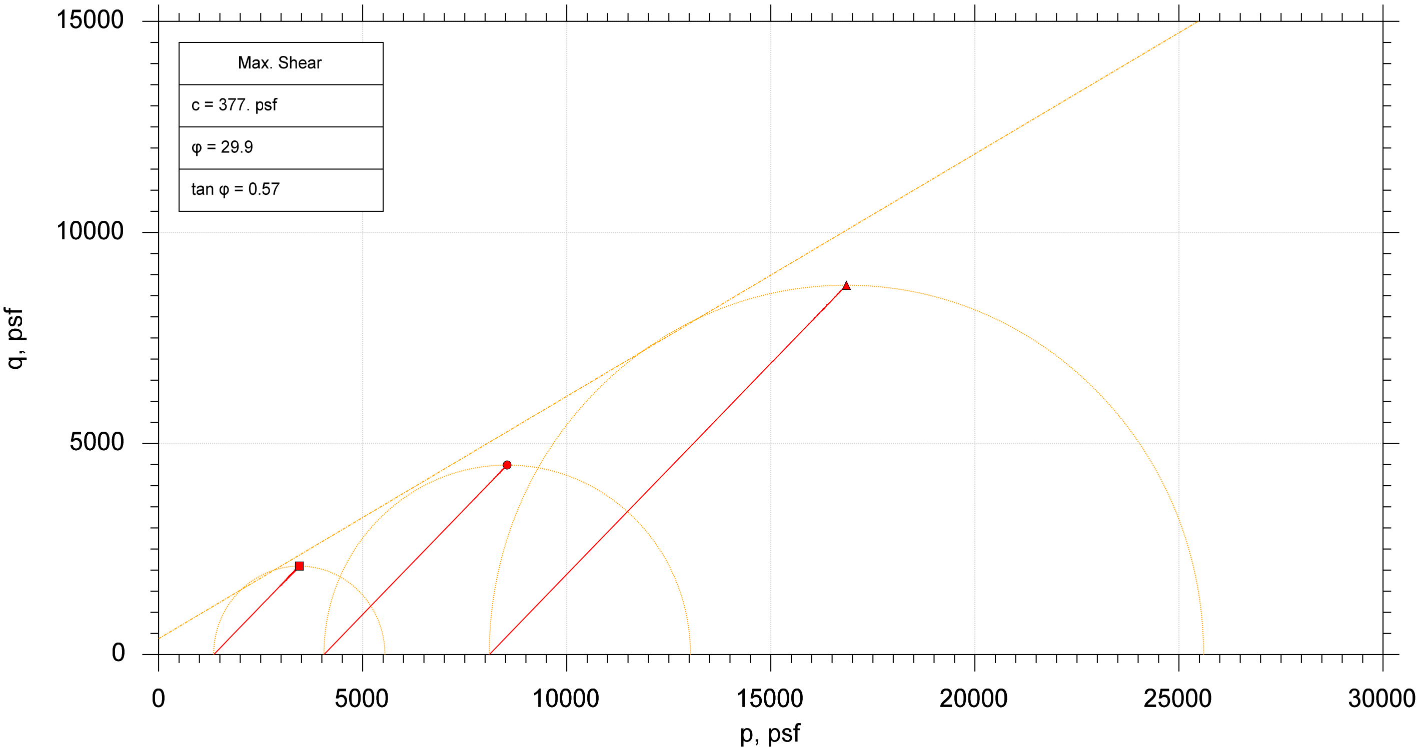
System R, Target Compaction: 90 pcf (provided by client)

CONSOLIDATED DRAINED TRIAXIAL TEST

ASTM D7181







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-4A/B	CD-9-1	---	md/trm	11/5/18	mcm	11/13/18	308764-CD-9-1m.dat
●	HPC-4A/B	CD-9-2	---	md	11/05/18	mcm	11/13/18	308764-CD-9-2m.dat
▲	HPC-4A/B	CD-9-3	---	md	11/05/18	mcm	11/13/18	308764-CD-9-3m.dat

GeoTesting EXPRESS

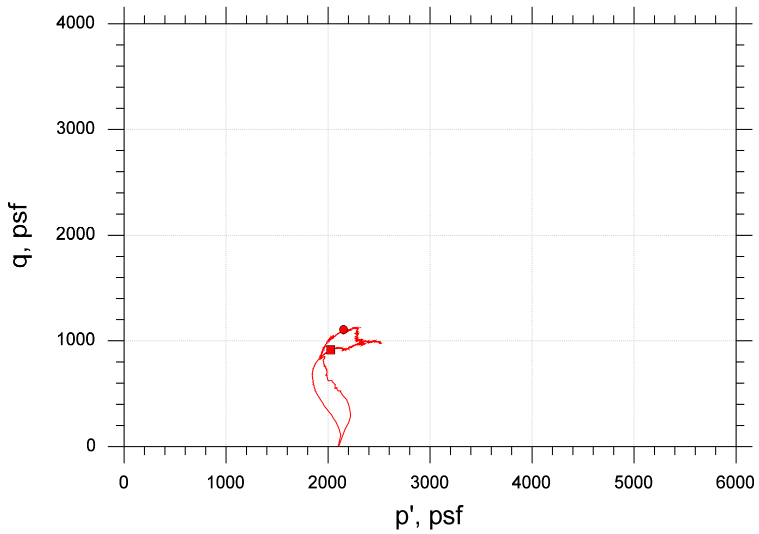
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B 0SS	Sample Type: Reconstituted	

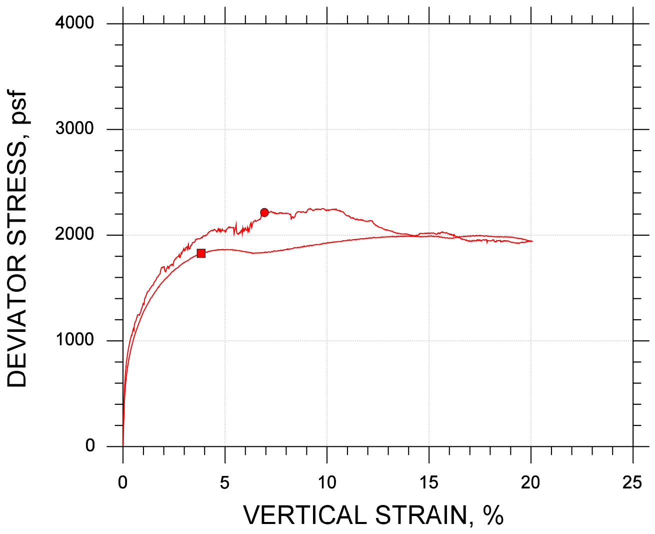
Description: Moist, gray sand

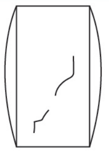
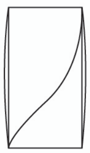
Remarks: System R, Target Compaction: 90 pcf (provided by client)

Client: GZA GeoEnvironmental	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: trm	Checked By: njh
Boring ID: B-6	
Preparation: intact	
Description: Moist, dark gray clay	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 52	Plastic Limit: 28
Plasticity Index: 24	Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

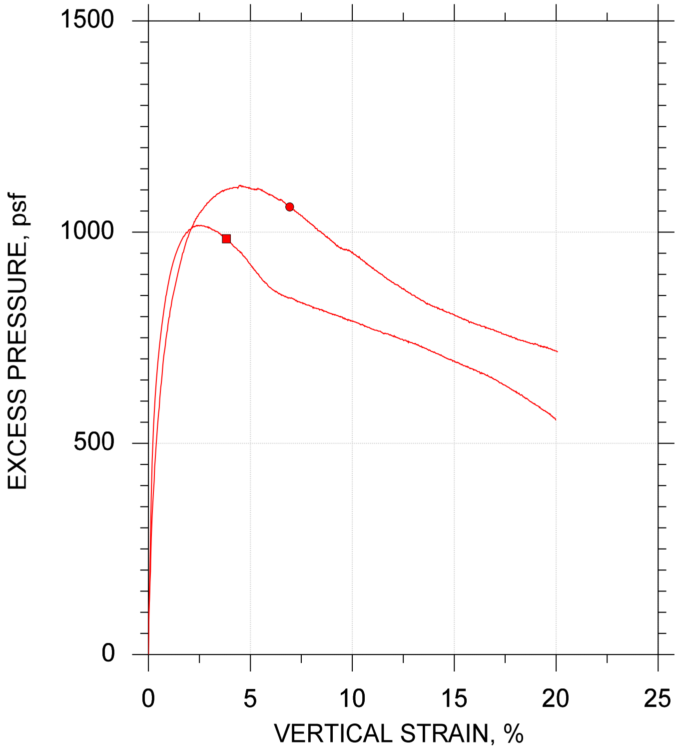


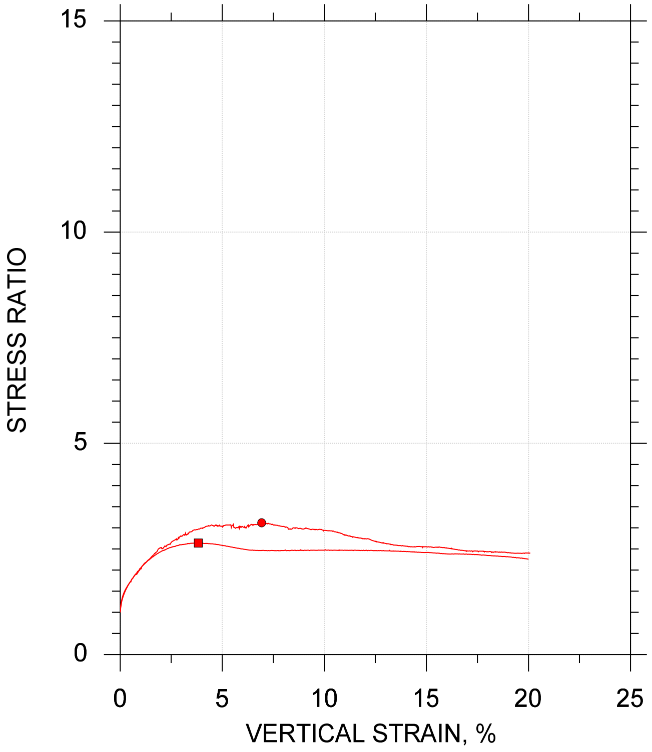


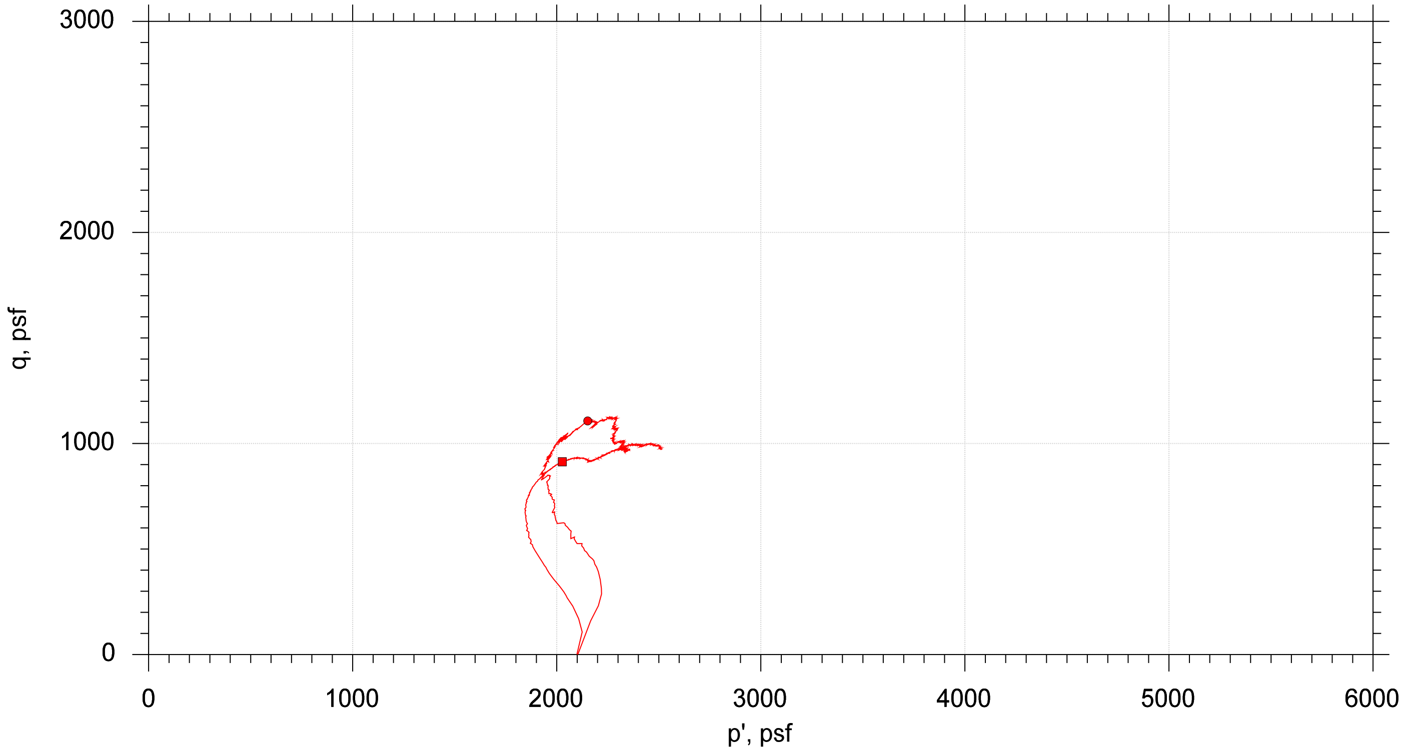
Symbol		🟥	●		
Sample ID		ALN-1C	ALN-1C		
Depth, ft		---	---		
Test Number		CU-2-1	CU-2-2		
Initial	Height, in	4.800	4.000		
	Diameter, in	2.030	2.000		
	Moisture Content (from Cuttings), %	41.4	39.5		
	Dry Density, pcf	79.6	80.5		
	Saturation (Wet Method), %	100.0	97.4		
	Void Ratio	1.12	1.09		
Before Shear	Moisture Content, %	39.8	36.1		
	Dry Density, pcf	81.2	85.4		
	Cross-sectional Area (Method A), in²	3.211	3.007		
	Saturation, %	100.0	100.0		
	Void Ratio	1.08	0.974		
	Back Pressure, psf	2.170e+004	2.167e+004		
Vertical Effective Consolidation Stress, psf		2084.	2095.		
Horizontal Effective Consolidation Stress, psf		2098.	2102.		
Vertical Strain after Consolidation, %		1.287	0.7976		
Volumetric Strain after Consolidation, %		2.277	3.637		
Time to 50% Consolidation, min		100.0	144.0		
Shear Strength, psf		913.7	1107.		
Strain at Failure, %		3.83	6.93		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		1827.	2214.		
Effective Minor Principal Stress at Failure, psf		1113.	1044.		
Effective Major Principal Stress at Failure, psf		2940.	3259.		
B-Value		0.95	0.94		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System R , CU-2-1 (intact) CU-2-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-1C	CU-2-1	---	trm	10/5/18	njh	10/29/18	308764-CU-2-1n.dat
●	ALN-1C	CU-2-2	---	md	10/16/18	njh	10/29/18	308764-CU-2-2n.dat

GeoTesting
EXPRESS

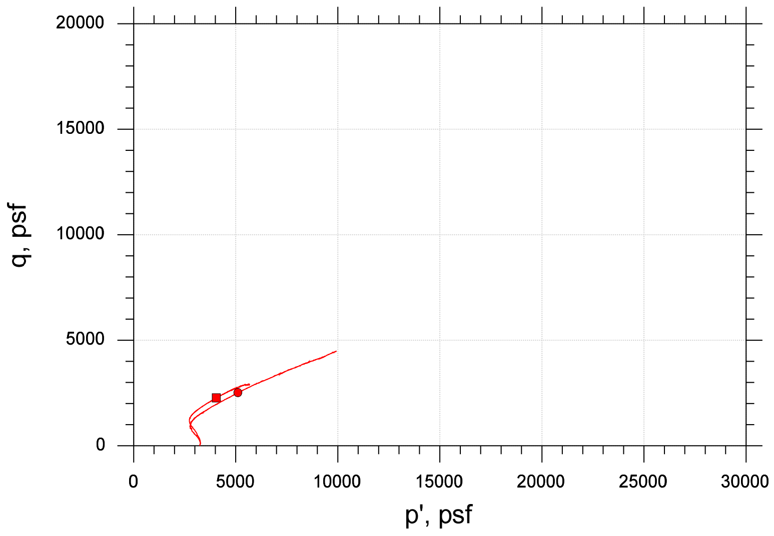
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Sample Type: intact	

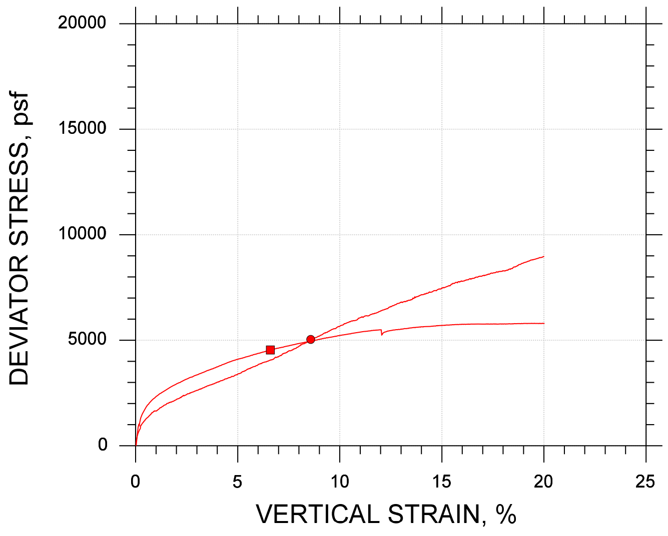
Description: Moist, dark gray clay

Remarks: System R , CU-2-1 (intact) CU-2-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B-6	
Preparation: intact	
Description: Moist, dark gray clay	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 35	Plastic Limit: 21
Plasticity Index: 14	Estimated Specific Gravity: 2.7

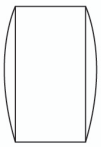
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

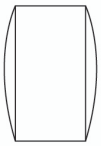




Symbol		■	●		
Sample ID		ALN-3	ALN-3		
Depth, ft		---	---		
Test Number		CU-4-1A	CU-4-2		
Initial	Height, in	4.120	2.840		
	Diameter, in	1.950	1.410		
	Moisture Content (from Cuttings), %	25.1	25.4		
	Dry Density, pcf	100.	99.6		
	Saturation (Wet Method), %	99.2	99.1		
	Void Ratio	0.684	0.693		
Before Shear	Moisture Content, %	23.4	23.6		
	Dry Density, pcf	103.	103.		
	Cross-sectional Area (Method A), in²	2.921	1.546		
	Saturation, %	100.0	100.0		
	Void Ratio	0.631	0.638		
	Back Pressure, psf	2.228e+004	2.222e+004		
Vertical Effective Consolidation Stress, psf		3222.	3201.		
Horizontal Effective Consolidation Stress, psf		3236.	3236.		
Vertical Strain after Consolidation, %		1.183	2.165		
Volumetric Strain after Consolidation, %		3.734	2.871		
Time to 50% Consolidation, min		14.44	10.24		
Shear Strength, psf		2269.	2519.		
Strain at Failure, %		6.60	8.58		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		4537.	5038.		
Effective Minor Principal Stress at Failure, psf		1780.	2589.		
Effective Major Principal Stress at Failure, psf		6317.	7626.		
B-Value		0.95	0.94		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

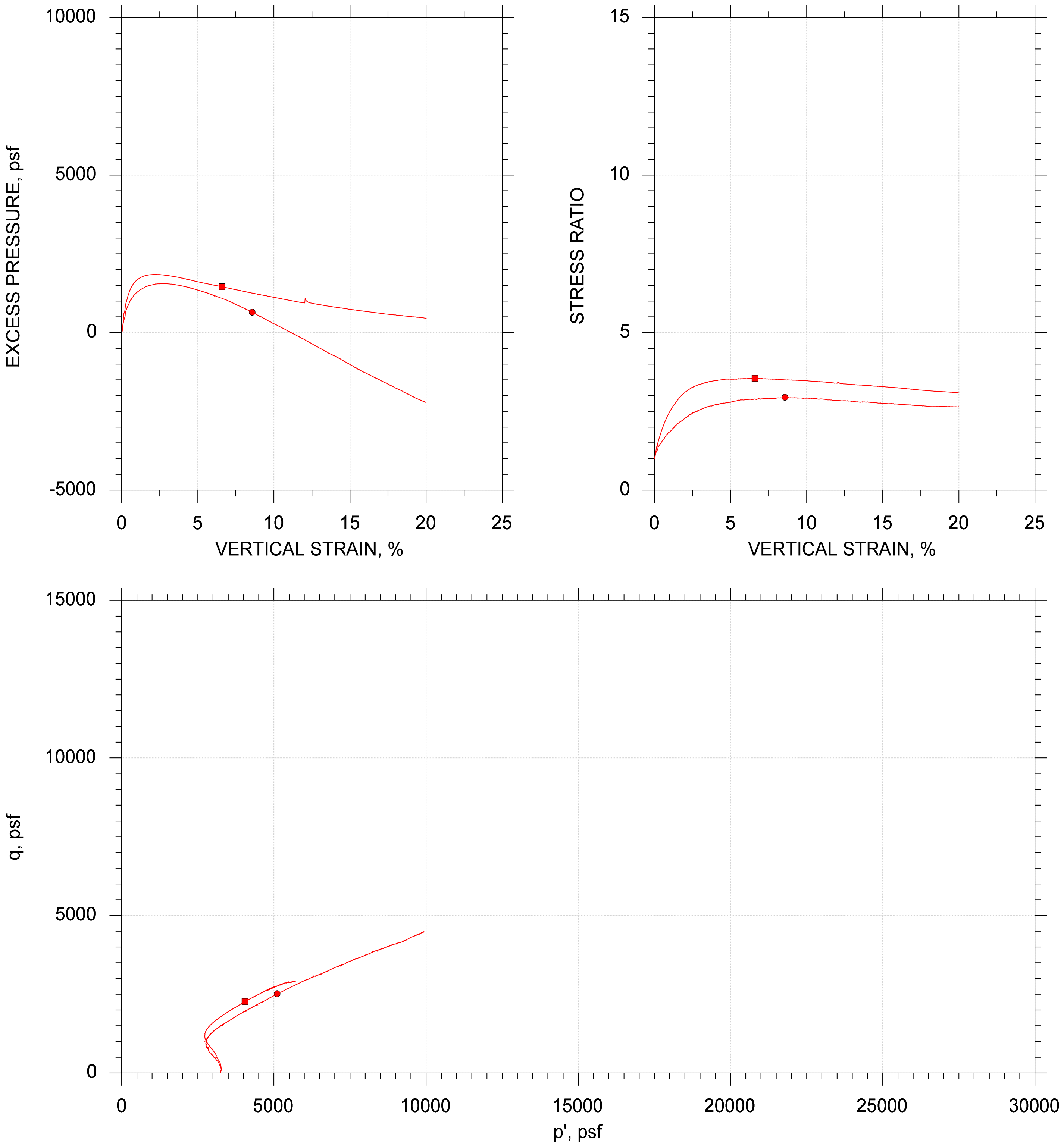




Remarks:

System KK, CU-4-1A (intact) CU-4-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



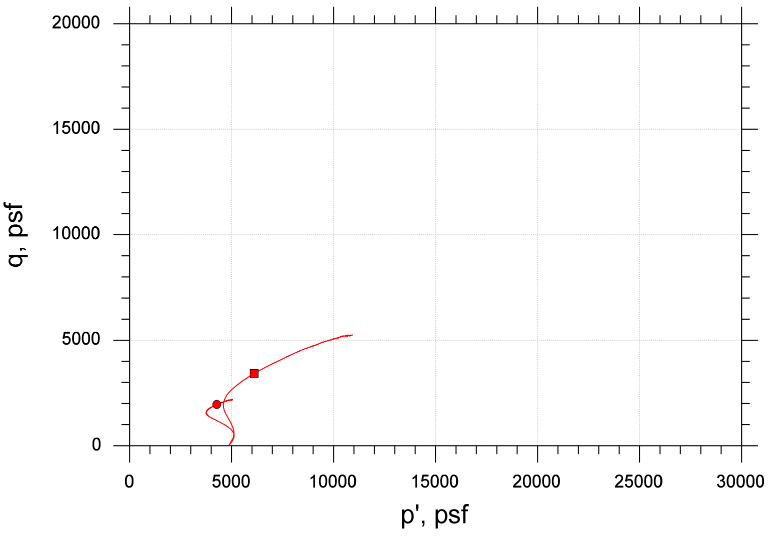
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-3	CU-4-1A	---	md/trm	11/1/18	mcm	11/9/18	308764-CU-4-1Am.dat
●	ALN-3	CU-4-2	---	md/trm	10/16/18	mcm	11/9/18	308764-CU-4-2m.dat

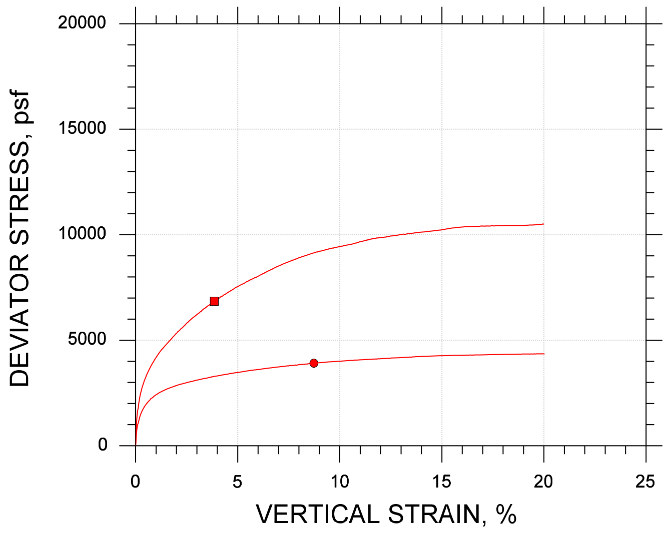
GeoTesting EXPRESS

Project: SFWF
Location: ---
Project No.: GTX-308764
Boring No.: B-6
Sample Type: intact
Description: Moist, dark gray clay
Remarks: System KK, CU-4-1A (intact) CU-4-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: trm
Checked By: njh
Boring ID: B-6
Preparation: intact
Description: Moist, dark gray clay with gravel
Classification: ---
Group Symbol: ---
Liquid Limit: 22
Plastic Limit: 14
Plasticity Index: 8
Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

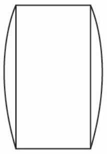


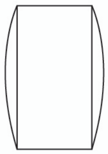


	Symbol	🟥	●		
	Sample ID	ALN-5C	ALN-5C		
	Depth, ft	---	---		
	Test Number	CU-3-1	CU-3-2A		
Initial	Height, in	4.450	4.000		
	Diameter, in	2.000	2.000		
	Moisture Content (from Cuttings), %	15.7	15.9		
	Dry Density, pcf	104.	104.		
	Saturation (Wet Method), %	68.1	68.3		
	Void Ratio	0.622	0.627		
Before Shear	Moisture Content, %	22.4	19.6		
	Dry Density, pcf	105.	110.		
	Cross-sectional Area (Method A), in²	3.117	2.999		
	Saturation, %	100.0	100.0		
	Void Ratio	0.604	0.530		
	Back Pressure, psf	2.226e+004	1.570e+004		
	Vertical Effective Consolidation Stress, psf	4858.	4842.		
	Horizontal Effective Consolidation Stress, psf	4862.	4858.		
	Vertical Strain after Consolidation, %	0.5618	1.558		
	Volumetric Strain after Consolidation, %	1.736	6.064		
	Time to 50% Consolidation, min	51.80	49.00		
	Shear Strength, psf	3421.	1956.		
	Strain at Failure, %	3.85	8.73		
	Strain Rate, %/min	0.01600	0.01600		
	Deviator Stress at Failure, psf	6842.	3912.		
	Effective Minor Principal Stress at Failure, psf	2683.	2319.		
	Effective Major Principal Stress at Failure, psf	9525.	6231.		
	B-Value	0.96	0.96		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

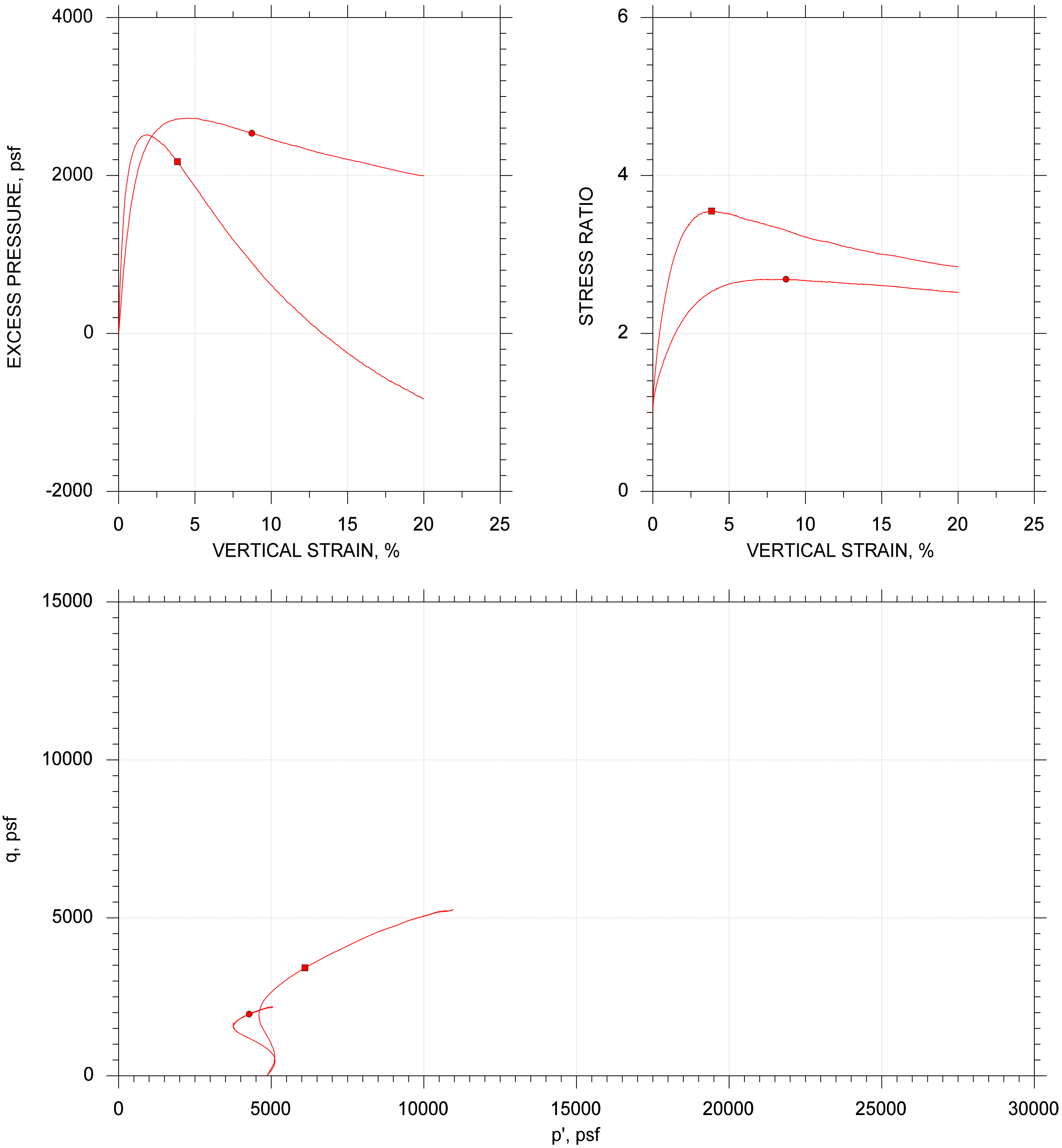
Remarks:





System II , CU-3-1 (intact) CU-3-2A (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-5C	CU-3-1	---	trm	10/5/18	njh	10/29/18	308764-CU-3-1n.dat
●	ALN-5C	CU-3-2A	---	md	10/31/18	njh	11/7/18	308764-CU-3-2An.dat

GeoTesting EXPRESS

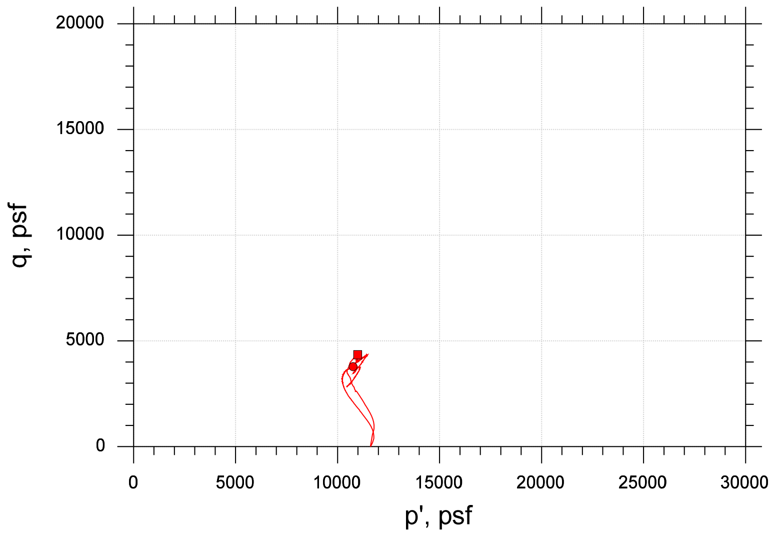
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Sample Type: intact	

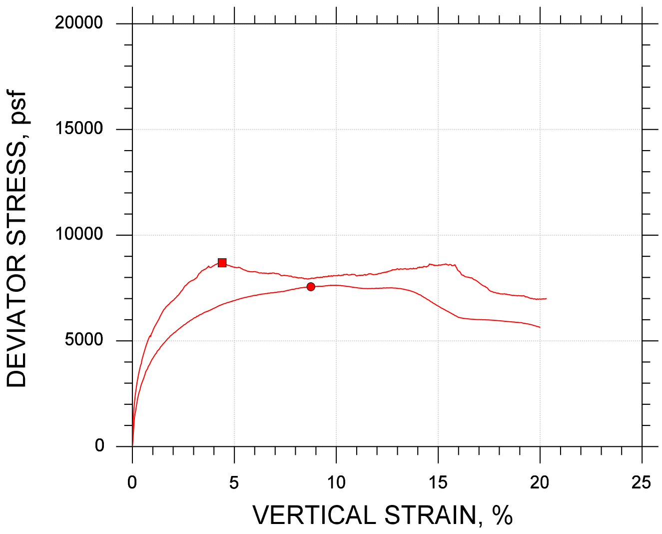
Description: Moist, dark gray clay with gravel

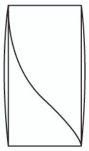
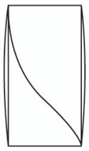
Remarks: System II , CU-3-1 (intact) CU-3-2A (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: njh
Boring ID: B-6	
Preparation: intact	
Description: Moist, gray clay	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 42	Plastic Limit: 25
Plasticity Index: 17	Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

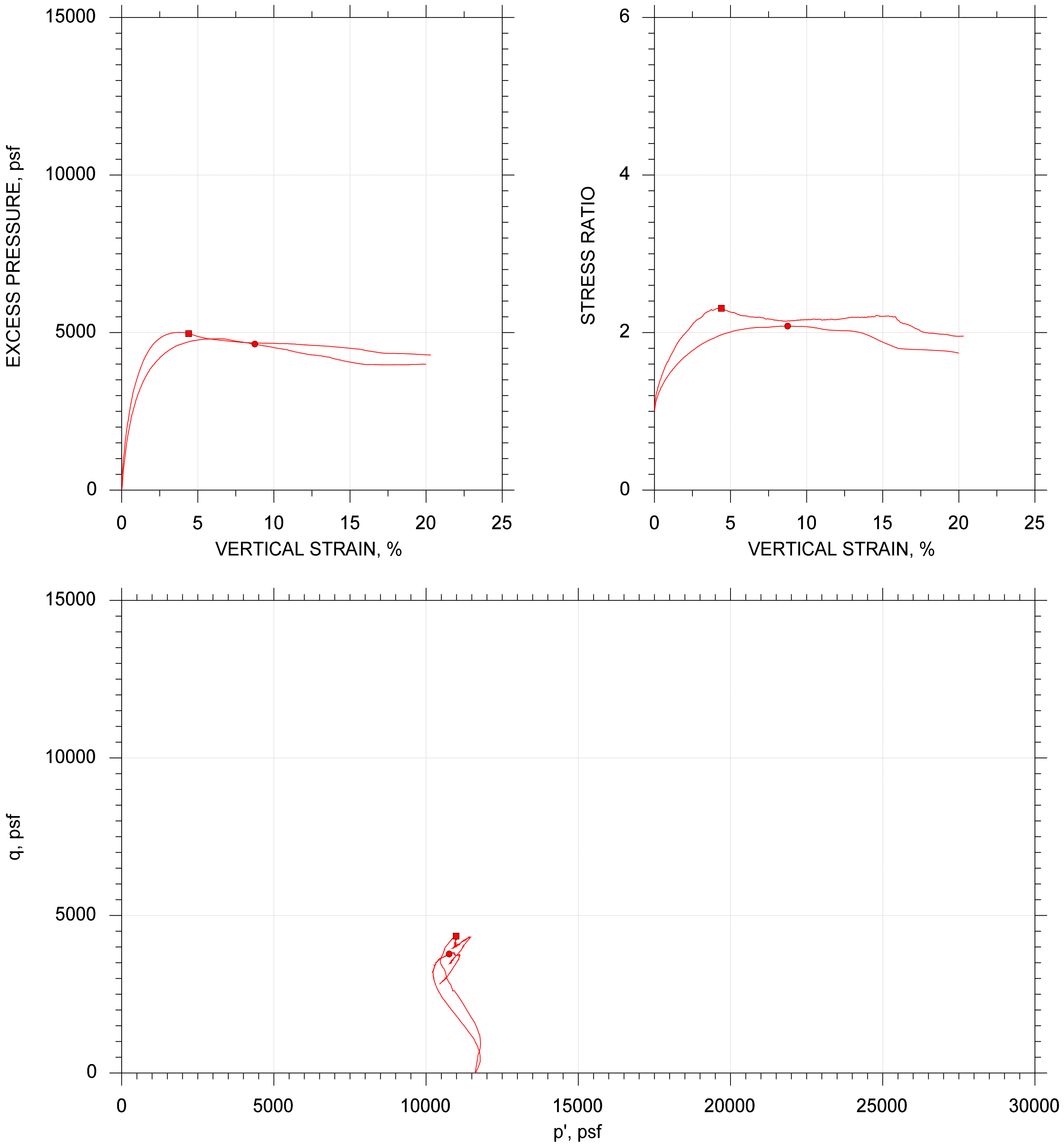




Symbol		🟥	●		
Sample ID		ALN-15D	ALN-15D		
Depth, ft		---	---		
Test Number		CU-6-1	CU-6-2		
Initial	Height, in	5.350	4.000		
	Diameter, in	2.600	2.000		
	Moisture Content (from Cuttings), %	31.6	26.8		
	Dry Density, pcf	89.0	92.1		
	Saturation (Wet Method), %	95.2	87.0		
	Void Ratio	0.895	0.830		
Before Shear	Moisture Content, %	26.0	23.9		
	Dry Density, pcf	99.1	103.		
	Cross-sectional Area (Method A), in²	4.953	2.956		
	Saturation, %	100.0	100.0		
	Void Ratio	0.702	0.644		
	Back Pressure, psf	2.228e+004	2.026e+004		
Vertical Effective Consolidation Stress, psf		1.157e+004	1.157e+004		
Horizontal Effective Consolidation Stress, psf		1.161e+004	1.162e+004		
Vertical Strain after Consolidation, %		4.078	4.298		
Volumetric Strain after Consolidation, %		11.13	9.472		
Time to 50% Consolidation, min		81.00	46.20		
Shear Strength, psf		4346.	3780.		
Strain at Failure, %		4.40	8.75		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		8692.	7560.		
Effective Minor Principal Stress at Failure, psf		6640.	6978.		
Effective Major Principal Stress at Failure, psf		1.533e+004	1.454e+004		
B-Value		0.96	0.94		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System LL , CU-6-1 (intact) CU-6-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-15D	CU-6-1	---	md/trm	10/8/18	njh	10/30/18	308764-CU-6-1n.dat
●	ALN-15D	CU-6-2	---	md/trm	10/16/18	njh	10/30/18	308764-CU-6-2n.dat

GeoTesting EXPRESS

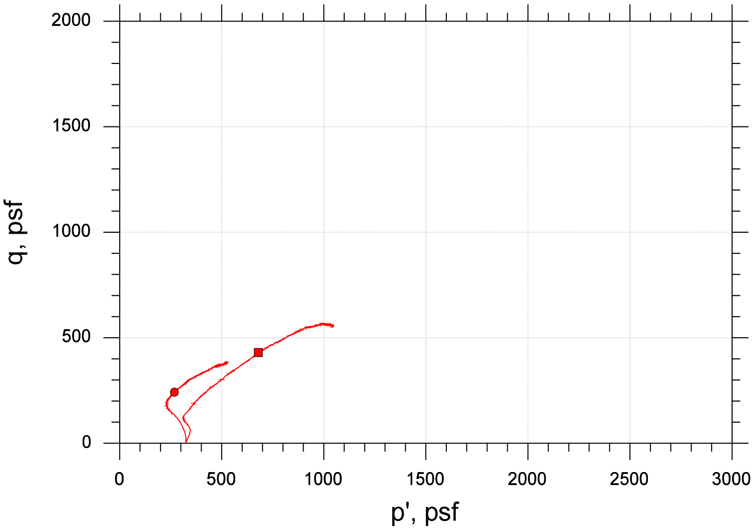
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Sample Type: intact	

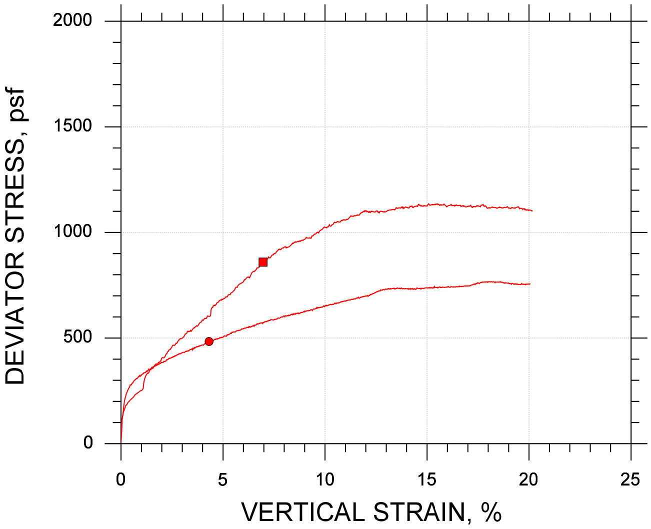
Description: Moist, gray clay

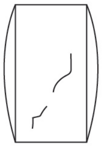
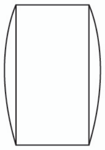
Remarks: System LL , CU-6-1 (intact) CU-6-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: trm
Checked By: njh
Boring ID: B-6
Preparation: intact
Description: Moist, dark gray silty clay with sand
Classification: ---
Group Symbol: ---
Liquid Limit: 27
Plastic Limit: 20
Plasticity Index: 7
Estimated Specific Gravity: 2.75

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

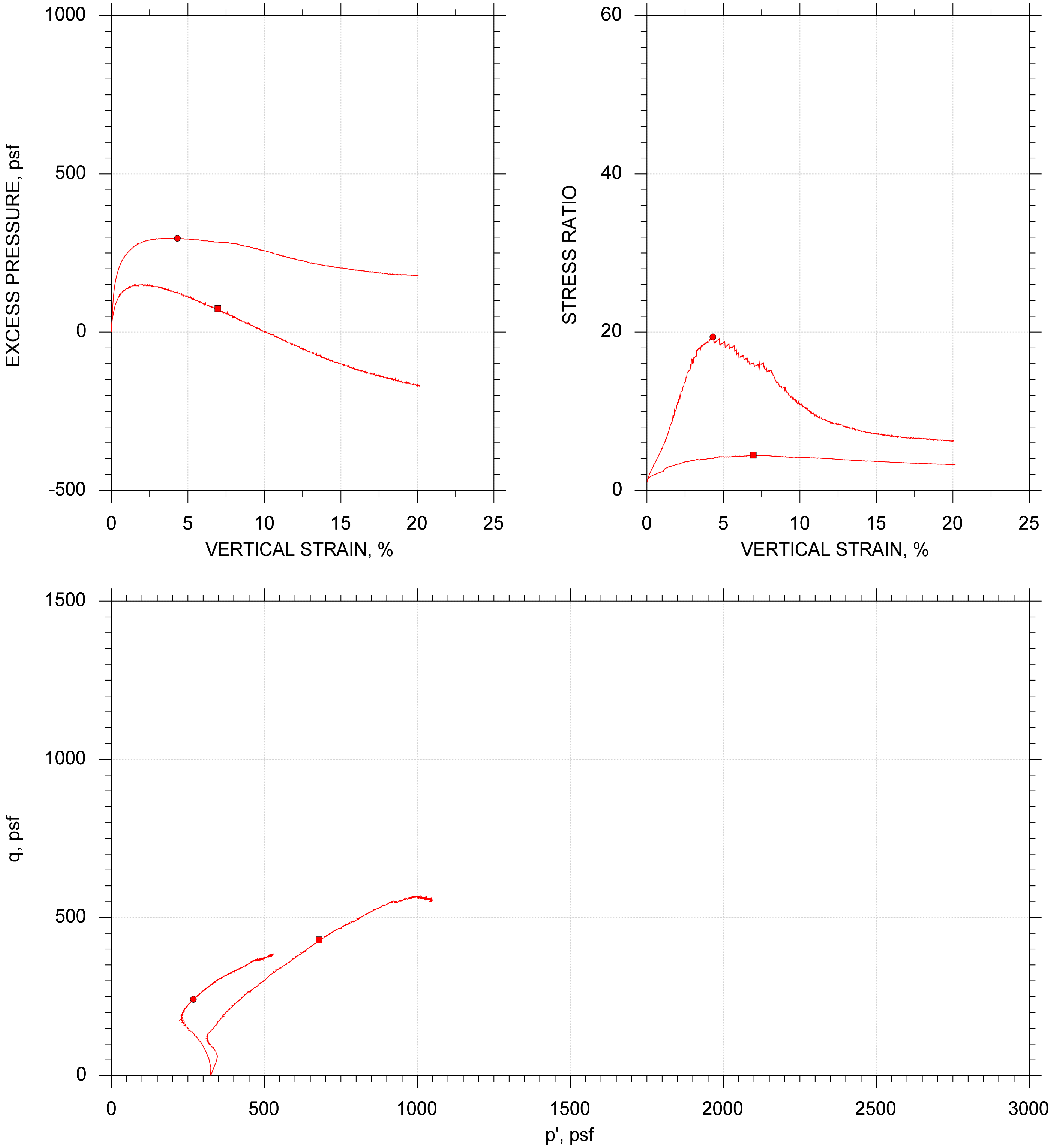




Symbol		🟥	●		
Sample ID		HPC-2E	HPC-2E		
Depth, ft		---	---		
Test Number		CU-1-1	CU-1-2		
Initial	Height, in	5.150	4.000		
	Diameter, in	2.560	2.000		
	Moisture Content (from Cuttings), %	31.0	31.4		
	Dry Density, pcf	92.6	92.1		
	Saturation (Wet Method), %	99.9	99.9		
	Void Ratio	0.855	0.864		
Before Shear	Moisture Content, %	31.5	31.8		
	Dry Density, pcf	92.0	91.6		
	Cross-sectional Area (Method A), in²	5.220	3.163		
	Saturation, %	100.0	100.0		
	Void Ratio	0.866	0.874		
	Back Pressure, psf	2.261e+004	2.171e+004		
Vertical Effective Consolidation Stress, psf		317.3	321.7		
Horizontal Effective Consolidation Stress, psf		323.8	322.8		
Vertical Strain after Consolidation, %		0.8193	0.3226		
Volumetric Strain after Consolidation, %		-0.4989	0.003109		
Time to 50% Consolidation, min		3.200	3.200		
Shear Strength, psf		429.6	241.7		
Strain at Failure, %		6.96	4.31		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		859.2	483.5		
Effective Minor Principal Stress at Failure, psf		249.1	26.28		
Effective Major Principal Stress at Failure, psf		1108.	509.8		
B-Value		0.95	0.95		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System K , CU-1-1 (intact) CU-1-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



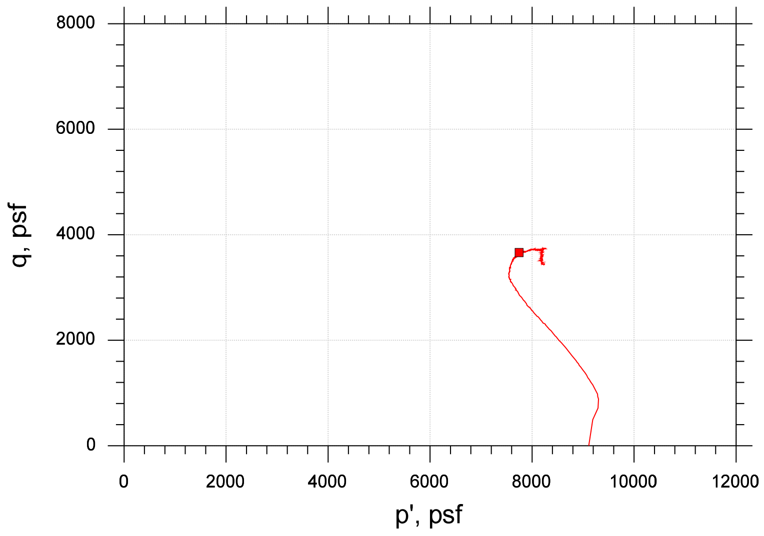
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-2E	CU-1-1	---	trm	10/5/18	njh	10/29/18	308764-CU-1-1n.dat
●	HPC-2E	CU-1-2	---	trm/md	10/16/18	njh	10/29/18	308764-CU-1-2n.dat

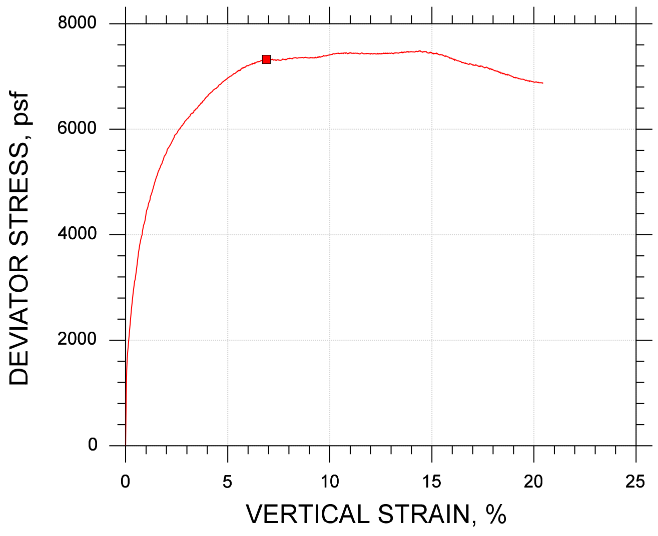
GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Sample Type: intact	
Description: Moist, dark gray silty clay with sand		
Remarks: System K , CU-1-1 (intact) CU-1-2 (remolded to the as-received moisture content and density) (client request)		

Client: GZA GeoEnvironmental
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm | Checked By: njh
Boring ID: B-6
Preparation: remold
Description: Moist, dark gray clay
Classification: ---
Group Symbol: ---
Liquid Limit: 29 | Plastic Limit: 19
Plasticity Index: 10 | Estimated Specific Gravity: 2.75

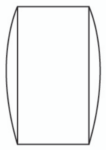
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767





	Symbol	🟥			
	Sample ID	ALN-13B			
	Depth, ft	---			
	Test Number	CU-5-2			
Initial	Height, in	2.800			
	Diameter, in	1.400			
	Moisture Content (from Cuttings), %	26.8			
	Dry Density, pcf	93.7			
	Saturation (Wet Method), %	88.5			
	Void Ratio	0.833			
Before Shear	Moisture Content, %	26.0			
	Dry Density, pcf	100.			
	Cross-sectional Area (Method A), in²	1.486			
	Saturation, %	100.0			
	Void Ratio	0.715			
	Back Pressure, psf	2.170e+004			
	Vertical Effective Consolidation Stress, psf	9059.			
	Horizontal Effective Consolidation Stress, psf	9111.			
	Vertical Strain after Consolidation, %	3.103			
	Volumetric Strain after Consolidation, %	6.465			
	Time to 50% Consolidation, min	13.00			
	Shear Strength, psf	3661.			
	Strain at Failure, %	6.89			
	Strain Rate, %/min	0.01600			
	Deviator Stress at Failure, psf	7321.			
	Effective Minor Principal Stress at Failure, psf	4085.			
	Effective Major Principal Stress at Failure, psf	1.141e+004			
	B-Value	0.95			

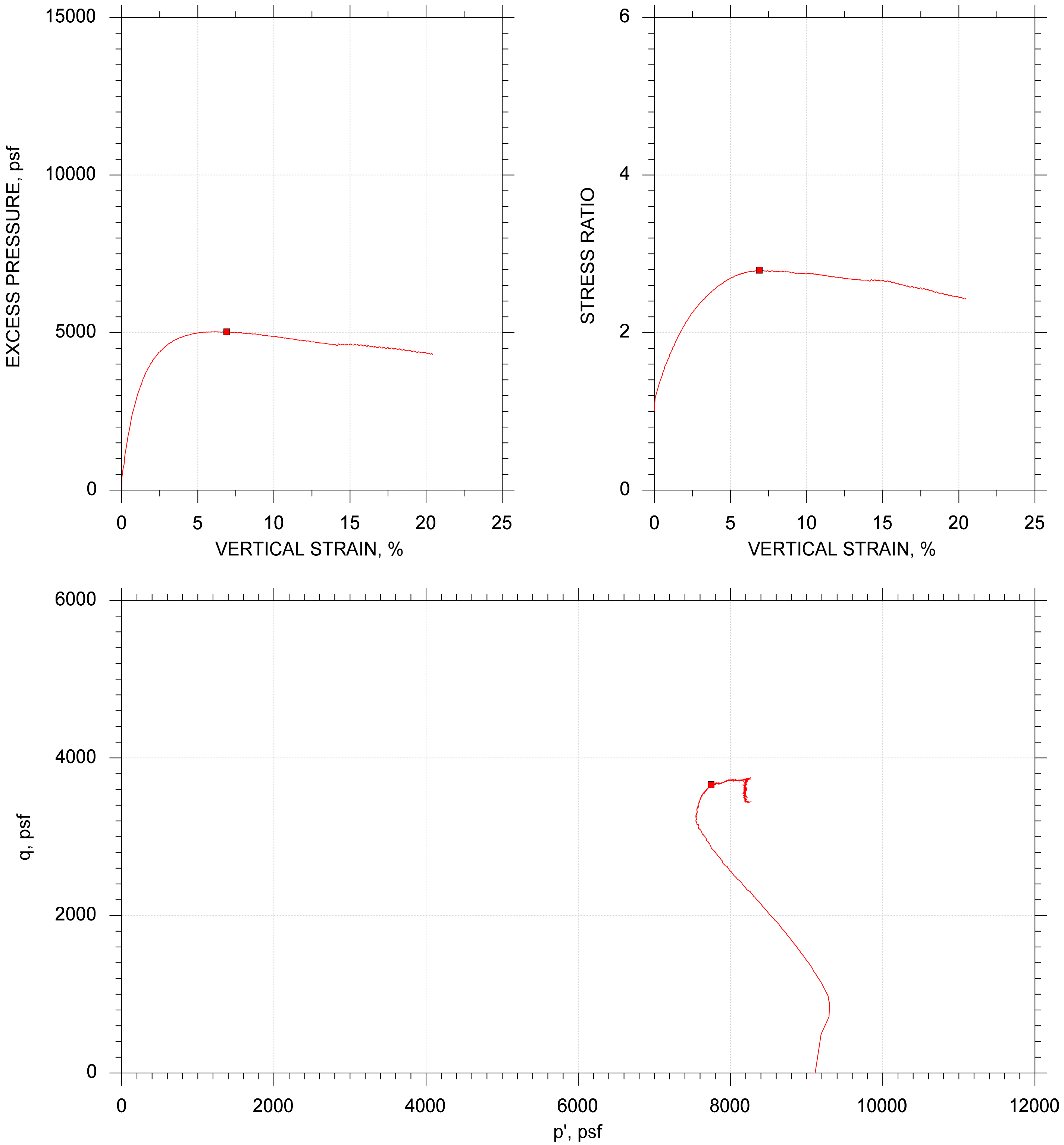
Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.



Remarks:

System X, CU-5-2A (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
🟥	ALN-13B	CU-5-2	---	md/trm	11/14/18	njh	11/20/18	308764-CU-5-2An.dat

GeoTesting
EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Sample Type: remold	

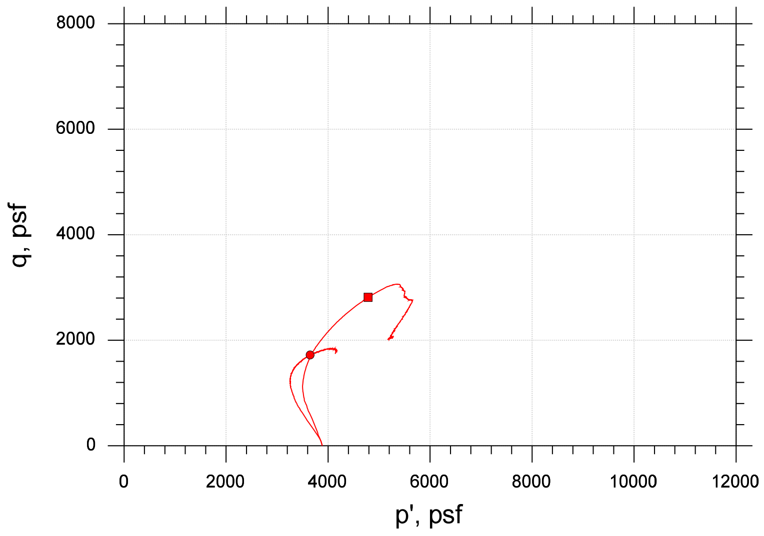
Description: Moist, dark gray clay

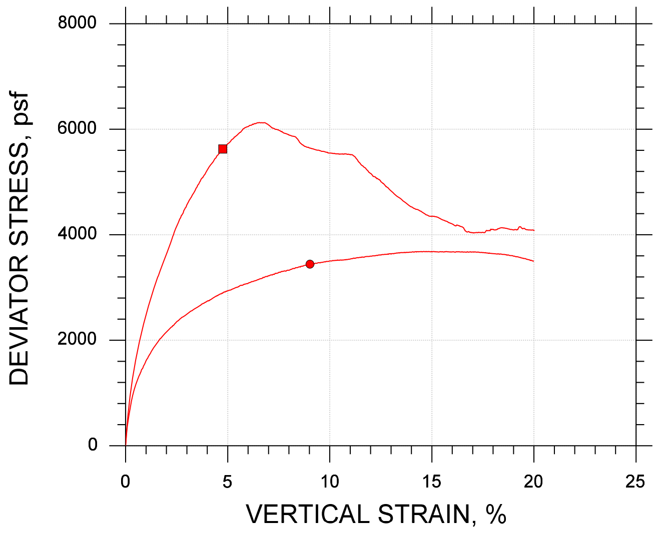
Remarks: System X, CU-5-2A (remolded to the as-received moisture content and density) (client request)

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B-3	
Preparation: Intact	
Description: Moist, very dark gray silt	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 66	Plastic Limit: 39
Plasticity Index: 27	Estimated Specific Gravity: 2.65

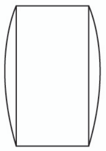
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

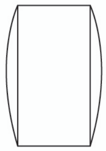




Symbol		■	●		
Sample ID		HPC-21A	HPC-21A		
Depth, ft		---	---		
Test Number		CU-12-1A	CU-12-2		
Initial	Height, in	6.000	4.200		
	Diameter, in	2.600	2.000		
	Moisture Content (from Cuttings), %	42.8	38.8		
	Dry Density, pcf	75.1	73.7		
	Saturation (Wet Method), %	94.4	82.6		
	Void Ratio	1.20	1.25		
Before Shear	Moisture Content, %	41.9	41.6		
	Dry Density, pcf	78.4	78.7		
	Cross-sectional Area (Method A), in²	5.183	3.025		
	Saturation, %	100.0	100.0		
	Void Ratio	1.11	1.10		
	Back Pressure, psf	2.059e+004	1.887e+004		
Vertical Effective Consolidation Stress, psf		3871.	3852.		
Horizontal Effective Consolidation Stress, psf		3887.	3885.		
Vertical Strain after Consolidation, %		1.811	2.898		
Volumetric Strain after Consolidation, %		3.938	6.818		
Time to 50% Consolidation, min		73.96	23.04		
Shear Strength, psf		2812.	1721.		
Strain at Failure, %		4.75	9.03		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		5625.	3442.		
Effective Minor Principal Stress at Failure, psf		1971.	1926.		
Effective Major Principal Stress at Failure, psf		7596.	5368.		
B-Value		0.95	0.96		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

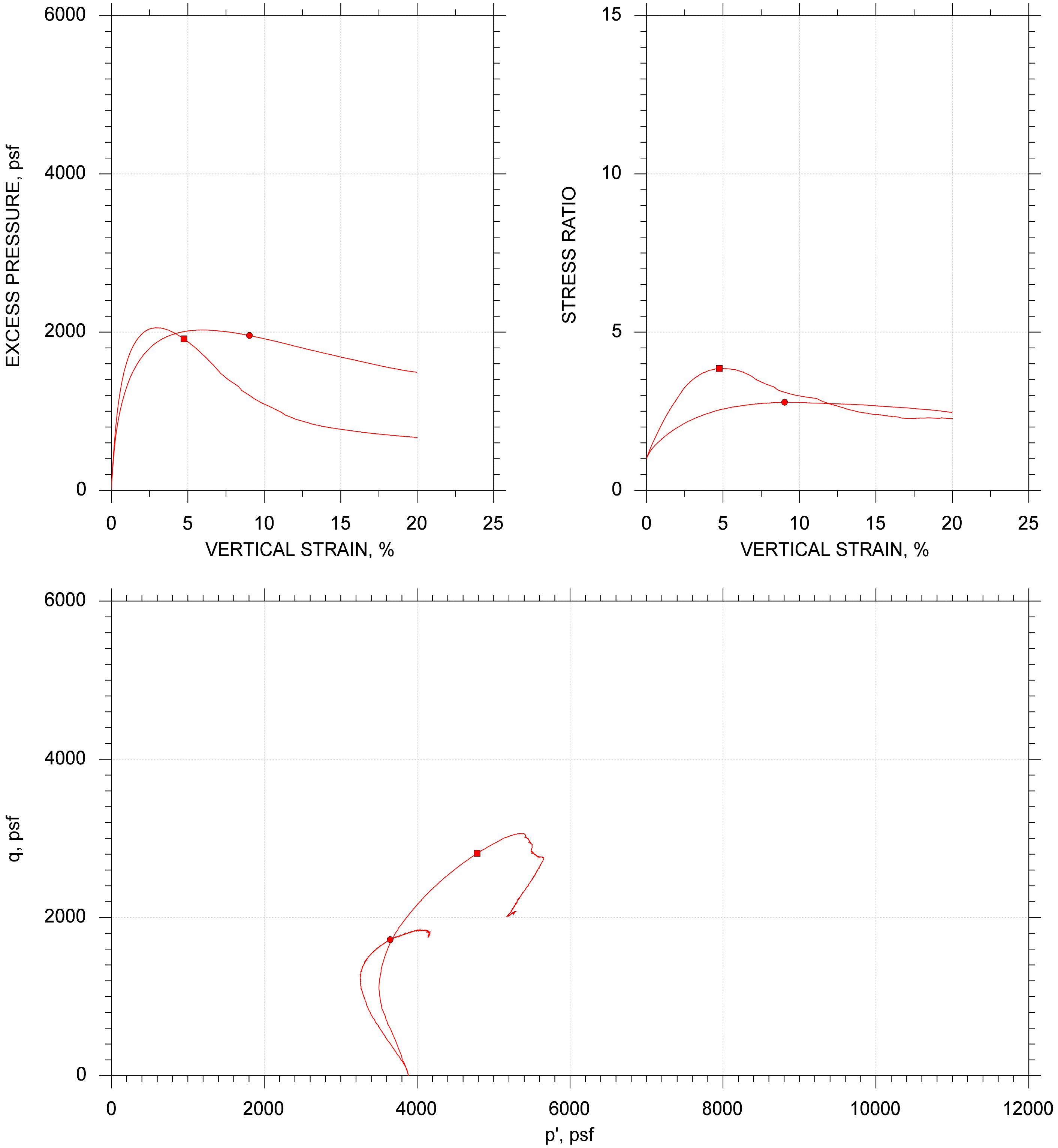




Remarks:

System Q, CU-12-1A (intact) CU-12-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-21A	CU-12-1A	---	md/trm	11/19/18	mcm	11/28/18	308764-CU-12-1Am.dat
●	HPC-21A	CU-12-2	---	trm	11/14/18	mcm	11/28/18	308764-CU-12-2m.dat

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Sample Type: Intact	

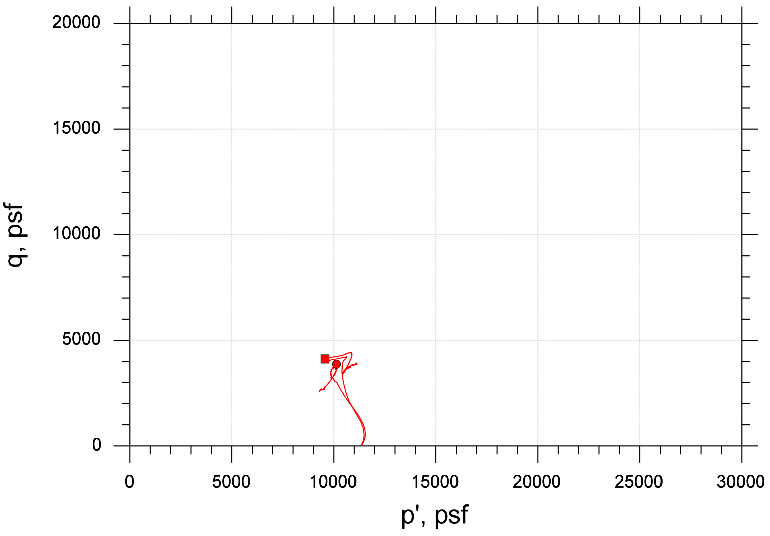
Description: Moist, very dark gray silt

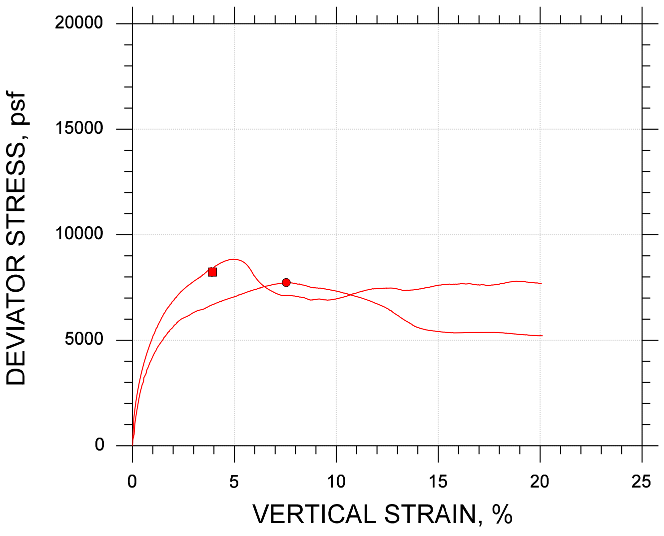
Remarks: System Q, CU-12-1A (intact) CU-12-2 (remolded to the as-received moisture content and density) (client request)

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm
Checked By: mcm
Boring ID: B-3
Preparation: Intact
Description: Moist, dark gray clay
Classification: ---
Group Symbol: ---
Liquid Limit: 45
Plastic Limit: 25
Plasticity Index: 20
Estimated Specific Gravity: 2.7

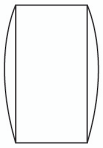
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

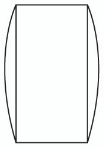




Symbol		🟥	●		
Sample ID		HPC-35A	HPC-35A		
Depth, ft		---	---		
Test Number		CU-21-1	CU-21-2		
Initial	Height, in	5.680	4.000		
	Diameter, in	2.610	2.000		
	Moisture Content (from Cuttings), %	31.2	32.9		
	Dry Density, pcf	90.7	89.2		
	Saturation (Wet Method), %	98.3	99.8		
	Void Ratio	0.858	0.889		
Before Shear	Moisture Content, %	25.7	24.3		
	Dry Density, pcf	99.5	102.		
	Cross-sectional Area (Method A), in²	5.013	2.902		
	Saturation, %	100.0	100.0		
	Void Ratio	0.693	0.656		
	Back Pressure, psf	2.315e+004	2.516e+004		
Vertical Effective Consolidation Stress, psf		1.131e+004	1.129e+004		
Horizontal Effective Consolidation Stress, psf		1.134e+004	1.134e+004		
Vertical Strain after Consolidation, %		2.707	4.388		
Volumetric Strain after Consolidation, %		8.786	10.40		
Time to 50% Consolidation, min		90.25	49.00		
Shear Strength, psf		4115.	3867.		
Strain at Failure, %		3.93	7.54		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		8231.	7734.		
Effective Minor Principal Stress at Failure, psf		5449.	6264.		
Effective Major Principal Stress at Failure, psf		1.368e+004	1.400e+004		
B-Value		0.95	0.95		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

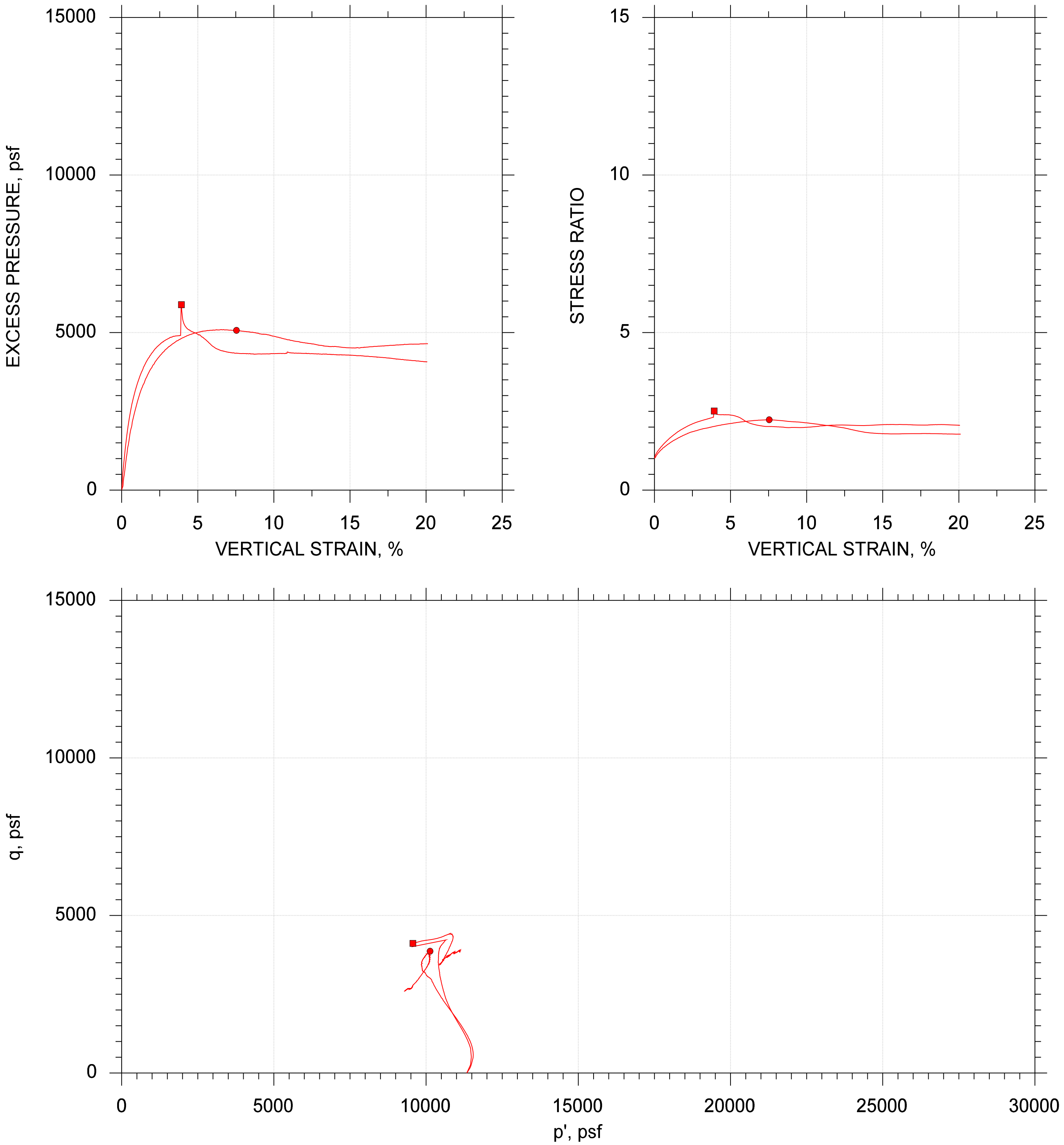




Remarks:

System X, CU-21-1 (intact) CU-21-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



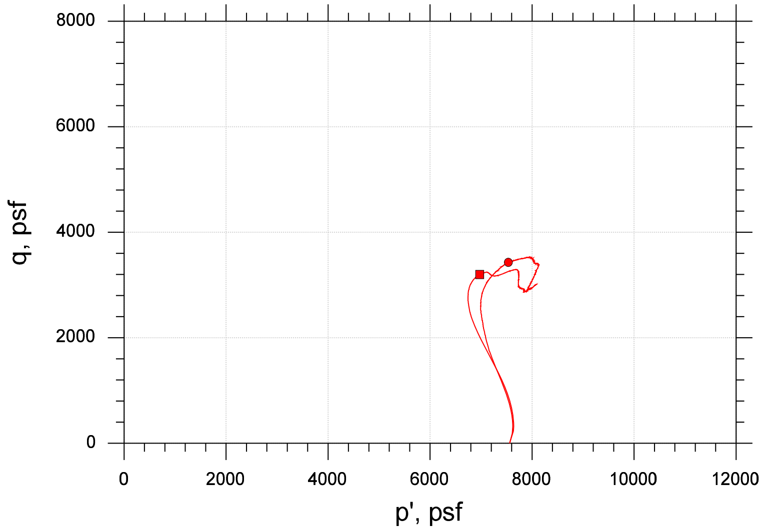
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-35A	CU-21-1	---	md/trm	11/19/18	mcm	11/30/18	308764-CU-21-1m.dat
●	HPC-35A	CU-21-2	---	trm	11/26/18	mcm	11/30/18	308764-CU-21-2m.dat

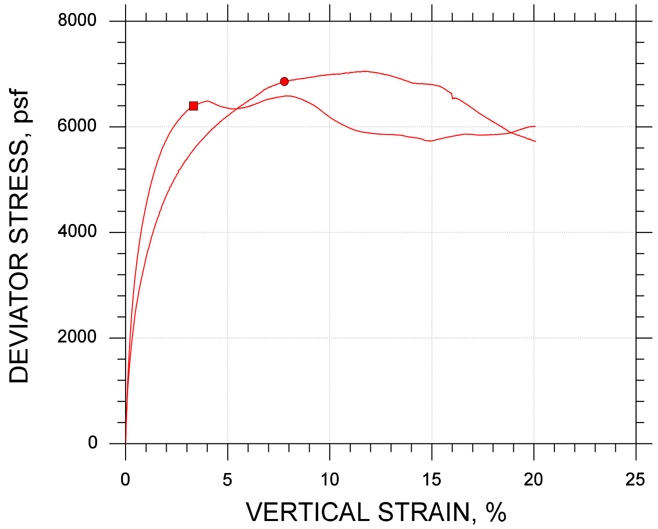
GeoTesting EXPRESS

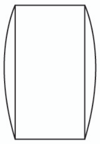
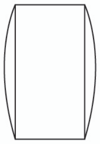
Project: SFWF
Location: ---
Project No.: GTX-308764
Boring No.: B-3
Sample Type: Intact
Description: Moist, dark gray clay
Remarks: System X, CU-21-1 (intact) CU-21-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: trm   Checked By: mcm
Boring ID: B-3
Preparation: Intact
Description: Moist, dark gray clay
Classification: ---
Group Symbol: ---
Liquid Limit: 63   Plastic Limit: 37
Plasticity Index: 26   Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

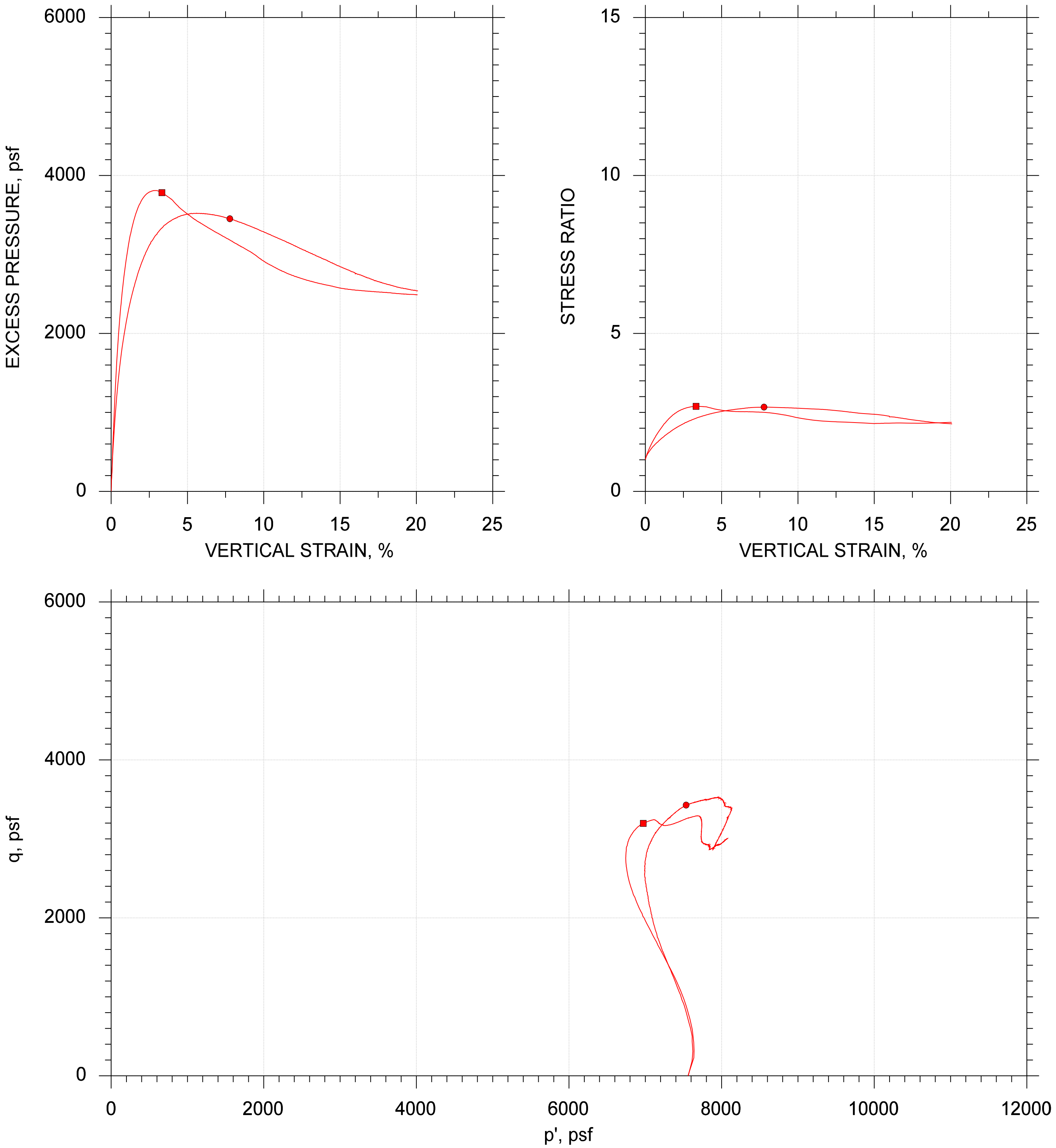




	Symbol	■	●		
	Sample ID	UP-2B	UP-2B		
	Depth, ft	---	---		
	Test Number	CU-19-1	CU-19-2		
Initial	Height, in	6.350	4.000		
	Diameter, in	2.810	2.000		
	Moisture Content (from Cuttings), %	22.4	20.9		
	Dry Density, pcf	87.3	88.3		
	Saturation (Wet Method), %	65.0	62.1		
	Void Ratio	0.930	0.910		
Before Shear	Moisture Content, %	26.8	29.3		
	Dry Density, pcf	97.8	94.2		
	Cross-sectional Area (Method A), in²	5.838	3.008		
	Saturation, %	100.0	100.0		
	Void Ratio	0.724	0.790		
	Back Pressure, psf	1.886e+004	2.318e+004		
	Vertical Effective Consolidation Stress, psf	7525.	7526.		
	Horizontal Effective Consolidation Stress, psf	7559.	7562.		
	Vertical Strain after Consolidation, %	4.101	3.007		
	Volumetric Strain after Consolidation, %	7.726	8.856		
	Time to 50% Consolidation, min	90.25	12.25		
	Shear Strength, psf	3197.	3429.		
	Strain at Failure, %	3.33	7.78		
	Strain Rate, %/min	0.01600	0.01600		
	Deviator Stress at Failure, psf	6395.	6858.		
	Effective Minor Principal Stress at Failure, psf	3776.	4106.		
	Effective Major Principal Stress at Failure, psf	1.017e+004	1.096e+004		
	B-Value	1.	0.95		
	Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:				

System Y, CU-19-1 (intact) CU-19-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

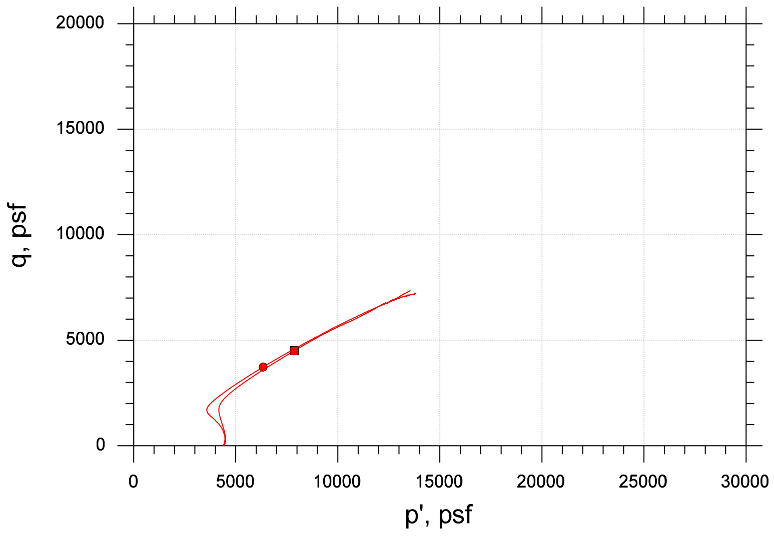


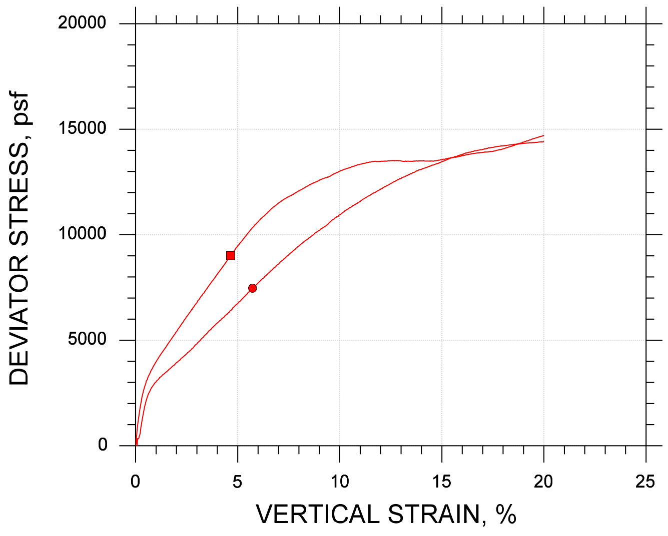
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	UP-2B	CU-19-1	---	trm	11/12/18	mcm	11/30/18	308764-CU-19-1m.dat
●	UP-2B	CU-19-2	---	md/trm	11/21/18	mcm	11/30/18	308764-CU-19-2m.dat

GeoTesting EXPRESS			
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-3	Sample Type: Intact	
	Description: Moist, dark gray clay		
	Remarks: System Y, CU-19-1 (intact) CU-19-2 (remolded to the as-received moisture content and density) (client request)		

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm   Checked By: mcm
Boring ID: B-10
Preparation: Intact
Description: Moist, dark gray sand with silt
Classification: ---
Group Symbol: ---
Liquid Limit: NP   Plastic Limit: NP
Plasticity Index: NP   Estimated Specific Gravity: 2.65

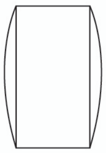
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

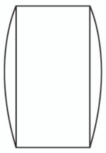




Symbol		■	●		
Sample ID		HPC-9B	HPC-9B		
Depth, ft		---	---		
Test Number		CU-7-1	CU-7-2		
Initial	Height, in	5.600	4.000		
	Diameter, in	2.730	2.000		
	Moisture Content (from Cuttings), %	29.0	28.6		
	Dry Density, pcf	92.3	92.9		
	Saturation (Wet Method), %	96.8	97.2		
	Void Ratio	0.793	0.780		
Before Shear	Moisture Content, %	26.1	26.2		
	Dry Density, pcf	97.8	97.6		
	Cross-sectional Area (Method A), in²	5.616	3.036		
	Saturation, %	100.0	100.0		
	Void Ratio	0.692	0.694		
	Back Pressure, psf	6767.	2.172e+004		
Vertical Effective Consolidation Stress, psf		4428.	4422.		
Horizontal Effective Consolidation Stress, psf		4429.	4430.		
Vertical Strain after Consolidation, %		0.2732	0.8445		
Volumetric Strain after Consolidation, %		1.648	2.876		
Time to 50% Consolidation, min		0.6400	0.1600		
Shear Strength, psf		4505.	3733.		
Strain at Failure, %		4.65	5.73		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		9010.	7466.		
Effective Minor Principal Stress at Failure, psf		3369.	2610.		
Effective Major Principal Stress at Failure, psf		1.238e+004	1.008e+004		
B-Value		1.	0.95		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

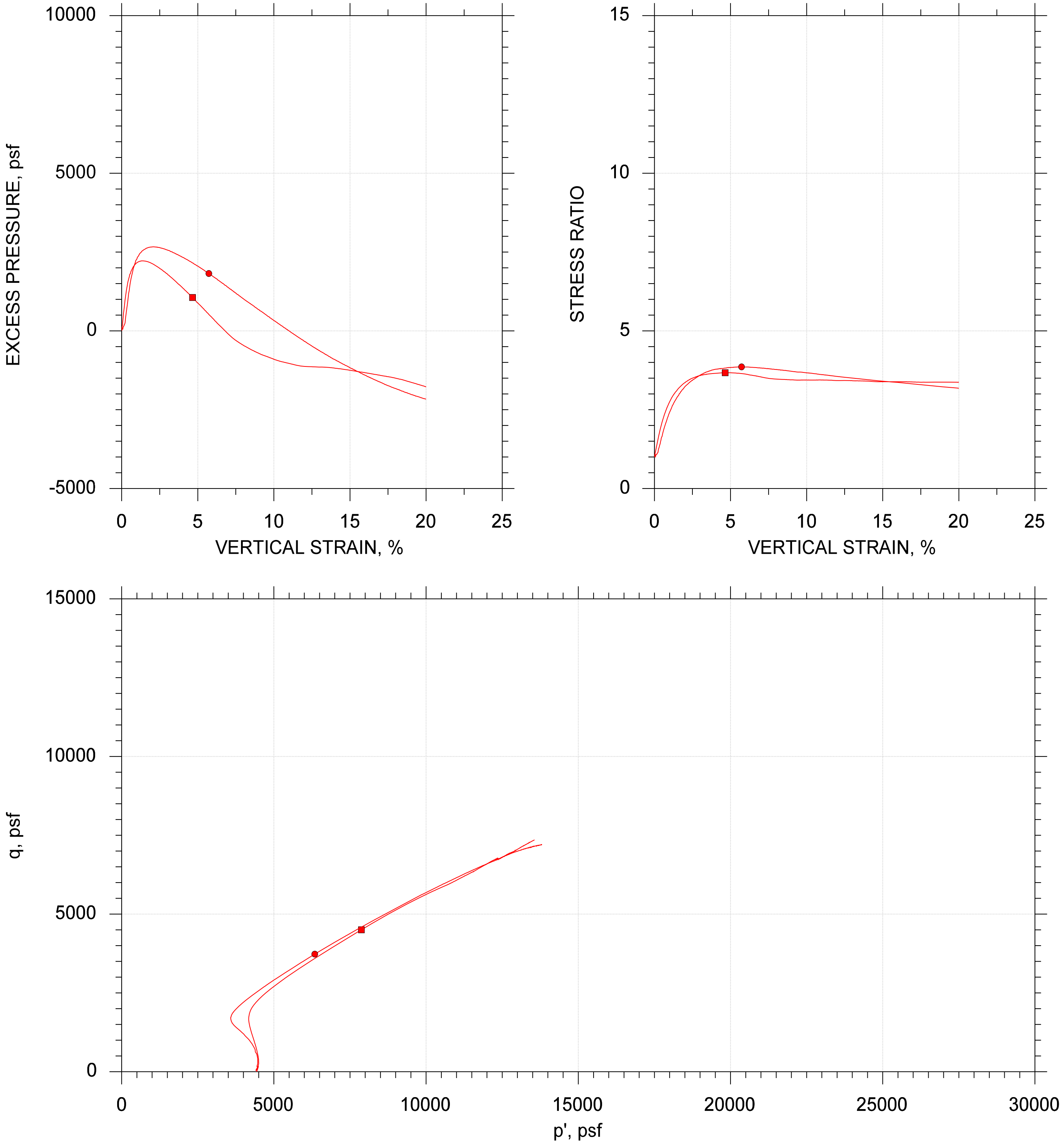




Remarks:

System K, CU-7-1 (intact) CU-7-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-9B	CU-7-1	---	md/trm	11/7/18	mcm	11/18/18	308764-CU-7-1m.dat
●	HPC-9B	CU-7-2	---	md/trm	11/12/18	mcm	11/18/18	308764-CU-7-2m.dat

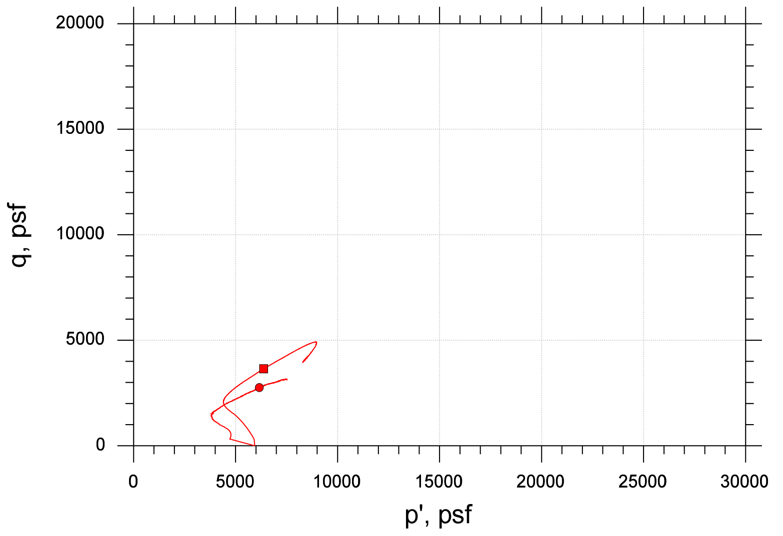
GeoTesting EXPRESS

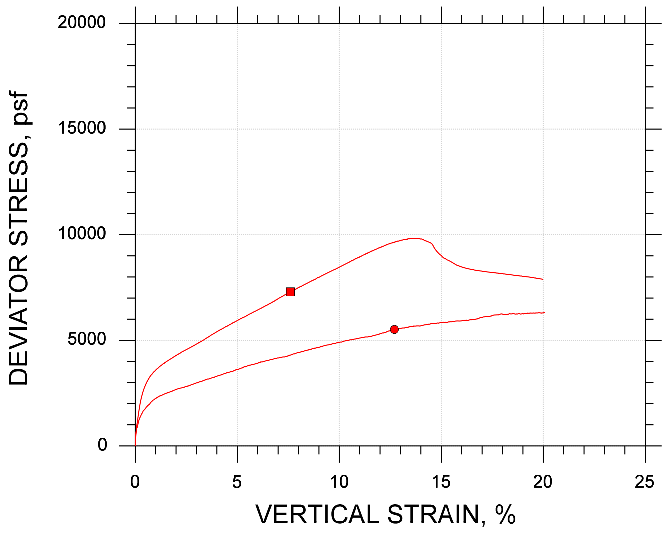
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: Intact	
Description: Moist, dark gray sand with silt		
Remarks: System K, CU-7-1 (intact) CU-7-2 (remolded to the as-received moisture content and density) (client request)		

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm | Checked By: mcm
Boring ID: B-10
Preparation: intact
Description: Moist, dark gray clay
Classification:
Group Symbol:
Liquid Limit: 41 | Plastic Limit: 25
Plasticity Index: 16 | Estimated Specific Gravity: 2.7

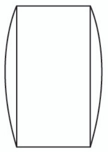
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

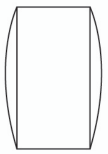




Symbol		■	●		
Sample ID		HPC-14B	HPC-14B		
Depth, ft		---	---		
Test Number		CU-9-1	CU-9-2		
Initial	Height, in	5.550	4.000		
	Diameter, in	2.620	2.000		
	Moisture Content (from Cuttings), %	36.8	36.4		
	Dry Density, pcf	81.3	81.4		
	Saturation (Wet Method), %	92.6	91.8		
	Void Ratio	1.07	1.07		
Before Shear	Moisture Content, %	34.3	36.9		
	Dry Density, pcf	87.5	84.4		
	Cross-sectional Area (Method A), in²	5.164	3.063		
	Saturation, %	100.0	100.0		
	Void Ratio	0.926	0.996		
	Back Pressure, psf	2.316e+004	2.172e+004		
Vertical Effective Consolidation Stress, psf		5918.	5915.		
Horizontal Effective Consolidation Stress, psf		5937.	5928.		
Vertical Strain after Consolidation, %		2.255	1.178		
Volumetric Strain after Consolidation, %		4.786	3.781		
Time to 50% Consolidation, min		9.000	25.00		
Shear Strength, psf		3648.	2757.		
Strain at Failure, %		7.60	12.7		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		7295.	5514.		
Effective Minor Principal Stress at Failure, psf		2729.	3408.		
Effective Major Principal Stress at Failure, psf		1.002e+004	8922.		
B-Value		0.95	0.95		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

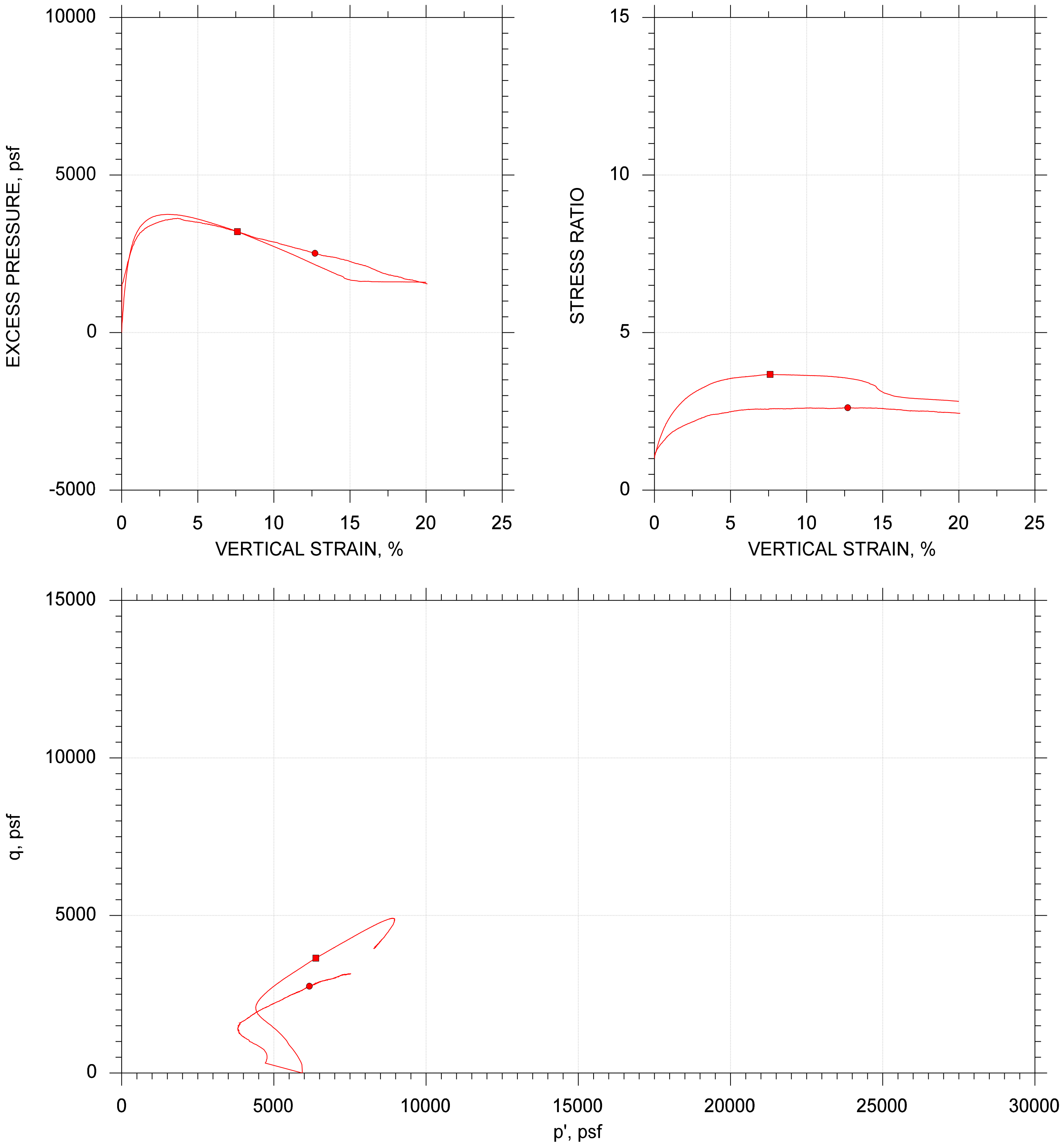




Remarks:

System W, CU-9-1 (intact) CU-9-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-14B	CU-9-1	---	md/trm	11/7/18	mcm	11/18/18	308764-CU-9-1m.dat
●	HPC-14B	CU-9-2	---	md	11/12/18	mcm	11/18/18	308764-CU-9-2m.dat

GeoTesting
EXPRESS

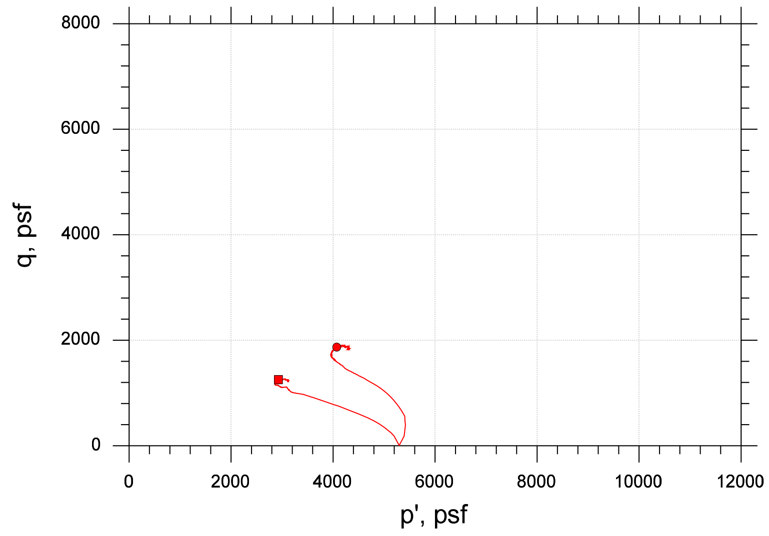
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: intact	

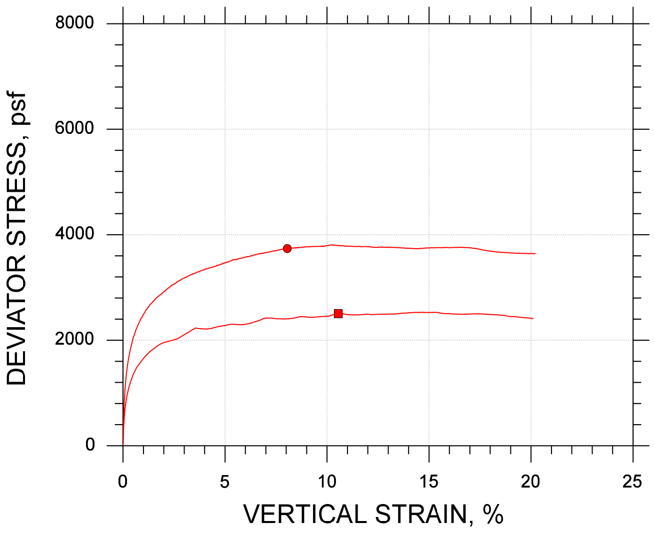
Description: Moist, dark gray clay

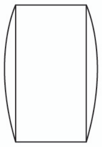
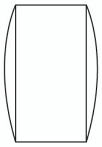
Remarks: System W, CU-9-1 (intact) CU-9-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: trm	Checked By: mcm
Boring ID: B-10	
Preparation: intact	
Description: Moist, dark gray clay	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 63	Plastic Limit: 25
Plasticity Index: 38	Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

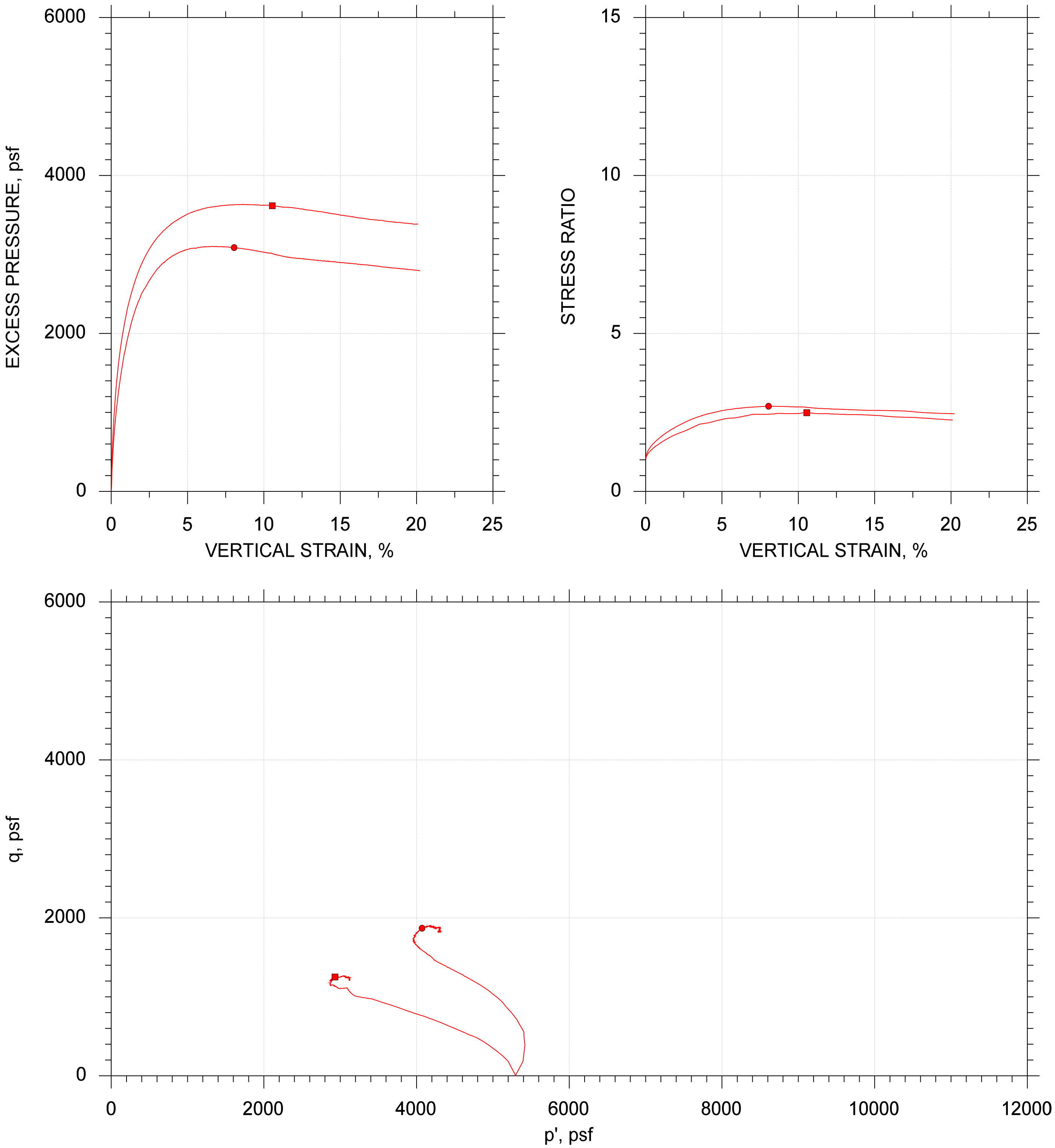




Symbol		■	●		
Sample ID		UP-2	UP-2		
Depth, ft		---	---		
Test Number		CU-17-1	CU-17-2		
Initial	Height, in	6.040	4.000		
	Diameter, in	2.850	2.000		
	Moisture Content (from Cuttings), %	46.0	42.9		
	Dry Density, pcf	75.0	77.6		
	Saturation (Wet Method), %	99.7	98.9		
	Void Ratio	1.25	1.17		
Before Shear	Moisture Content, %	35.8	33.3		
	Dry Density, pcf	85.8	88.7		
	Cross-sectional Area (Method A), in²	5.824	2.909		
	Saturation, %	100.0	100.0		
	Void Ratio	0.965	0.900		
	Back Pressure, psf	1.944e+004	1.771e+004		
Vertical Effective Consolidation Stress, psf		5268.	5241.		
Horizontal Effective Consolidation Stress, psf		5299.	5292.		
Vertical Strain after Consolidation, %		3.742	4.413		
Volumetric Strain after Consolidation, %		11.34	9.250		
Time to 50% Consolidation, min		225.0	174.2		
Shear Strength, psf		1252.	1869.		
Strain at Failure, %		10.6	8.05		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		2504.	3738.		
Effective Minor Principal Stress at Failure, psf		1678.	2202.		
Effective Major Principal Stress at Failure, psf		4182.	5940.		
B-Value		0.95	0.96		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System II, CU-17-1 (intact) CU-17-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



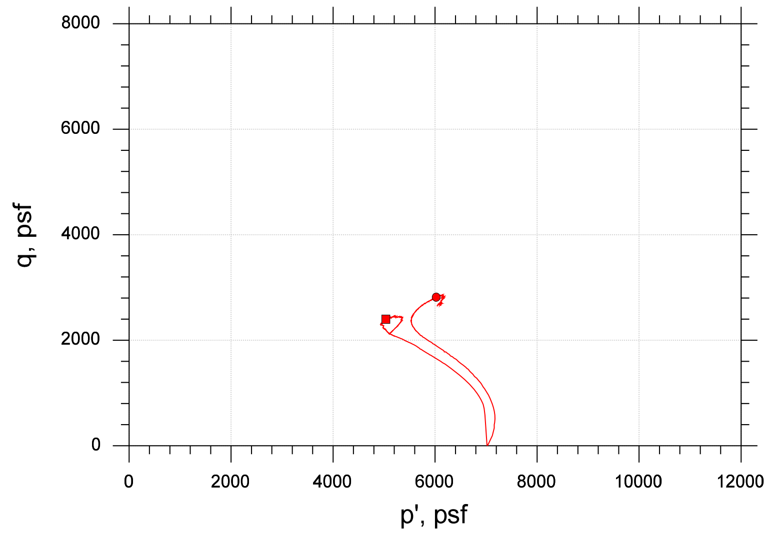
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	UP-2	CU-17-1	---	trm	11/12/18	mcm	11/30/18	308764-CU-17-1m.dat
●	UP-2	CU-17-2	---	md	11/16/18	mcm	11/30/18	308764-CU-17-2m.dat

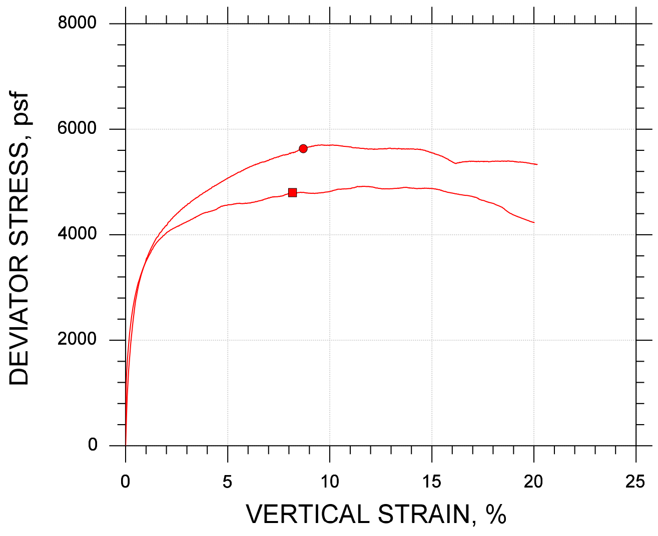
GeoTesting EXPRESS

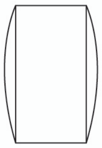
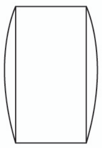
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: intact	
Description: Moist, dark gray clay		
Remarks: System II, CU-17-1 (intact) CU-17-2 (remolded to the as-received moisture content and density) (client request)		

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm
Checked By: mcm
Boring ID: B-10
Preparation: Intact
Description: Moist, dark gray clay
Classification: ---
Group Symbol: ---
Liquid Limit: 52
Plastic Limit: 25
Plasticity Index: 27
Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

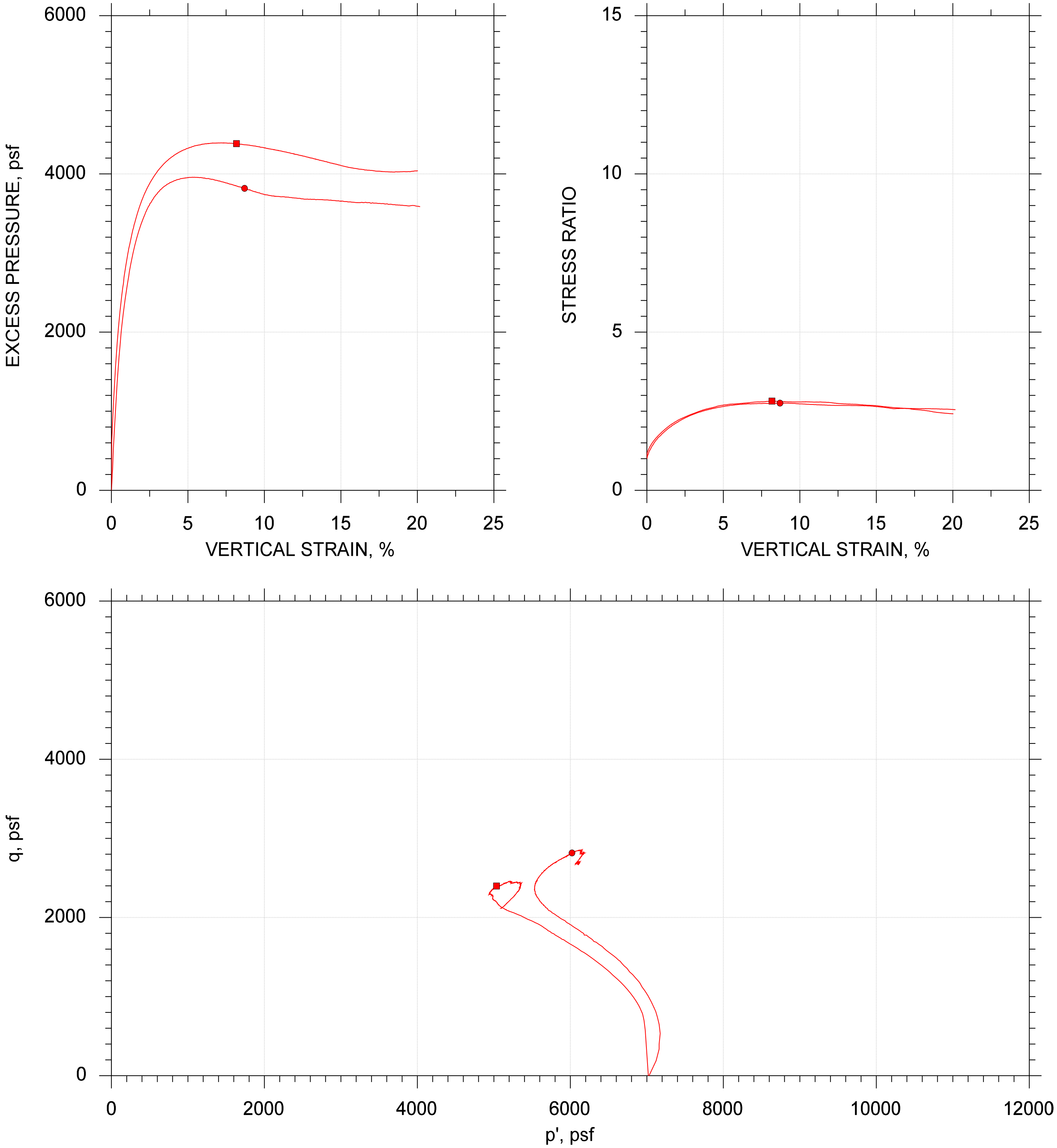




Symbol		■	●		
Sample ID		UP-3B	UP-3B		
Depth, ft		---	---		
Test Number		CU-18-1	CU-18-2		
Initial	Height, in	6.200	4.050		
	Diameter, in	2.830	2.020		
	Moisture Content (from Cuttings), %	43.4	42.8		
	Dry Density, pcf	77.0	73.9		
	Saturation (Wet Method), %	98.5	90.3		
	Void Ratio	1.19	1.28		
Before Shear	Moisture Content, %	35.6	36.7		
	Dry Density, pcf	86.0	84.7		
	Cross-sectional Area (Method A), in²	5.791	2.947		
	Saturation, %	100.0	100.0		
	Void Ratio	0.960	0.991		
	Back Pressure, psf	2.088e+004	1.886e+004		
Vertical Effective Consolidation Stress, psf		6995.	6984.		
Horizontal Effective Consolidation Stress, psf		7018.	7027.		
Vertical Strain after Consolidation, %		2.796	3.766		
Volumetric Strain after Consolidation, %		10.53	9.115		
Time to 50% Consolidation, min		56.25	30.25		
Shear Strength, psf		2399.	2816.		
Strain at Failure, %		8.18	8.70		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		4798.	5633.		
Effective Minor Principal Stress at Failure, psf		2635.	3205.		
Effective Major Principal Stress at Failure, psf		7433.	8838.		
B-Value		0.96	0.96		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System D, CU-18-1 (intact) CU-18-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	UP-3B	CU-18-1	---	md/trm	11/12/18	mcm	11/30/18	308764-CU-18-1m.dat
●	UP-3B	CU-18-2	---	md/trm	11/15/18	mcm	11/30/18	308764-CU-18-2m.dat

GeoTesting
EXPRESS

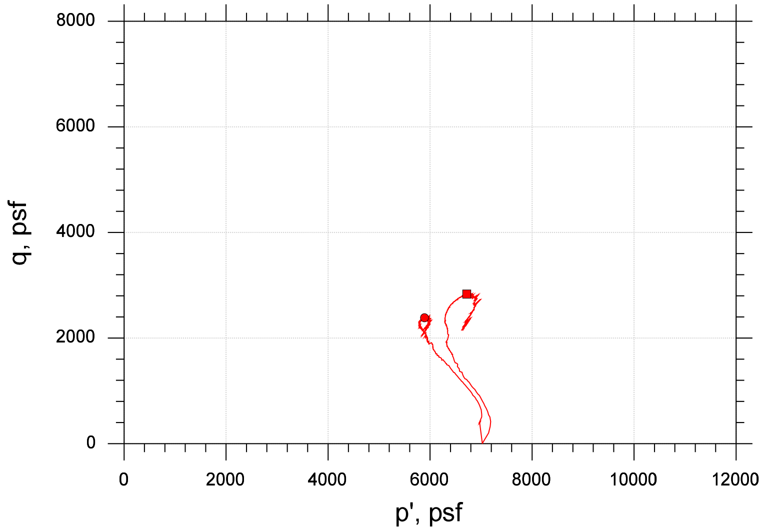
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: Intact	

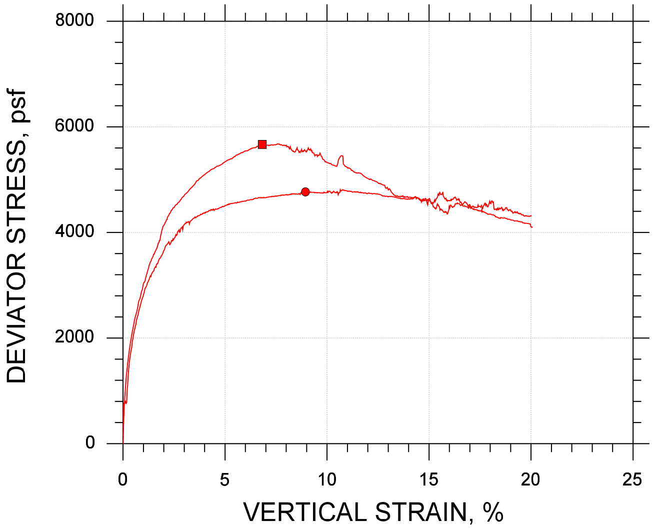
Description: Moist, dark gray clay

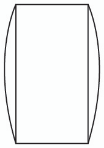
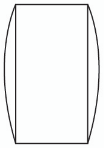
Remarks: System D, CU-18-1 (intact) CU-18-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm
Checked By: mcm
Boring ID: B OSS
Preparation: Intact
Description: Moist, dark gray silty sand
Classification: ---
Group Symbol: ---
Liquid Limit: NP
Plastic Limit: NP
Plasticity Index: NP
Estimated Specific Gravity: 2.65

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

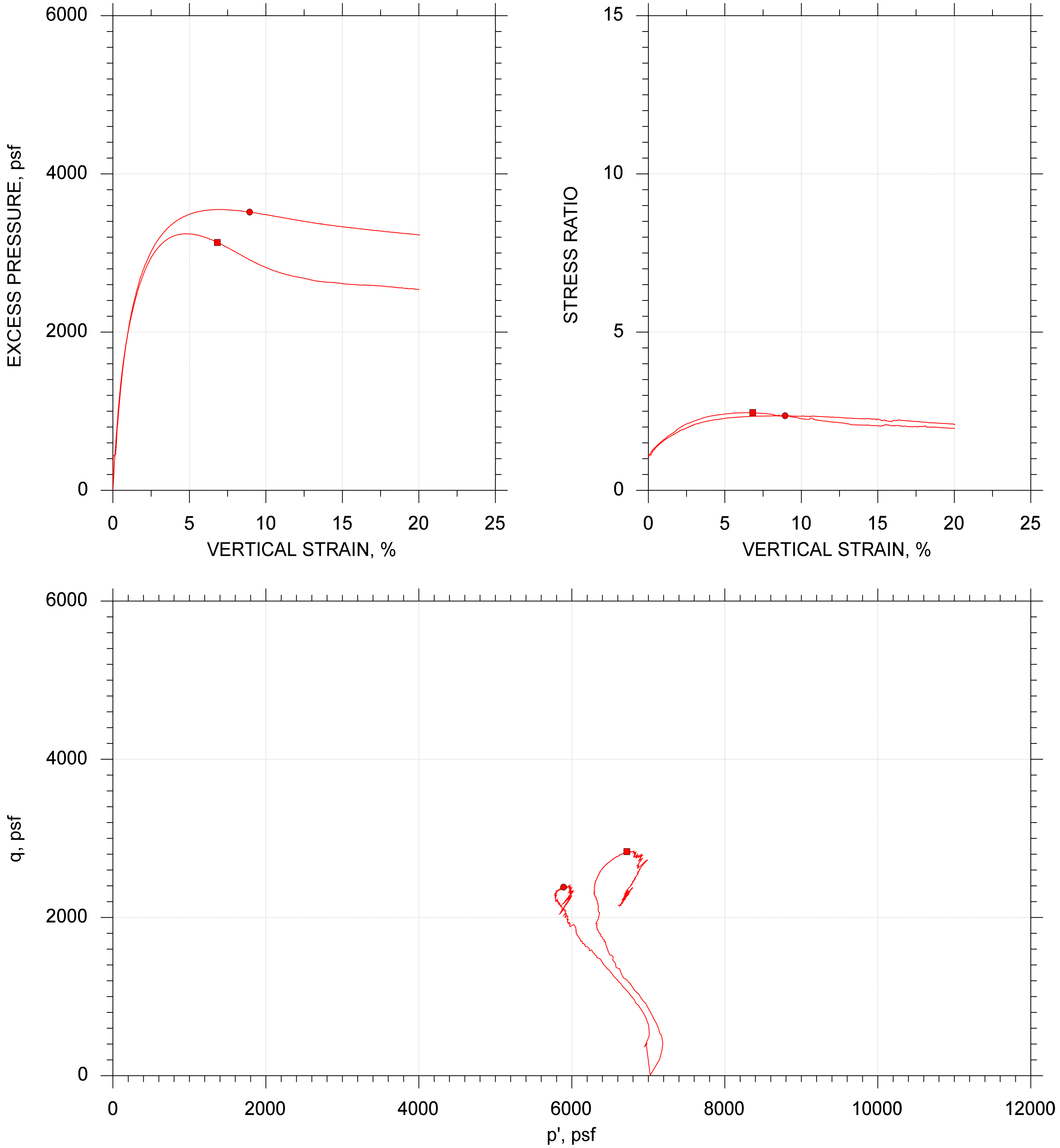




Symbol		🟥	●		
Sample ID		ALN-23A	ALN-23A		
Depth, ft		---	---		
Test Number		CU-16-1	CU-16-2		
Initial	Height, in	5.700	4.000		
	Diameter, in	2.620	2.000		
	Moisture Content (from Cuttings), %	37.1	40.1		
	Dry Density, pcf	83.4	81.5		
	Saturation (Wet Method), %	99.9	103.1		
	Void Ratio	0.984	1.03		
Before Shear	Moisture Content, %	28.3	29.6		
	Dry Density, pcf	94.5	92.7		
	Cross-sectional Area (Method A), in²	4.845	2.835		
	Saturation, %	100.0	100.0		
	Void Ratio	0.751	0.784		
	Back Pressure, psf	1.397e+004	2.025e+004		
Vertical Effective Consolidation Stress, psf		7005.	6993.		
Horizontal Effective Consolidation Stress, psf		7021.	7025.		
Vertical Strain after Consolidation, %		1.756	2.691		
Volumetric Strain after Consolidation, %		11.60	12.26		
Time to 50% Consolidation, min		84.64	56.25		
Shear Strength, psf		2833.	2384.		
Strain at Failure, %		6.83	8.94		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		5666.	4769.		
Effective Minor Principal Stress at Failure, psf		3886.	3506.		
Effective Major Principal Stress at Failure, psf		9552.	8275.		
B-Value		0.96	0.95		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System E, CU-16-1 (intact) CU-16-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-23A	CU-16-1	---	md/trm	11/14/18	mcm	11/28/18	308764-CU-16-1m.dat
●	ALN-23A	CU-16-2	---	md/trm	11/21/18	mcm	11/28/18	308764-CU-16-2m.dat

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B OSS	Sample Type: Intact	

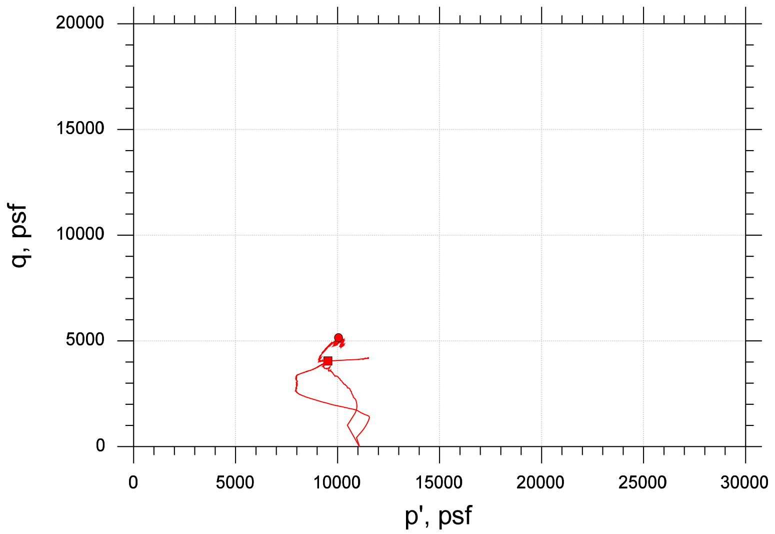
Description: Moist, dark gray silty sand

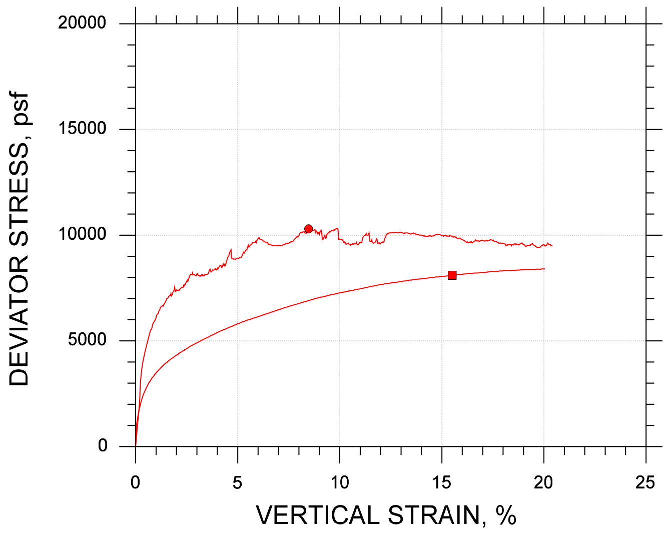
Remarks: System E, CU-16-1 (intact) CU-16-2 (remolded to the as-received moisture content and density) (client request)

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location:
Project Number: GTX-308764
Tested By: md
Checked By: mcm
Boring ID: B OSS
Preparation: intact
Description: Moist, dark gray clay
Classification: ---
Group Symbol: ---
Liquid Limit: 63
Plastic Limit: 25
Plasticity Index: 38
Estimated Specific Gravity: 2.7

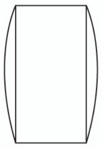
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

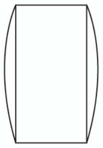




Symbol		■	●		
Sample ID		ALN-34	ALN-34		
Depth, ft		---	---		
Test Number		CU-10-1	CU-10-2		
Initial	Height, in	4.510	2.820		
	Diameter, in	1.930	1.400		
	Moisture Content (from Cuttings), %	25.4	26.5		
	Dry Density, pcf	98.7	97.0		
	Saturation (Wet Method), %	96.9	97.1		
	Void Ratio	0.707	0.737		
Before Shear	Moisture Content, %	24.4	23.2		
	Dry Density, pcf	102.	104.		
	Cross-sectional Area (Method A), in²	2.870	1.486		
	Saturation, %	100.0	100.0		
	Void Ratio	0.659	0.627		
	Back Pressure, psf	2.227e+004	2.229e+004		
Vertical Effective Consolidation Stress, psf		1.106e+004	1.101e+004		
Horizontal Effective Consolidation Stress, psf		1.107e+004	1.106e+004		
Vertical Strain after Consolidation, %		0.9049	3.155		
Volumetric Strain after Consolidation, %		2.738	6.813		
Time to 50% Consolidation, min		196.0	4.840		
Shear Strength, psf		4051.	5150.		
Strain at Failure, %		15.5	8.47		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		8102.	1.030e+004		
Effective Minor Principal Stress at Failure, psf		5477.	4895.		
Effective Major Principal Stress at Failure, psf		1.358e+004	1.520e+004		
B-Value		0.95	0.95		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

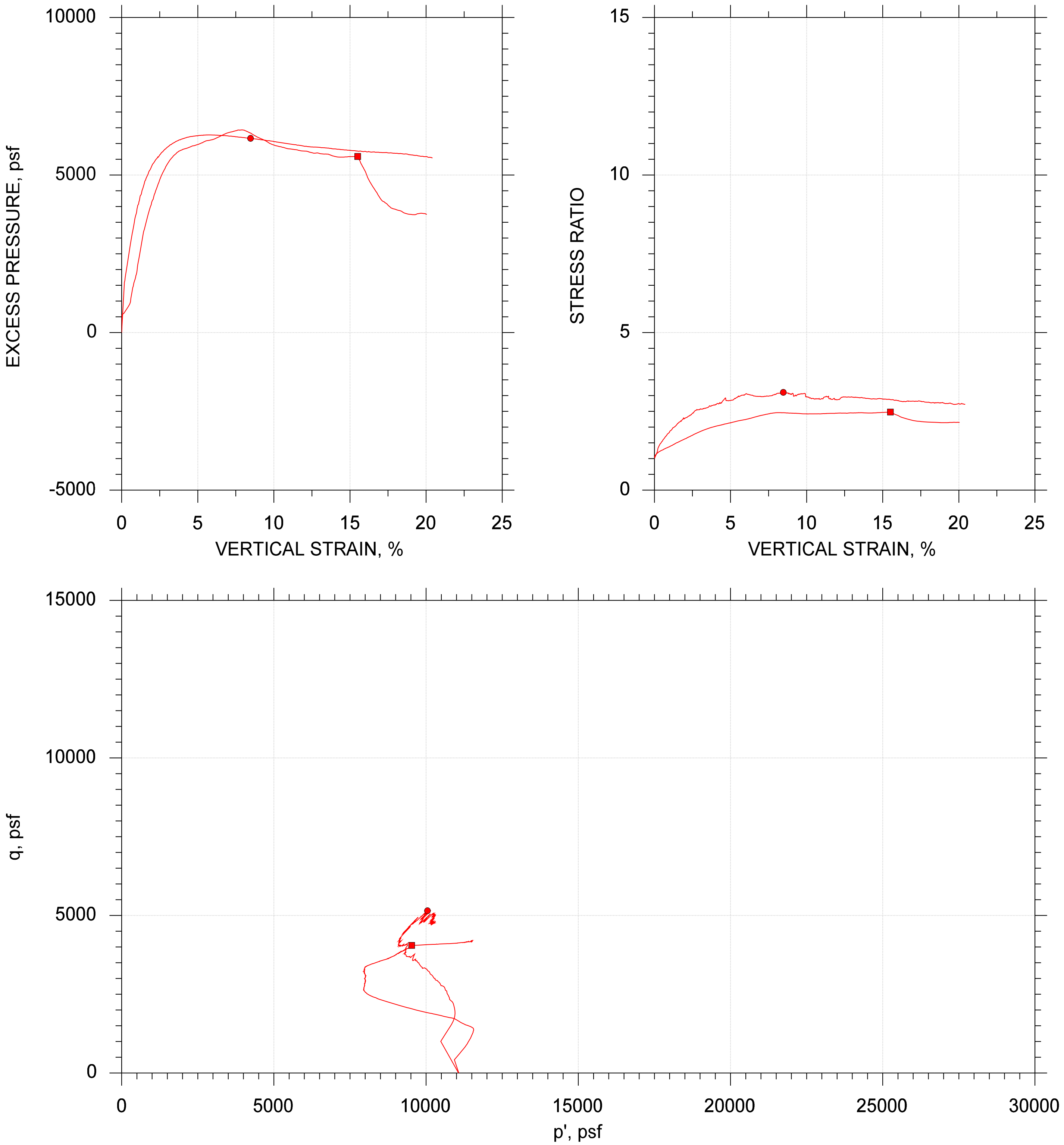




Remarks:

System E, CU-10-1 (intact) CU-10-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-34	CU-10-1	---	md	11/08/18	mcm	11/18/18	308764-CU-10-1m.dat
●	ALN-34	CU-10-2	---	md/trm	11/13/18	mcm	11/30/18	308764-CU-10-2m.dat

GeoTesting
EXPRESS

Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B OSS	Sample Type: intact	

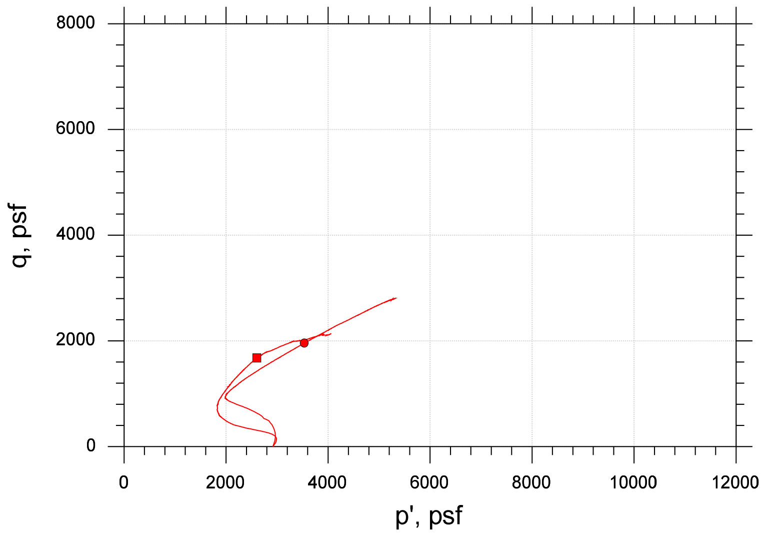
Description: Moist, dark gray clay

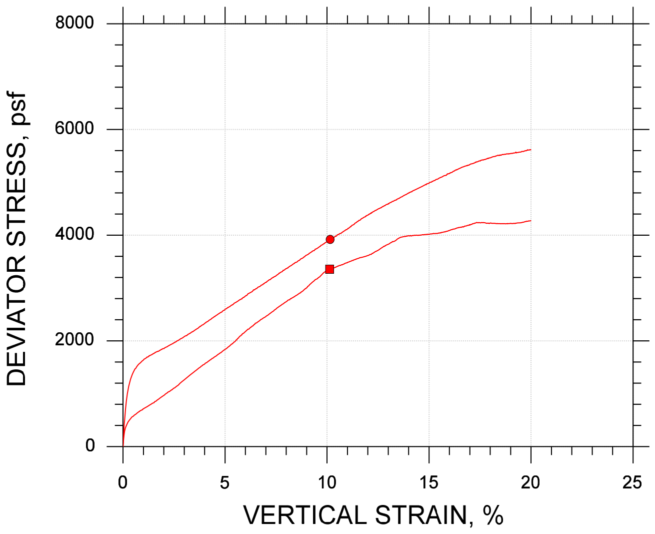
Remarks: System E, CU-10-1 (intact) CU-10-2 (remolded to the as-received moisture content and density) (client request)

GeoTesting
EXPRESS

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B-3	
Preparation: intact	
Description: Moist, dark gray clay	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 25	Plastic Limit: 16
Plasticity Index: 9	Estimated Specific Gravity: 2.7

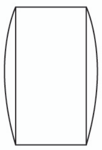
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

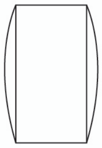




	Symbol	🟥	●		
	Sample ID	HPC-6C	HPC-6C		
	Depth, ft	---	---		
	Test Number	CU-15-1	CU-15-2		
Initial	Height, in	5.550	4.020		
	Diameter, in	2.660	2.010		
	Moisture Content (from Cuttings), %	24.0	23.5		
	Dry Density, pcf	102.	103.		
	Saturation (Wet Method), %	99.2	99.5		
	Void Ratio	0.652	0.639		
Before Shear	Moisture Content, %	21.7	19.8		
	Dry Density, pcf	106.	110.		
	Cross-sectional Area (Method A), in²	5.412	3.040		
	Saturation, %	100.0	100.0		
	Void Ratio	0.586	0.536		
	Back Pressure, psf	1.860e+004	2.169e+004		
	Vertical Effective Consolidation Stress, psf	2910.	2904.		
	Horizontal Effective Consolidation Stress, psf	2916.	2918.		
	Vertical Strain after Consolidation, %	0.6596	1.225		
	Volumetric Strain after Consolidation, %	1.717	3.482		
	Time to 50% Consolidation, min	25.00	23.04		
	Shear Strength, psf	1677.	1959.		
	Strain at Failure, %	10.1	10.2		
	Strain Rate, %/min	0.01600	0.01600		
	Deviator Stress at Failure, psf	3355.	3919.		
	Effective Minor Principal Stress at Failure, psf	925.4	1573.		
	Effective Major Principal Stress at Failure, psf	4280.	5492.		
	B-Value	1.	0.96		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

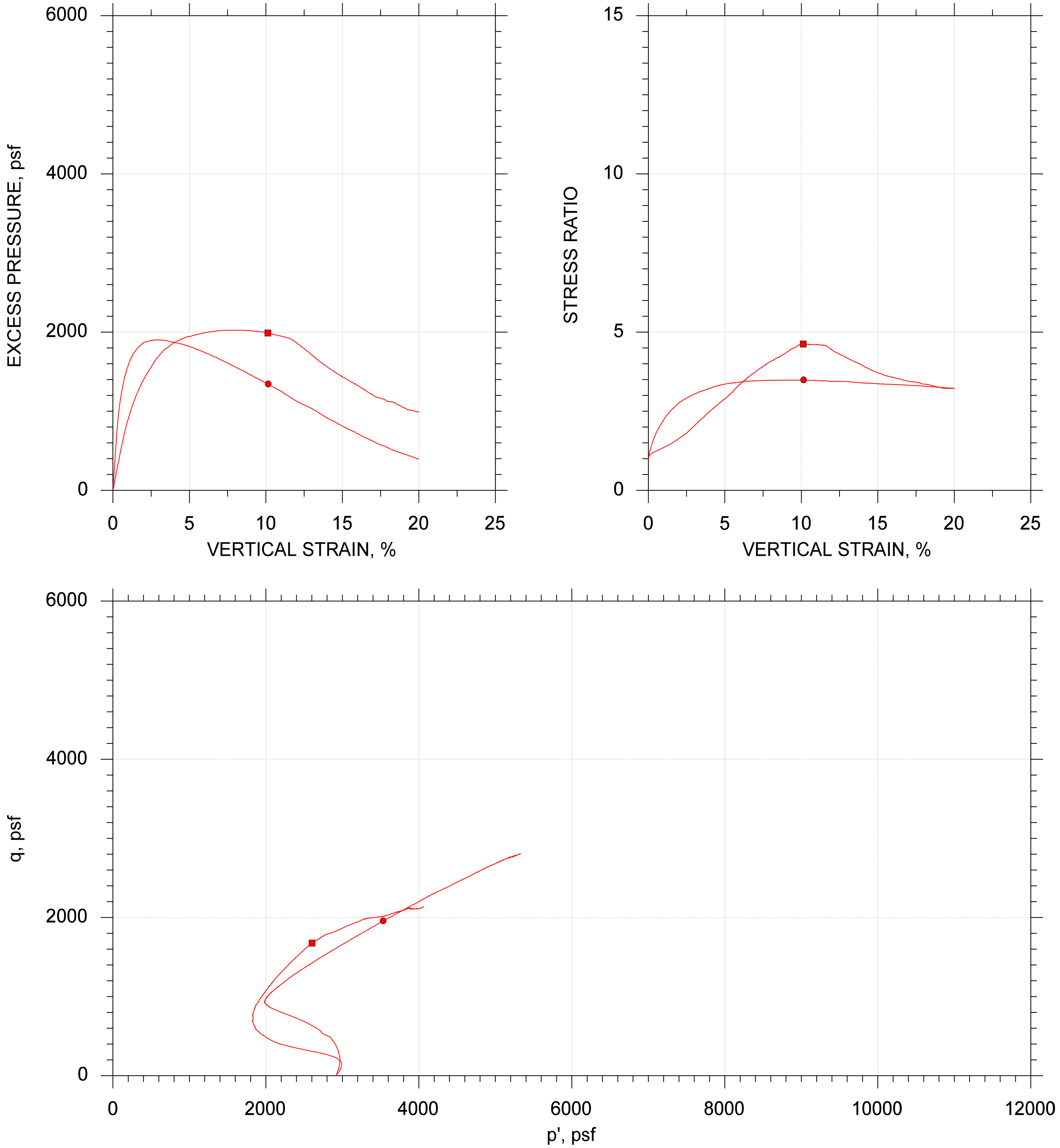




Remarks:

System V, CU-15-1 (intact) CU-15-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-6C	CU-15-1	---	md/trm	11/9/18	mcm	12/7/18	308764-CU-15-1m.dat
●	HPC-6C	CU-15-2	---	md/trmd	11/13/18	mcm	12/7/18	308764-CU-15-2m.dat

GeoTesting
EXPRESS

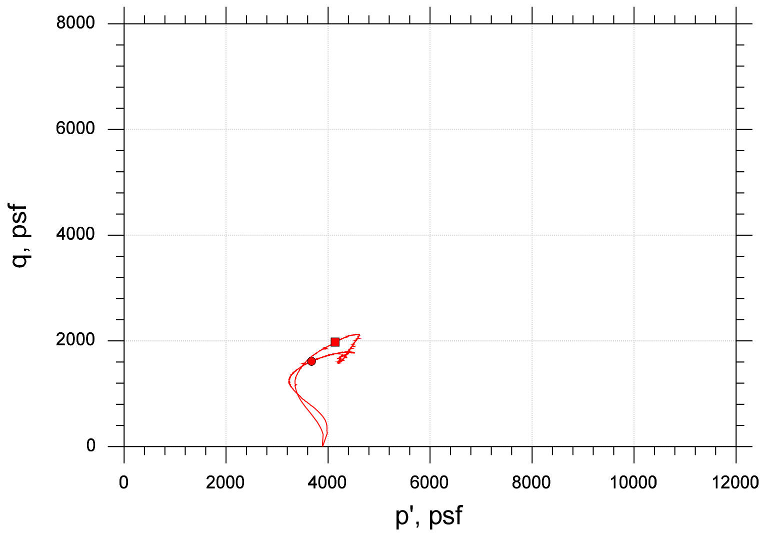
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Sample Type: intact	

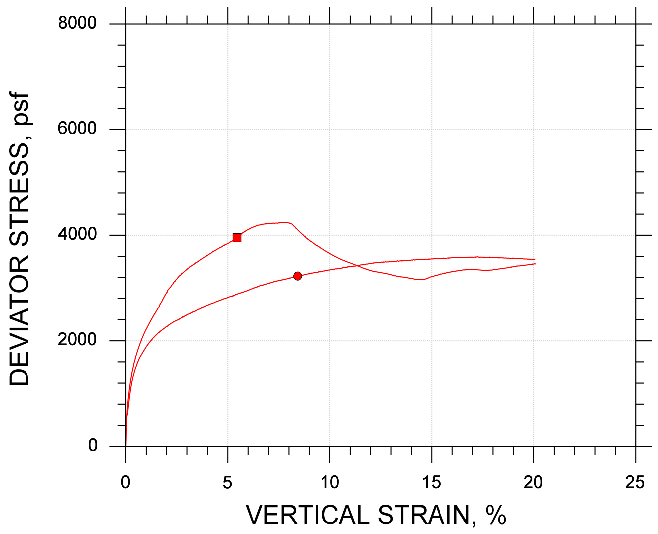
Description: Moist, dark gray clay

Remarks: System V, CU-15-1 (intact) CU-15-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm | Checked By: mcm
Boring ID: B-3
Preparation: intact
Description: Moist, dark gray clay
Classification: ---
Group Symbol: ---
Liquid Limit: 46 | Plastic Limit: 23
Plasticity Index: 23 | Estimated Specific Gravity: 2.7

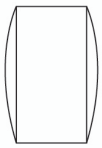
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

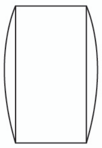




Symbol		🟥	●		
Sample ID		HPC-10A	HPC-10A		
Depth, ft		---	---		
Test Number		CU-22-1	CU-22-2		
Initial	Height, in	5.590	4.000		
	Diameter, in	2.700	2.000		
	Moisture Content (from Cuttings), %	35.1	35.6		
	Dry Density, pcf	82.7	83.4		
	Saturation (Wet Method), %	91.4	94.0		
	Void Ratio	1.04	1.02		
Before Shear	Moisture Content, %	35.0	33.8		
	Dry Density, pcf	86.6	88.2		
	Cross-sectional Area (Method A), in²	5.554	3.039		
	Saturation, %	100.0	100.0		
	Void Ratio	0.946	0.912		
	Back Pressure, psf	1.915e+004	2.030e+004		
Vertical Effective Consolidation Stress, psf		3874.	3871.		
Horizontal Effective Consolidation Stress, psf		3887.	3891.		
Vertical Strain after Consolidation, %		1.514	2.115		
Volumetric Strain after Consolidation, %		4.414	5.077		
Time to 50% Consolidation, min		25.00	0.0000		
Shear Strength, psf		1976.	1613.		
Strain at Failure, %		5.45	8.43		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		3952.	3225.		
Effective Minor Principal Stress at Failure, psf		2161.	2063.		
Effective Major Principal Stress at Failure, psf		6113.	5288.		
B-Value		0.95	0.95		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

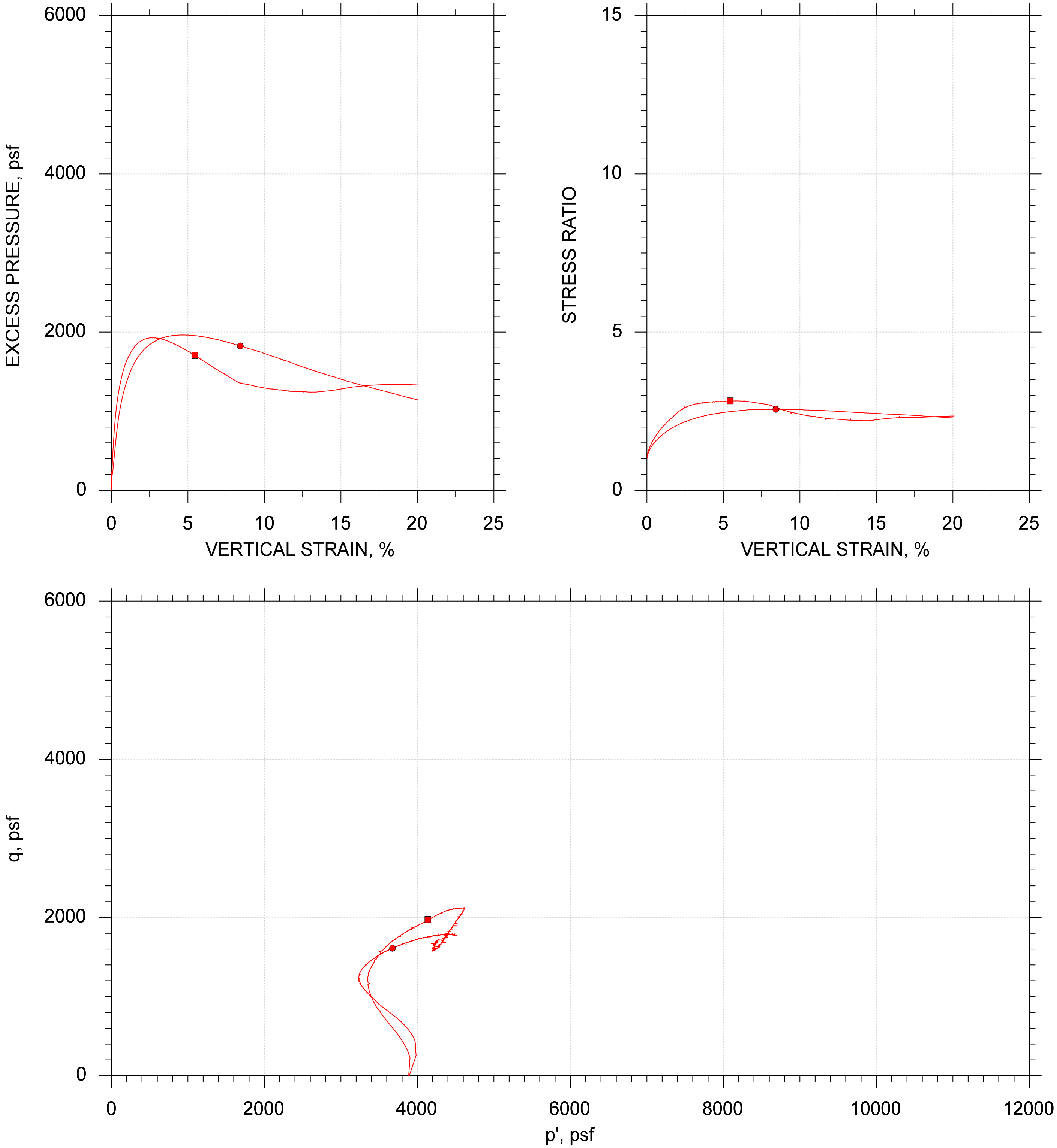




Remarks:

System JJ, CU-22-1 (intact) CU-22-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-10A	CU-22-1	---	md/trm	11/16/18	mcm	12/7/18	308764-CU-22-1m.dat
●	HPC-10A	CU-22-2	---	trm	11/30/18	mcm	12/7/18	308764-CU-22-2m.dat

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Sample Type: intact	

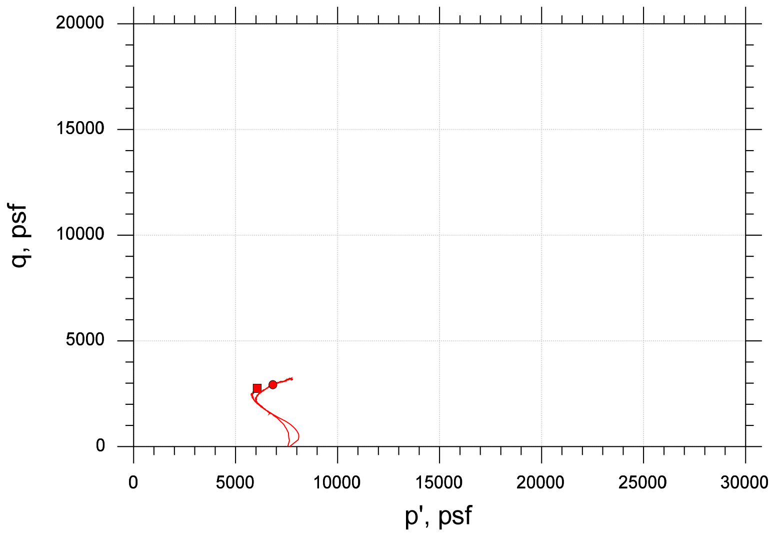
Description: Moist, dark gray clay

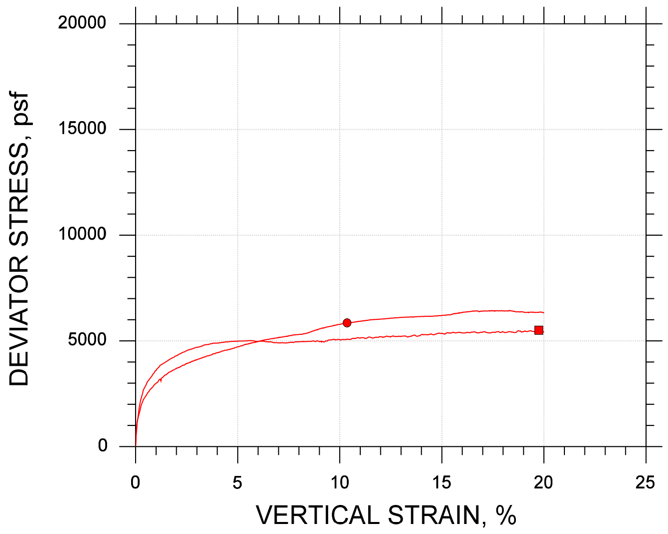
Remarks: System JJ, CU-22-1 (intact) CU-22-2 (remolded to the as-received moisture content and density) (client request)

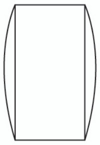
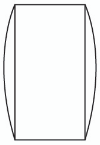
GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm | Checked By: mcm
Boring ID: B-10
Preparation: intact
Description: Moist, dark gray clay
Classification: ---
Group Symbol: ---
Liquid Limit: 43 | Plastic Limit: 20
Plasticity Index: 23 | Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

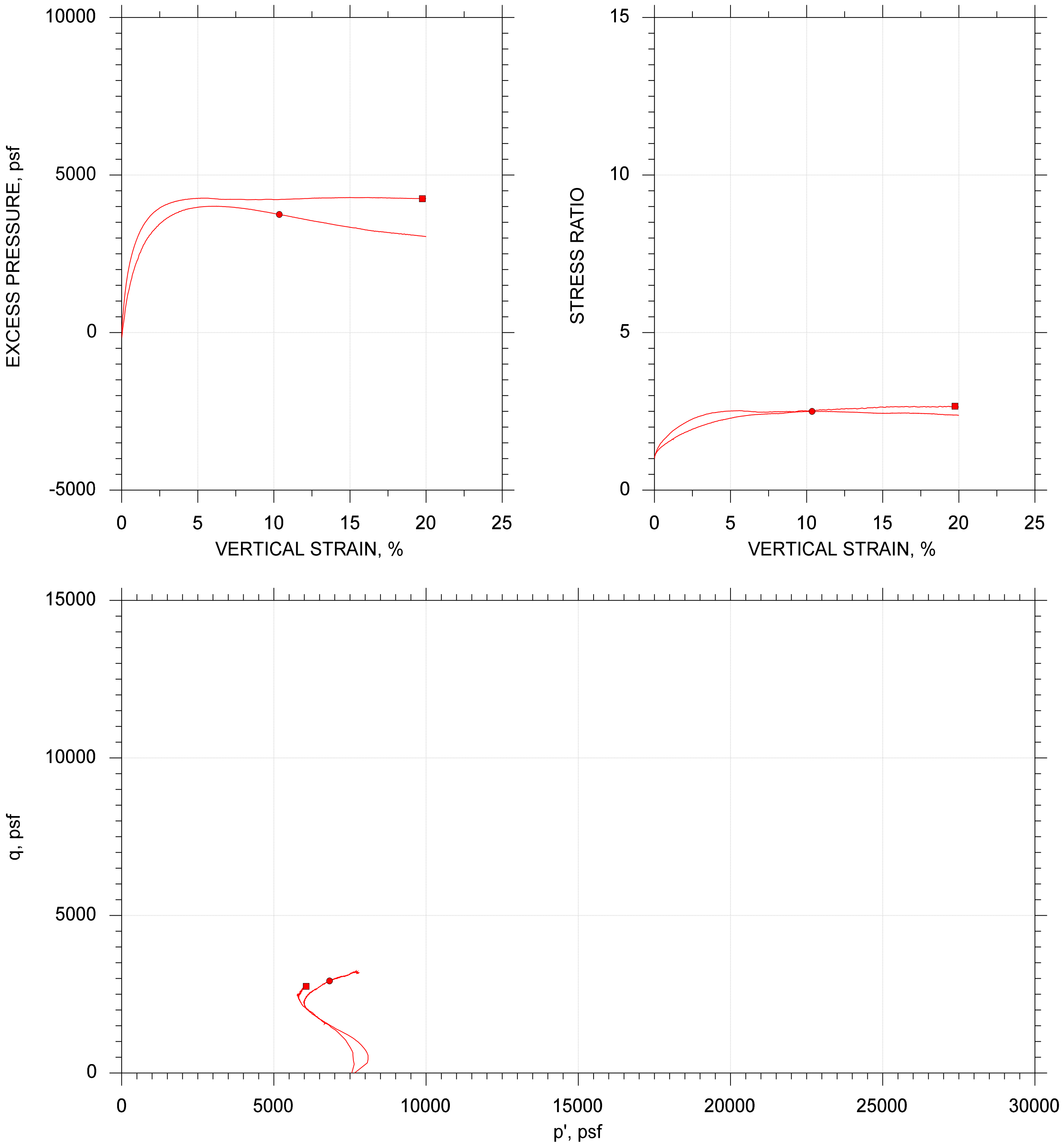




	Symbol	🟥	●		
	Sample ID	HPC-17B	HPC-17B		
	Depth, ft	---	---		
	Test Number	CU-8-1	CU-8-2		
Initial	Height, in	4.450	2.800		
	Diameter, in	1.930	1.400		
	Moisture Content (from Cuttings), %	31.5	30.7		
	Dry Density, pcf	90.0	89.8		
	Saturation (Wet Method), %	97.4	94.5		
	Void Ratio	0.872	0.877		
Before Shear	Moisture Content, %	27.8	27.3		
	Dry Density, pcf	96.2	97.0		
	Cross-sectional Area (Method A), in²	2.796	1.485		
	Saturation, %	100.0	100.0		
	Void Ratio	0.752	0.738		
	Back Pressure, psf	2.172e+004	2.312e+004		
	Vertical Effective Consolidation Stress, psf	7532.	7584.		
	Horizontal Effective Consolidation Stress, psf	7558.	7649.		
	Vertical Strain after Consolidation, %	2.229	4.048		
	Volumetric Strain after Consolidation, %	6.751	7.415		
	Time to 50% Consolidation, min	49.00	10.89		
	Shear Strength, psf	2752.	2926.		
	Strain at Failure, %	19.8	10.4		
	Strain Rate, %/min	0.01600	0.01600		
	Deviator Stress at Failure, psf	5503.	5851.		
	Effective Minor Principal Stress at Failure, psf	3307.	3901.		
	Effective Major Principal Stress at Failure, psf	8810.	9753.		
	B-Value	0.95	0.94		
	Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:				

System KK, CU-8-1 (intact) CU-8-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-17B	CU-8-1	---	md/trm	11/7/18	mcm	12/7/18	308764-CU-8-1m.dat
●	HPC-17B	CU-8-2	---	md/trm	11/14/18	mcm	12/7/18	308764-CU-8-2m.dat

GeoTesting EXPRESS

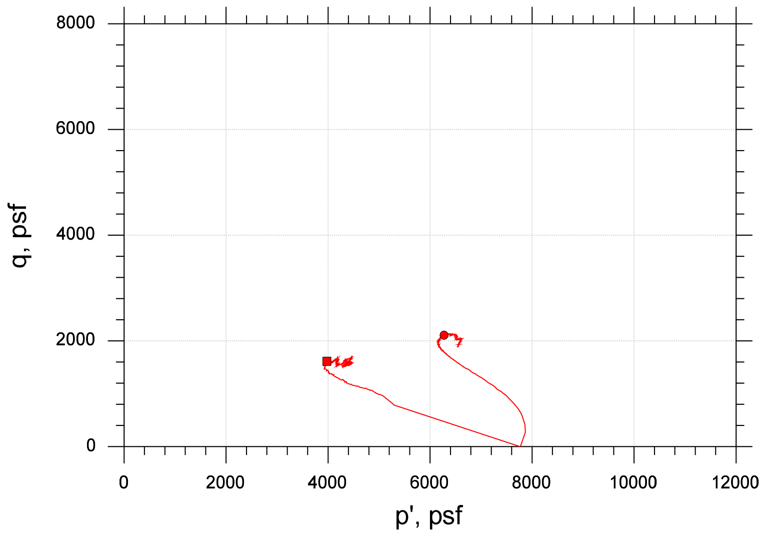
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: intact	

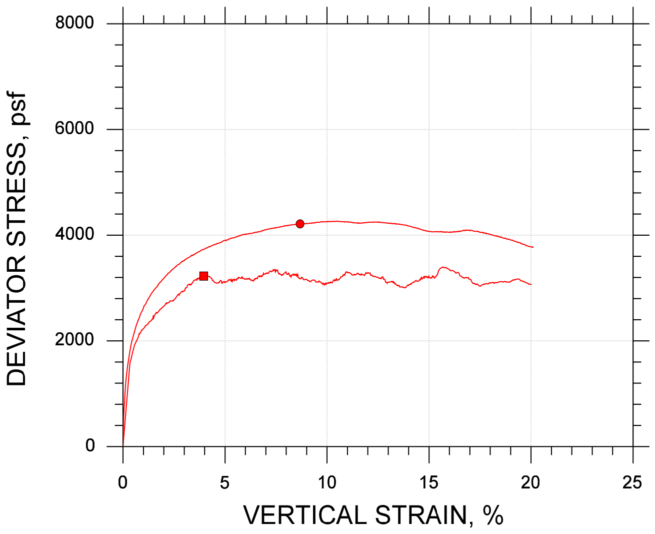
Description: Moist, dark gray clay

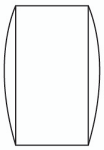
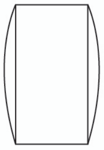
Remarks: System KK, CU-8-1 (intact) CU-8-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B-10	
Preparation: Intact	
Description: Moist, dark gray	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 67	Plastic Limit: 26
Plasticity Index: 41	Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

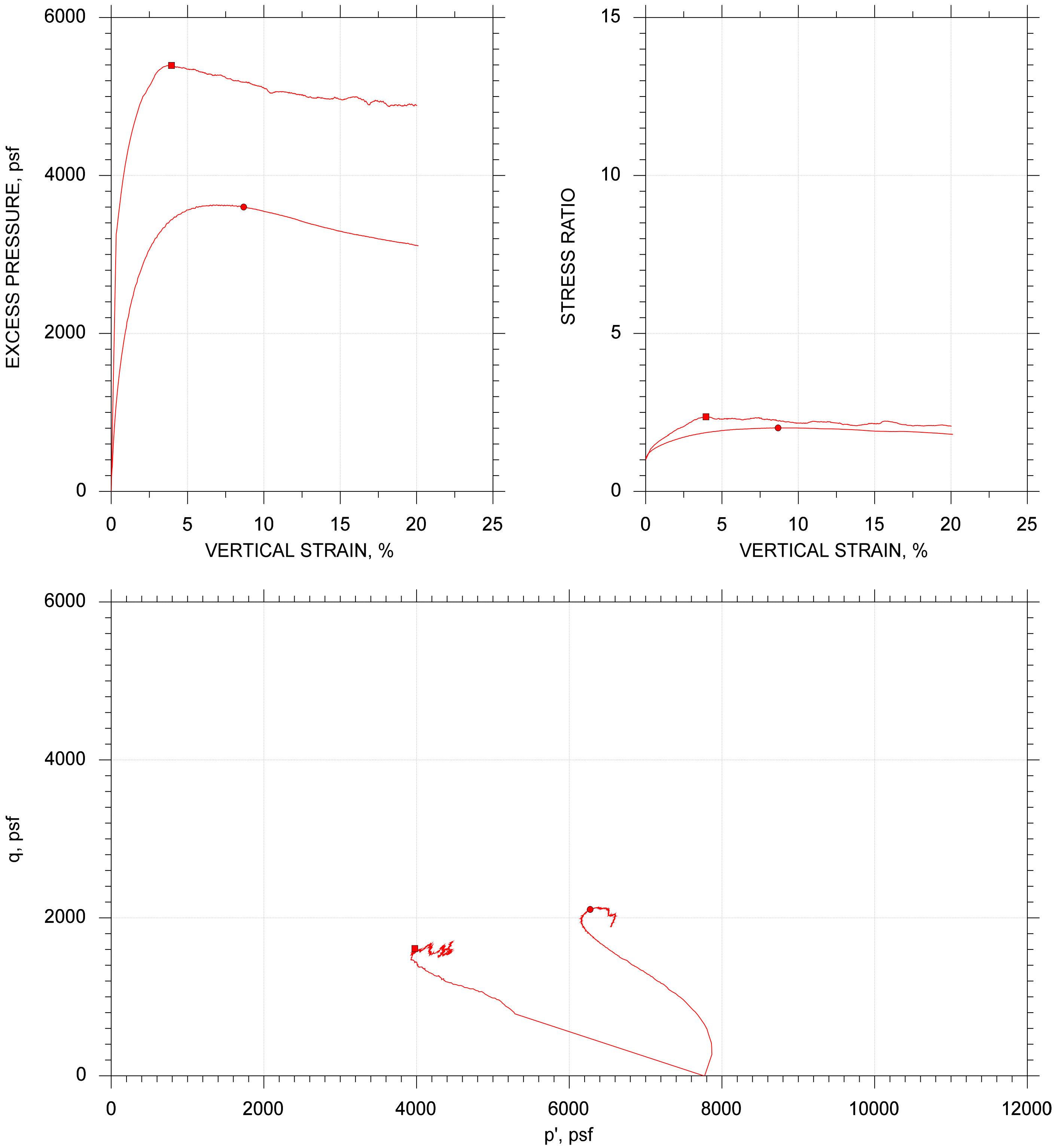




Symbol		🟥	●		
Sample ID		HPC-17E	HPC-17E		
Depth, ft		---	---		
Test Number		CU-13-1	CU-13-2		
Initial	Height, in	5.620	4.050		
	Diameter, in	2.610	2.050		
	Moisture Content (from Cuttings), %	41.7	40.7		
	Dry Density, pcf	79.2	75.7		
	Saturation (Wet Method), %	99.8	89.6		
	Void Ratio	1.13	1.23		
Before Shear	Moisture Content, %	40.3	40.2		
	Dry Density, pcf	80.7	80.9		
	Cross-sectional Area (Method A), in²	5.340	3.206		
	Saturation, %	100.0	100.0		
	Void Ratio	1.09	1.08		
	Back Pressure, psf	2.028e+004	2.313e+004		
Vertical Effective Consolidation Stress, psf		7744.	7731.		
Horizontal Effective Consolidation Stress, psf		7762.	7771.		
Vertical Strain after Consolidation, %		1.996	3.726		
Volumetric Strain after Consolidation, %		2.888	6.613		
Time to 50% Consolidation, min		144.0	100.0		
Shear Strength, psf		1613.	2107.		
Strain at Failure, %		3.95	8.68		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		3225.	4214.		
Effective Minor Principal Stress at Failure, psf		2365.	4167.		
Effective Major Principal Stress at Failure, psf		5590.	8381.		
B-Value		0.96	0.95		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System K, CU-13-1 (intact) CU-13-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



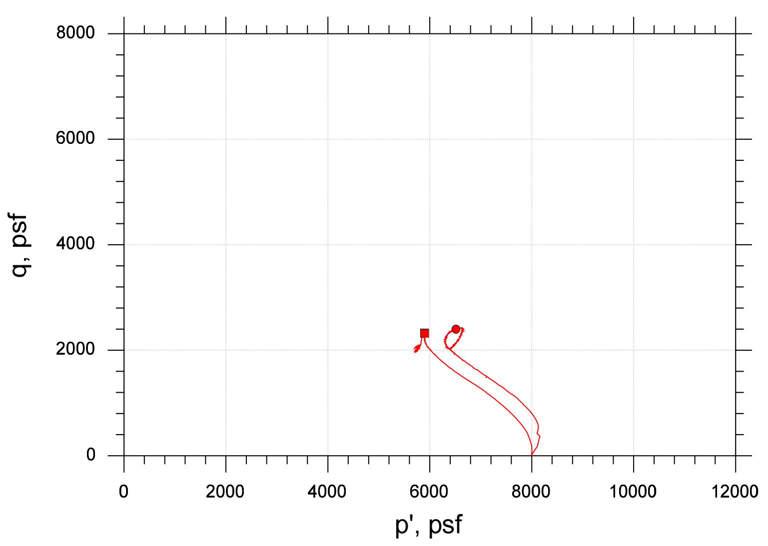
	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-17E	CU-13-1	---	md/trm	11/9/18	mcm	11/19/18	308764-CU-13-1m.dat
●	HPC-17E	CU-13-2	---	trm	11/14/18	mcm	12/7/18	308764-CU-13-2m.dat

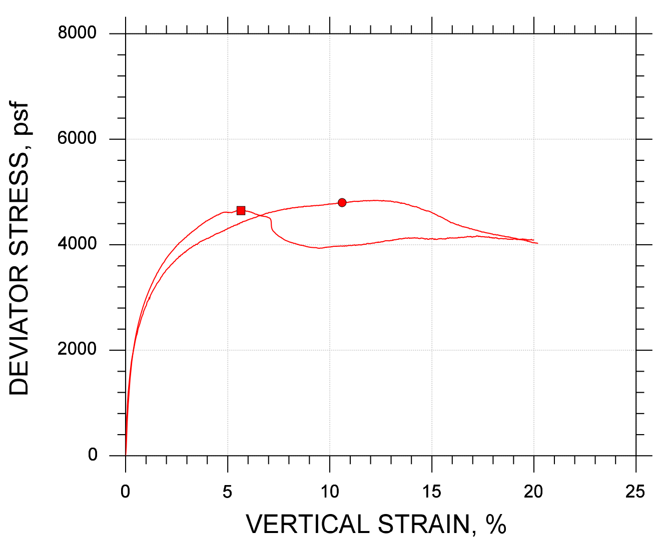
GeoTesting EXPRESS

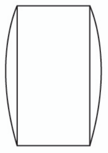
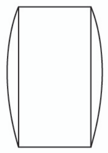
Project: SFWF
Location: ---
Project No.: GTX-308764
Boring No.: B-10
Sample Type: Intact
Description: Moist, dark gray
Remarks: System K, CU-13-1 (intact) CU-13-2 (remolded to the as-received moisture content and density) (client request)

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm | Checked By: mcm
Boring ID: B-10
Preparation: intact
Description: Moist, dark grayish brown clay
Classification: ---
Group Symbol: ---
Liquid Limit: 64 | Plastic Limit: 28
Plasticity Index: 36 | Estimated Specific Gravity: 2.7

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

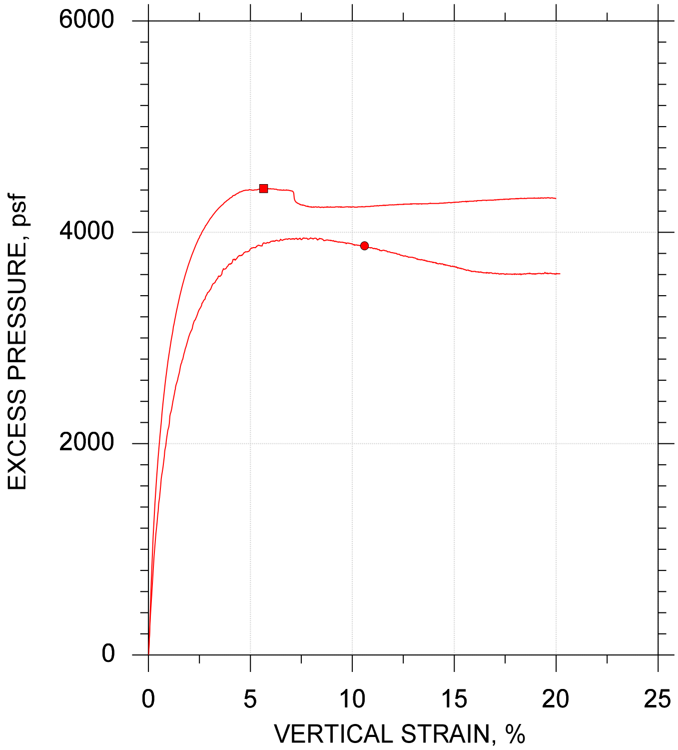


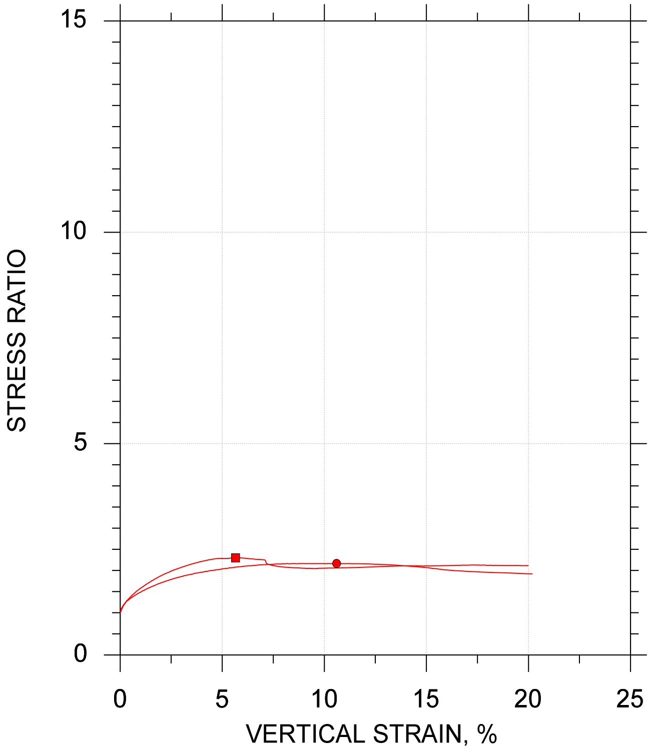


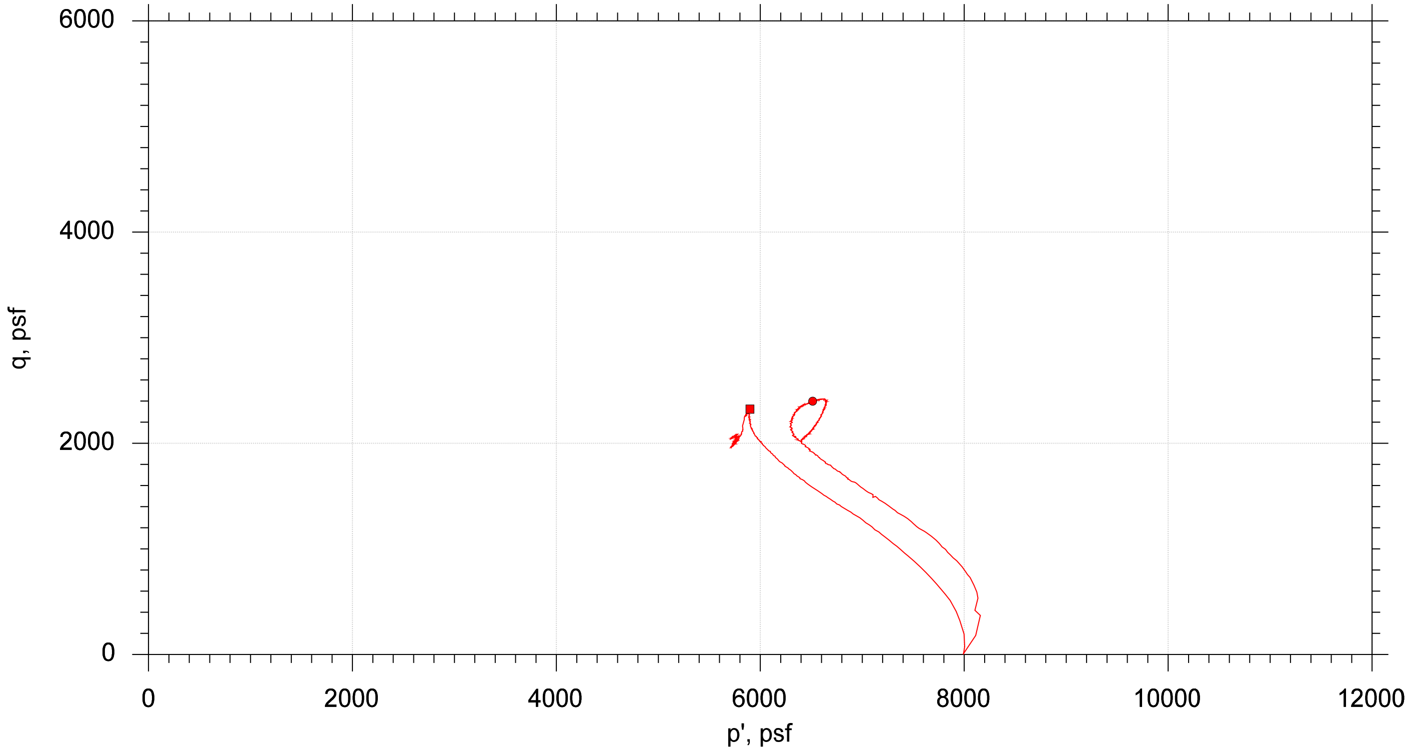
Symbol		■	●		
Sample ID		HPC-18A	HPC-18A		
Depth, ft		---	---		
Test Number		CU-11-1	CU-11-2		
Initial	Height, in	5.810	4.000		
	Diameter, in	2.580	2.020		
	Moisture Content (from Cuttings), %	46.6	44.4		
	Dry Density, pcf	74.1	74.3		
	Saturation (Wet Method), %	98.7	94.5		
	Void Ratio	1.27	1.27		
Before Shear	Moisture Content, %	37.6	37.7		
	Dry Density, pcf	83.6	83.6		
	Cross-sectional Area (Method A), in²	4.973	2.958		
	Saturation, %	100.0	100.0		
	Void Ratio	1.02	1.02		
	Back Pressure, psf	2.232e+004	2.282e+004		
Vertical Effective Consolidation Stress, psf		7929.	7942.		
Horizontal Effective Consolidation Stress, psf		7992.	7986.		
Vertical Strain after Consolidation, %		6.796	3.945		
Volumetric Strain after Consolidation, %		11.36	11.69		
Time to 50% Consolidation, min		77.44	100.0		
Shear Strength, psf		2324.	2399.		
Strain at Failure, %		5.65	10.6		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		4648.	4798.		
Effective Minor Principal Stress at Failure, psf		3574.	4114.		
Effective Major Principal Stress at Failure, psf		8222.	8913.		
B-Value		0.95	0.95		
Notes: - Before Shear Saturation set to 100% for phase calculation. - Moisture Content determined by ASTM D2216. - Atterberg Limits determined by ASTM D4318. - Deviator Stress includes membrane correction. - Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions. Remarks:					

System T, CU-11-1 (intact) CU-11-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767







	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-18A	CU-11-1	---	md/trm	11/9/18	mcm	12/7/18	308764-CU-11-1m.dat
●	HPC-18A	CU-11-2	---	trm	11/14/18	mcm	12/7/18	308764-CU-11-2m.dat

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: intact	

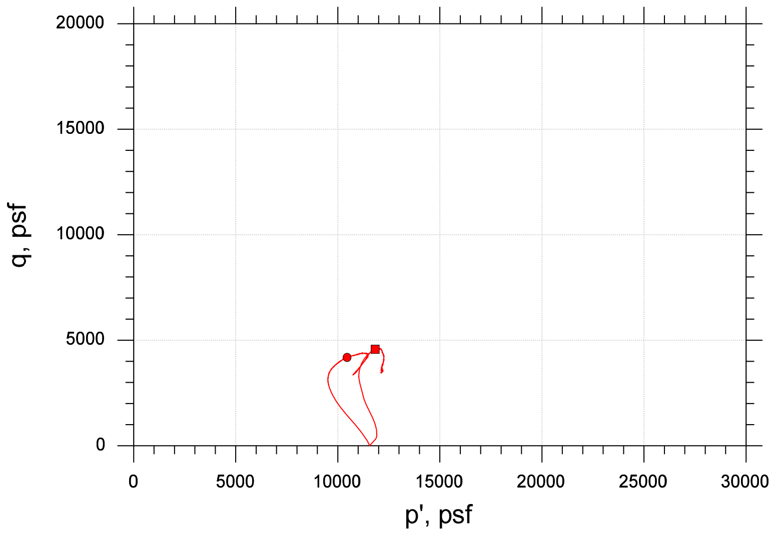
Description: Moist, dark grayish brown clay

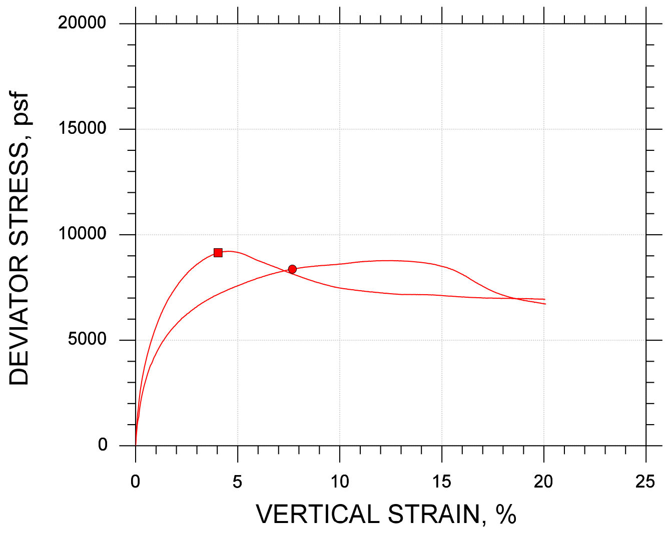
Remarks: System T, CU-11-1 (intact) CU-11-2 (remolded to the as-received moisture content and density) (client request)

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.
Project Name: SFWF
Project Location: ---
Project Number: GTX-308764
Tested By: md/trm
Checked By: mcm
Boring ID: B-10
Preparation: Intact
Description: Moist, dark gray silt
Classification: ---
Group Symbol: ---
Liquid Limit: 45
Plastic Limit: 28
Plasticity Index: 17
Estimated Specific Gravity: 2.7

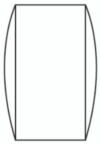
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

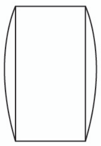




Symbol		🟥	●		
Sample ID		HPC-25B	HPC-25B		
Depth, ft		---	---		
Test Number		CU-14-1	CU-14-2		
Initial	Height, in	5.500	4.000		
	Diameter, in	2.610	2.000		
	Moisture Content (from Cuttings), %	27.1	26.4		
	Dry Density, pcf	97.3	97.7		
	Saturation (Wet Method), %	99.7	98.0		
	Void Ratio	0.733	0.726		
Before Shear	Moisture Content, %	23.8	21.7		
	Dry Density, pcf	103.	106.		
	Cross-sectional Area (Method A), in²	5.172	2.996		
	Saturation, %	100.0	100.0		
	Void Ratio	0.641	0.587		
	Back Pressure, psf	2.172e+004	2.171e+004		
Vertical Effective Consolidation Stress, psf		1.154e+004	1.152e+004		
Horizontal Effective Consolidation Stress, psf		1.156e+004	1.156e+004		
Vertical Strain after Consolidation, %		2.196	3.395		
Volumetric Strain after Consolidation, %		5.785	7.519		
Time to 50% Consolidation, min		72.25	51.84		
Shear Strength, psf		4573.	4185.		
Strain at Failure, %		4.04	7.68		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		9146.	8370.		
Effective Minor Principal Stress at Failure, psf		7263.	6268.		
Effective Major Principal Stress at Failure, psf		1.641e+004	1.464e+004		
B-Value		0.95	0.95		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

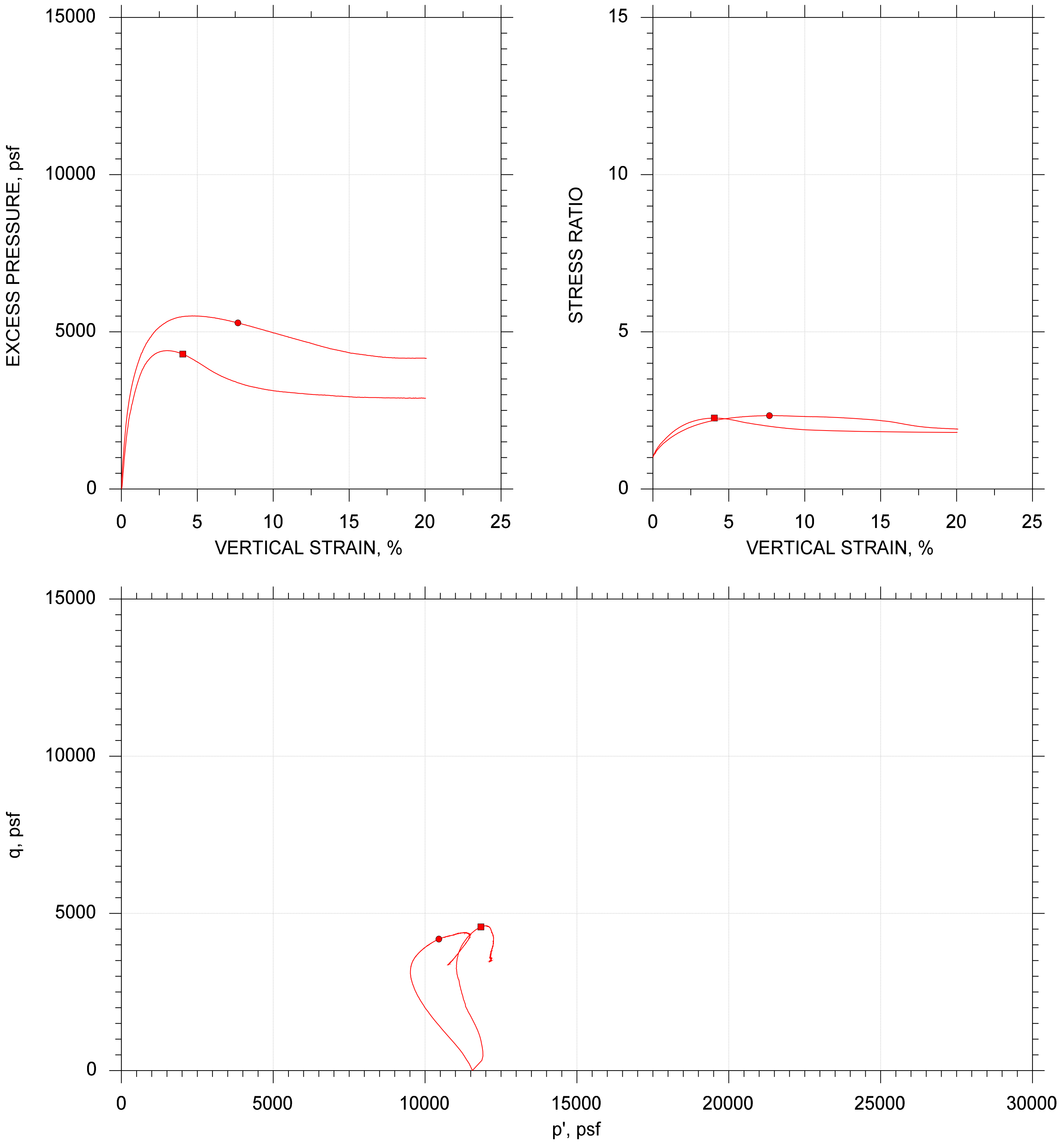




Remarks:

System K, CU-14-1 (intact) CU-14-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	HPC-25B	CU-14-1	---	md/trm	11/9/18	mcm	12/7/18	308764-CU-14-1m.dat
●	HPC-25B	CU-14-2	---	md	11/14/18	mcm	12/7/18	308764-CU-14-2m.dat

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Sample Type: Intact	

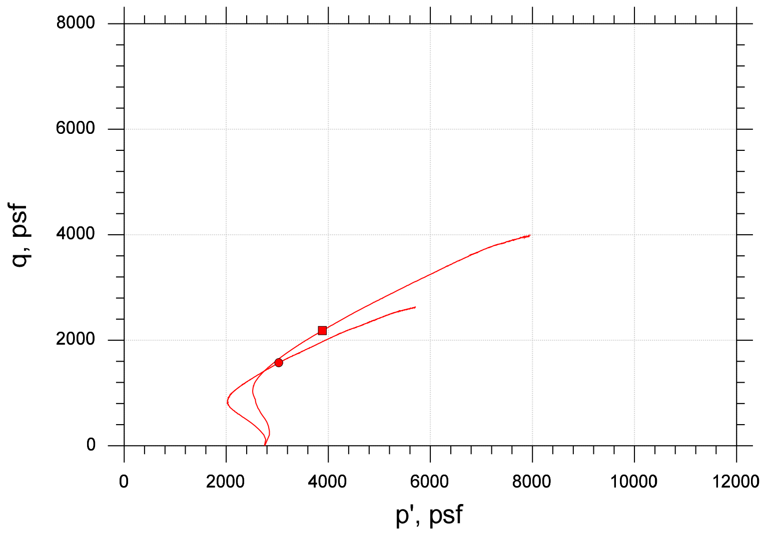
Description: Moist, dark gray silt

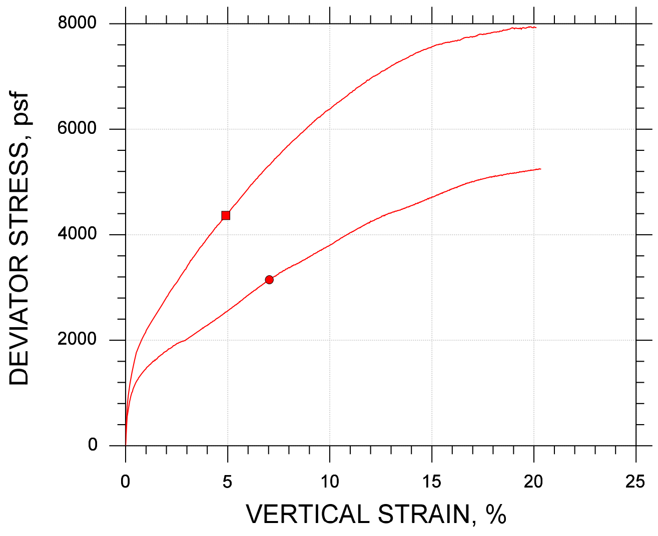
Remarks: System K, CU-14-1 (intact) CU-14-2 (remolded to the as-received moisture content and density) (client request)

GeoTesting EXPRESS

Client: GZA GeoEnvironmental, Inc.	
Project Name: SFWF	
Project Location: ---	
Project Number: GTX-308764	
Tested By: md/trm	Checked By: mcm
Boring ID: B-11	
Preparation: Intact	
Description: Moist, dark gray clay	
Classification: ---	
Group Symbol: ---	
Liquid Limit: 31	Plastic Limit: 20
Plasticity Index: 11	Estimated Specific Gravity: 2.7

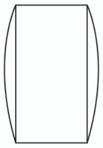
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

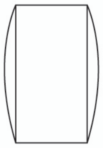




Symbol		🟥	●		
Sample ID		ALN-4	ALN-4		
Depth, ft		---	---		
Test Number		CU-20-1	CU-20-2		
Initial	Height, in	5.600	4.020		
	Diameter, in	2.600	2.010		
	Moisture Content (from Cuttings), %	25.2	24.0		
	Dry Density, pcf	99.1	97.0		
	Saturation (Wet Method), %	97.0	87.9		
	Void Ratio	0.701	0.738		
Before Shear	Moisture Content, %	23.7	25.6		
	Dry Density, pcf	103.	99.7		
	Cross-sectional Area (Method A), in²	5.152	3.117		
	Saturation, %	100.0	100.0		
	Void Ratio	0.639	0.690		
	Back Pressure, psf	6766.	2.460e+004		
Vertical Effective Consolidation Stress, psf		2749.	2736.		
Horizontal Effective Consolidation Stress, psf		2754.	2748.		
Vertical Strain after Consolidation, %		0.6712	1.157		
Volumetric Strain after Consolidation, %		3.623	3.167		
Time to 50% Consolidation, min		27.04	9.610		
Shear Strength, psf		2183.	1573.		
Strain at Failure, %		4.90	7.04		
Strain Rate, %/min		0.01600	0.01600		
Deviator Stress at Failure, psf		4365.	3147.		
Effective Minor Principal Stress at Failure, psf		1700.	1455.		
Effective Major Principal Stress at Failure, psf		6066.	4602.		
B-Value		0.96	0.95		

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

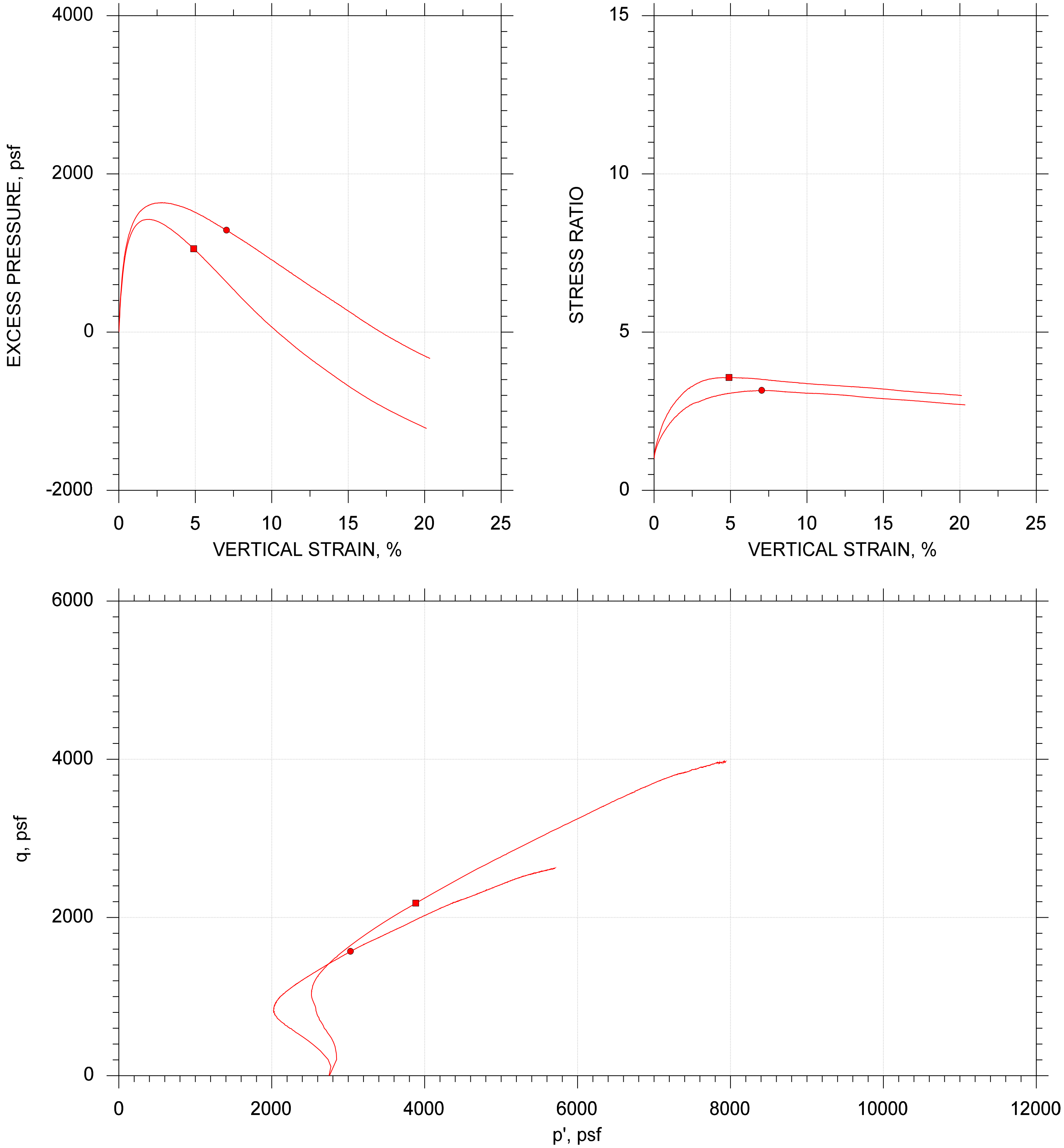




Remarks:

System R, CU-20-1 (intact) CU-20-2 (remolded to the as-received moisture content and density) (client request)

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	ALN-4	CU-20-1	---	md/trm	11/19/18	mcm	12/7/18	308764-CU-20-1m.dat
●	ALN-4	CU-20-2	---	trm	11/29/18	mcm	12/7/18	308764-CU-20-2m.dat

GeoTesting EXPRESS

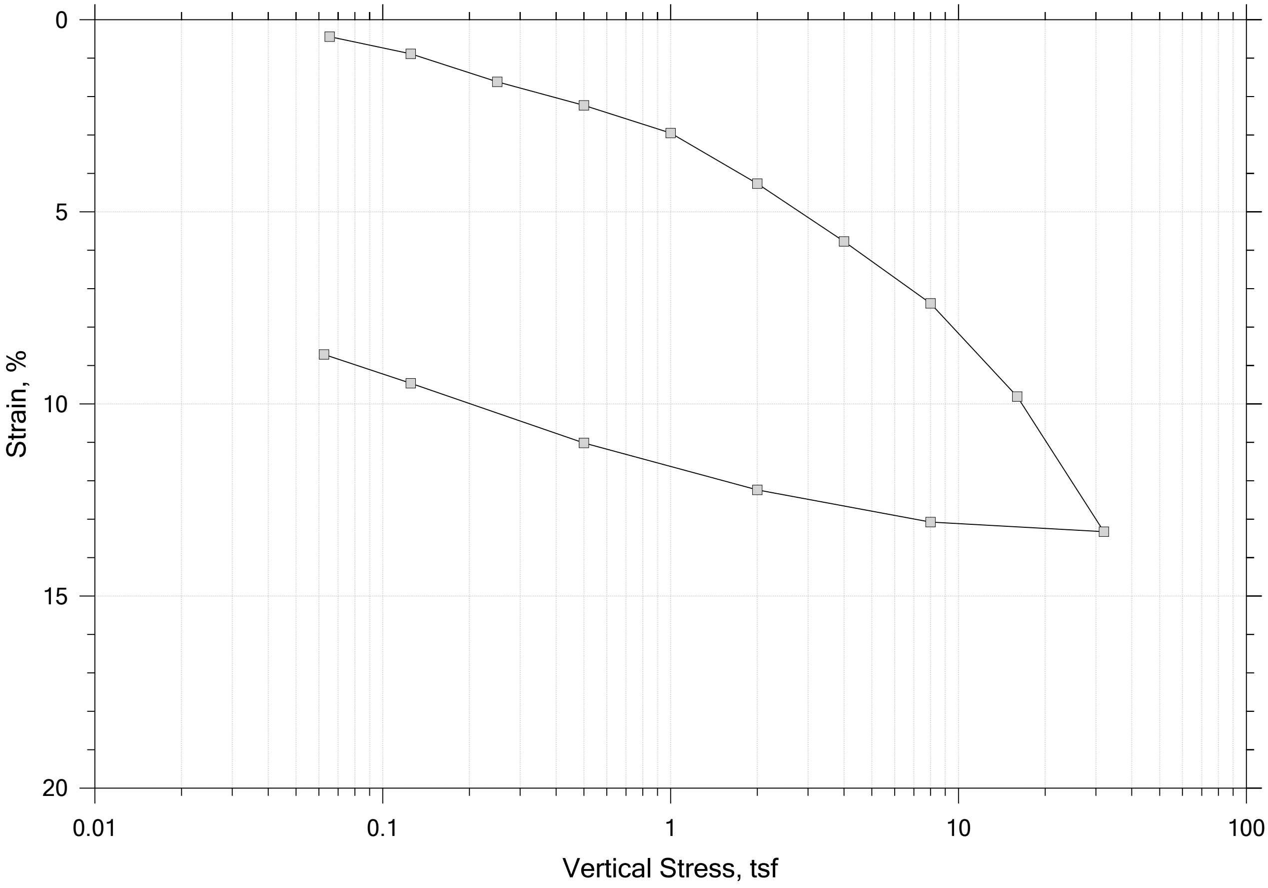
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-11	Sample Type: Intact	

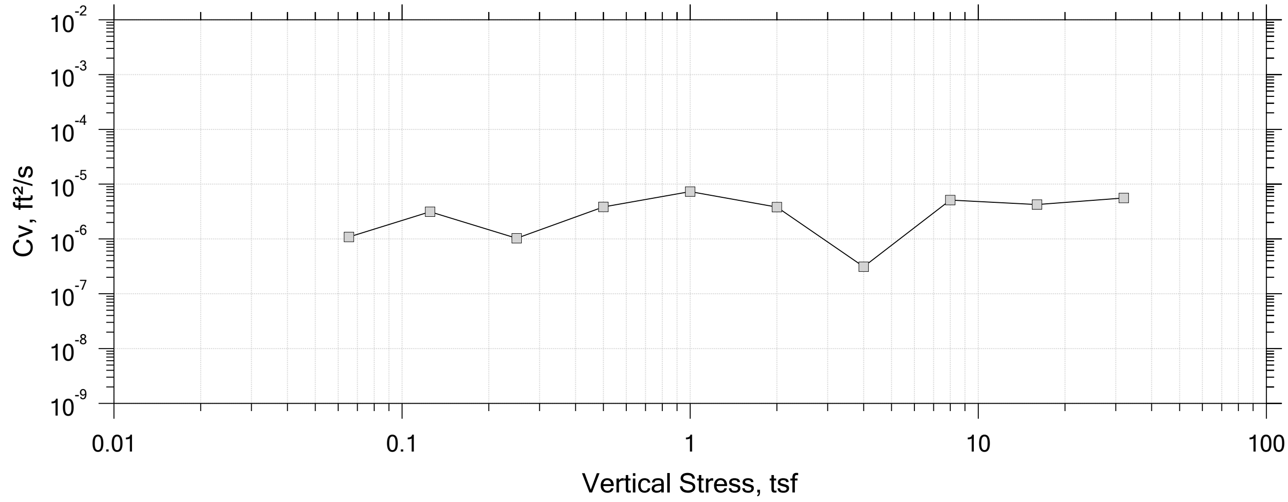
Description: Moist, dark gray clay

Remarks: System R, CU-20-1 (intact) CU-20-2 (remolded to the as-received moisture content and density) (client request)

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





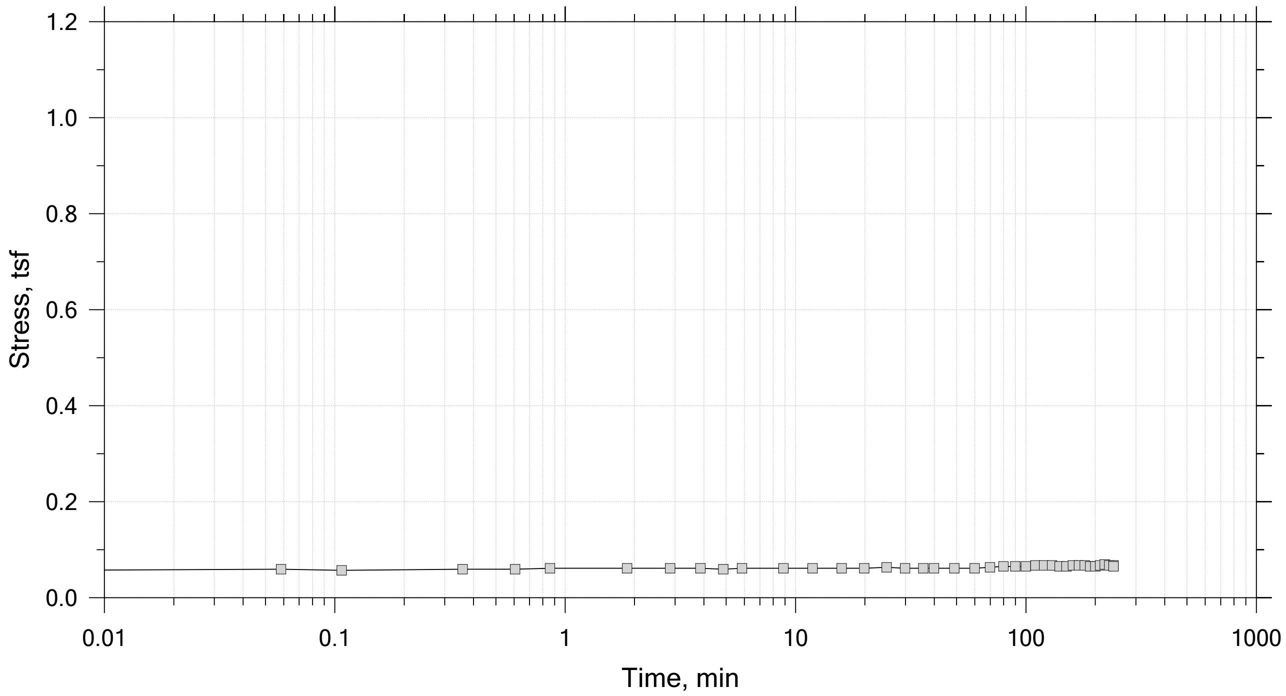
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
	Test No.: IP-2	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System W, Swell Pressure = 0.0654 tsf		
	Displacement at End of Increment		

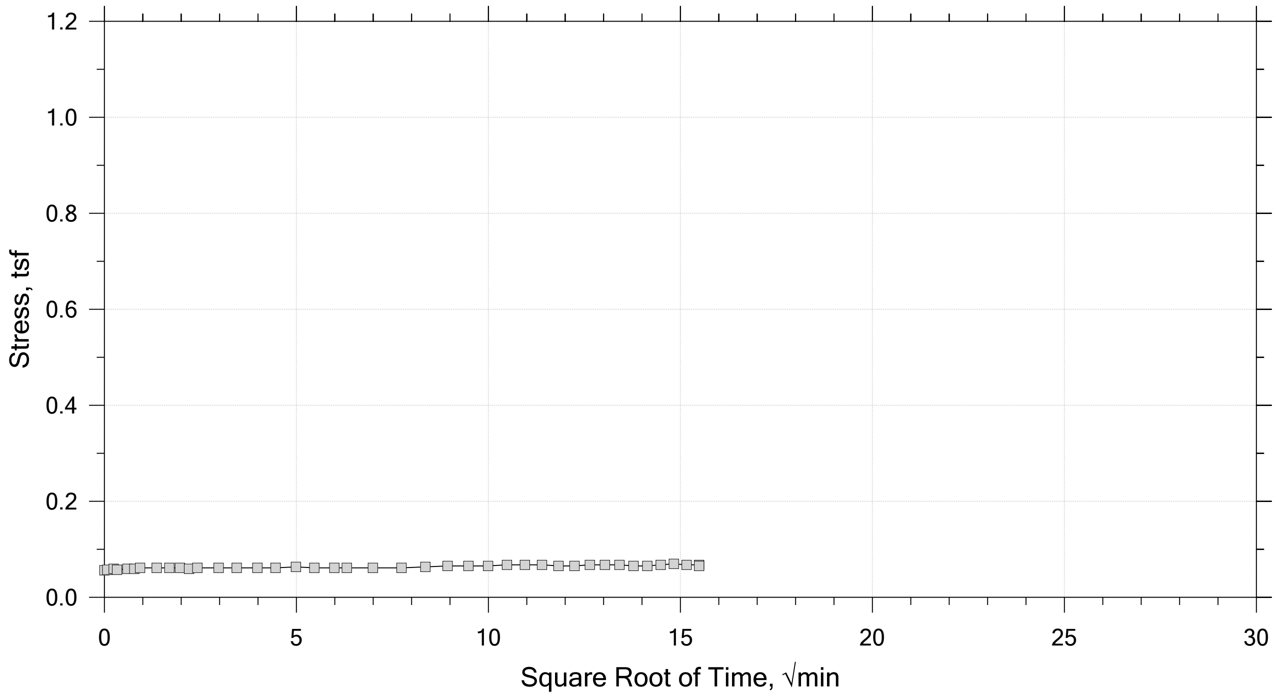
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0654 tsf

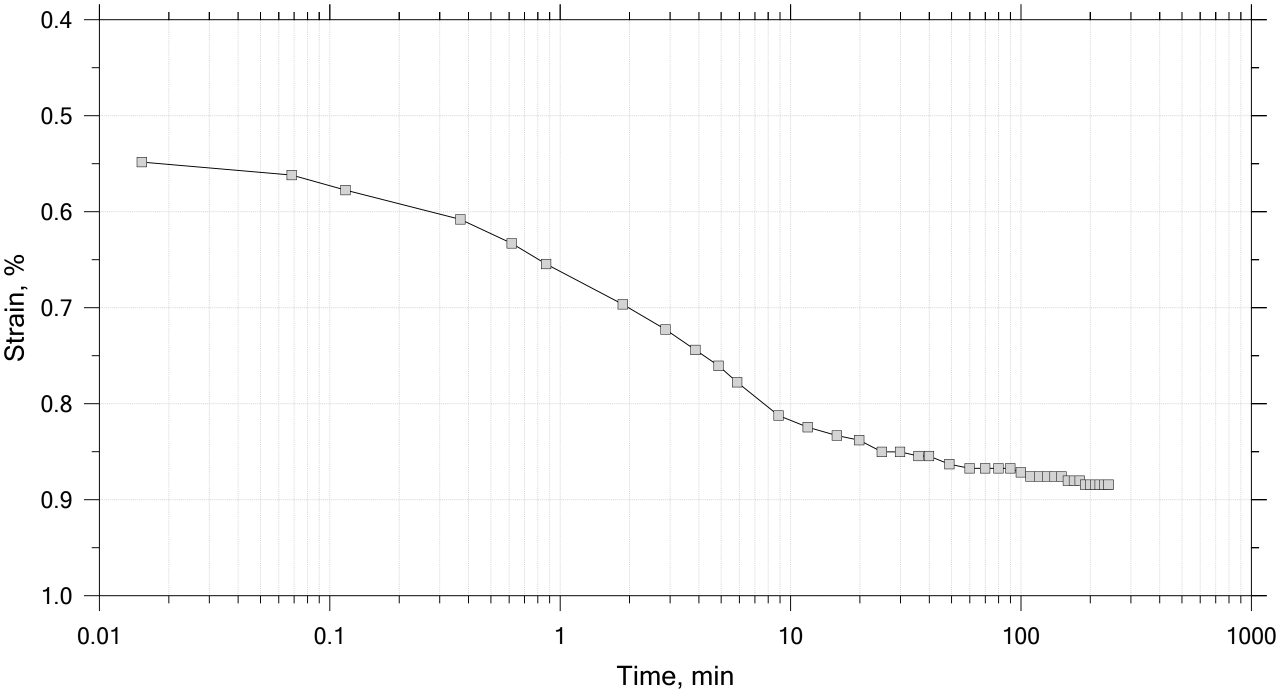


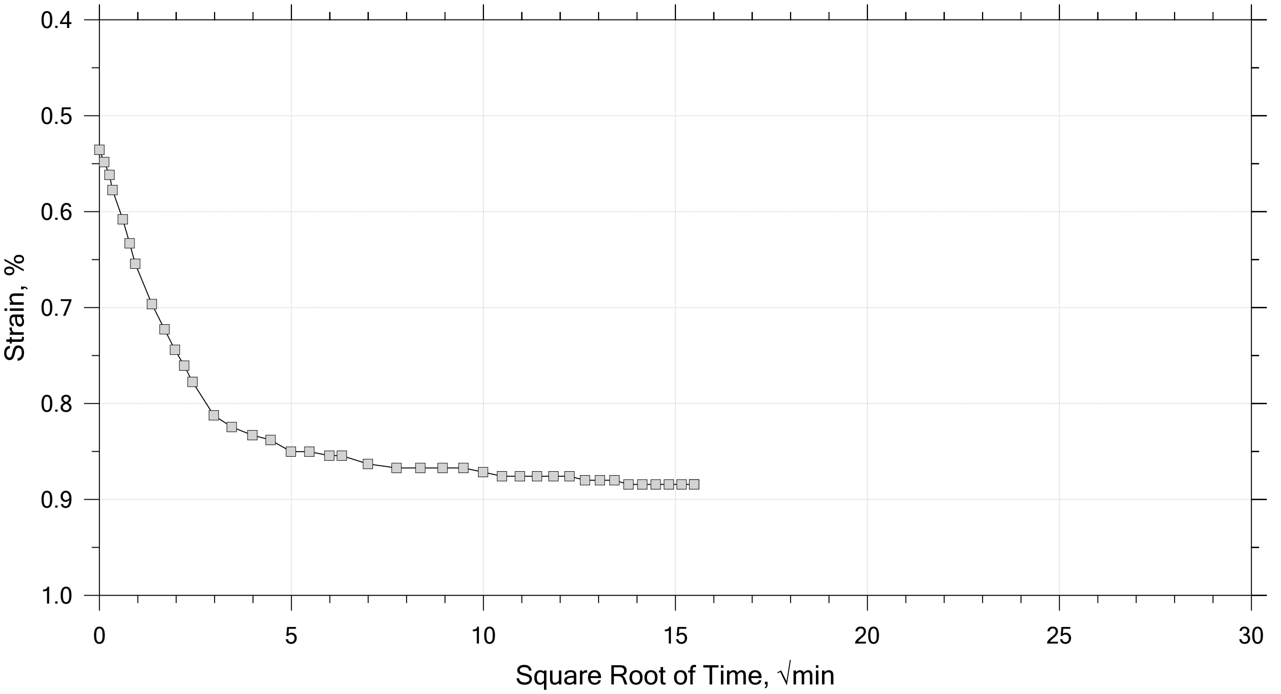


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15
Constant Load Step
Stress: 0.125 tsf





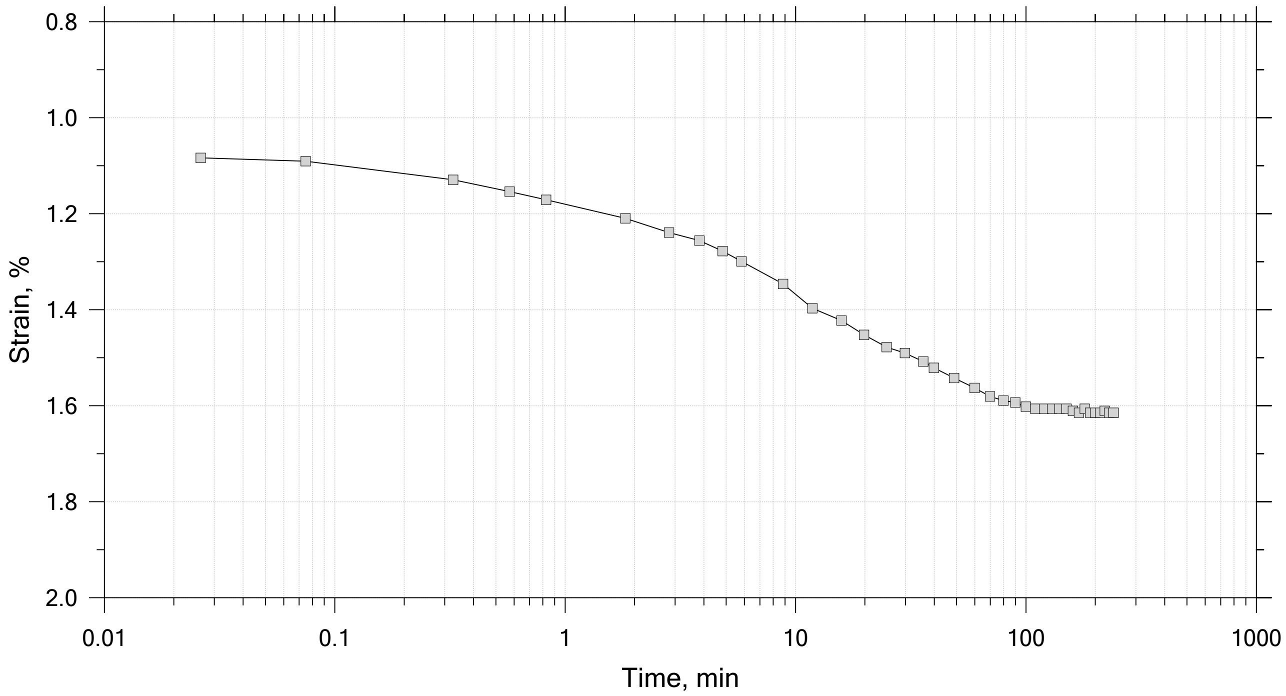
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

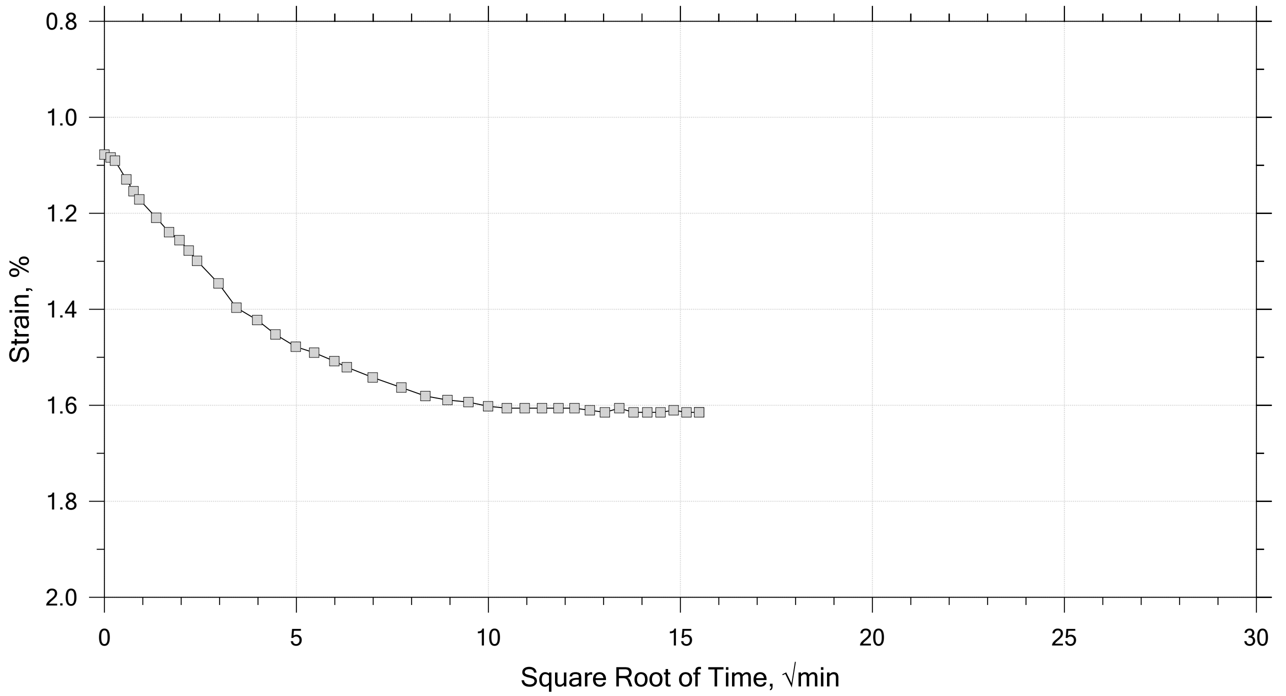
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15

Constant Load Step

Stress: 0.25 tsf





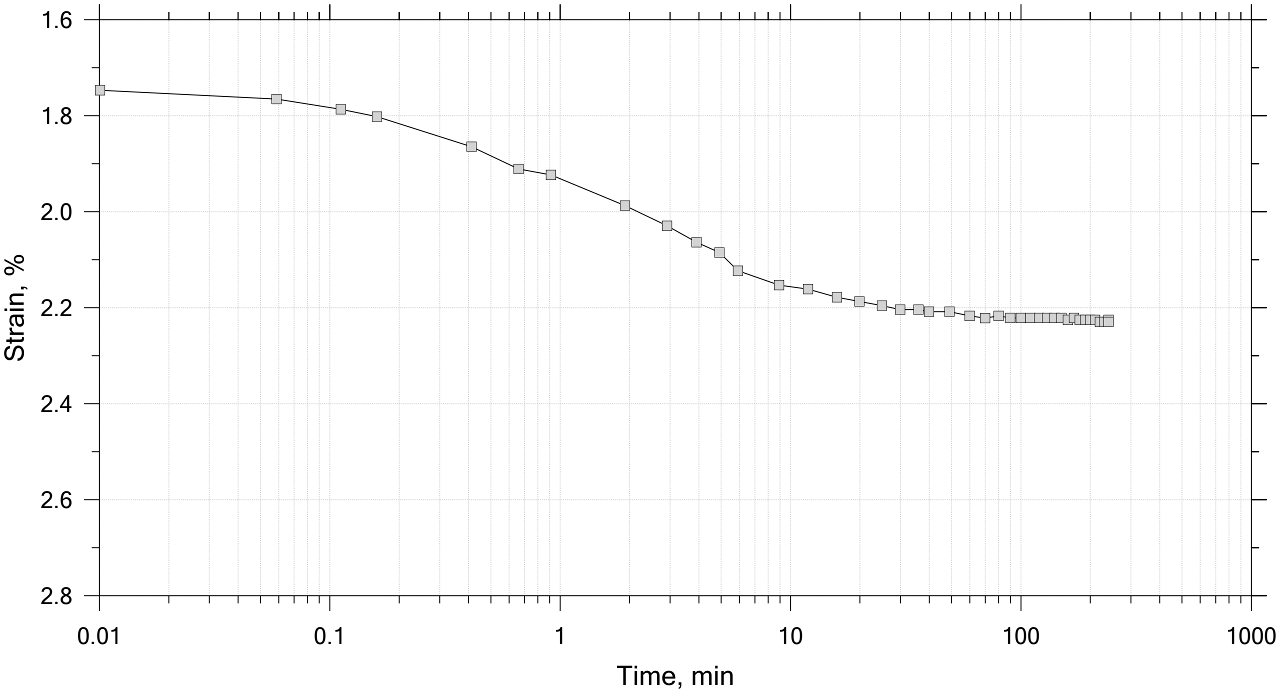
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

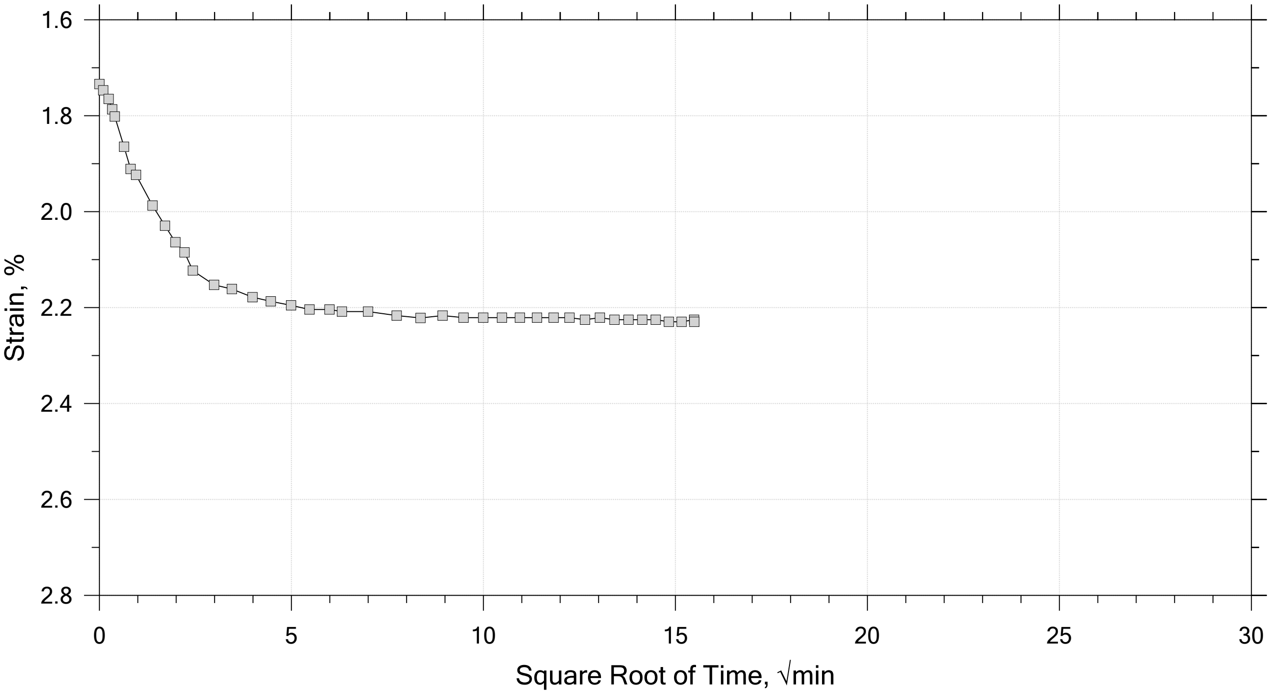
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf





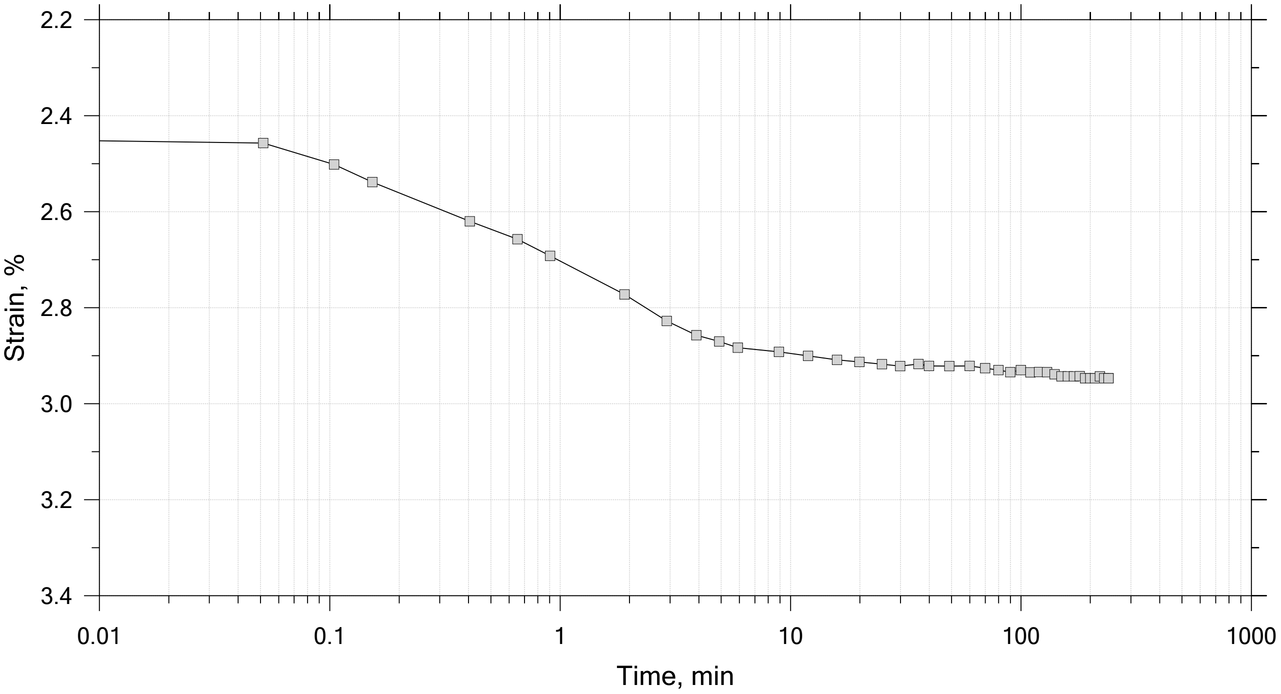
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

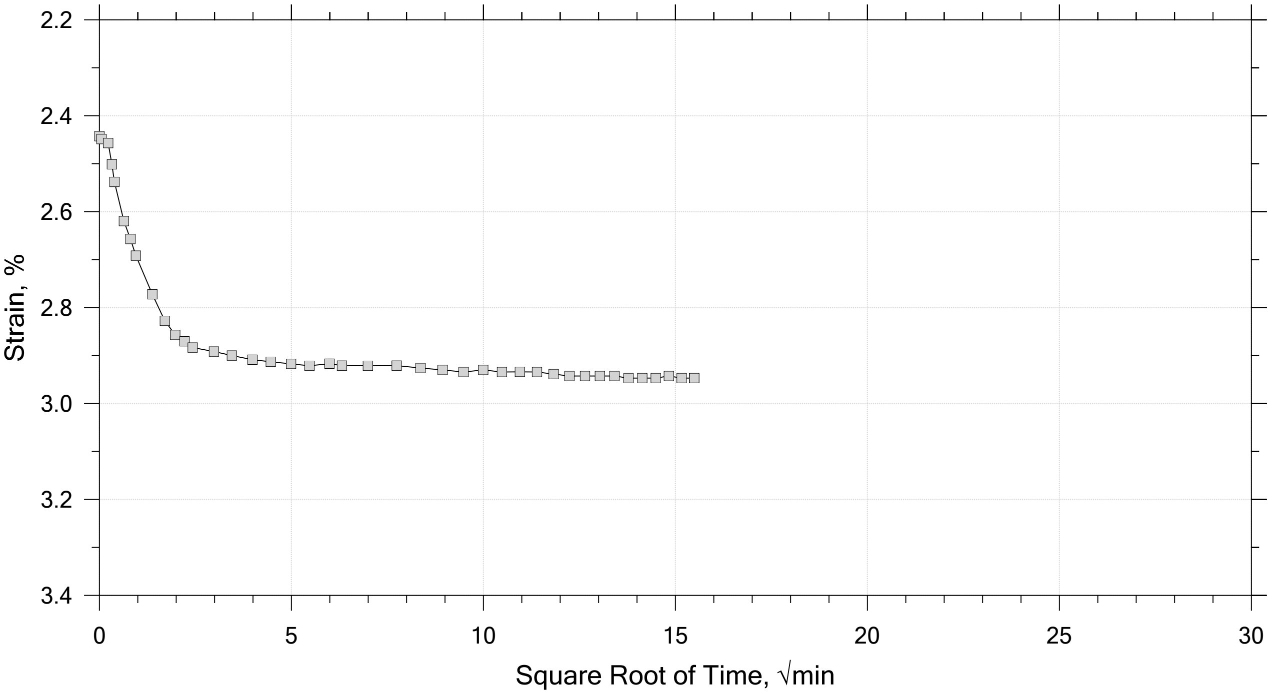
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15

Constant Load Step

Stress: 1 tsf





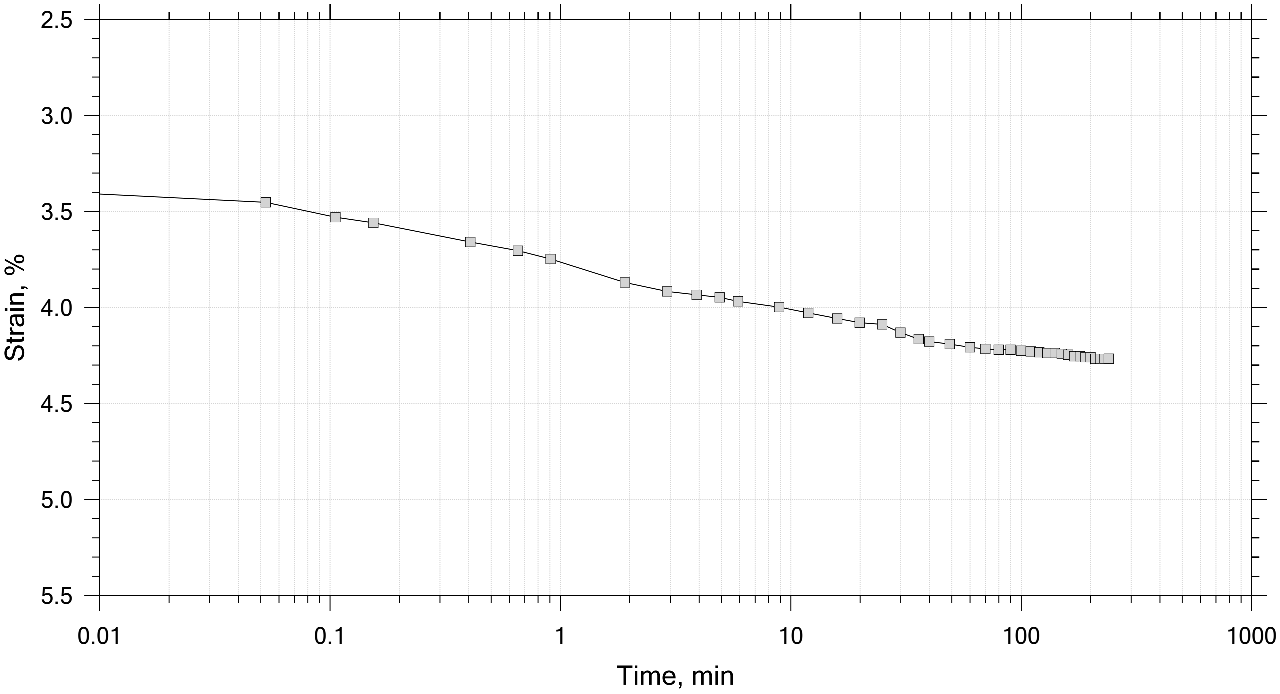
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
GeoTesting EXPRESS	Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
	Test No.: IP-2	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System W, Swell Pressure = 0.0654 tsf		

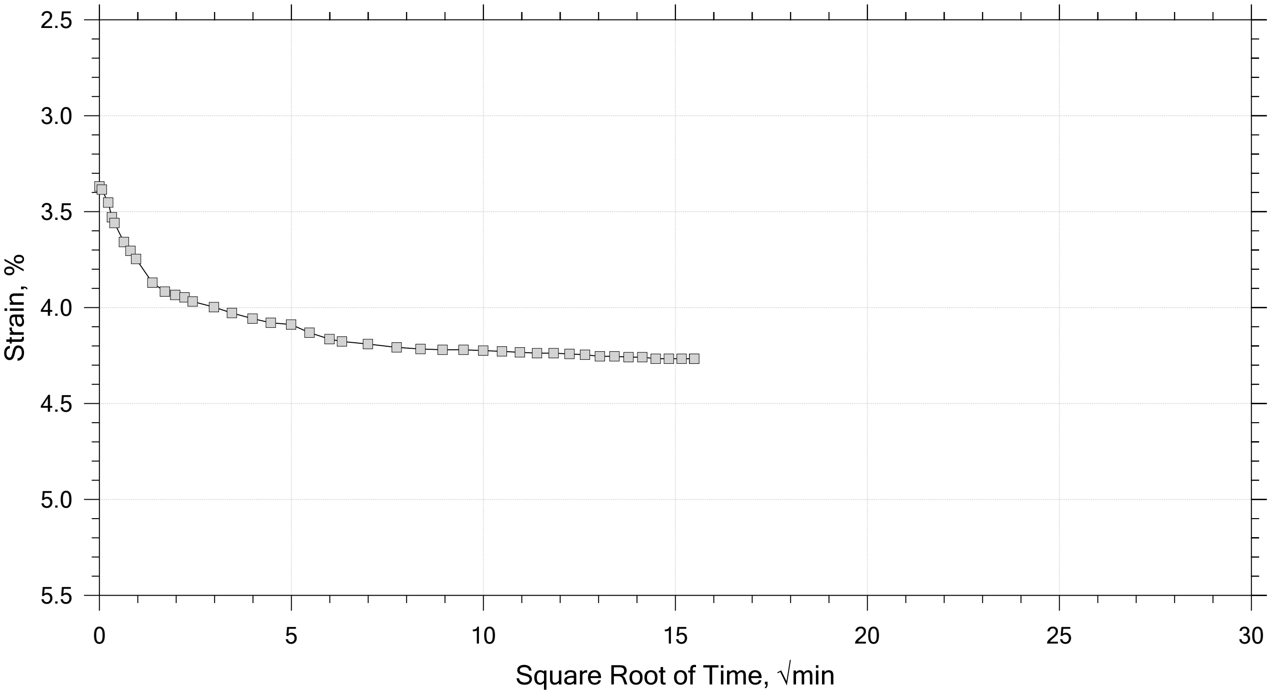
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





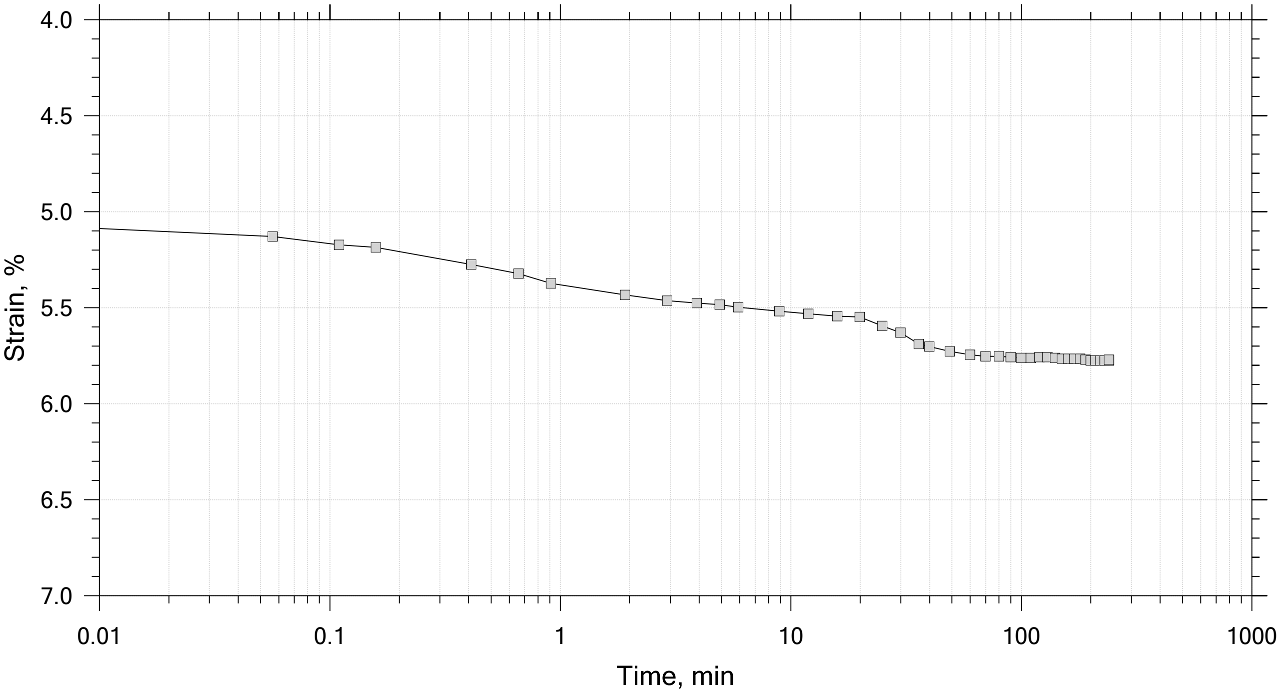
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

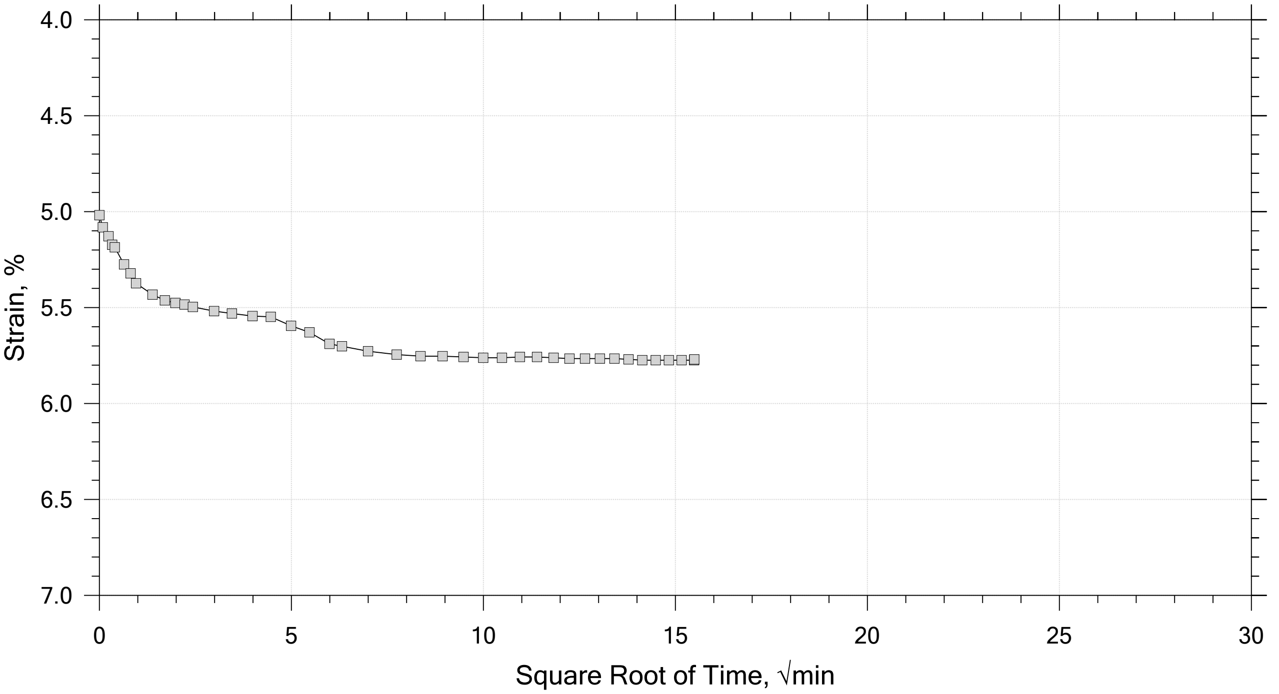
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





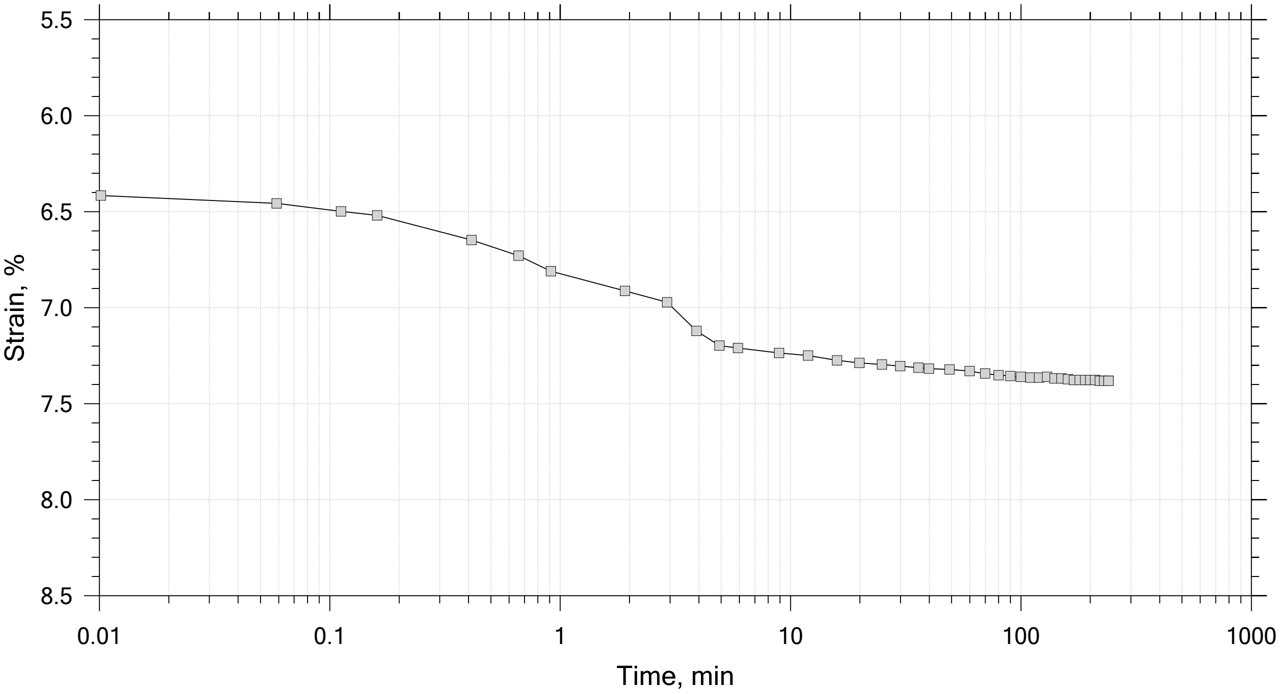
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

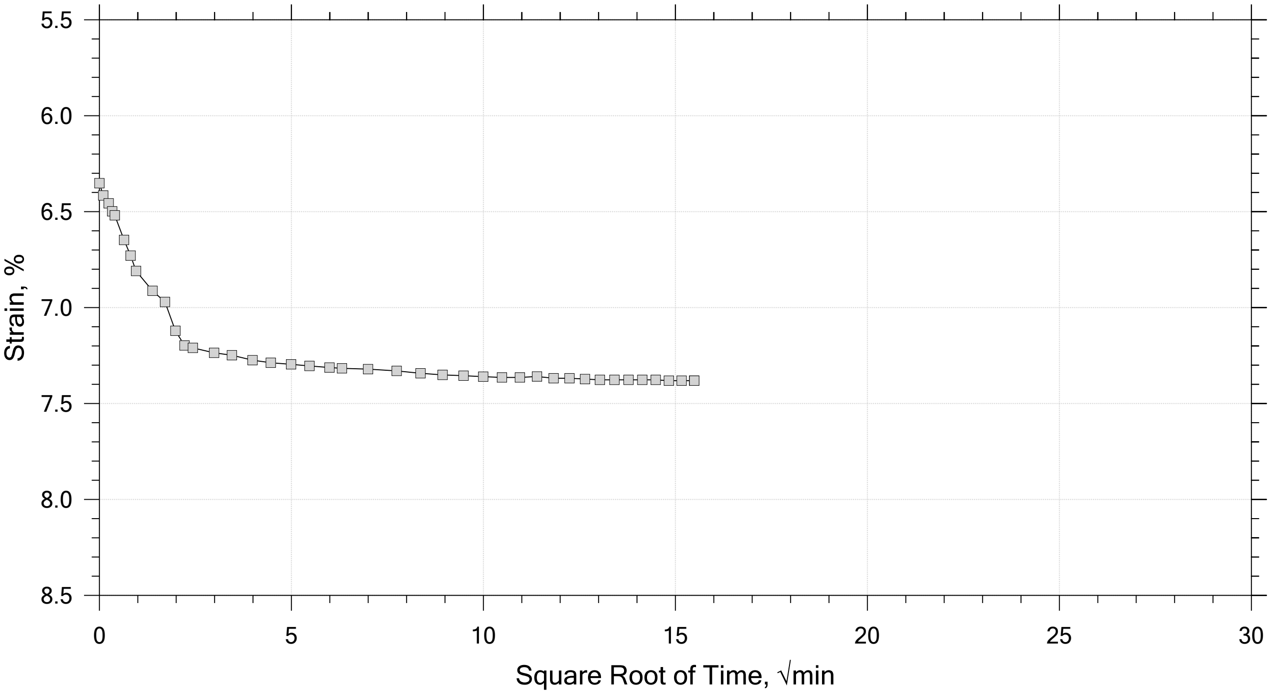
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf





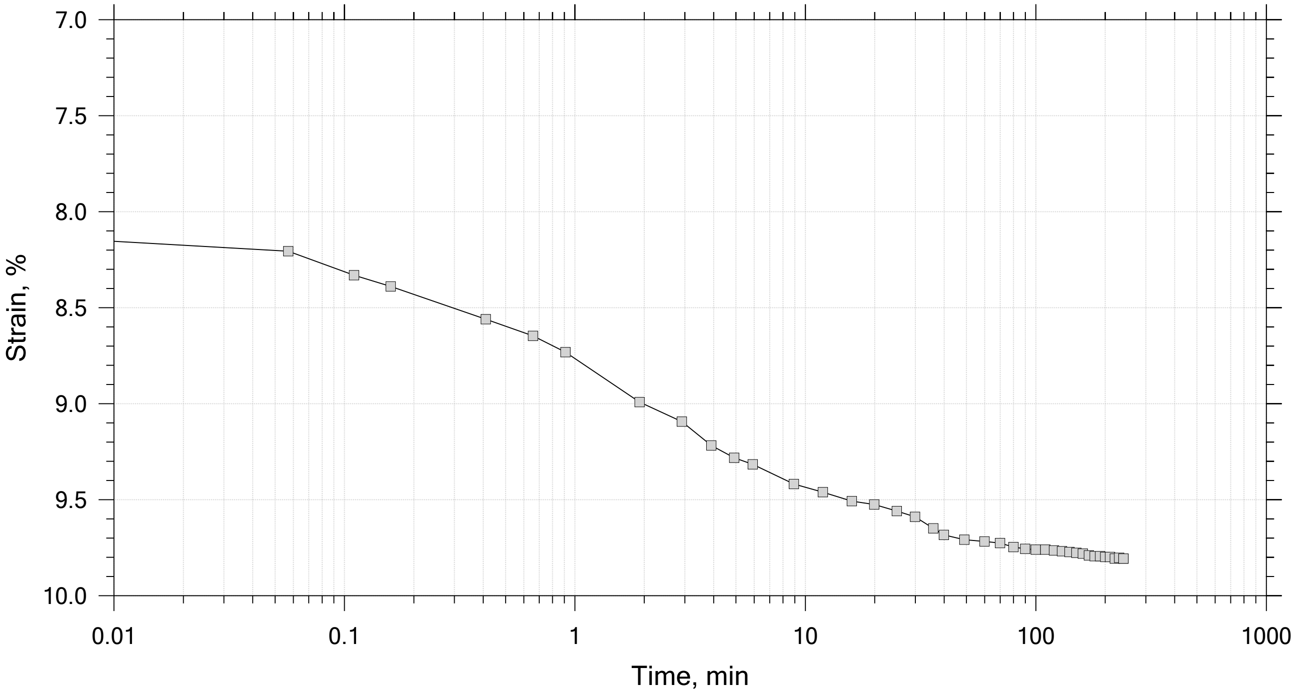
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

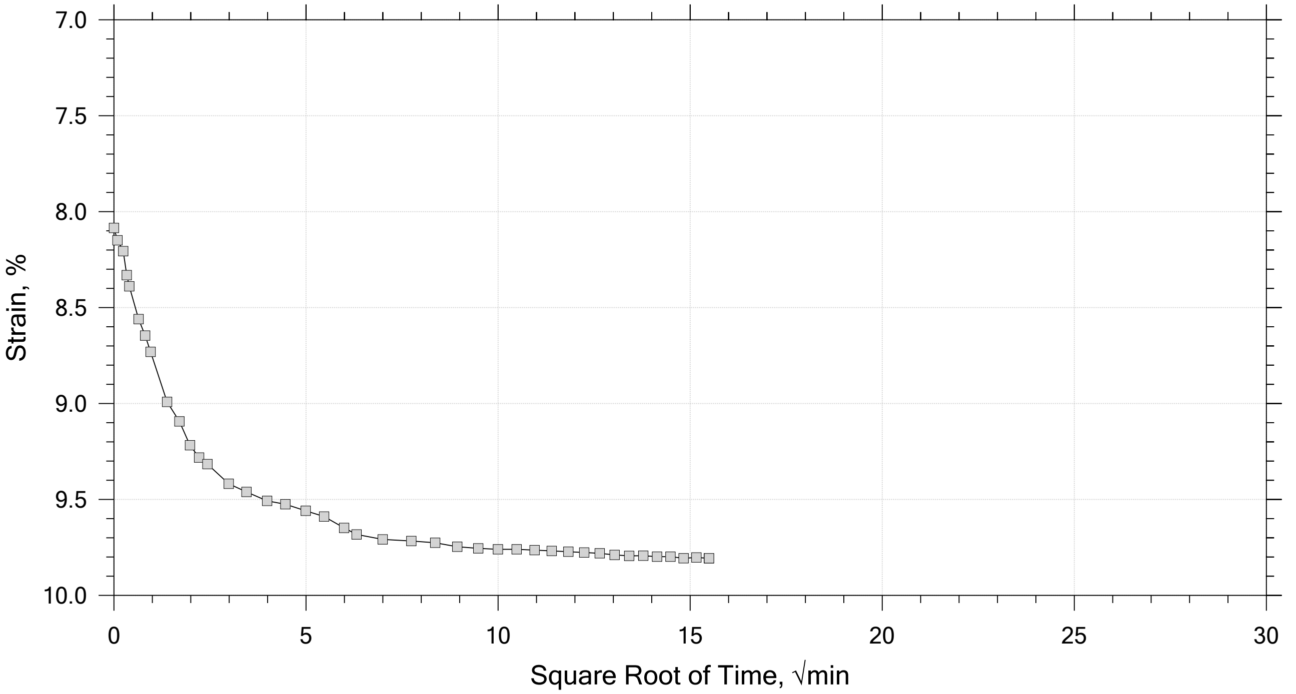
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





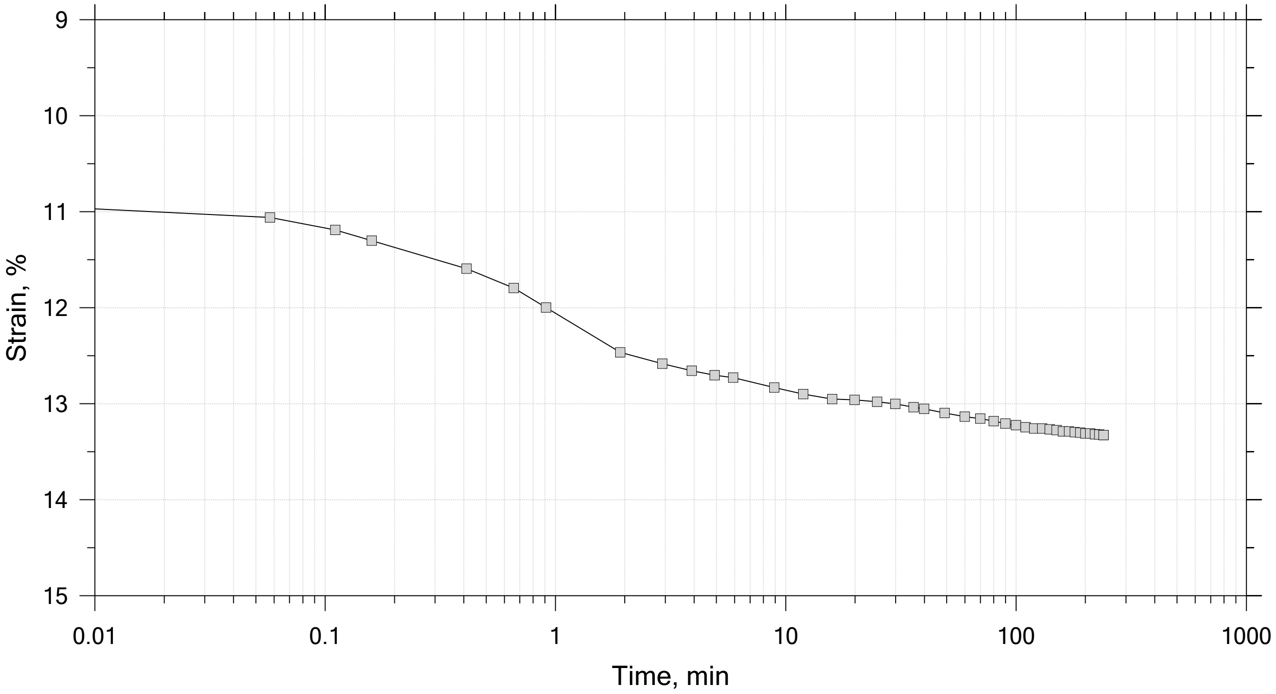
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

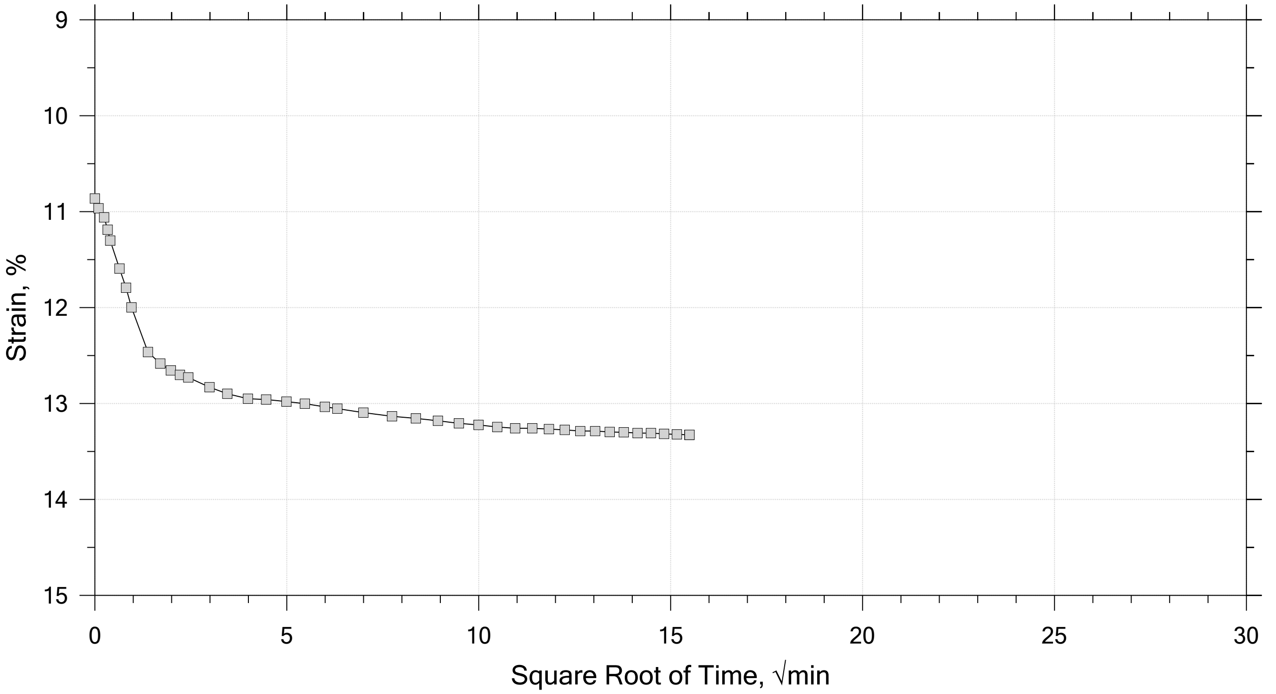
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf





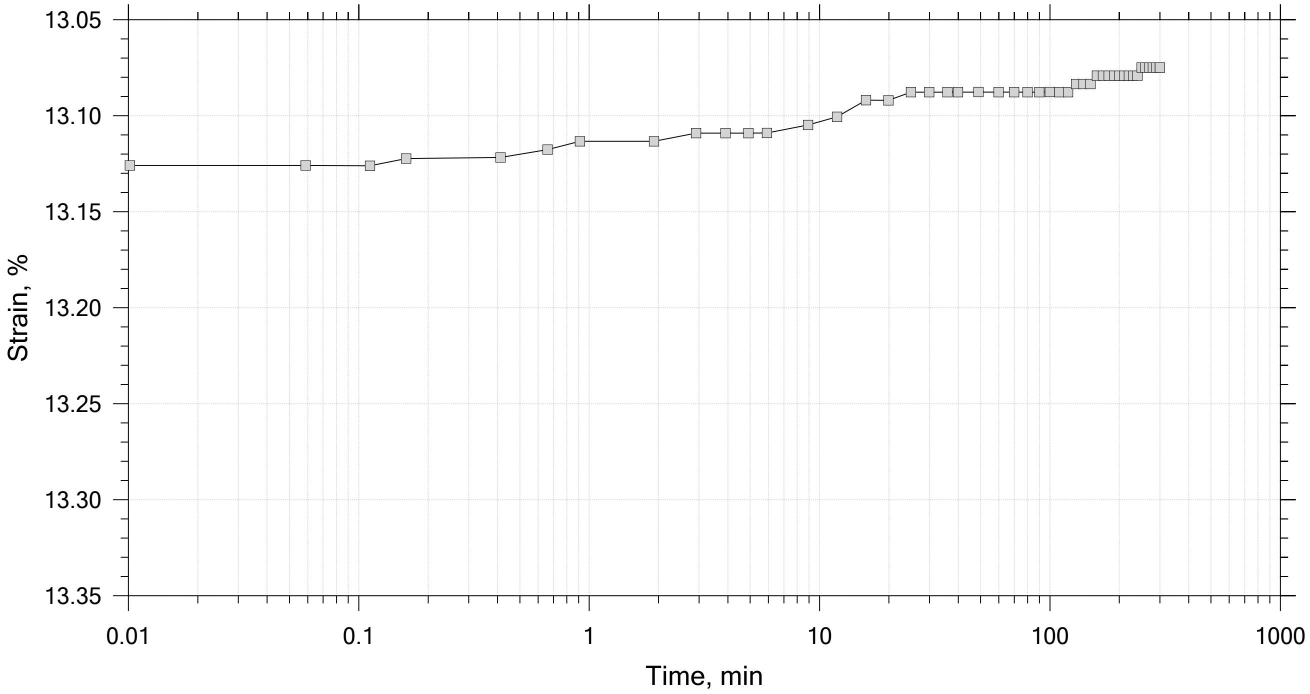
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

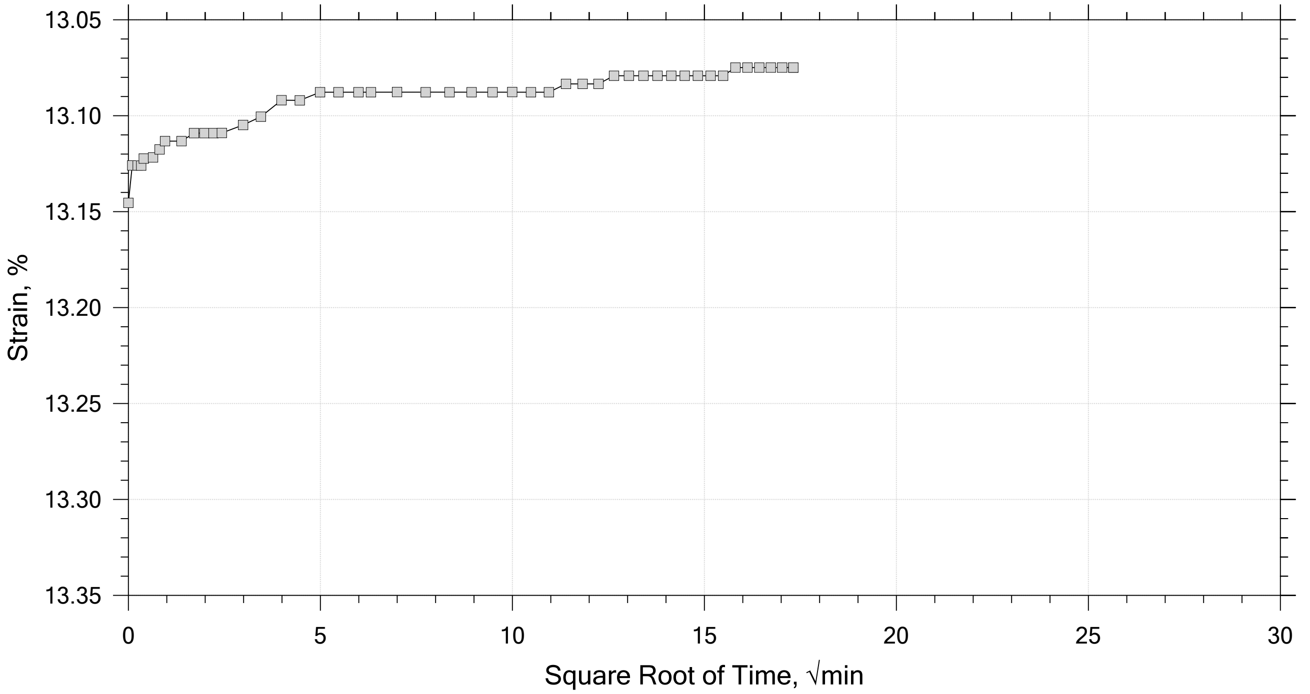
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15

Constant Load Step

Stress: 8 tsf





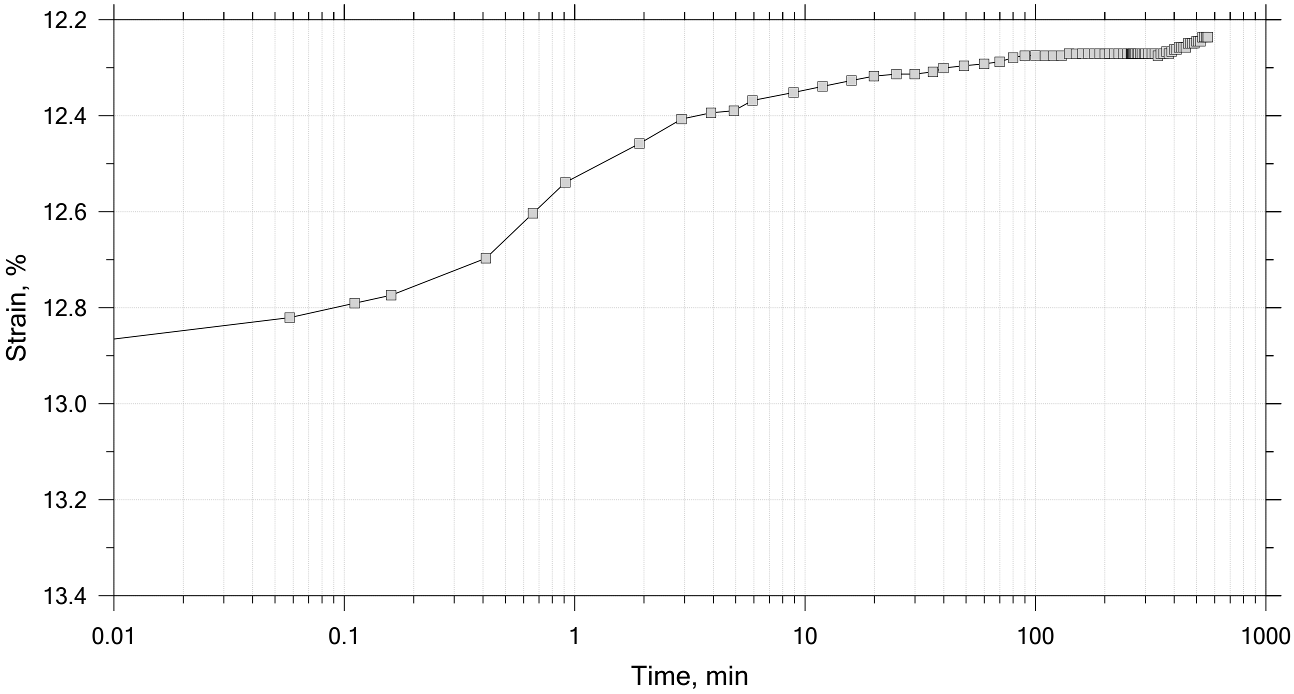
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

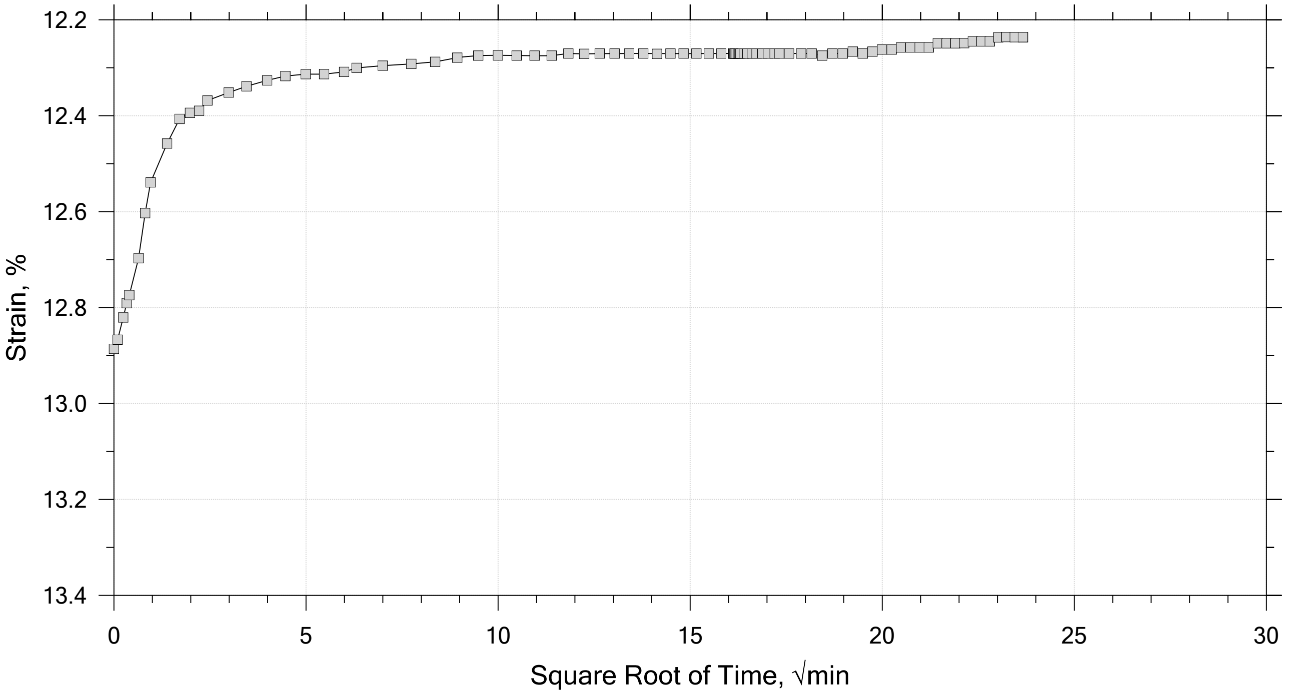
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15

Constant Load Step

Stress: 2 tsf





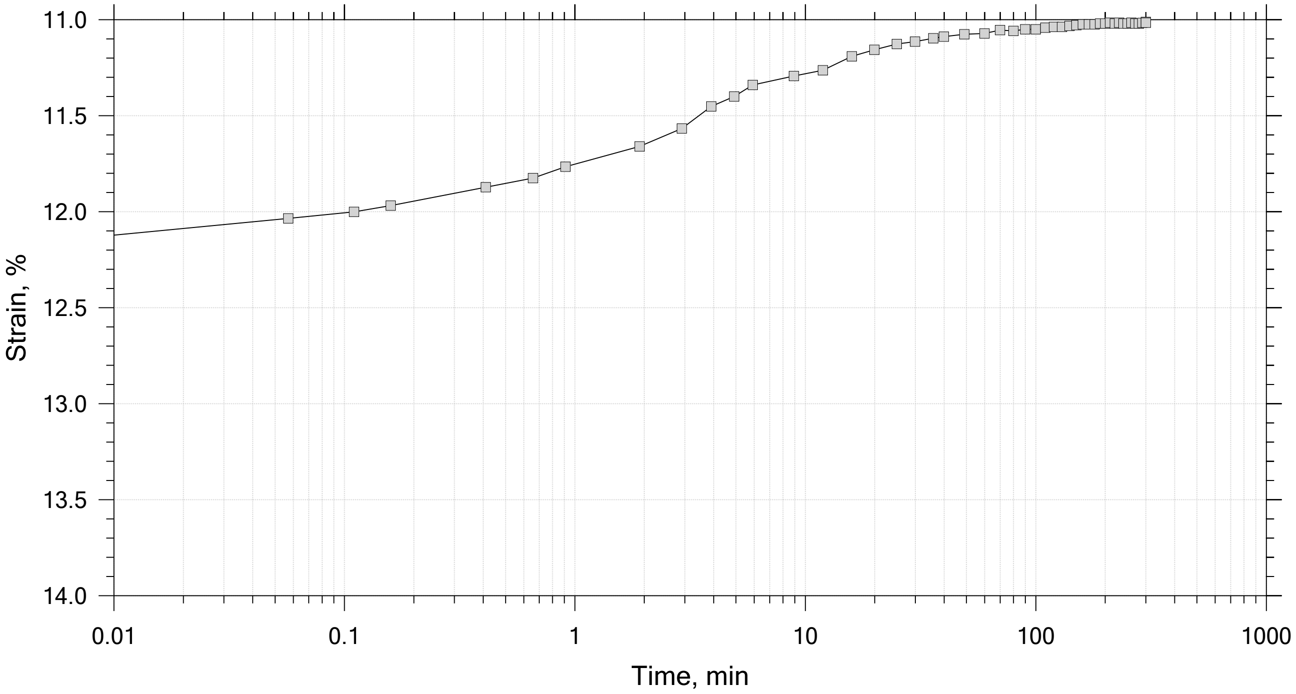
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

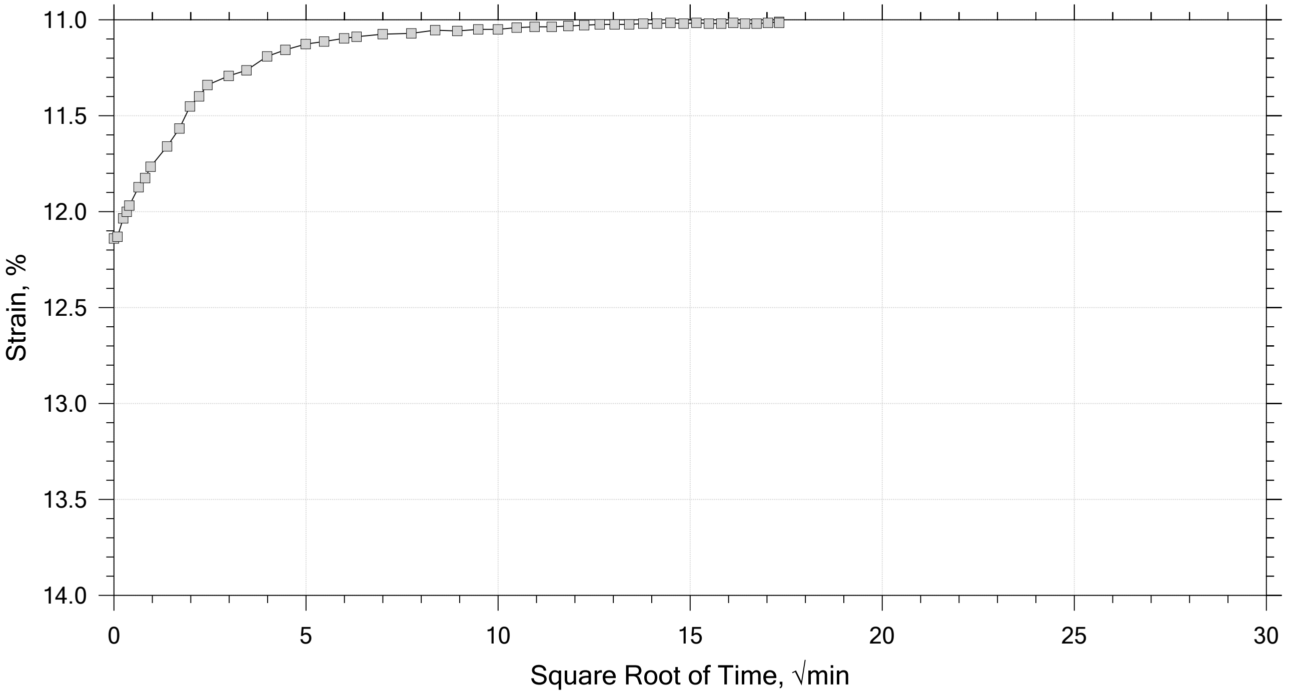
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





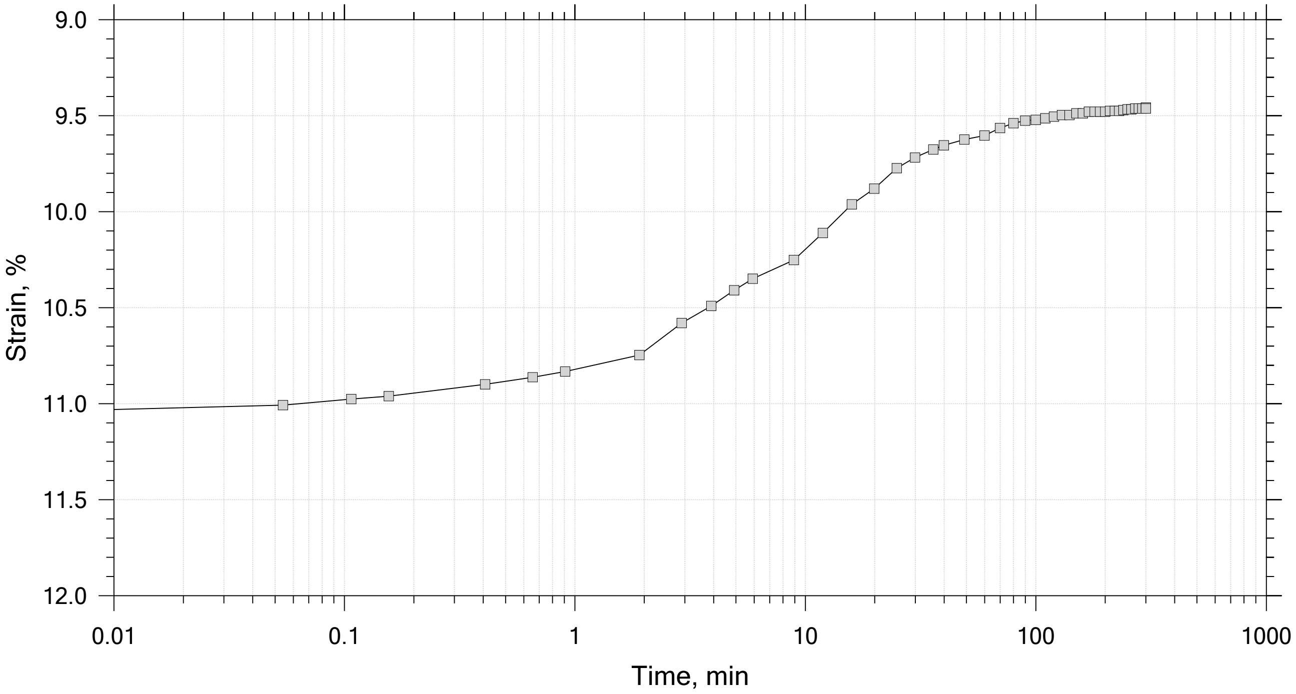
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

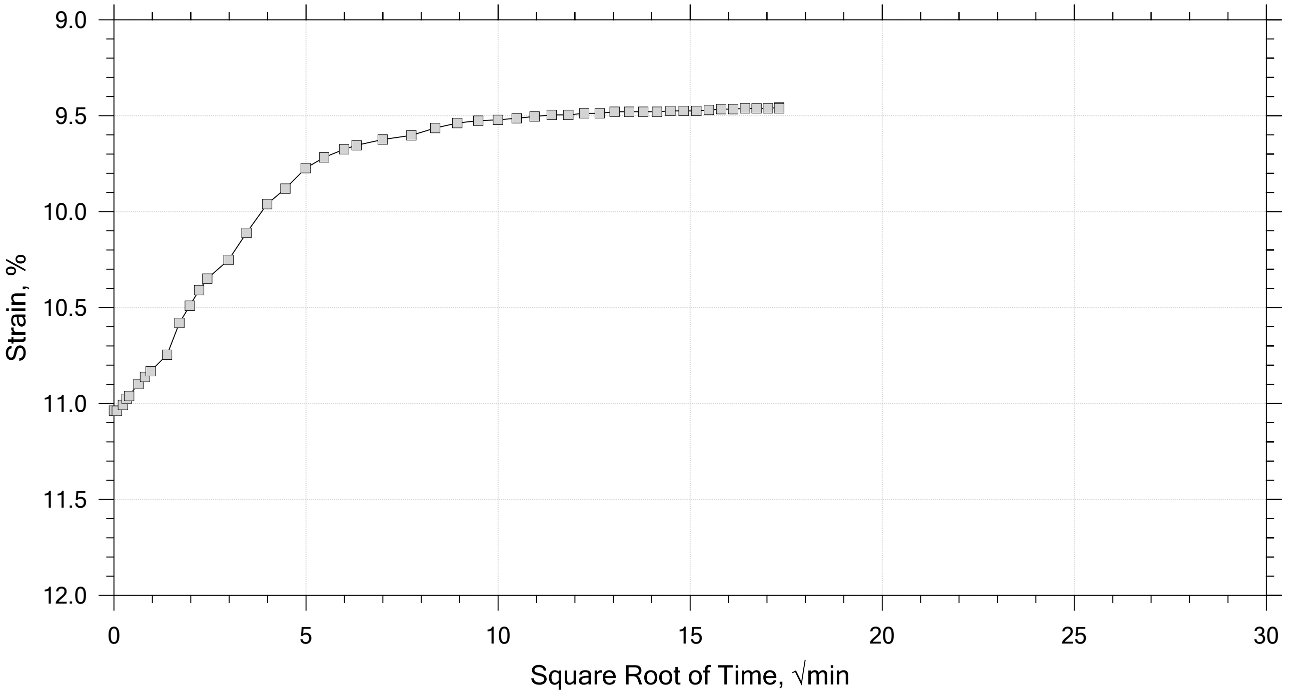
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf





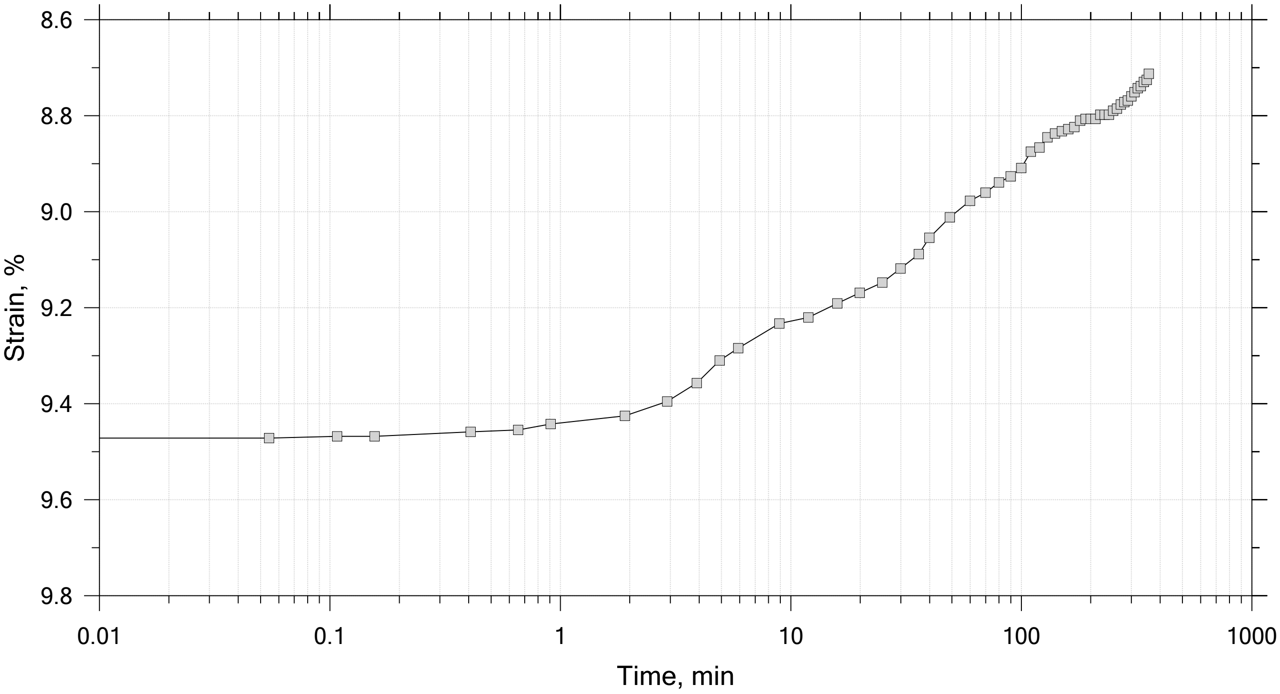
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
	Test No.: IP-2	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System W, Swell Pressure = 0.0654 tsf		

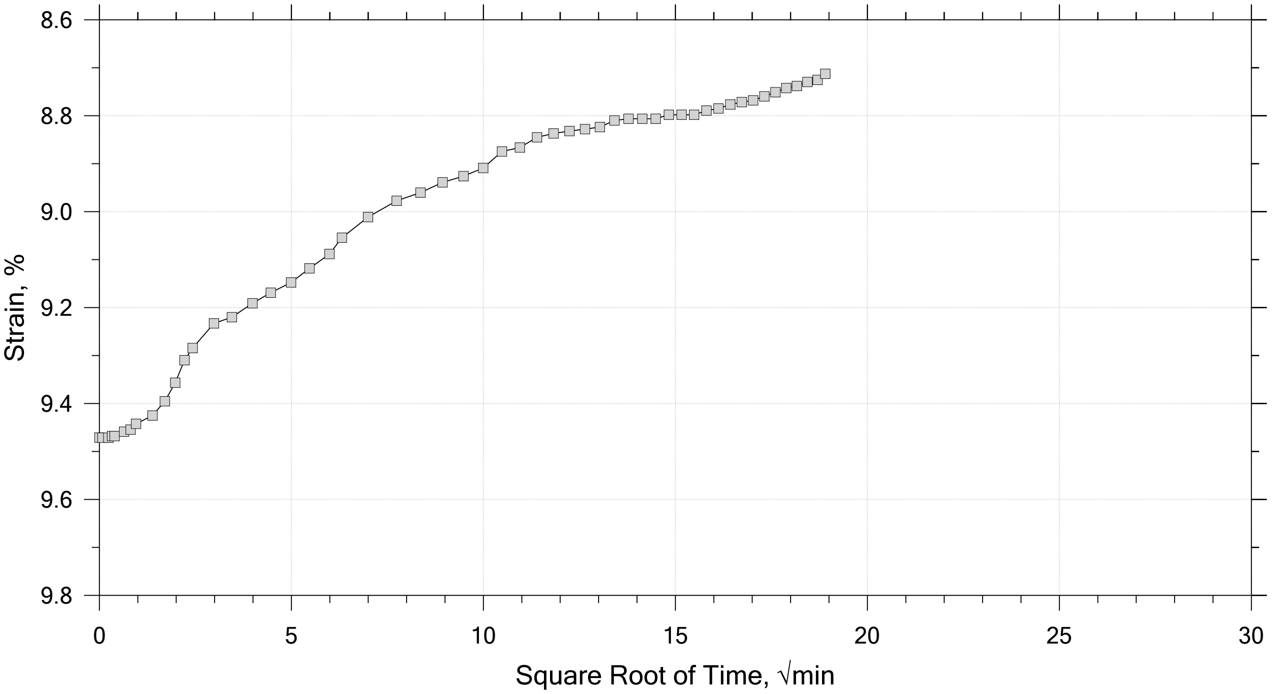
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15

Constant Load Step

Stress: 0.0625 tsf





Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 1.86 in	Estimated Specific Gravity: 2.74	Liquid Limit: 52
Initial Height: 1.10 in	Initial Void Ratio: 1.05	Plastic Limit: 28
Final Height: 1.02 in	Final Void Ratio: 0.898	Plasticity Index: 24

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	A1553	RING		D-1466
Mass Container, gm	8.46	320.07	320.07	8.57
Mass Container + Wet Soil, gm	48.66	410.47	407.19	94.38
Mass Container + Dry Soil, gm	37.92	385.71	385.71	73.22
Mass Dry Soil, gm	29.46	65.637	65.637	64.65
Water Content, %	36.46	37.73	32.73	32.73
Void Ratio	---	1.05	0.90	---
Degree of Saturation, %	---	98.87	100.00	---
Dry Unit Weight, pcf	---	83.66	90.222	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/s	Mv 1/tsf	k ft/day	Ca %
1	0.0654	0.004829	1.04	0.439	0.000	0.00e+00	6.72e-02	0.00e+00	0.00e+00
2	0.125	0.009728	1.03	0.884	2.411	2.82e-06	7.47e-02	5.69e-04	0.00e+00
3	0.250	0.01776	1.01	1.61	0.000	0.00e+00	5.84e-02	0.00e+00	0.00e+00
4	0.500	0.02453	1.00	2.23	1.932	3.43e-06	2.46e-02	2.28e-04	0.00e+00
5	1.00	0.03242	0.986	2.95	0.000	0.00e+00	1.43e-02	0.00e+00	0.00e+00
6	2.00	0.04693	0.959	4.27	0.000	0.00e+00	1.32e-02	0.00e+00	0.00e+00
7	4.00	0.06347	0.928	5.77	0.000	0.00e+00	7.52e-03	0.00e+00	0.00e+00
8	8.00	0.08119	0.895	7.38	0.931	6.47e-06	4.03e-03	7.02e-05	0.00e+00
9	16.0	0.1079	0.846	9.81	1.524	3.78e-06	3.03e-03	3.09e-05	0.00e+00
10	32.0	0.1466	0.774	13.3	1.107	4.87e-06	2.20e-03	2.89e-05	0.00e+00
11	8.00	0.1438	0.779	13.1	0.000	0.00e+00	1.05e-04	0.00e+00	0.00e+00
12	2.00	0.1346	0.796	12.2	0.000	0.00e+00	1.40e-03	0.00e+00	0.00e+00
13	0.500	0.1212	0.821	11.0	0.000	0.00e+00	8.14e-03	0.00e+00	0.00e+00
14	0.125	0.1041	0.853	9.46	0.000	0.00e+00	4.14e-02	0.00e+00	0.00e+00
15	0.0625	0.09584	0.868	8.71	0.000	0.00e+00	1.20e-01	0.00e+00	0.00e+00

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

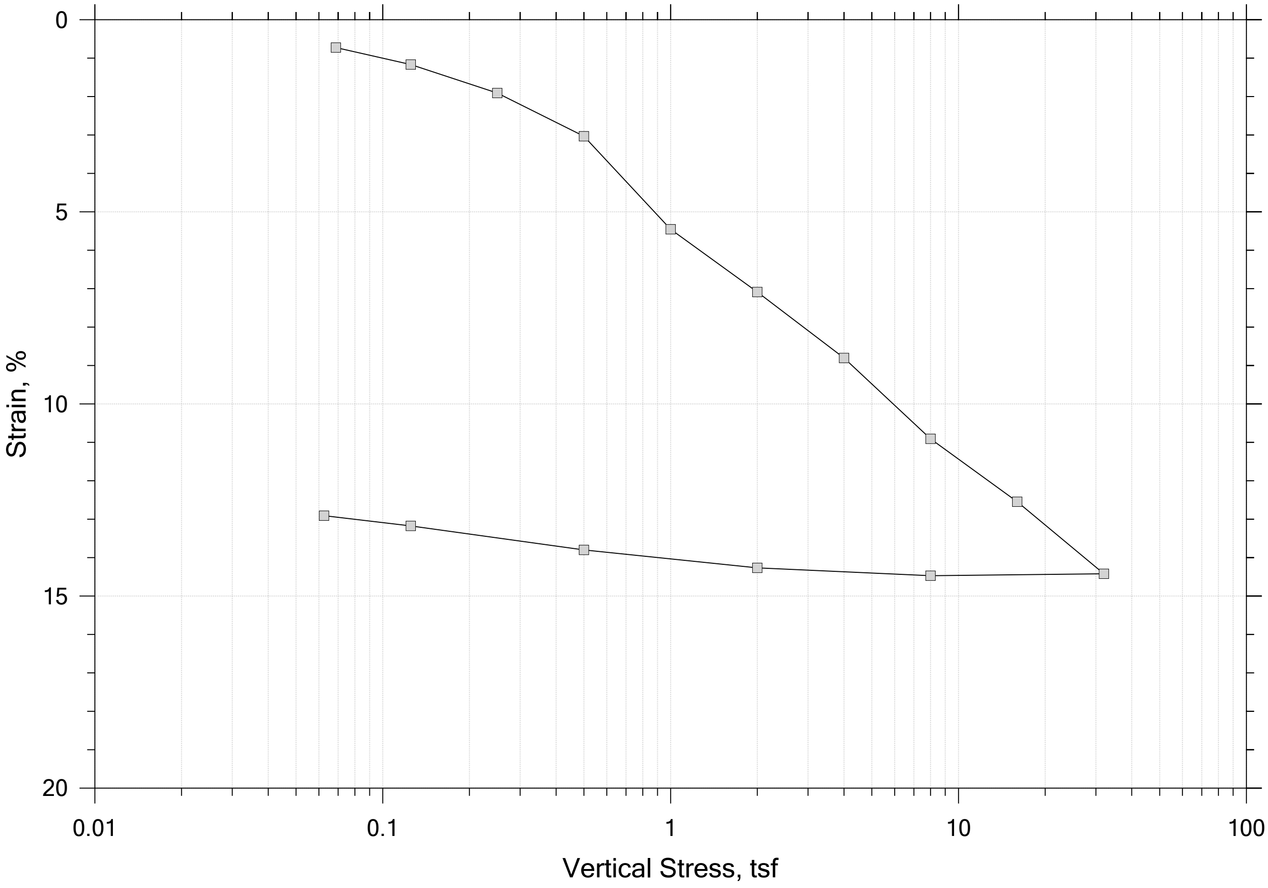
Square Root of Time Coefficients

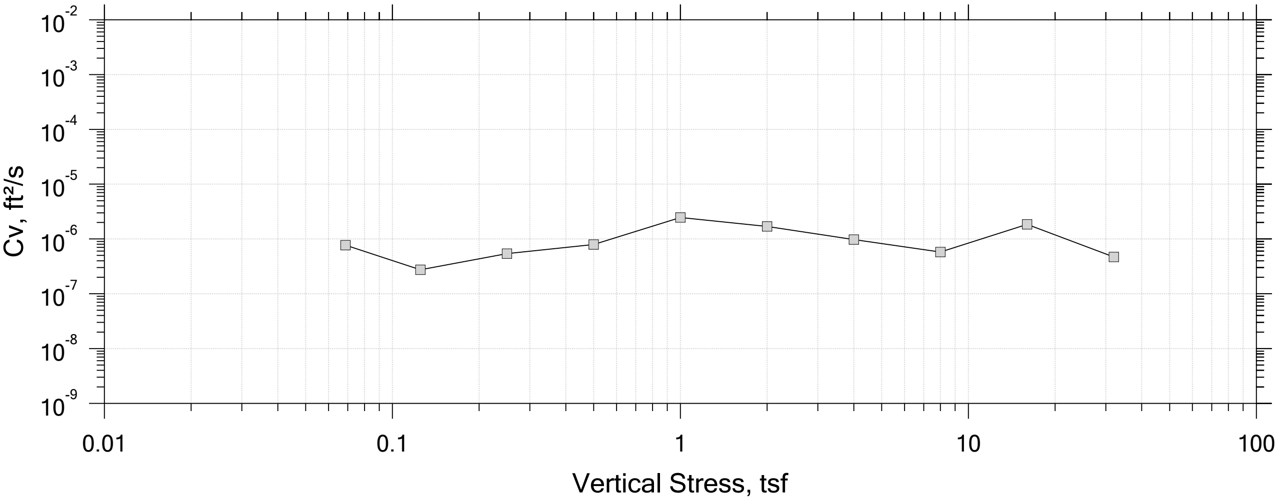
Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft^2/s	Mv 1/tsf	k ft/day
1	0.0654	0.004829	1.04	0.439	28.962	1.02e-06	6.72e-02	1.85e-04
2	0.125	0.009728	1.03	0.884	9.423	3.11e-06	7.47e-02	6.26e-04
3	0.250	0.01776	1.01	1.61	28.313	1.02e-06	5.84e-02	1.61e-04
4	0.500	0.02453	1.00	2.23	7.147	4.00e-06	2.46e-02	2.65e-04
5	1.00	0.03242	0.986	2.95	4.793	5.88e-06	1.43e-02	2.27e-04
6	2.00	0.04693	0.959	4.27	9.705	2.84e-06	1.32e-02	1.01e-04
7	4.00	0.06347	0.928	5.77	69.910	3.83e-07	7.52e-03	7.77e-06
8	8.00	0.08119	0.895	7.38	6.898	3.76e-06	4.03e-03	4.08e-05
9	16.0	0.1079	0.846	9.81	5.693	4.36e-06	3.03e-03	3.56e-05
10	32.0	0.1466	0.774	13.3	4.326	5.37e-06	2.20e-03	3.18e-05
11	8.00	0.1438	0.779	13.1	249.911	8.95e-08	1.05e-04	2.53e-08
12	2.00	0.1346	0.796	12.2	21.561	1.05e-06	1.40e-03	3.96e-06
13	0.500	0.1212	0.821	11.0	6.518	3.56e-06	8.14e-03	7.81e-05
14	0.125	0.1041	0.853	9.46	35.592	6.72e-07	4.14e-02	7.51e-05
15	0.0625	0.09584	0.868	8.71	83.630	2.93e-07	1.20e-01	9.49e-05

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: ALN-1C	Test Date: 10/5/18	Depth: ---
Test No.: IP-2	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System W, Swell Pressure = 0.0654 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report

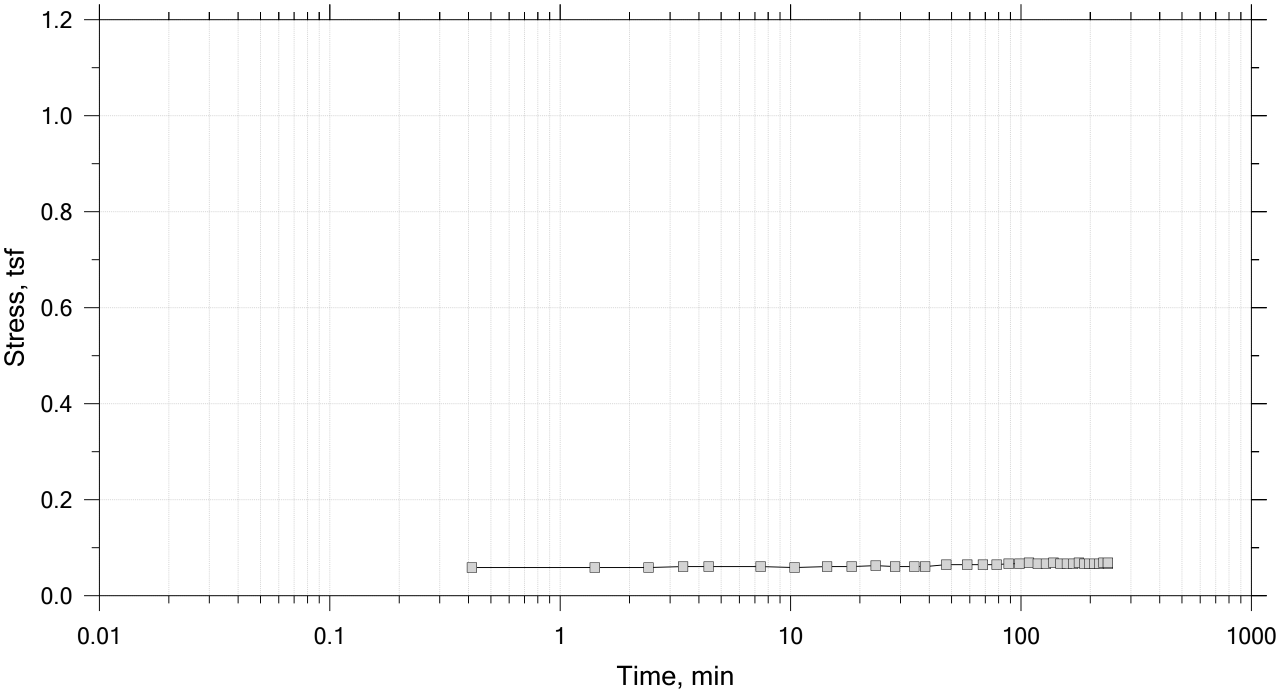


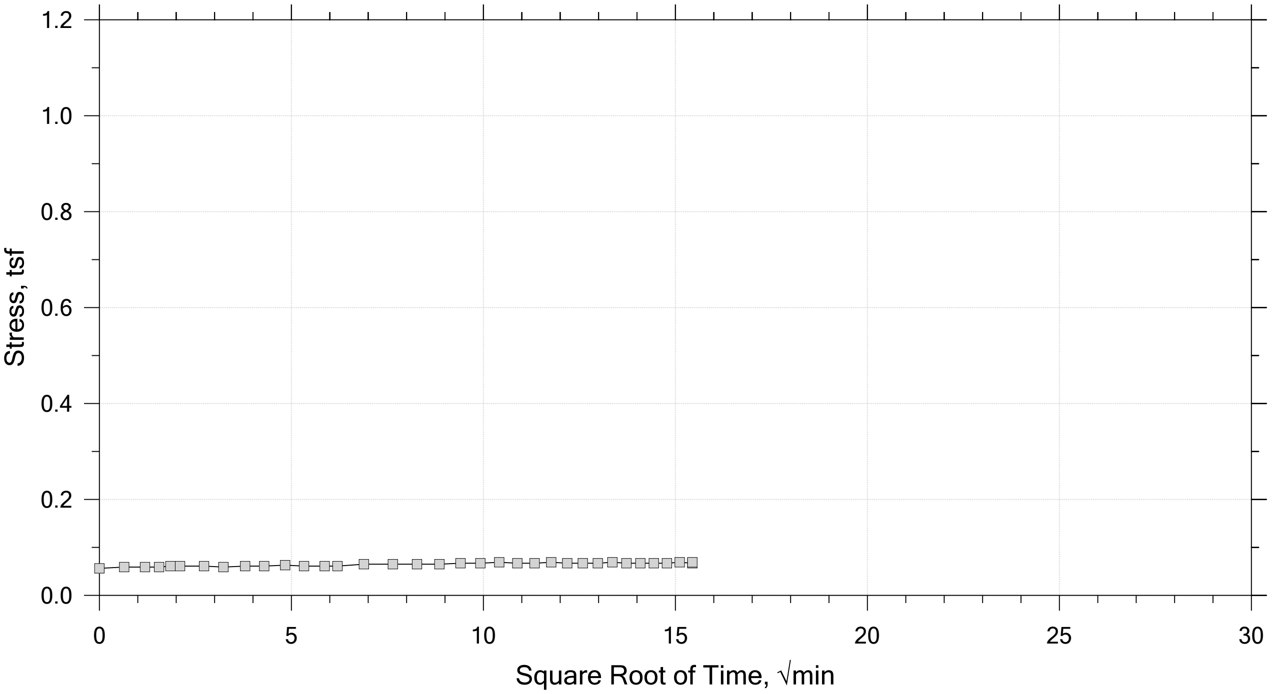


GeoTesting EXPRESS			
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15
Constant Volume Step
Stress: 0.0688 tsf





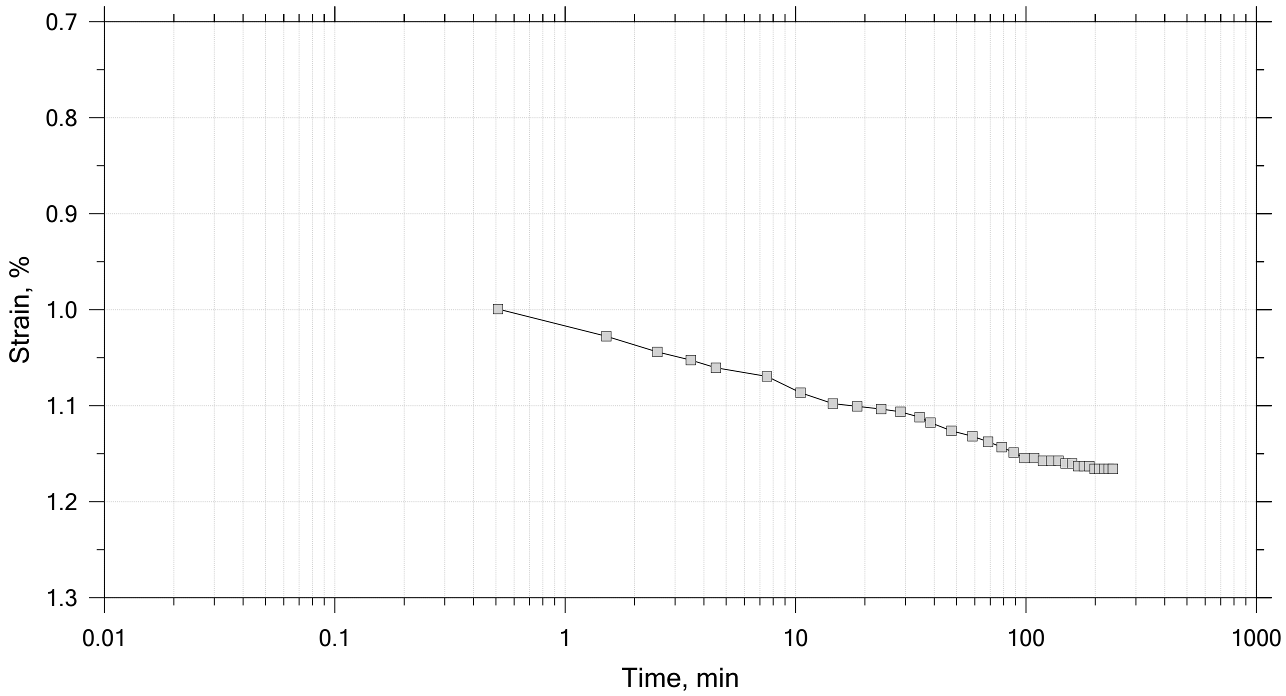
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

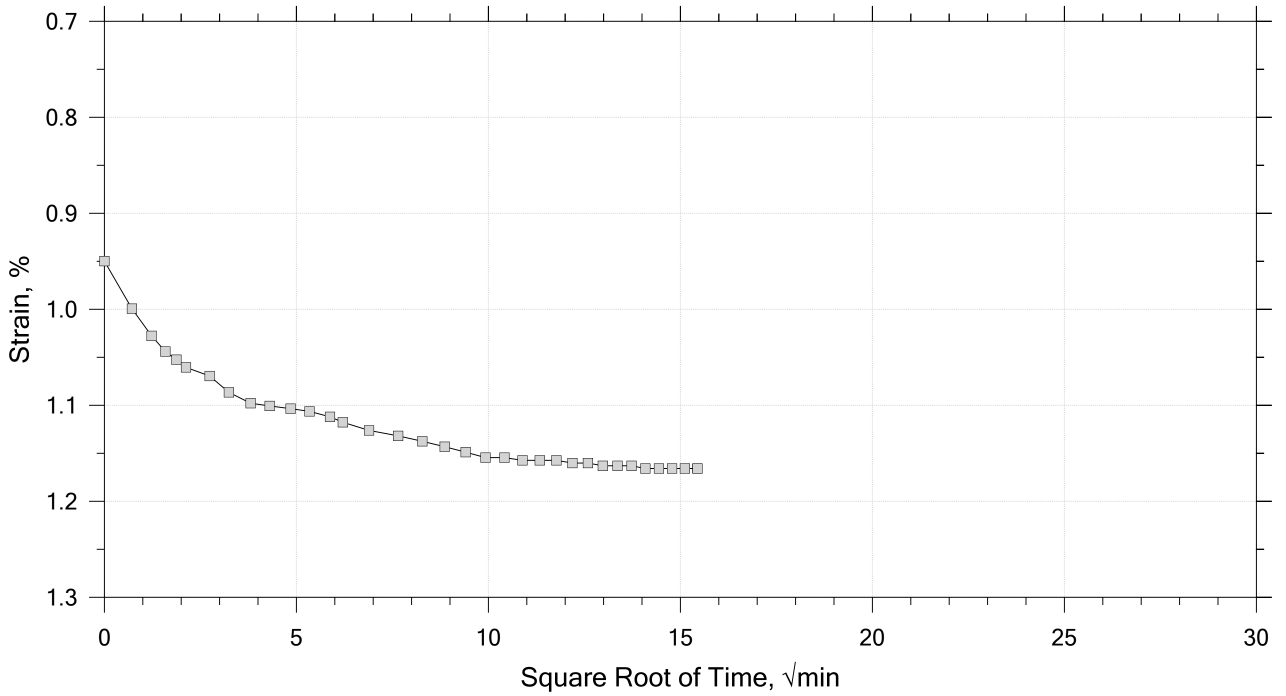
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15

Constant Load Step

Stress: 0.125 tsf

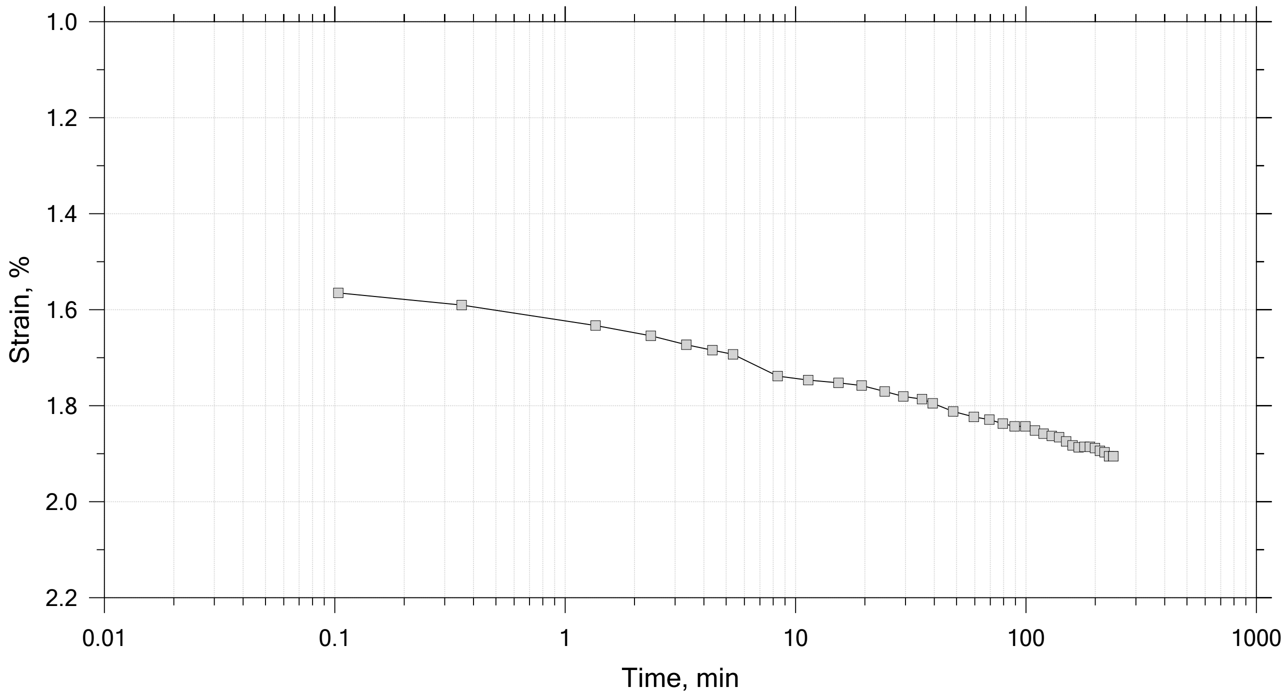


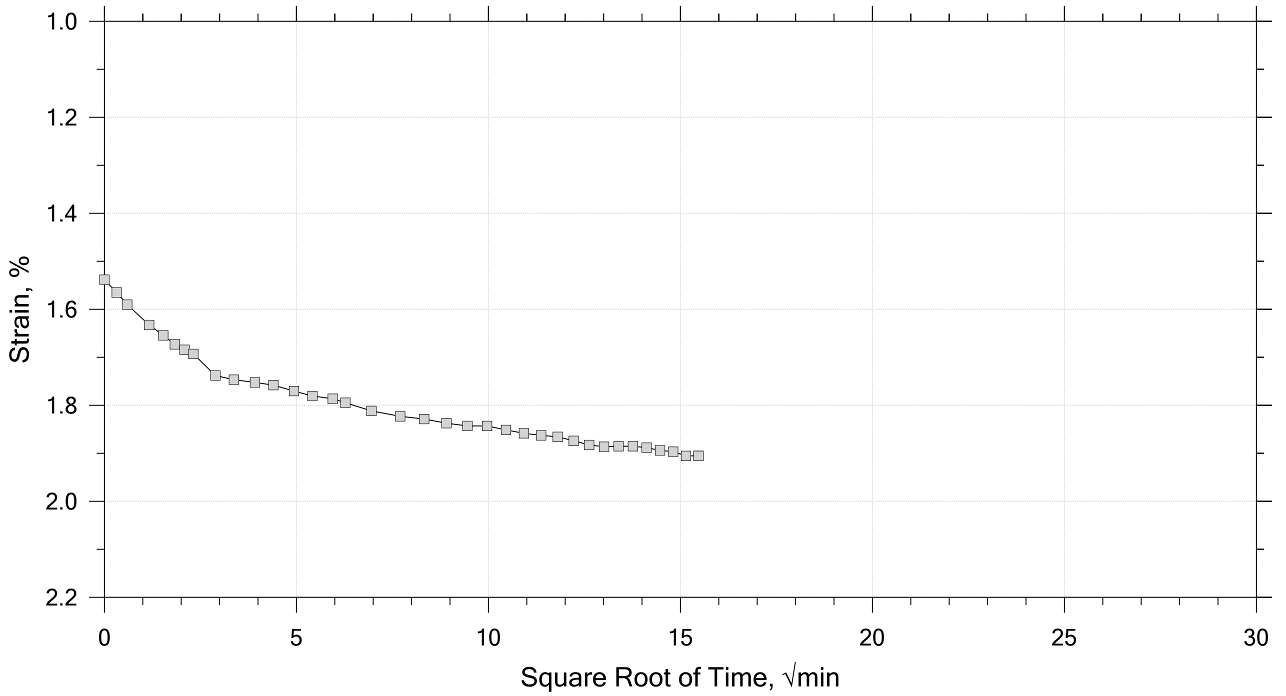


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15
Constant Load Step
Stress: 0.25 tsf





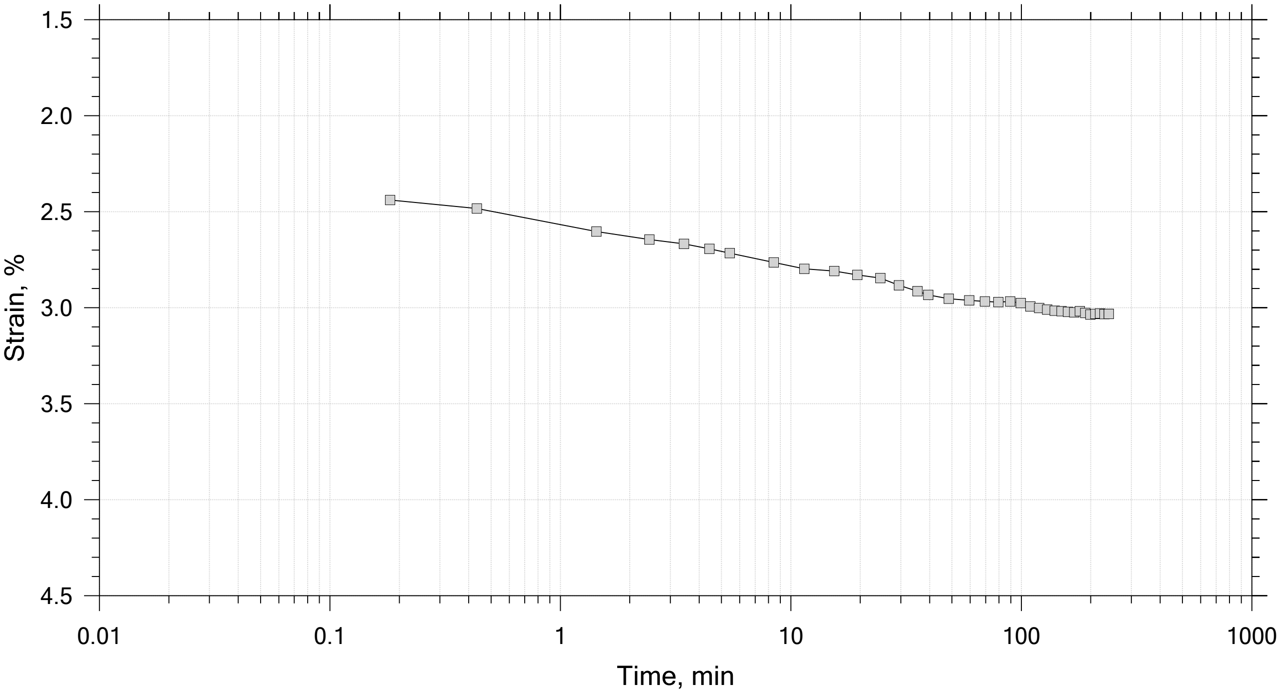
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

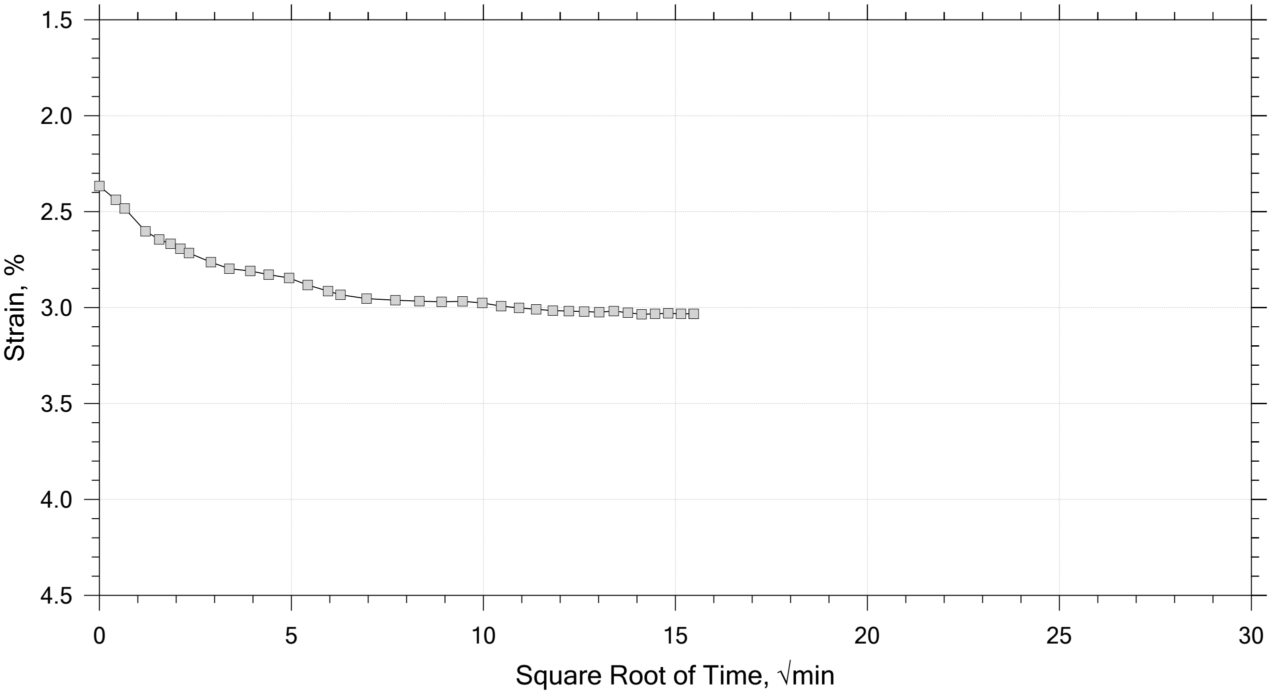
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf





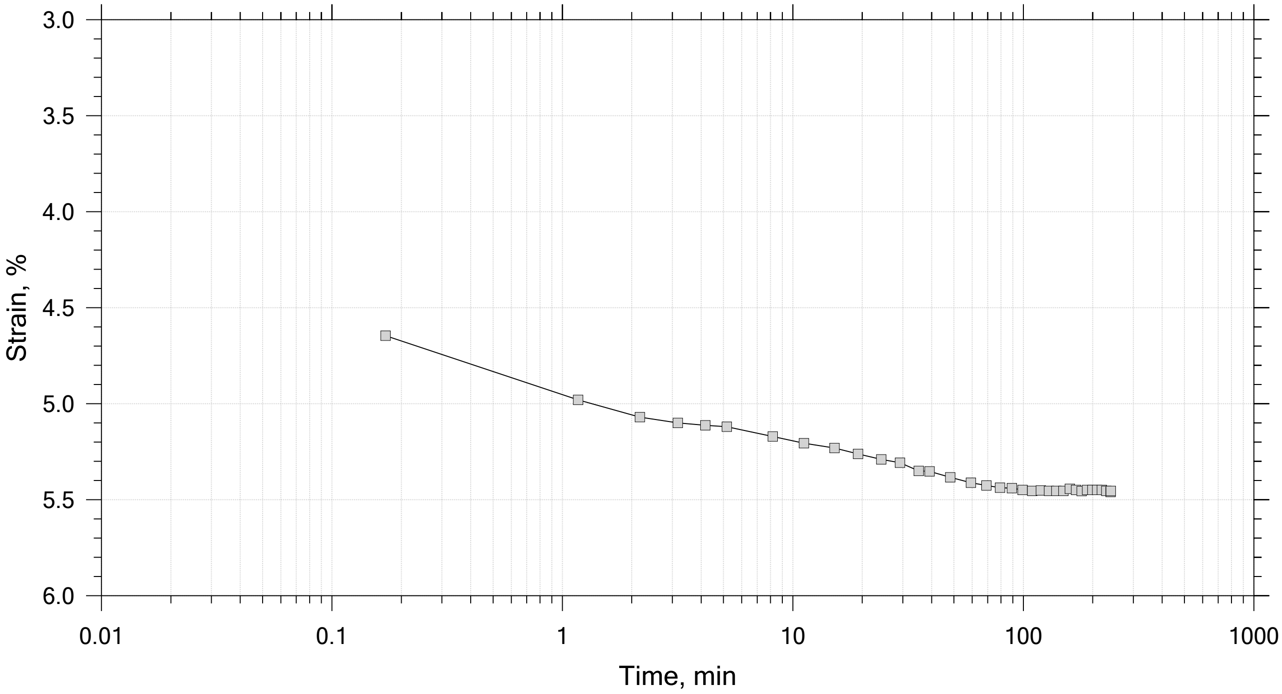
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

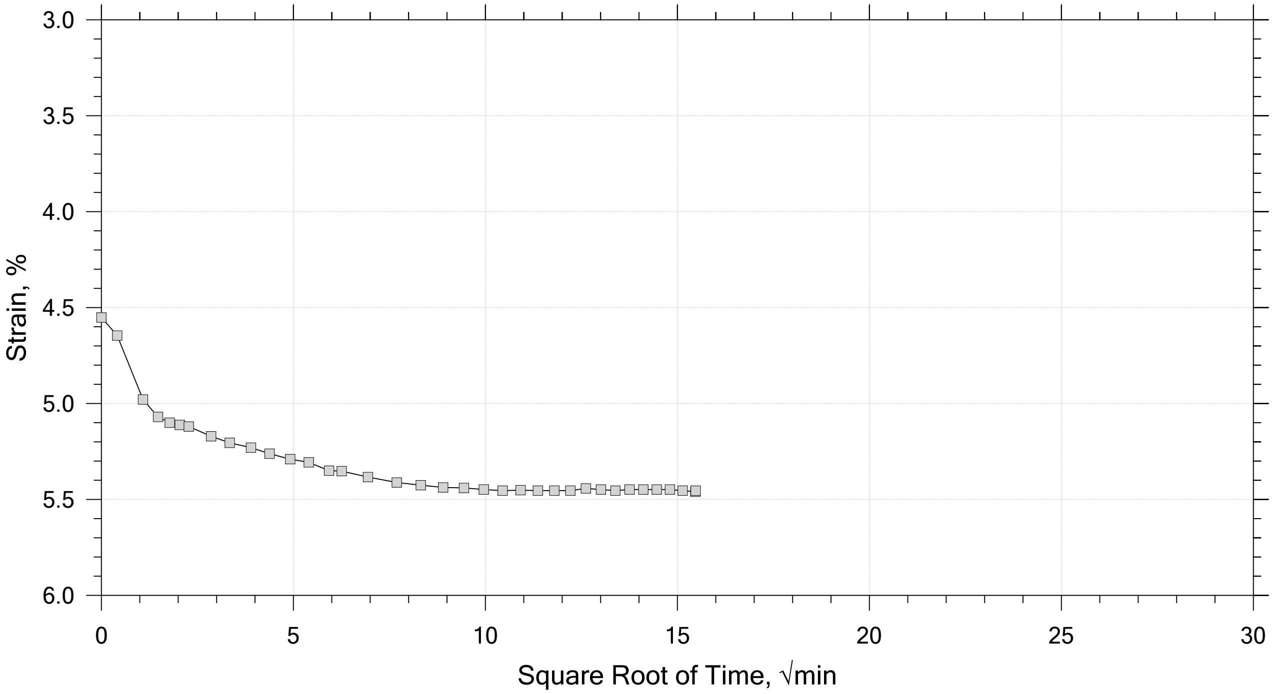
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15

Constant Load Step

Stress: 1 tsf





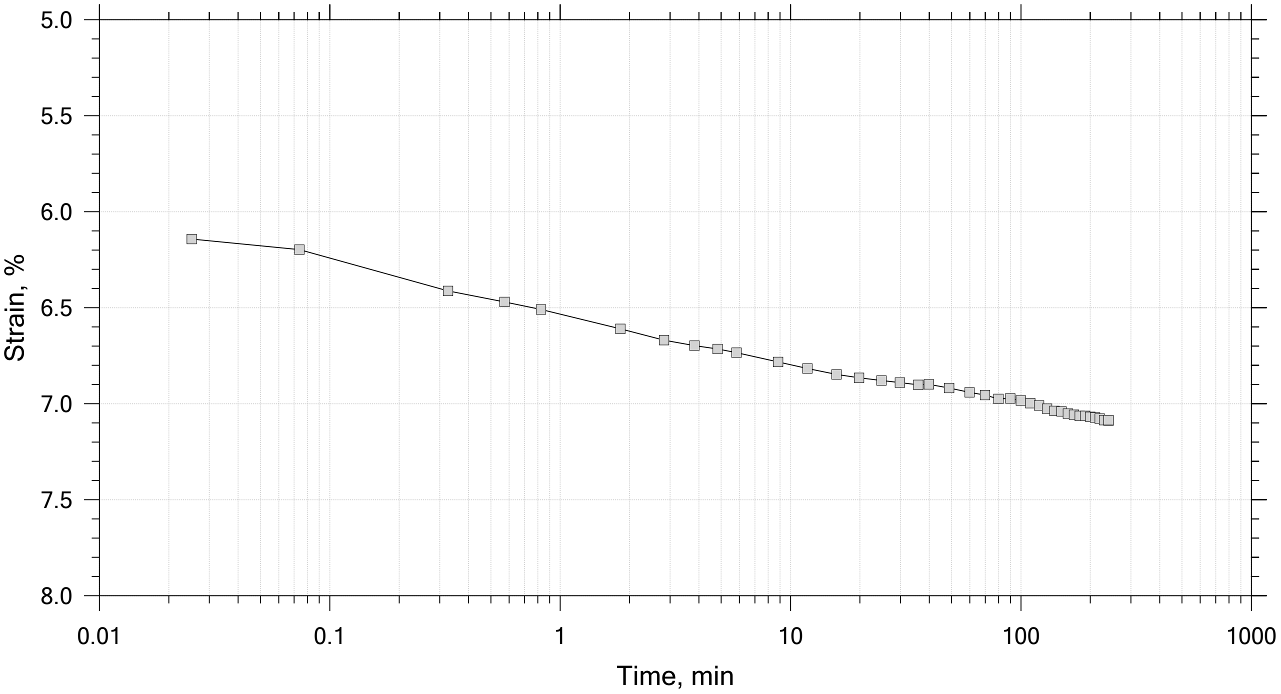
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

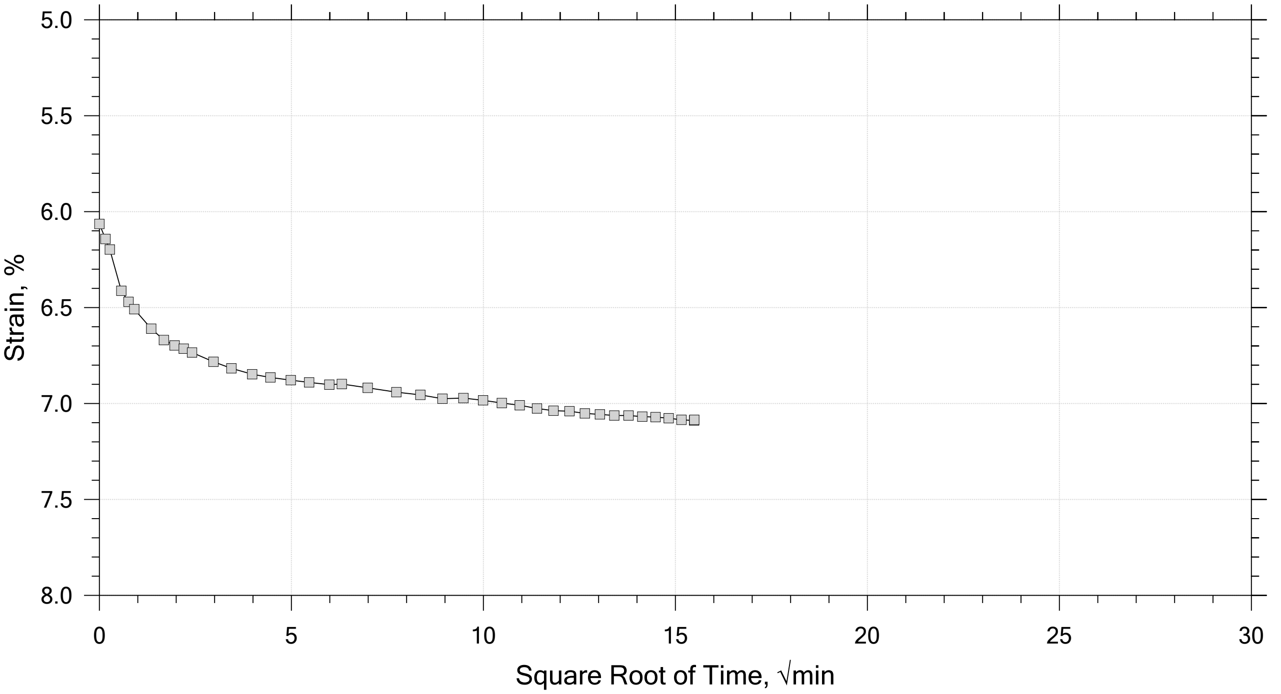
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





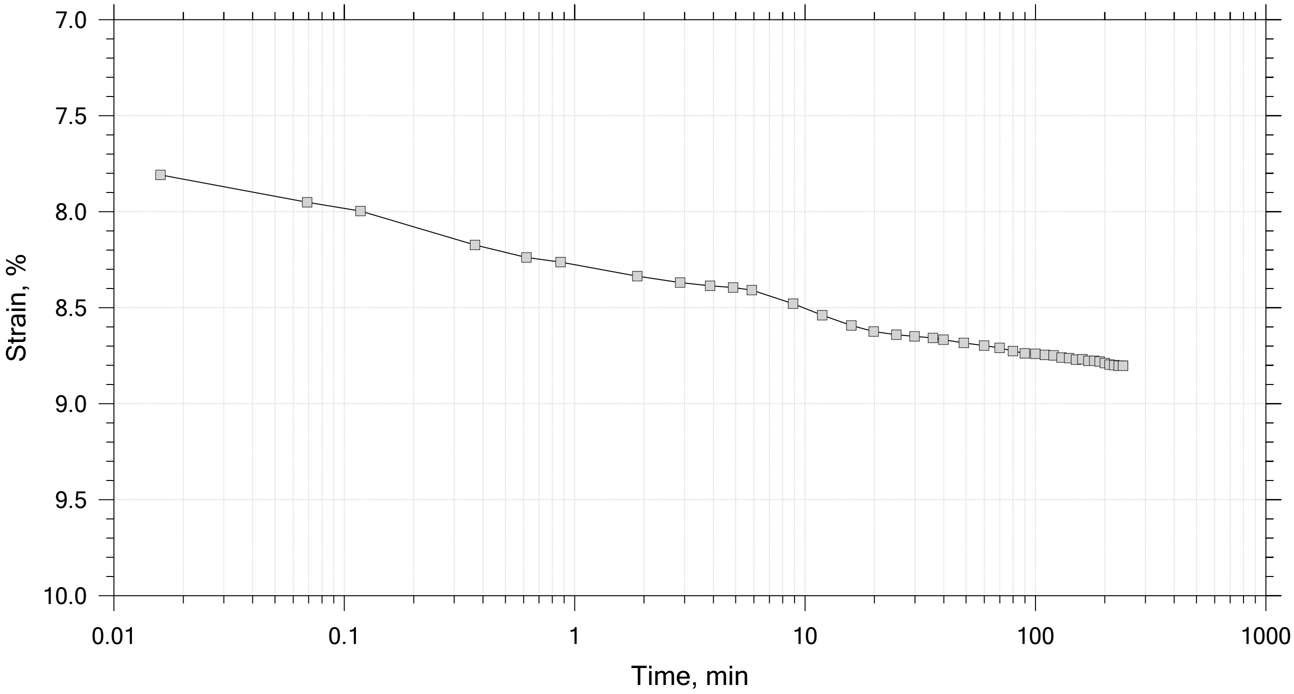
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

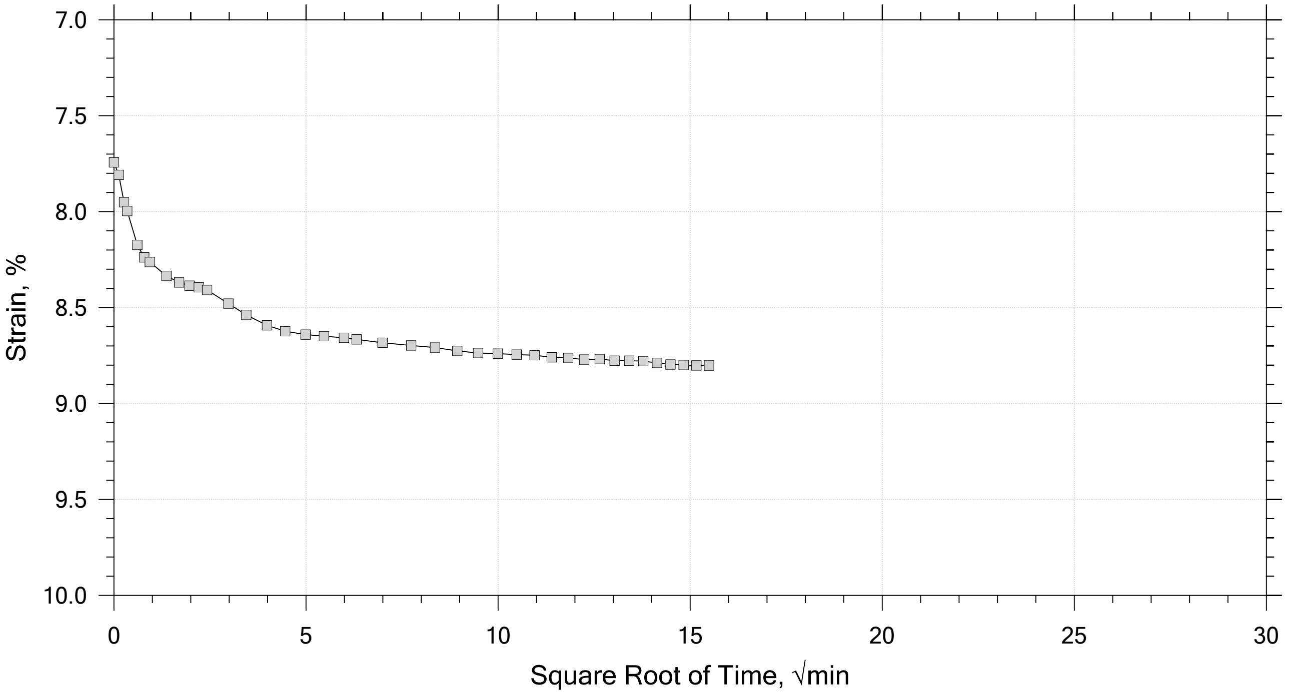
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





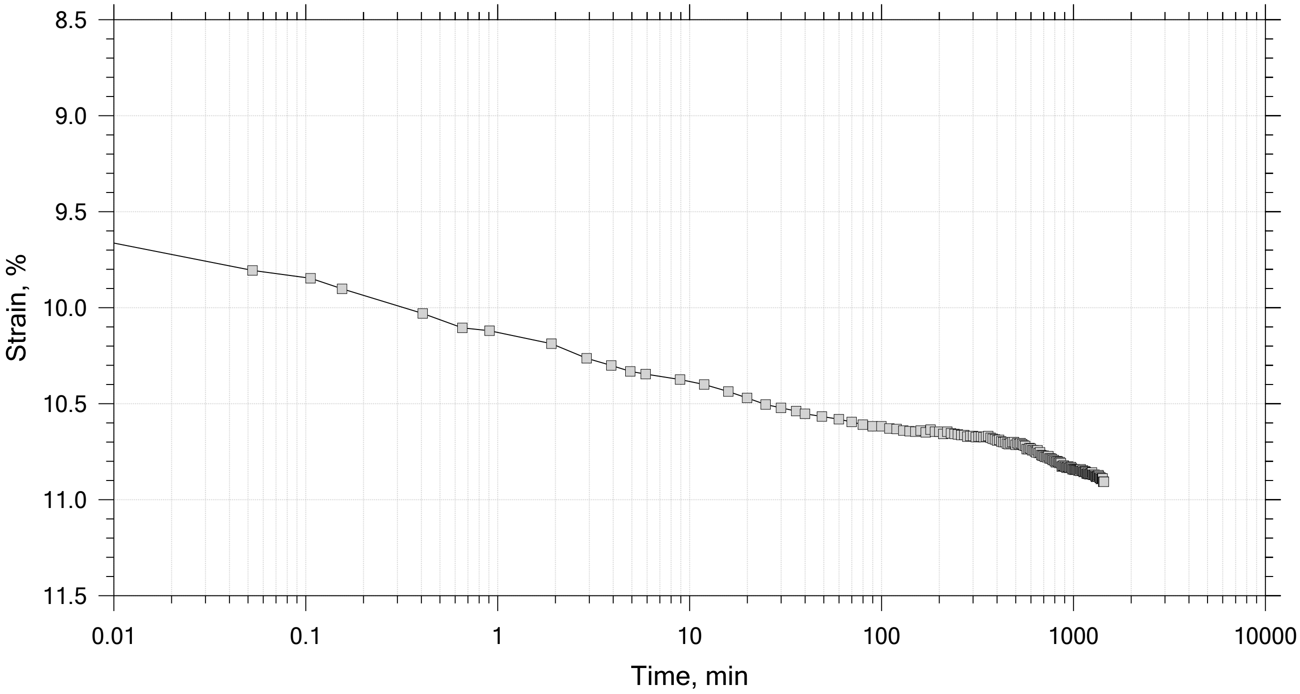
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

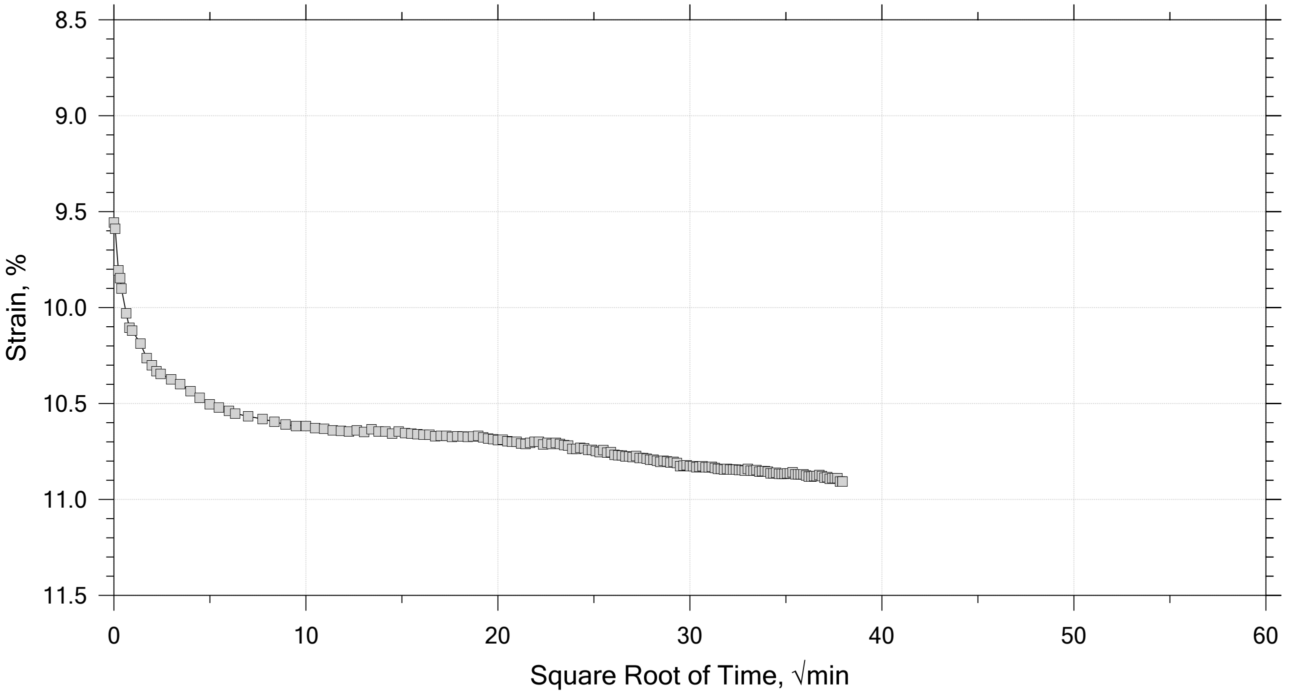
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf





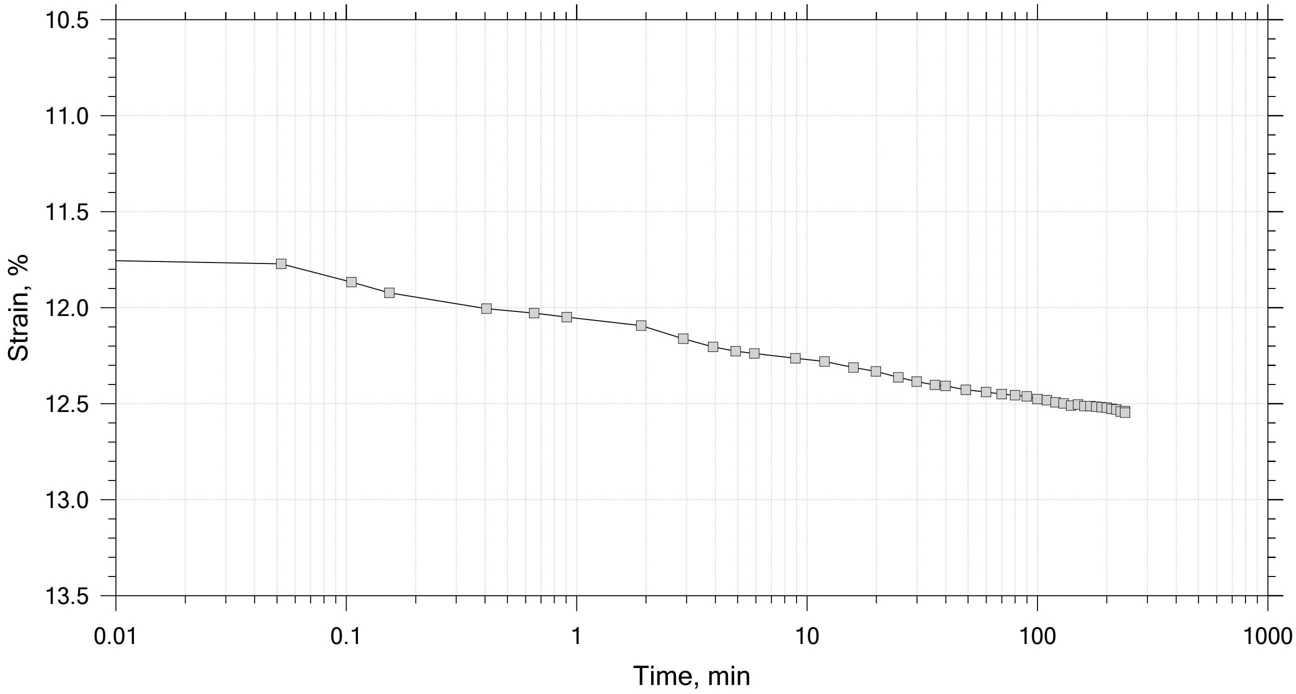
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

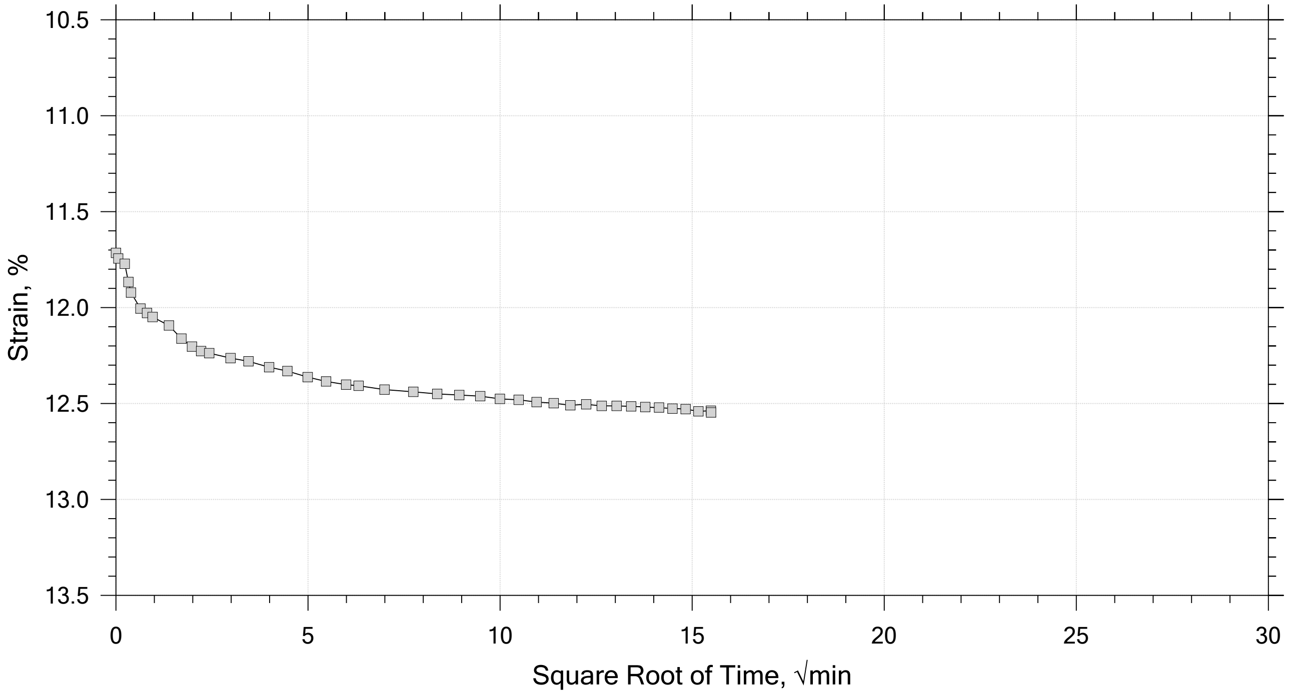
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





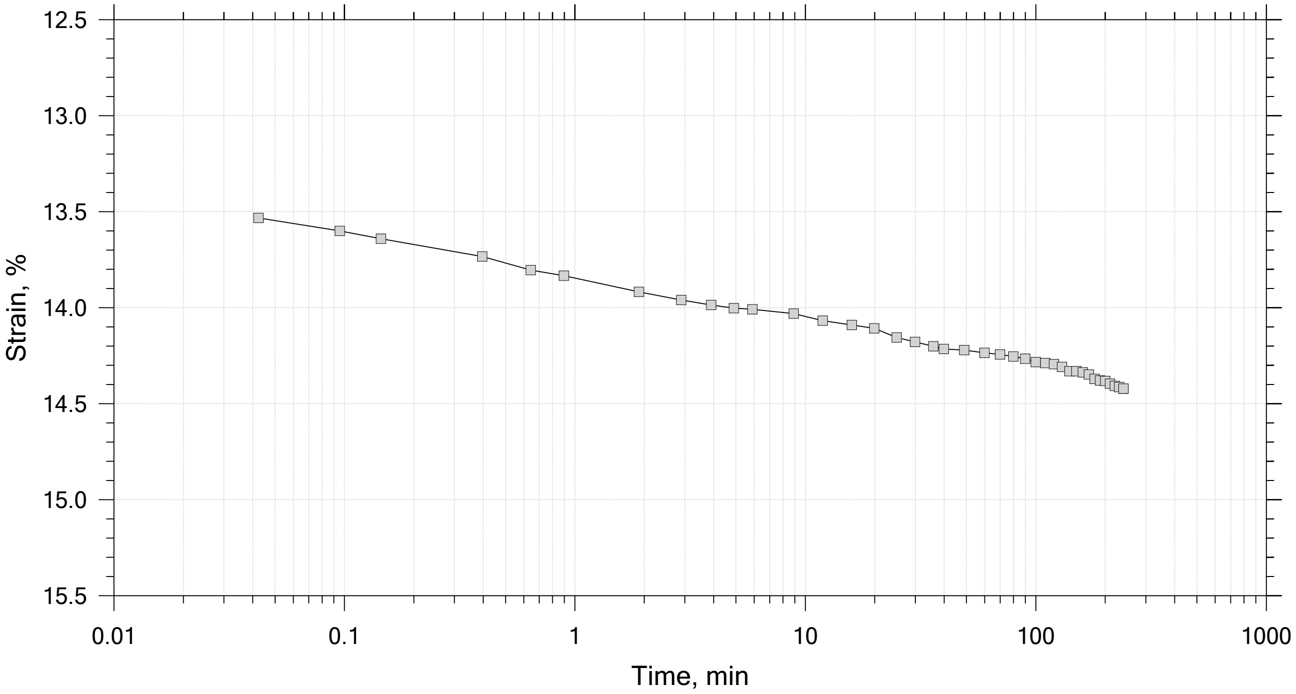
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

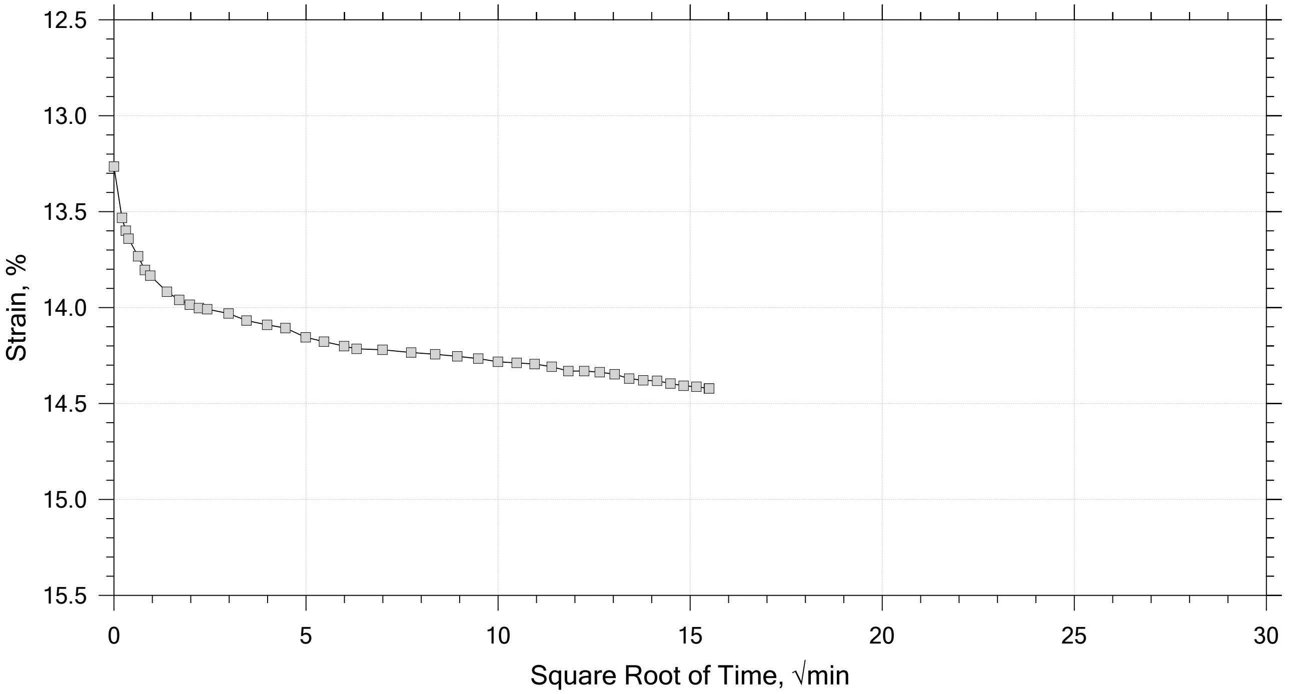
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf





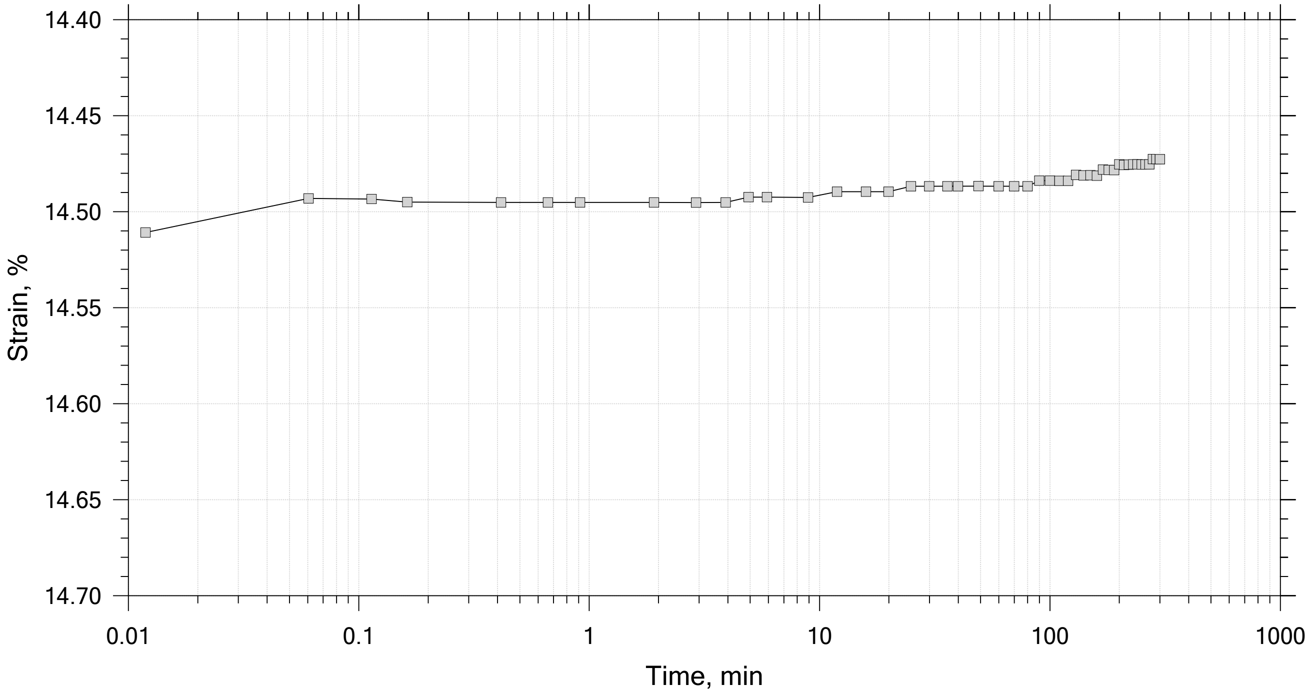
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

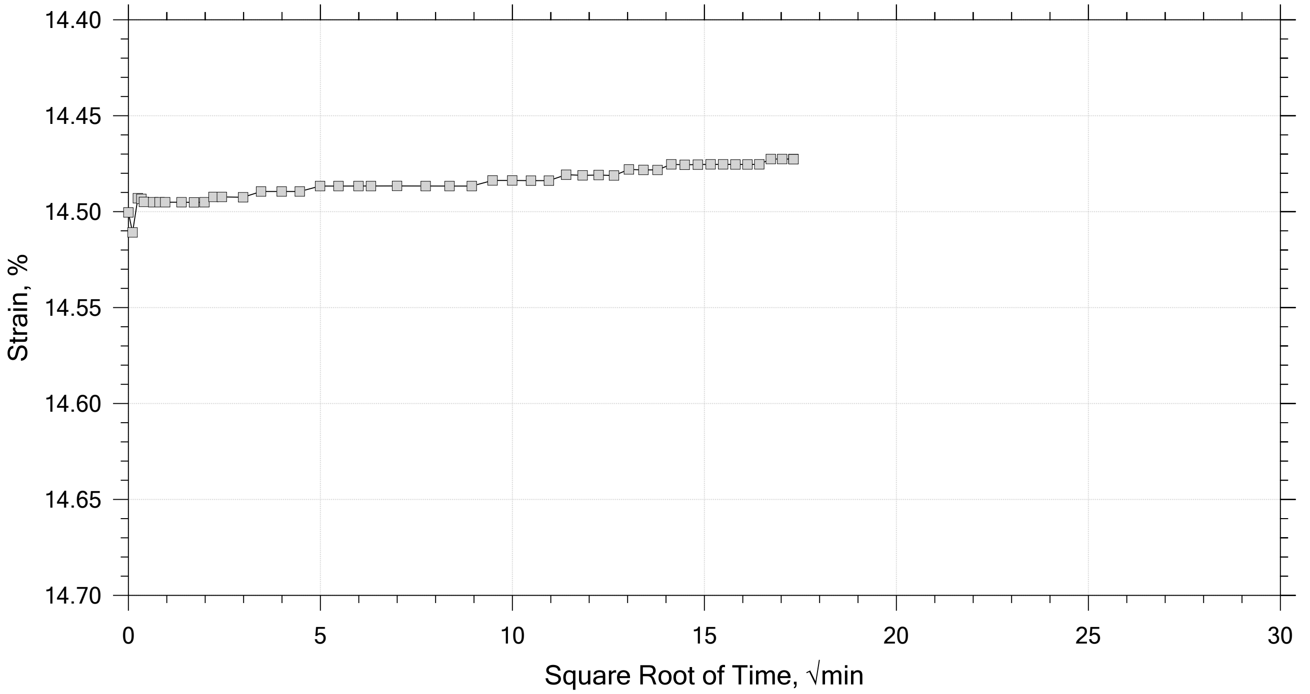
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15

Constant Load Step

Stress: 8 tsf





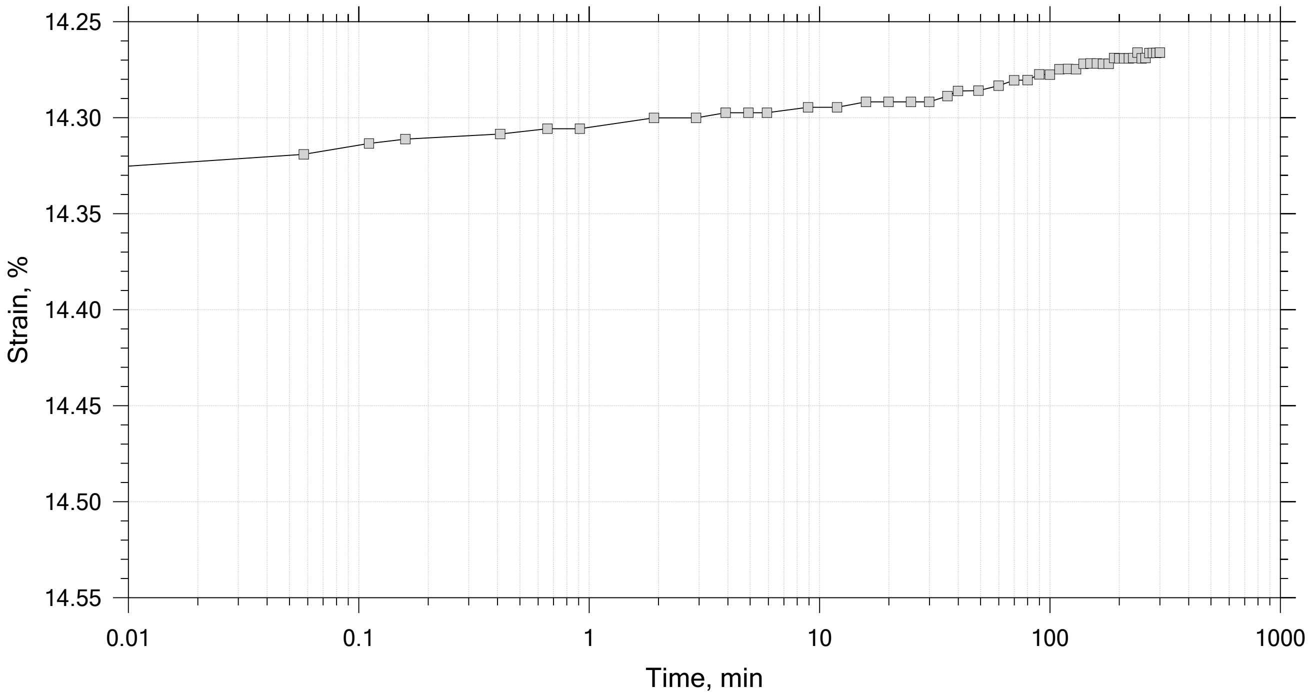
GeoTesting EXPRESS			
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

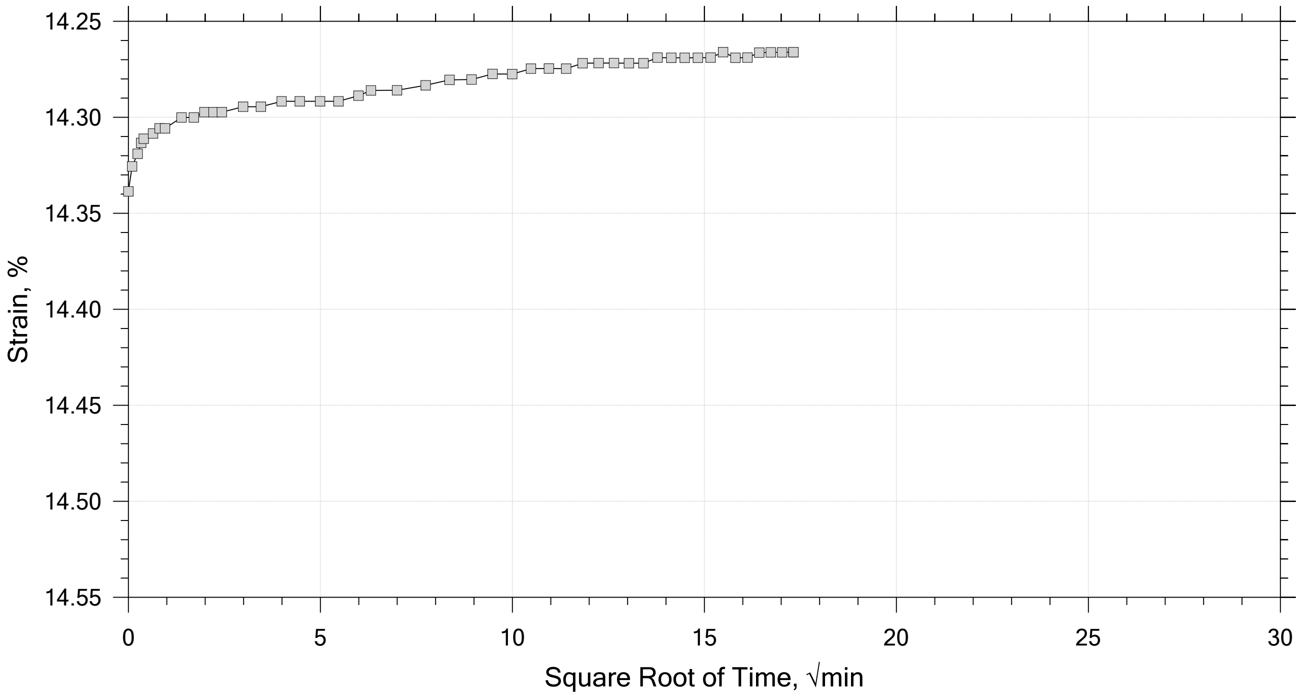
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15

Constant Load Step

Stress: 2 tsf





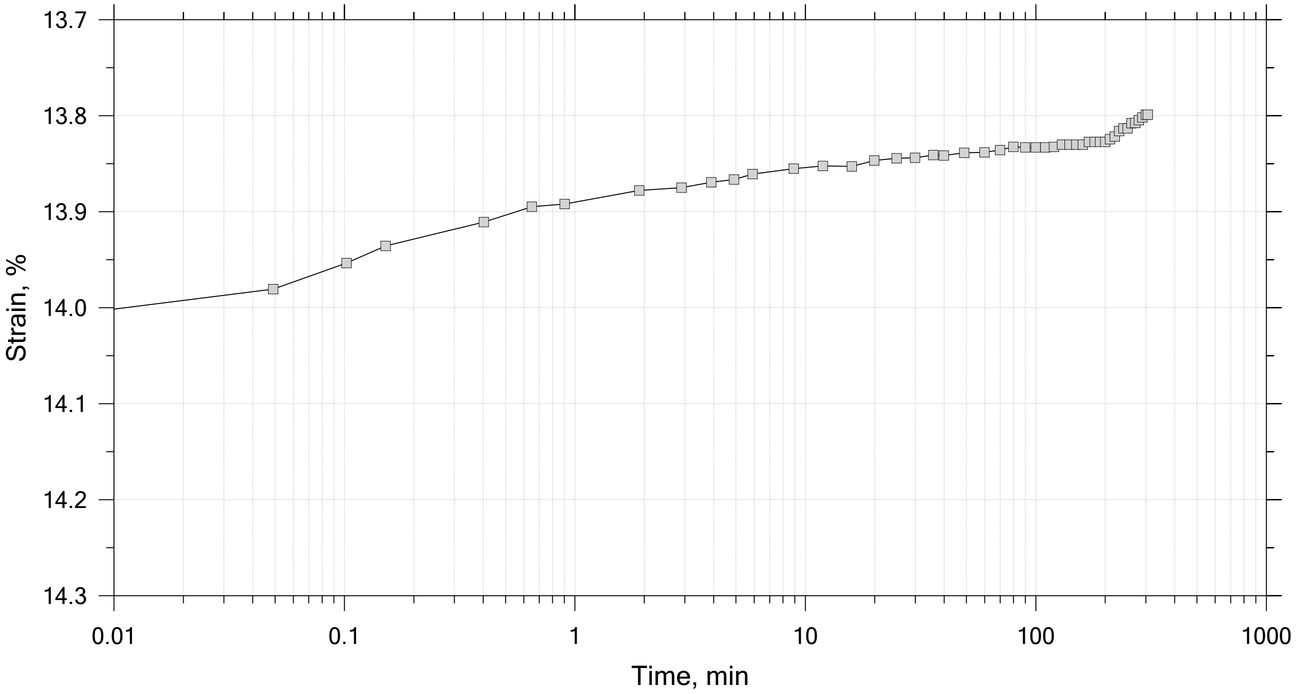
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

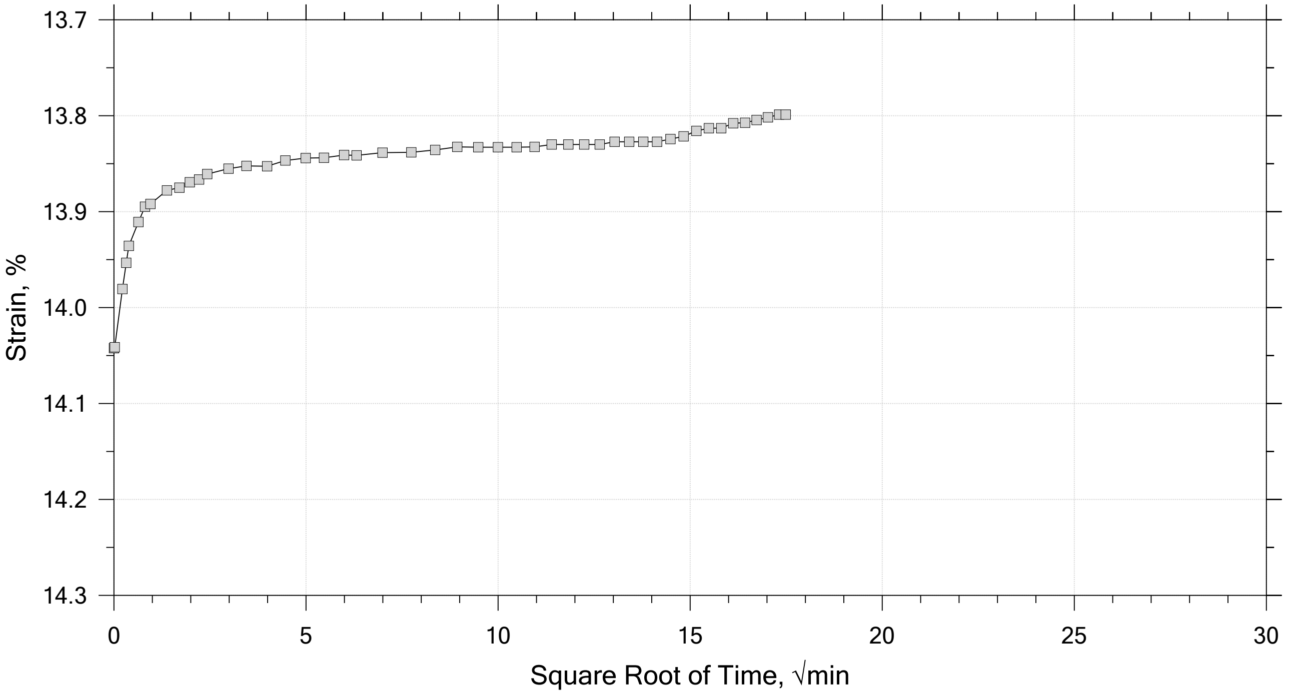
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





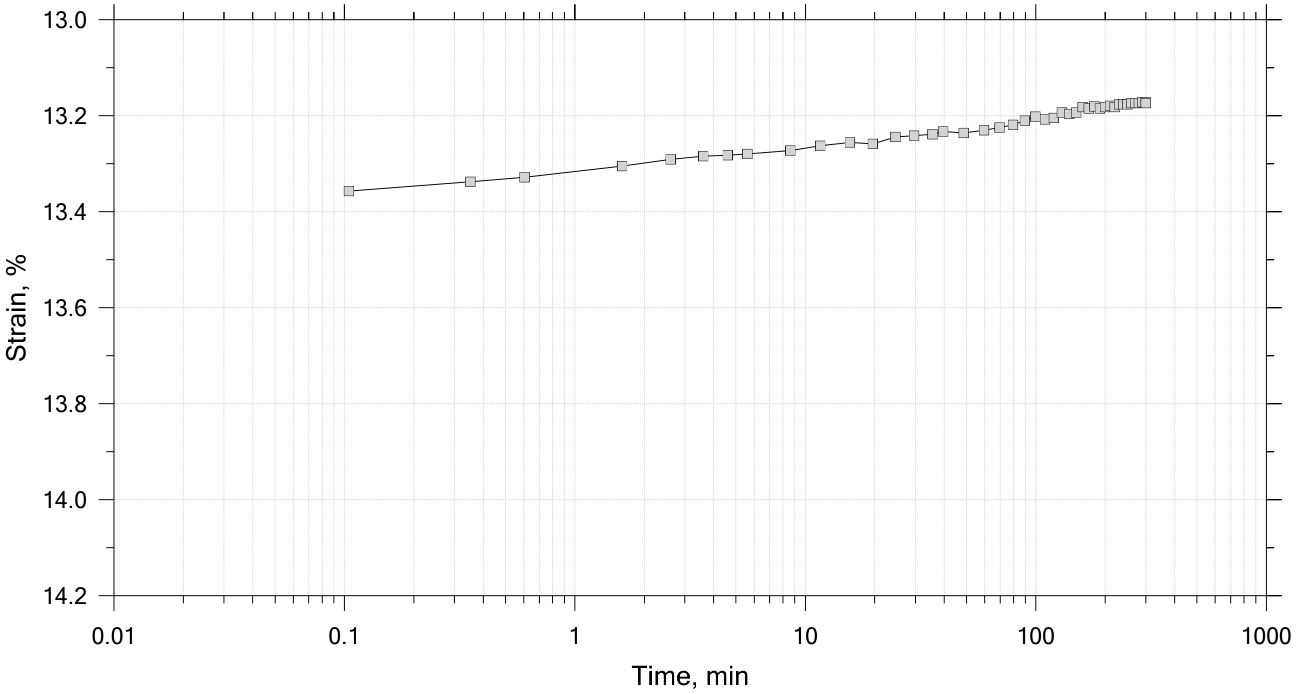
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

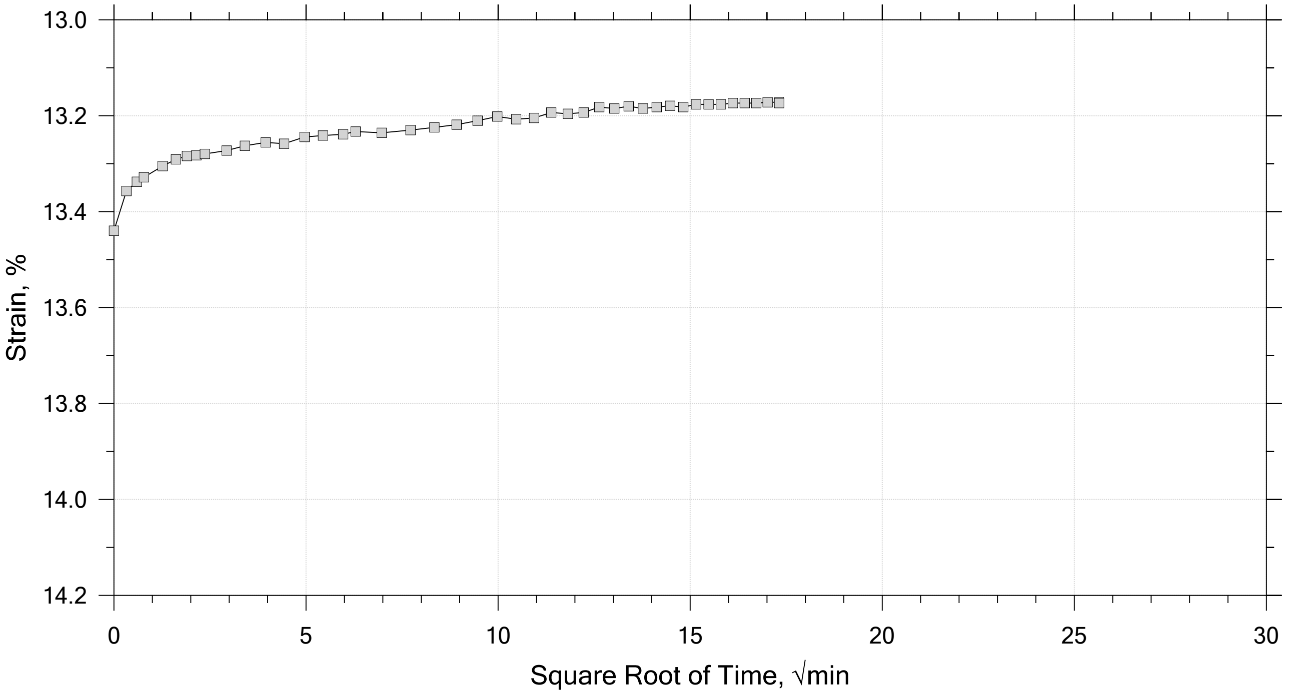
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf





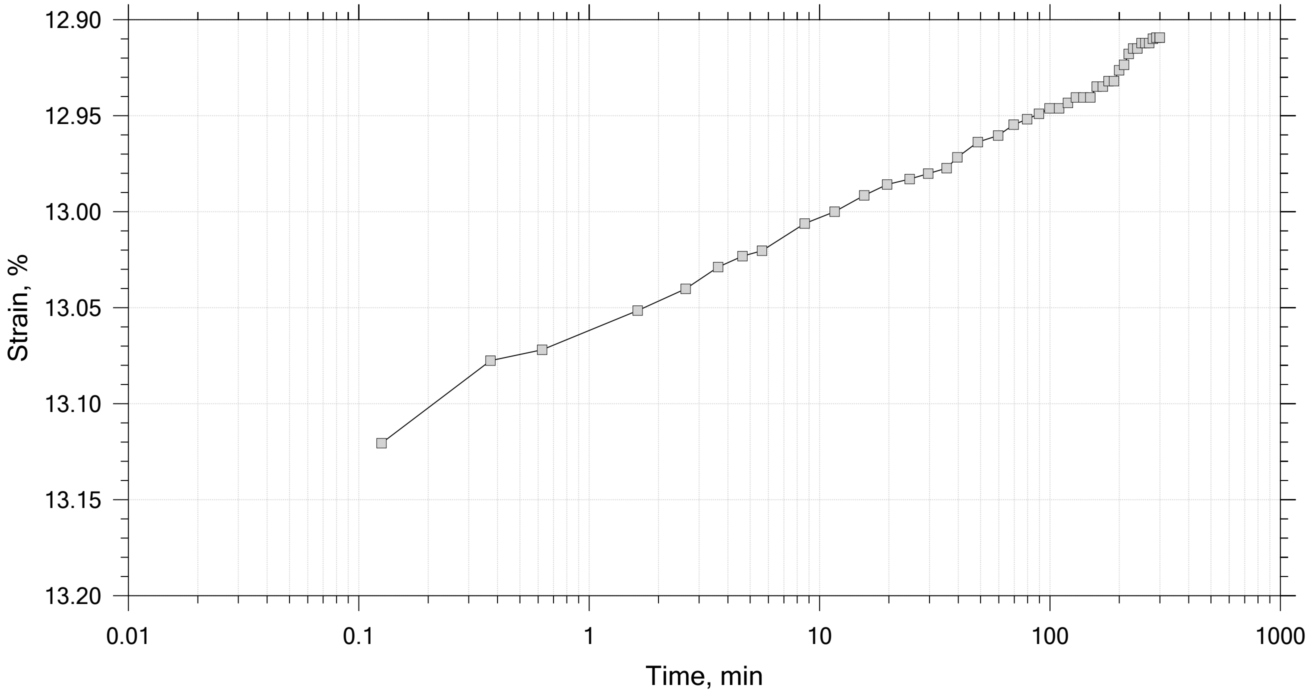
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

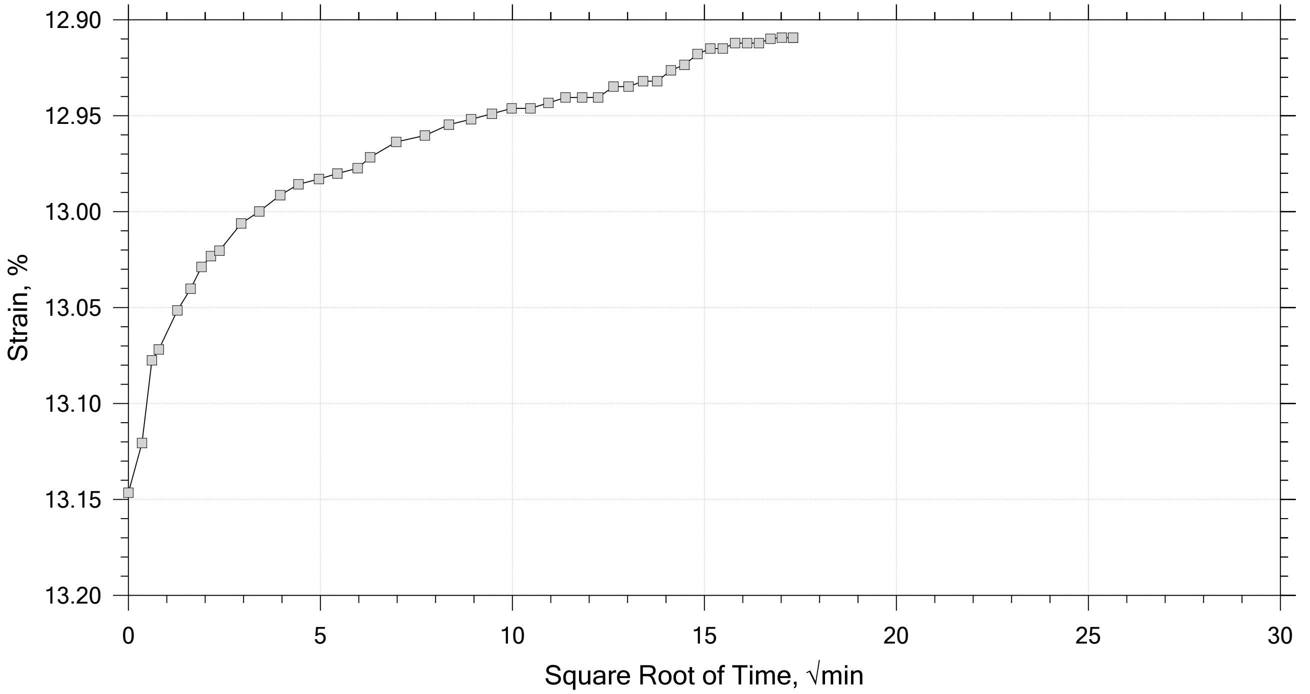
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15

Constant Load Step

Stress: 0.0625 tsf





GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-6	Tested By: trm	Checked By: njh
	Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
	Test No.: IP-1	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray silty clay with sand		
	Remarks: System M, Swell Pressure = 0.0688 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 1.88 in	Estimated Specific Gravity: 2.76	Liquid Limit: 27
Initial Height: 1.10 in	Initial Void Ratio: 0.708	Plastic Limit: 20
Final Height: 0.95 in	Final Void Ratio: 0.476	Plasticity Index: 7

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	D1306	RING		D-1621
Mass Container, gm	8.49	99.95	99.95	8.54
Mass Container + Wet Soil, gm	232.31	201.03	194.75	102.34
Mass Container + Dry Soil, gm	185.27	180.82	180.82	88.56
Mass Dry Soil, gm	176.78	80.873	80.873	80.02
Water Content, %	26.61	24.99	17.22	17.22
Void Ratio	---	0.71	0.48	---
Degree of Saturation, %	---	97.38	100.00	---
Dry Unit Weight, pcf	---	100.9	116.83	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/s	Mv 1/tsf	k ft/day	Ca %
1	0.0688	0.007977	0.696	0.725	0.000	0.00e+00	1.05e-01	0.00e+00	0.00e+00
2	0.125	0.01282	0.689	1.17	0.000	0.00e+00	7.83e-02	0.00e+00	0.00e+00
3	0.250	0.02096	0.676	1.91	0.000	0.00e+00	5.92e-02	0.00e+00	0.00e+00
4	0.500	0.03336	0.657	3.03	0.000	0.00e+00	4.51e-02	0.00e+00	0.00e+00
5	1.00	0.06000	0.615	5.45	0.000	0.00e+00	4.84e-02	0.00e+00	0.00e+00
6	2.00	0.07794	0.587	7.09	0.000	0.00e+00	1.63e-02	0.00e+00	0.00e+00
7	4.00	0.09682	0.558	8.80	0.000	0.00e+00	8.58e-03	0.00e+00	0.00e+00
8	8.00	0.1200	0.522	10.9	0.000	0.00e+00	5.26e-03	0.00e+00	0.00e+00
9	16.0	0.1380	0.494	12.5	0.000	0.00e+00	2.05e-03	0.00e+00	0.00e+00
10	32.0	0.1586	0.462	14.4	0.000	0.00e+00	1.17e-03	0.00e+00	0.00e+00
11	8.00	0.1592	0.461	14.5	0.000	0.00e+00	-2.13e-05	-0.00e+00	0.00e+00
12	2.00	0.1569	0.465	14.3	0.000	0.00e+00	3.44e-04	0.00e+00	0.00e+00
13	0.500	0.1518	0.473	13.8	0.000	0.00e+00	3.11e-03	0.00e+00	0.00e+00
14	0.125	0.1449	0.483	13.2	0.000	0.00e+00	1.67e-02	0.00e+00	0.00e+00
15	0.0625	0.1420	0.488	12.9	0.000	0.00e+00	4.23e-02	0.00e+00	0.00e+00

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Square Root of Time Coefficients

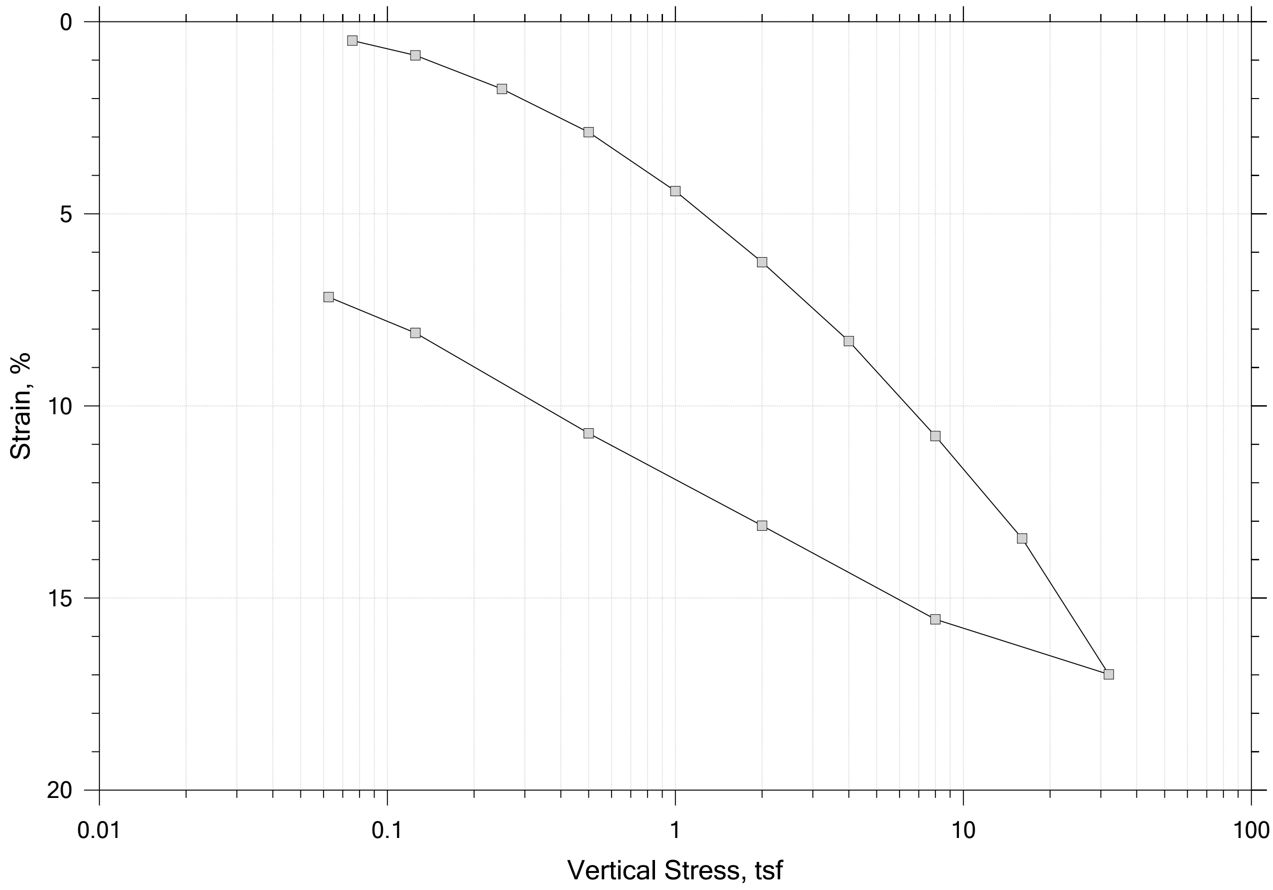
Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0688	0.007977	0.696	0.725	34.413	8.56e-07	1.05e-01	2.44e-04
2	0.125	0.01282	0.689	1.17	98.512	2.96e-07	7.83e-02	6.25e-05
3	0.250	0.02096	0.676	1.91	63.329	4.55e-07	5.92e-02	7.25e-05
4	0.500	0.03336	0.657	3.03	39.667	7.12e-07	4.51e-02	8.66e-05
5	1.00	0.06000	0.615	5.45	14.206	1.92e-06	4.84e-02	2.50e-04
6	2.00	0.07794	0.587	7.09	17.006	1.53e-06	1.63e-02	6.75e-05
7	4.00	0.09682	0.558	8.80	21.673	1.16e-06	8.58e-03	2.69e-05
8	8.00	0.1200	0.522	10.9	127.635	1.89e-07	5.26e-03	2.68e-06
9	16.0	0.1380	0.494	12.5	14.556	1.59e-06	2.05e-03	8.79e-06
10	32.0	0.1586	0.462	14.4	47.185	4.71e-07	1.17e-03	1.49e-06
11	8.00	0.1592	0.461	14.5	273.549	7.94e-08	-2.13e-05	-4.56e-09
12	2.00	0.1569	0.465	14.3	189.658	1.15e-07	3.44e-04	1.07e-07
13	0.500	0.1518	0.473	13.8	227.561	9.64e-08	3.11e-03	8.10e-07
14	0.125	0.1449	0.483	13.2	97.680	2.27e-07	1.67e-02	1.02e-05
15	0.0625	0.1420	0.488	12.9	219.601	1.02e-07	4.23e-02	1.17e-05

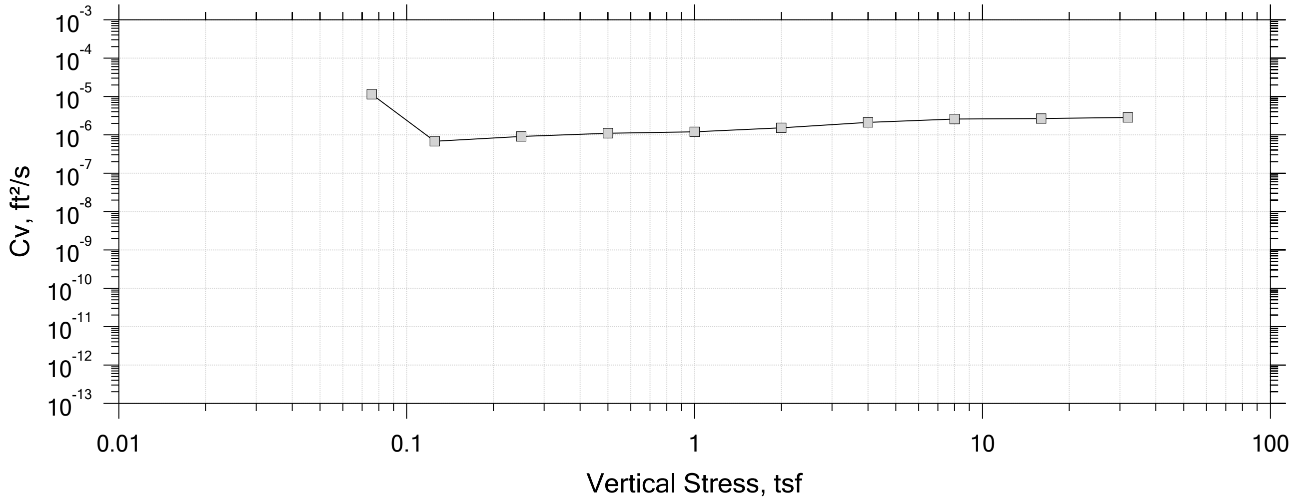
GeoTesting
EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-6	Tested By: trm	Checked By: njh
Sample No.: HPC-2E	Test Date: 10/4/18	Depth: ---
Test No.: IP-1	Sample Type: intact	Elevation: ---
Description: Moist, dark gray silty clay with sand		
Remarks: System M, Swell Pressure = 0.0688 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





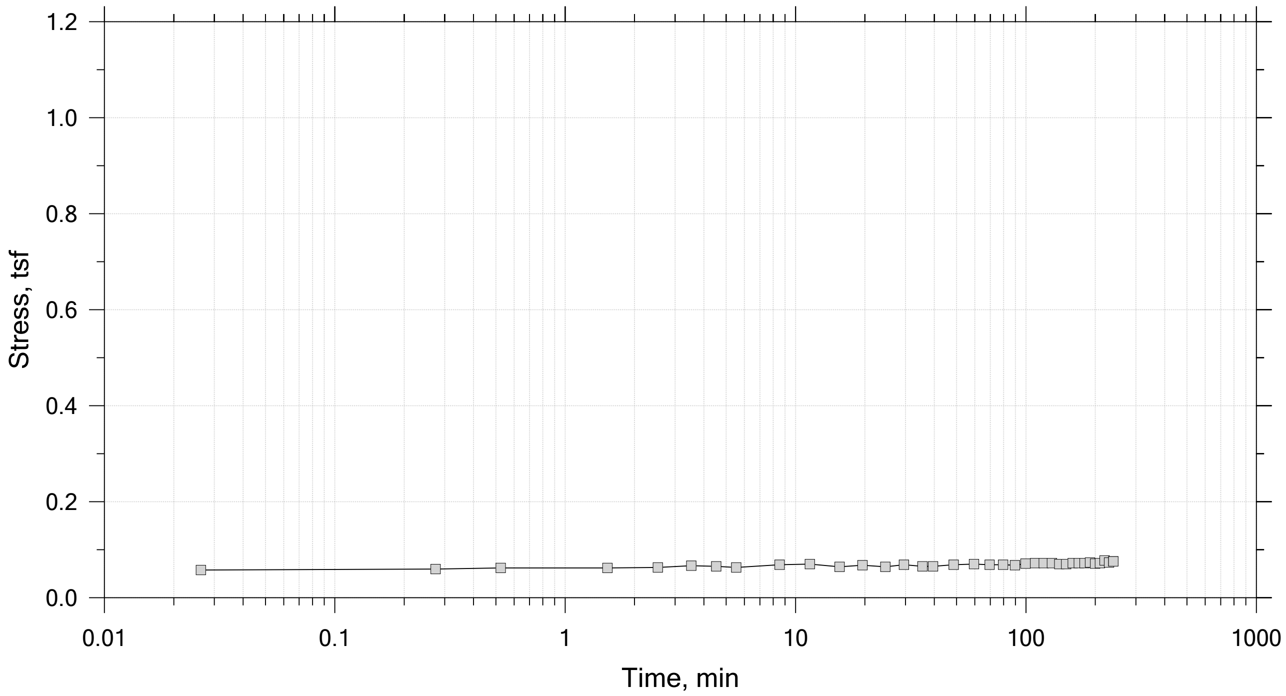
GeoTesting EXPRESS			
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-3	Tested By: md/trm	Checked By: mcm
	Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
	Test No.: IP-6	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		
	Displacement at End of Increment		

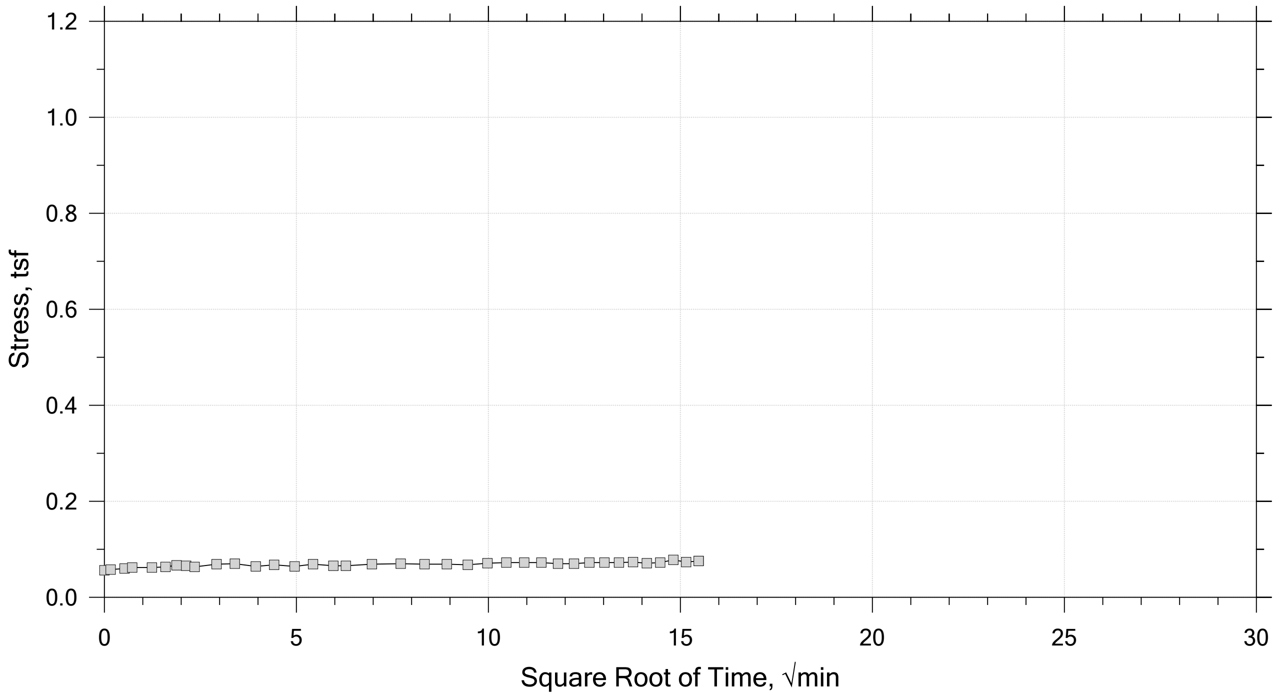
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0755 tsf





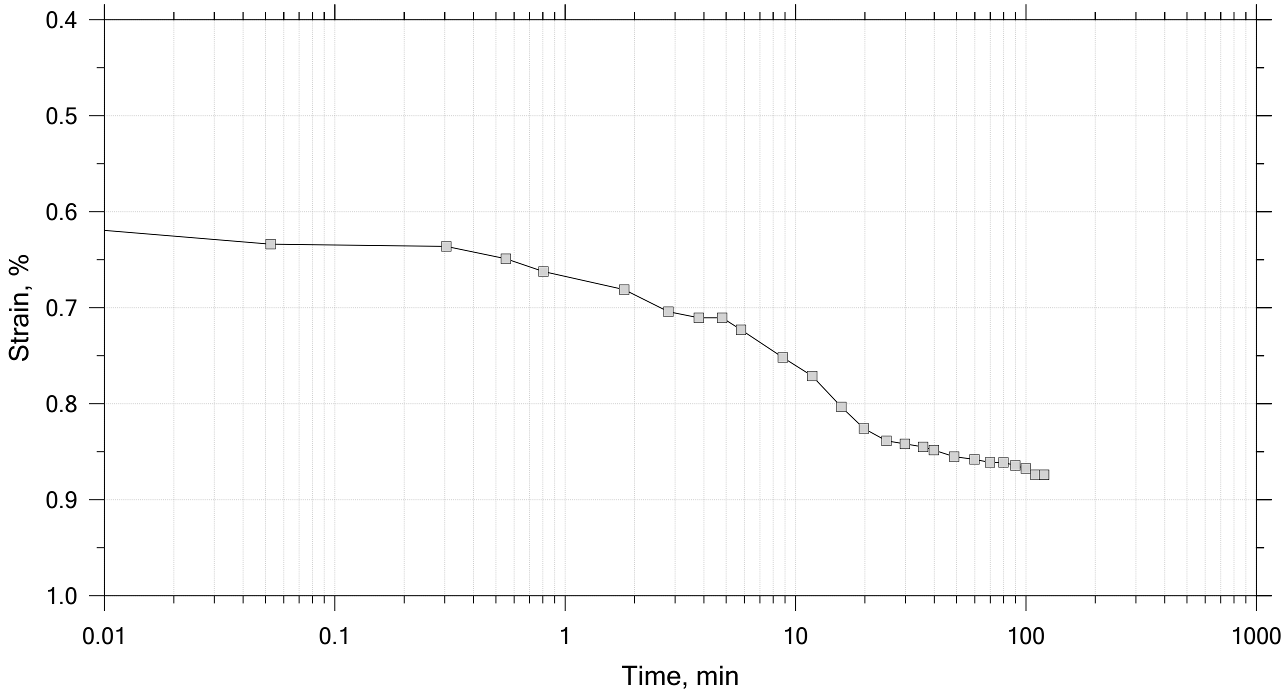
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

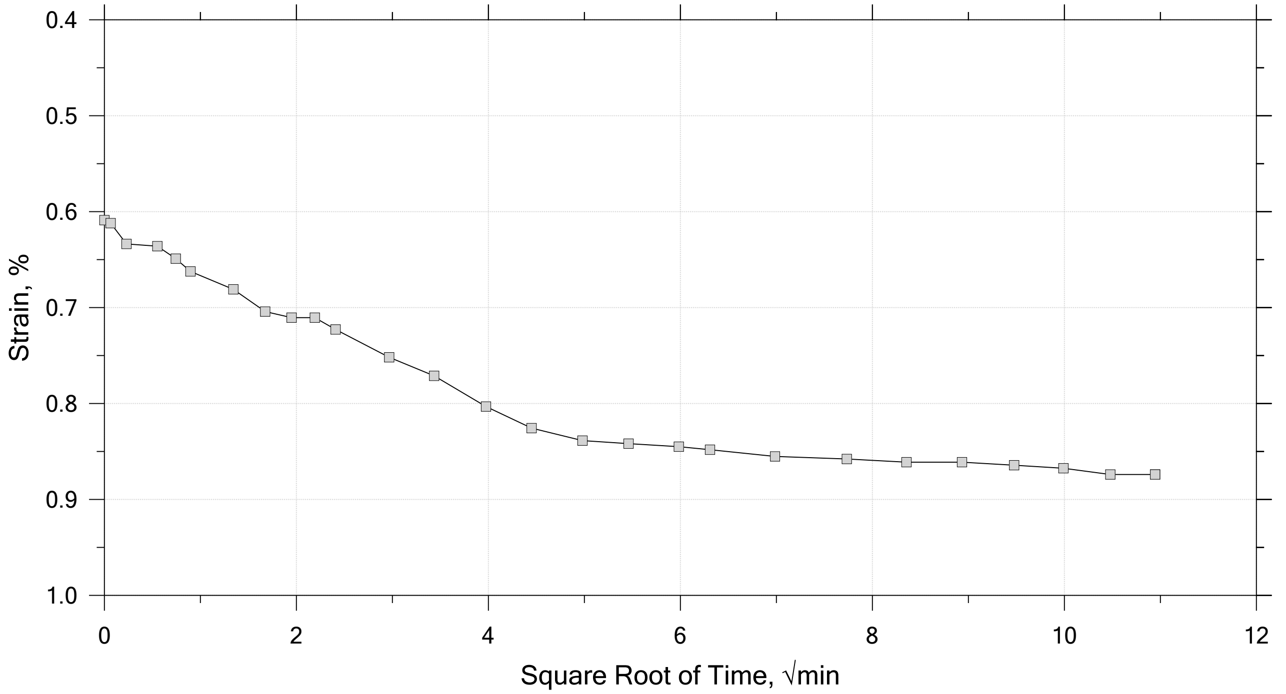
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15

Constant Load Step

Stress: 0.125 tsf





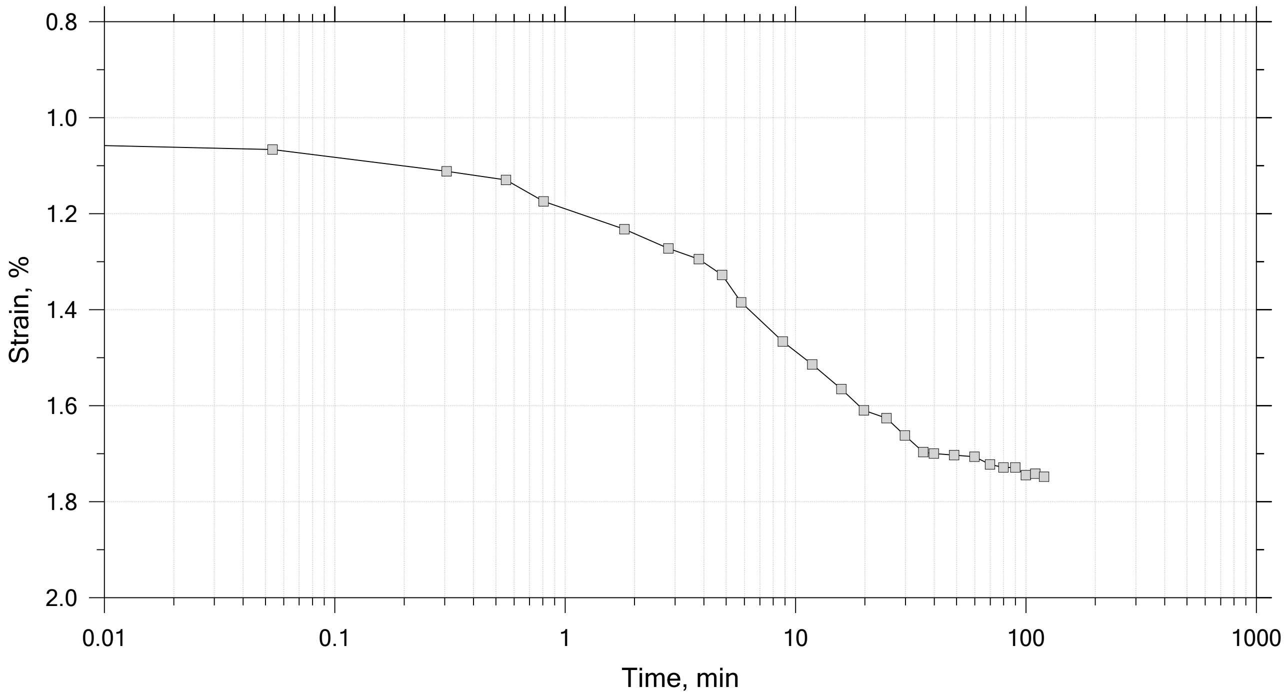
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-3	Tested By: md/trm	Checked By: mcm
GeoTesting EXPRESS	Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
	Test No.: IP-6	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

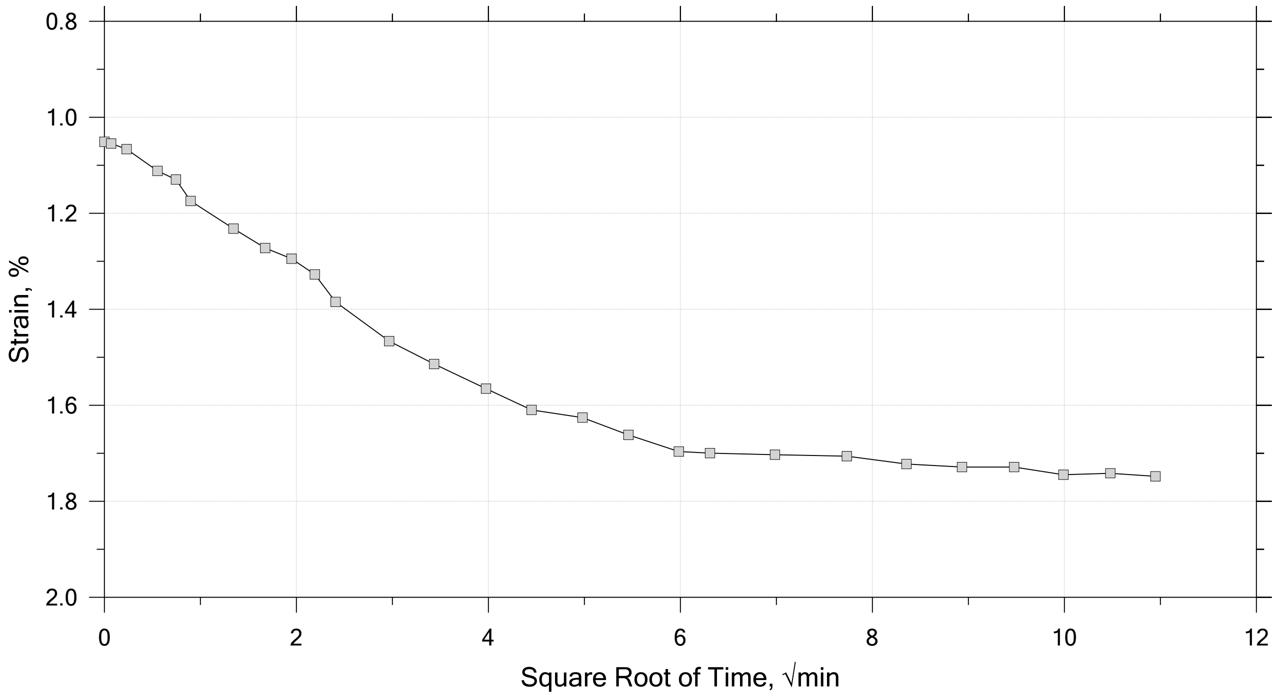
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15

Constant Load Step

Stress: 0.25 tsf





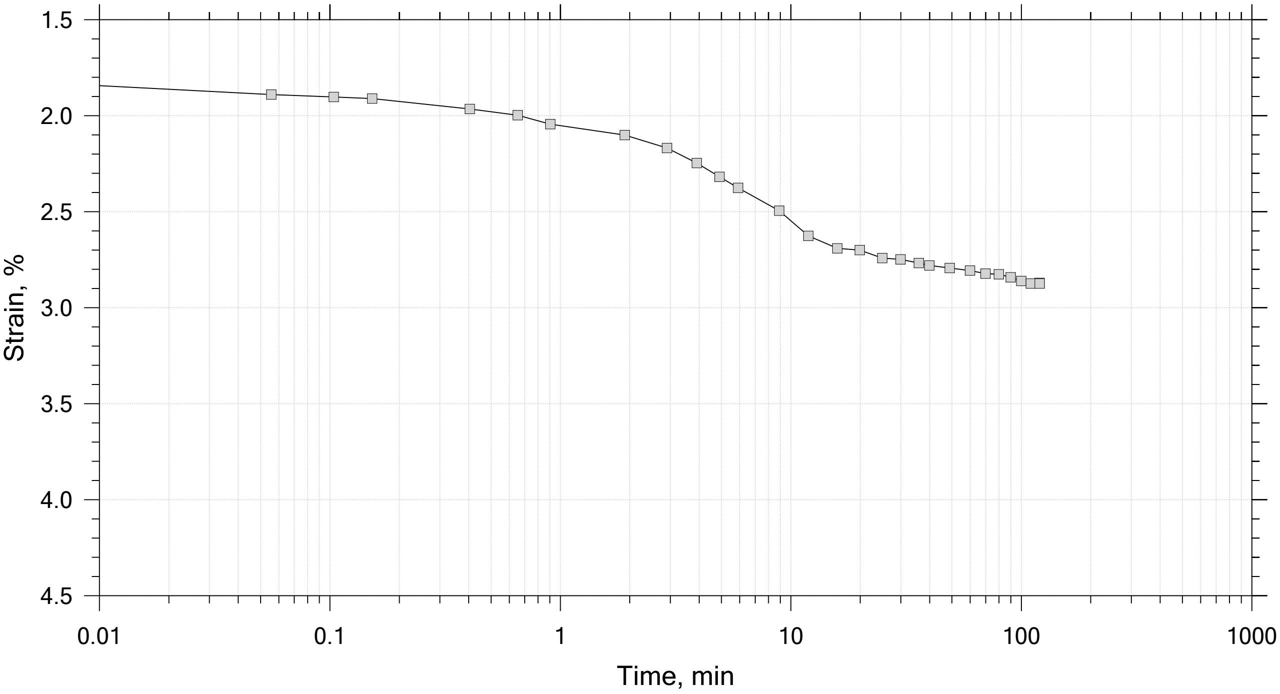
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

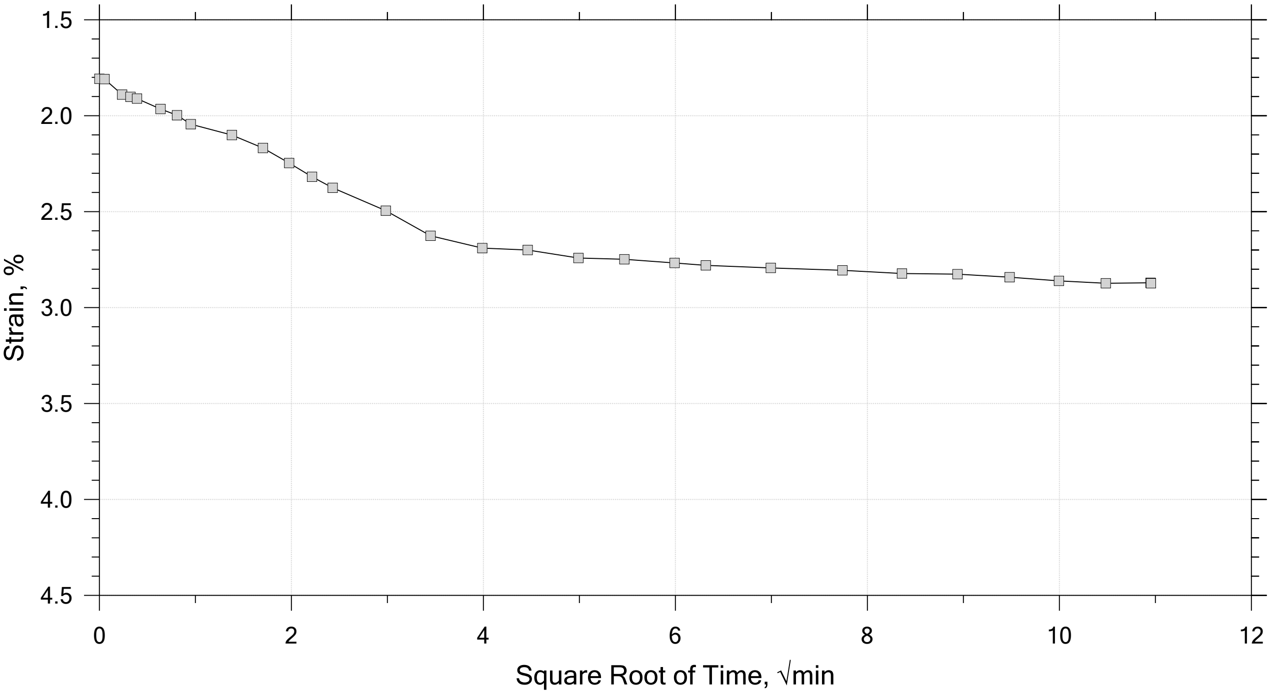
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf





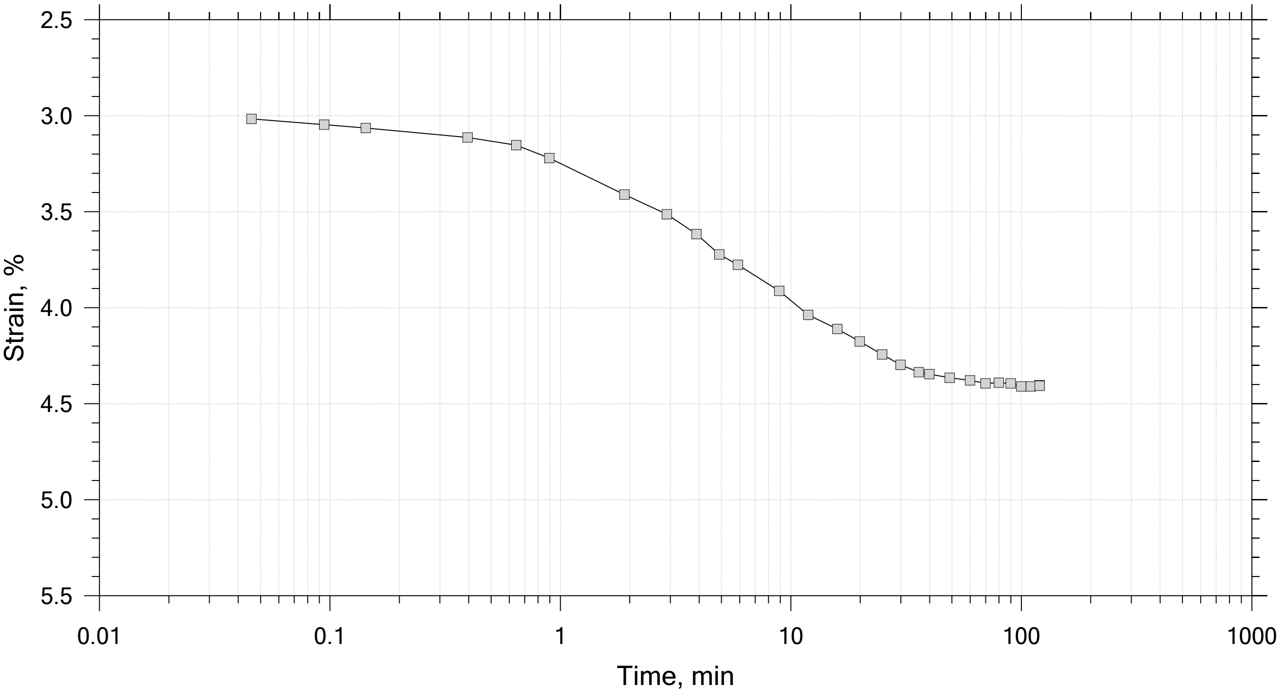
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

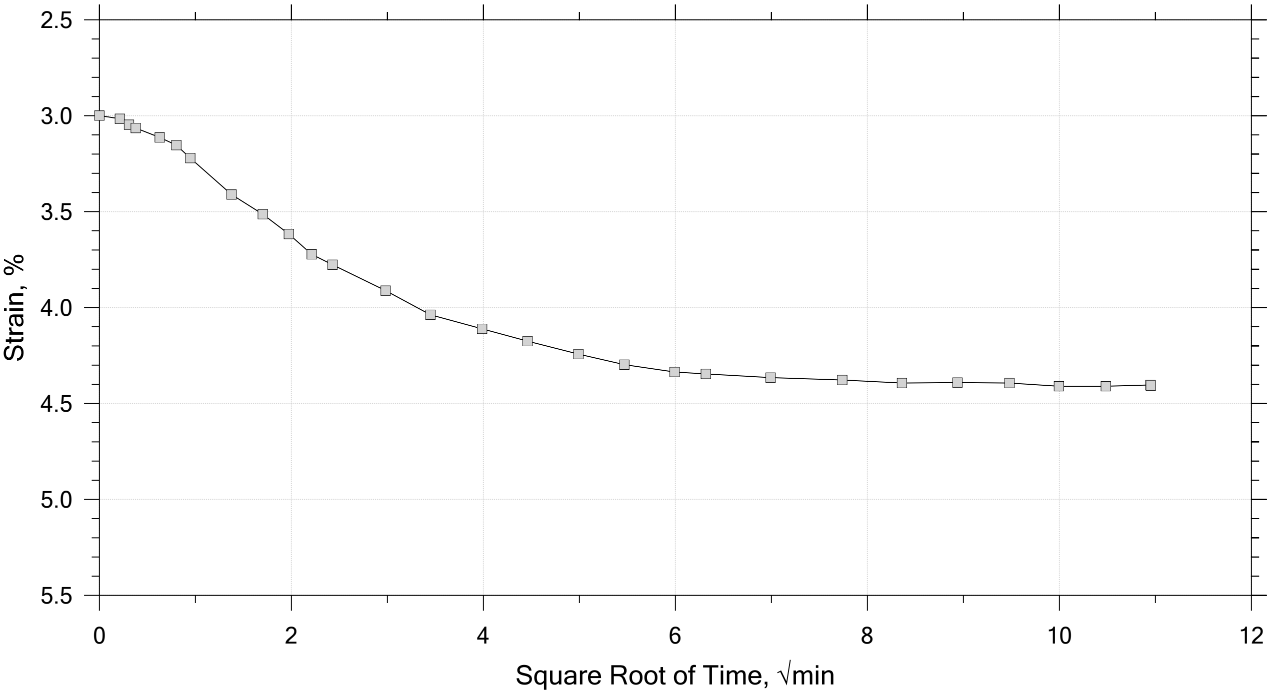
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15

Constant Load Step

Stress: 1 tsf





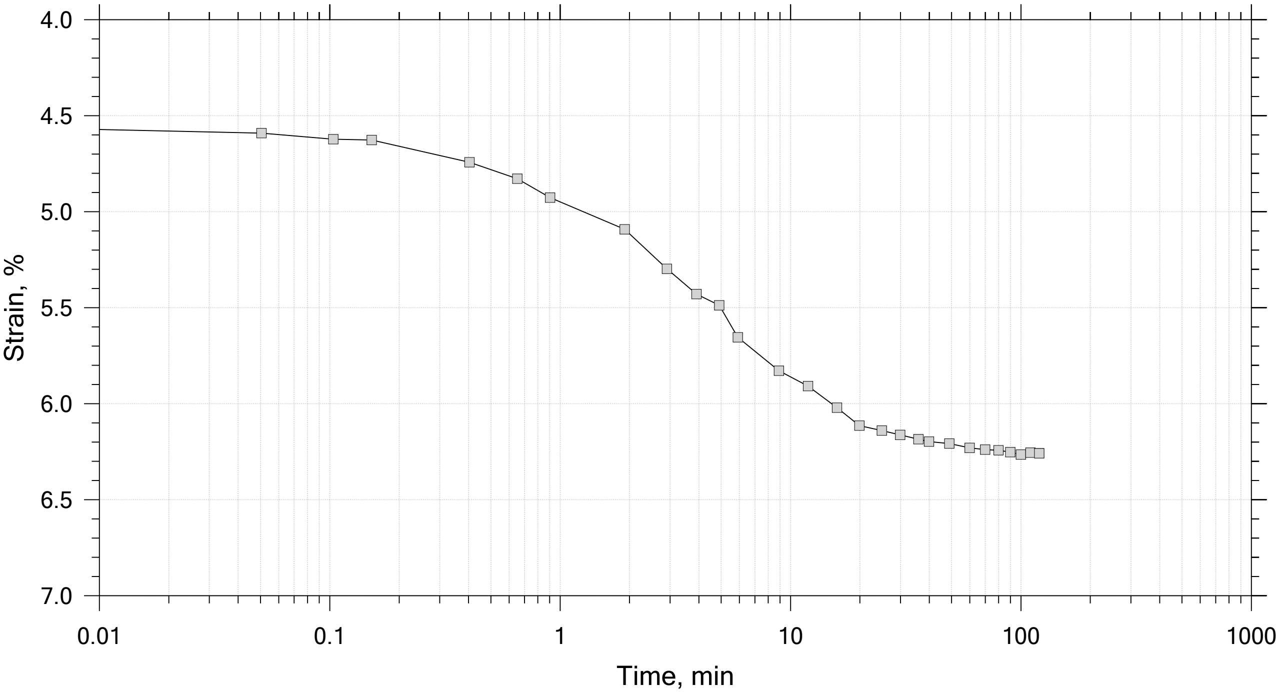
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

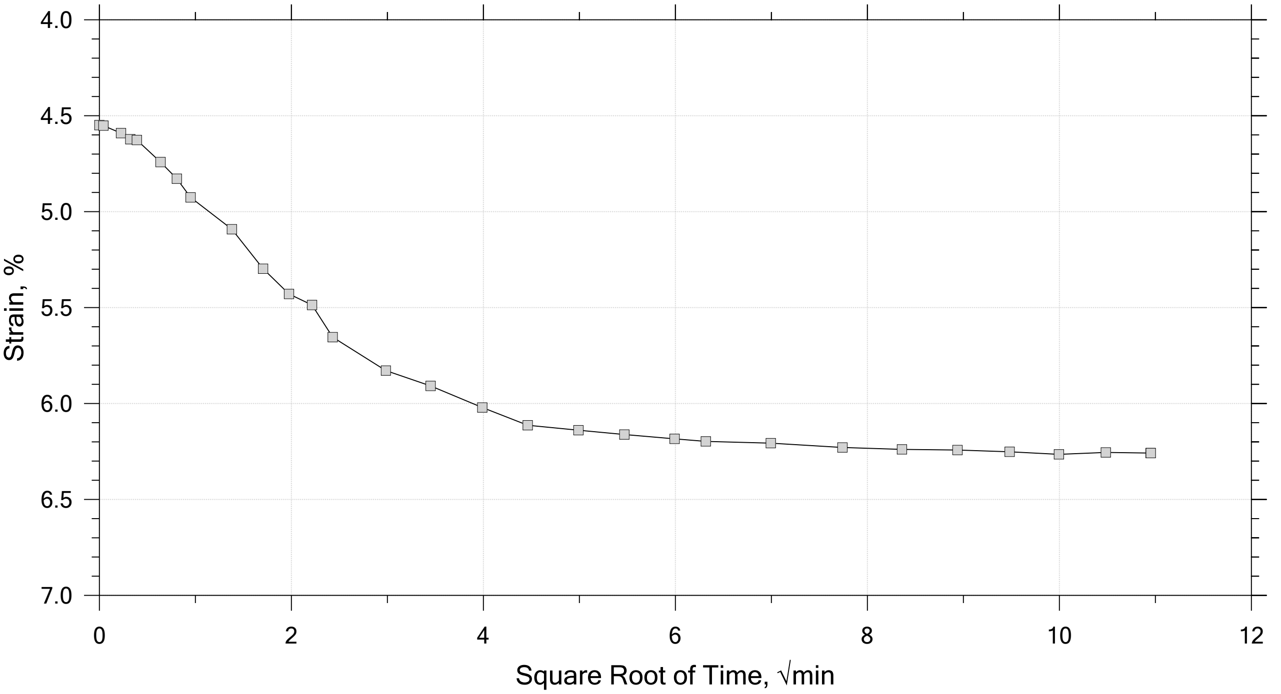
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





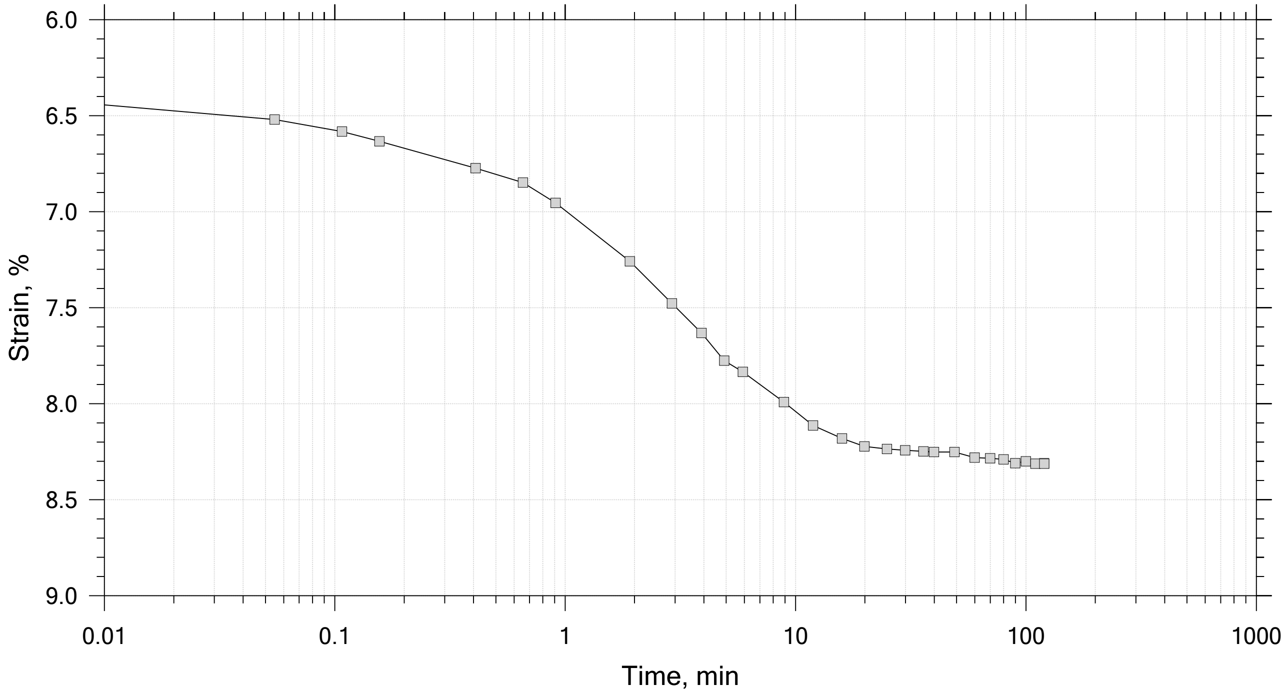
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-3	Tested By: md/trm	Checked By: mcm
	Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
	Test No.: IP-6	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

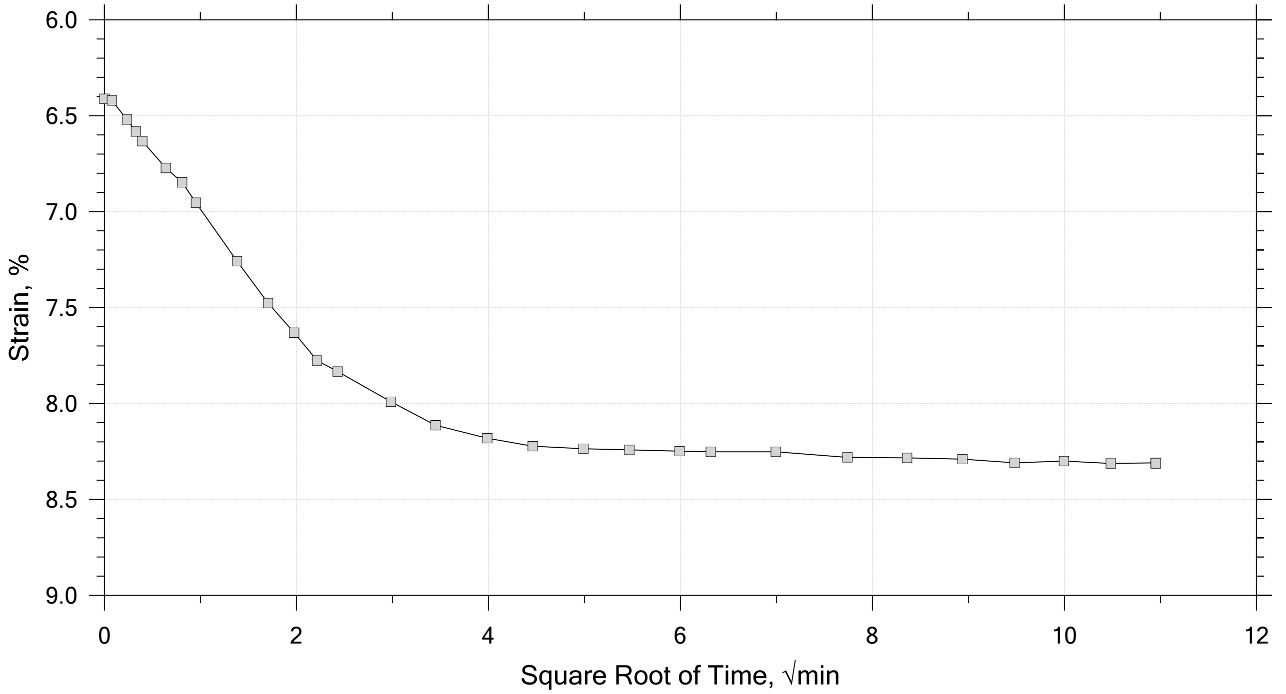
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf

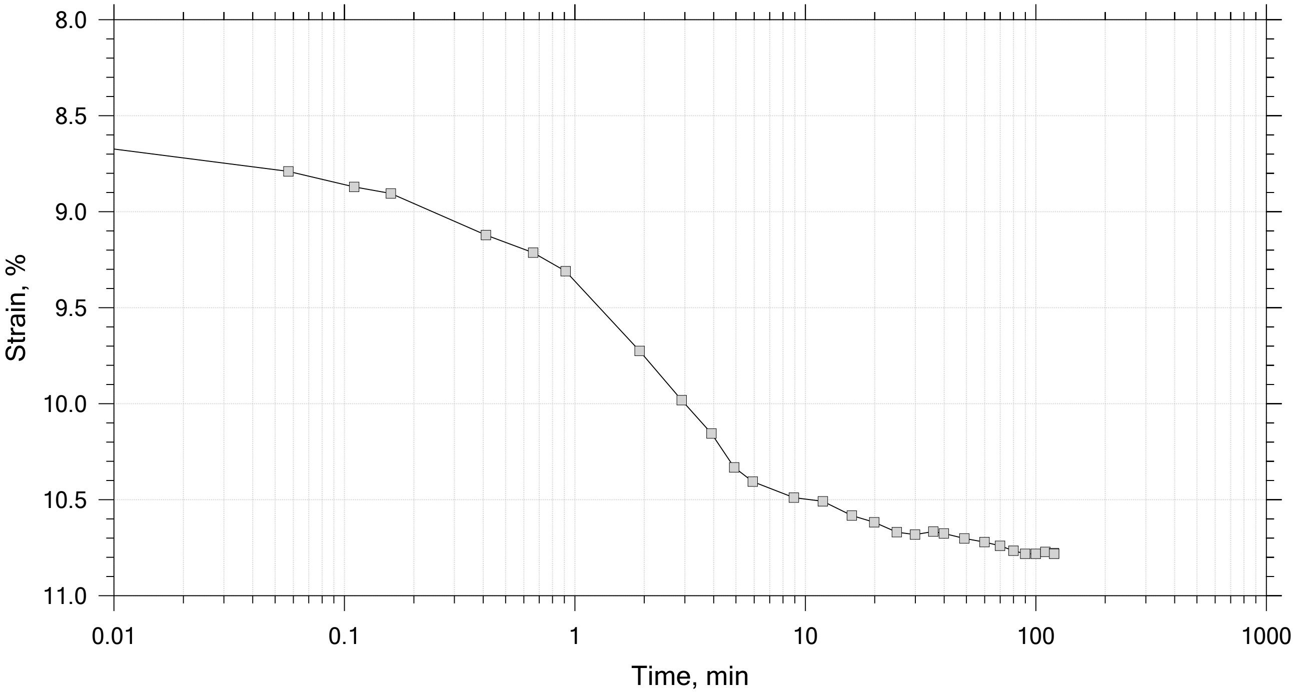


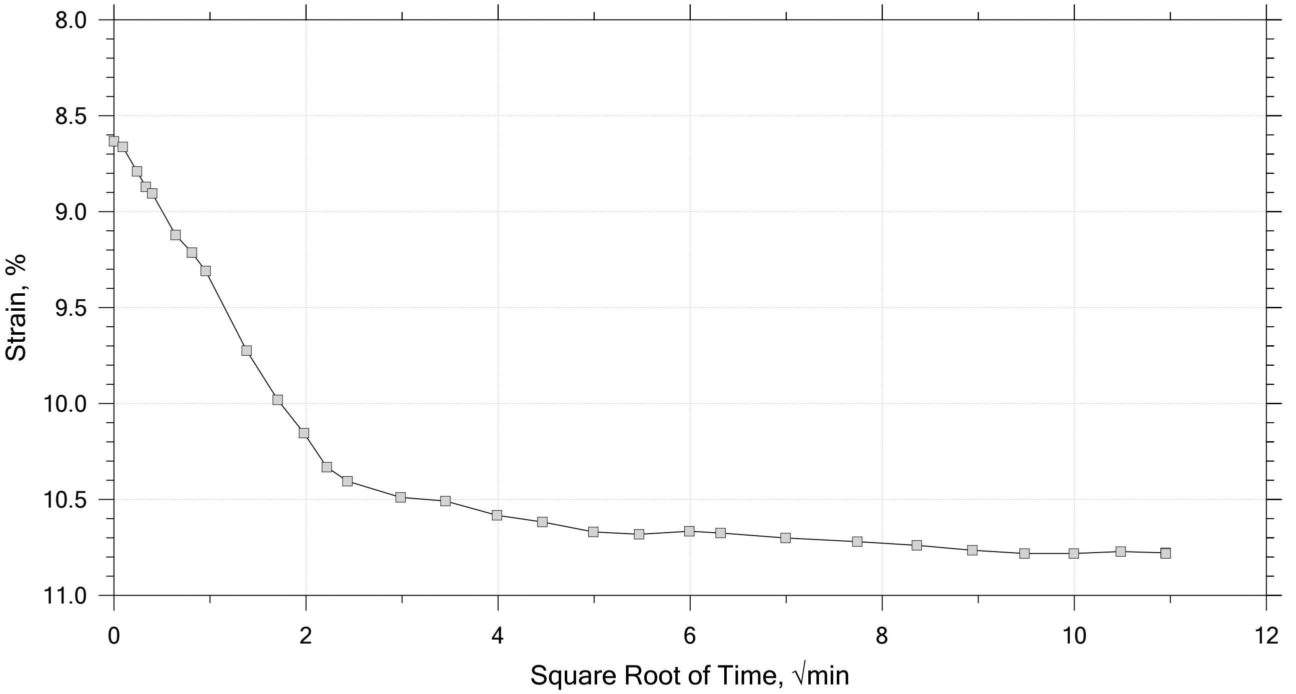


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15
Constant Load Step
Stress: 8 tsf





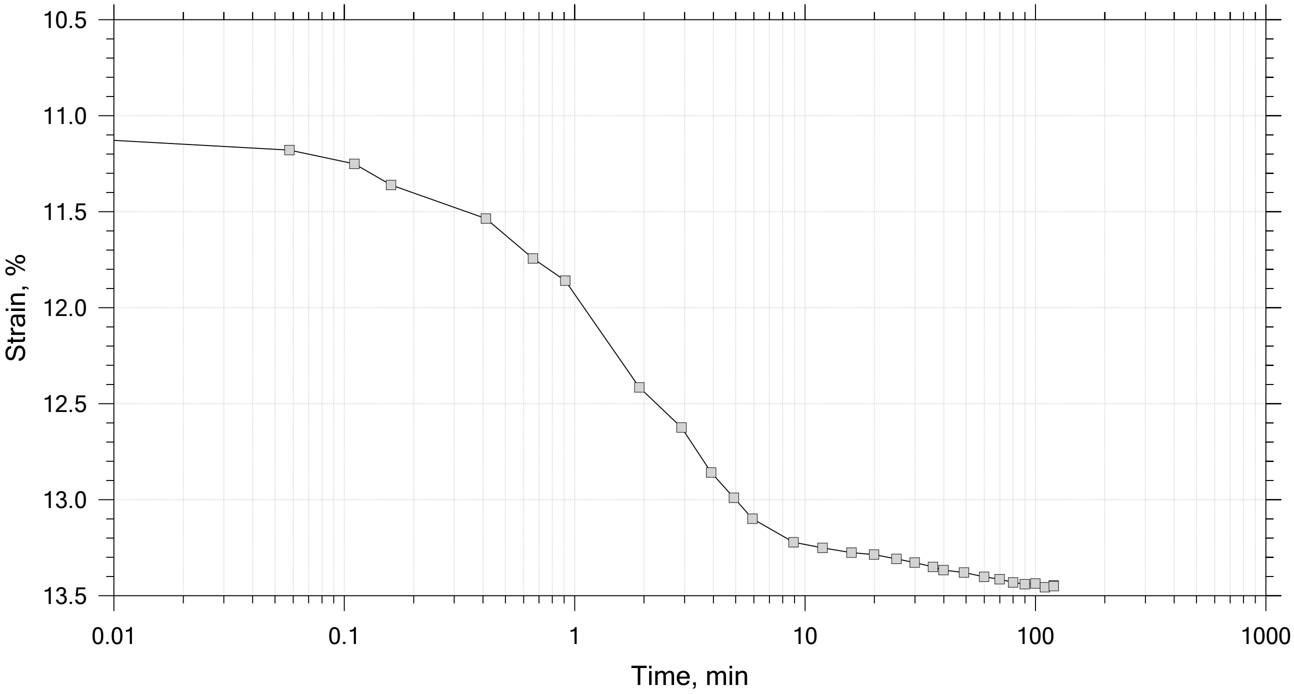
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

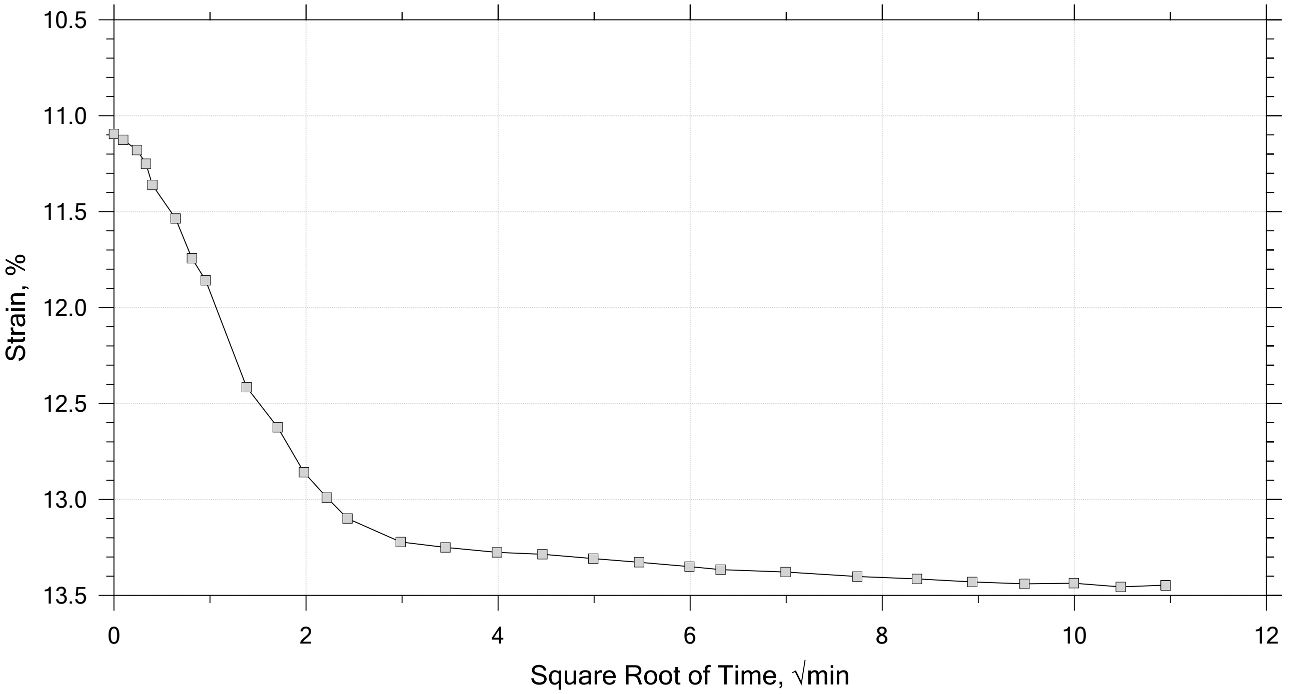
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





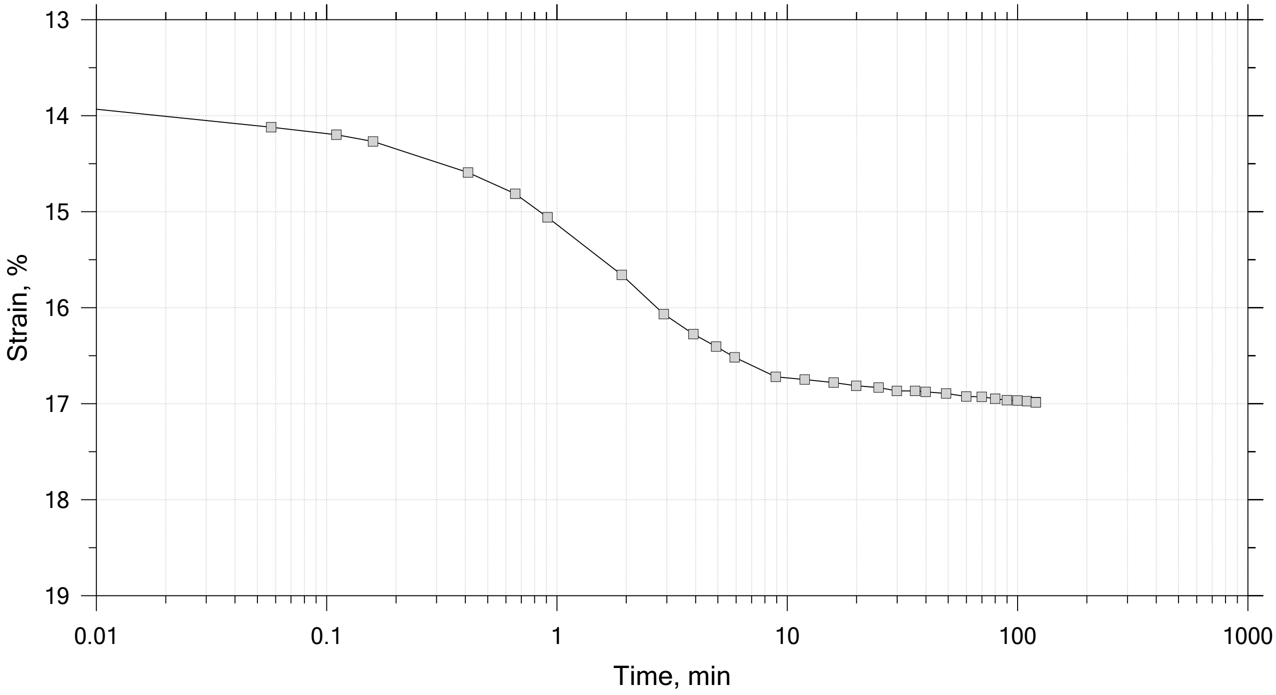
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

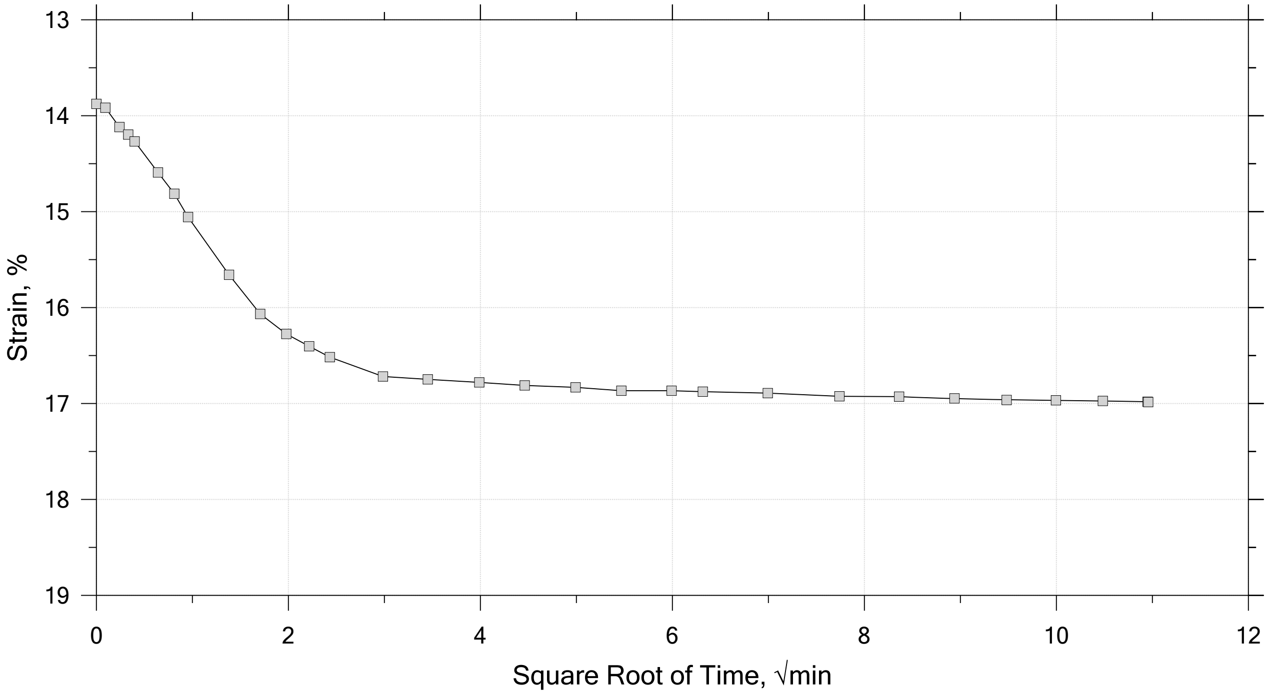
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf

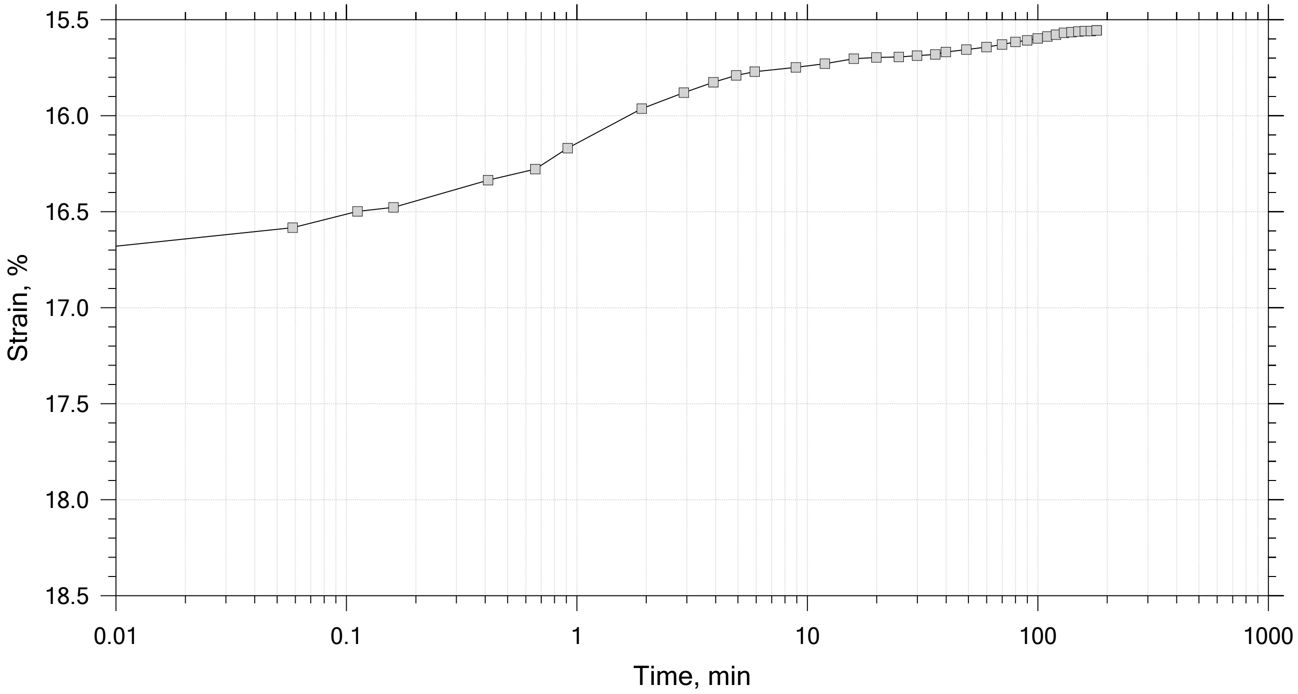


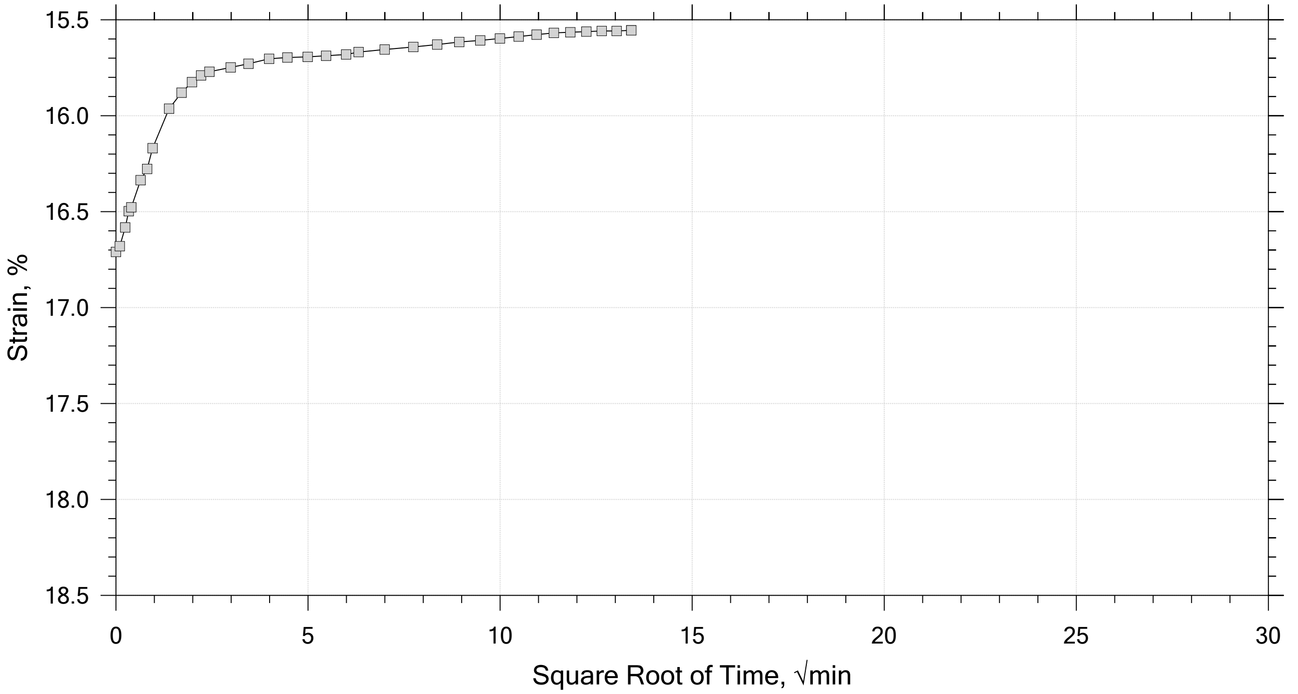


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15
Constant Load Step
Stress: 8 tsf





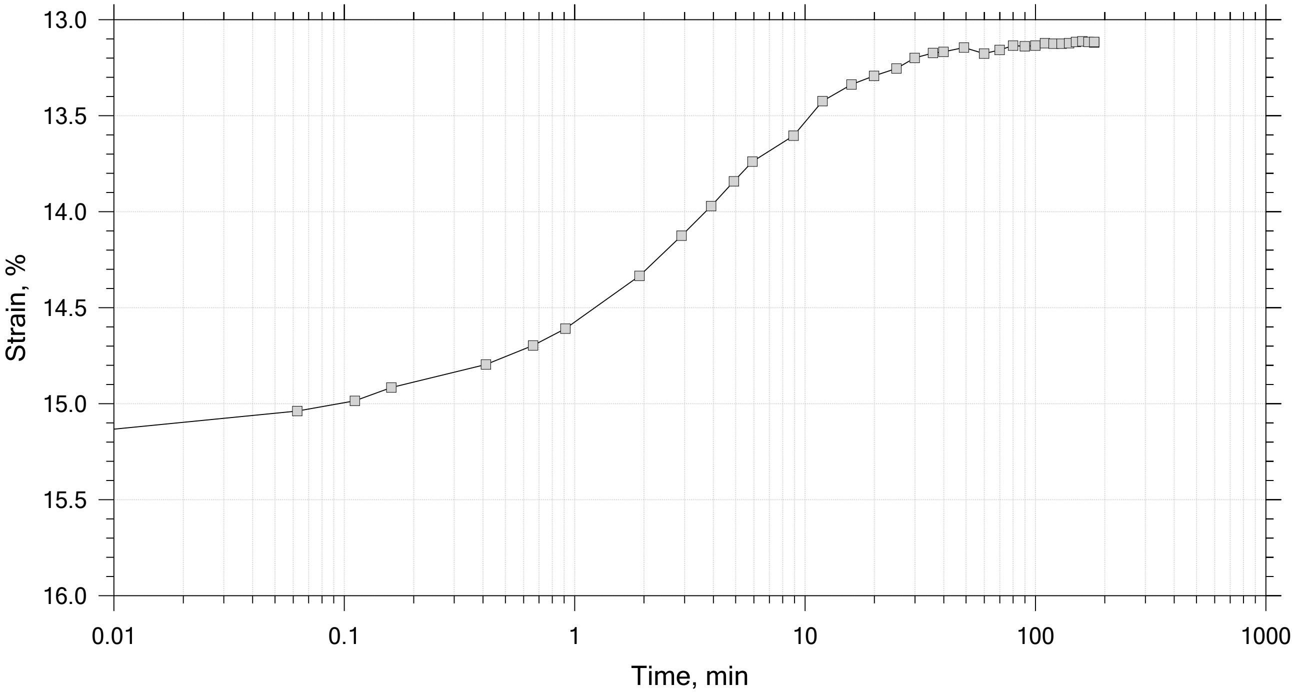
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

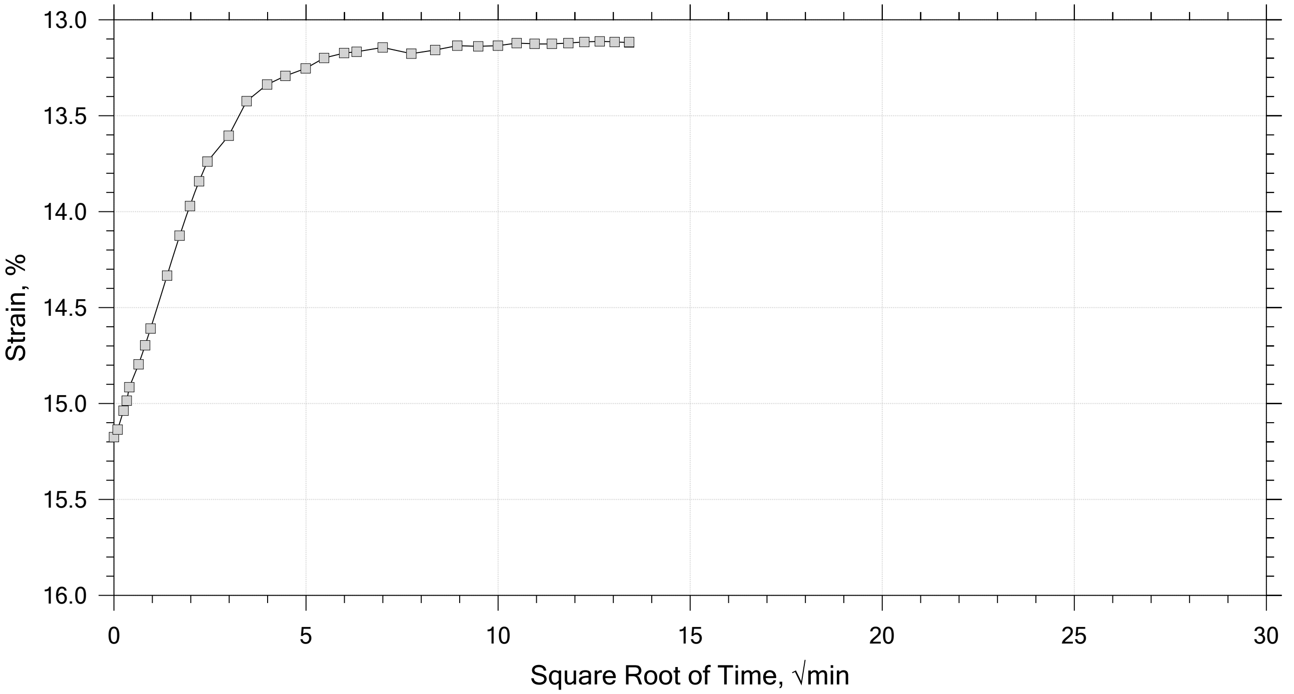
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15

Constant Load Step

Stress: 2 tsf





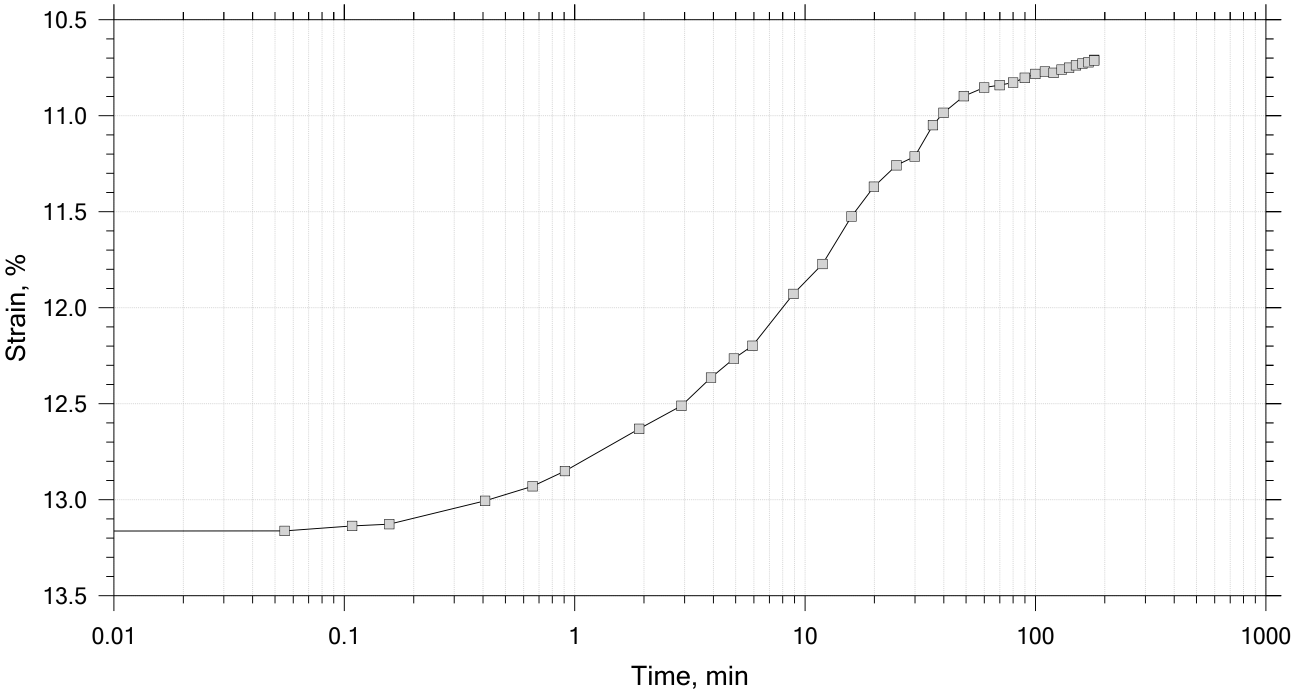
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-3	Tested By: md/trm	Checked By: mcm
GeoTesting EXPRESS	Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
	Test No.: IP-6	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

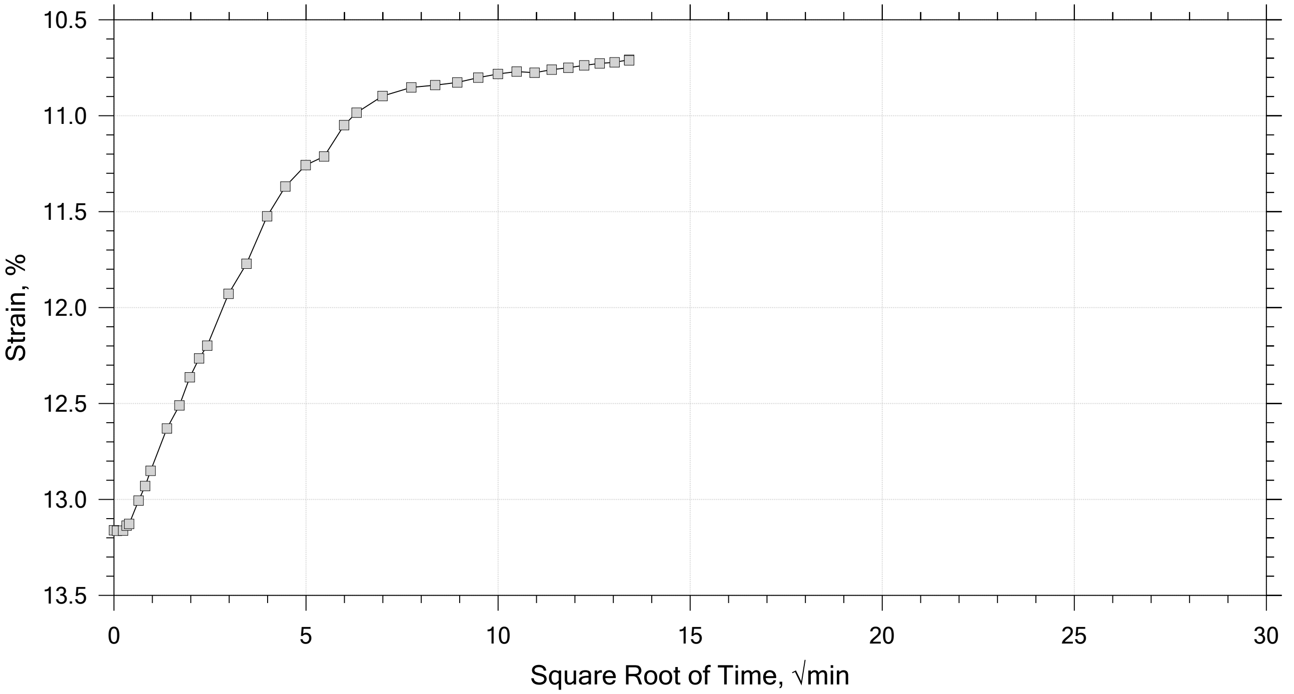
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





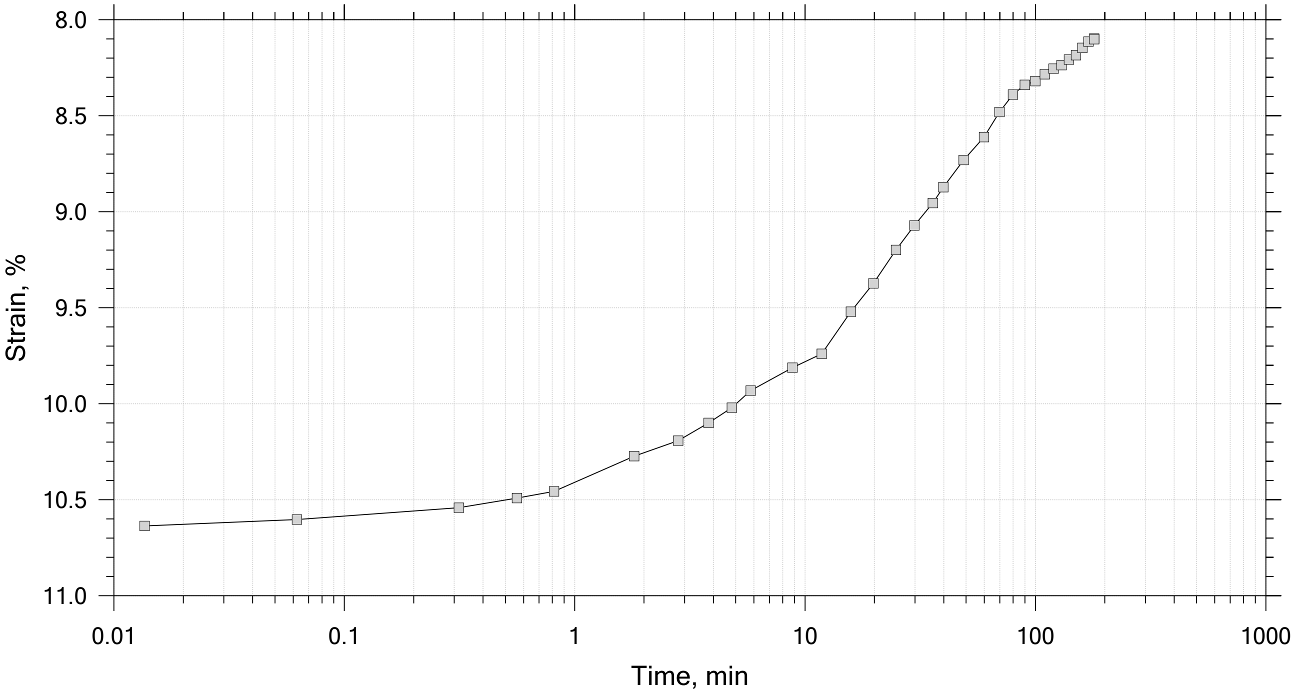
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

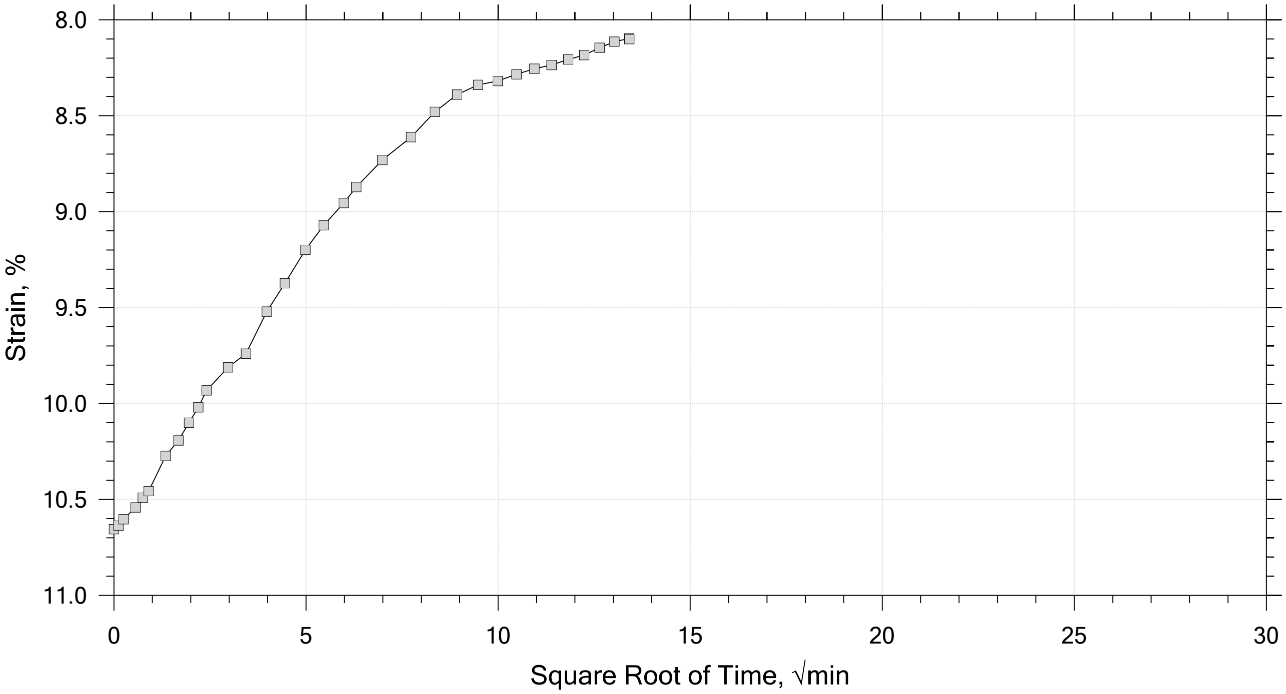
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf





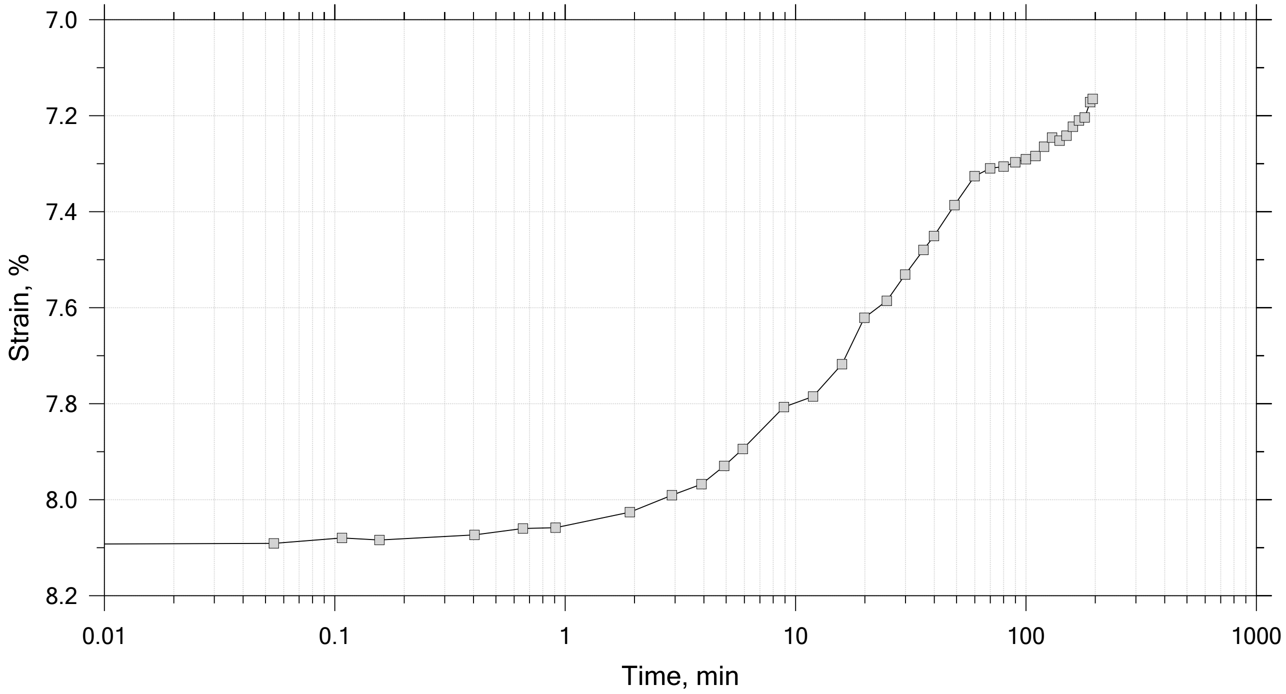
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

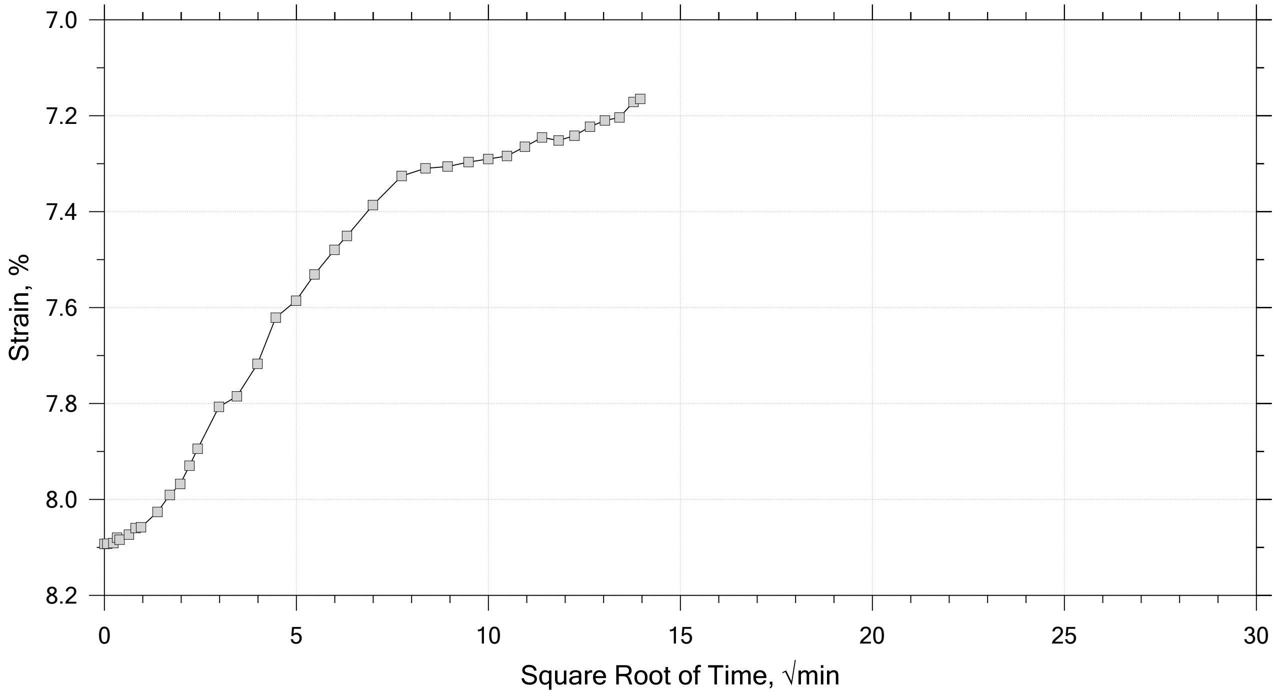
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15

Constant Load Step

Stress: 0.0625 tsf





GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-3	Tested By: md/trm	Checked By: mcm
	Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
	Test No.: IP-6	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.74	Liquid Limit: 45
Initial Height: 1.00 in	Initial Void Ratio: 0.799	Plastic Limit: 20
Final Height: 0.93 in	Final Void Ratio: 0.67	Plasticity Index: 25

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	A2309	RING		B1990
Mass Container, gm	8.24	8.27	8.27	8.27
Mass Container + Wet Soil, gm	94.19	165.02	160.72	160.72
Mass Container + Dry Soil, gm	72.25	130.75	130.75	130.75
Mass Dry Soil, gm	64.01	122.48	122.48	122.48
Water Content, %	34.28	27.98	24.47	24.47
Void Ratio	---	0.80	0.67	---
Degree of Saturation, %	---	95.90	100.00	---
Dry Unit Weight, pcf	---	95.055	102.39	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/s	Mv 1/tsf	k ft/day	Ca %
1	0.0755	0.004883	0.791	0.488	0.000	0.00e+00	6.47e-02	0.00e+00	0.00e+00
2	0.125	0.008740	0.784	0.874	8.405	6.69e-07	7.79e-02	1.41e-04	0.00e+00
3	0.250	0.01748	0.768	1.75	5.152	1.08e-06	6.99e-02	2.03e-04	0.00e+00
4	0.500	0.02874	0.748	2.87	4.608	1.18e-06	4.50e-02	1.43e-04	0.00e+00
5	1.00	0.04407	0.720	4.41	4.239	1.25e-06	3.07e-02	1.03e-04	0.00e+00
6	2.00	0.06259	0.687	6.26	3.190	1.60e-06	1.85e-02	8.00e-05	0.00e+00
7	4.00	0.08313	0.650	8.31	2.010	2.44e-06	1.03e-02	6.75e-05	0.00e+00
8	8.00	0.1078	0.605	10.8	0.000	0.00e+00	6.17e-03	0.00e+00	0.00e+00
9	16.0	0.1345	0.557	13.4	1.426	3.09e-06	3.34e-03	2.78e-05	0.00e+00
10	32.0	0.1699	0.494	17.0	1.482	2.76e-06	2.21e-03	1.65e-05	0.00e+00
11	8.00	0.1556	0.519	15.6	1.134	3.52e-06	5.96e-04	5.67e-06	0.00e+00
12	2.00	0.1312	0.563	13.1	2.444	1.71e-06	4.07e-03	1.88e-05	0.00e+00
13	0.500	0.1071	0.607	10.7	8.069	5.48e-07	1.60e-02	2.37e-05	0.00e+00
14	0.125	0.08101	0.654	8.10	14.042	3.33e-07	6.96e-02	6.26e-05	0.00e+00
15	0.0625	0.07165	0.670	7.17	19.312	2.52e-07	1.50e-01	1.02e-04	0.00e+00

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Square Root of Time Coefficients

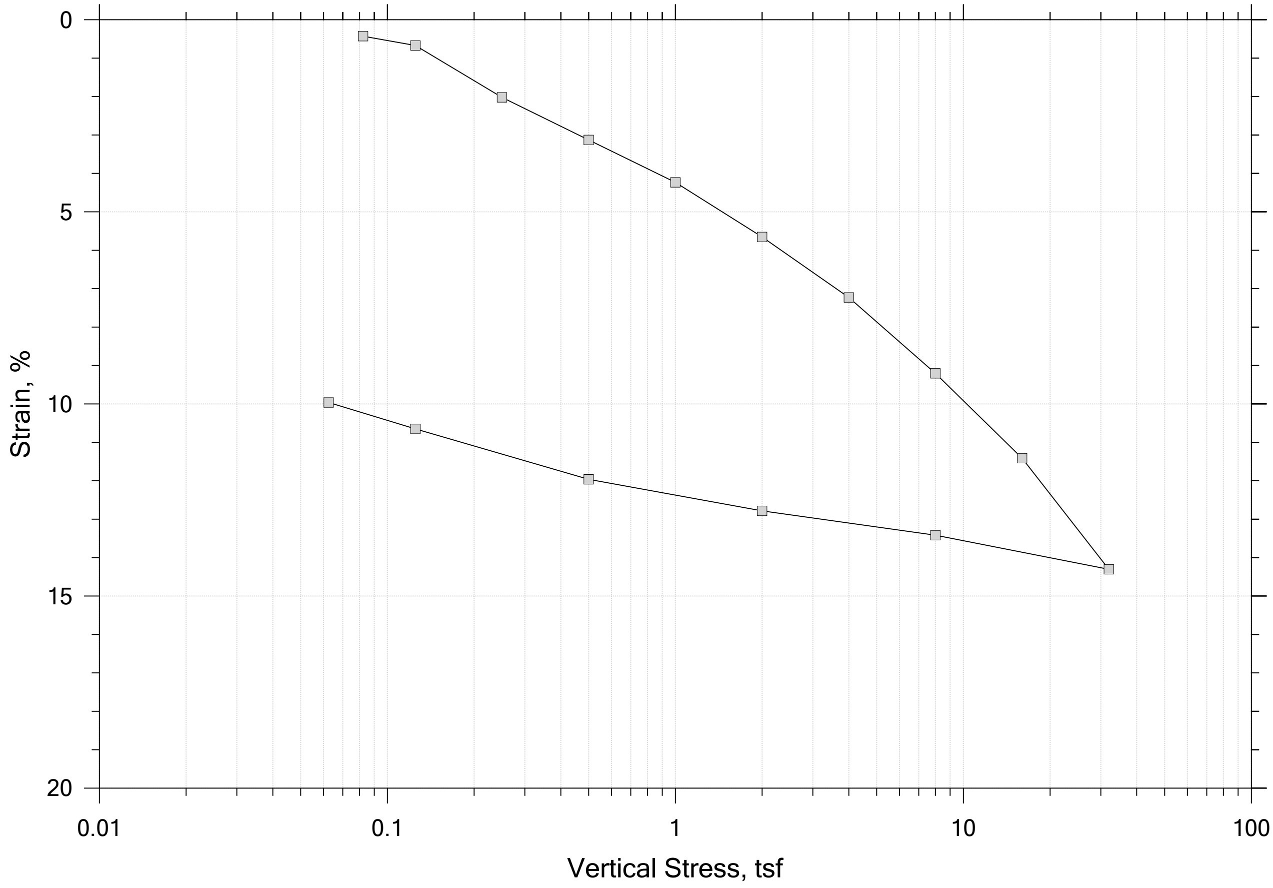
Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0755	0.004883	0.791	0.488	3.536	6.91e-06	6.47e-02	1.20e-03
2	0.125	0.008740	0.784	0.874	32.756	7.39e-07	7.79e-02	1.55e-04
3	0.250	0.01748	0.768	1.75	30.481	7.84e-07	6.99e-02	1.48e-04
4	0.500	0.02874	0.748	2.87	21.163	1.11e-06	4.50e-02	1.34e-04
5	1.00	0.04407	0.720	4.41	19.962	1.14e-06	3.07e-02	9.44e-05
6	2.00	0.06259	0.687	6.26	15.020	1.46e-06	1.85e-02	7.31e-05
7	4.00	0.08313	0.650	8.31	10.712	1.97e-06	1.03e-02	5.45e-05
8	8.00	0.1078	0.605	10.8	7.498	2.68e-06	6.17e-03	4.46e-05
9	16.0	0.1345	0.557	13.4	8.188	2.31e-06	3.34e-03	2.08e-05
10	32.0	0.1699	0.494	17.0	6.016	2.93e-06	2.21e-03	1.75e-05
11	8.00	0.1556	0.519	15.6	3.343	5.15e-06	5.96e-04	8.27e-06
12	2.00	0.1312	0.563	13.1	15.068	1.19e-06	4.07e-03	1.31e-05
13	0.500	0.1071	0.607	10.7	41.728	4.56e-07	1.60e-02	1.97e-05
14	0.125	0.08101	0.654	8.10	87.588	2.30e-07	6.96e-02	4.32e-05
15	0.0625	0.07165	0.670	7.17	81.730	2.56e-07	1.50e-01	1.03e-04

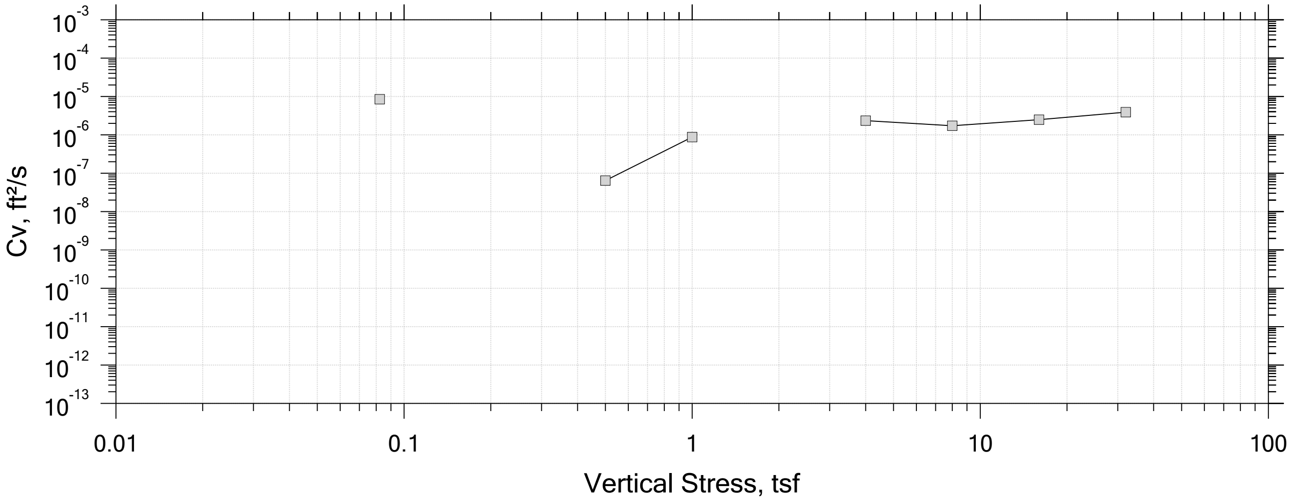
GeoTesting
EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-3	Tested By: md/trm	Checked By: mcm
Sample No.: HPC-35A	Test Date: 11/19/18	Depth: ---
Test No.: IP-6	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0755 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





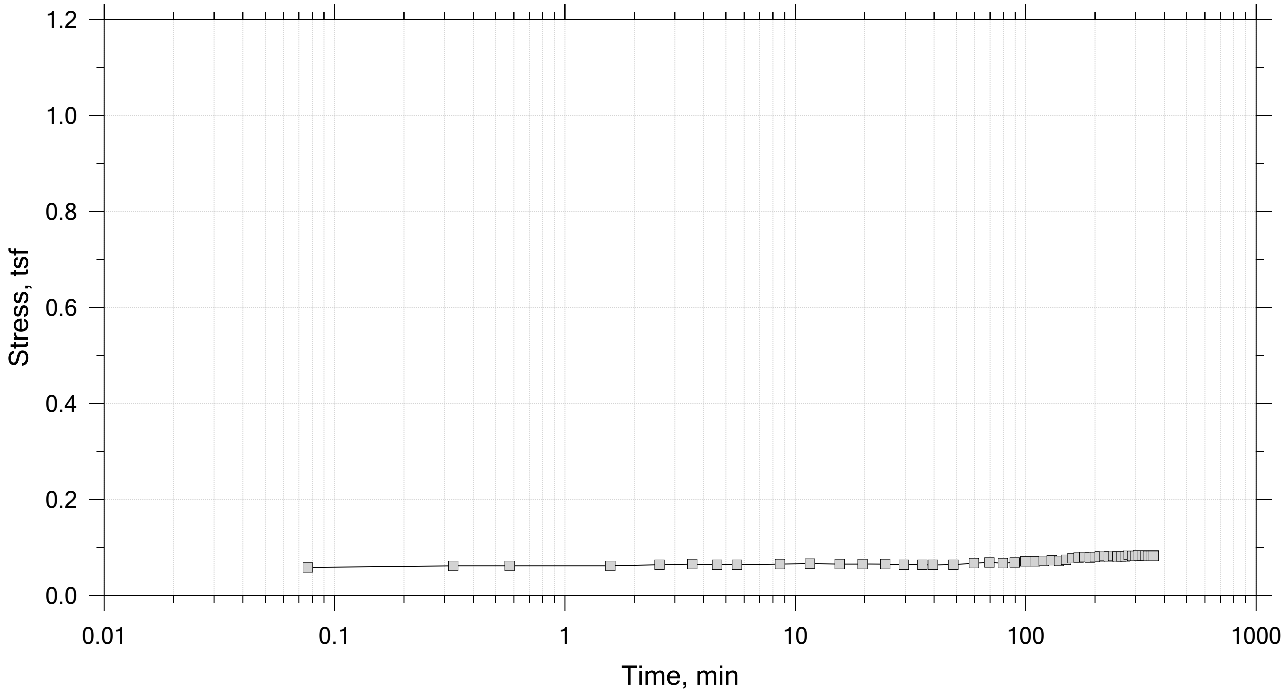
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		
	Displacement at End of Increment		

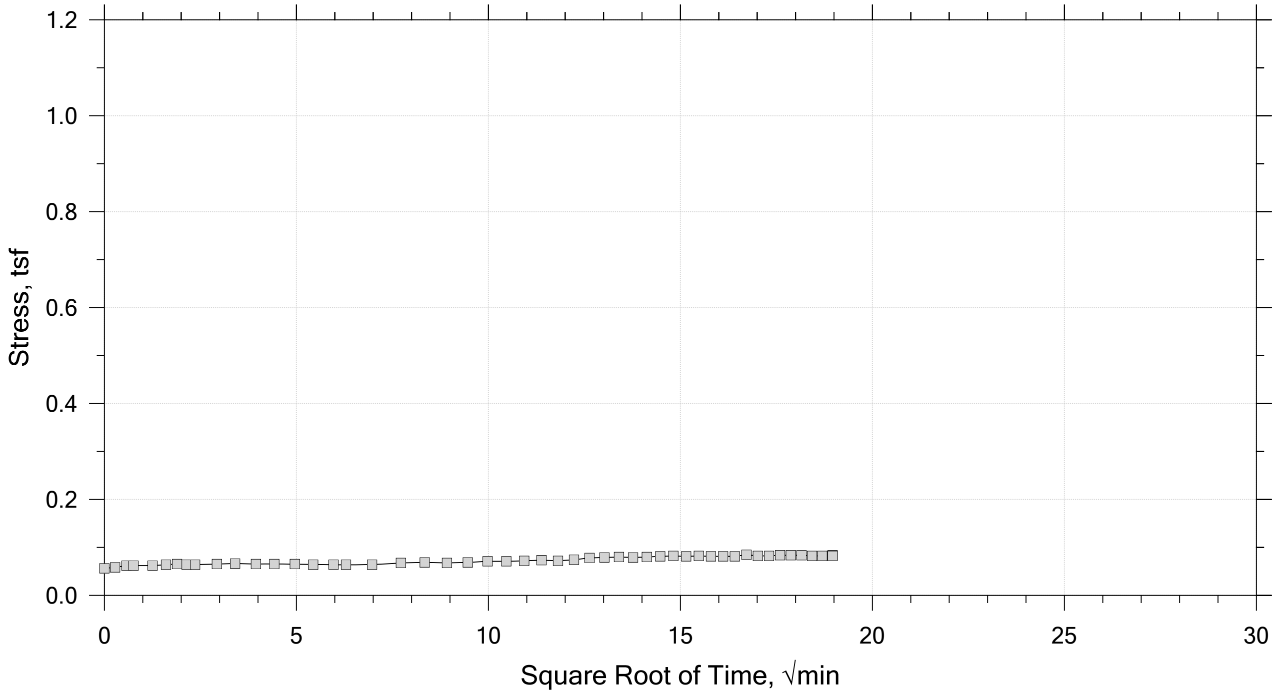
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0823 tsf

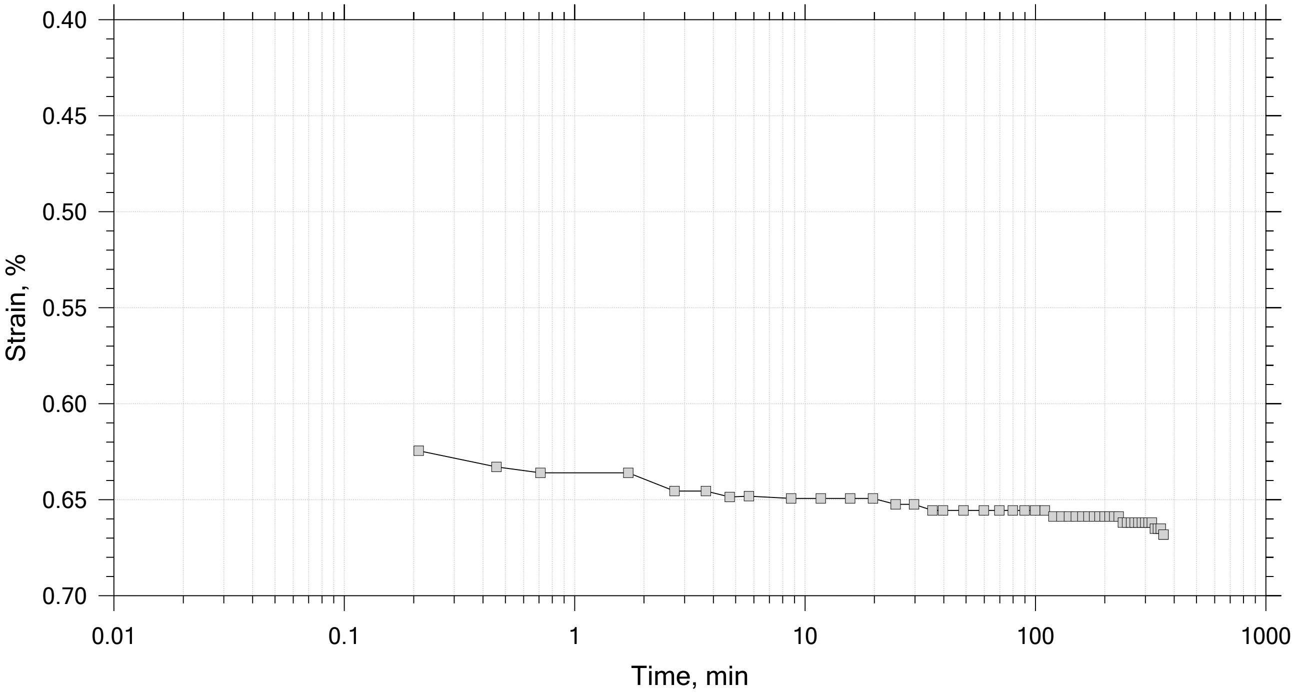


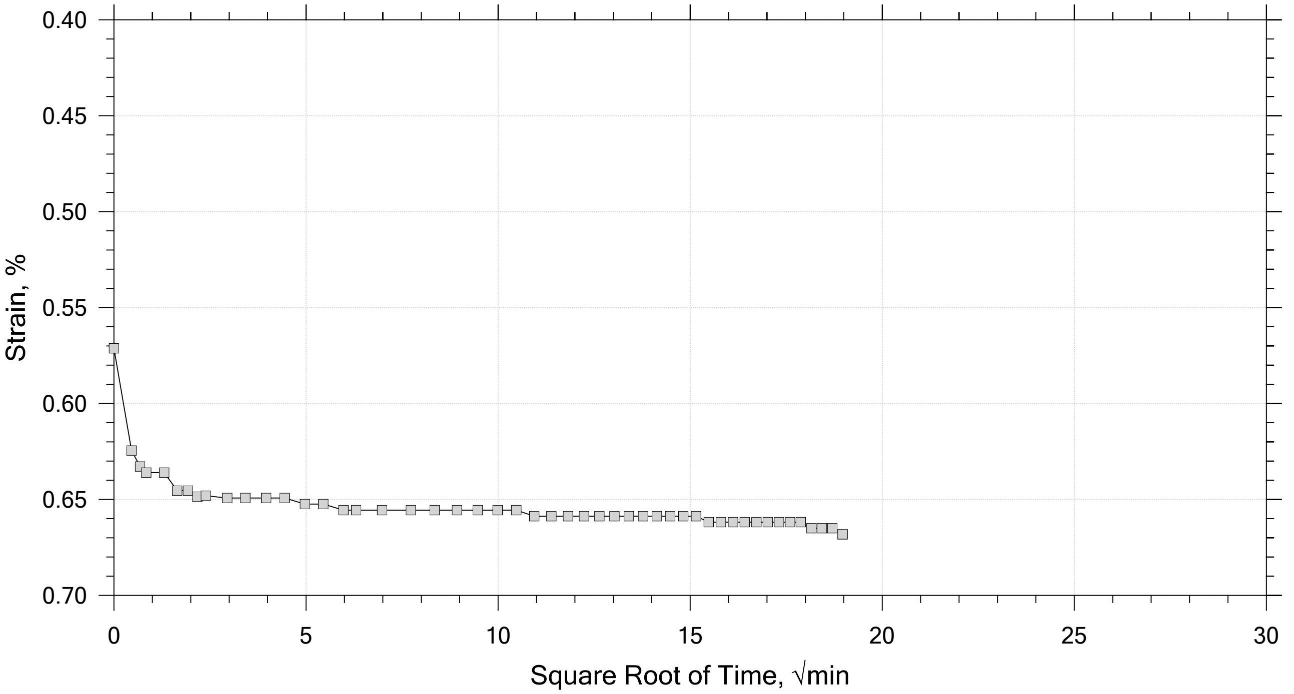


GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15
Constant Load Step
Stress: 0.125 tsf





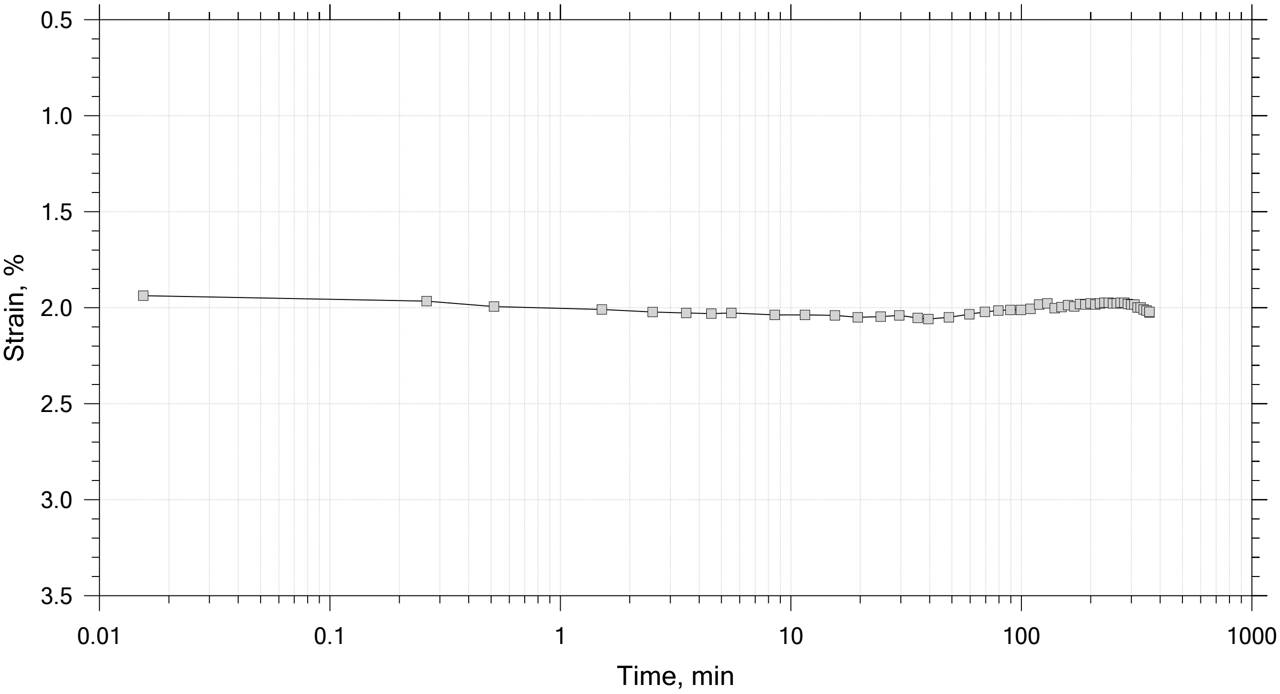
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

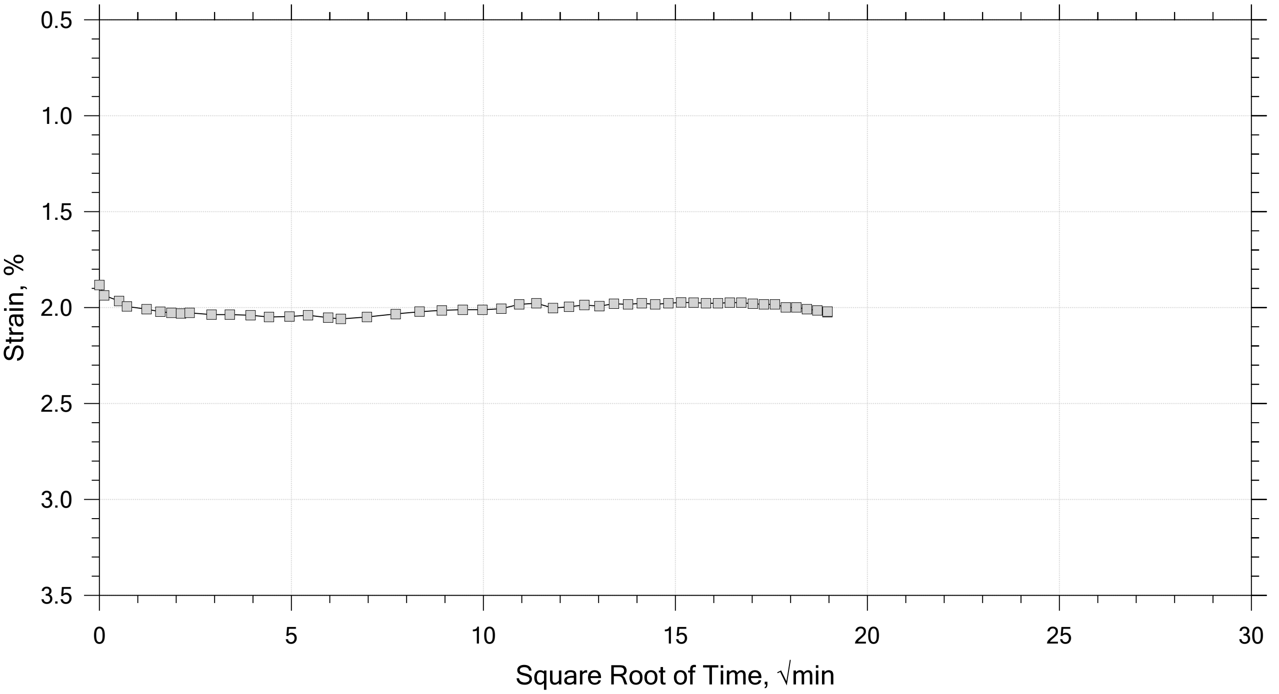
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15

Constant Load Step

Stress: 0.25 tsf

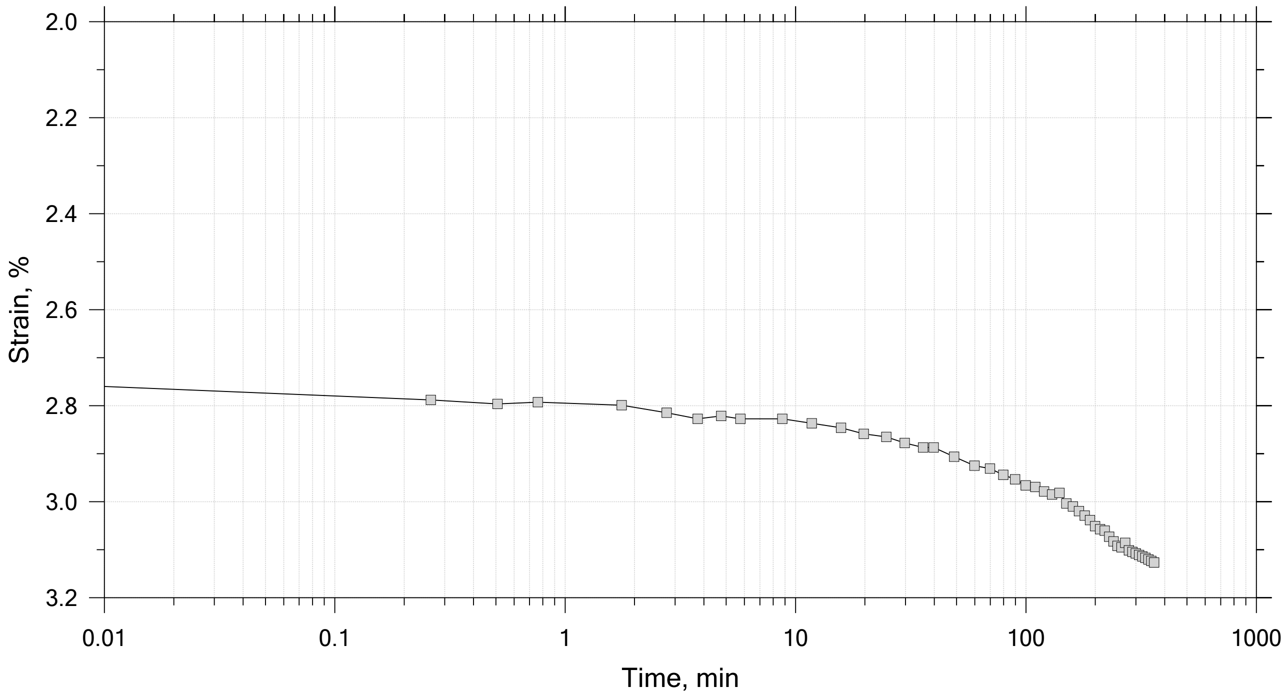


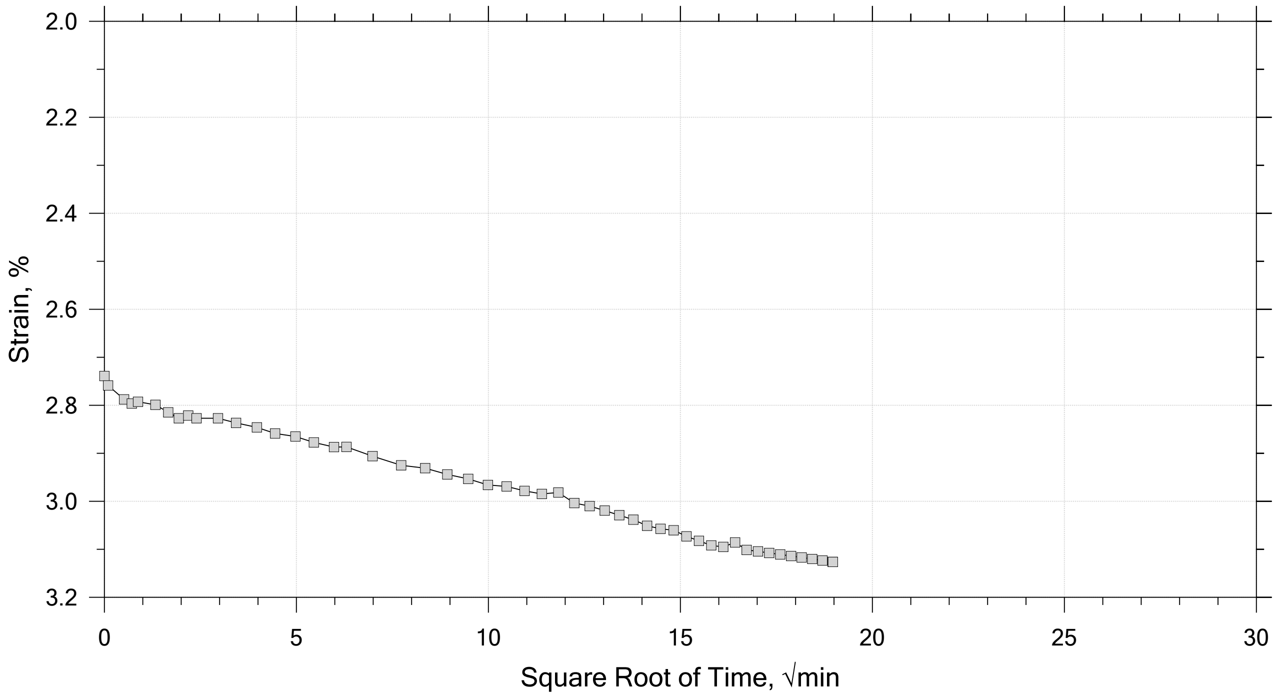


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---
Description: Moist, dark gray sand with silt		
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15
Constant Load Step
Stress: 0.5 tsf





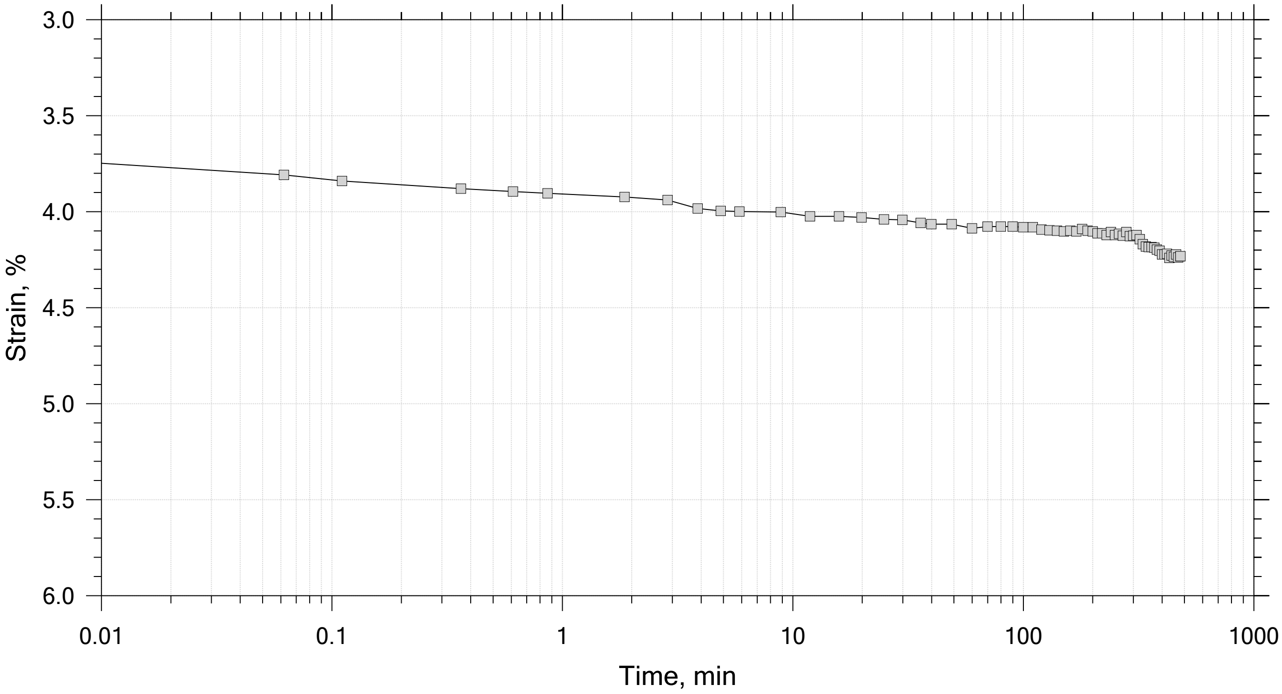
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---
Description: Moist, dark gray sand with silt		
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

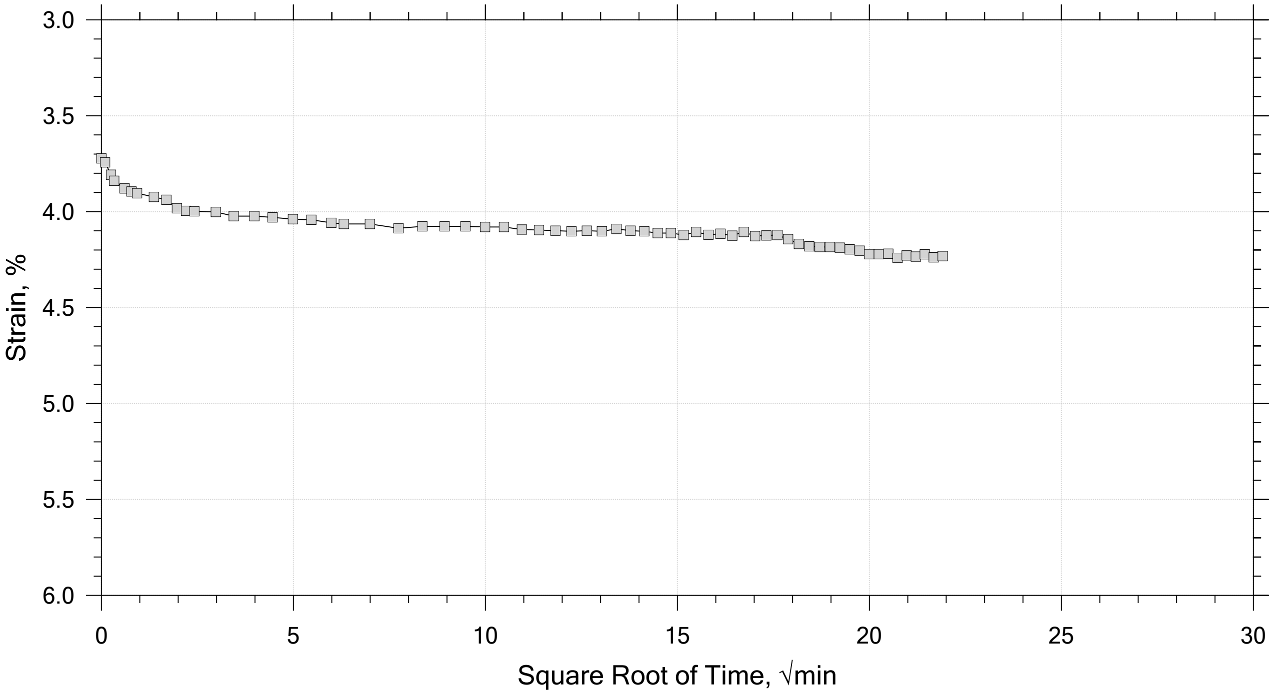
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15

Constant Load Step

Stress: 1 tsf





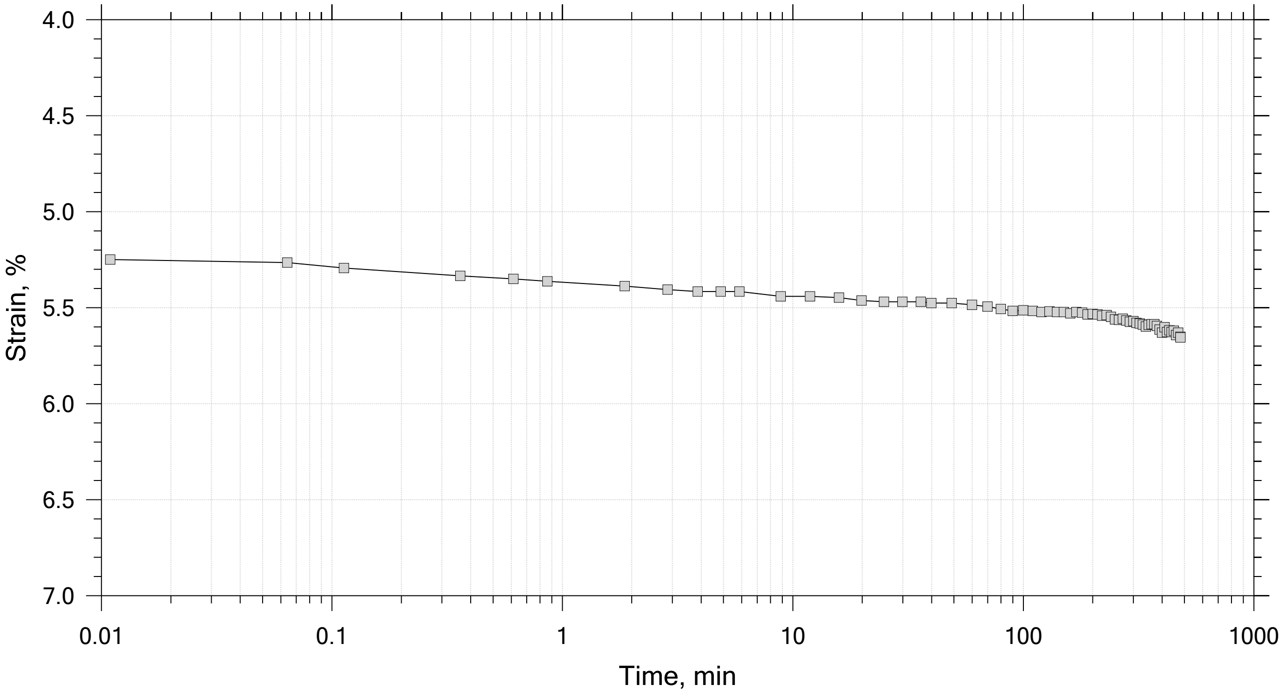
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

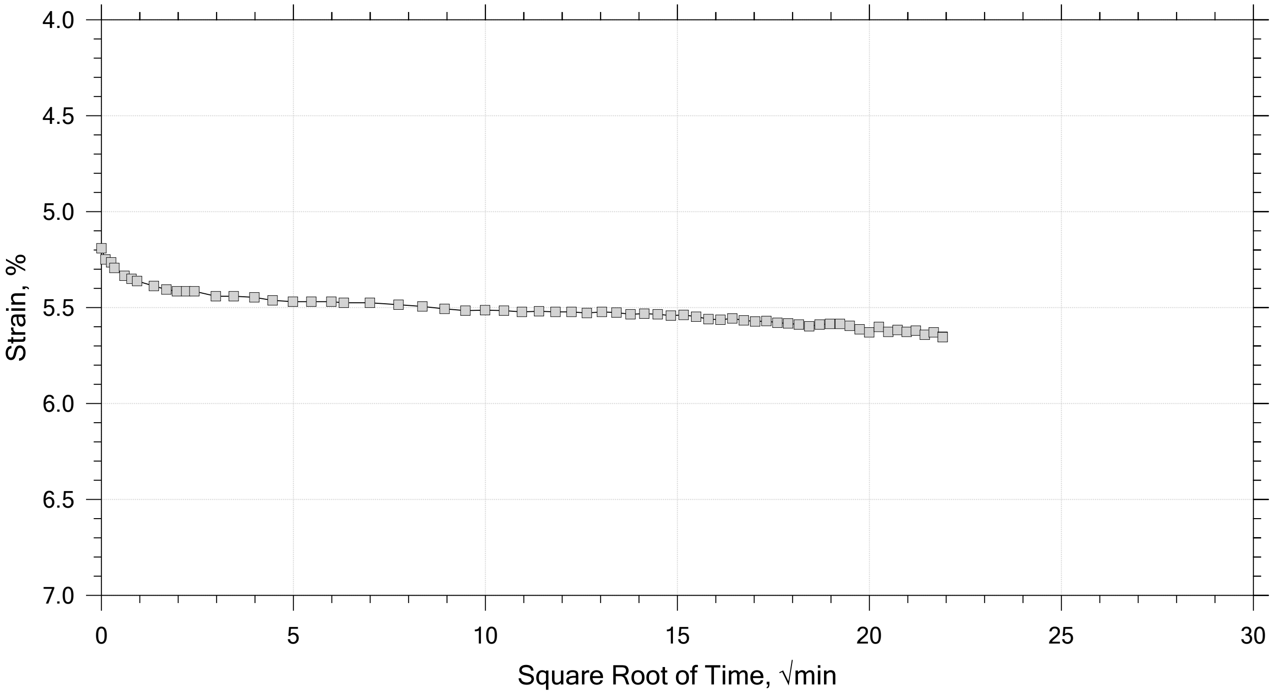
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





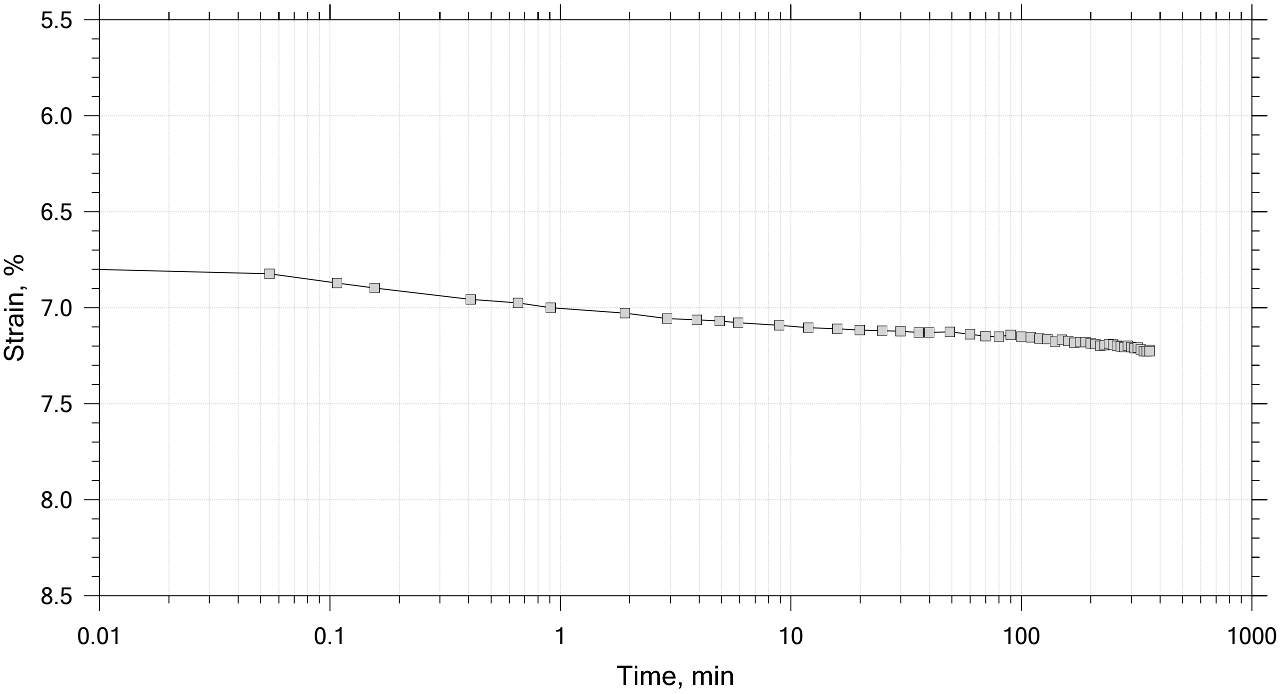
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

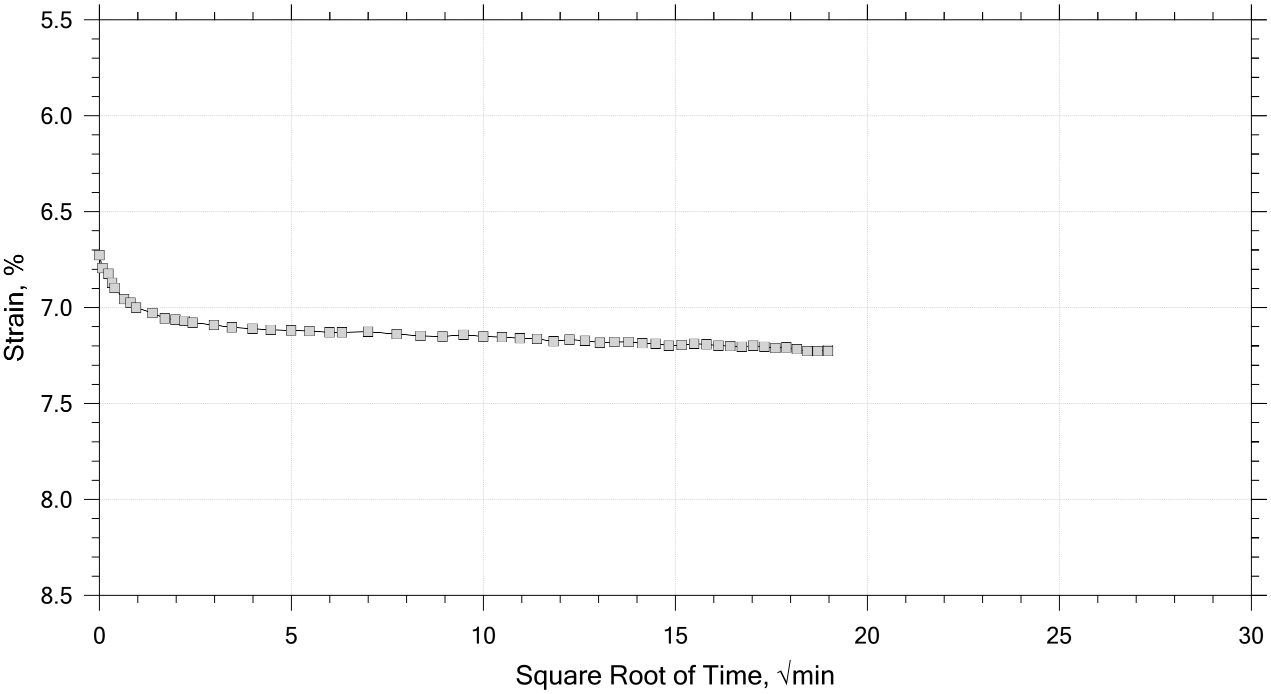
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf

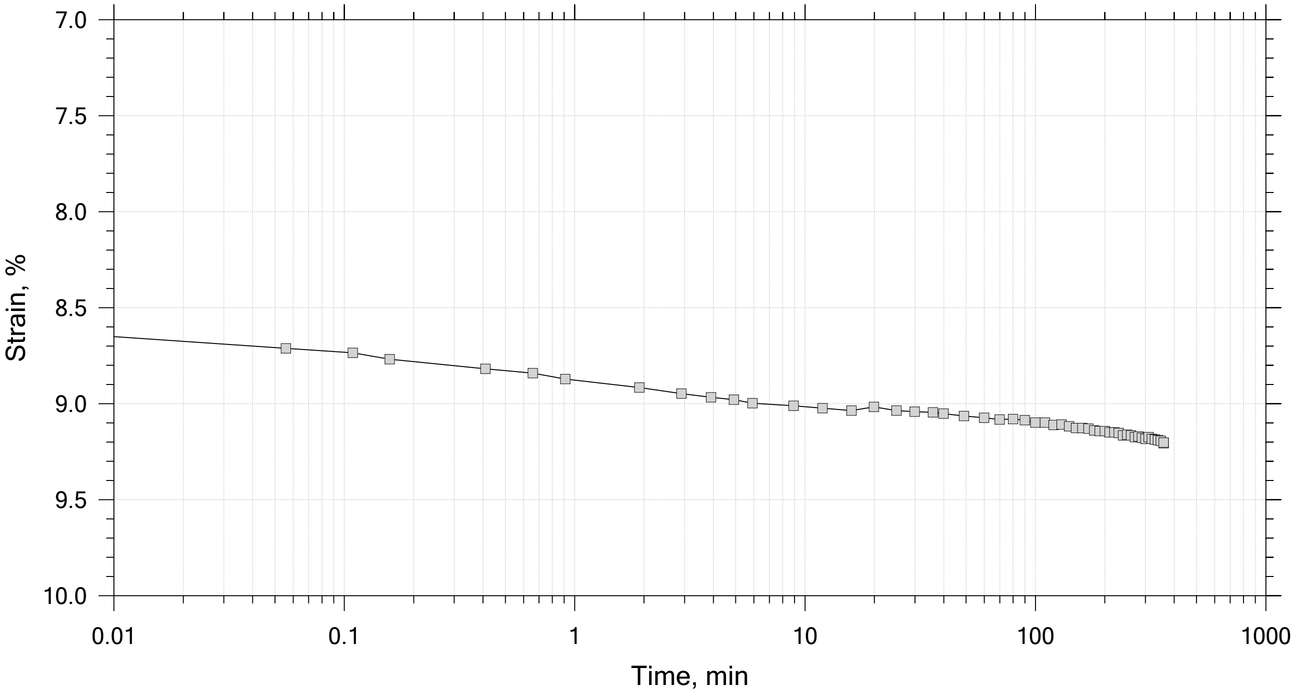


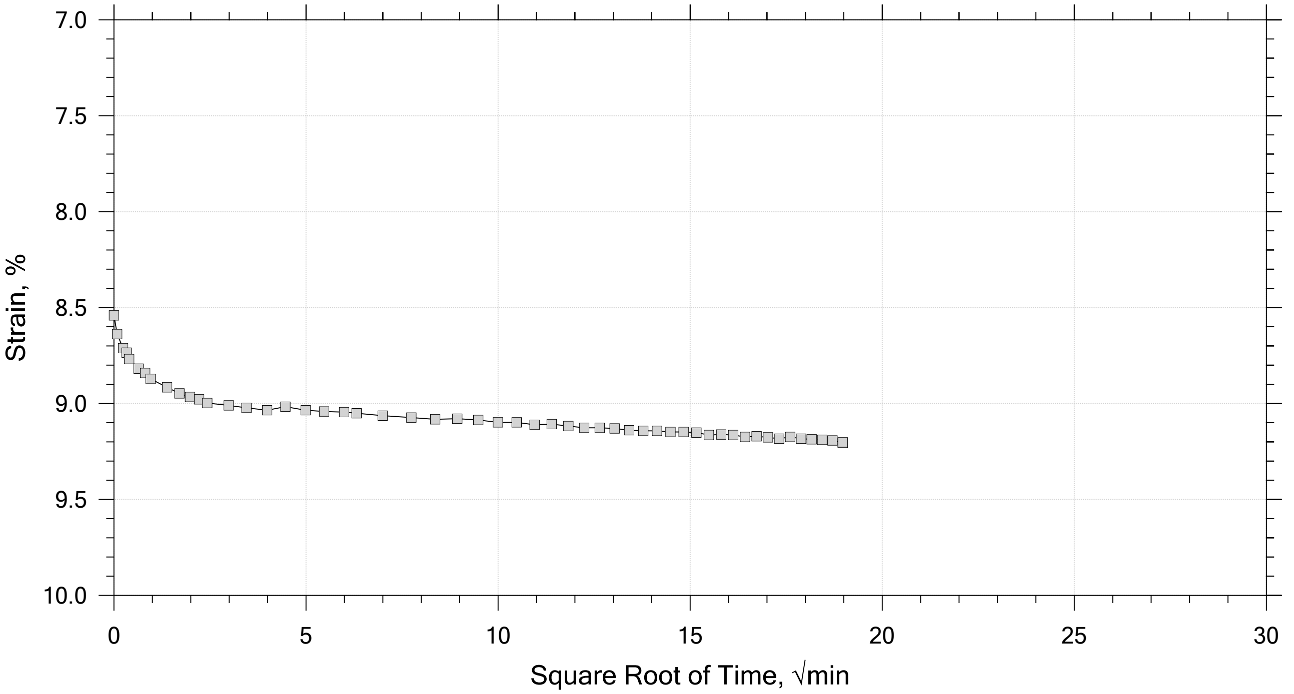


GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15
Constant Load Step
Stress: 8 tsf





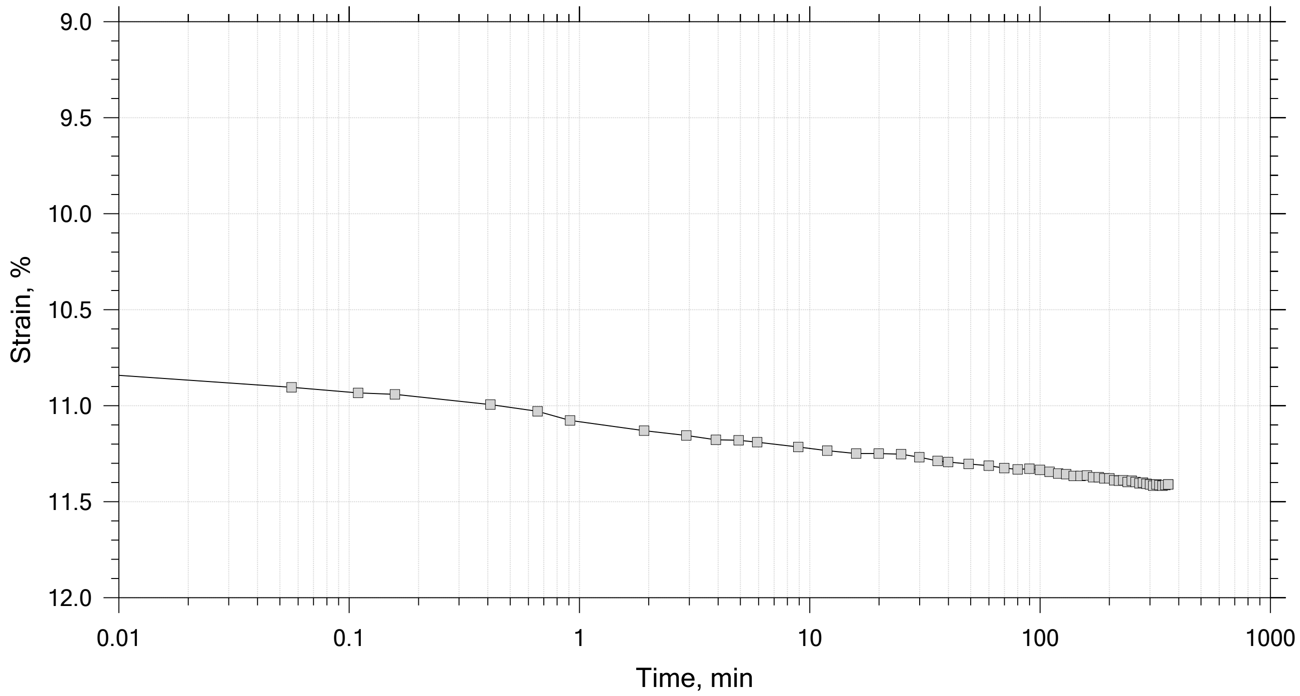
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---
Description: Moist, dark gray sand with silt		
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

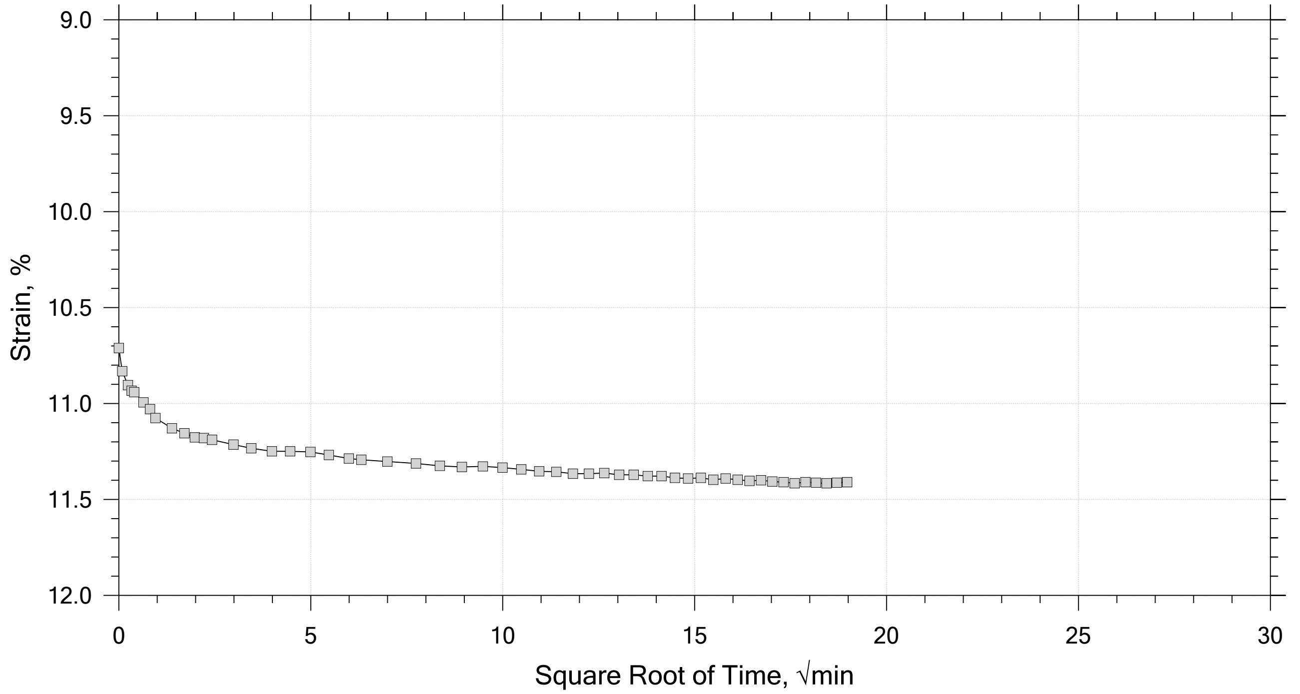
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





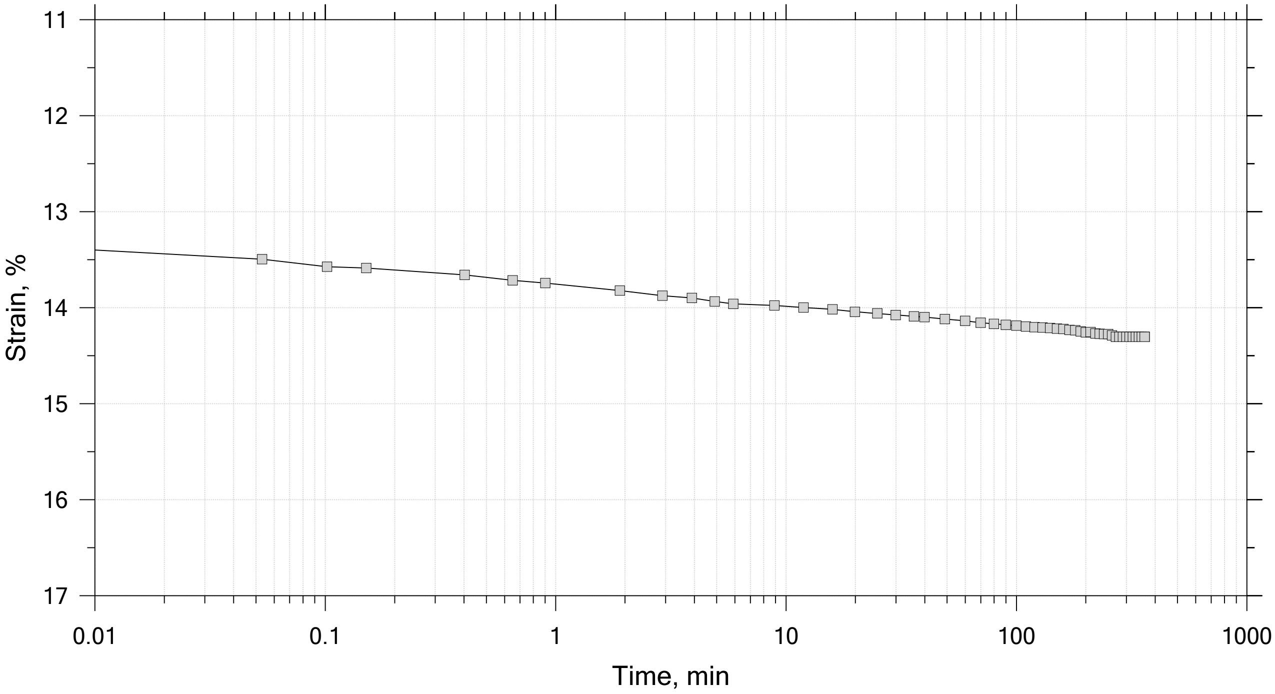
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---
Description: Moist, dark gray sand with silt		
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

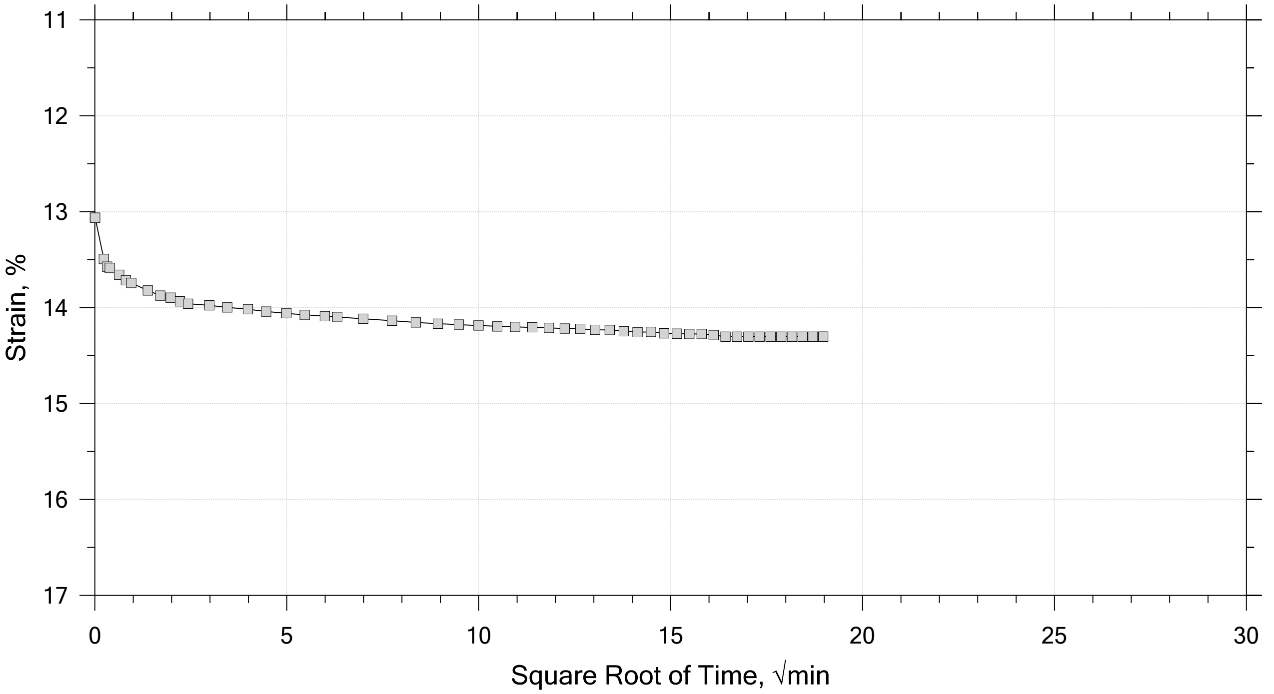
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf





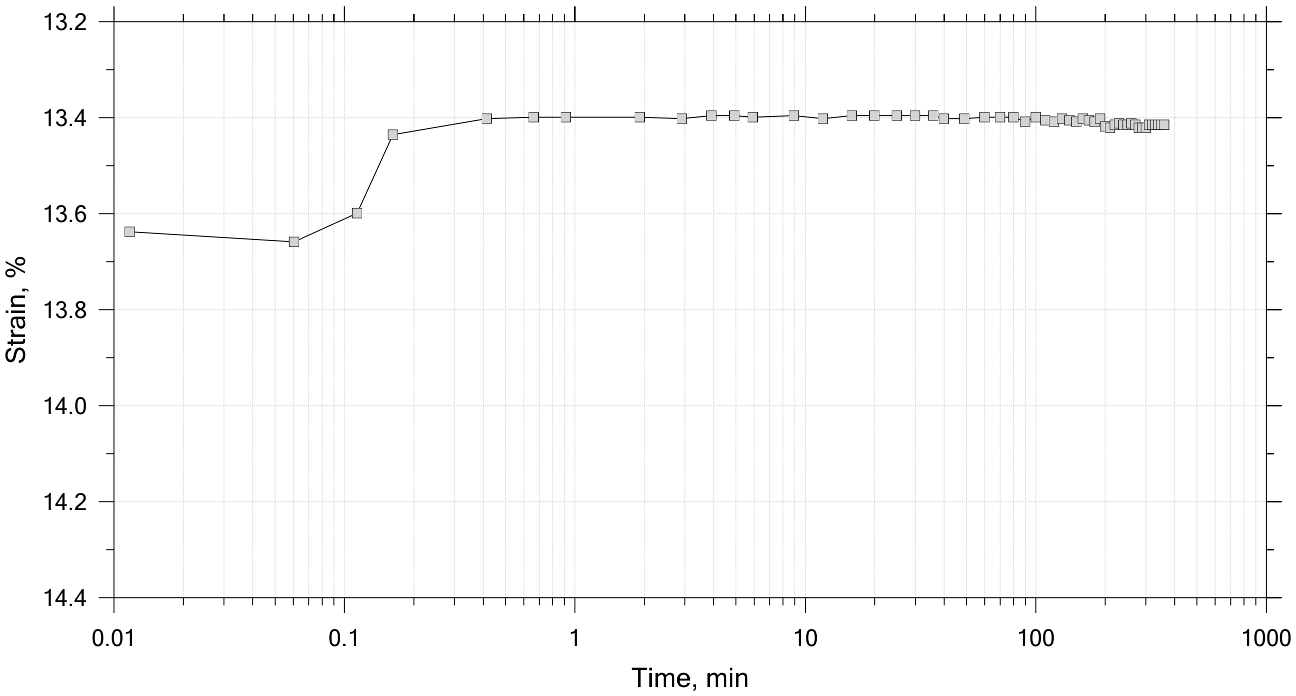
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

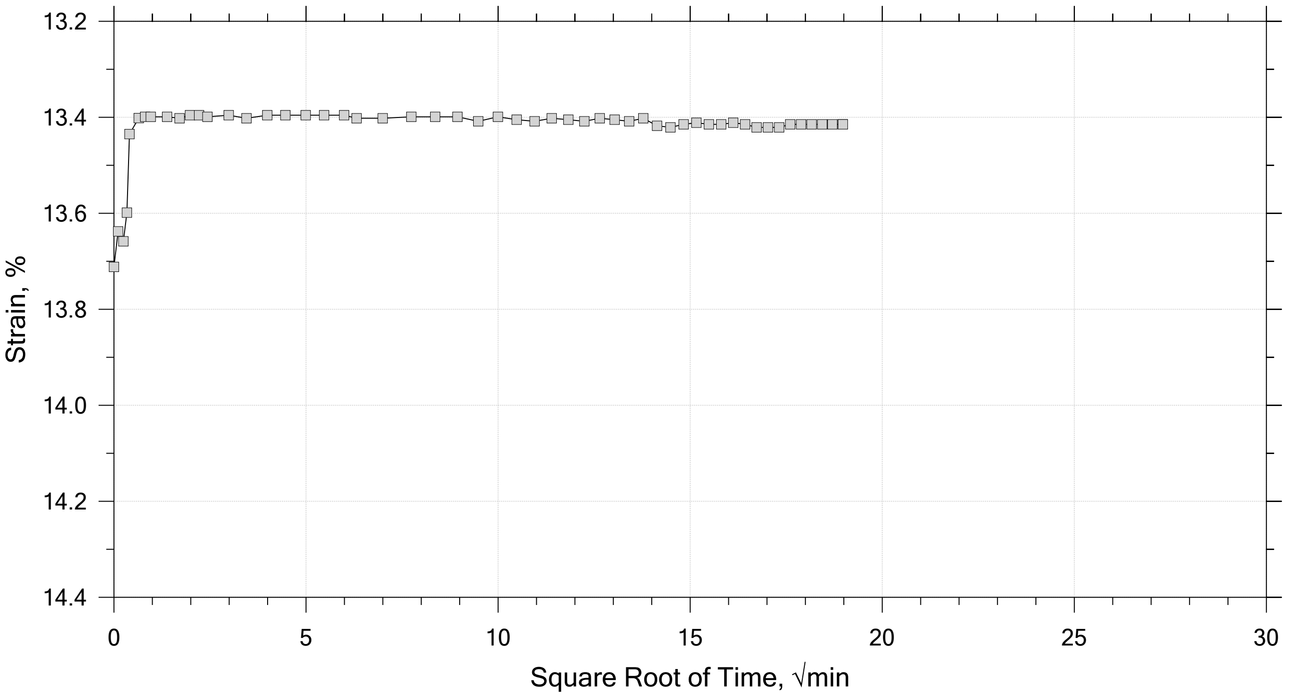
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15

Constant Load Step

Stress: 8 tsf





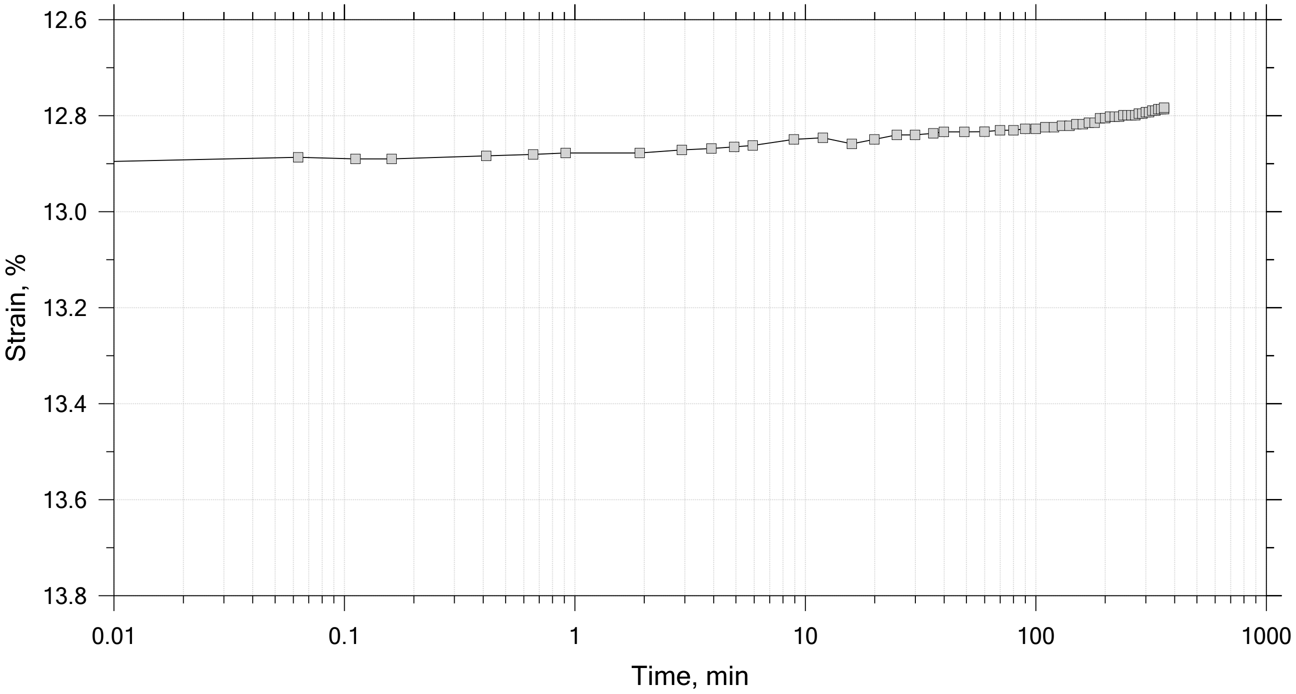
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

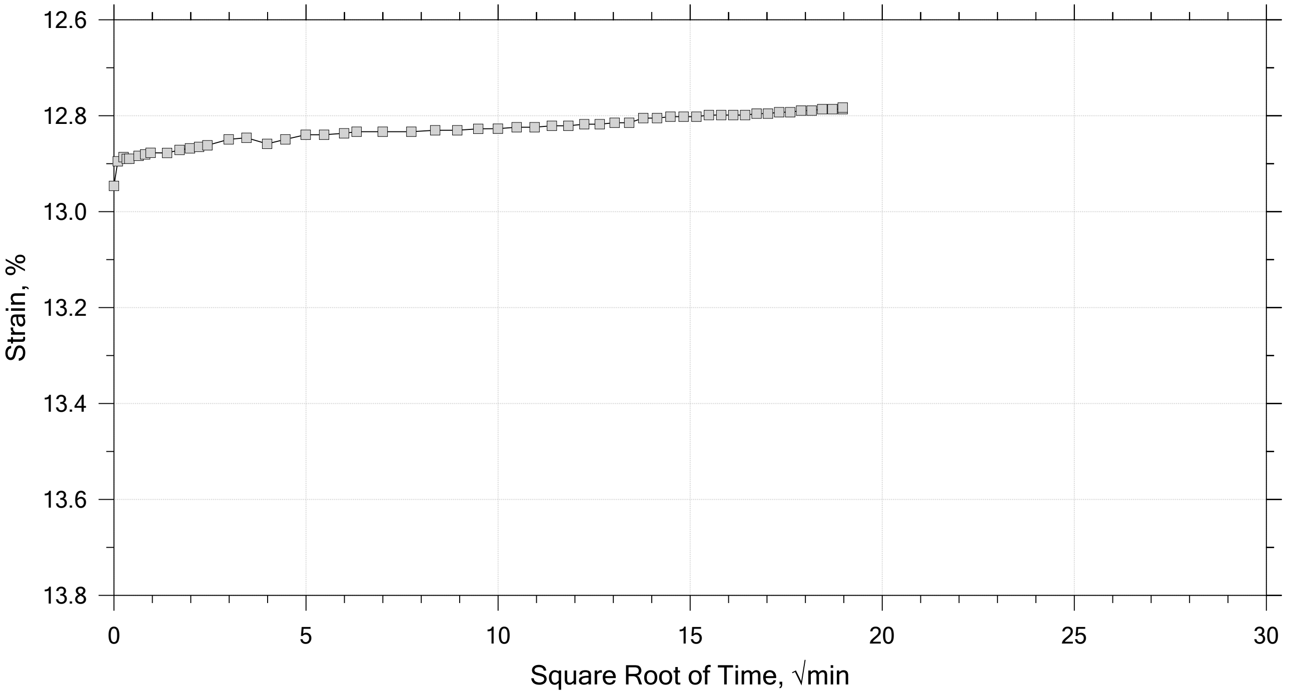
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15

Constant Load Step

Stress: 2 tsf





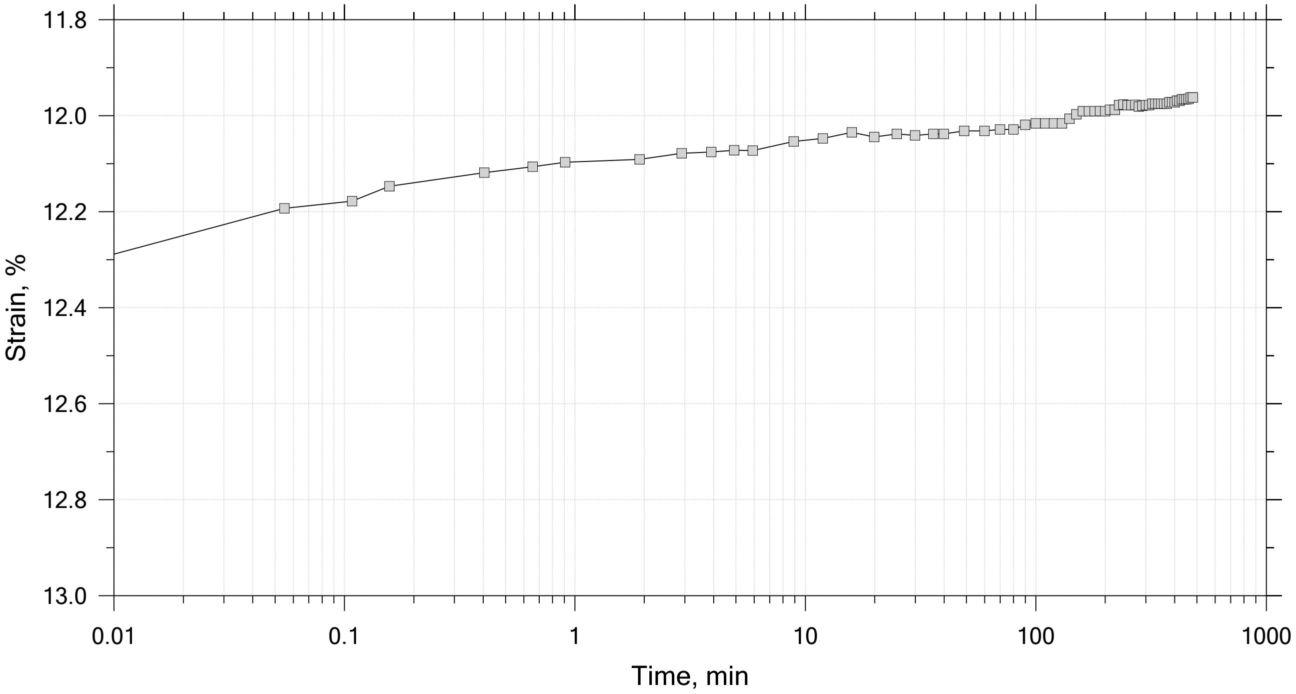
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---
Description: Moist, dark gray sand with silt		
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

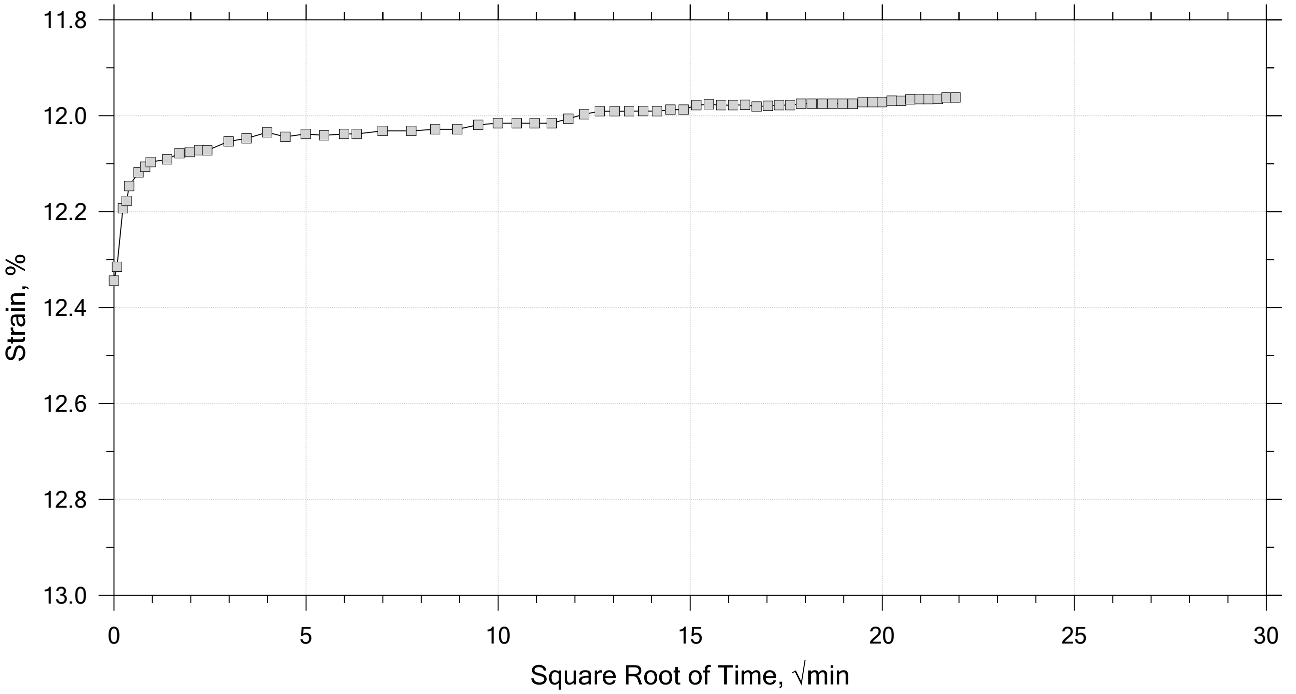
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





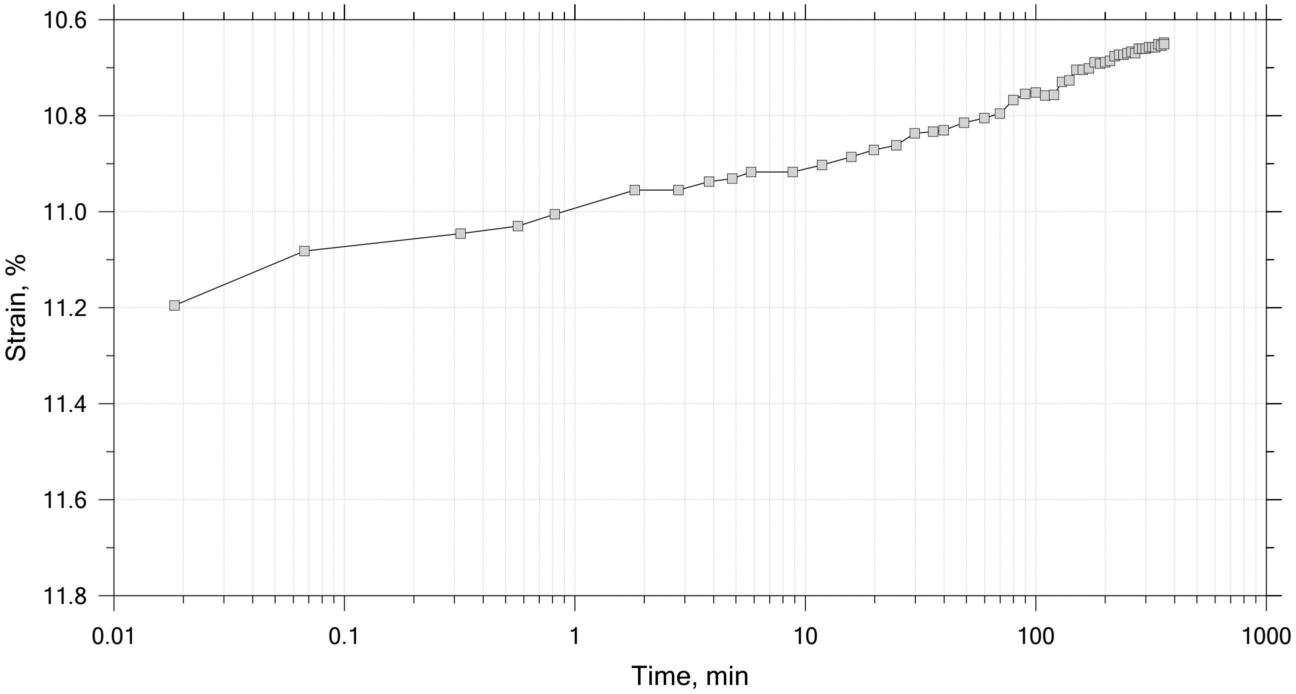
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

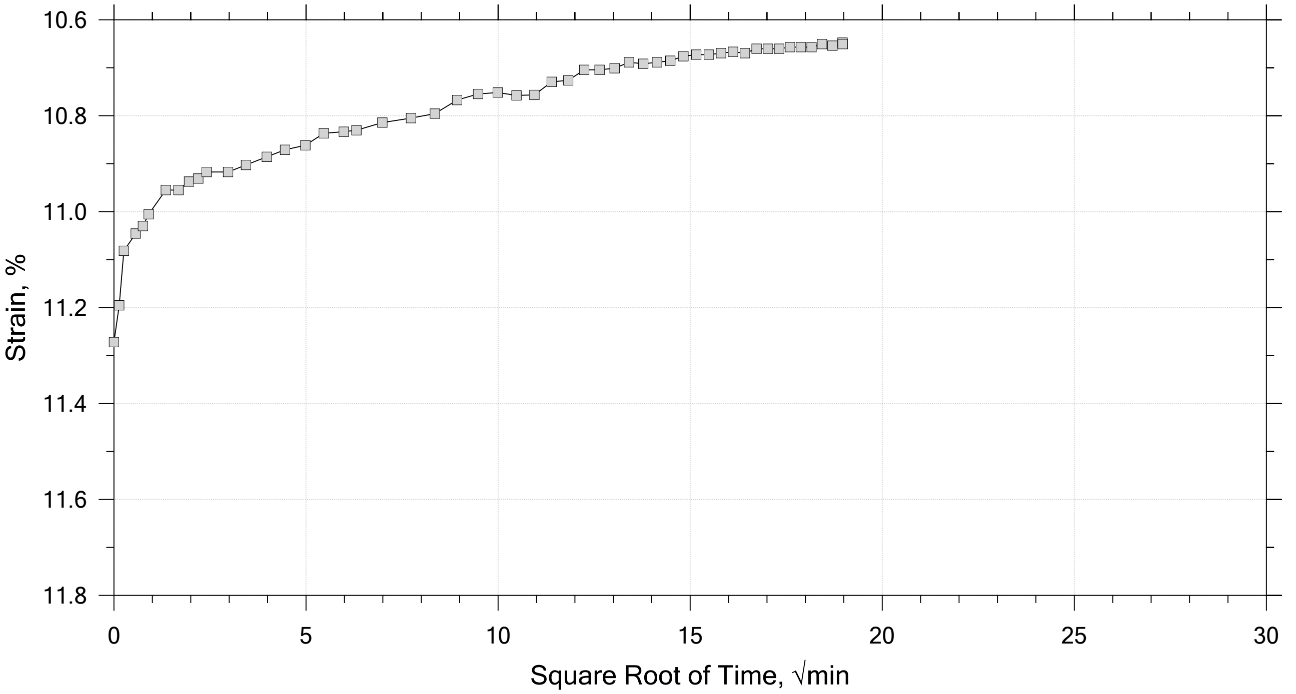
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf





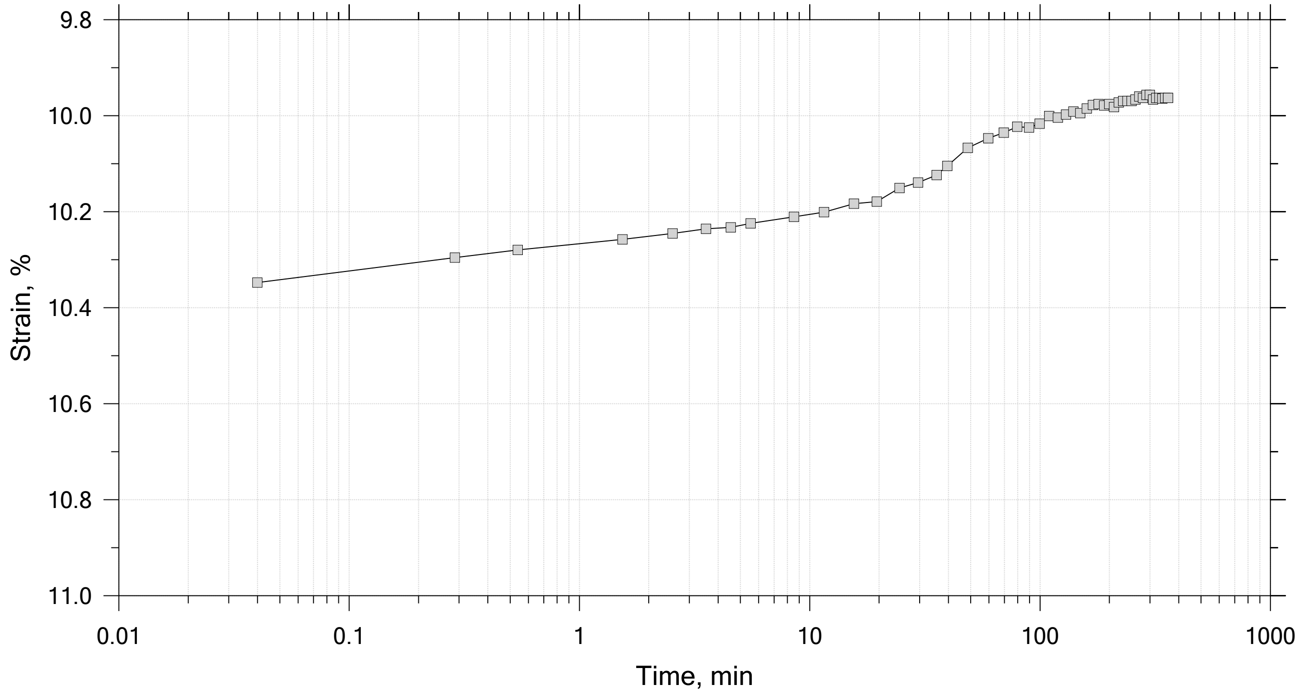
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
GeoTesting EXPRESS	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

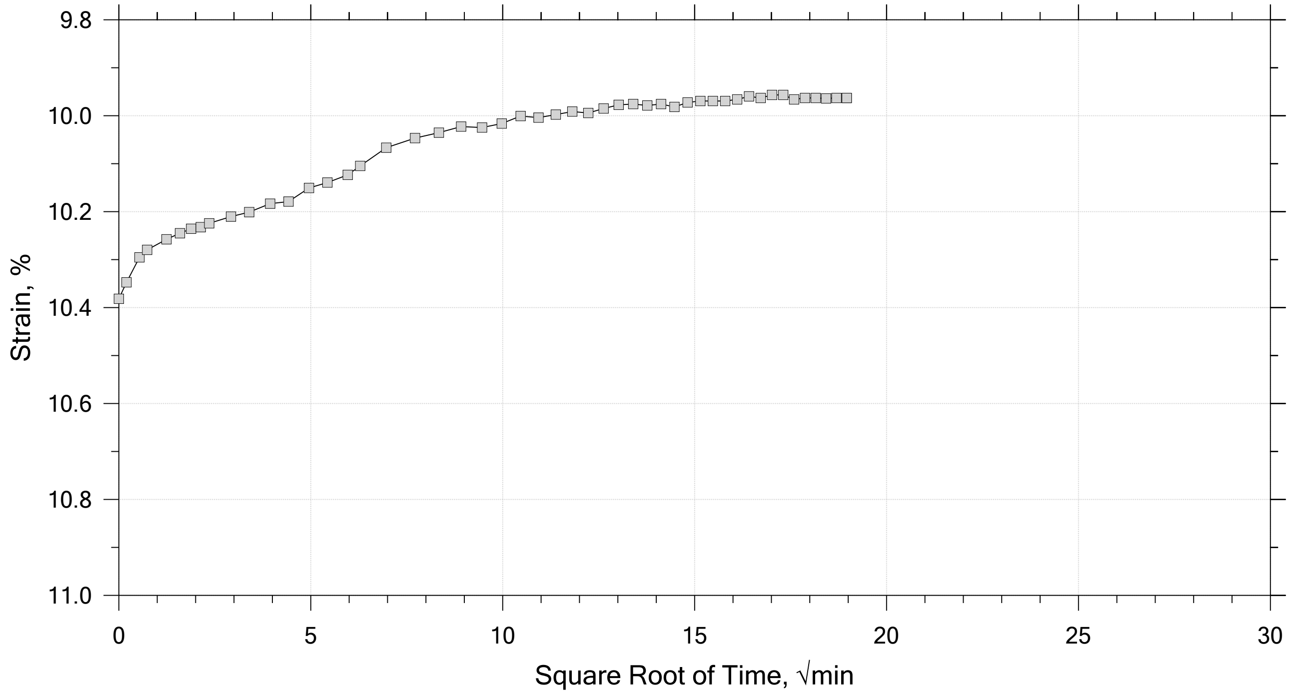
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15

Constant Load Step

Stress: 0.0625 tsf





Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---
Description: Moist, dark gray sand with silt		
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.66	Liquid Limit: NP
Initial Height: 1.00 in	Initial Void Ratio: 0.875	Plastic Limit: NP
Final Height: 0.94 in	Final Void Ratio: 0.759	Plasticity Index: NP

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	C-1088	RING		D2381
Mass Container, gm	8.26	8.49	8.49	8.49
Mass Container + Wet Soil, gm	110.33	160.13	155.3	155.3
Mass Container + Dry Soil, gm	85.83	122.74	122.74	122.74
Mass Dry Soil, gm	77.57	114.25	114.25	114.25
Water Content, %	31.58	32.73	28.50	28.50
Void Ratio	---	0.88	0.76	---
Degree of Saturation, %	---	99.58	100.00	---
Dry Unit Weight, pcf	---	88.667	94.528	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-5	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray sand with silt		
	Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/s	Mv 1/tsf	k ft/day	Ca %
1	0.0823	0.004276	0.867	0.428	0.000	0.00e+00	5.19e-02	0.00e+00	0.00e+00
2	0.125	0.006682	0.863	0.668	0.000	0.00e+00	5.64e-02	0.00e+00	0.00e+00
3	0.250	0.02021	0.837	2.02	0.000	0.00e+00	1.08e-01	0.00e+00	0.00e+00
4	0.500	0.03127	0.817	3.13	0.000	0.00e+00	4.42e-02	0.00e+00	0.00e+00
5	1.00	0.04232	0.796	4.23	0.000	0.00e+00	2.21e-02	0.00e+00	0.00e+00
6	2.00	0.05655	0.769	5.65	0.000	0.00e+00	1.42e-02	0.00e+00	0.00e+00
7	4.00	0.07227	0.740	7.23	0.000	0.00e+00	7.86e-03	0.00e+00	0.00e+00
8	8.00	0.09202	0.703	9.20	0.000	0.00e+00	4.94e-03	0.00e+00	0.00e+00
9	16.0	0.1141	0.661	11.4	0.000	0.00e+00	2.76e-03	0.00e+00	0.00e+00
10	32.0	0.1430	0.607	14.3	0.000	0.00e+00	1.81e-03	0.00e+00	0.00e+00
11	8.00	0.1341	0.624	13.4	0.000	0.00e+00	3.70e-04	0.00e+00	0.00e+00
12	2.00	0.1278	0.636	12.8	0.000	0.00e+00	1.05e-03	0.00e+00	0.00e+00
13	0.500	0.1196	0.651	12.0	0.000	0.00e+00	5.47e-03	0.00e+00	0.00e+00
14	0.125	0.1065	0.676	10.7	0.000	0.00e+00	3.50e-02	0.00e+00	0.00e+00
15	0.0625	0.09963	0.689	9.96	0.000	0.00e+00	1.10e-01	0.00e+00	0.00e+00

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---
Description: Moist, dark gray sand with silt		
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Square Root of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0823	0.004276	0.867	0.428	4.063	6.01e-06	5.19e-02	8.42e-04
2	0.125	0.006682	0.863	0.668	0.000	0.00e+00	5.64e-02	0.00e+00
3	0.250	0.02021	0.837	2.02	0.000	0.00e+00	1.08e-01	0.00e+00
4	0.500	0.03127	0.817	3.13	277.800	8.38e-08	4.42e-02	1.00e-05
5	1.00	0.04232	0.796	4.23	373.080	6.10e-08	2.21e-02	3.64e-06
6	2.00	0.05655	0.769	5.65	0.000	0.00e+00	1.42e-02	0.00e+00
7	4.00	0.07227	0.740	7.23	12.594	1.71e-06	7.86e-03	3.61e-05
8	8.00	0.09202	0.703	9.20	15.628	1.32e-06	4.94e-03	1.76e-05
9	16.0	0.1141	0.661	11.4	12.610	1.57e-06	2.76e-03	1.16e-05
10	32.0	0.1430	0.607	14.3	6.349	2.94e-06	1.81e-03	1.43e-05
11	8.00	0.1341	0.624	13.4	0.439	4.14e-05	3.70e-04	4.14e-05
12	2.00	0.1278	0.636	12.8	310.529	5.97e-08	1.05e-03	1.69e-07
13	0.500	0.1196	0.651	12.0	8.155	2.31e-06	5.47e-03	3.41e-05
14	0.125	0.1065	0.676	10.7	48.986	3.94e-07	3.50e-02	3.72e-05
15	0.0625	0.09963	0.689	9.96	96.694	2.04e-07	1.10e-01	6.06e-05

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-9B	Test Date: 11/06/18	Depth: ---
Test No.: IP-5	Sample Type: intact	Elevation: ---

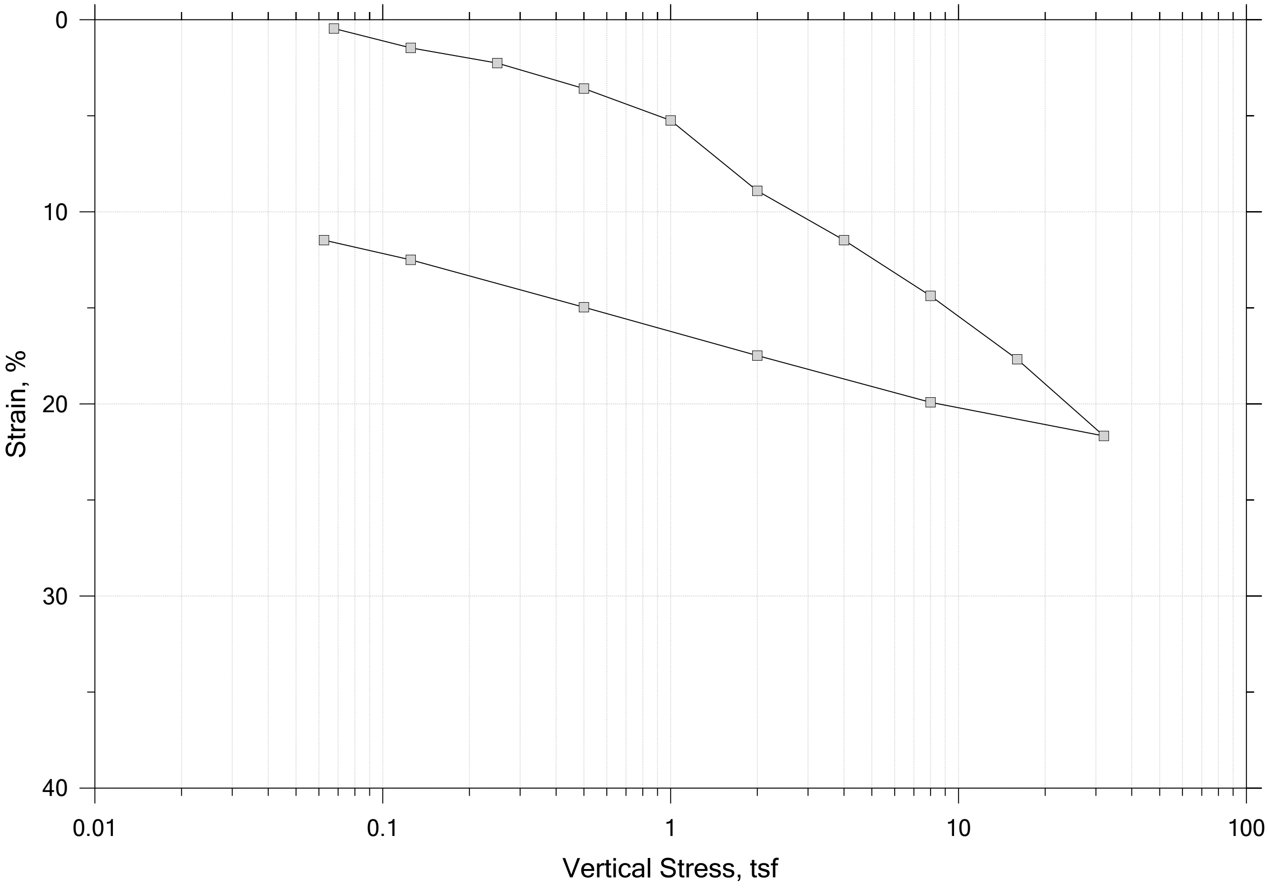
Description: Moist, dark gray sand with silt

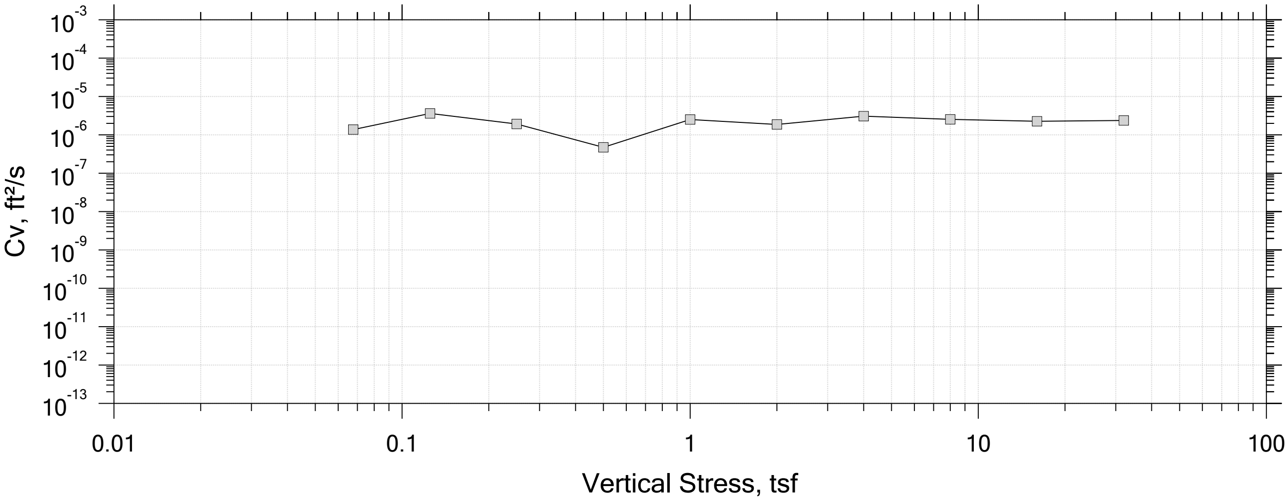
Remarks: System LTIII-A, Swell Pressure = 0.0823 tsf

Displacement at End of Increment

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





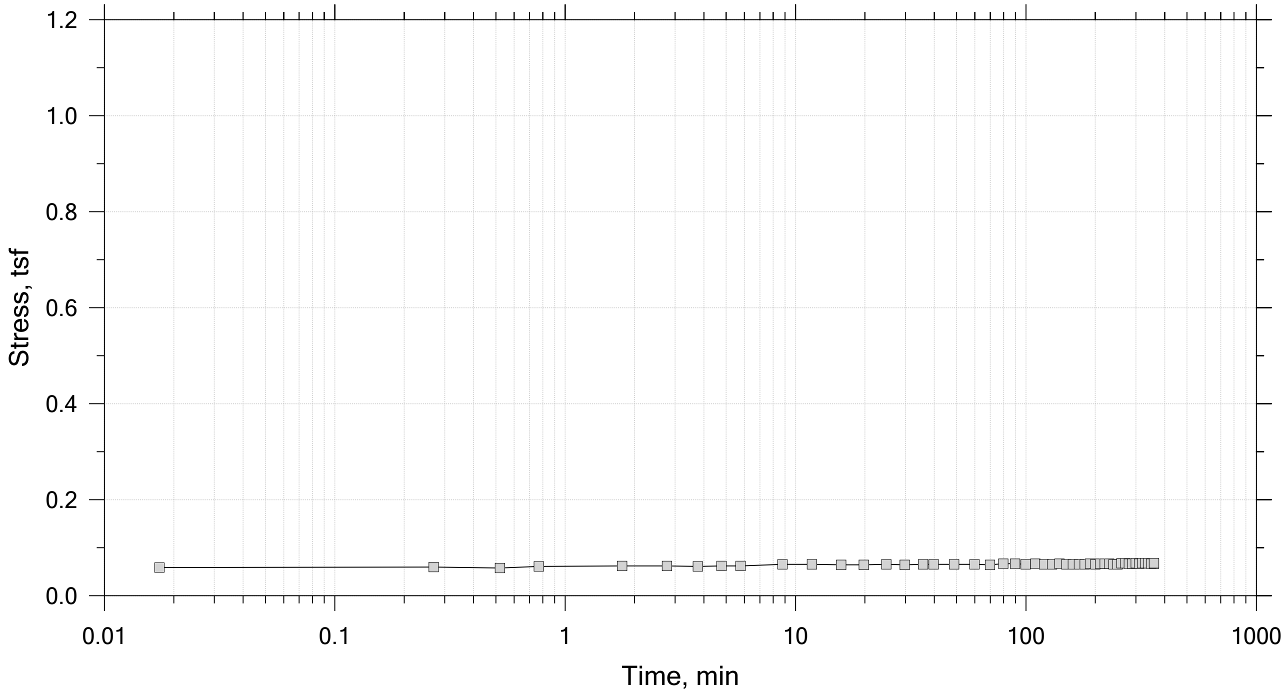
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		
Displacement at End of Increment		

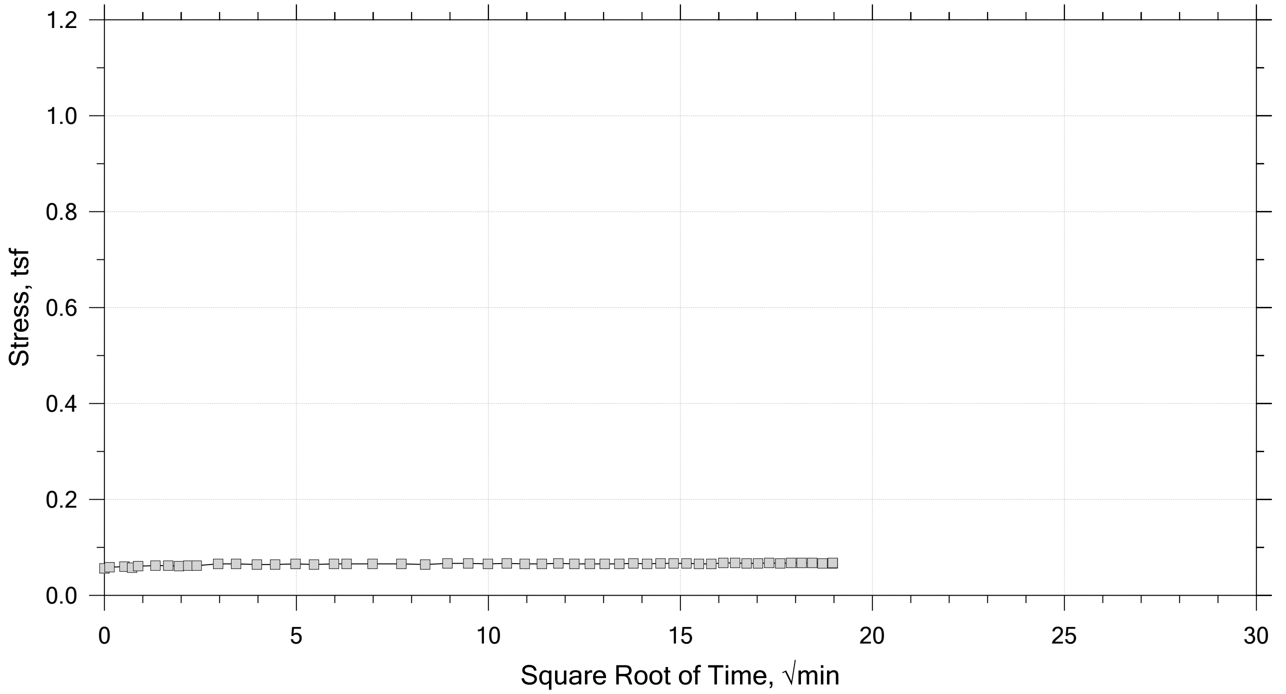
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0677 tsf

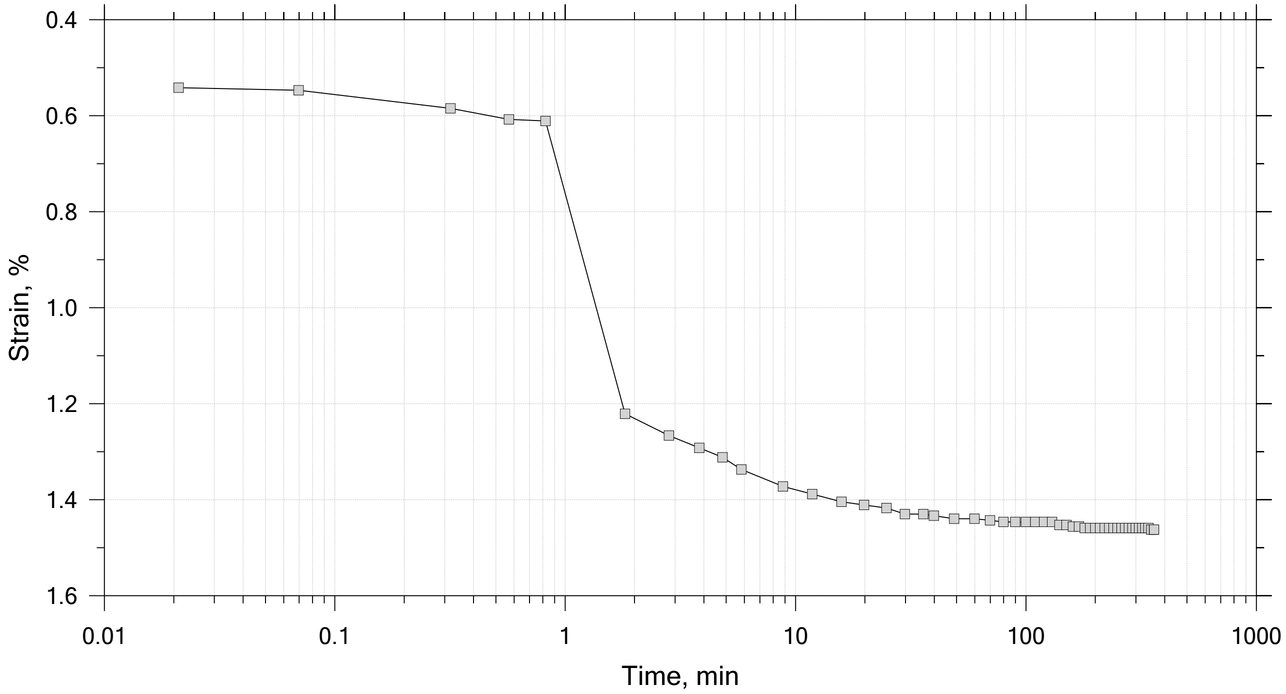


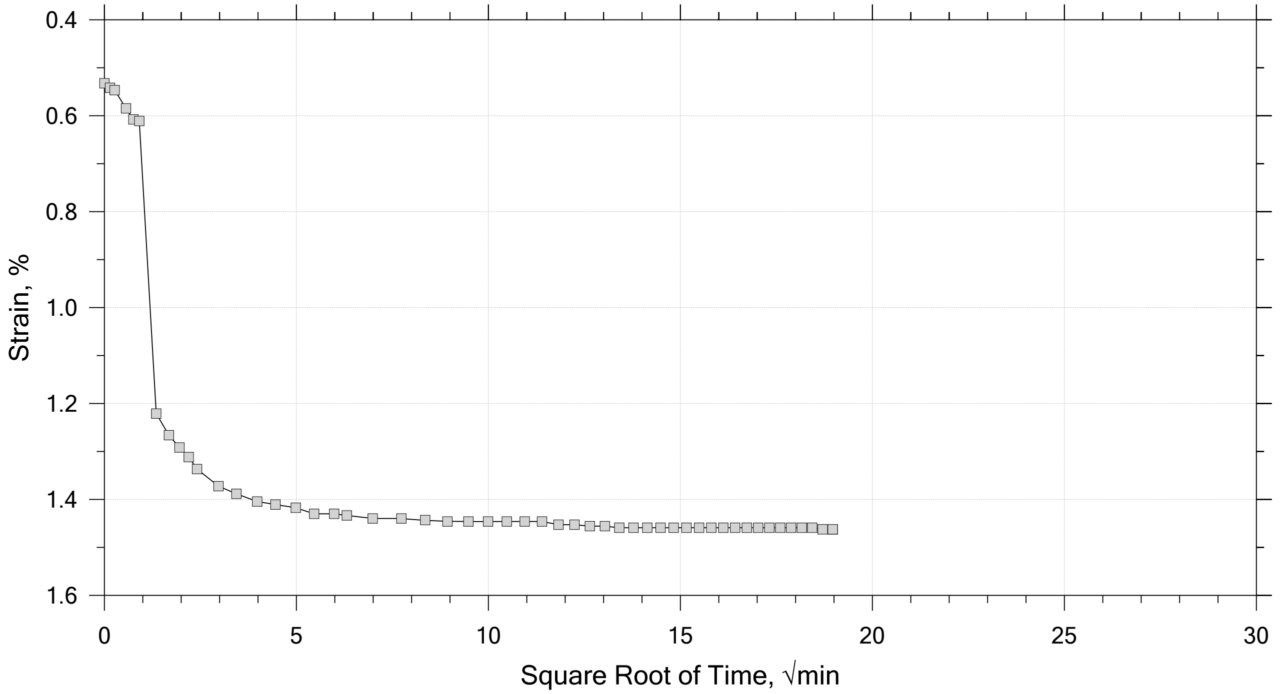


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15
Constant Load Step
Stress: 0.125 tsf





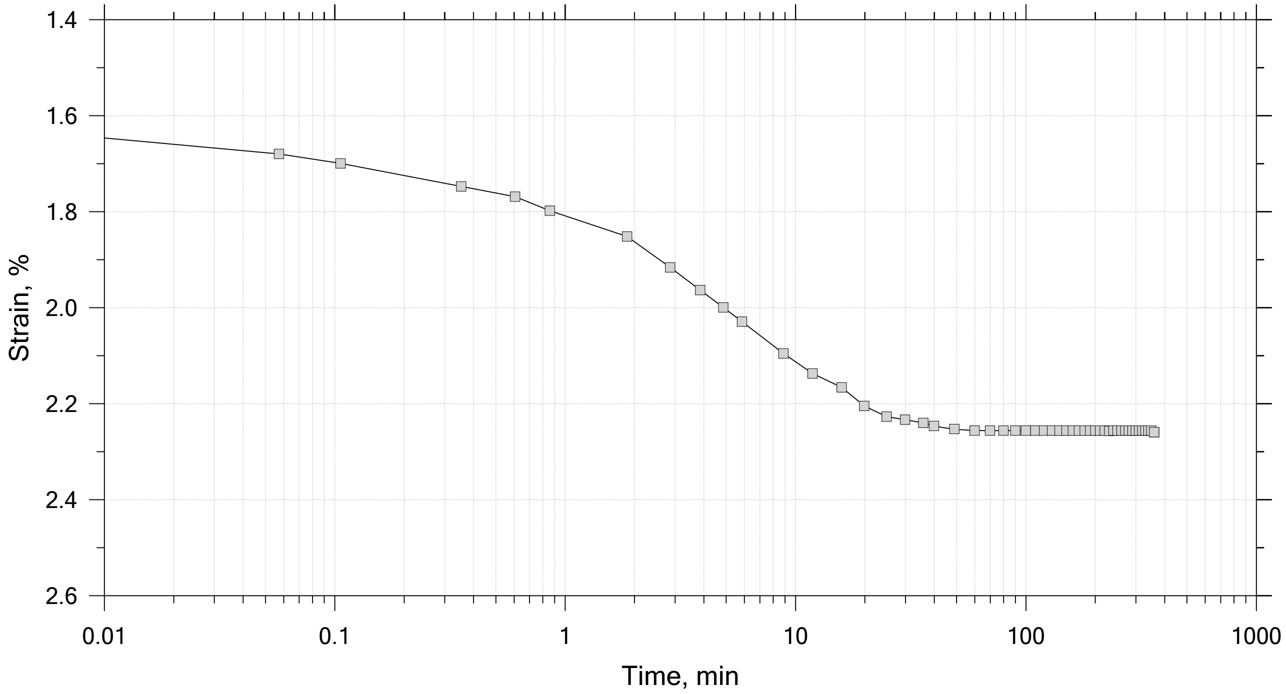
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
GeoTesting EXPRESS	Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-4	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

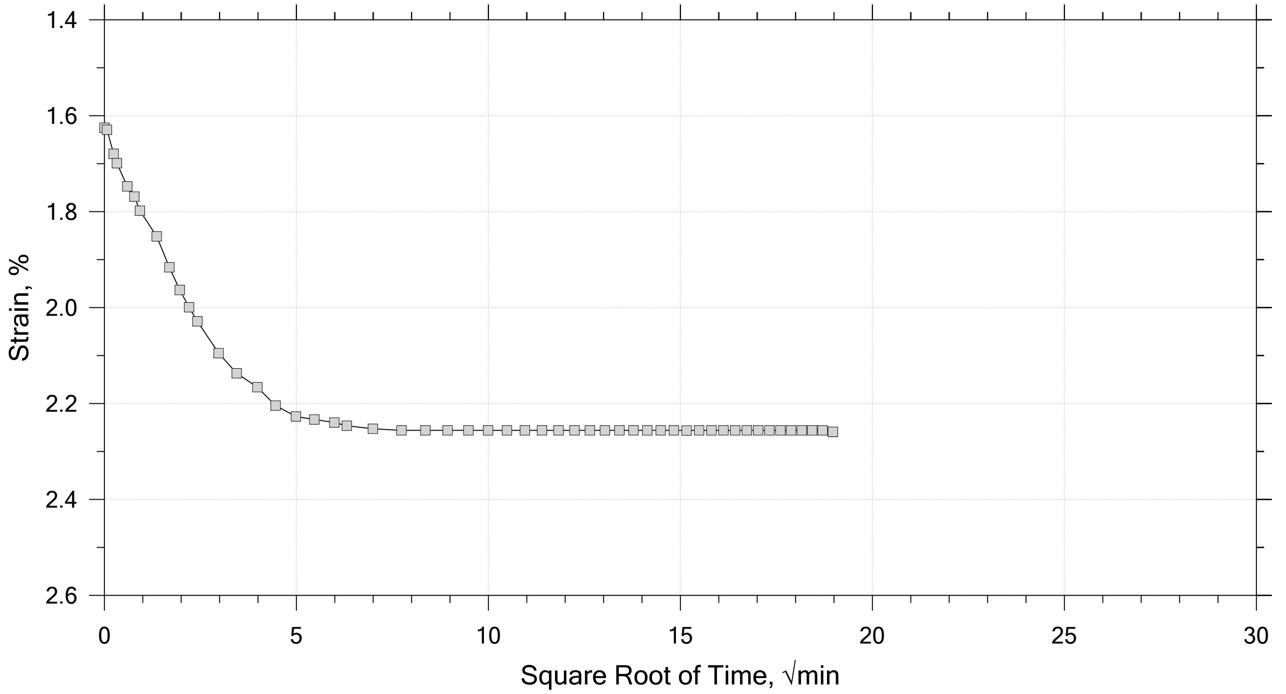
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15

Constant Load Step

Stress: 0.25 tsf





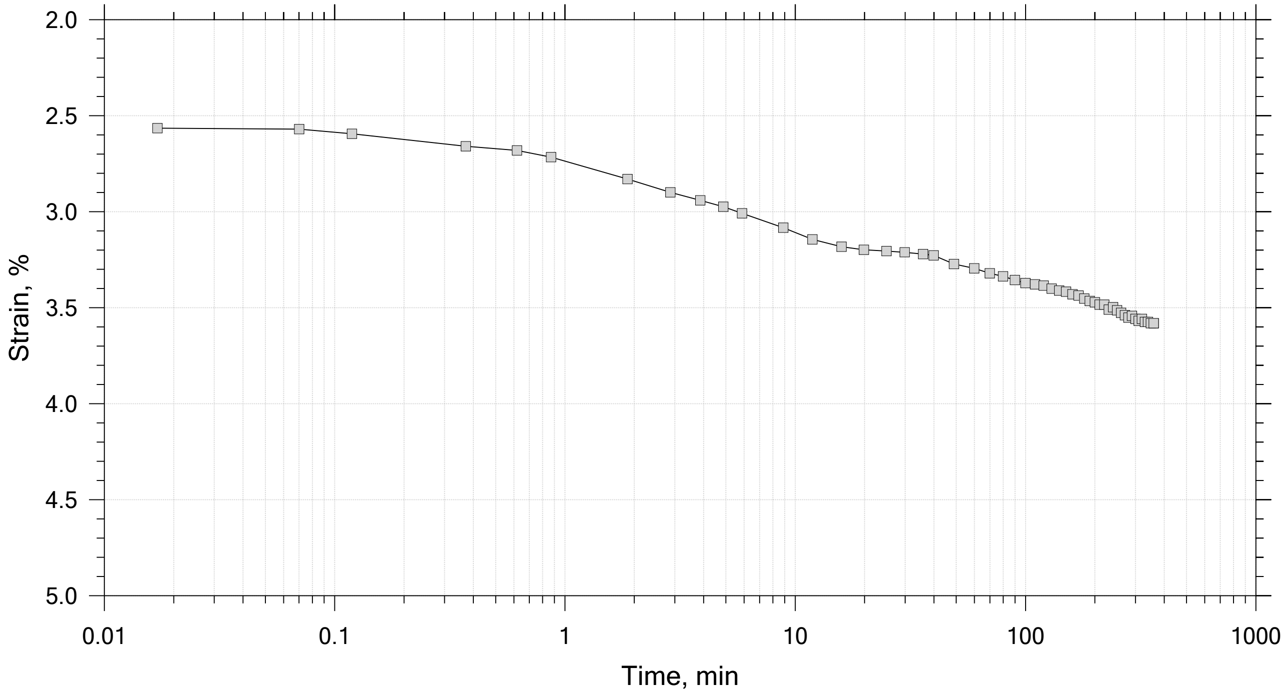
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

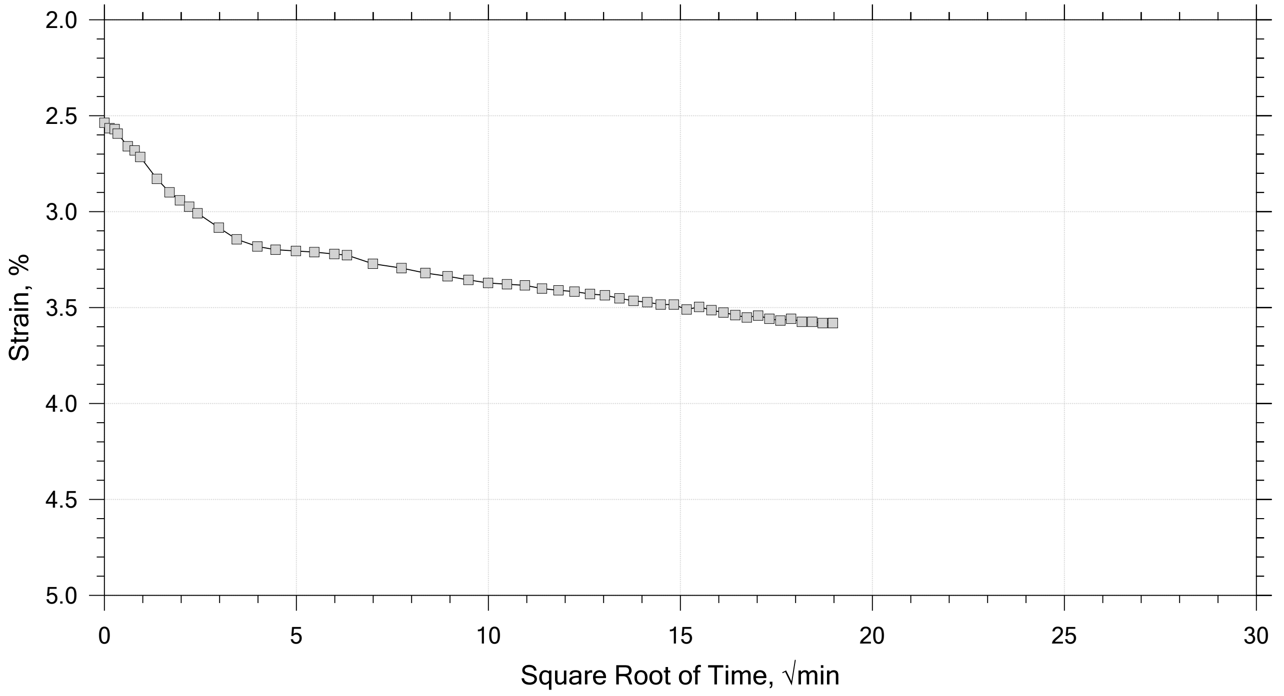
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf





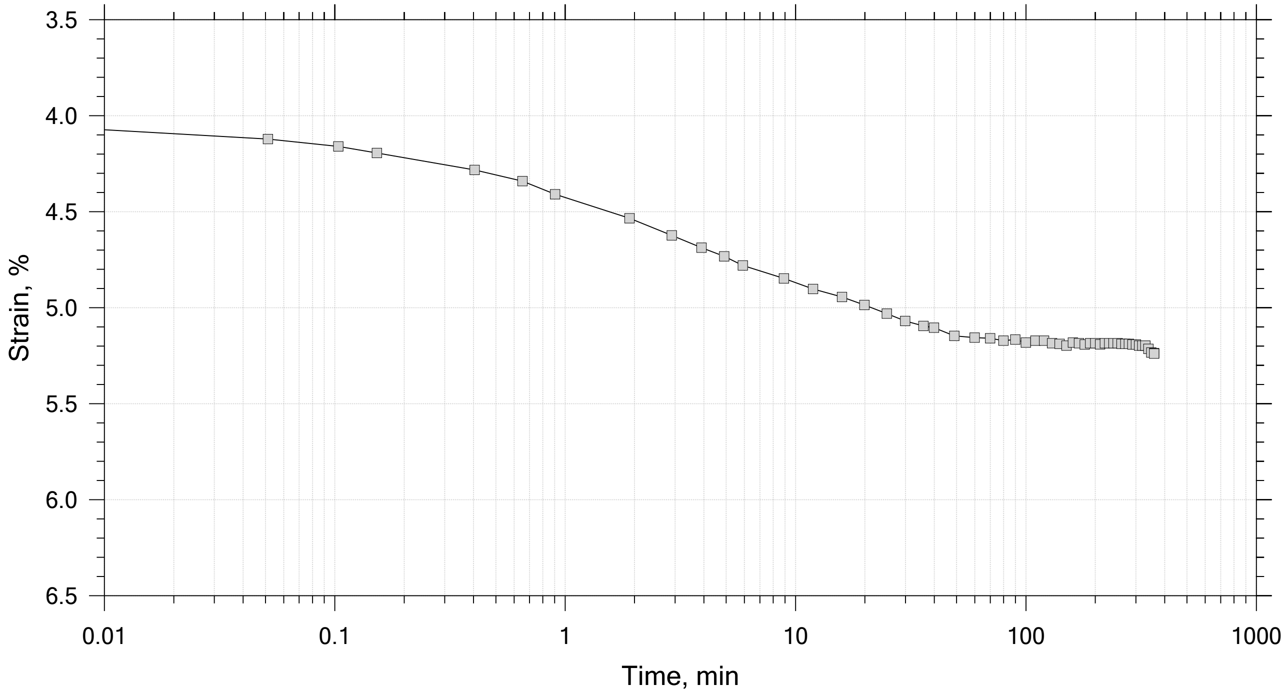
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

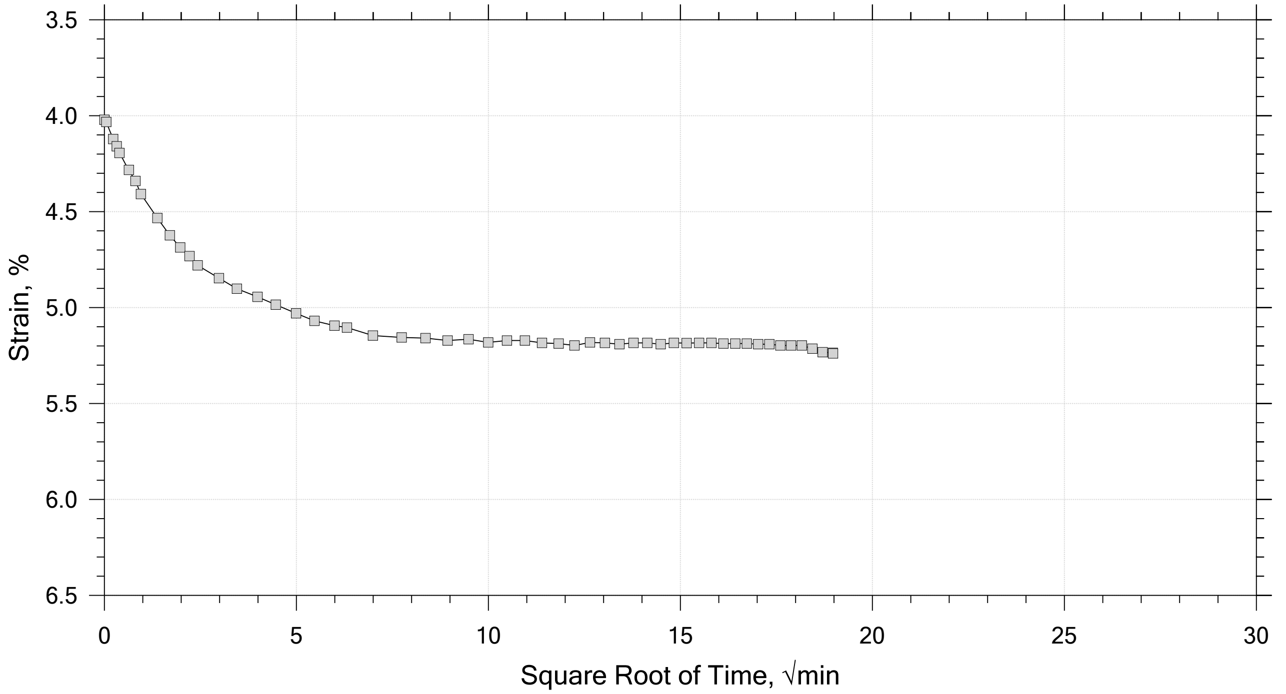
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15

Constant Load Step

Stress: 1 tsf





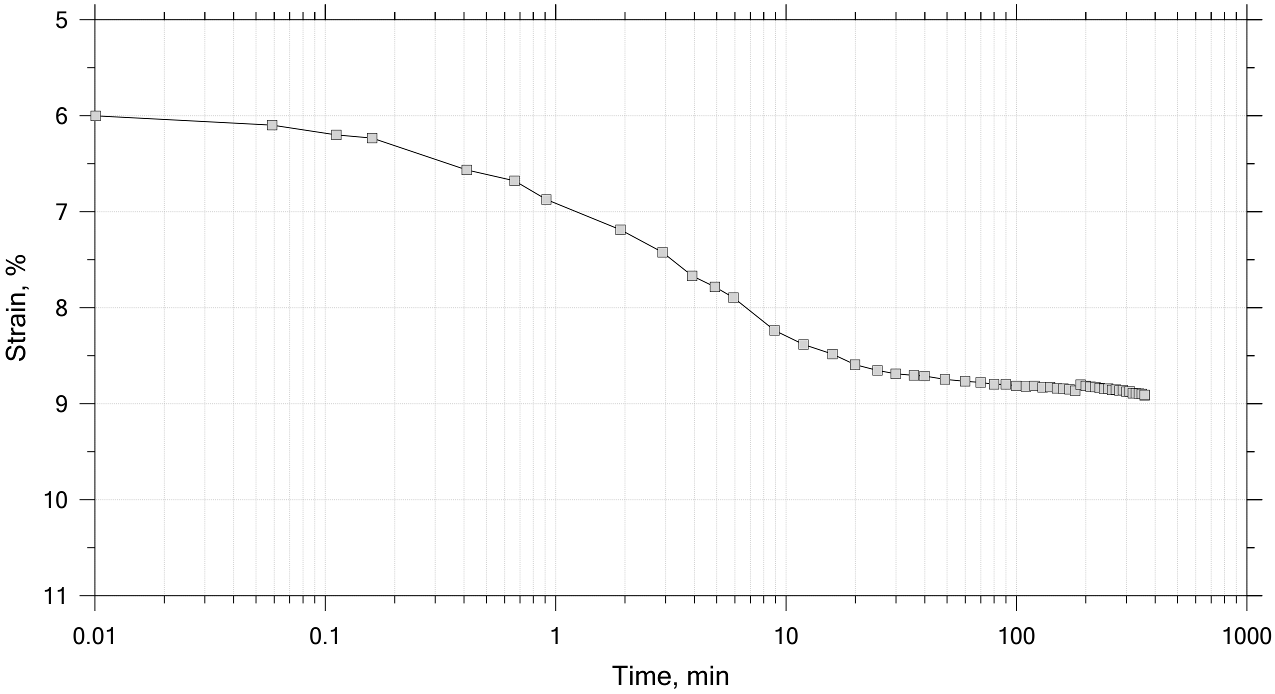
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

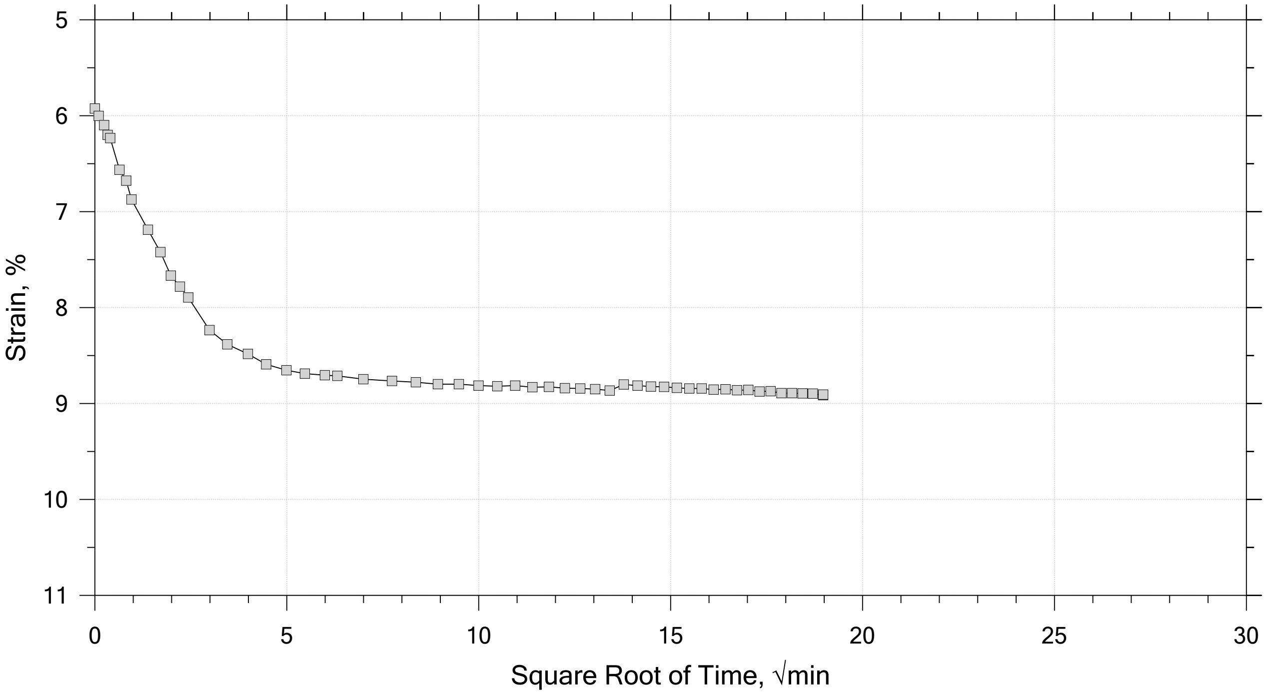
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





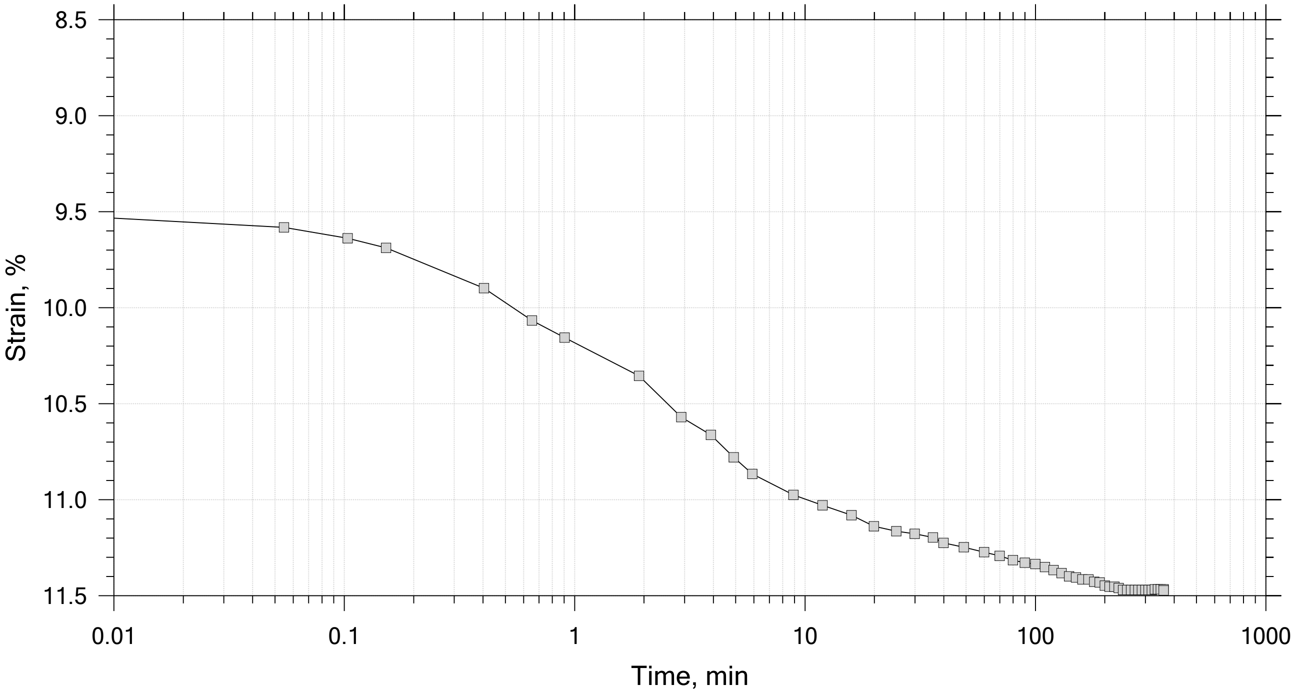
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

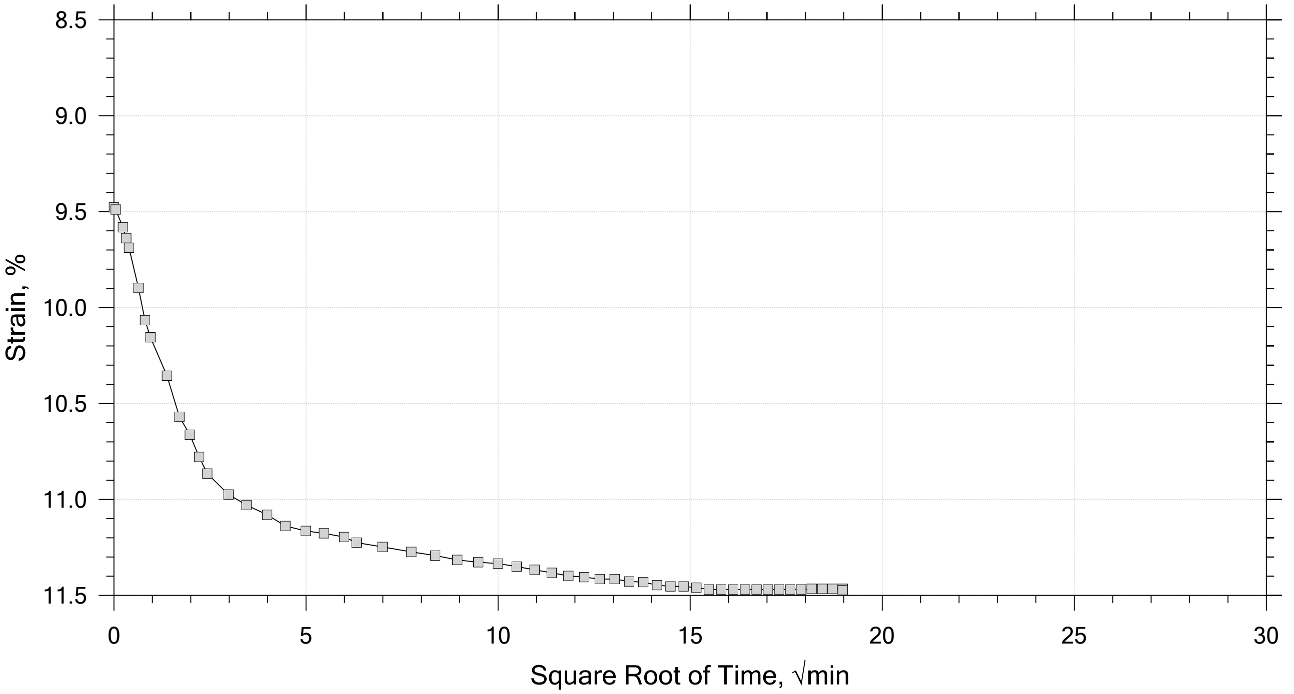
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





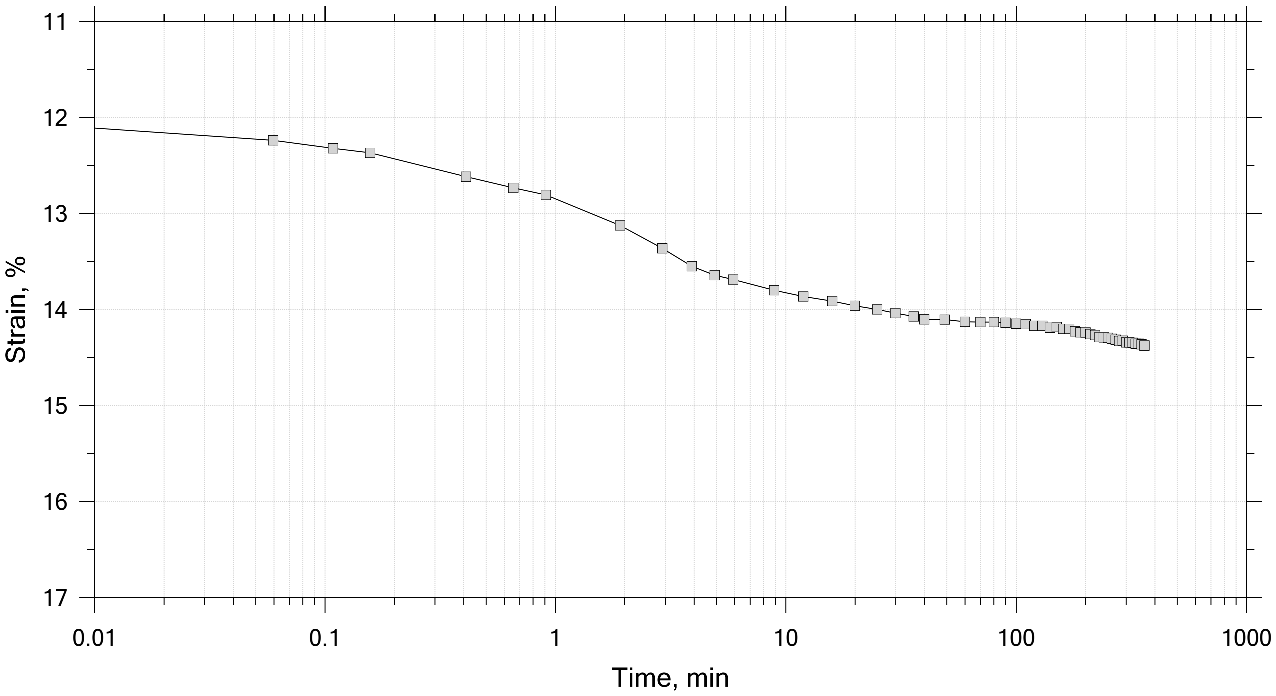
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

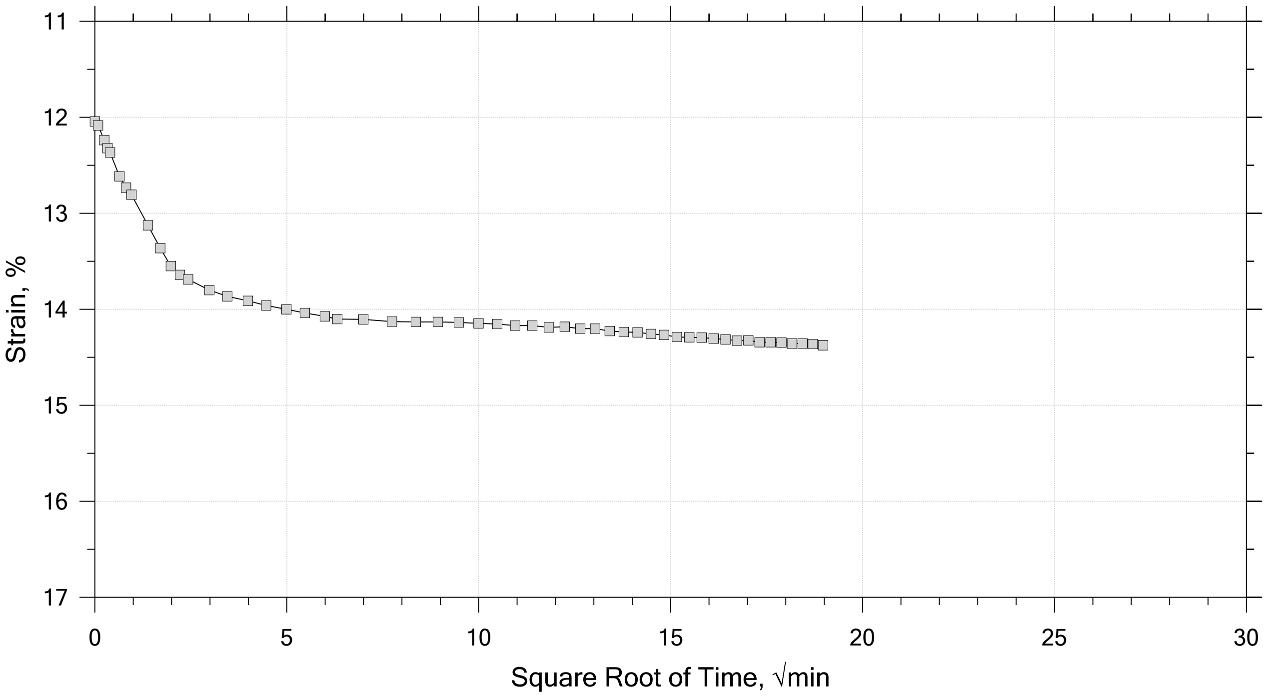
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf





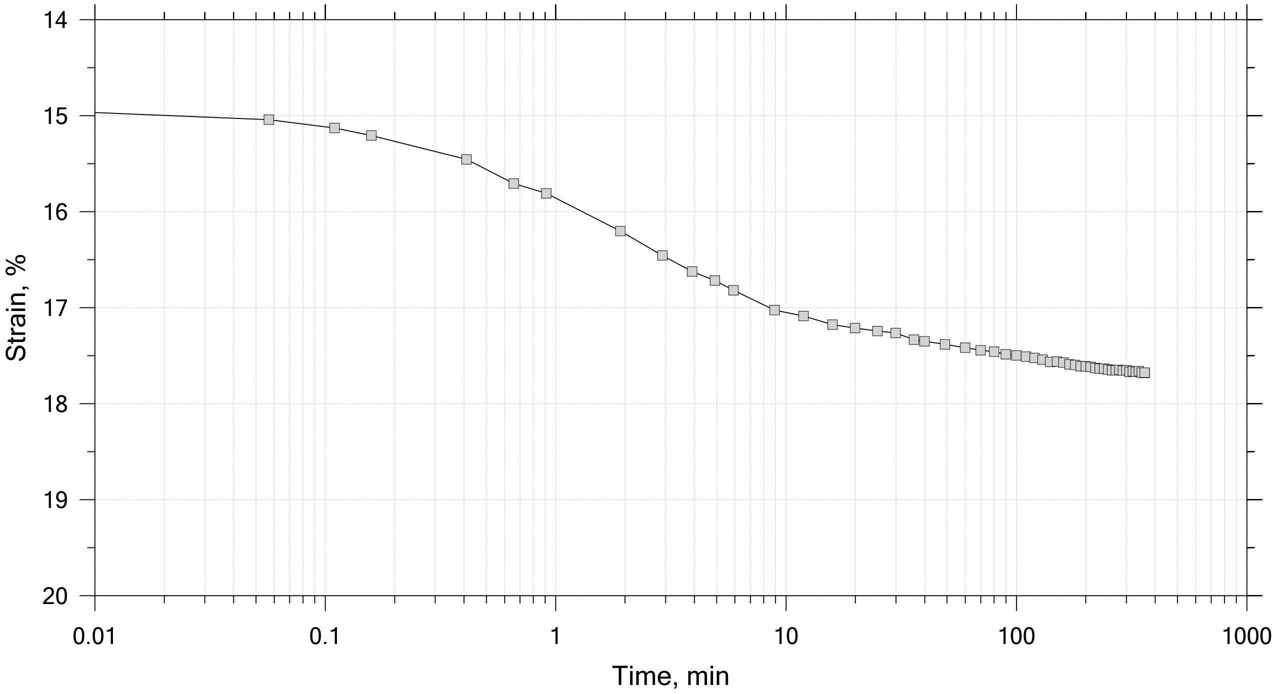
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

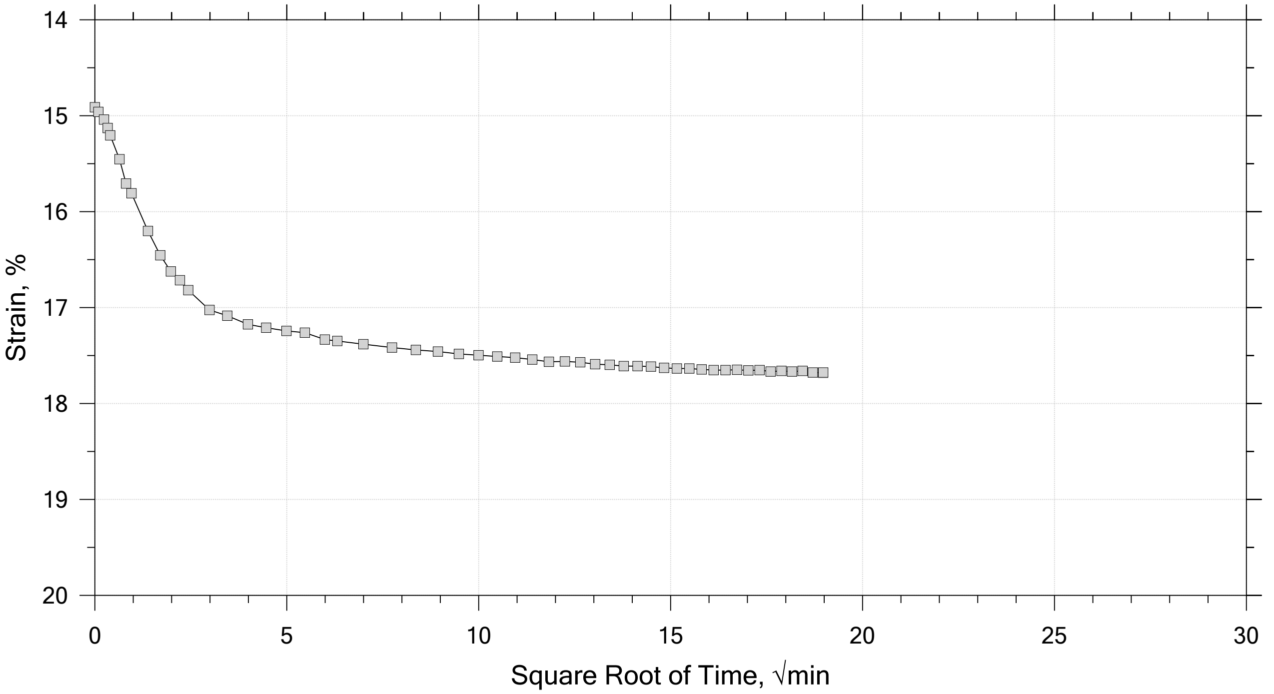
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





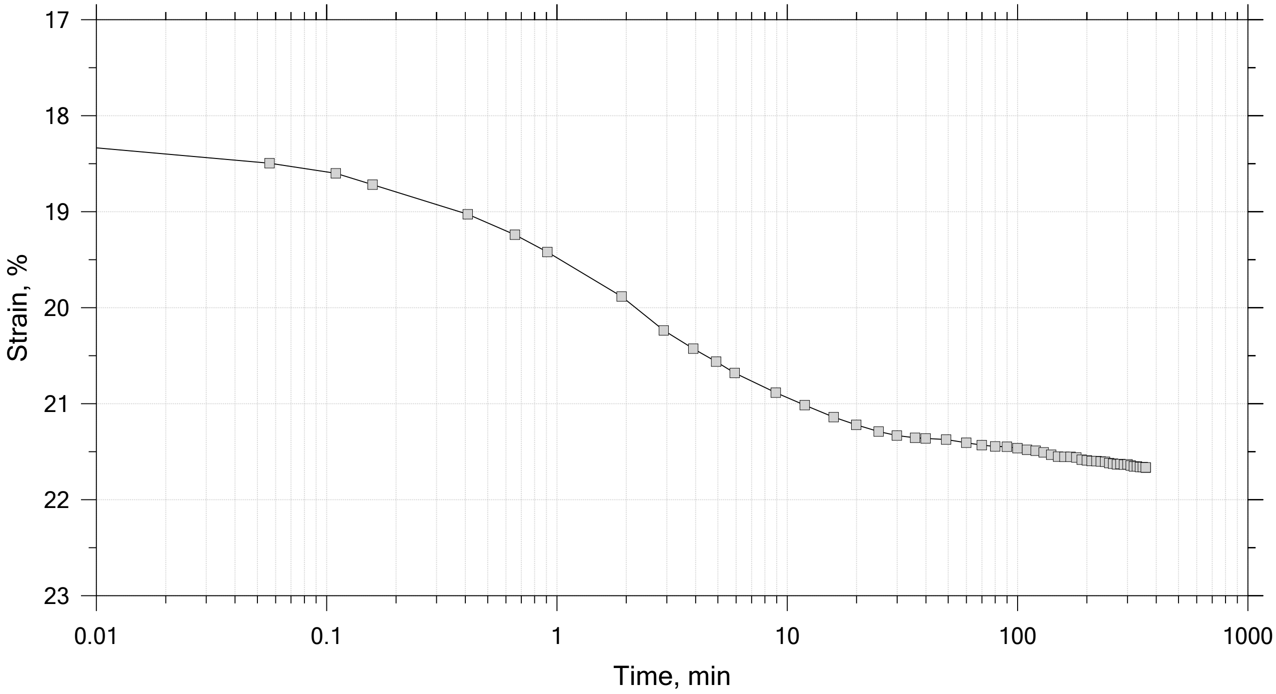
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
GeoTesting EXPRESS	Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-4	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

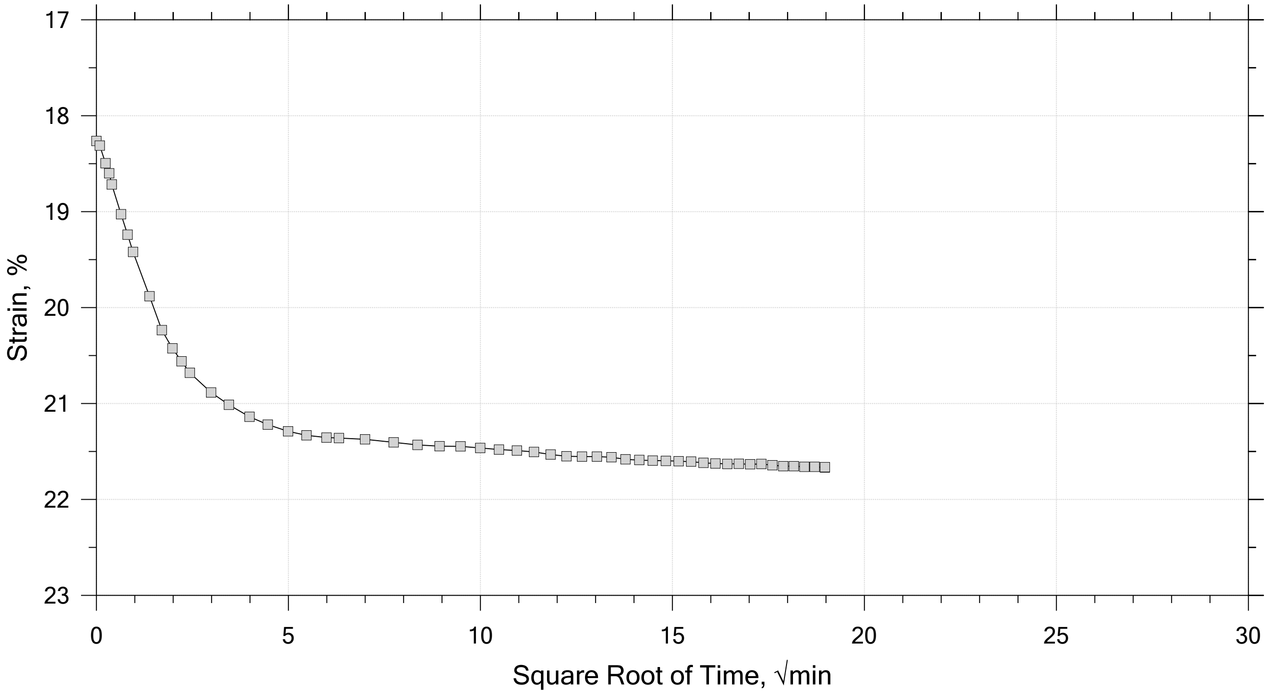
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf





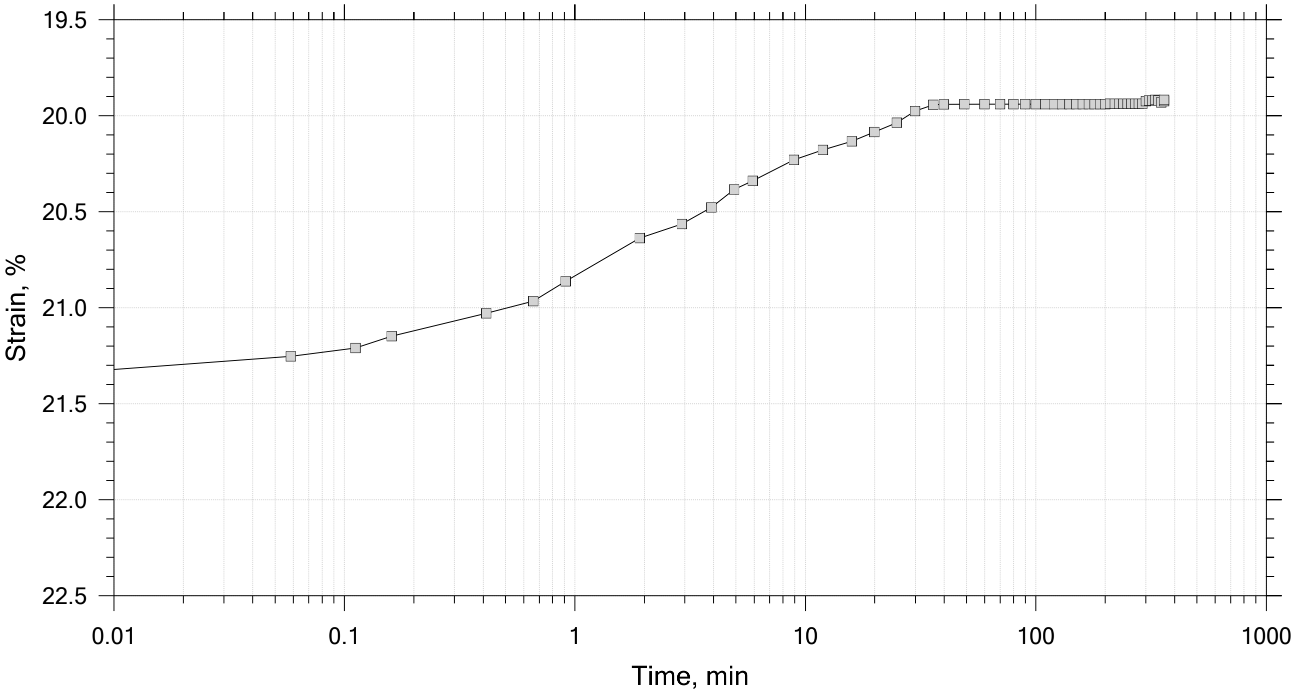
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
GeoTesting EXPRESS	Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-4	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

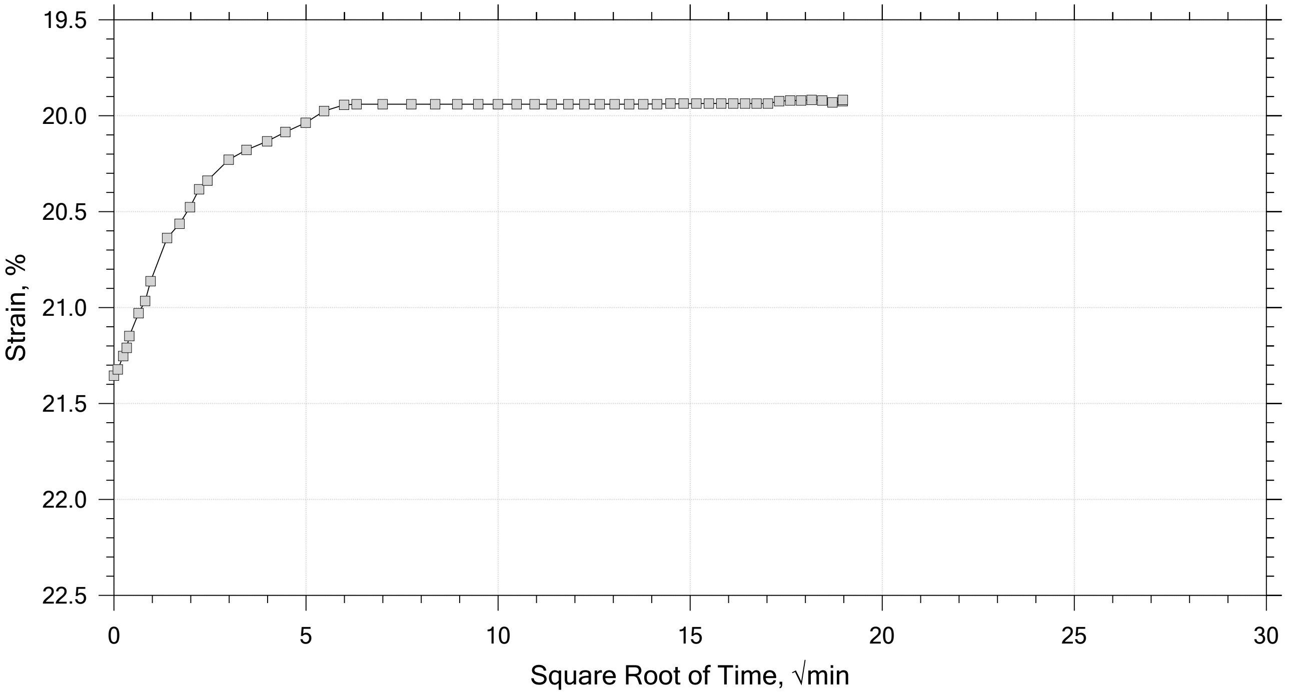
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15

Constant Load Step

Stress: 8 tsf

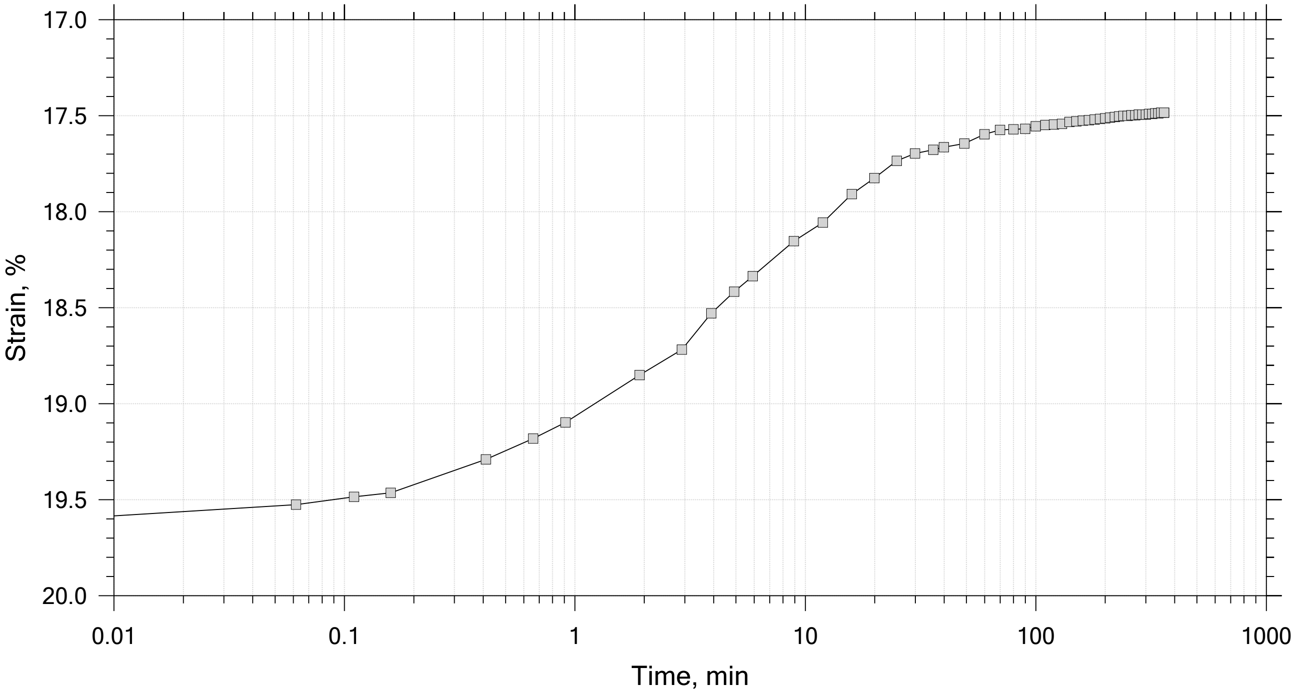


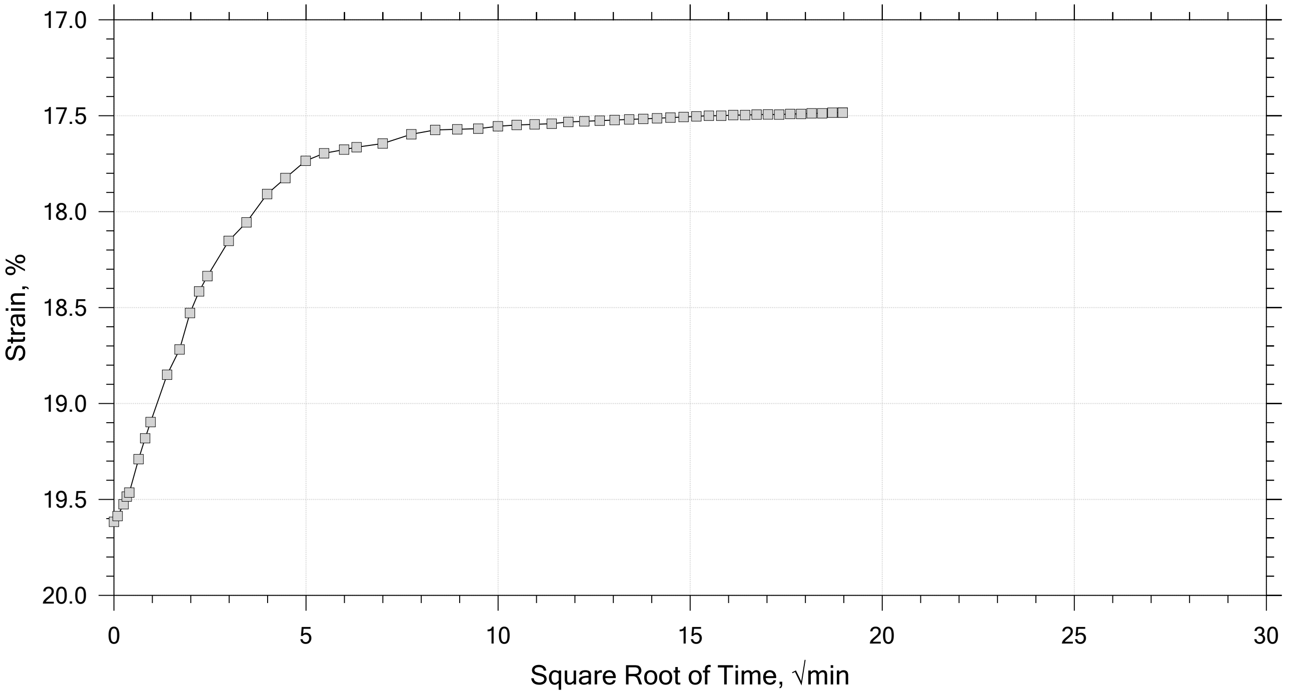


	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-4	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15
Constant Load Step
Stress: 2 tsf





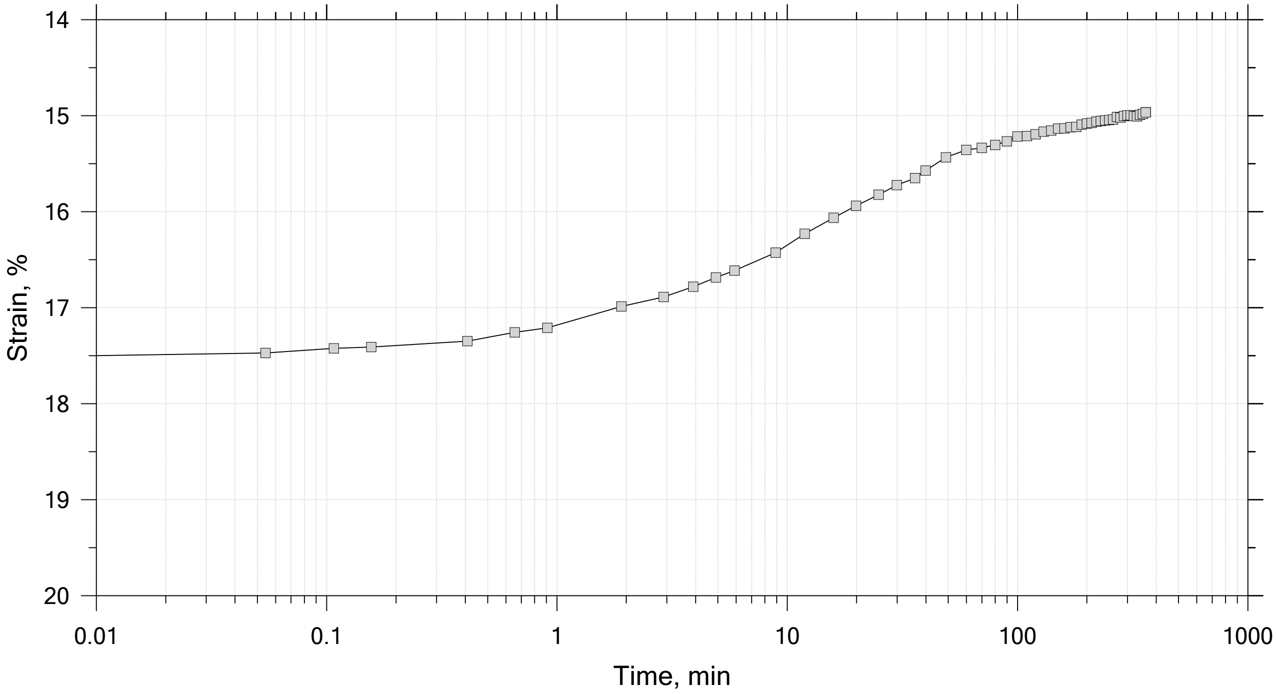
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-4	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

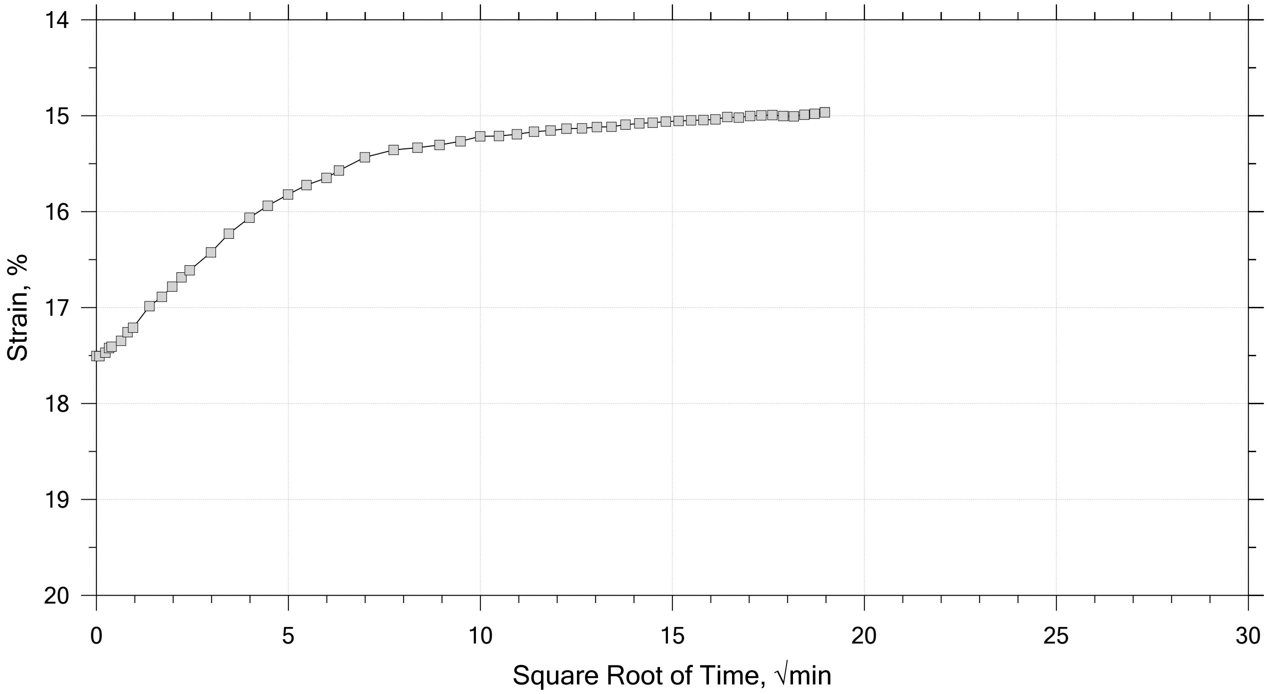
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





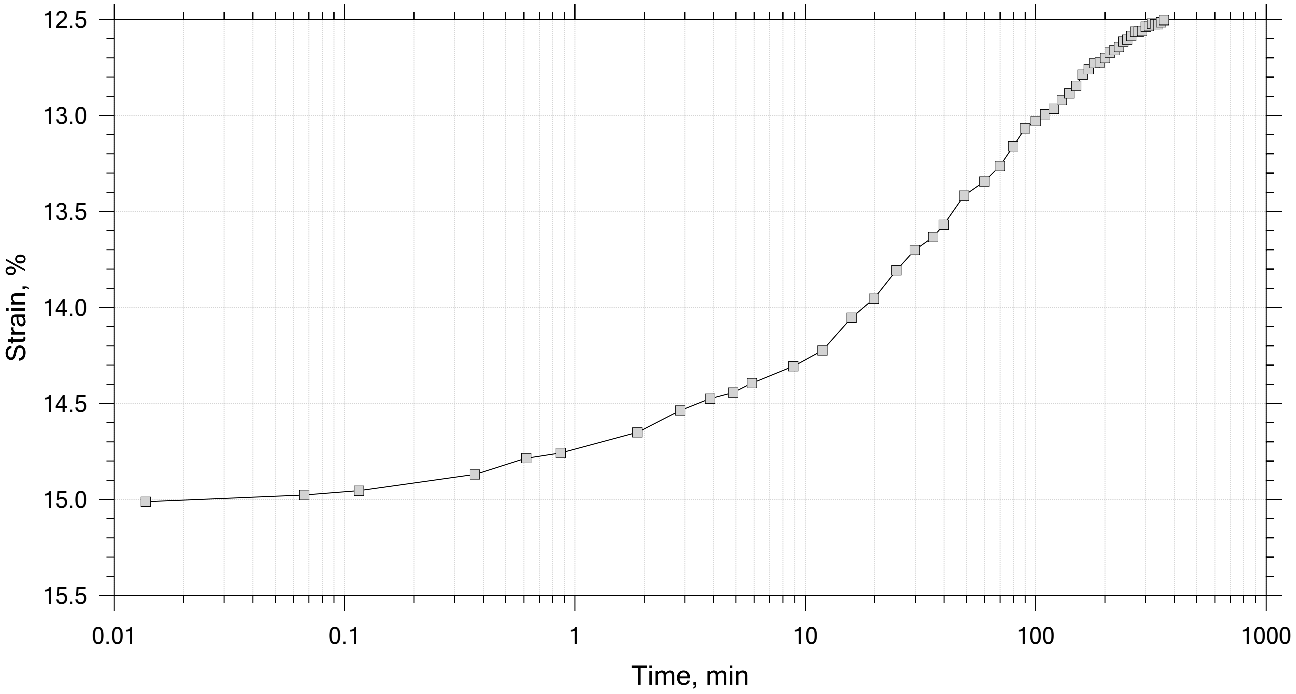
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

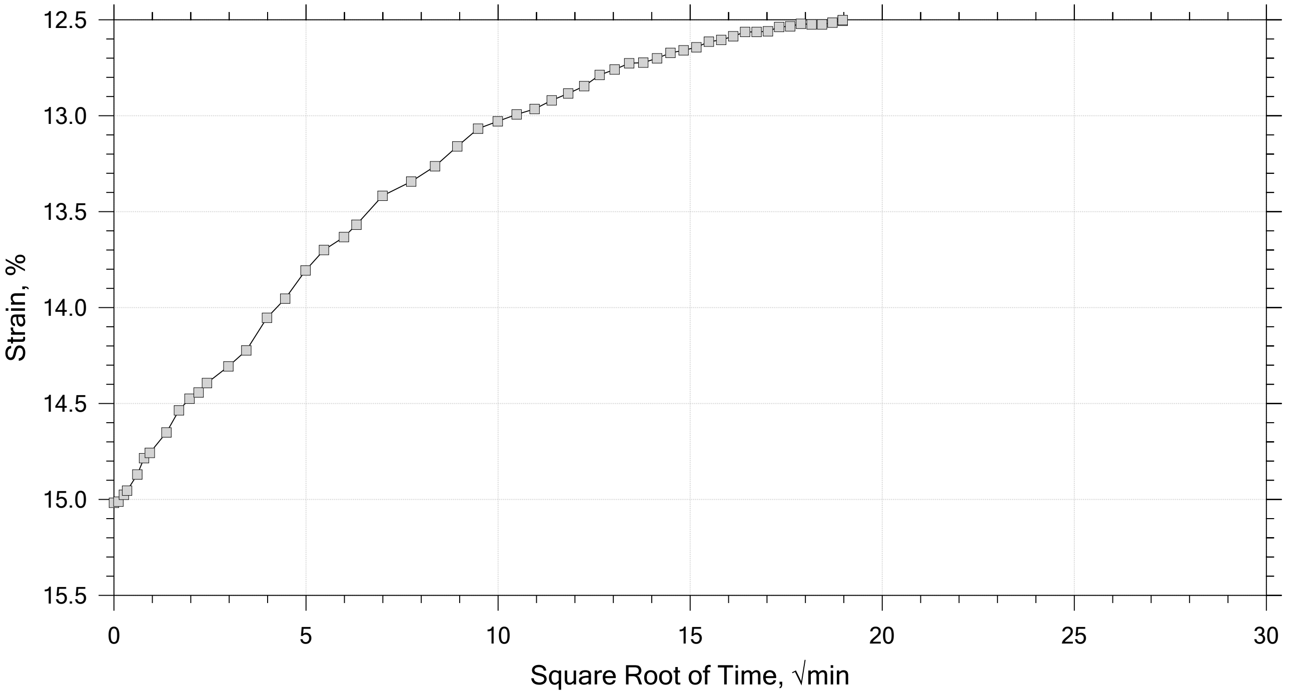
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf





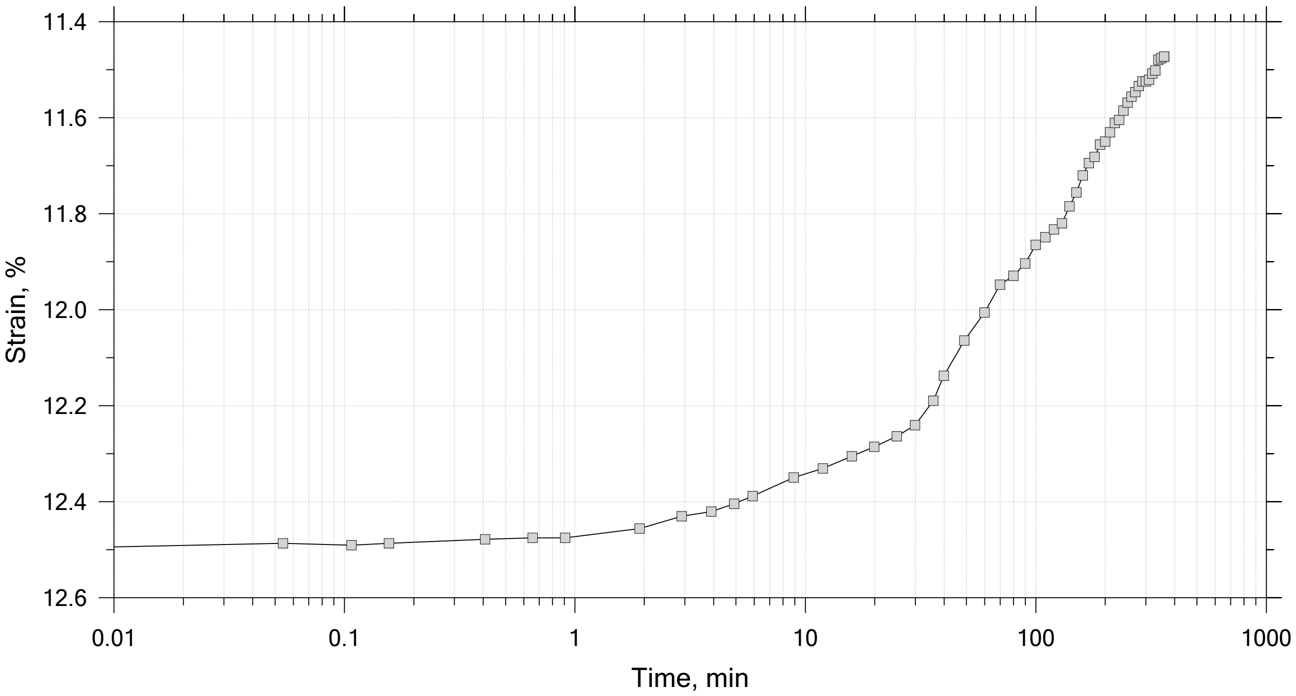
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-4	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

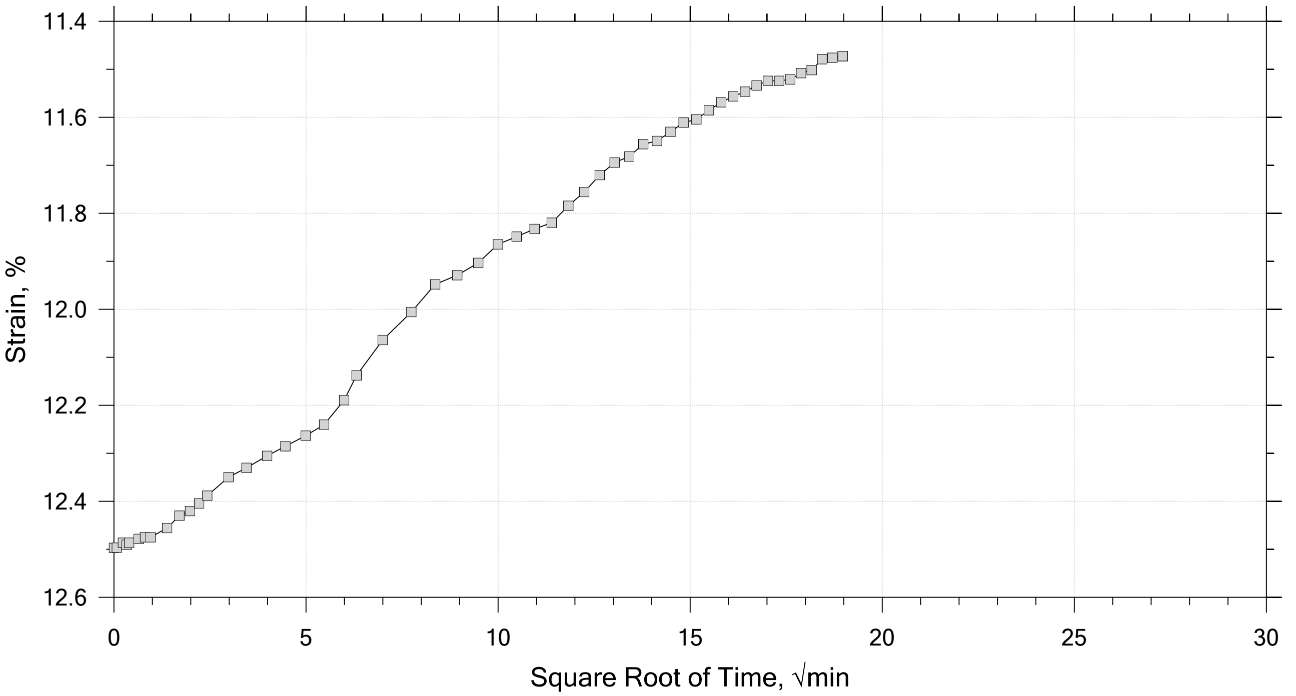
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15

Constant Load Step

Stress: 0.0625 tsf





GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
	Test No.: IP-4	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.74	Liquid Limit: 41
Initial Height: 1.00 in	Initial Void Ratio: 1.2	Plastic Limit: 25
Final Height: 0.89 in	Final Void Ratio: 0.946	Plasticity Index: 16

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	A-1562	RING		D1629
Mass Container, gm	8.67	8.1	8.1	8.1
Mass Container + Wet Soil, gm	162.05	151.67	143.06	143.06
Mass Container + Dry Soil, gm	119.25	108.45	108.45	108.45
Mass Dry Soil, gm	110.58	100.35	100.35	100.35
Water Content, %	38.71	43.07	34.49	34.49
Void Ratio	---	1.20	0.95	---
Degree of Saturation, %	---	98.59	100.00	---
Dry Unit Weight, pcf	---	77.88	87.973	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/s	Mv 1/tsf	k ft/day	Ca %
1	0.0677	0.004543	1.19	0.454	0.000	0.00e+00	6.72e-02	0.00e+00	0.00e+00
2	0.125	0.01462	1.17	1.46	0.000	0.00e+00	1.76e-01	0.00e+00	0.00e+00
3	0.250	0.02259	1.15	2.26	0.000	0.00e+00	6.37e-02	0.00e+00	0.00e+00
4	0.500	0.03581	1.12	3.58	0.000	0.00e+00	5.29e-02	0.00e+00	0.00e+00
5	1.00	0.05239	1.08	5.24	0.000	0.00e+00	3.32e-02	0.00e+00	0.00e+00
6	2.00	0.08907	1.00	8.91	0.000	0.00e+00	3.67e-02	0.00e+00	0.00e+00
7	4.00	0.1147	0.946	11.5	0.000	0.00e+00	1.28e-02	0.00e+00	0.00e+00
8	8.00	0.1438	0.882	14.4	1.929	2.24e-06	7.26e-03	4.38e-05	0.00e+00
9	16.0	0.1768	0.809	17.7	1.725	2.33e-06	4.13e-03	2.59e-05	0.00e+00
10	32.0	0.2166	0.722	21.7	1.731	2.13e-06	2.49e-03	1.43e-05	0.00e+00
11	8.00	0.1992	0.760	19.9	0.000	0.00e+00	7.27e-04	0.00e+00	0.00e+00
12	2.00	0.1748	0.813	17.5	3.707	1.02e-06	4.06e-03	1.11e-05	0.00e+00
13	0.500	0.1496	0.869	15.0	11.863	3.37e-07	1.68e-02	1.53e-05	0.00e+00
14	0.125	0.1250	0.923	12.5	0.000	0.00e+00	6.57e-02	0.00e+00	0.00e+00
15	0.0625	0.1147	0.946	11.5	0.000	0.00e+00	1.65e-01	0.00e+00	0.00e+00

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Square Root of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0677	0.004543	1.19	0.454	16.901	1.45e-06	6.72e-02	2.62e-04
2	0.125	0.01462	1.17	1.46	12.668	1.90e-06	1.76e-01	9.01e-04
3	0.250	0.02259	1.15	2.26	12.256	1.93e-06	6.37e-02	3.32e-04
4	0.500	0.03581	1.12	3.58	69.309	3.34e-07	5.29e-02	4.76e-05
5	1.00	0.05239	1.08	5.24	10.704	2.09e-06	3.32e-02	1.87e-04
6	2.00	0.08907	1.00	8.91	12.288	1.72e-06	3.67e-02	1.71e-04
7	4.00	0.1147	0.946	11.5	7.216	2.74e-06	1.28e-02	9.49e-05
8	8.00	0.1438	0.882	14.4	6.543	2.84e-06	7.26e-03	5.56e-05
9	16.0	0.1768	0.809	17.7	9.812	1.76e-06	4.13e-03	1.96e-05
10	32.0	0.2166	0.722	21.7	6.695	2.36e-06	2.49e-03	1.59e-05
11	8.00	0.1992	0.760	19.9	8.426	1.83e-06	7.27e-04	3.58e-06
12	2.00	0.1748	0.813	17.5	16.463	9.85e-07	4.06e-03	1.08e-05
13	0.500	0.1496	0.869	15.0	34.347	5.01e-07	1.68e-02	2.27e-05
14	0.125	0.1250	0.923	12.5	95.290	1.92e-07	6.57e-02	3.39e-05
15	0.0625	0.1147	0.946	11.5	326.170	5.83e-08	1.65e-01	2.59e-05

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-14B	Test Date: 11/06/18	Depth: ---
Test No.: IP-4	Sample Type: intact	Elevation: ---

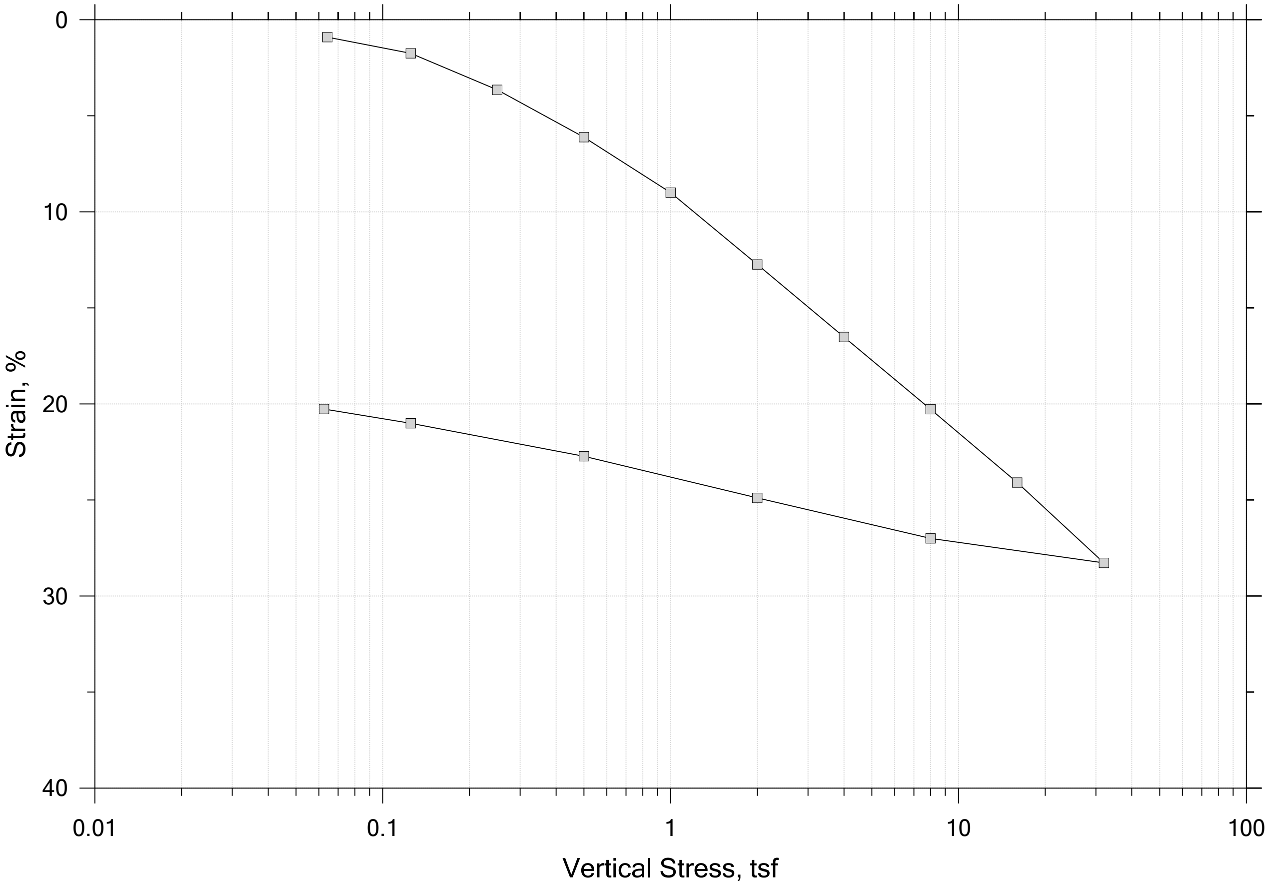
Description: Moist, dark gray clay

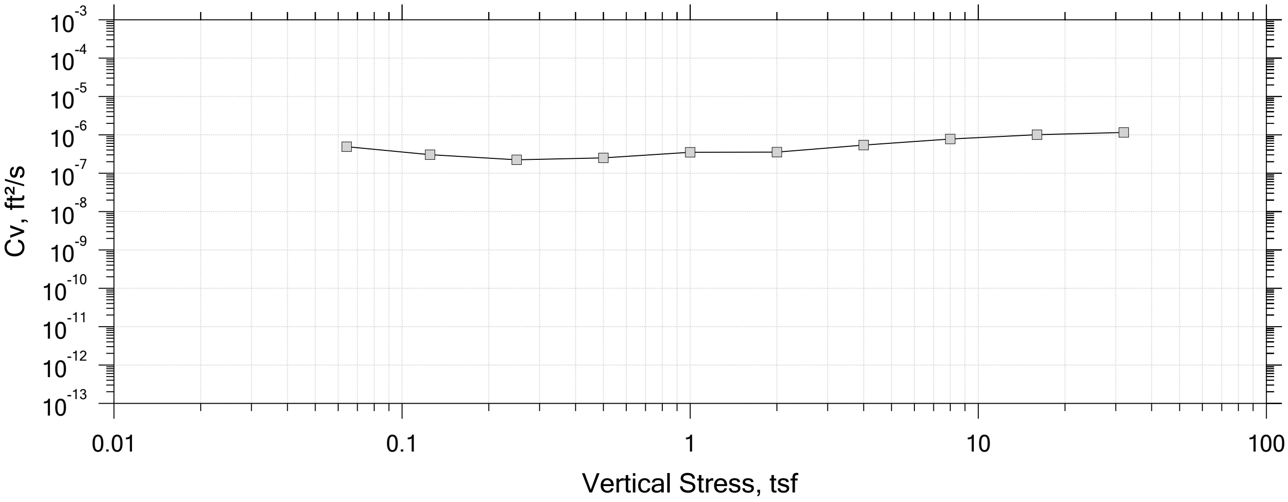
Remarks: System LTIII-B, Swell Pressure = 0.0677 tsf

Displacement at End of Increment

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





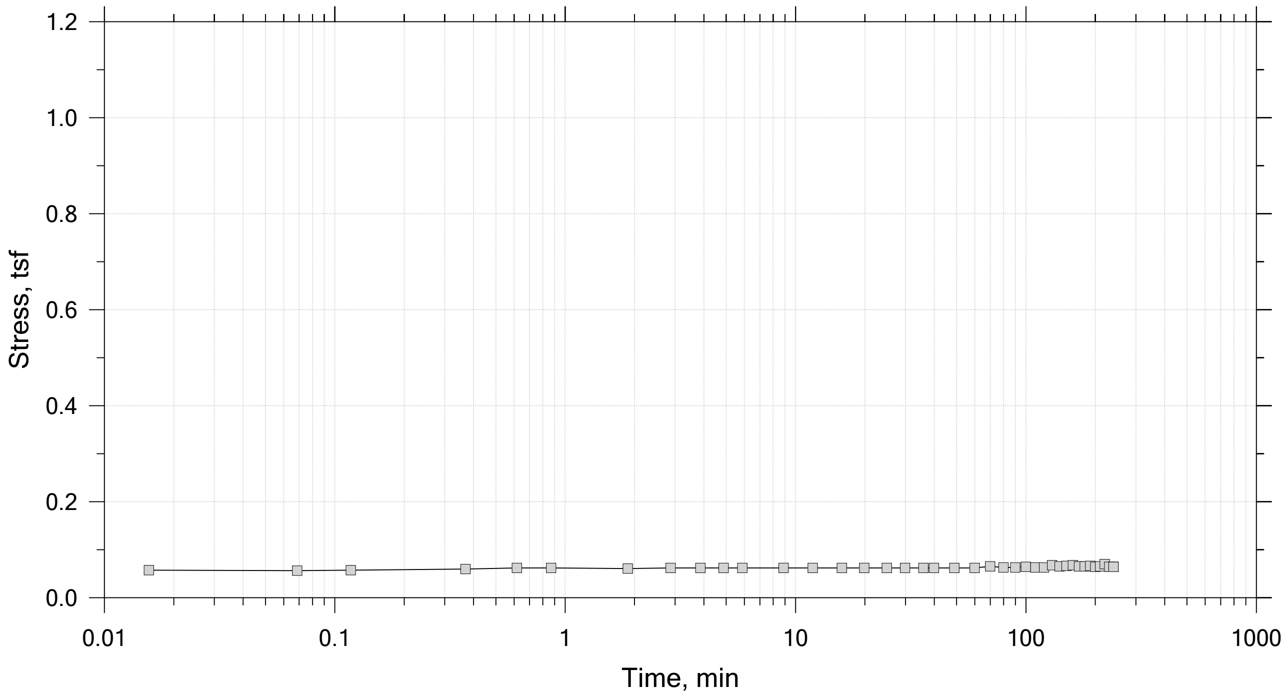
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
	Test No.: IP-4A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System KK, Swell Pressure = 0.0642 tsf		
	Displacement at End of Increment		

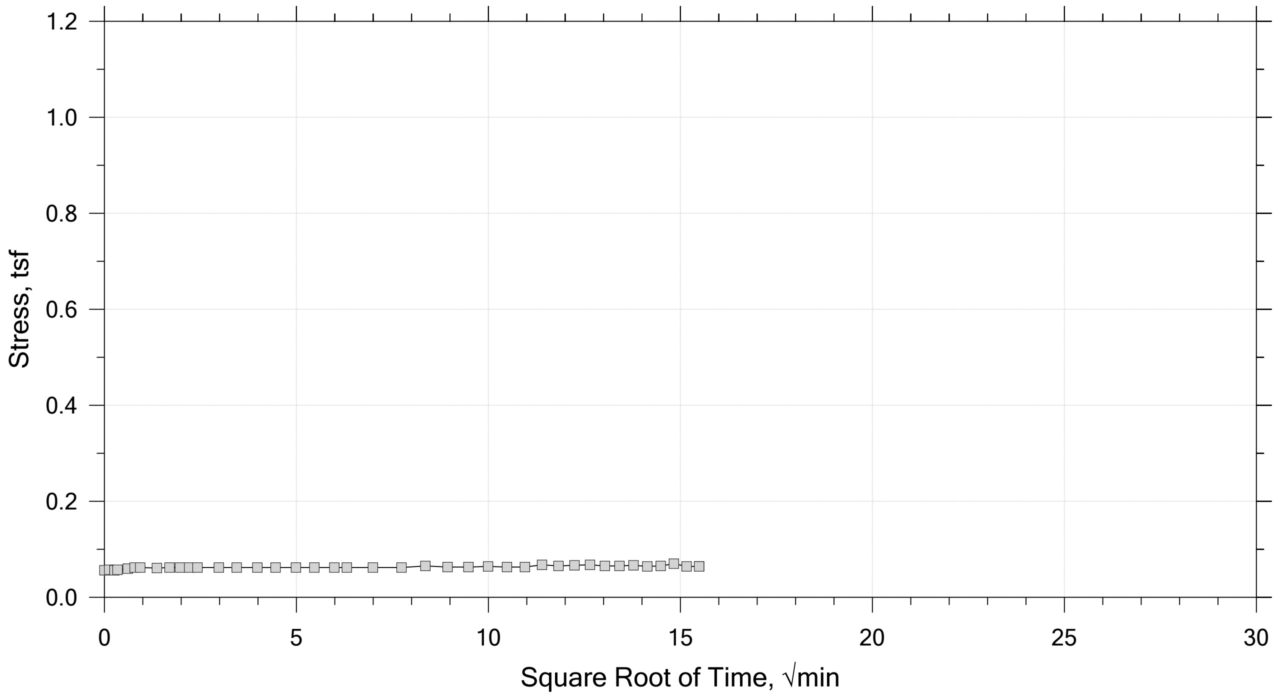
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0642 tsf

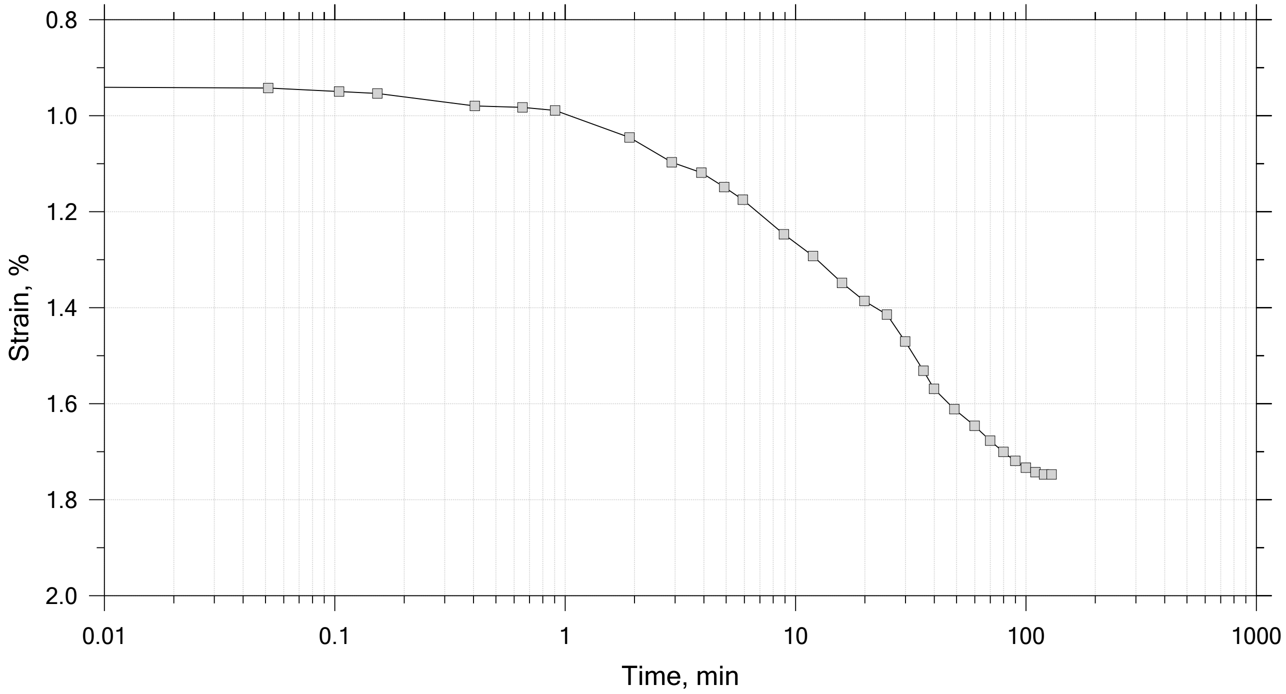


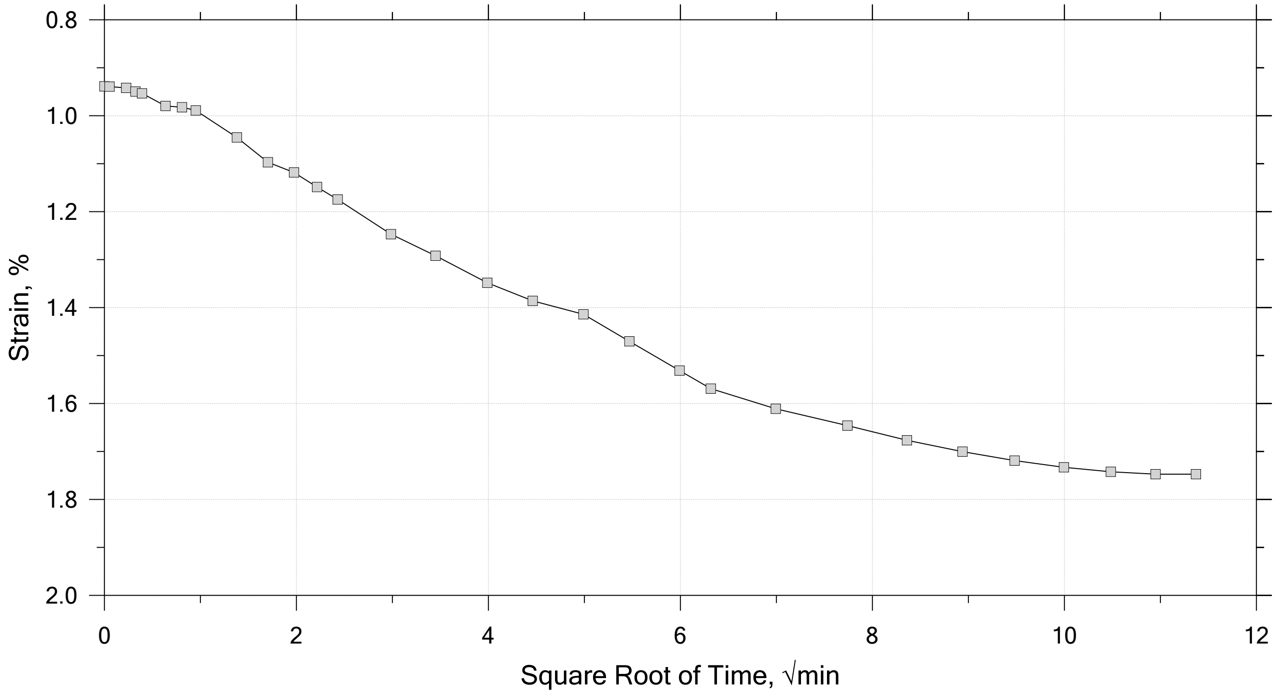


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15
Constant Load Step
Stress: 0.125 tsf





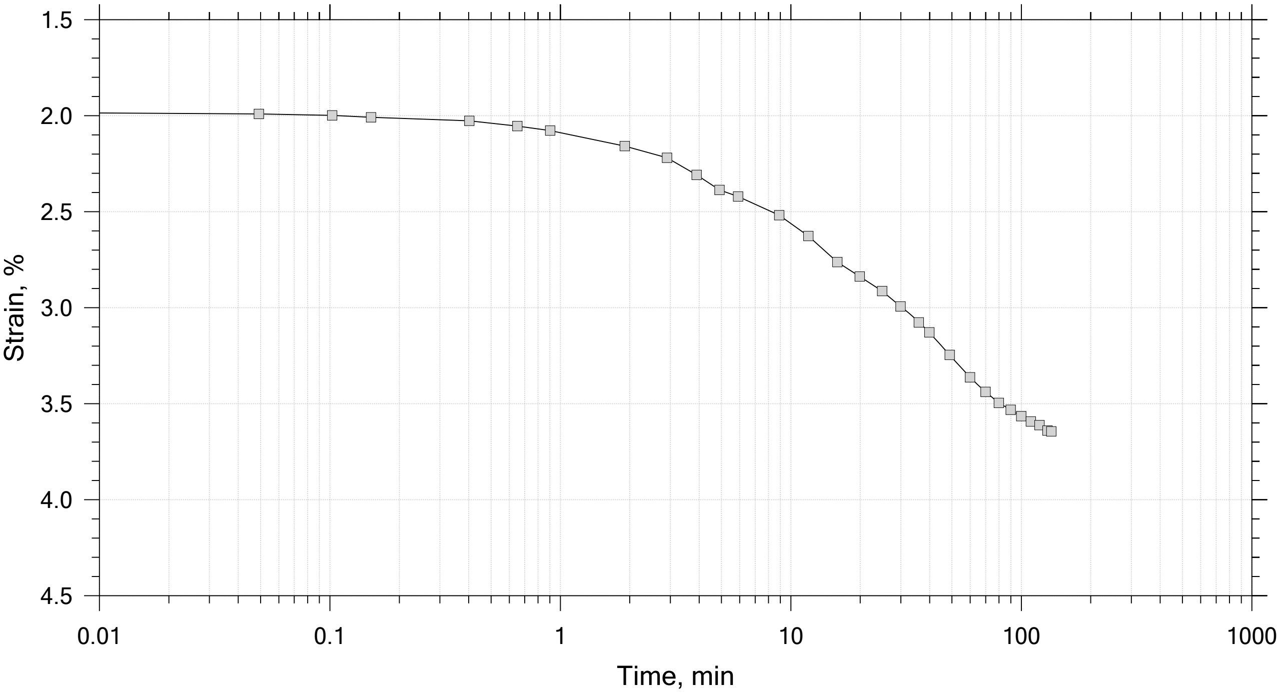
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
	Test No.: IP-4A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System KK, Swell Pressure = 0.0642 tsf		

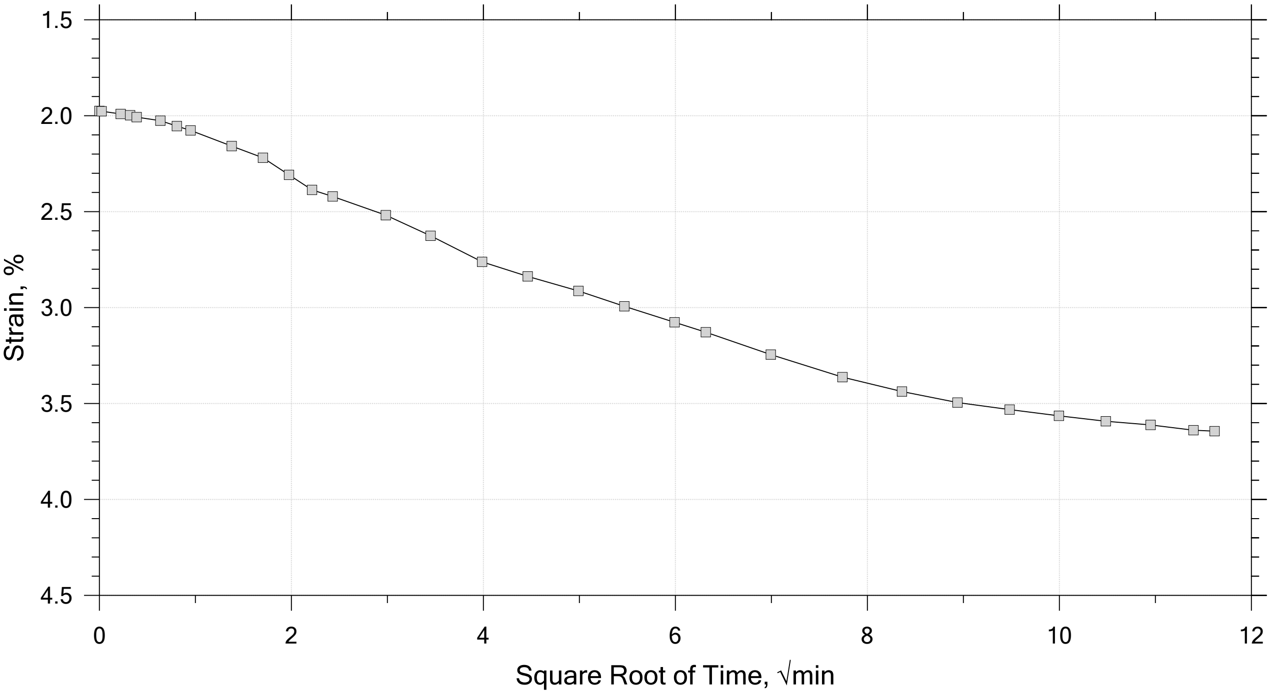
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15

Constant Load Step

Stress: 0.25 tsf





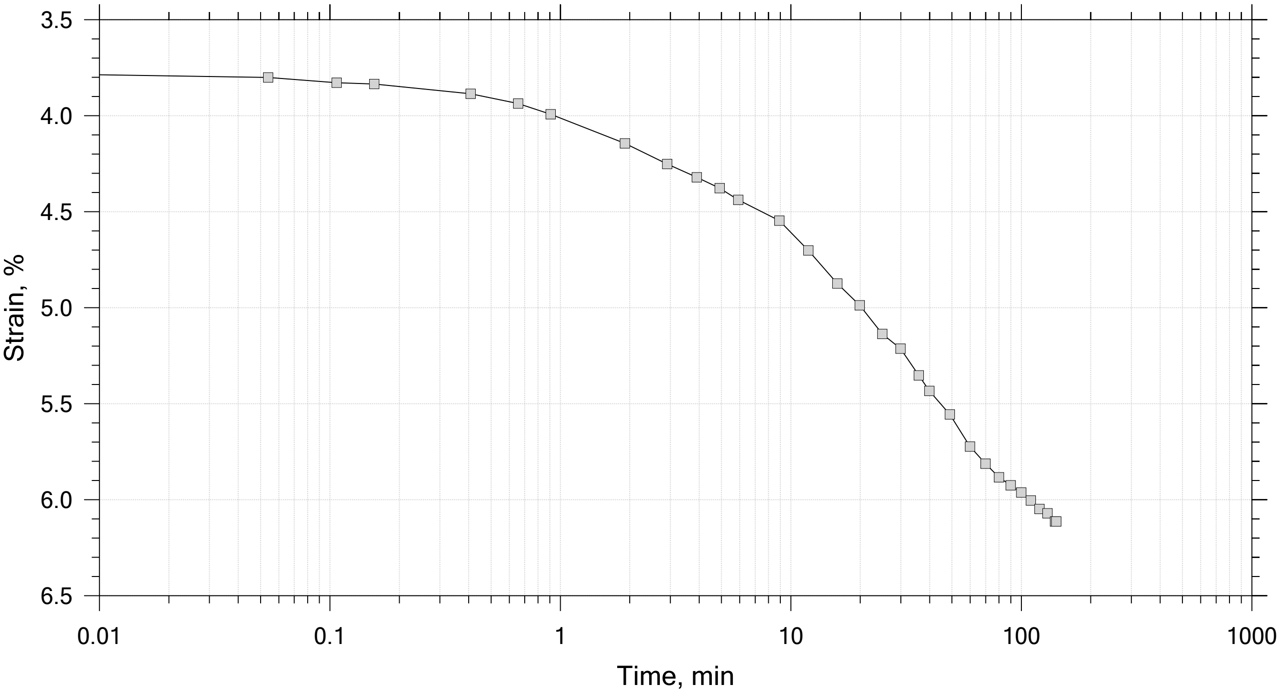
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
GeoTesting EXPRESS	Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
	Test No.: IP-4A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System KK, Swell Pressure = 0.0642 tsf		

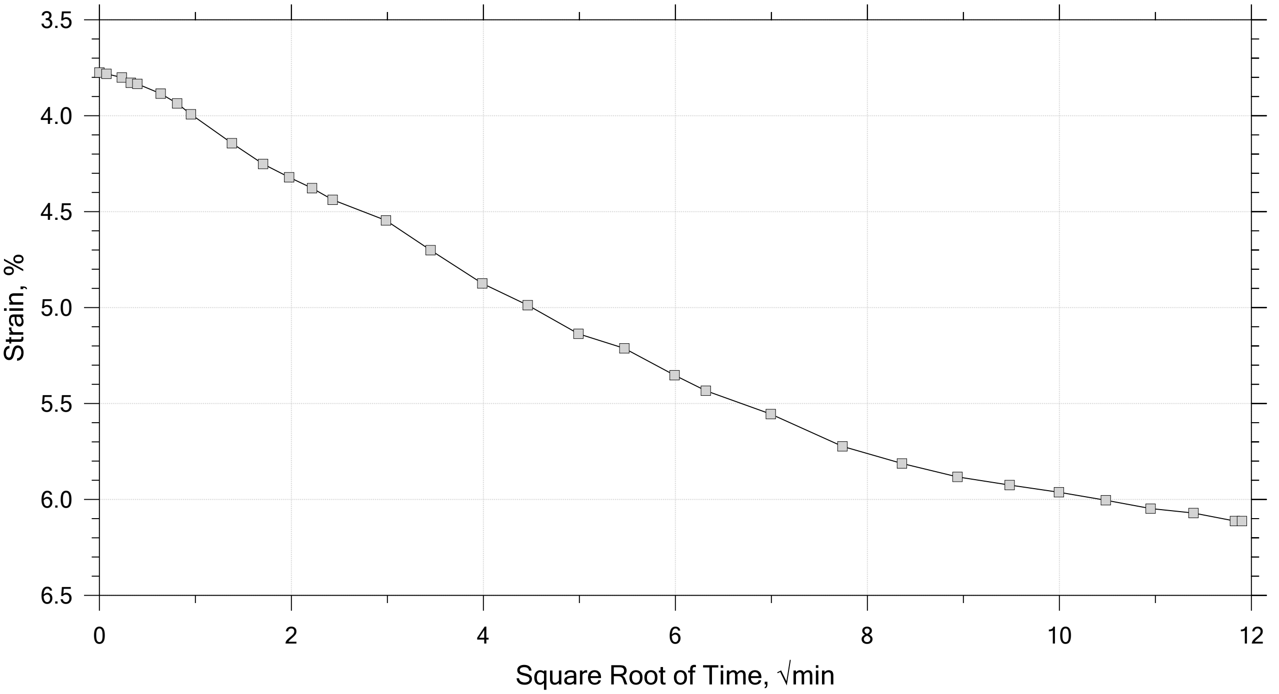
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf

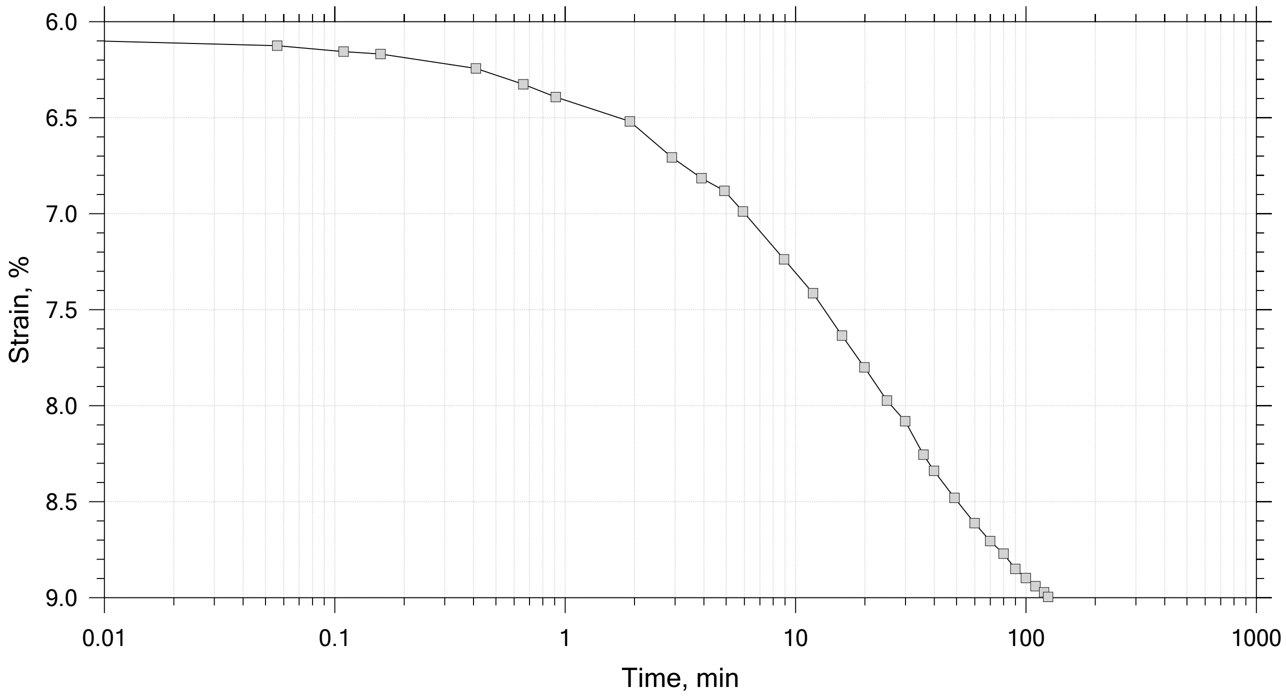


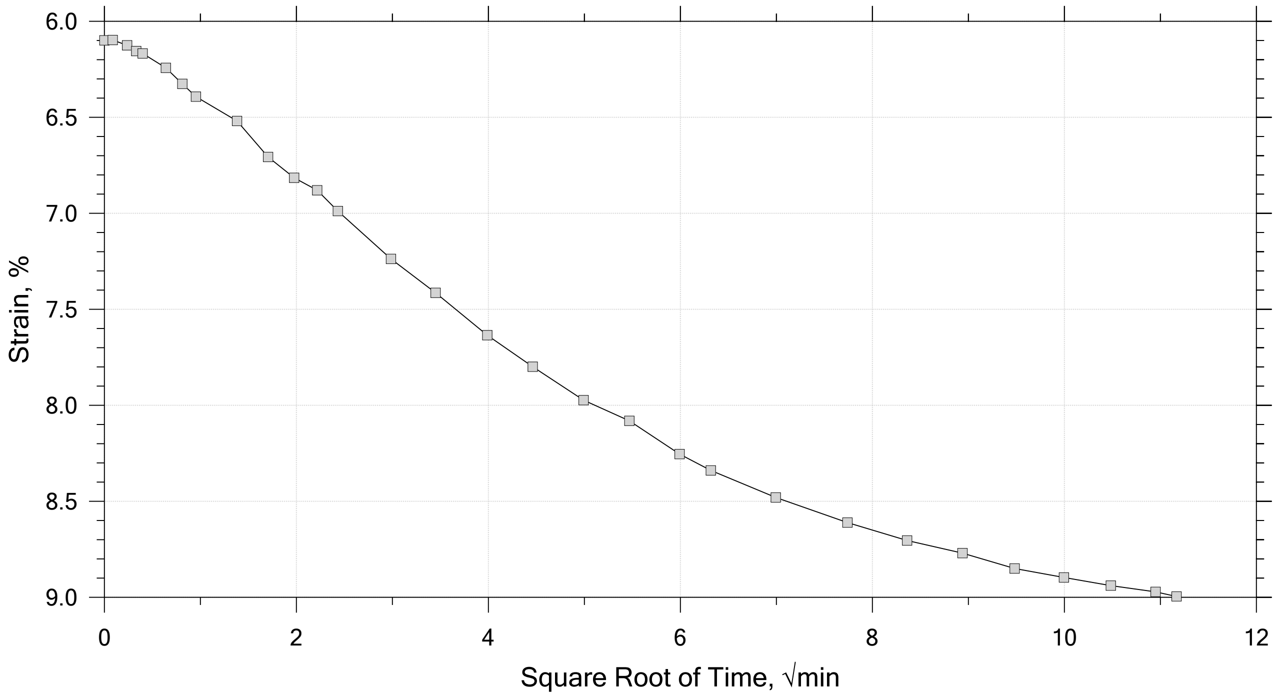


GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
	Test No.: IP-4A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System KK, Swell Pressure = 0.0642 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15
Constant Load Step
Stress: 1 tsf





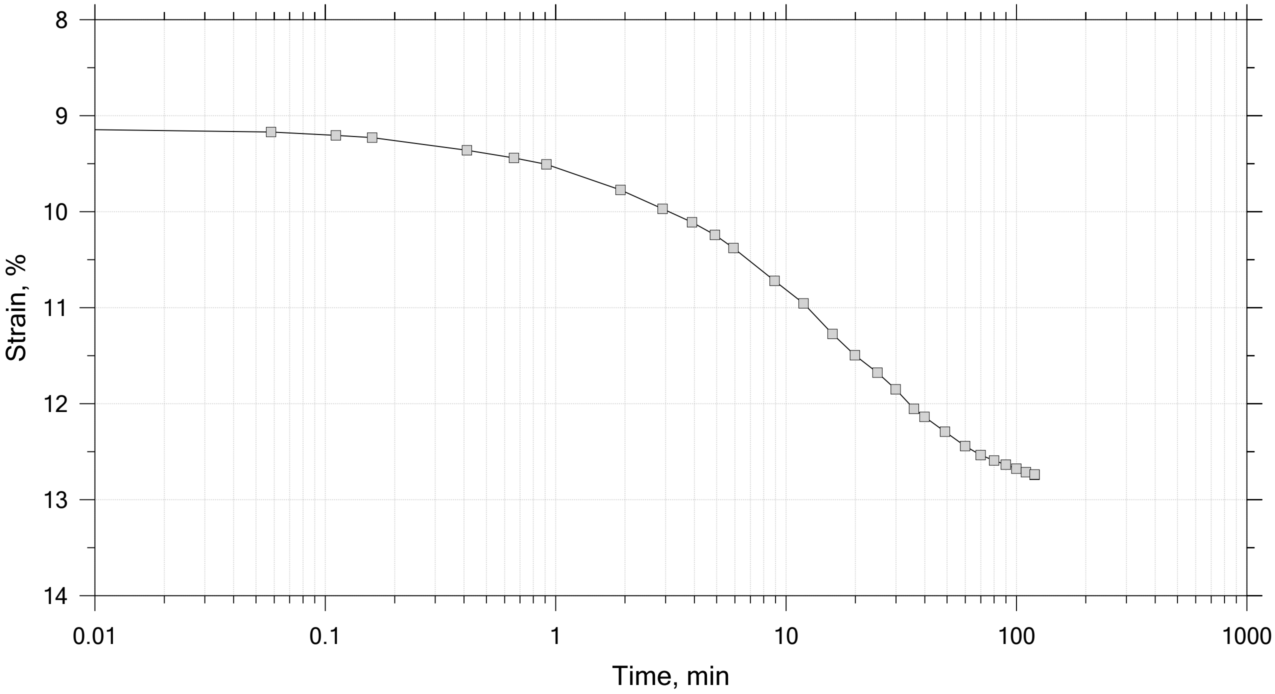
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

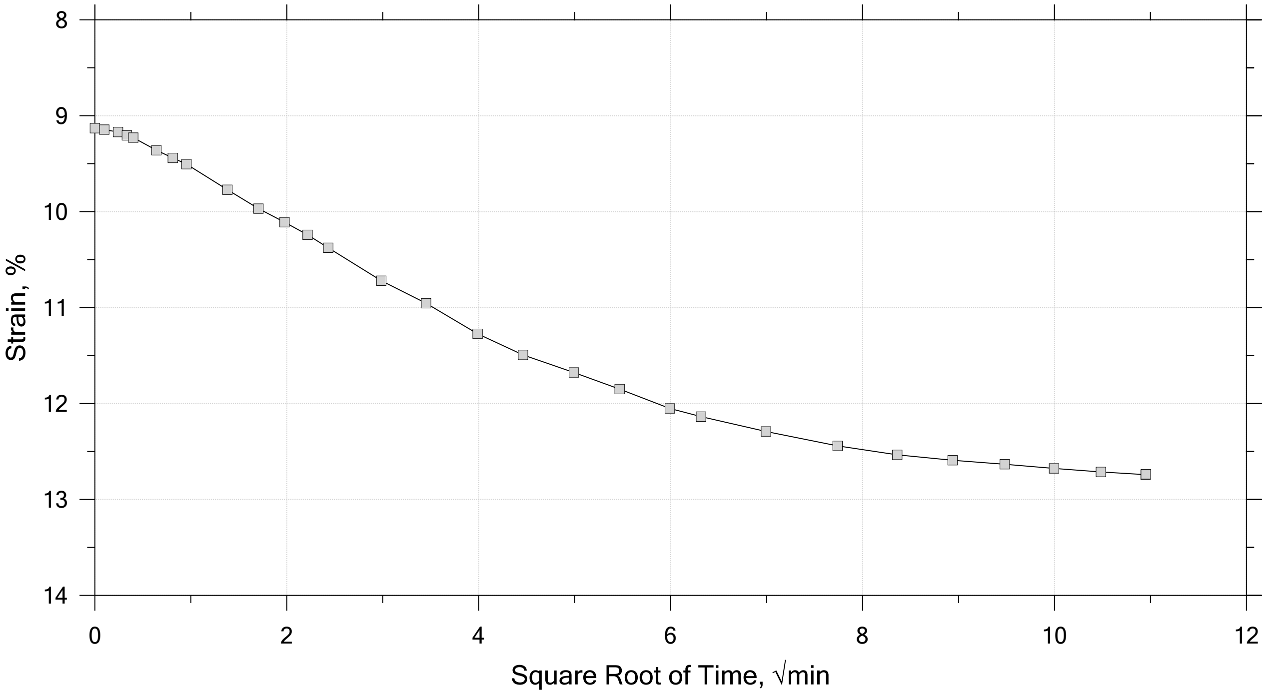
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





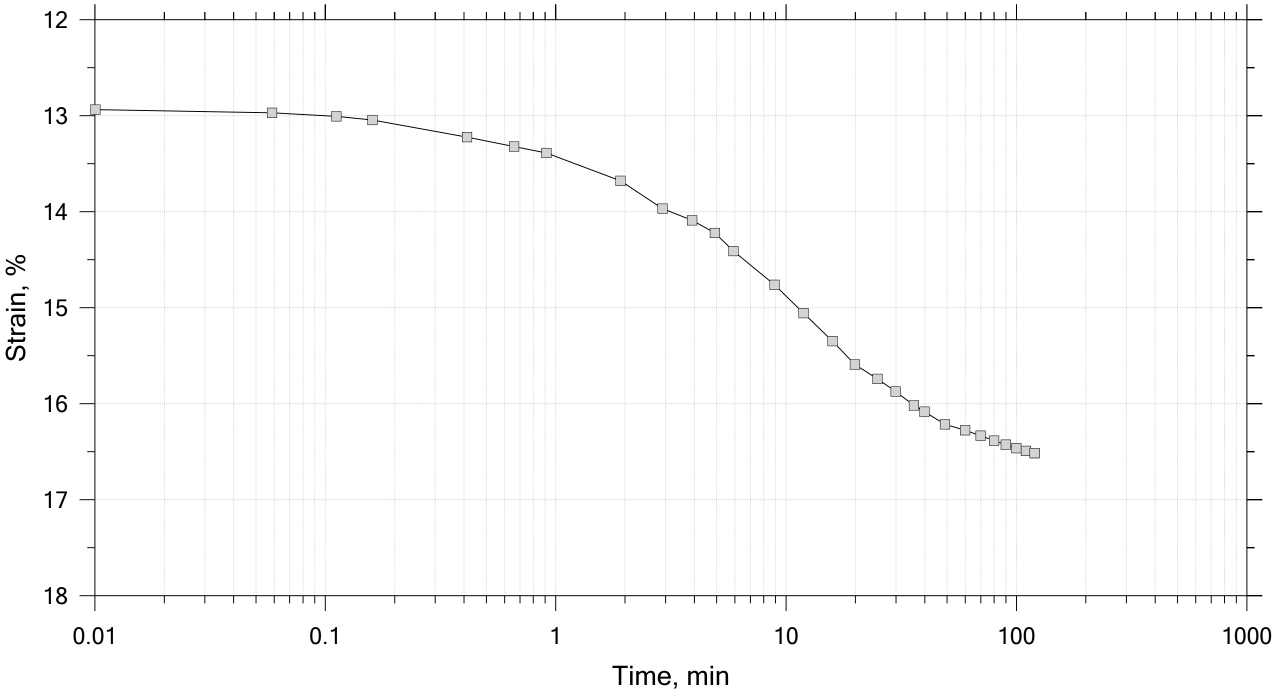
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

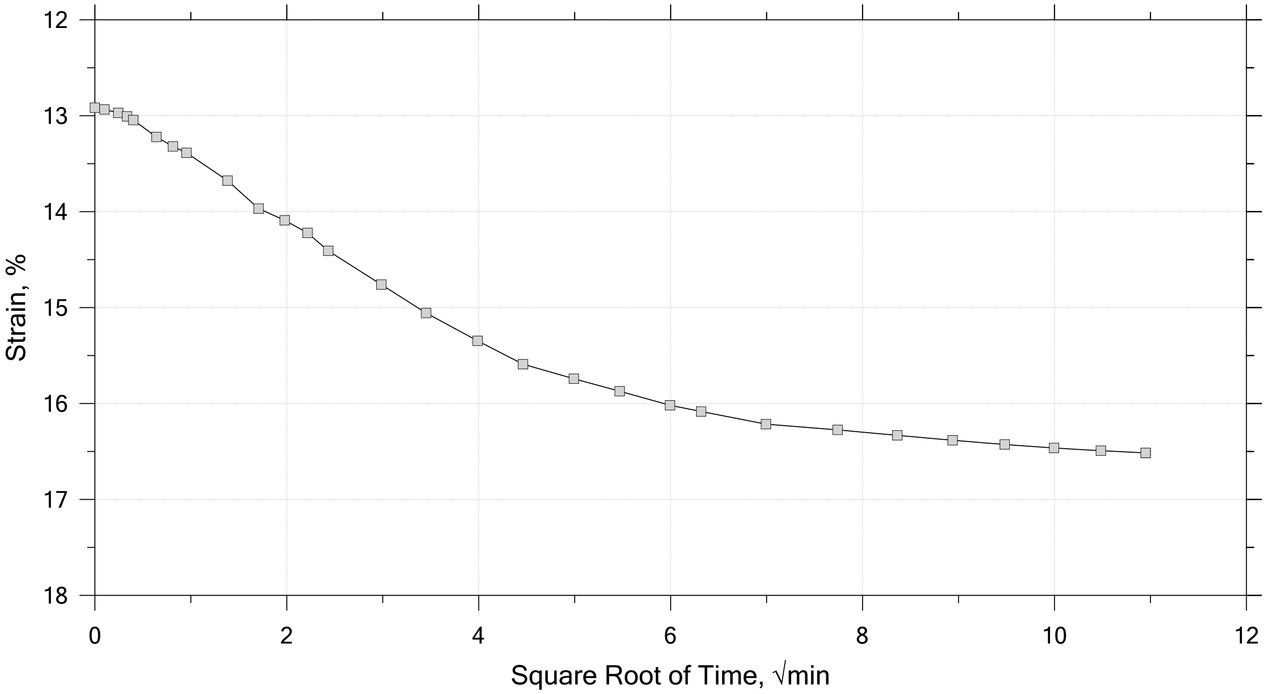
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





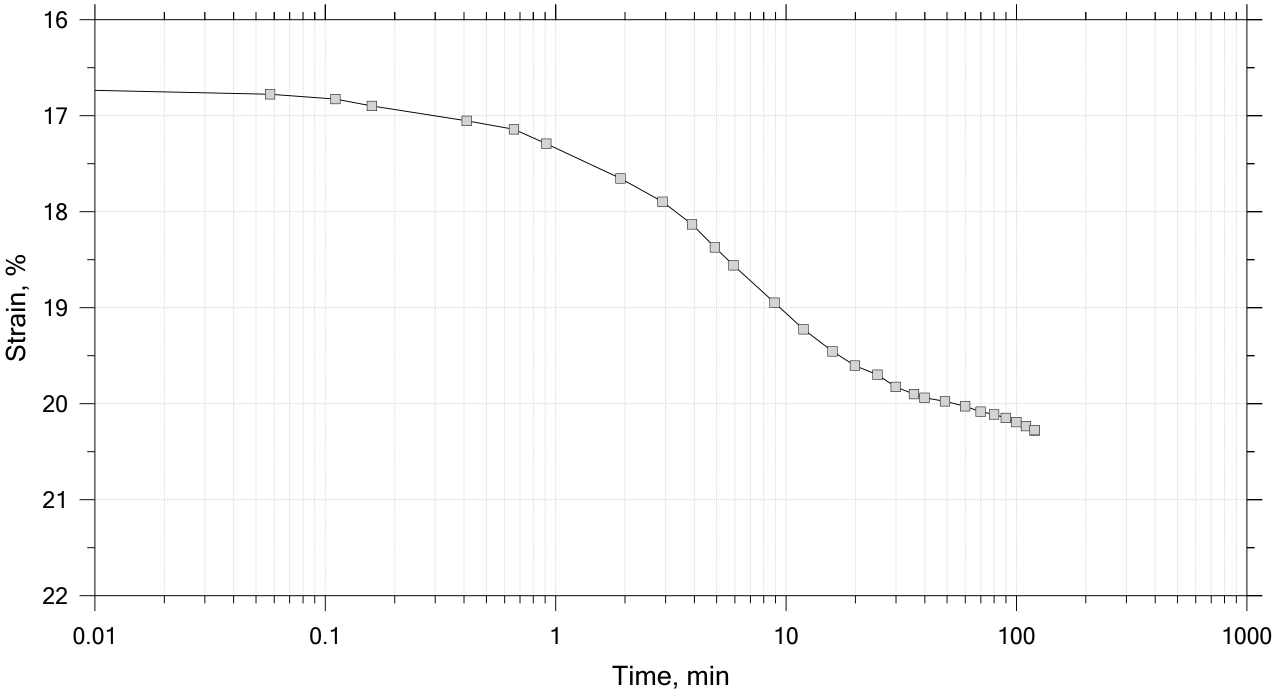
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

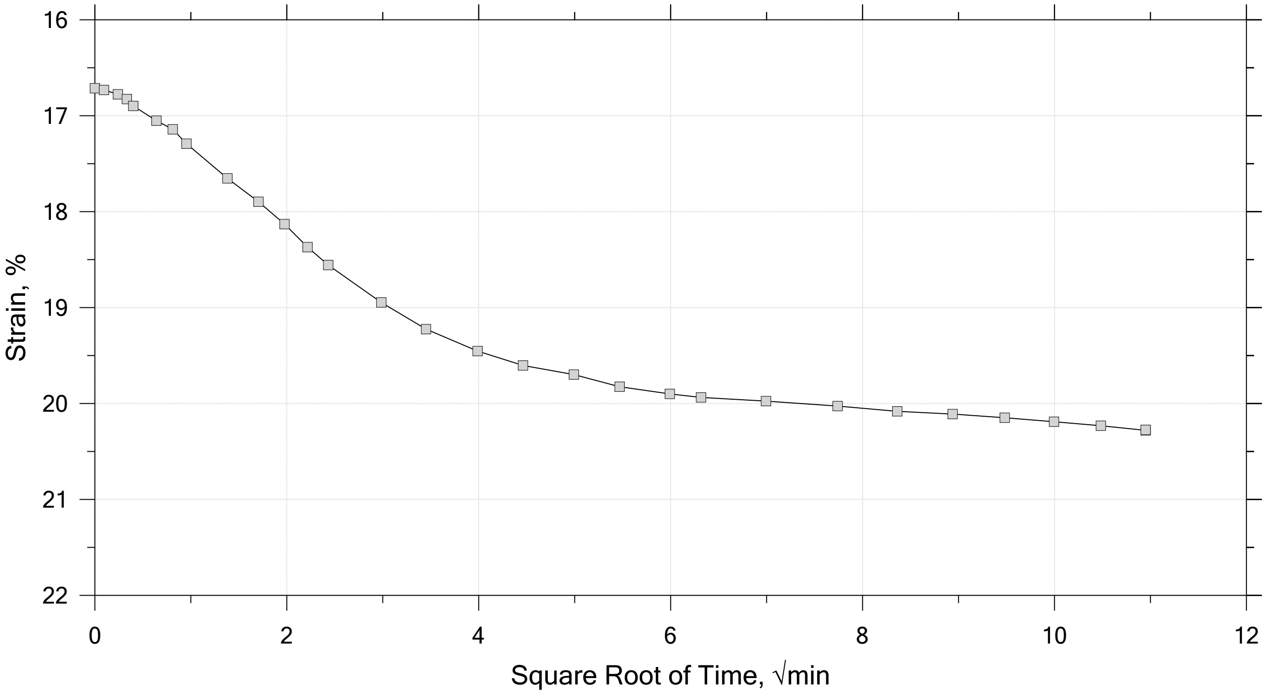
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf





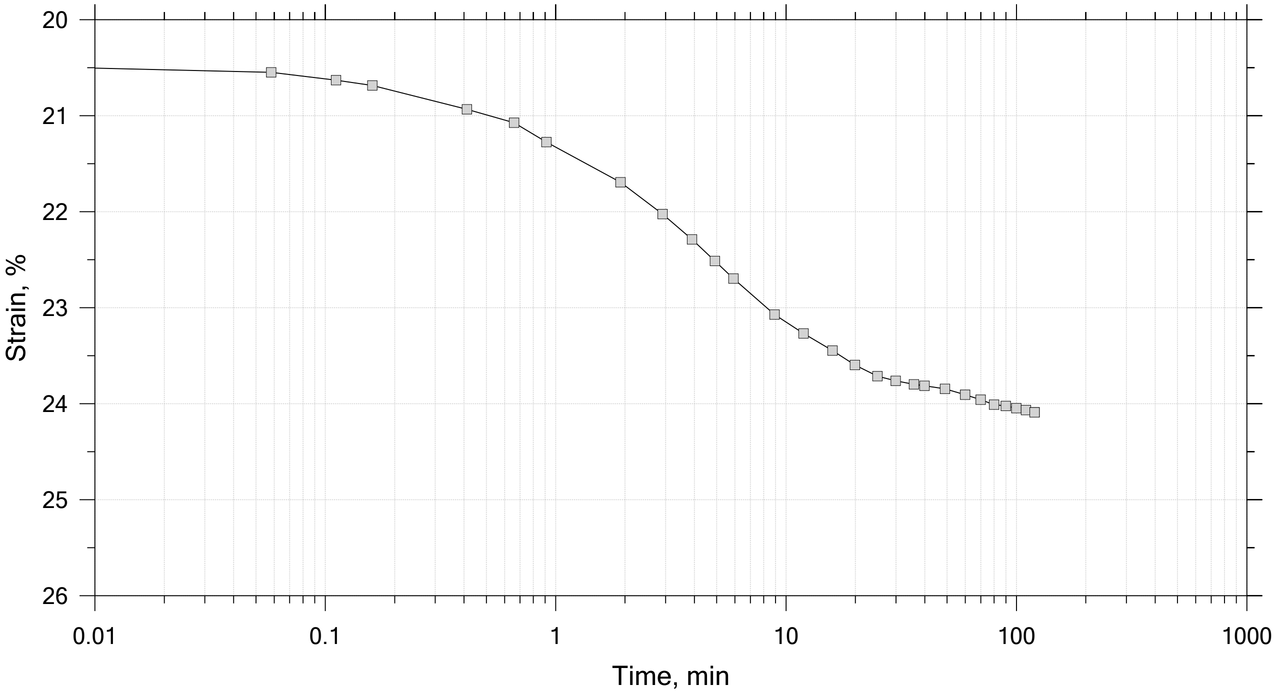
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

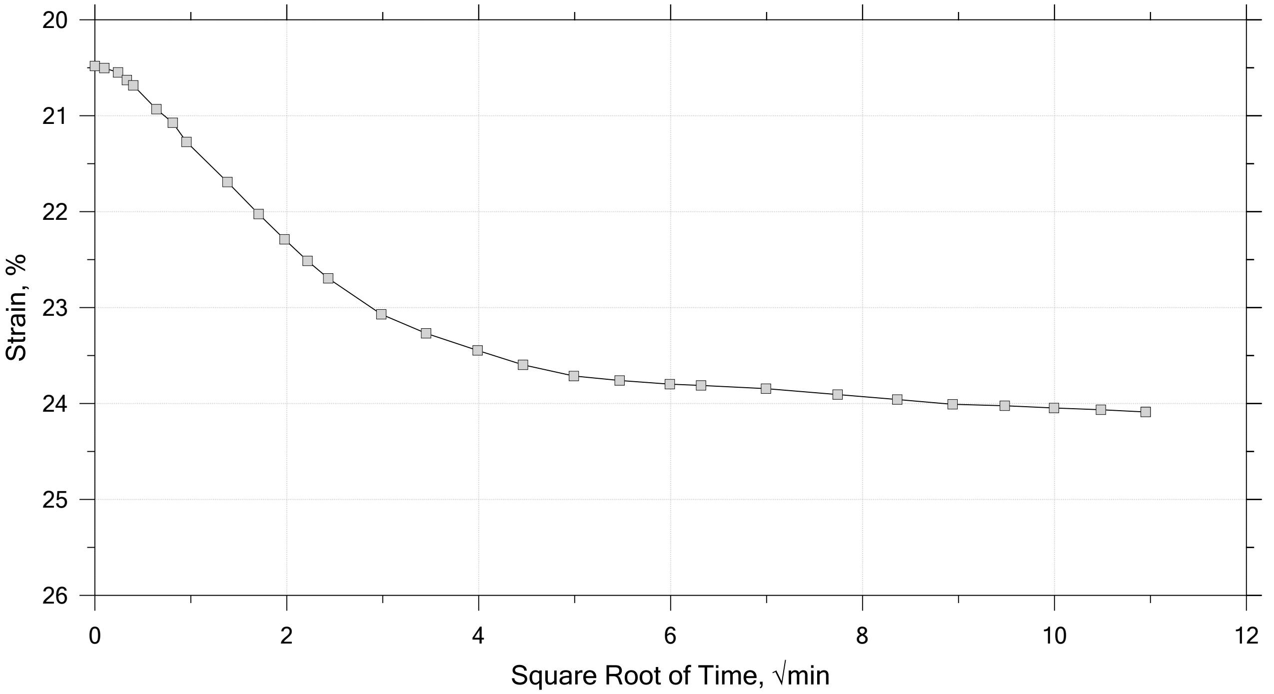
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





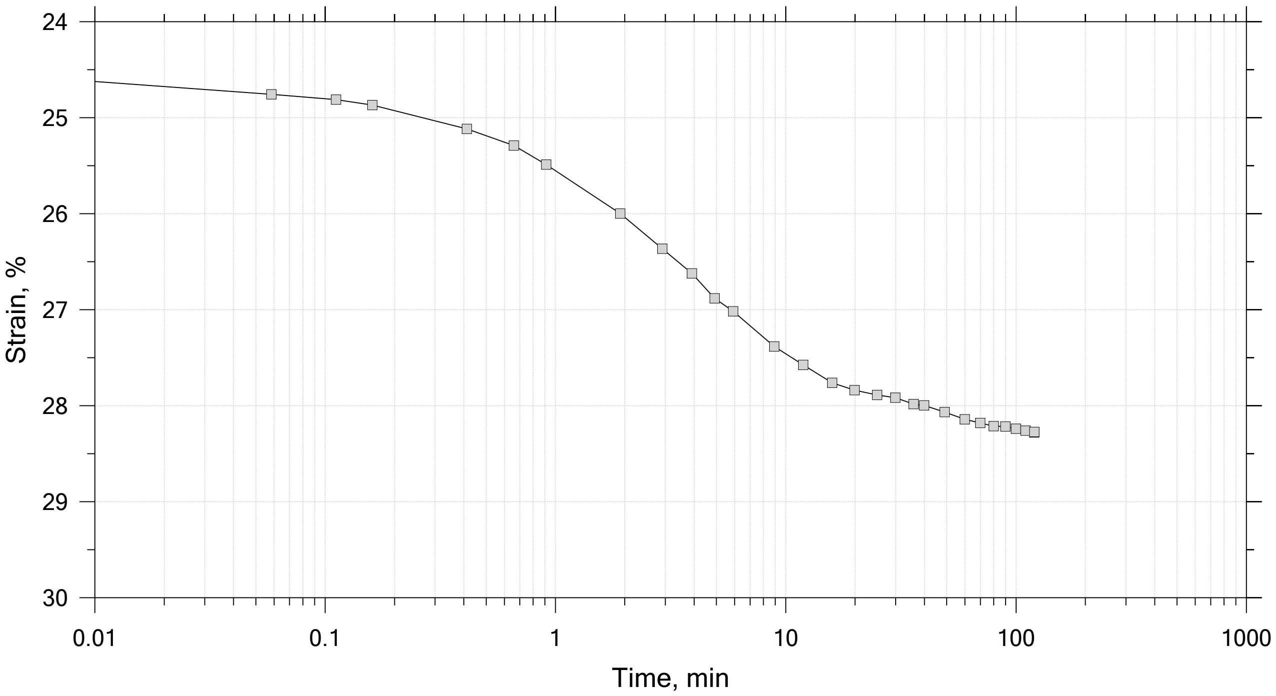
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
	Test No.: IP-4A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System KK, Swell Pressure = 0.0642 tsf		

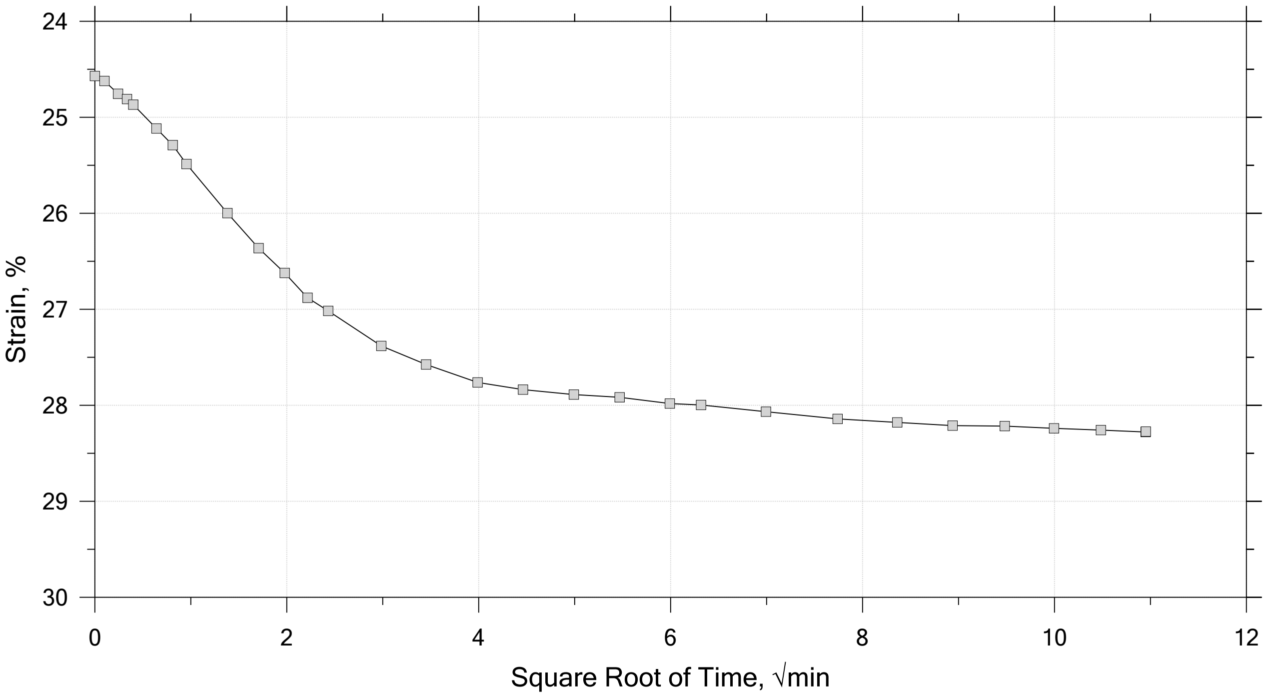
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf

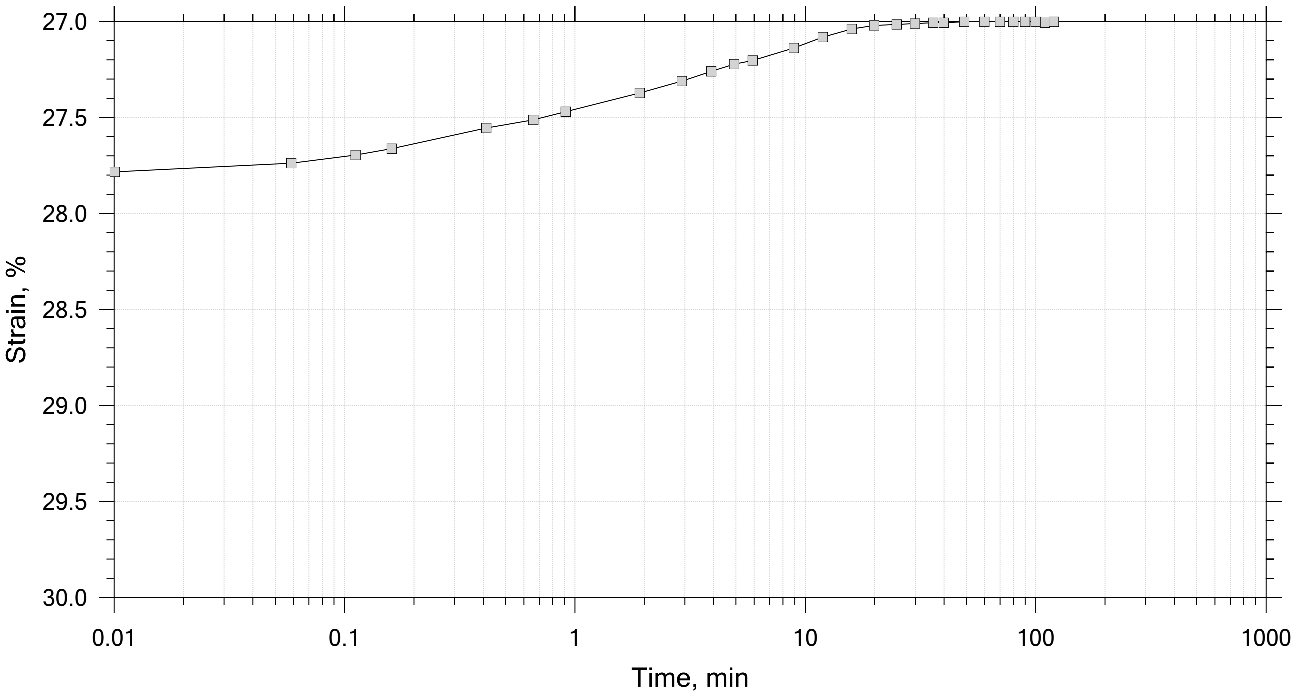


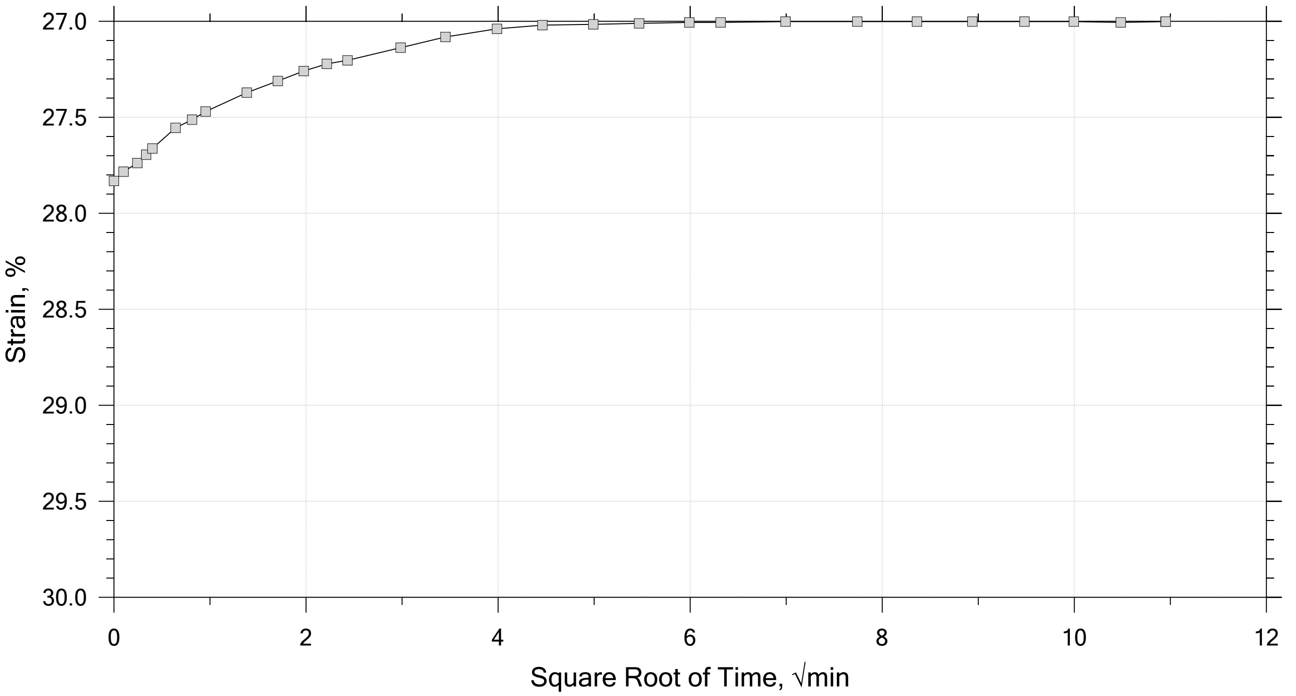


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15
Constant Load Step
Stress: 8 tsf

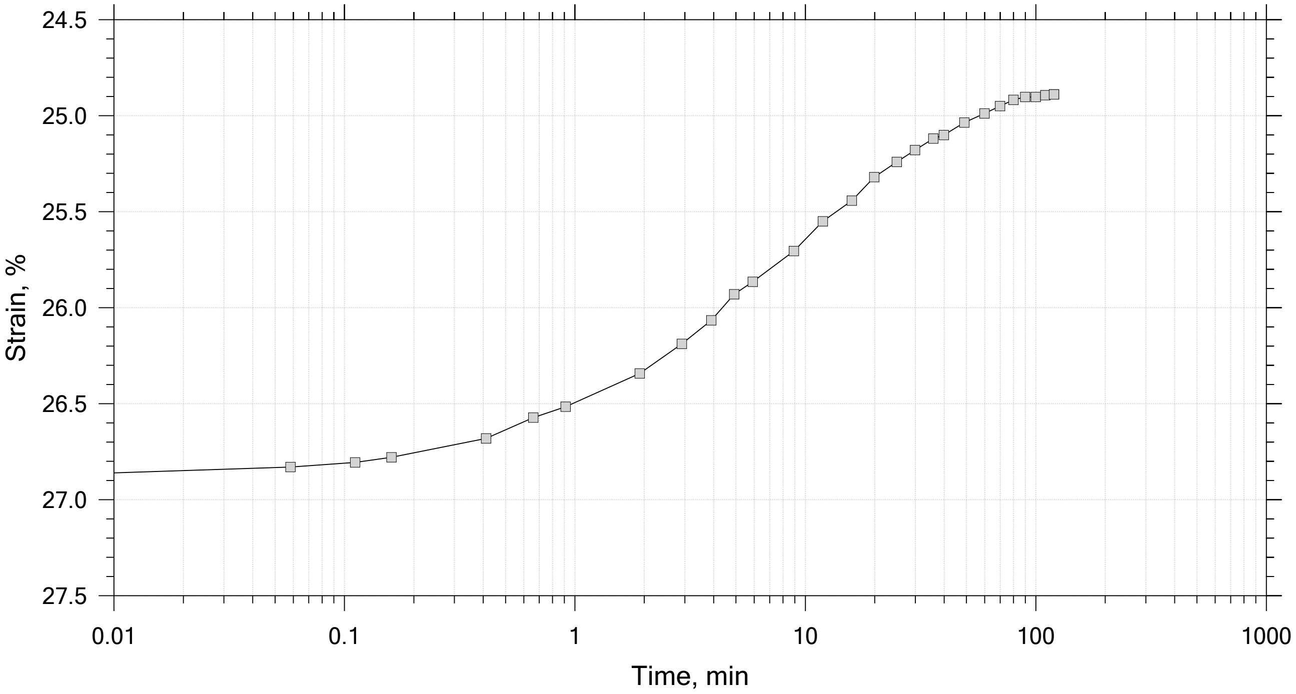


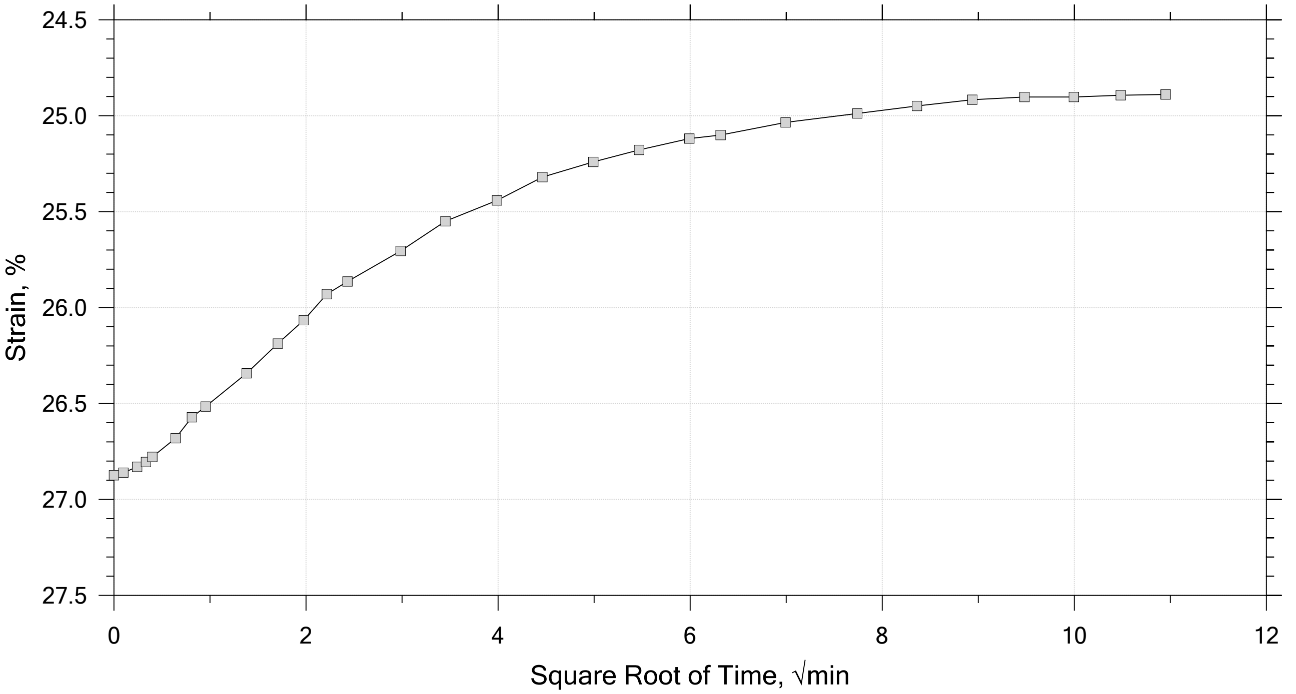


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15
Constant Load Step
Stress: 2 tsf





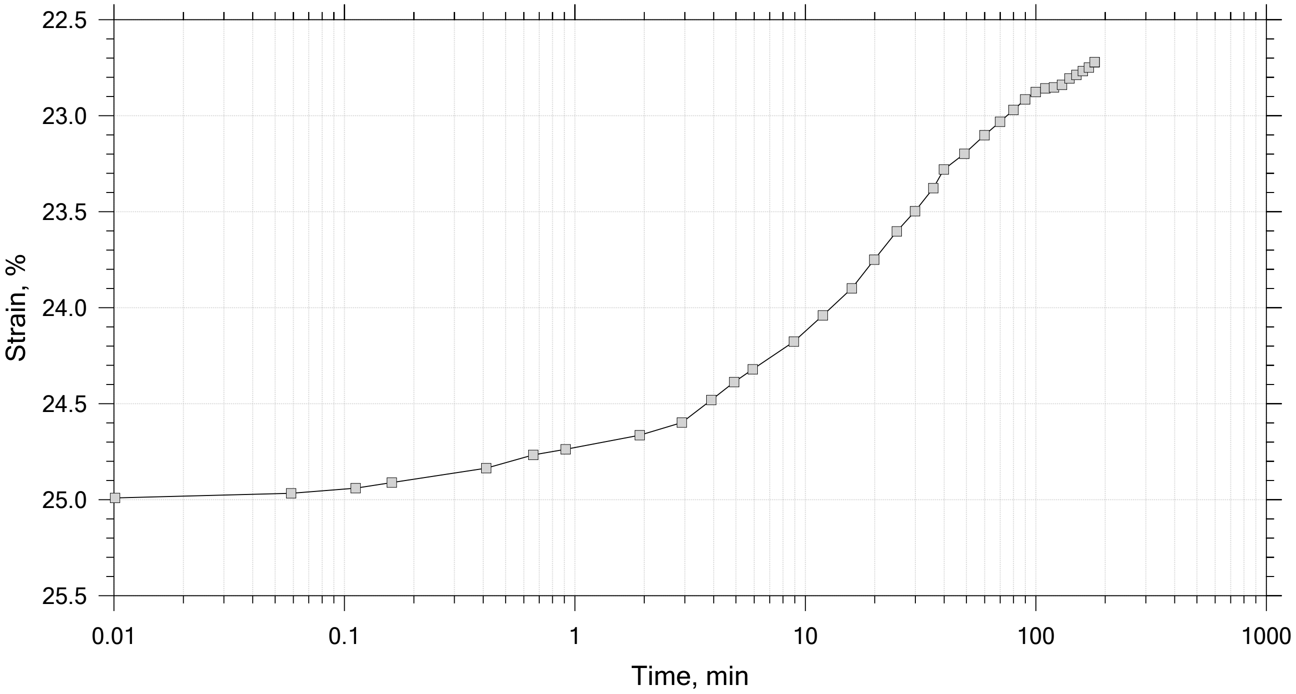
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

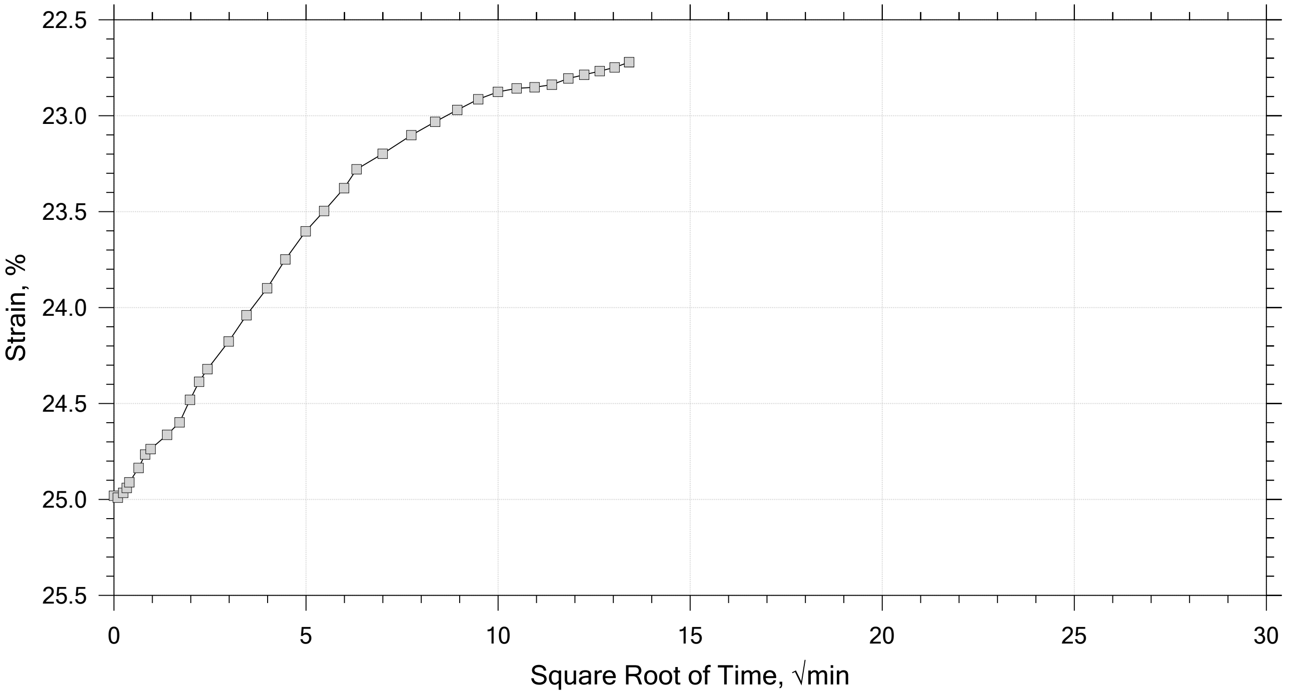
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





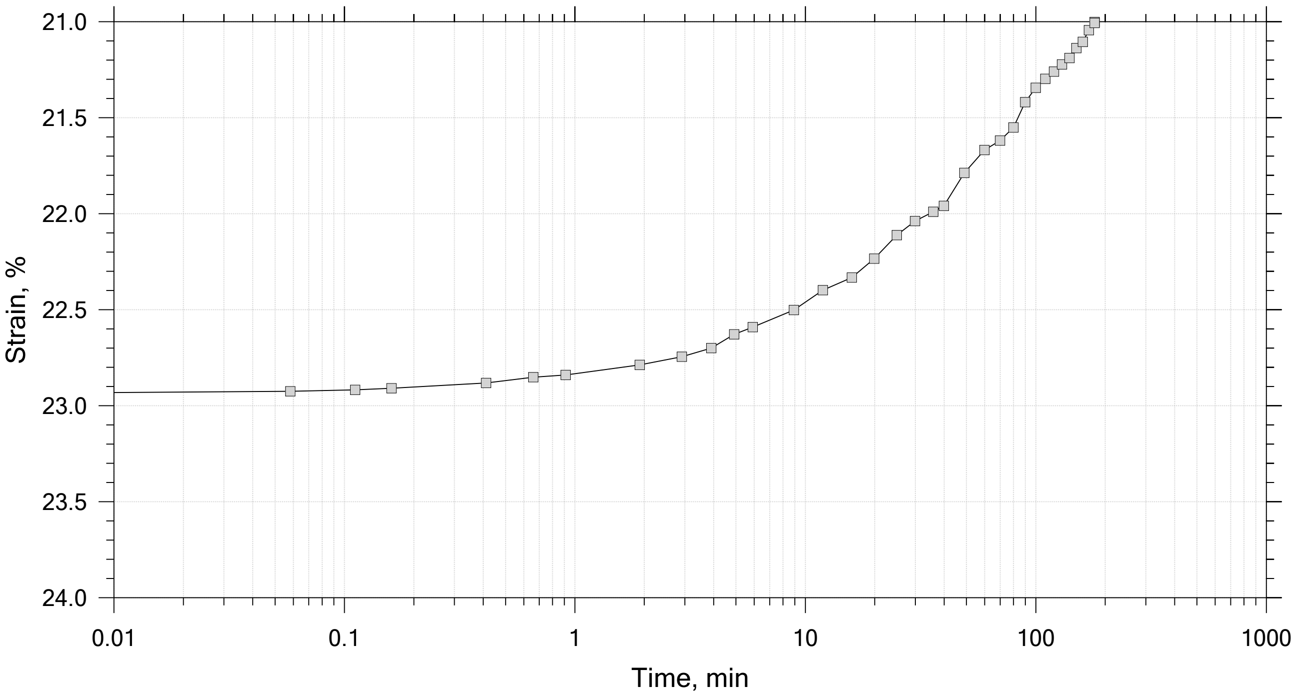
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

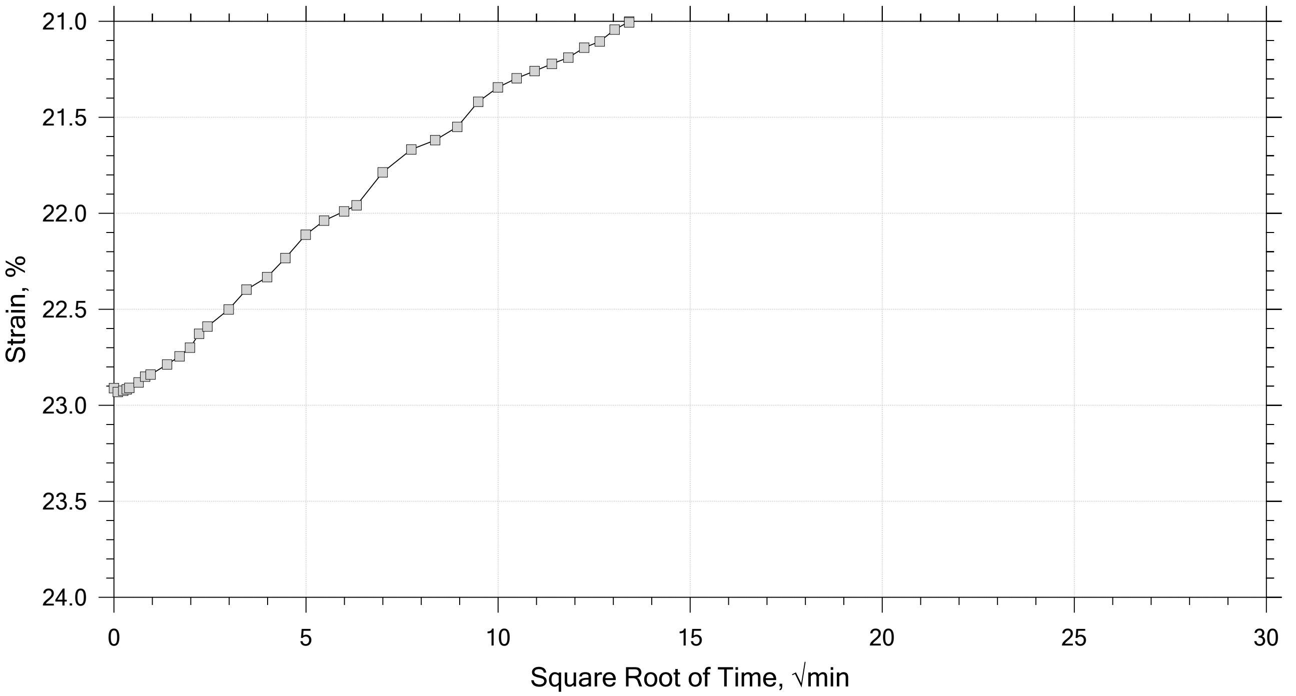
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf

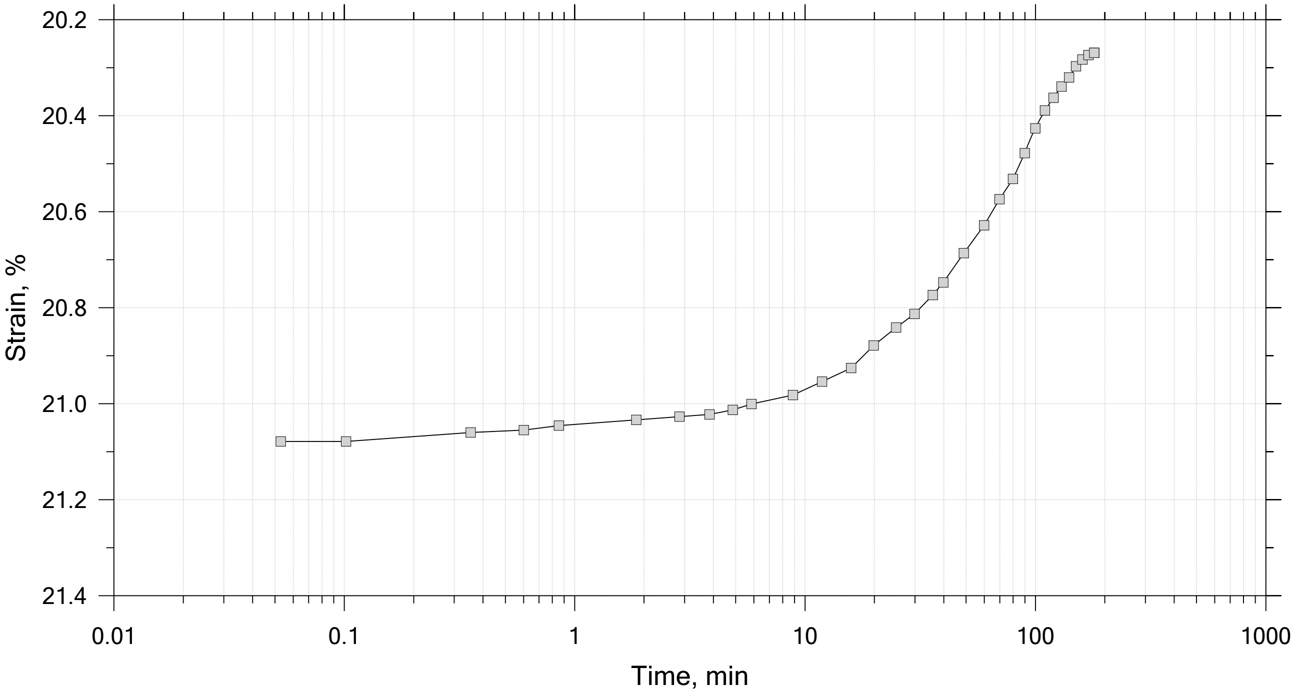


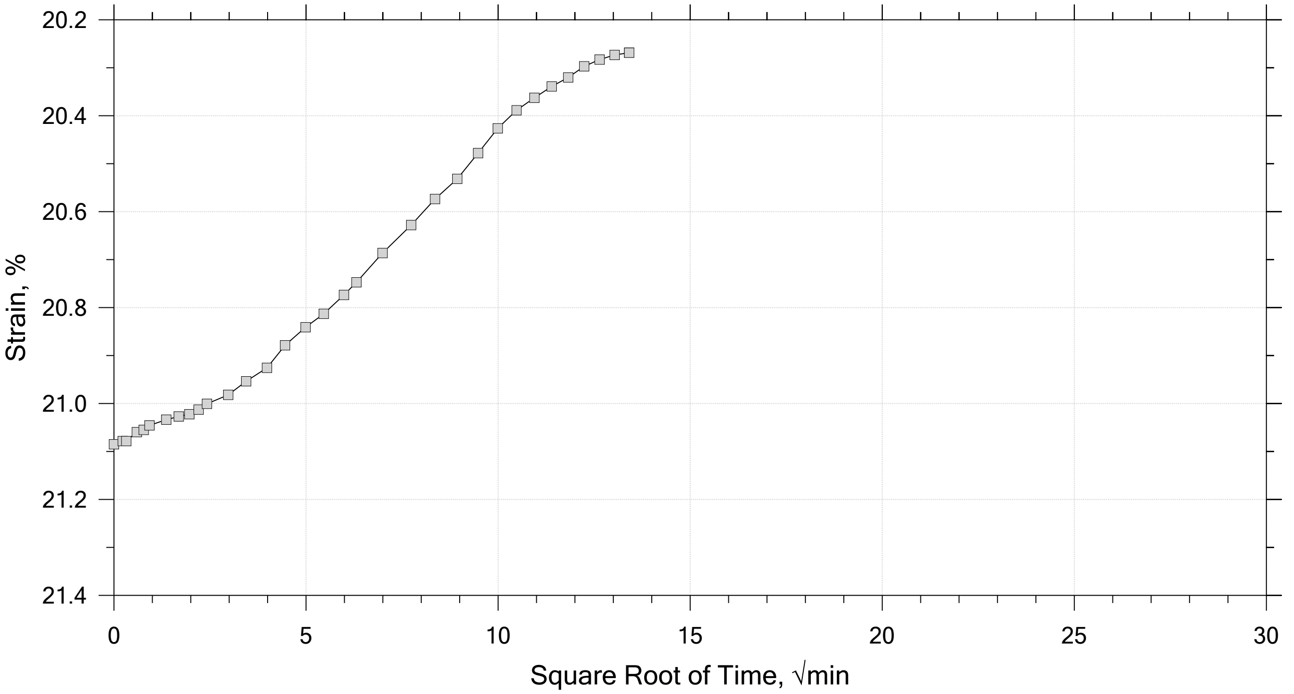


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15
Constant Load Step
Stress: 0.0625 tsf





Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System KK, Swell Pressure = 0.0642 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.75	Liquid Limit: 63
Initial Height: 1.00 in	Initial Void Ratio: 1.15	Plastic Limit: 25
Final Height: 0.80 in	Final Void Ratio: 0.719	Plasticity Index: 38

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	D1527	RING		A2469
Mass Container, gm	8.25	8.16	8.16	8.16
Mass Container + Wet Soil, gm	152.55	153.7	138.01	138.01
Mass Container + Dry Soil, gm	108.24	111.1	111.1	111.1
Mass Dry Soil, gm	99.99	102.94	102.94	102.94
Water Content, %	44.31	41.38	26.14	26.14
Void Ratio	---	1.15	0.72	---
Degree of Saturation, %	---	99.07	100.00	---
Dry Unit Weight, pcf	---	79.89	99.862	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
	Test No.: IP-4A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System KK, Swell Pressure = 0.0642 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/s	Mv 1/tsf	k ft/day	Ca %
1	0.0642	0.009098	1.13	0.910	0.000	0.00e+00	1.42e-01	0.00e+00	0.00e+00
2	0.125	0.01747	1.11	1.75	17.277	3.21e-07	1.38e-01	1.19e-04	0.00e+00
3	0.250	0.03644	1.07	3.64	0.000	0.00e+00	1.52e-01	0.00e+00	0.00e+00
4	0.500	0.06113	1.02	6.11	0.000	0.00e+00	9.87e-02	0.00e+00	0.00e+00
5	1.00	0.08996	0.955	9.00	0.000	0.00e+00	5.77e-02	0.00e+00	0.00e+00
6	2.00	0.1274	0.875	12.7	0.000	0.00e+00	3.74e-02	0.00e+00	0.00e+00
7	4.00	0.1652	0.794	16.5	7.909	5.25e-07	1.89e-02	2.68e-05	0.00e+00
8	8.00	0.2027	0.713	20.3	4.655	8.15e-07	9.40e-03	2.07e-05	0.00e+00
9	16.0	0.2409	0.631	24.1	3.057	1.13e-06	4.77e-03	1.45e-05	0.00e+00
10	32.0	0.2827	0.541	28.3	2.509	1.24e-06	2.62e-03	8.73e-06	0.00e+00
11	8.00	0.2700	0.568	27.0	0.000	0.00e+00	5.30e-04	0.00e+00	0.00e+00
12	2.00	0.2489	0.614	24.9	6.177	5.06e-07	3.52e-03	4.81e-06	0.00e+00
13	0.500	0.2272	0.660	22.7	15.112	2.19e-07	1.45e-02	8.54e-06	0.00e+00
14	0.125	0.2101	0.697	21.0	0.000	0.00e+00	4.57e-02	0.00e+00	0.00e+00
15	0.0625	0.2027	0.713	20.3	0.000	0.00e+00	1.18e-01	0.00e+00	0.00e+00

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---

Description: Moist, dark gray clay

Remarks: System KK, Swell Pressure = 0.0642 tsf

Displacement at End of Increment

One-Dimensional Consolidation by ASTM D2435 - Method B

Square Root of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0642	0.009098	1.13	0.910	54.241	4.48e-07	1.42e-01	1.71e-04
2	0.125	0.01747	1.11	1.75	83.461	2.86e-07	1.38e-01	1.06e-04
3	0.250	0.03644	1.07	3.64	103.889	2.24e-07	1.52e-01	9.15e-05
4	0.500	0.06113	1.02	6.11	89.836	2.47e-07	9.87e-02	6.58e-05
5	1.00	0.08996	0.955	9.00	59.778	3.51e-07	5.77e-02	5.45e-05
6	2.00	0.1274	0.875	12.7	53.766	3.63e-07	3.74e-02	3.66e-05
7	4.00	0.1652	0.794	16.5	31.957	5.60e-07	1.89e-02	2.85e-05
8	8.00	0.2027	0.713	20.3	21.331	7.66e-07	9.40e-03	1.94e-05
9	16.0	0.2409	0.631	24.1	15.627	9.51e-07	4.77e-03	1.22e-05
10	32.0	0.2827	0.541	28.3	12.046	1.11e-06	2.62e-03	7.83e-06
11	8.00	0.2700	0.568	27.0	5.392	2.38e-06	5.30e-04	3.41e-06
12	2.00	0.2489	0.614	24.9	23.950	5.62e-07	3.52e-03	5.33e-06
13	0.500	0.2272	0.660	22.7	68.633	2.08e-07	1.45e-02	8.09e-06
14	0.125	0.2101	0.697	21.0	165.679	9.04e-08	4.57e-02	1.11e-05
15	0.0625	0.2027	0.713	20.3	136.298	1.13e-07	1.18e-01	3.61e-05

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-2	Test Date: 11/12/18	Depth: ---
Test No.: IP-4A	Sample Type: intact	Elevation: ---

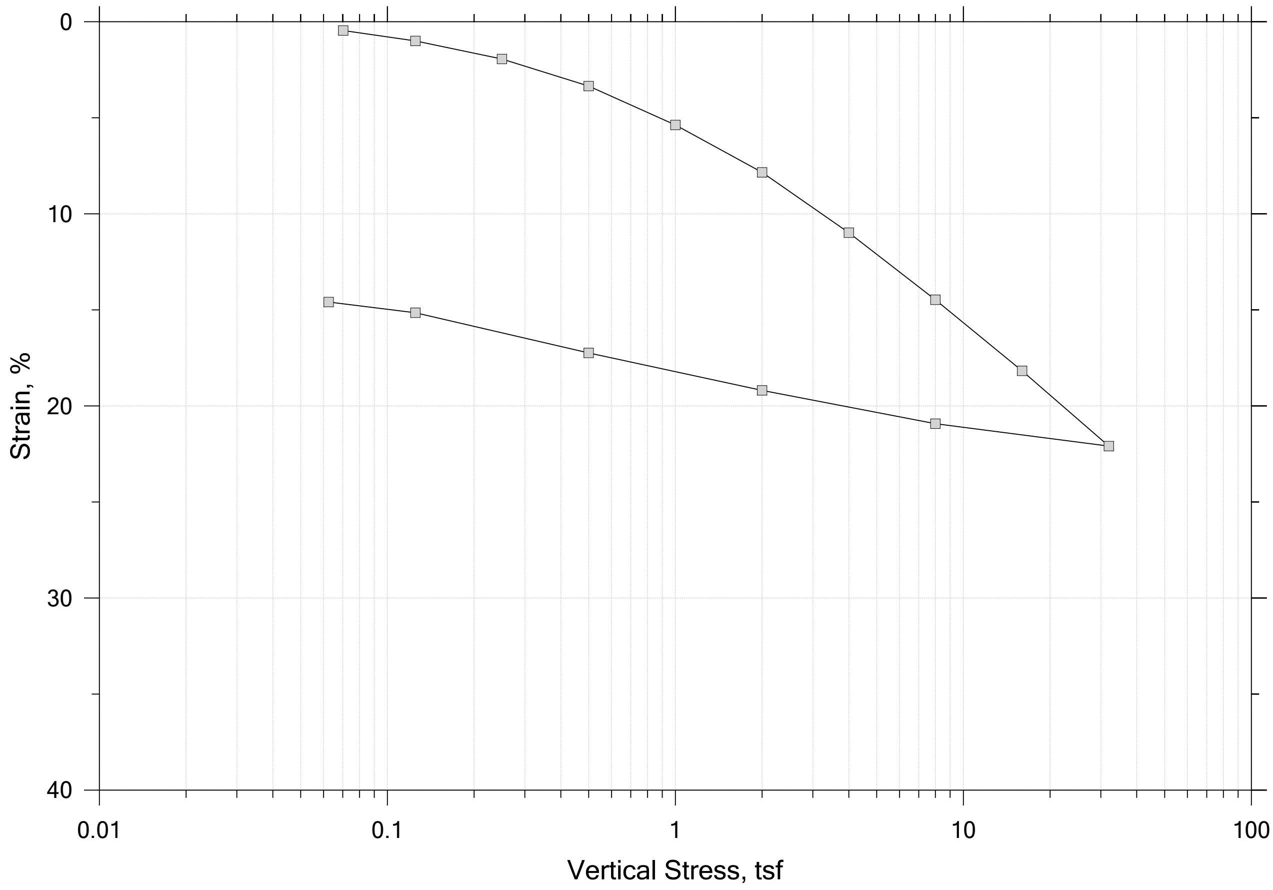
Description: Moist, dark gray clay

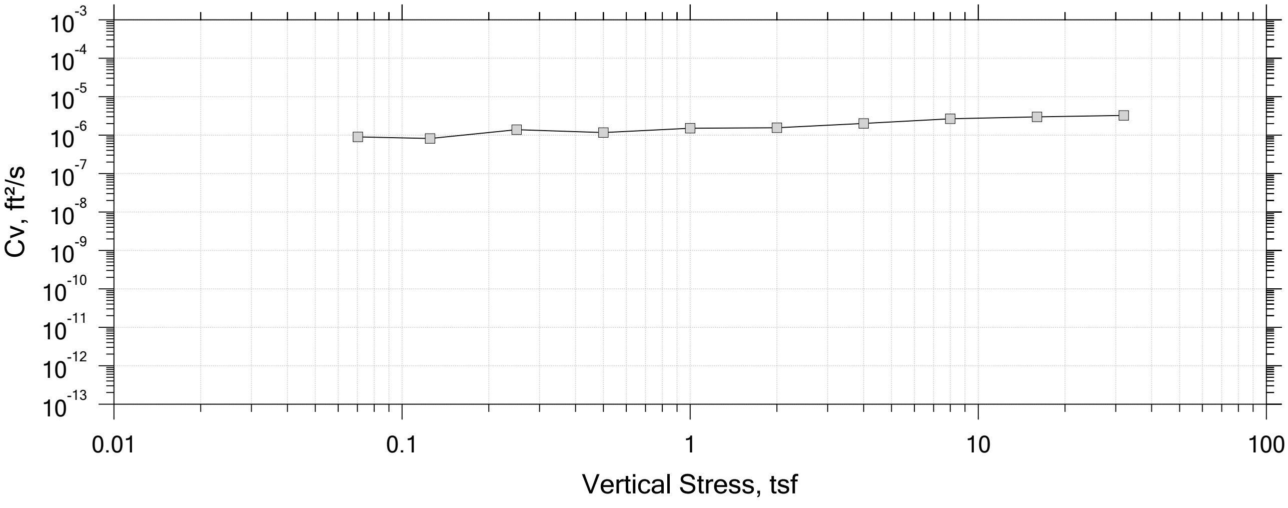
Remarks: System KK, Swell Pressure = 0.0642 tsf

Displacement at End of Increment

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





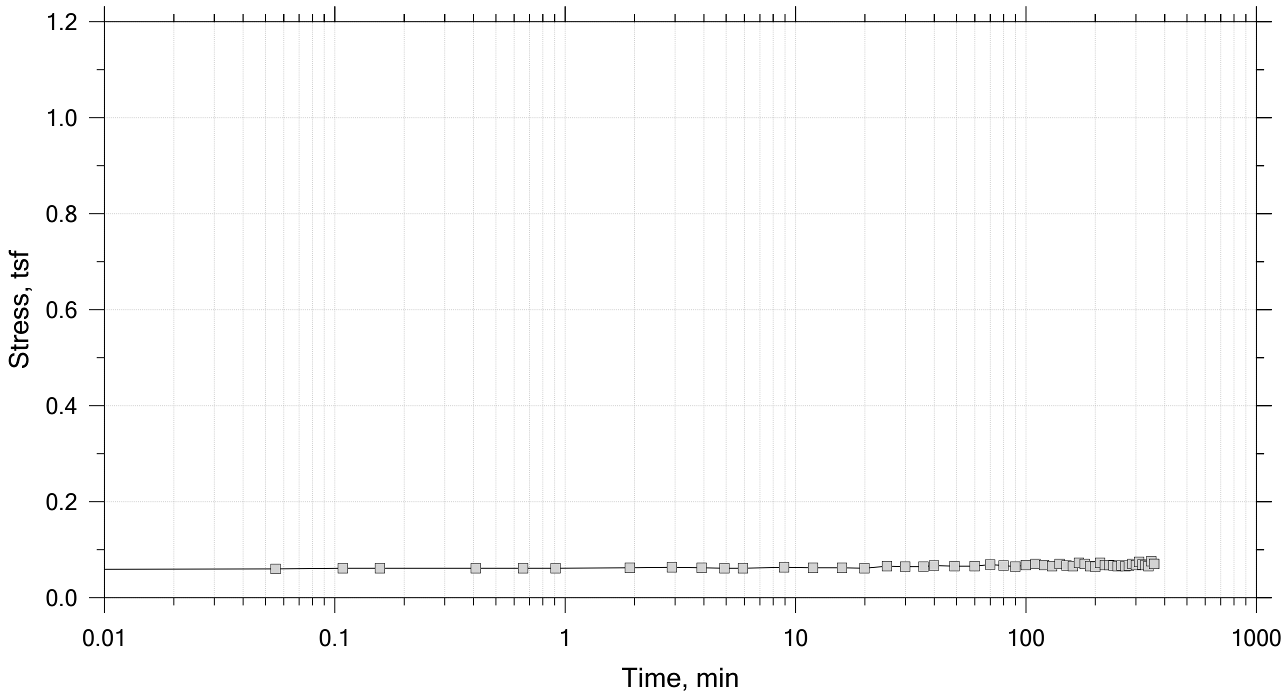
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		
Displacement at End of Increment		

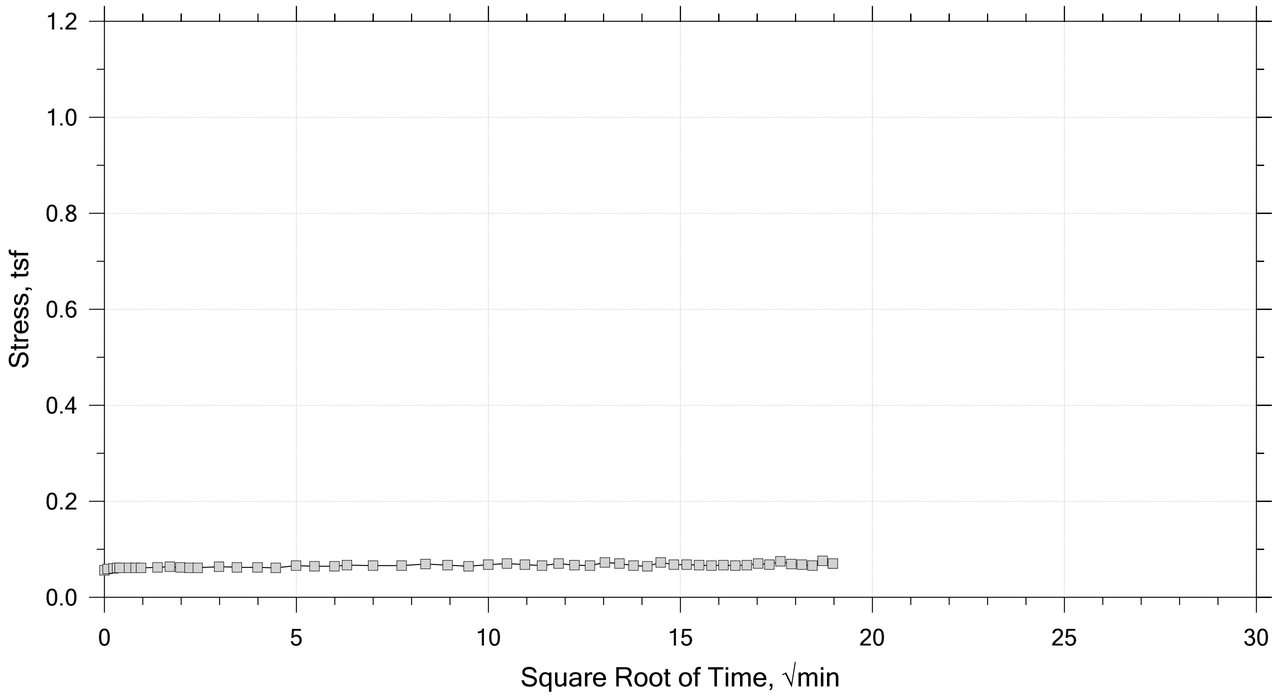
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0703 tsf





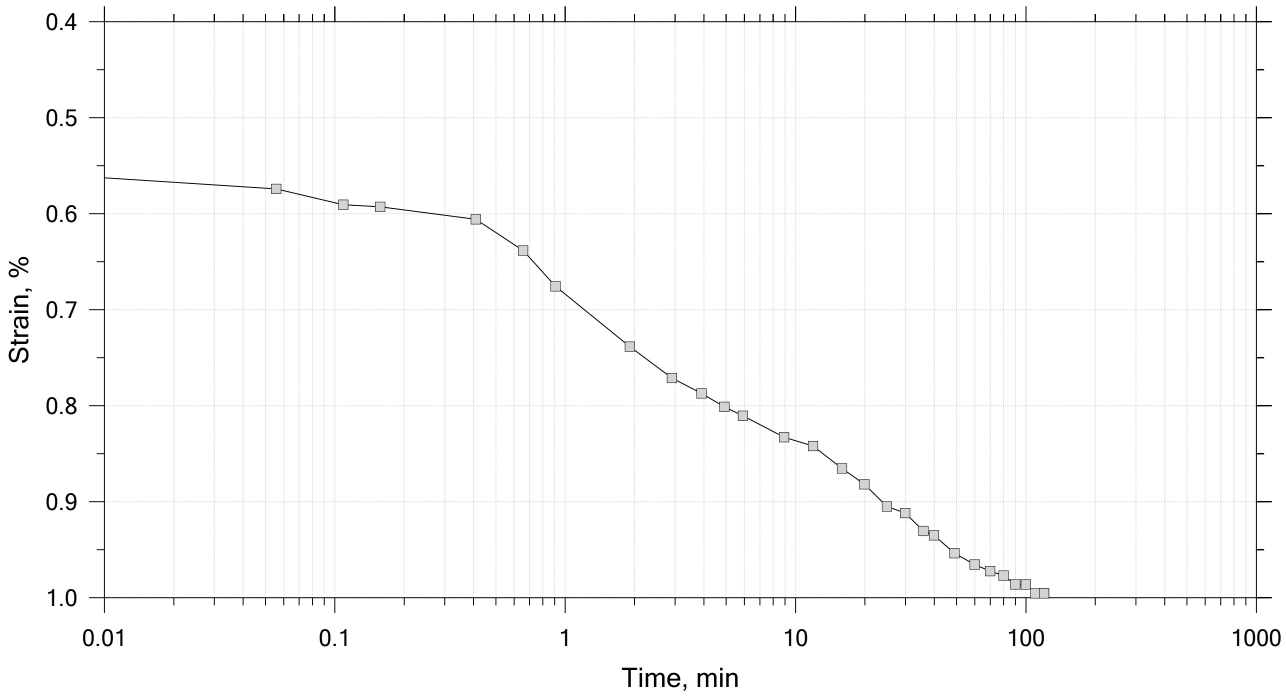
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

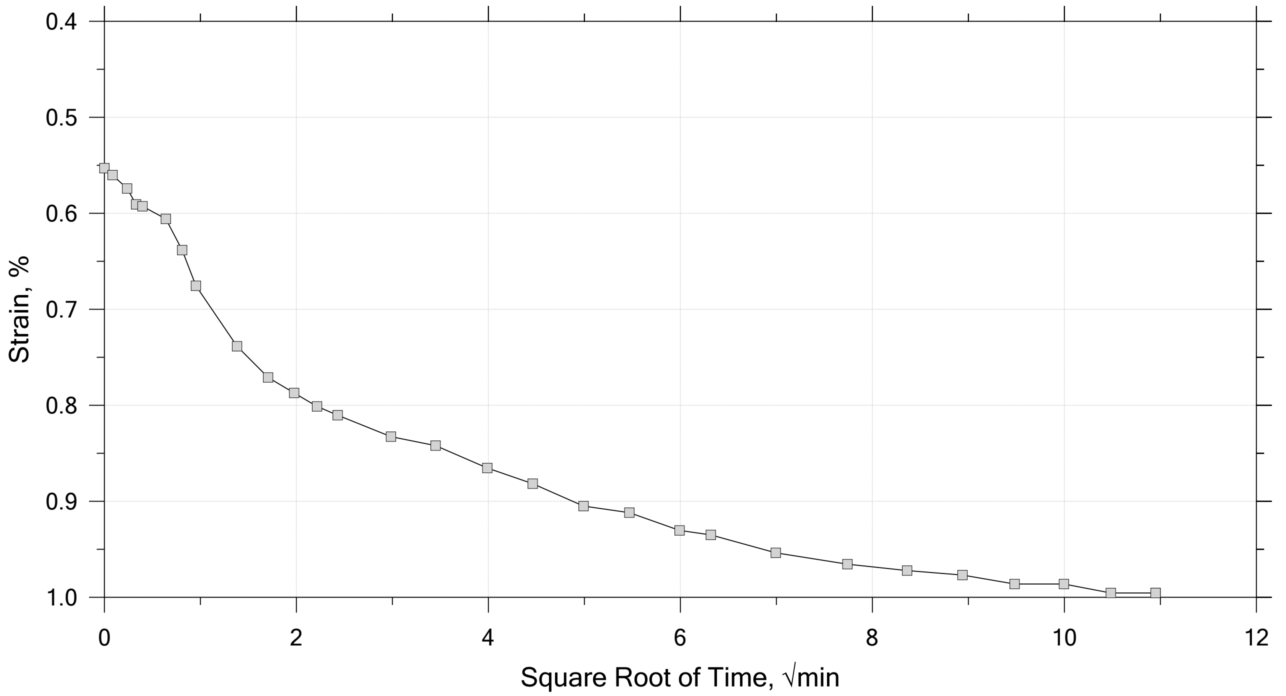
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15

Constant Load Step

Stress: 0.125 tsf

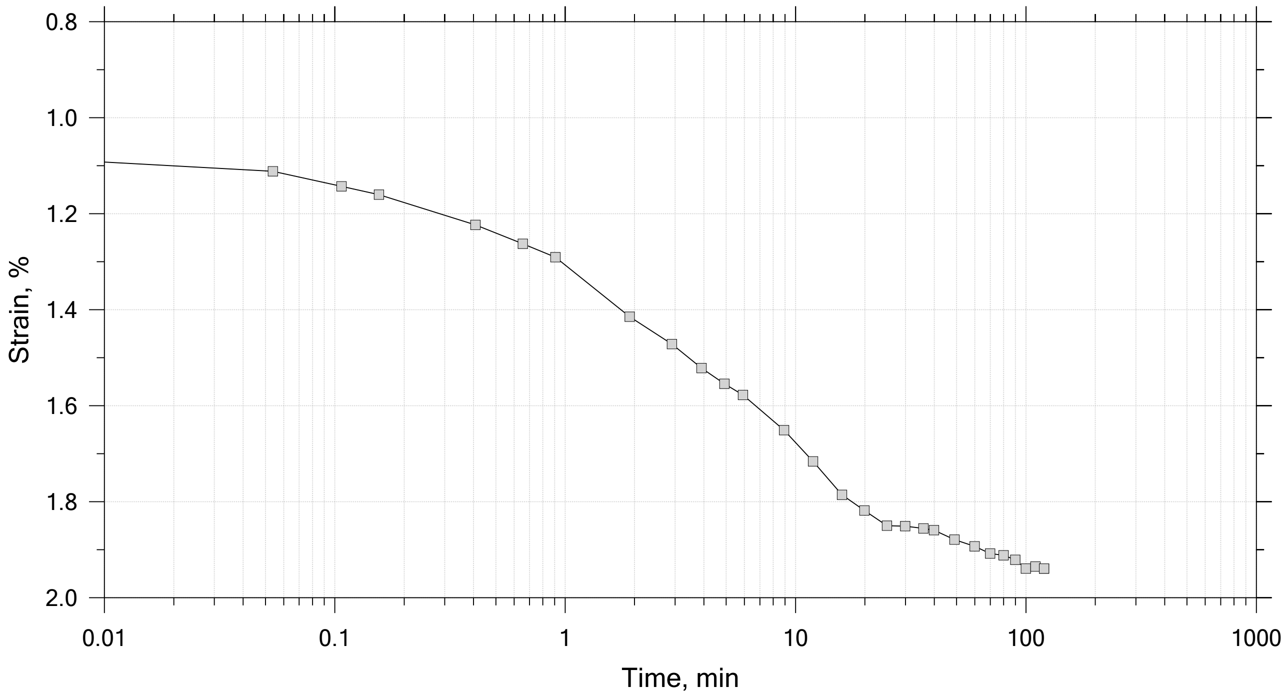


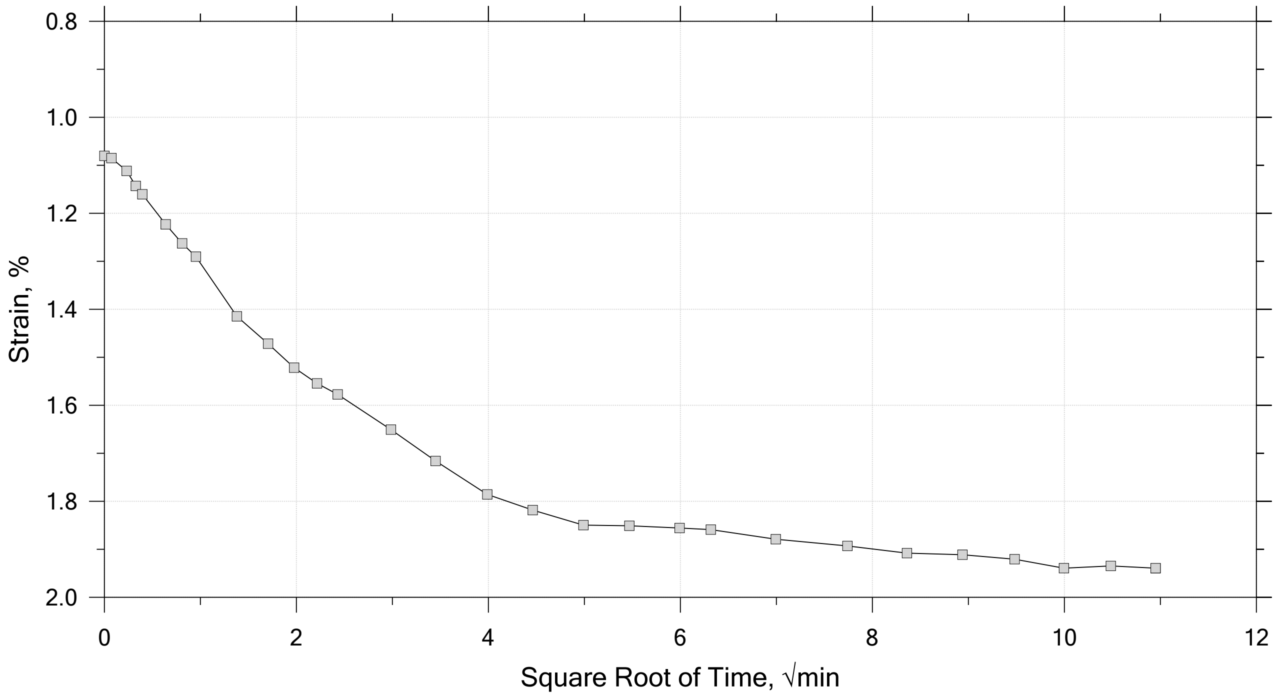


GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
	Test No.: IP-5A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System V, Swell Pressure = 0.0703 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15
Constant Load Step
Stress: 0.25 tsf





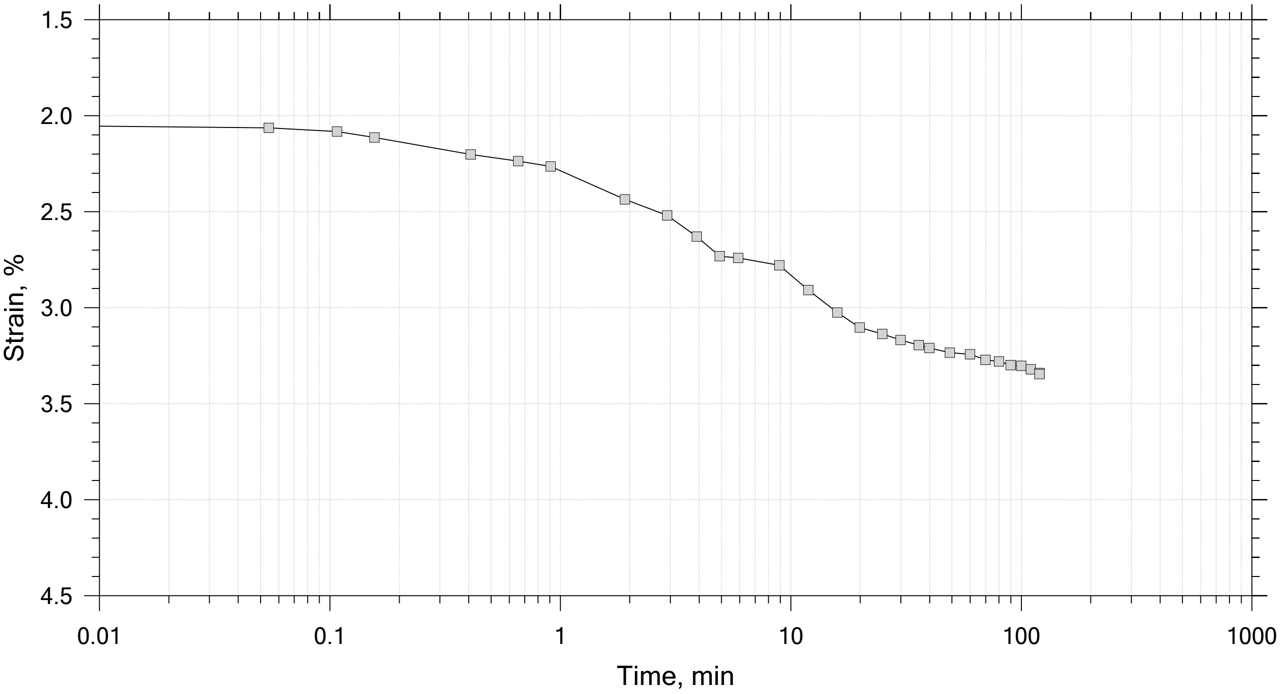
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

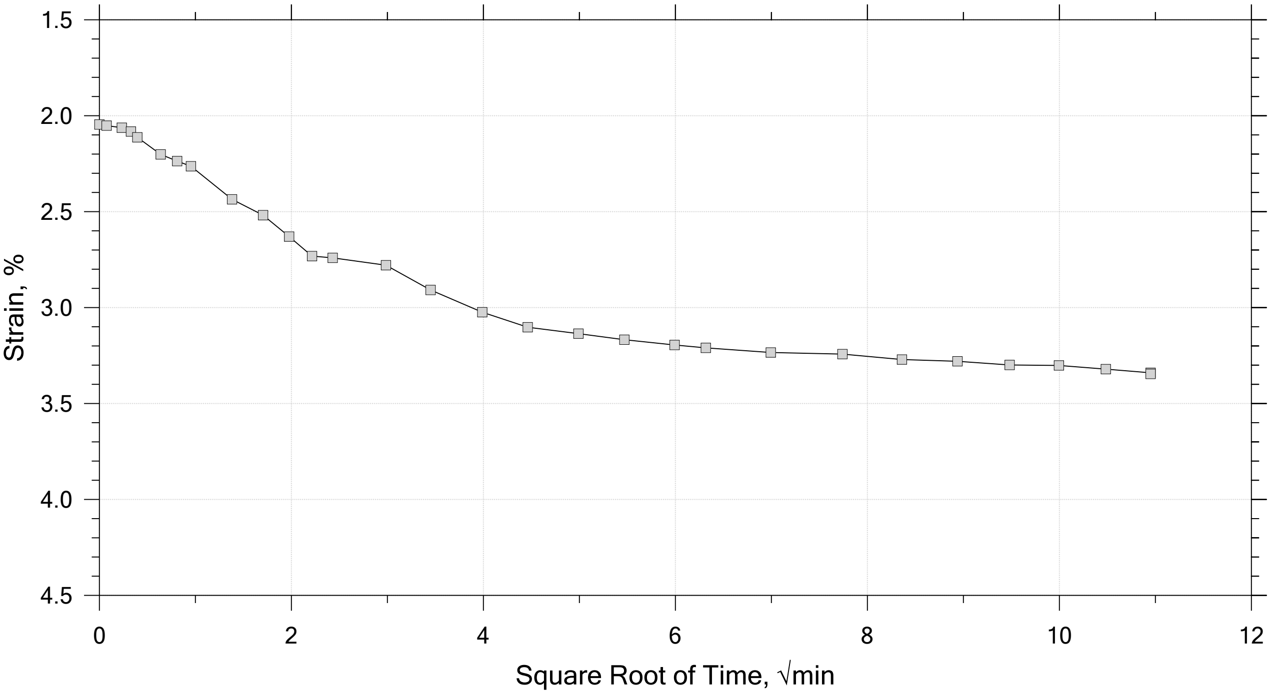
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf

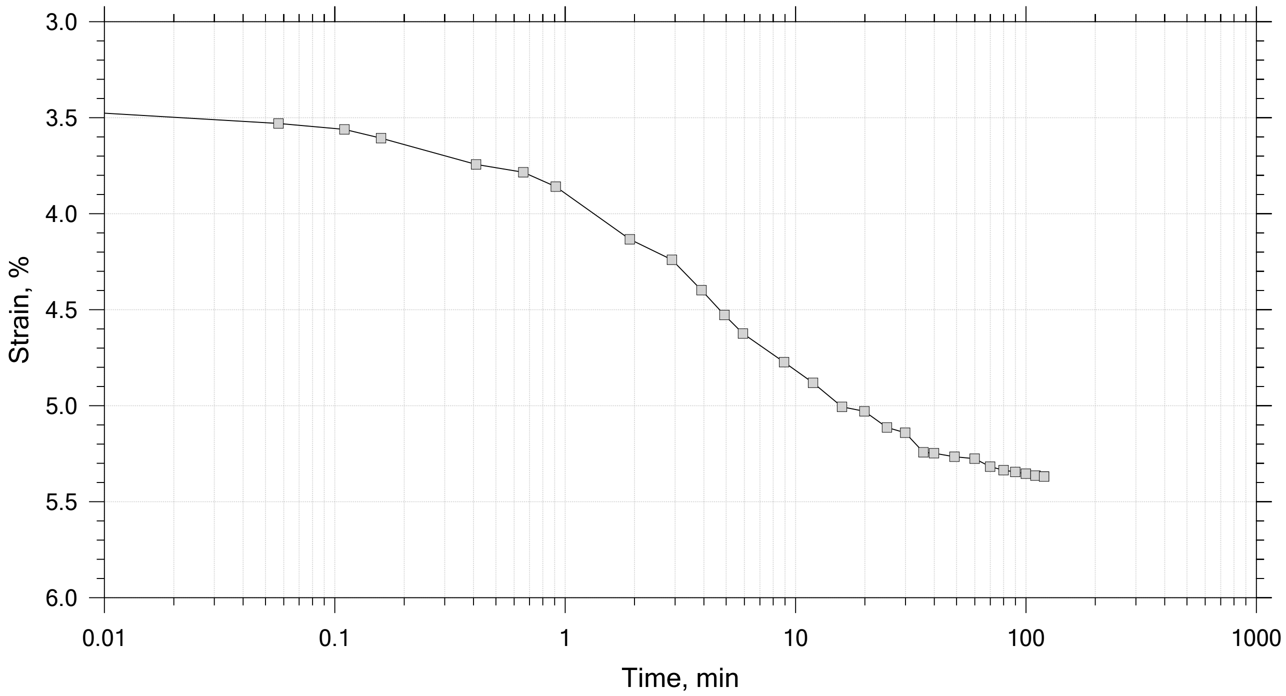


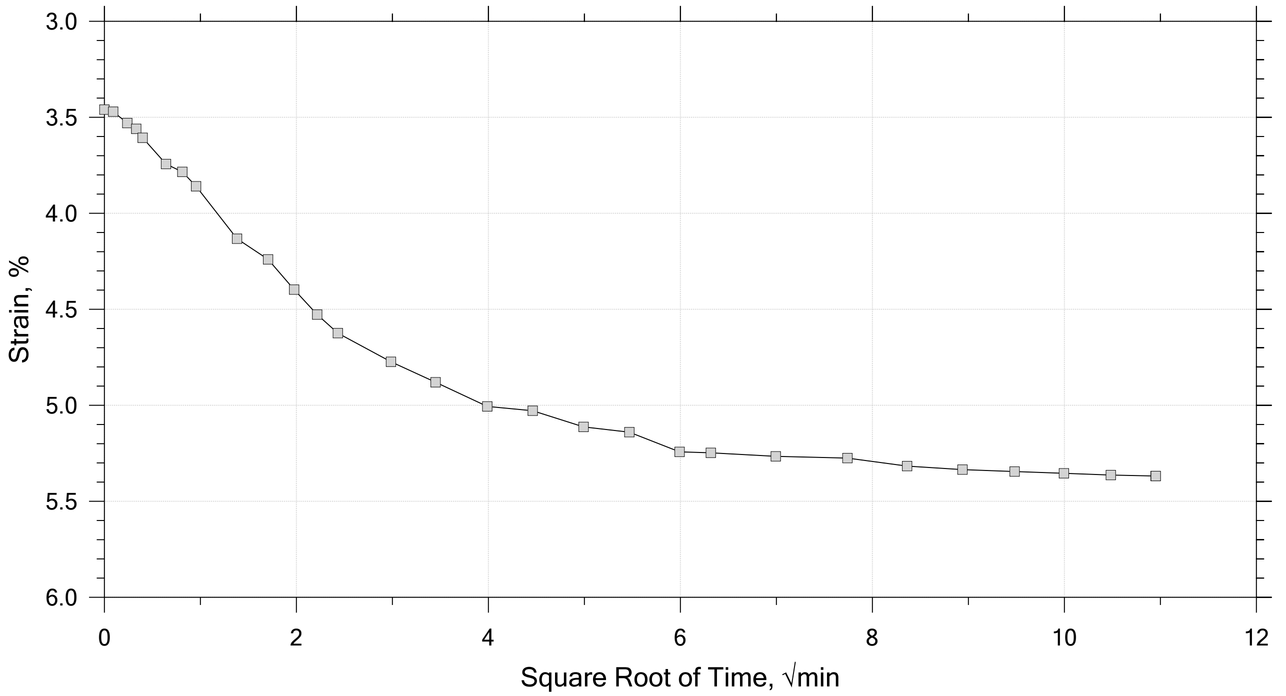


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15
Constant Load Step
Stress: 1 tsf

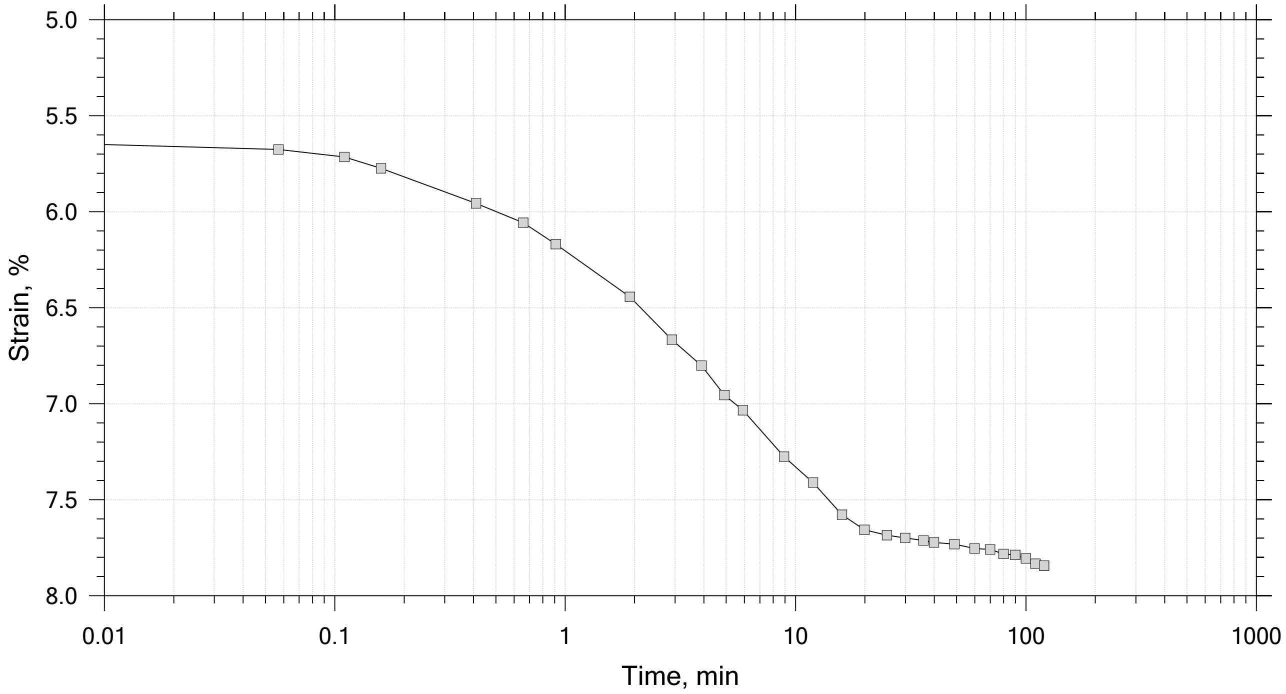


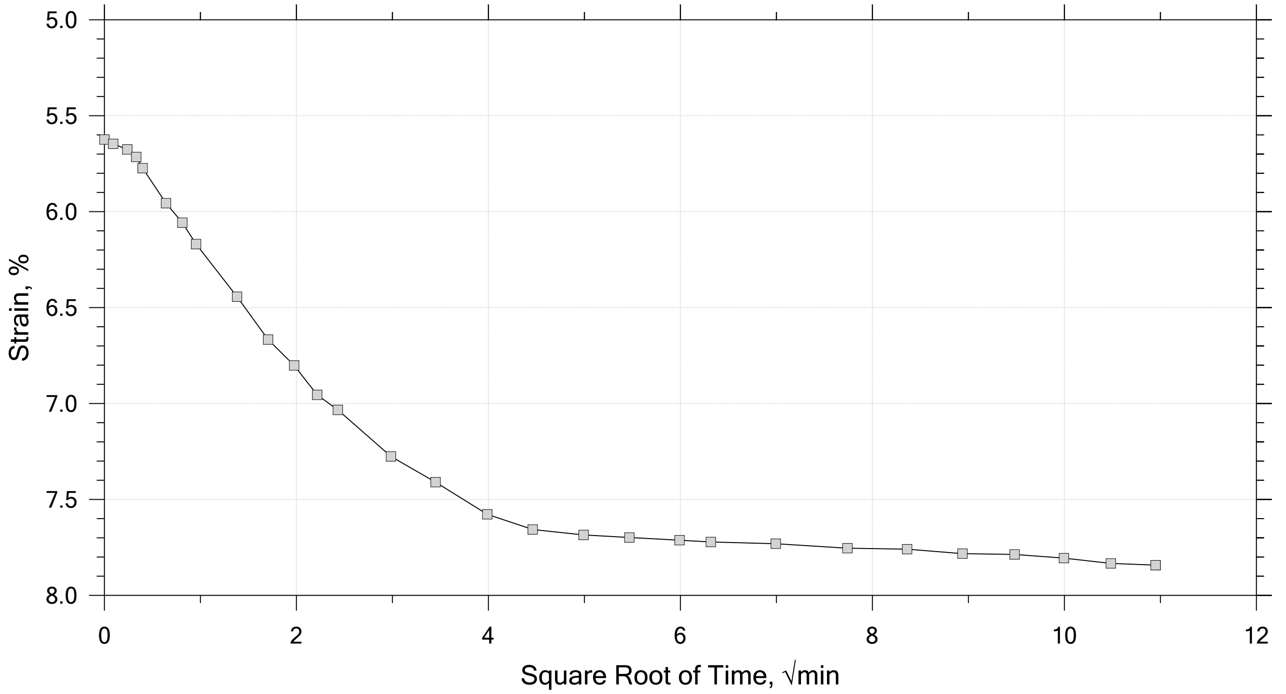


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15
Constant Load Step
Stress: 2 tsf





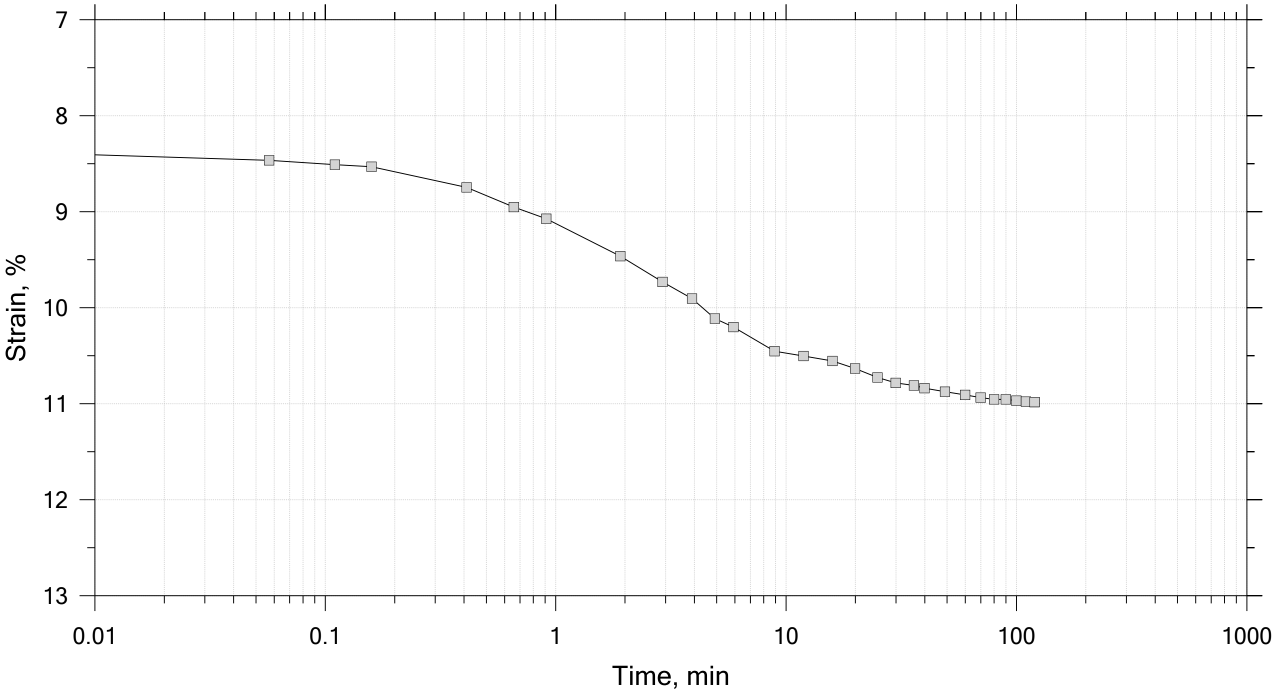
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

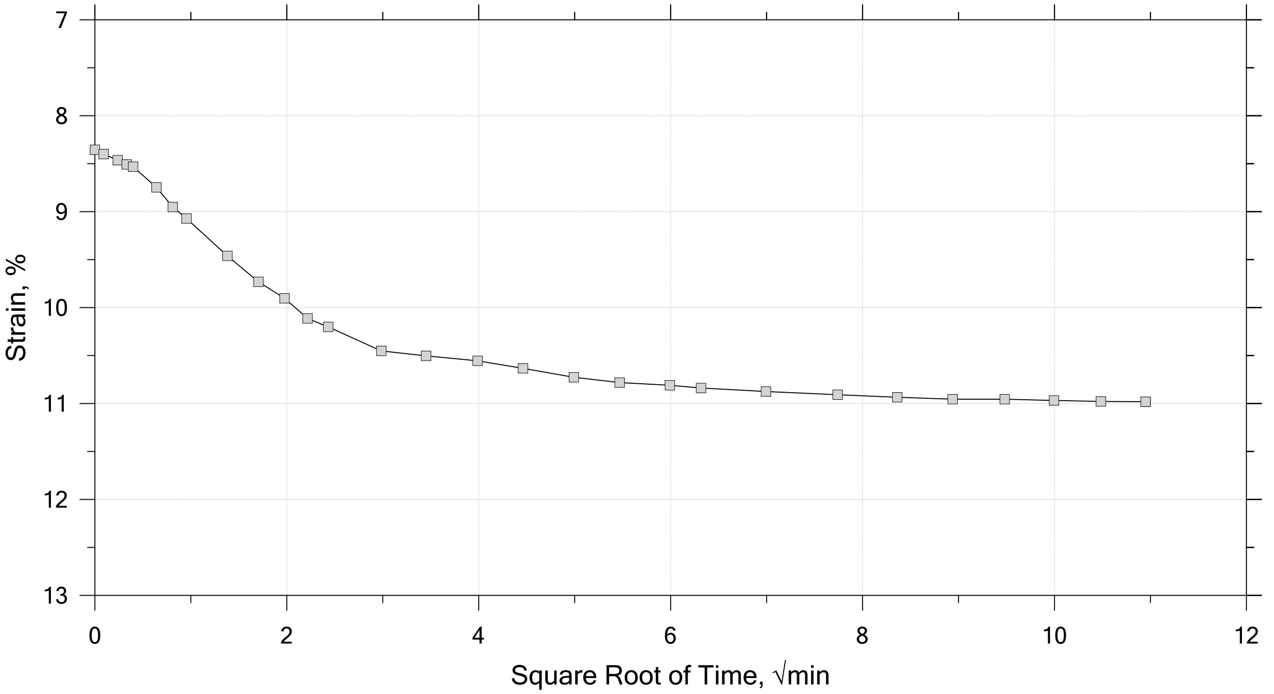
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





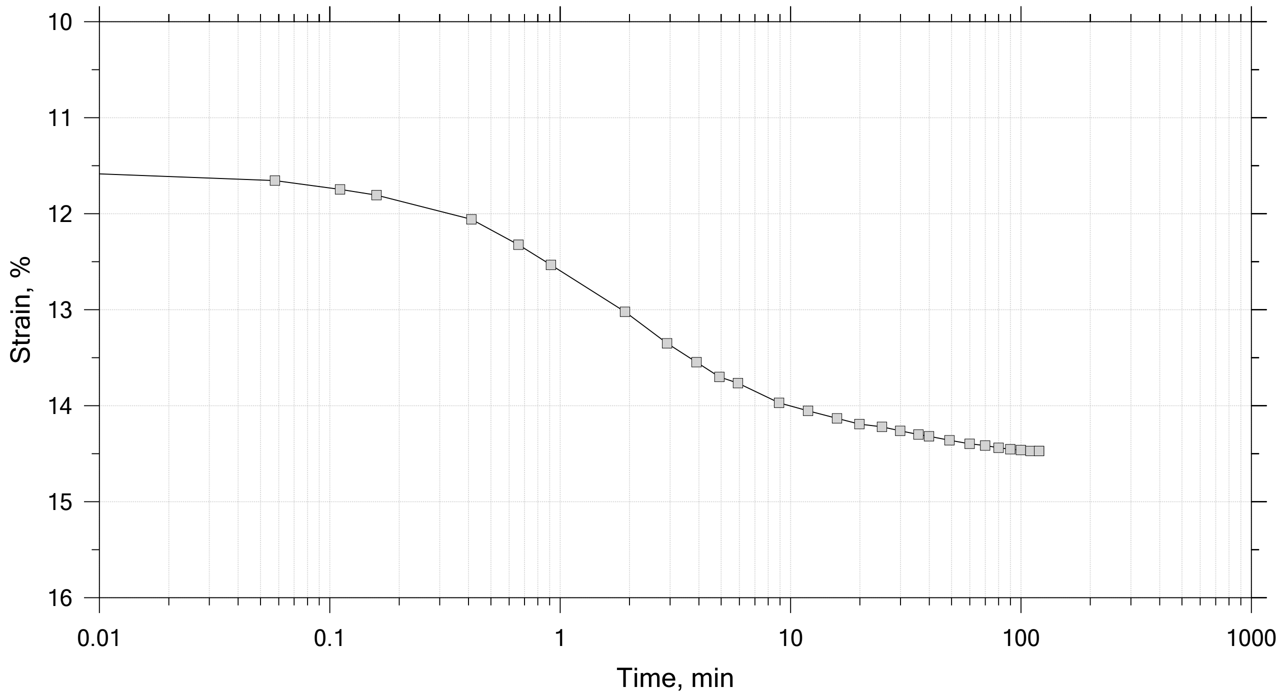
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
	Test No.: IP-5A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System V, Swell Pressure = 0.0703 tsf		

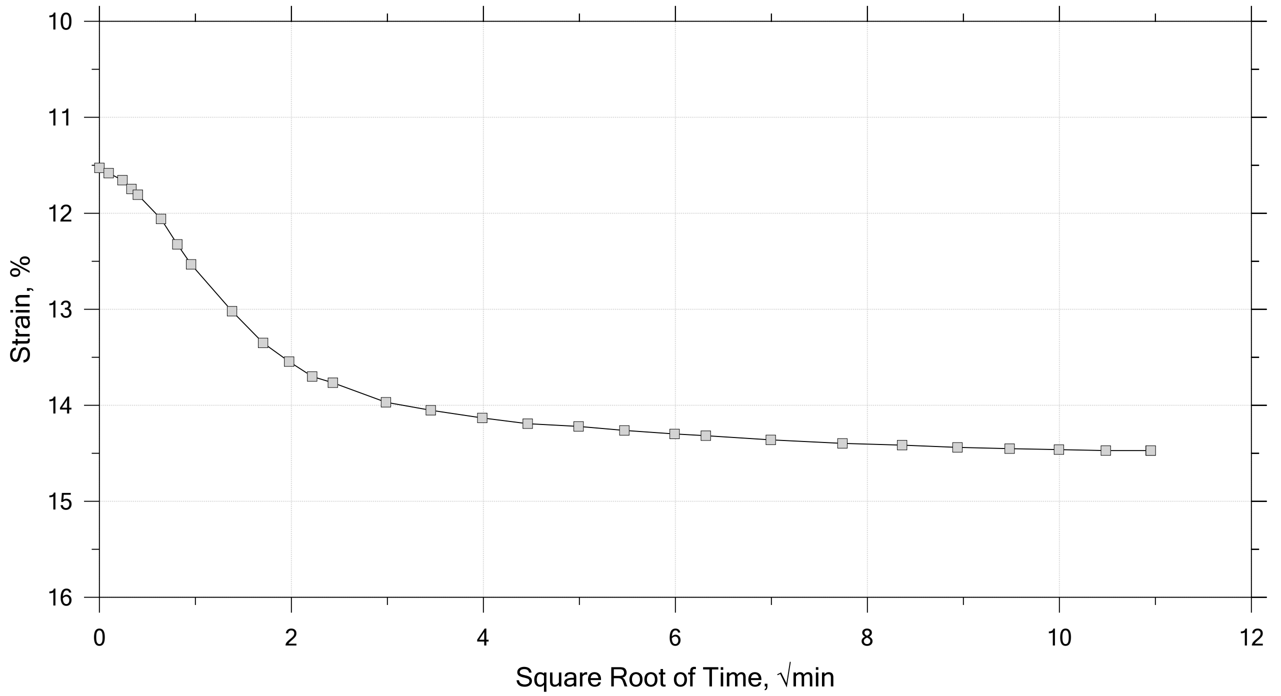
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf





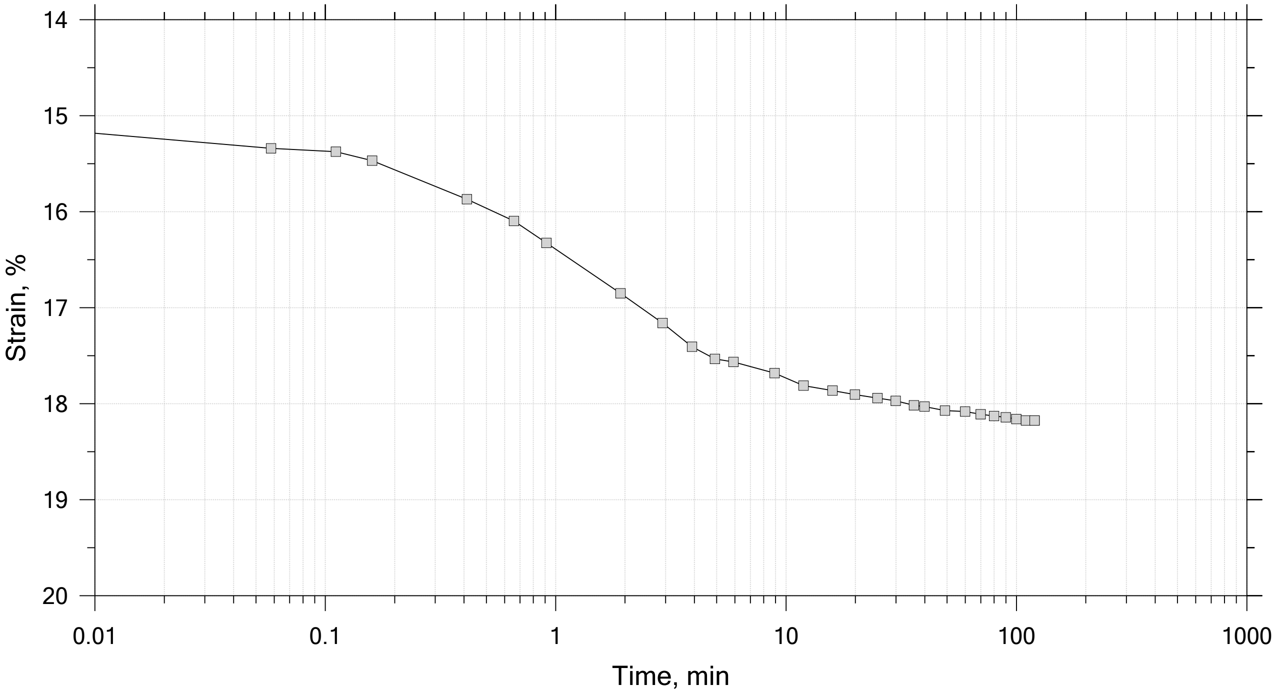
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

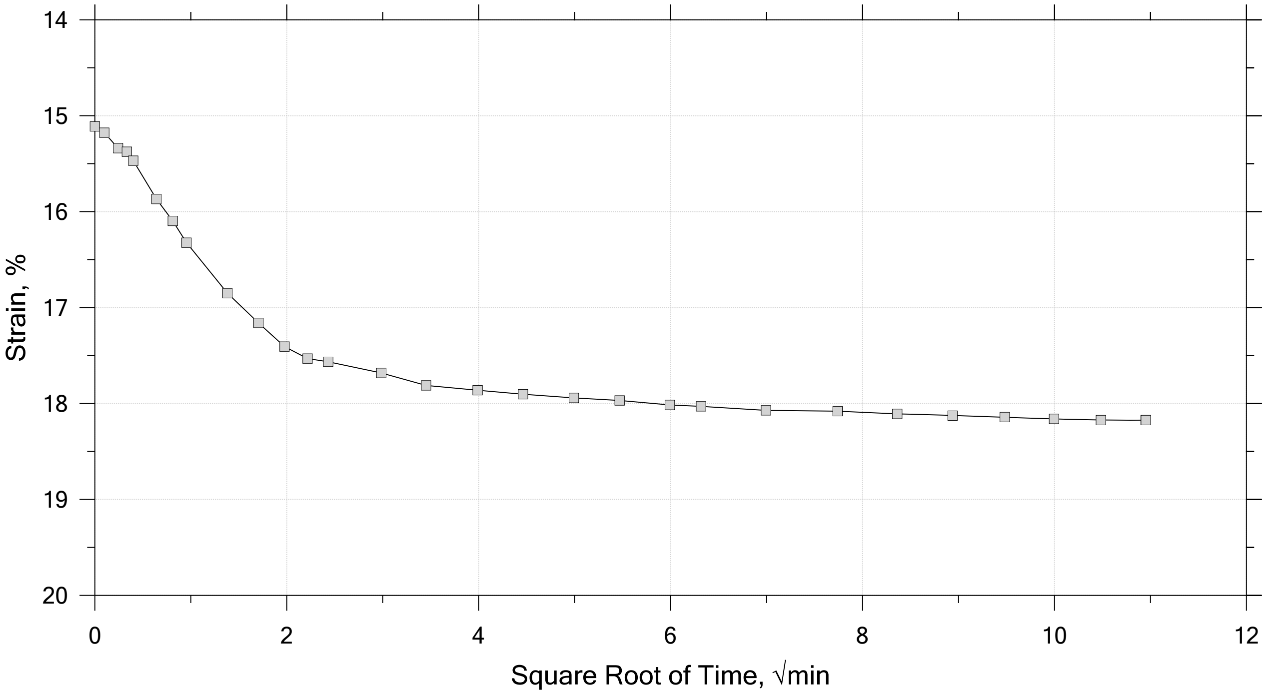
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





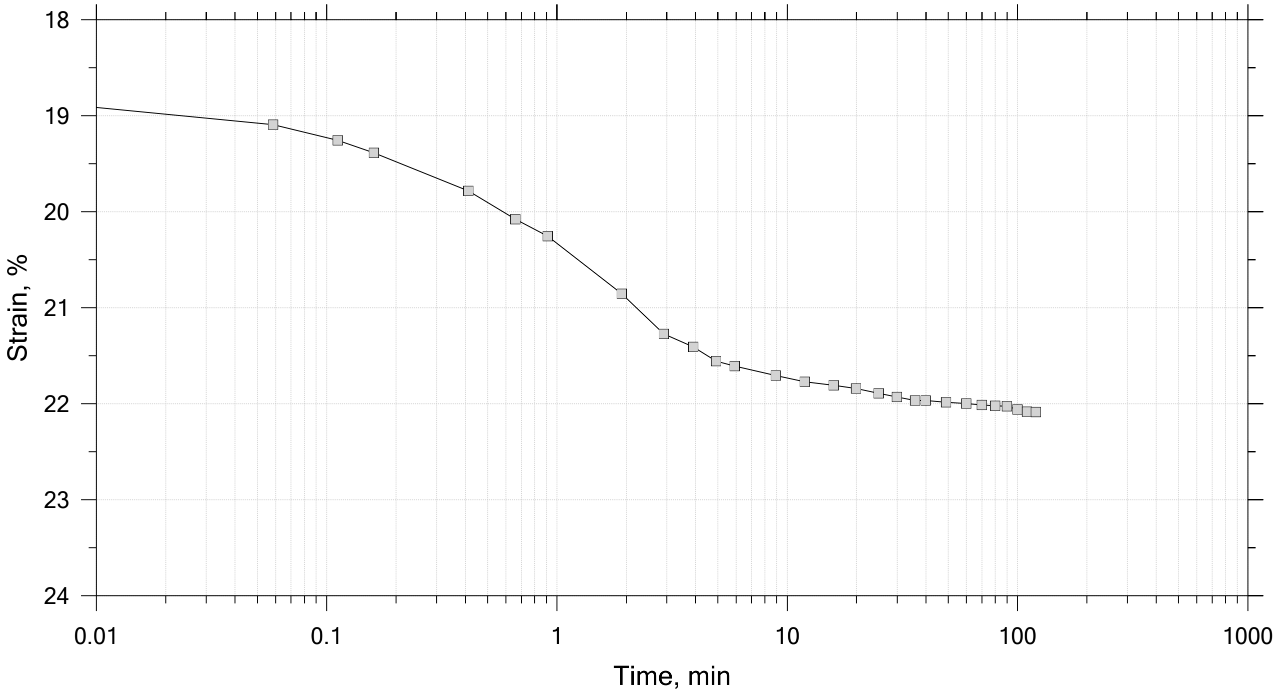
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

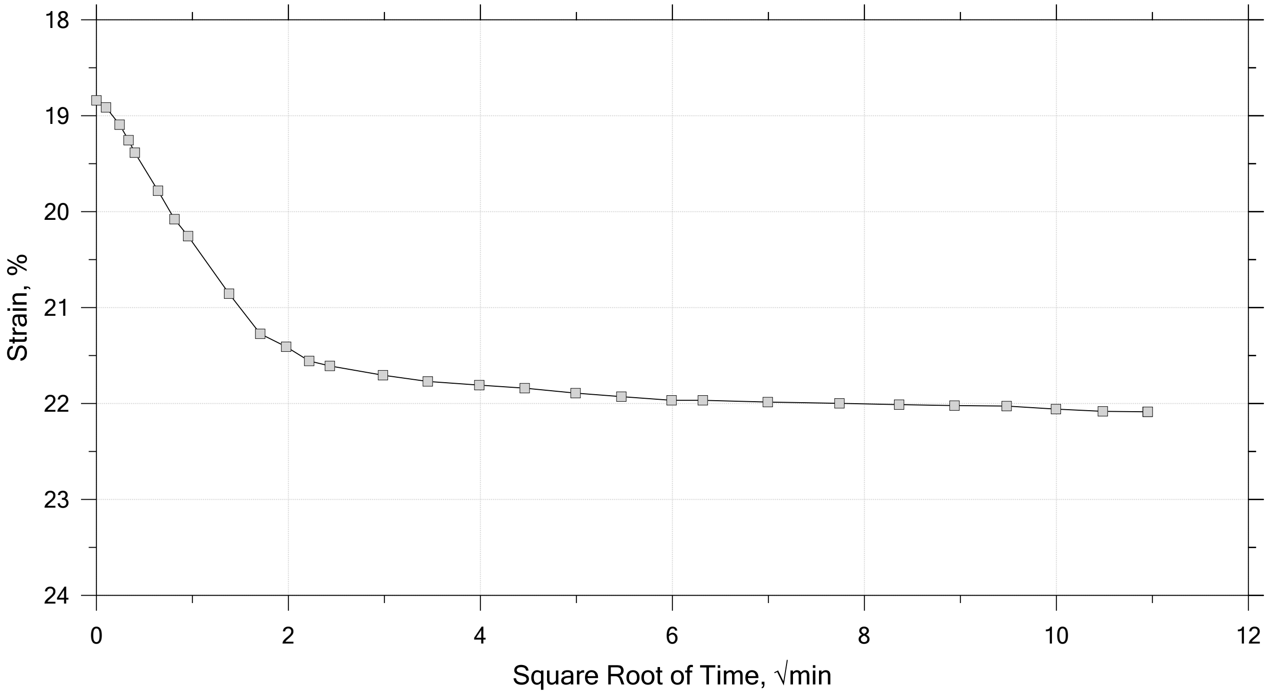
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf





Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---

Description: Moist, dark gray clay

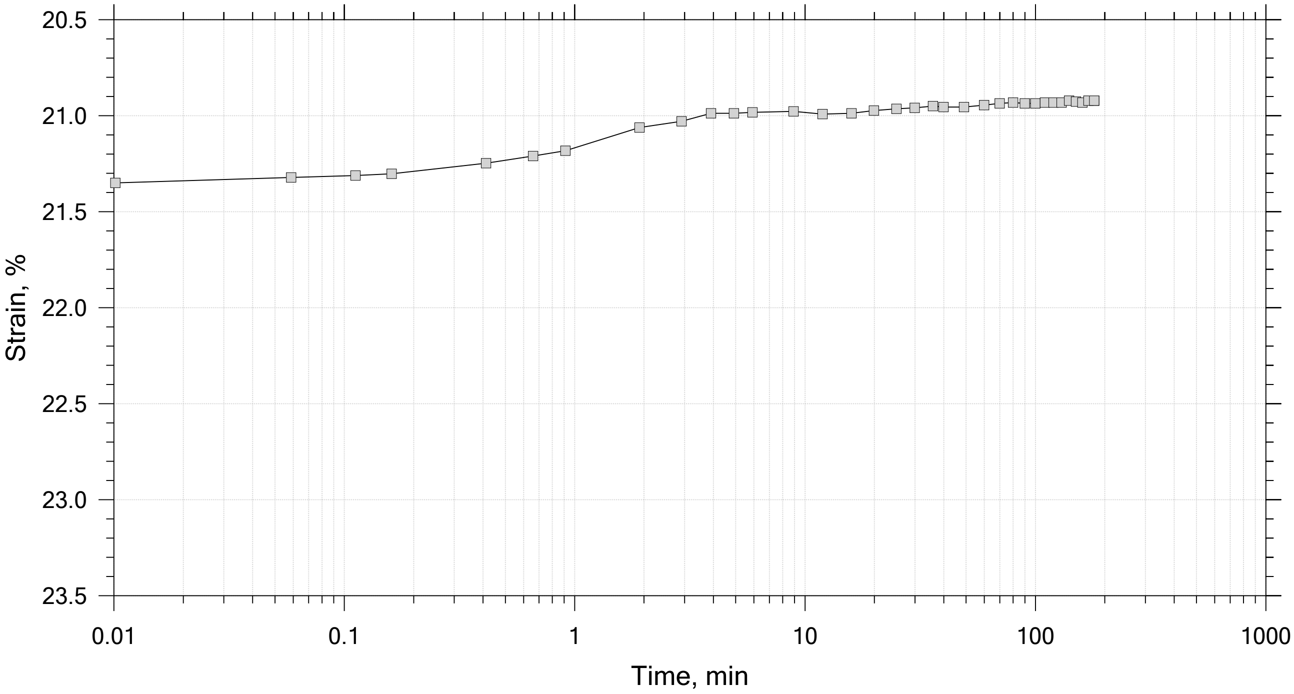
Remarks: System V, Swell Pressure = 0.0703 tsf

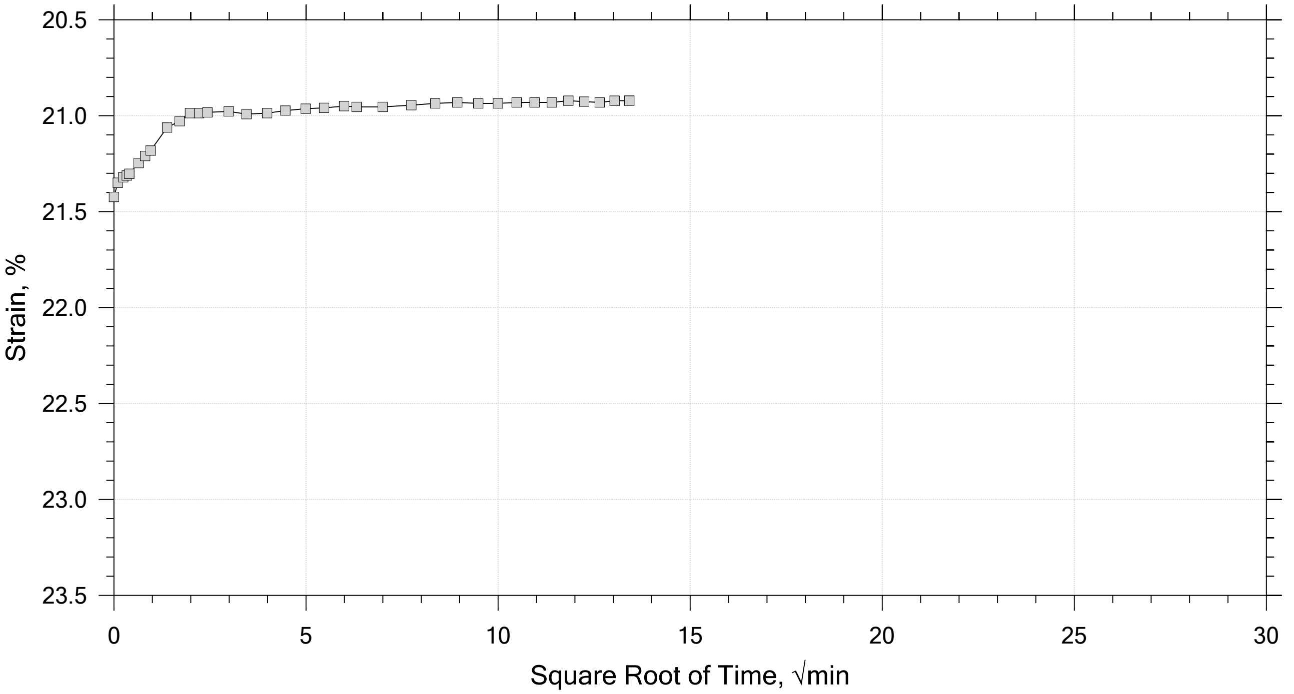
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15

Constant Load Step

Stress: 8 tsf

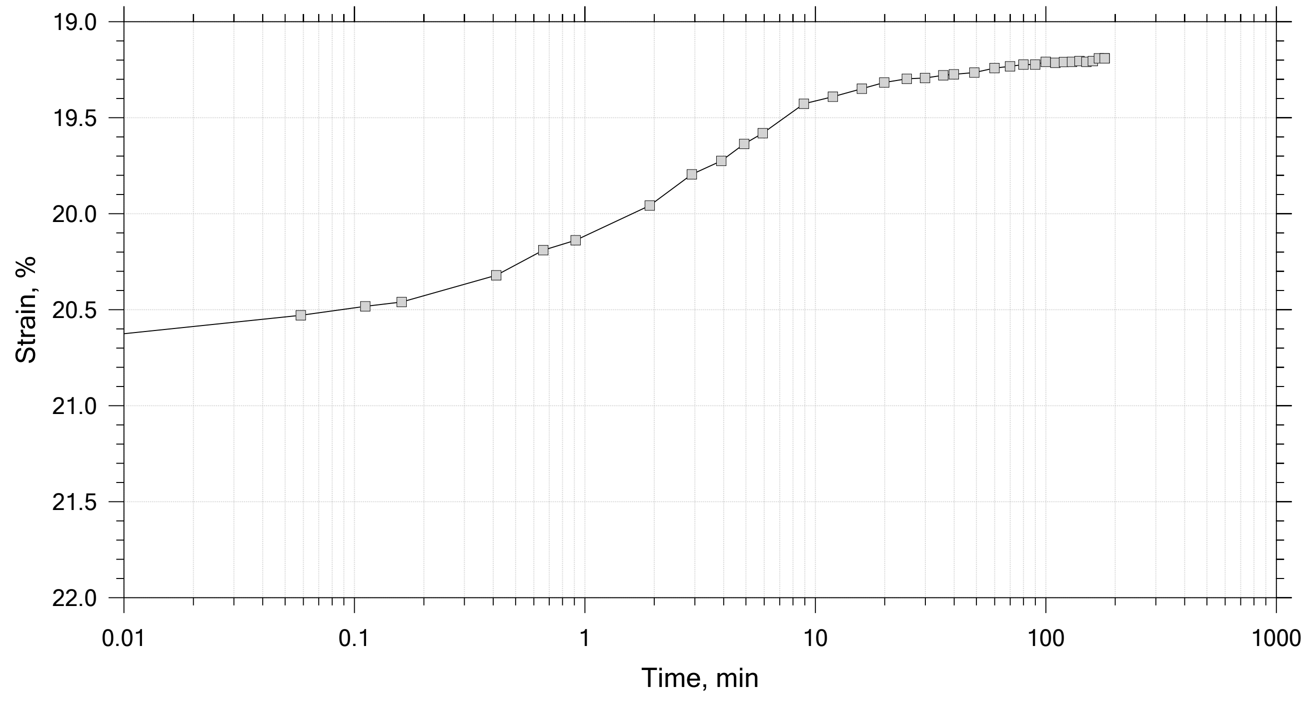


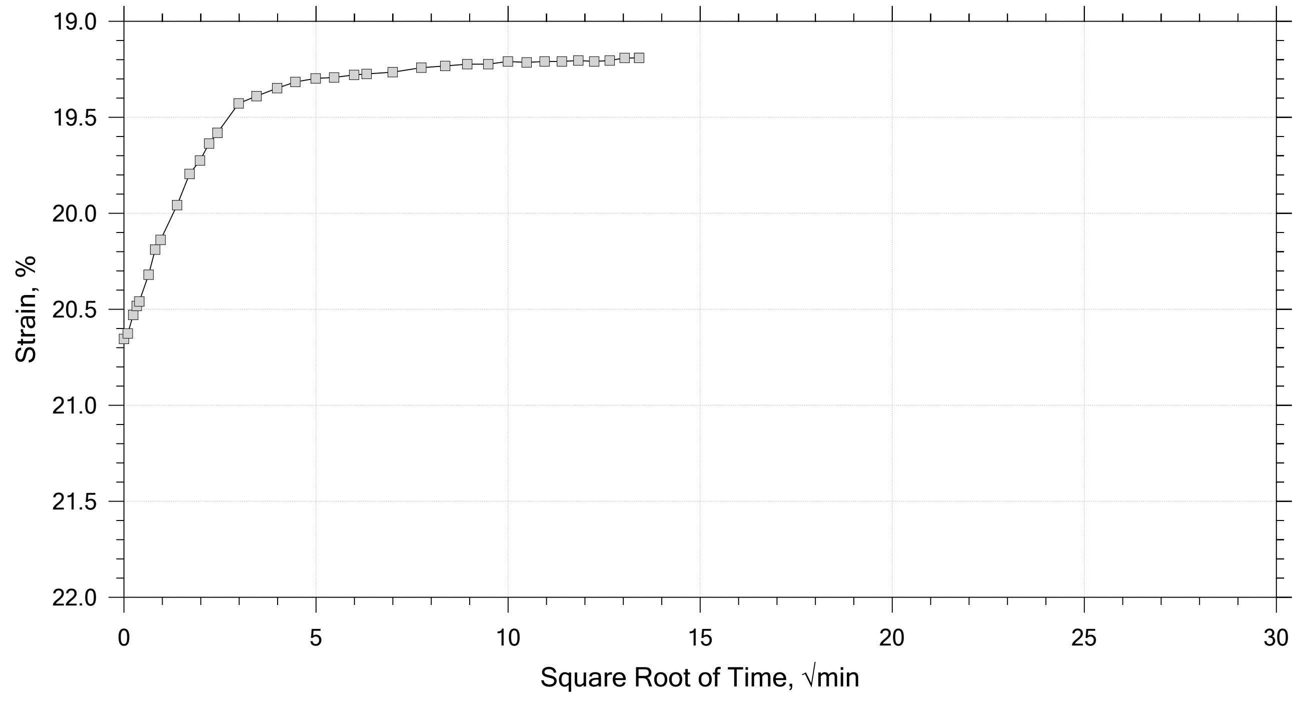


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15
Constant Load Step
Stress: 2 tsf





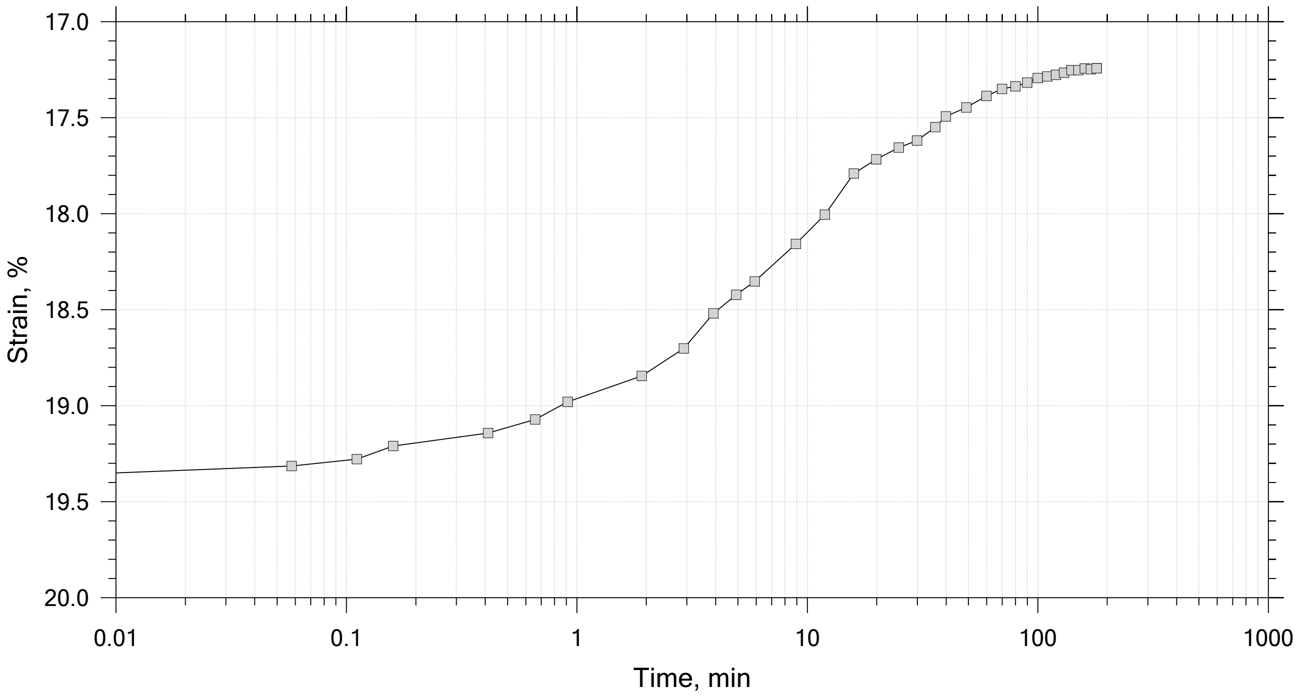
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
	Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
	Test No.: IP-5A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System V, Swell Pressure = 0.0703 tsf		

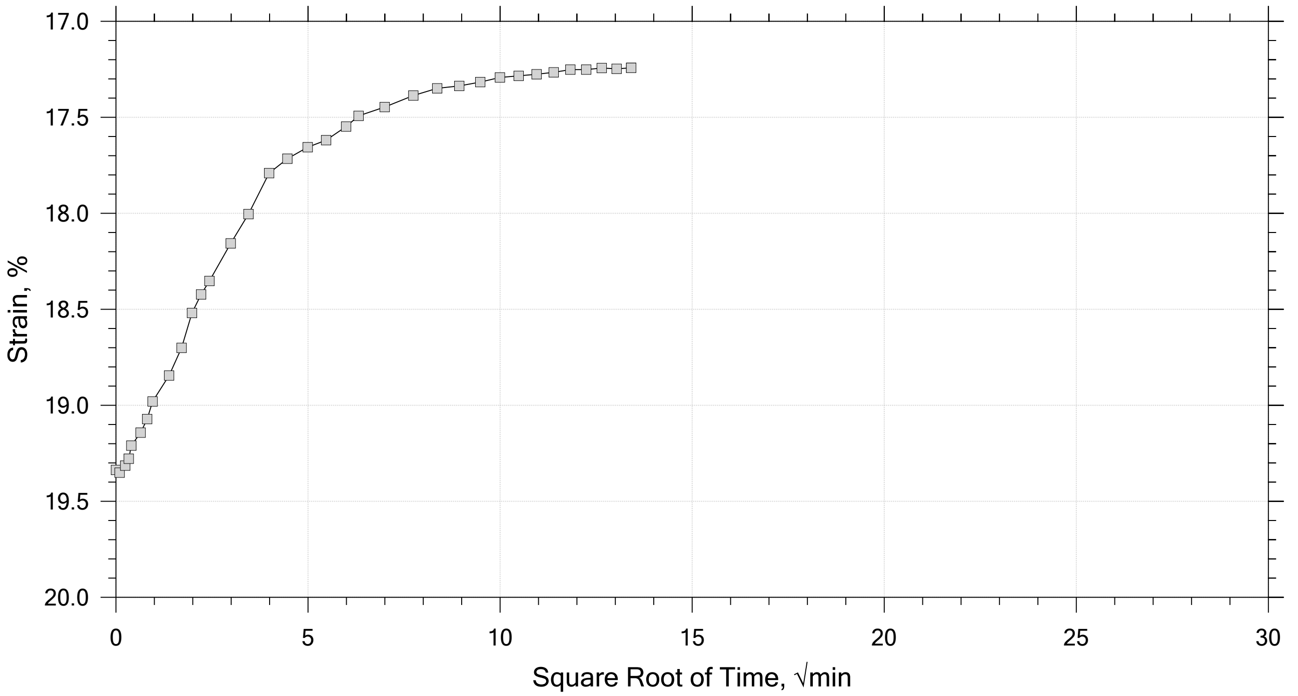
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





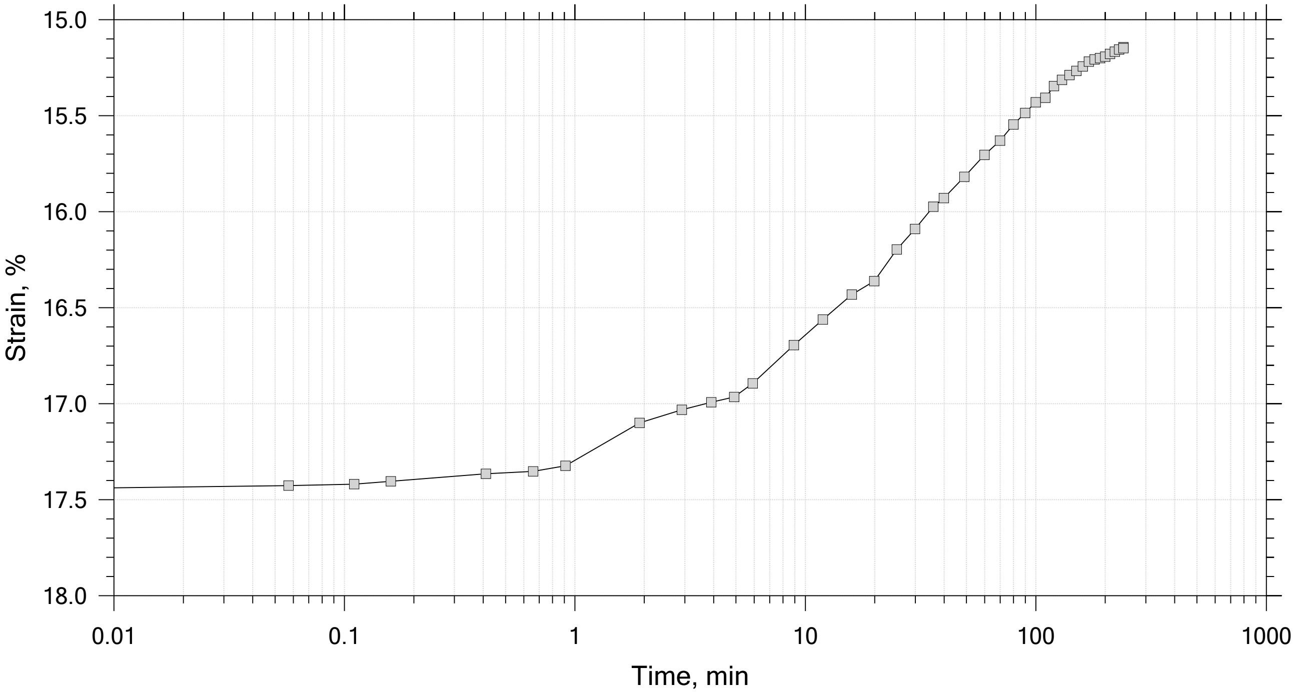
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md/trm	Checked By: mcm
GeoTesting EXPRESS	Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
	Test No.: IP-5A	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System V, Swell Pressure = 0.0703 tsf		

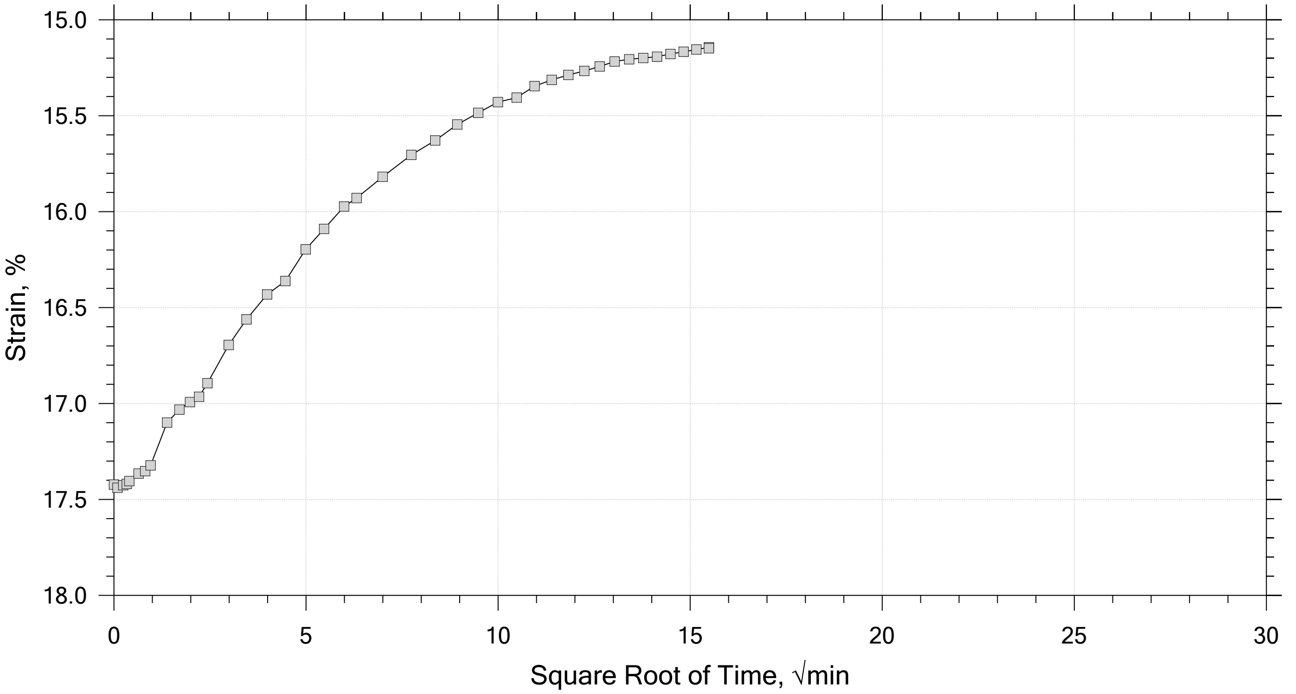
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf

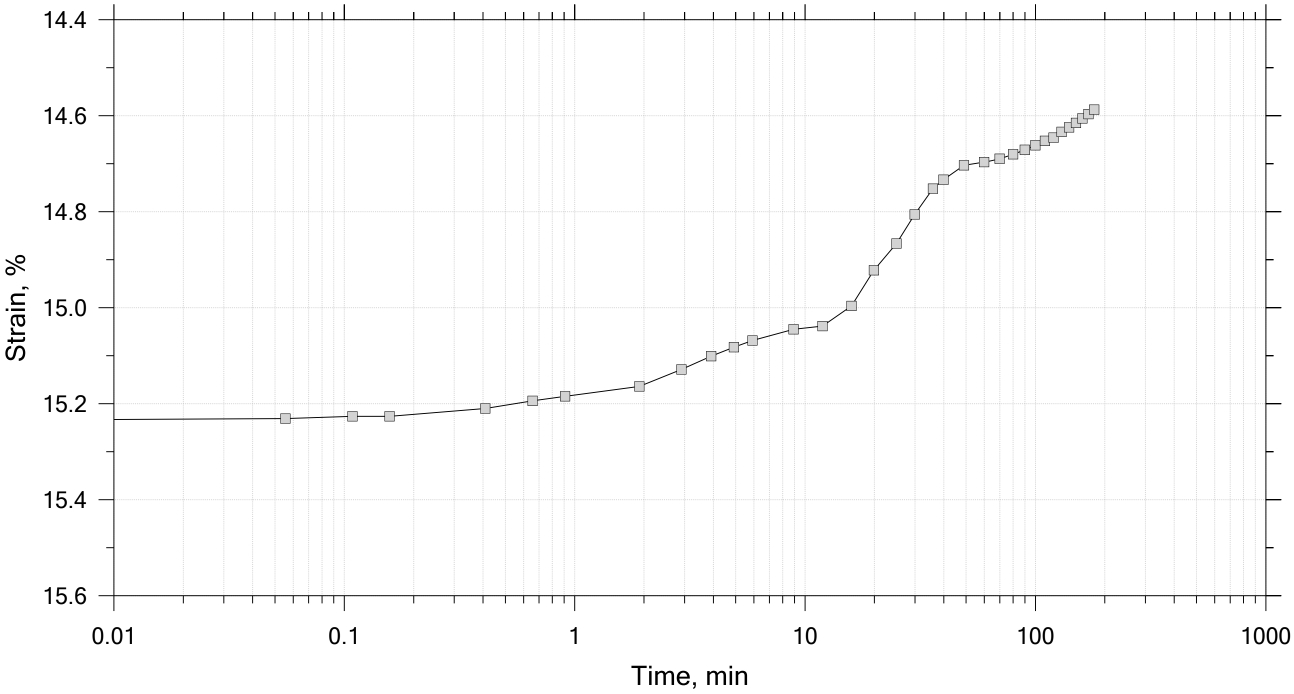


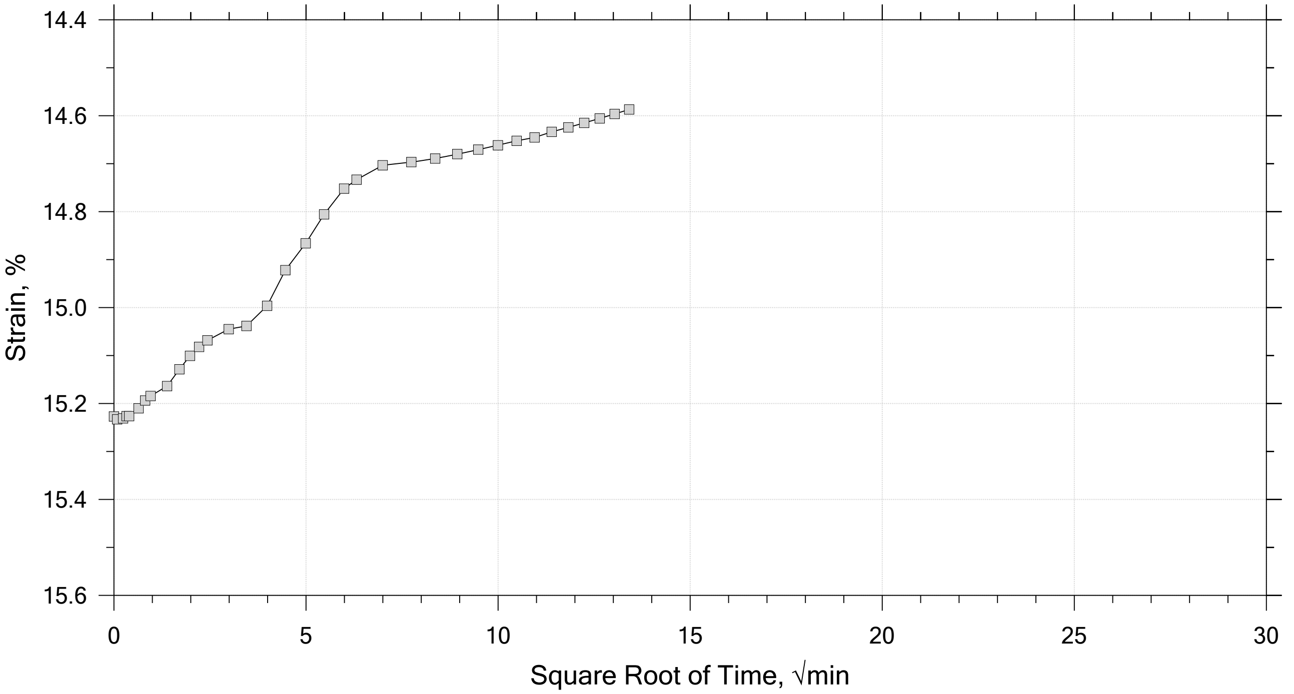


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15
Constant Load Step
Stress: 0.0625 tsf





Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.74	Liquid Limit: 52
Initial Height: 1.00 in	Initial Void Ratio: 1.04	Plastic Limit: 25
Final Height: 0.86 in	Final Void Ratio: 0.751	Plasticity Index: 27

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	A1539	RING		B2032
Mass Container, gm	8.39	8.37	8.37	8.37
Mass Container + Wet Soil, gm	116.38	156.38	146.46	146.46
Mass Container + Dry Soil, gm	86.75	116.8	116.8	116.8
Mass Dry Soil, gm	78.36	108.43	108.43	108.43
Water Content, %	37.81	36.50	27.35	27.35
Void Ratio	---	1.04	0.75	---
Degree of Saturation, %	---	96.72	100.00	---
Dry Unit Weight, pcf	---	84.151	97.85	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/s	Mv 1/tsf	k ft/day	Ca %
1	0.0703	0.004573	1.03	0.457	0.000	0.00e+00	6.51e-02	0.00e+00	0.00e+00
2	0.125	0.009955	1.02	0.996	0.000	0.00e+00	9.84e-02	0.00e+00	0.00e+00
3	0.250	0.01939	0.996	1.94	0.000	0.00e+00	7.55e-02	0.00e+00	0.00e+00
4	0.500	0.03346	0.967	3.35	0.000	0.00e+00	5.63e-02	0.00e+00	0.00e+00
5	1.00	0.05369	0.926	5.37	2.751	1.90e-06	4.05e-02	2.07e-04	0.00e+00
6	2.00	0.07843	0.876	7.84	2.753	1.81e-06	2.47e-02	1.21e-04	0.00e+00
7	4.00	0.1098	0.812	11.0	2.457	1.90e-06	1.57e-02	8.06e-05	0.00e+00
8	8.00	0.1447	0.741	14.5	1.807	2.40e-06	8.72e-03	5.65e-05	0.00e+00
9	16.0	0.1817	0.666	18.2	1.333	2.99e-06	4.63e-03	3.74e-05	0.00e+00
10	32.0	0.2209	0.586	22.1	0.000	0.00e+00	2.45e-03	0.00e+00	0.00e+00
11	8.00	0.2092	0.610	20.9	0.000	0.00e+00	4.86e-04	0.00e+00	0.00e+00
12	2.00	0.1919	0.645	19.2	2.109	1.73e-06	2.89e-03	1.34e-05	0.00e+00
13	0.500	0.1724	0.685	17.2	5.359	7.11e-07	1.30e-02	2.49e-05	0.00e+00
14	0.125	0.1515	0.727	15.1	19.938	2.01e-07	5.58e-02	3.02e-05	0.00e+00
15	0.0625	0.1459	0.739	14.6	19.557	2.11e-07	8.98e-02	5.12e-05	0.00e+00

GeoTesting EXPRESS

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: md/trm	Checked By: mcm
Sample No.: UP-3B	Test Date: 11/12/18	Depth: ---
Test No.: IP-5A	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System V, Swell Pressure = 0.0703 tsf		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

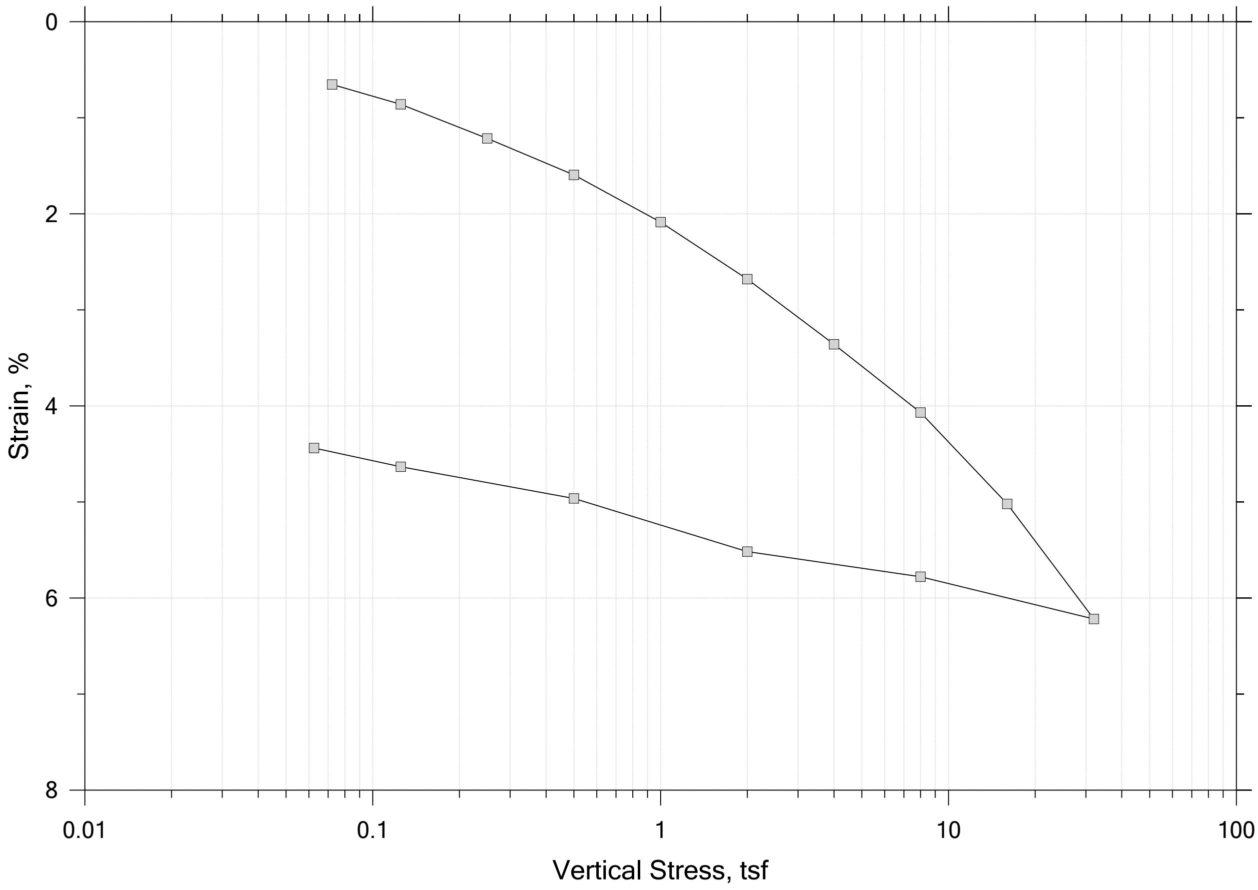
Square Root of Time Coefficients

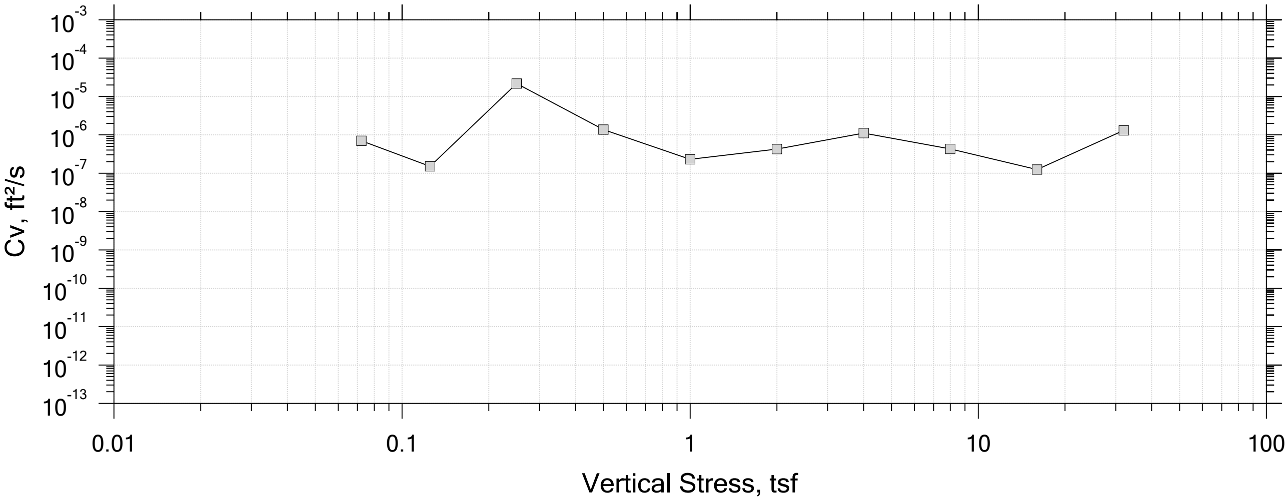
Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0703	0.004573	1.03	0.457	31.796	7.68e-07	6.51e-02	1.35e-04
2	0.125	0.009955	1.02	0.996	29.777	8.12e-07	9.84e-02	2.15e-04
3	0.250	0.01939	0.996	1.94	17.562	1.36e-06	7.55e-02	2.76e-04
4	0.500	0.03346	0.967	3.35	28.848	8.06e-07	5.63e-02	1.22e-04
5	1.00	0.05369	0.926	5.37	17.112	1.31e-06	4.05e-02	1.43e-04
6	2.00	0.07843	0.876	7.84	15.470	1.38e-06	2.47e-02	9.23e-05
7	4.00	0.1098	0.812	11.0	9.517	2.12e-06	1.57e-02	8.96e-05
8	8.00	0.1447	0.741	14.5	6.313	2.96e-06	8.72e-03	6.96e-05
9	16.0	0.1817	0.666	18.2	5.816	2.95e-06	4.63e-03	3.69e-05
10	32.0	0.2209	0.586	22.1	4.741	3.30e-06	2.45e-03	2.18e-05
11	8.00	0.2092	0.610	20.9	5.584	2.71e-06	4.86e-04	3.55e-06
12	2.00	0.1919	0.645	19.2	8.870	1.77e-06	2.89e-03	1.38e-05
13	0.500	0.1724	0.685	17.2	24.336	6.74e-07	1.30e-02	2.36e-05
14	0.125	0.1515	0.727	15.1	84.575	2.04e-07	5.58e-02	3.07e-05
15	0.0625	0.1459	0.739	14.6	73.720	2.41e-07	8.98e-02	5.84e-05

Project: SFWF
Location: ---
Project No.: GTX-308764
Boring No.: B-10
Tested By: md/trm
Checked By: mcm
Sample No.: UP-3B
Test Date: 11/12/18
Depth: ---
Test No.: IP-5A
Sample Type: intact
Elevation: ---
Description: Moist, dark gray clay
Remarks: System V, Swell Pressure = 0.0703 tsf
Displacement at End of Increment

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





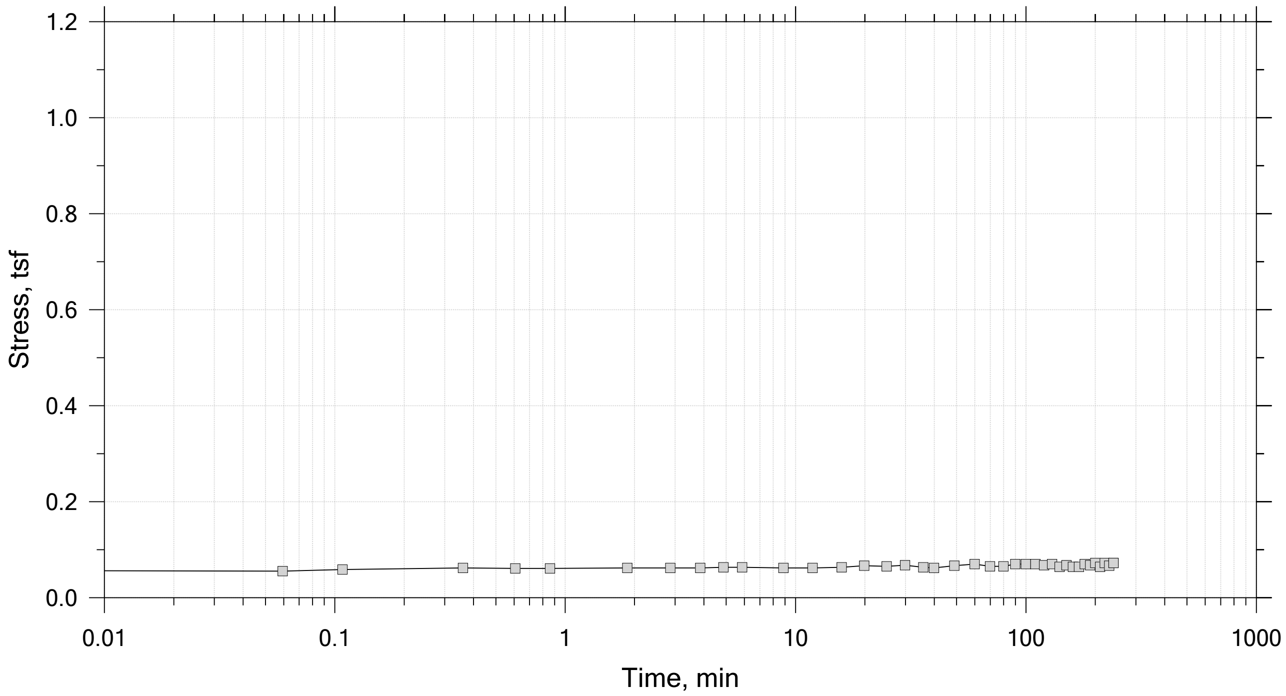
GeoTesting EXPRESS	Project: SFWF	Location:	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
	Test No.: IP-3	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System O, Swell Pressure = 0.0723 tsf		
	Displacement at End of Increment		

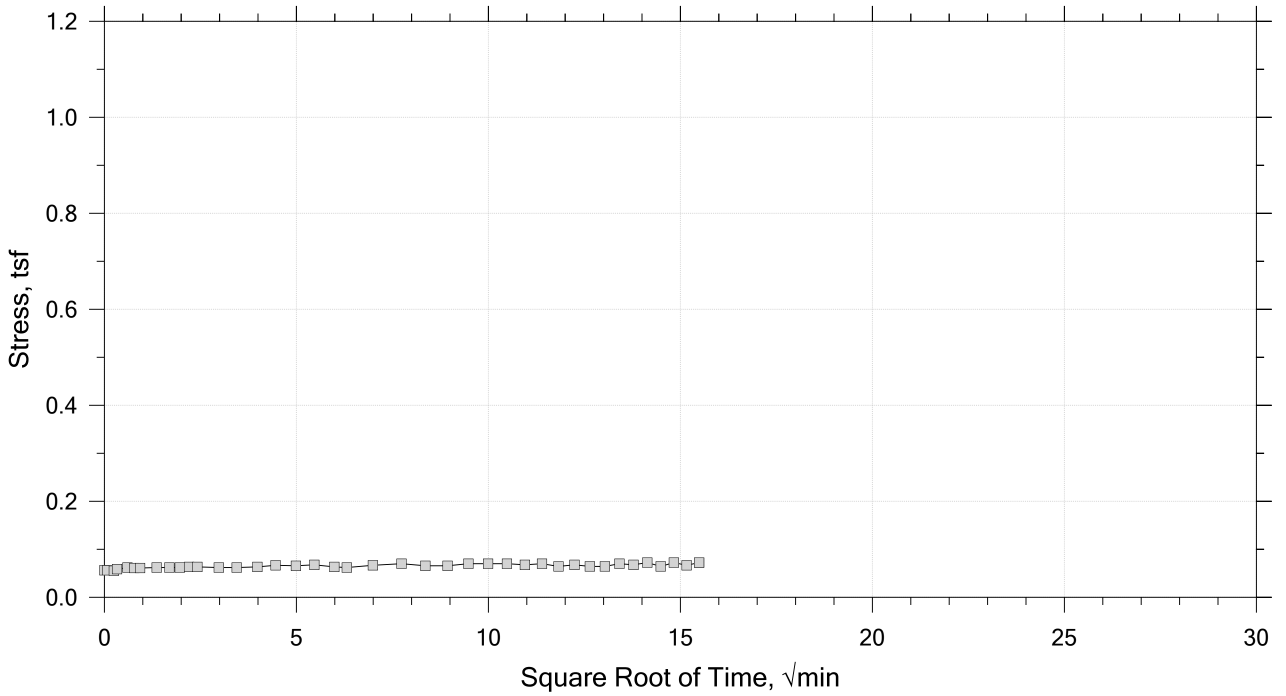
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.0723 tsf





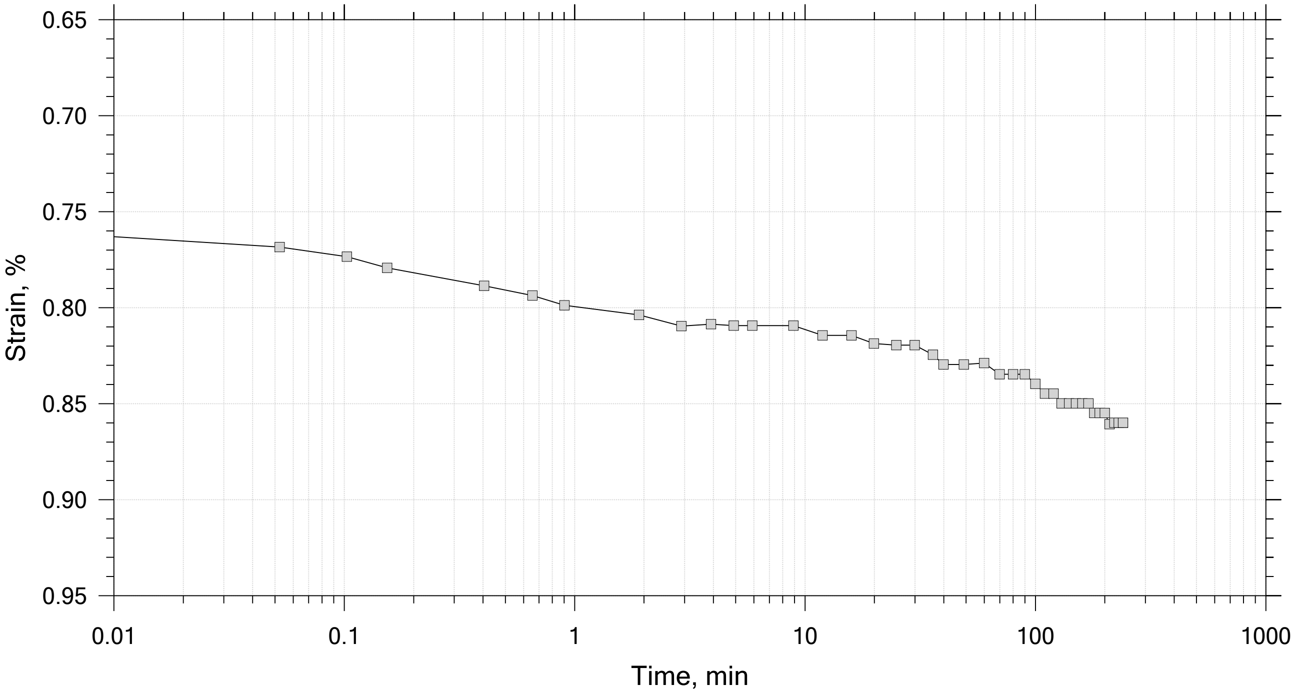
GeoTesting EXPRESS	Project: SFWF	Location:	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
	Test No.: IP-3	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System O, Swell Pressure = 0.0723 tsf		

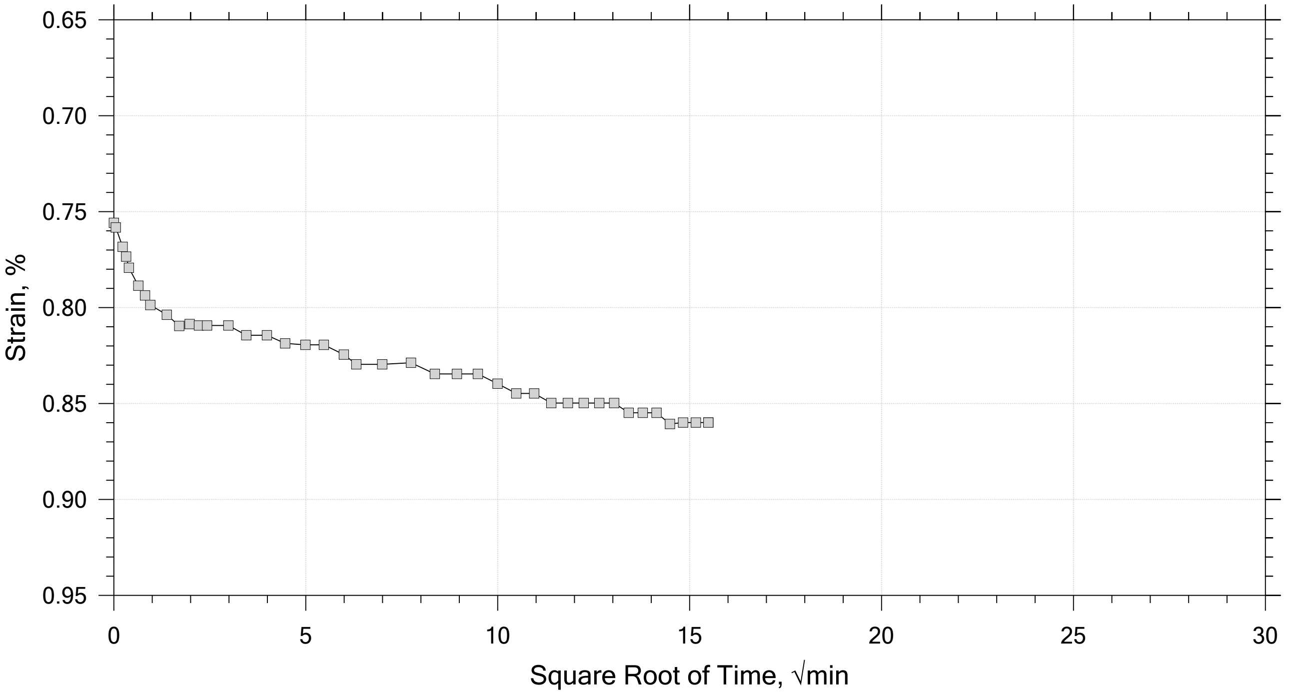
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15

Constant Load Step

Stress: 0.125 tsf

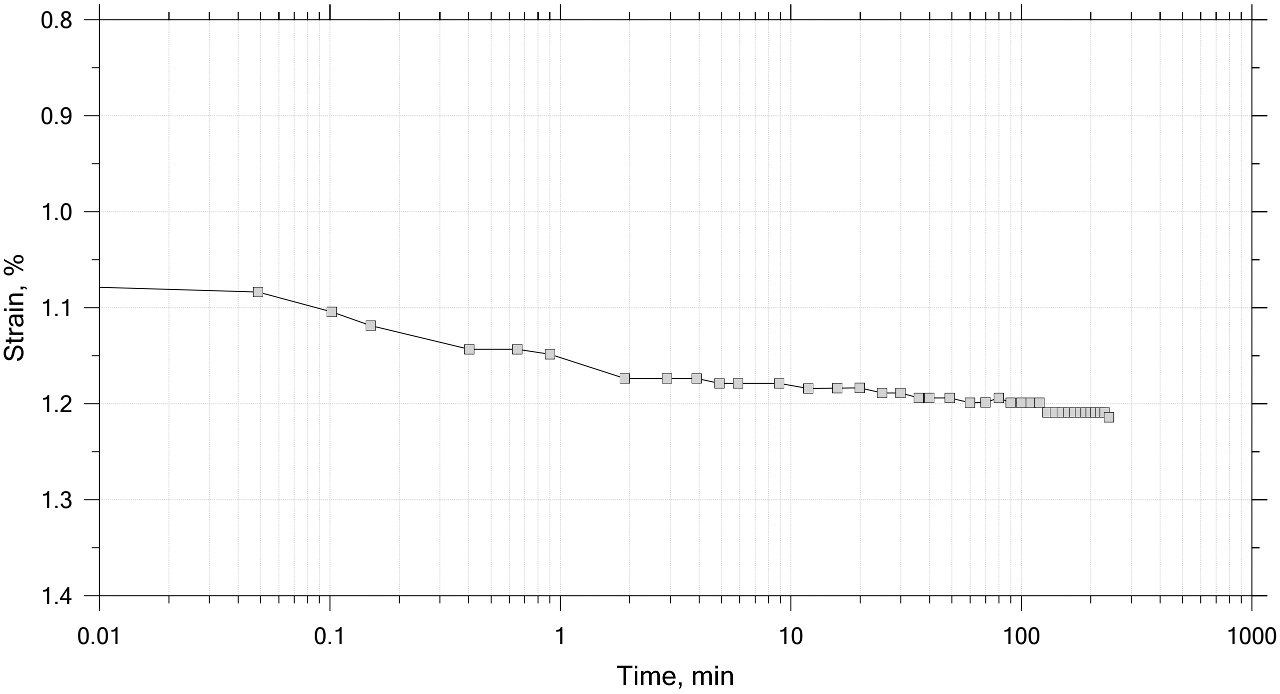


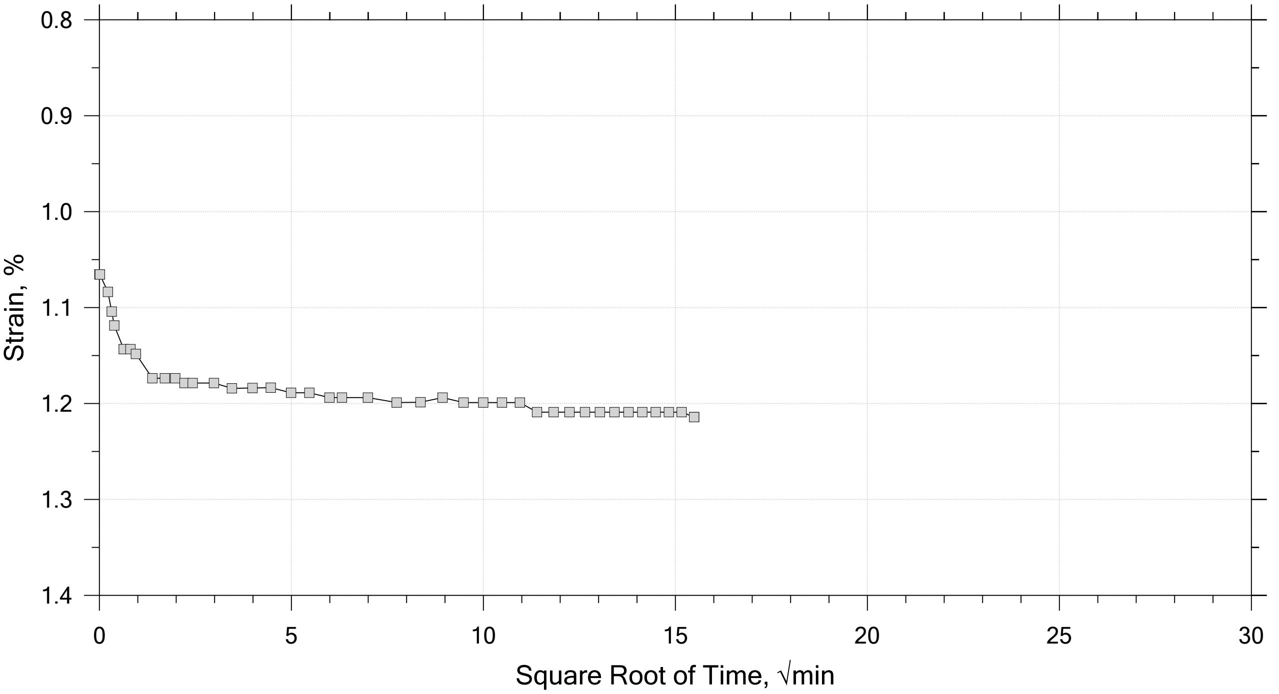


GeoTesting EXPRESS	Project: SFWF	Location:	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
	Test No.: IP-3	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System O, Swell Pressure = 0.0723 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15
Constant Load Step
Stress: 0.25 tsf





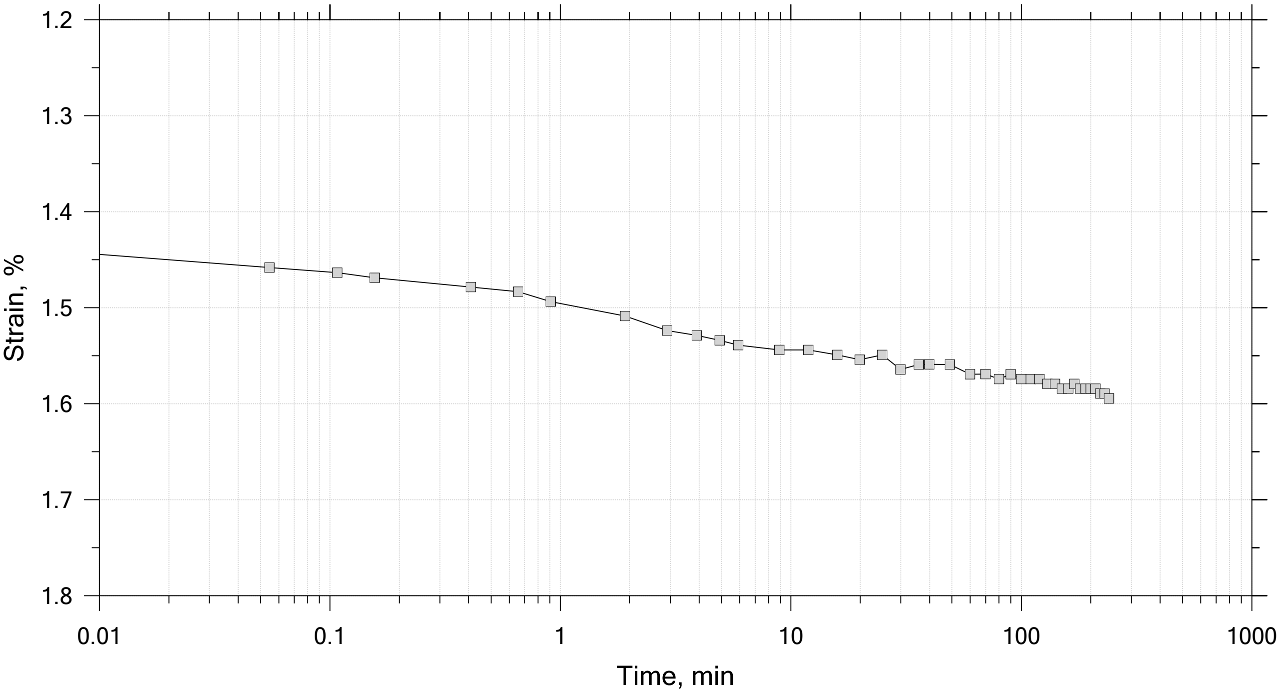
Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

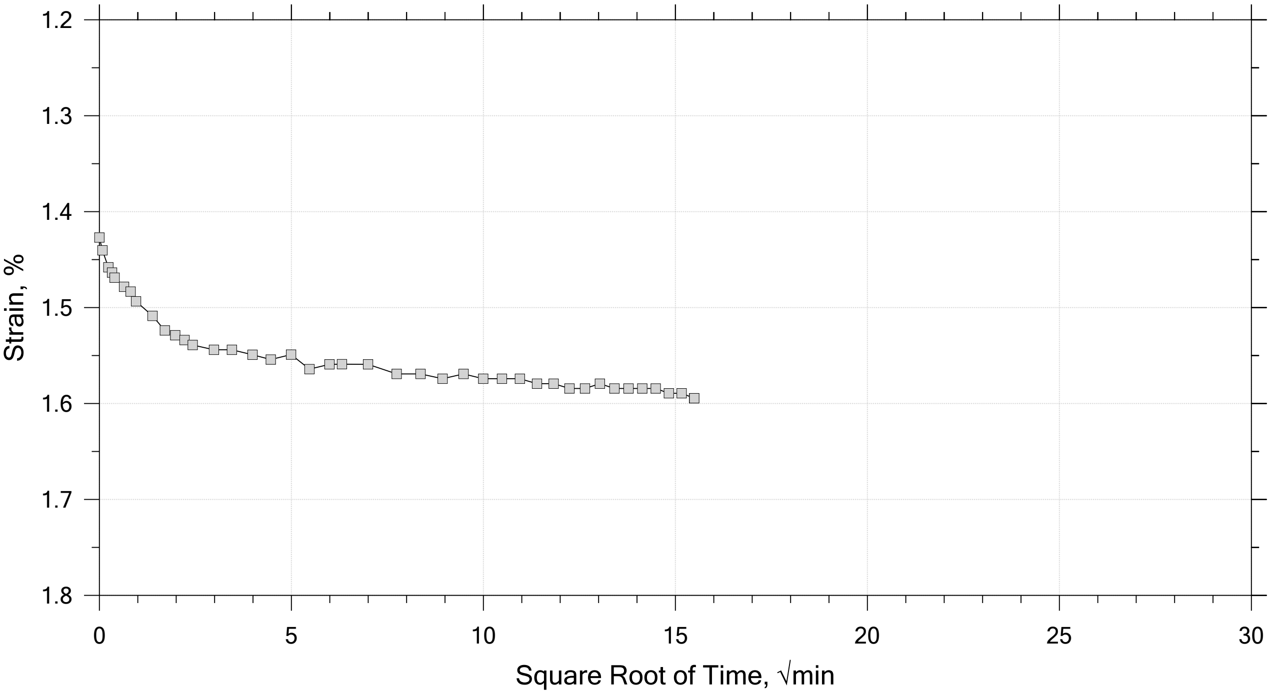
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15

Constant Load Step

Stress: 0.5 tsf

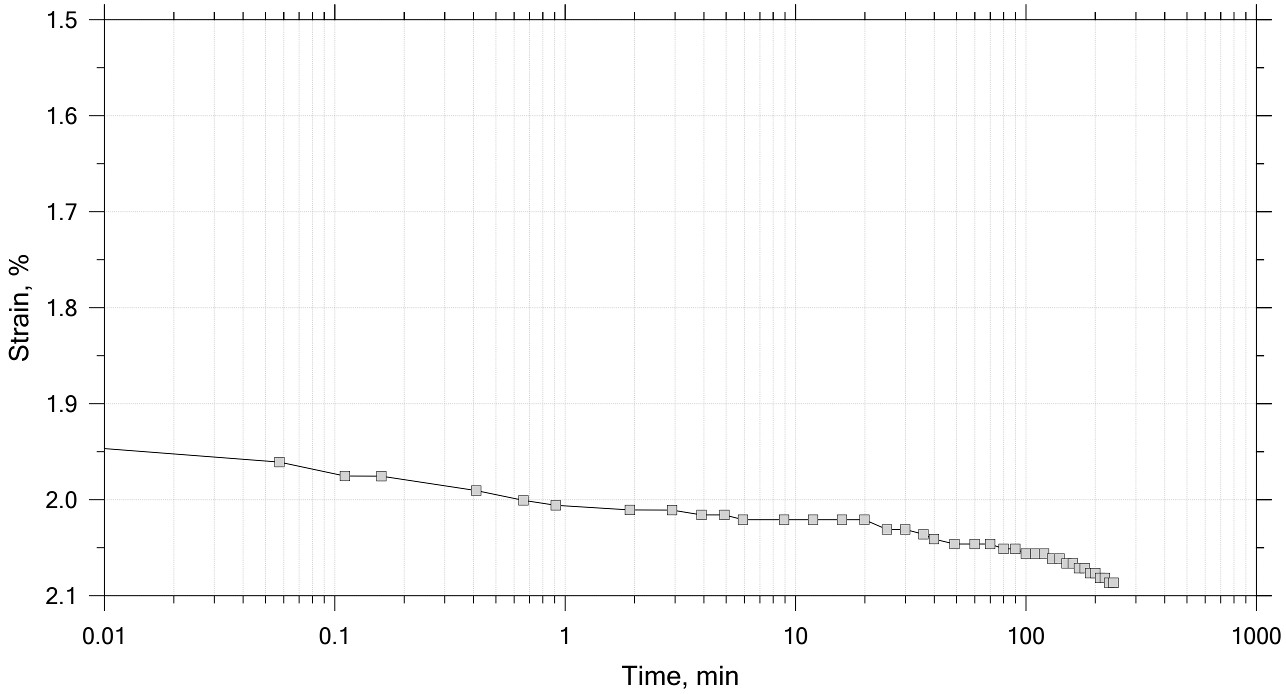


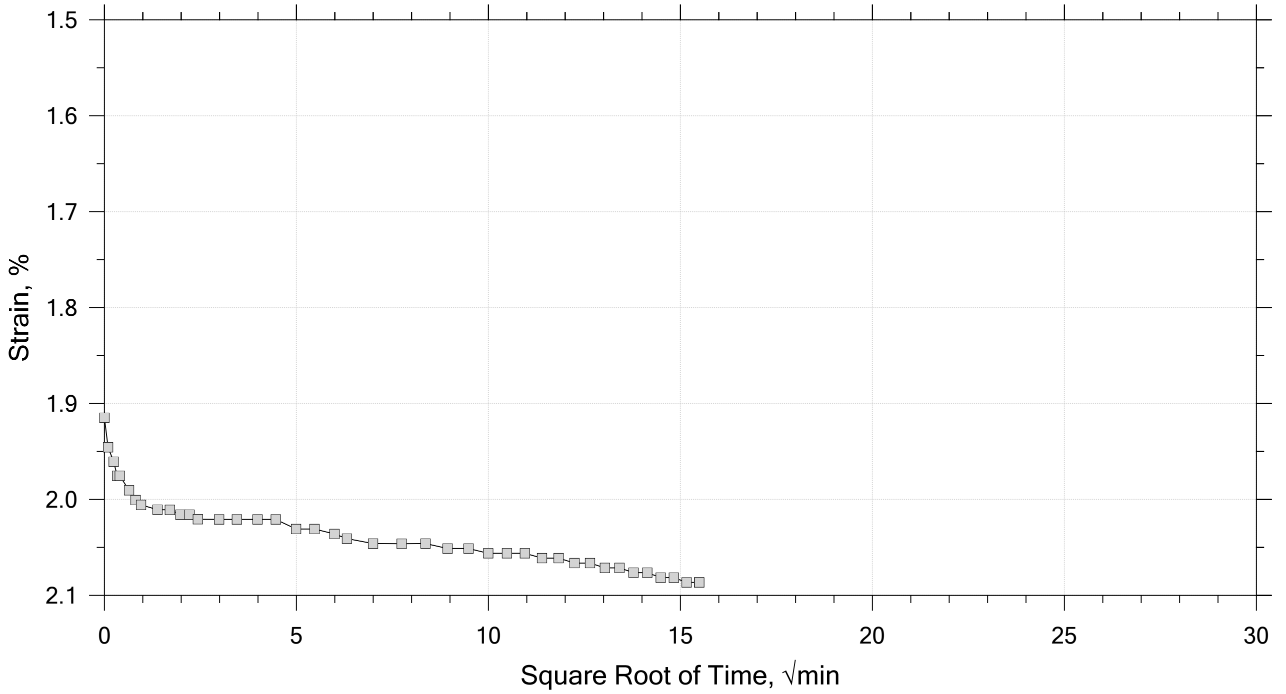


Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15
Constant Load Step
Stress: 1 tsf





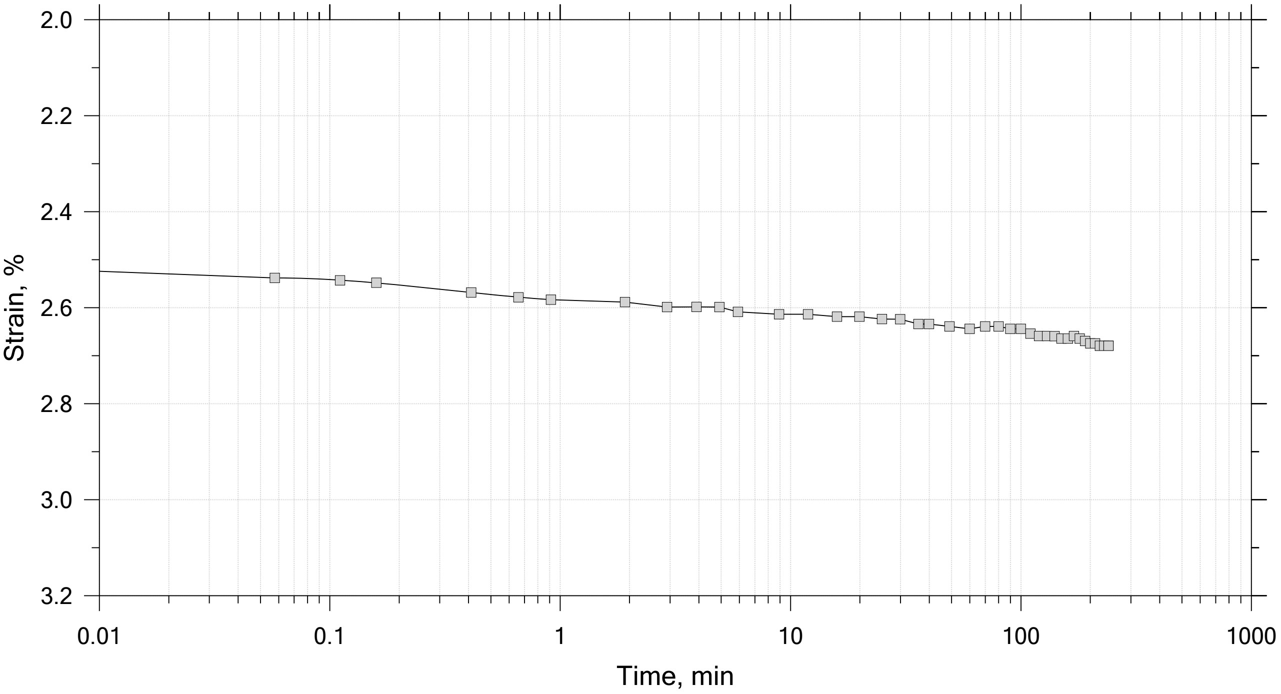
Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

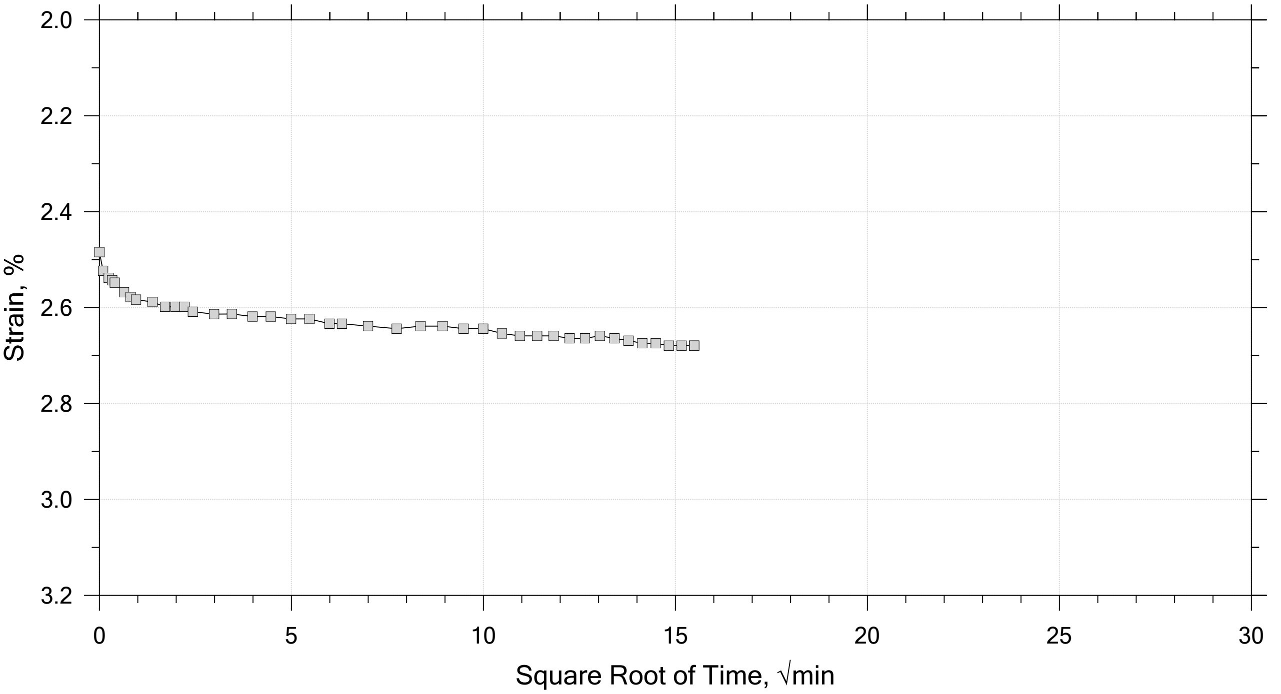
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





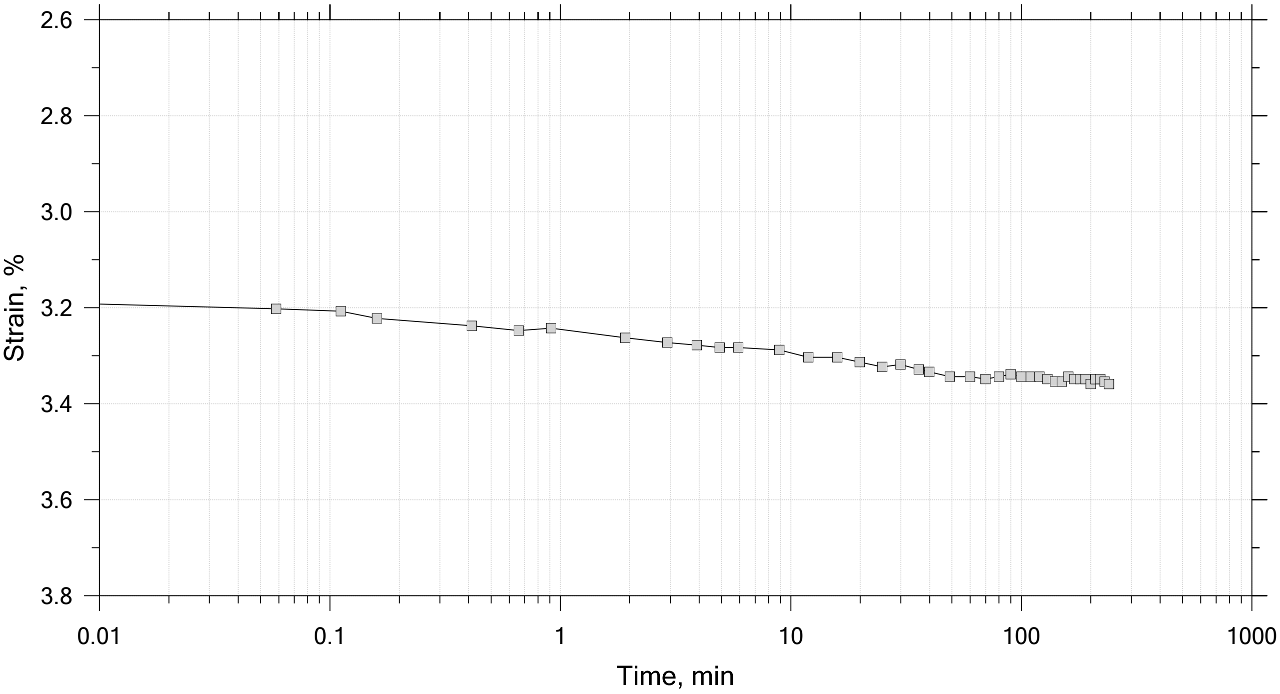
GeoTesting EXPRESS	Project: SFWF	Location:	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
	Test No.: IP-3	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System O, Swell Pressure = 0.0723 tsf		

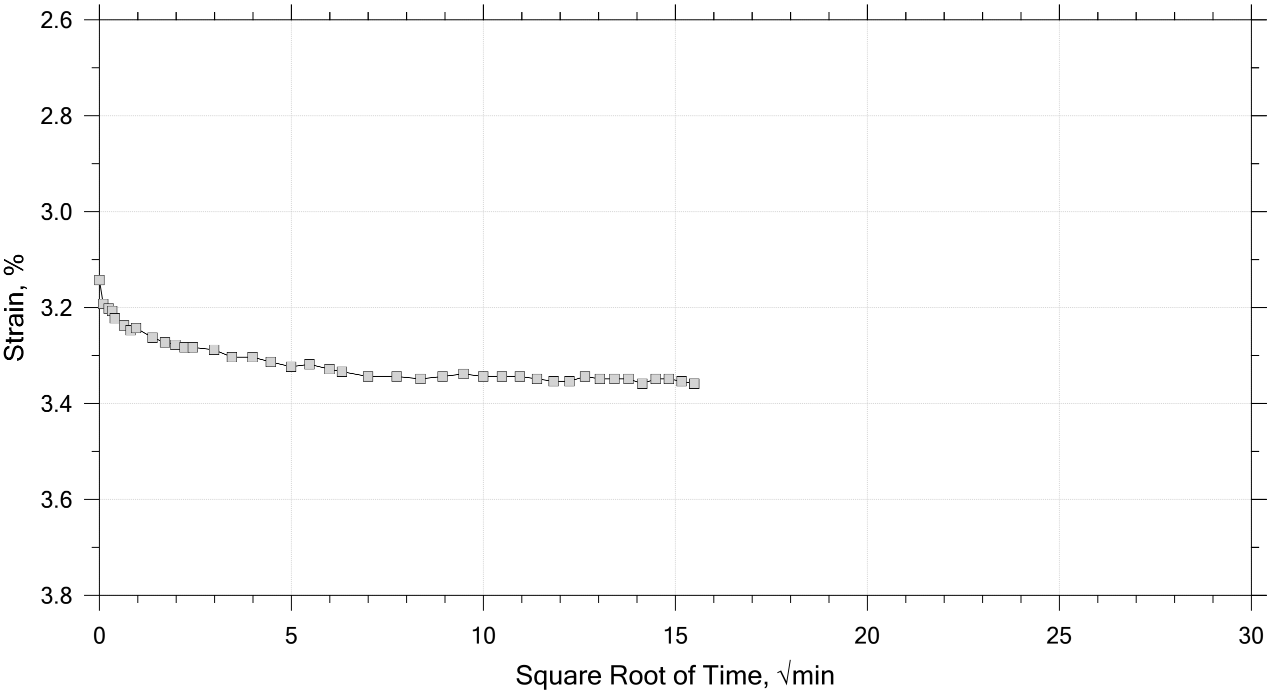
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





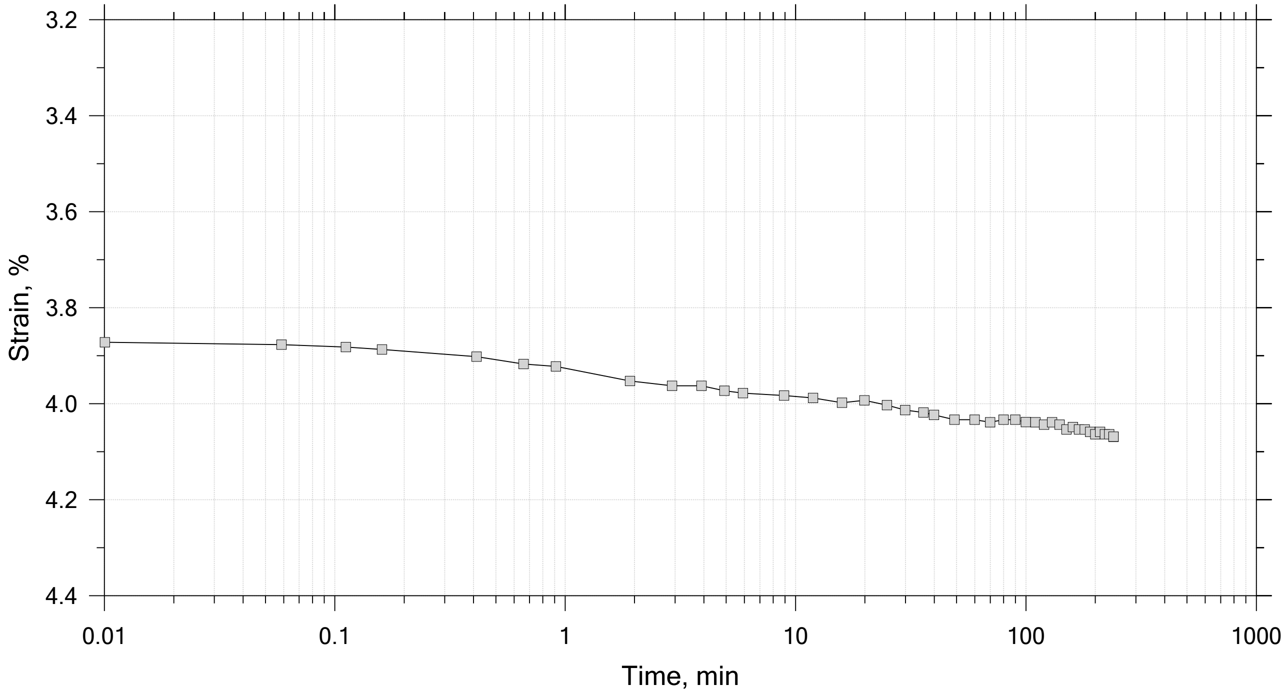
Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

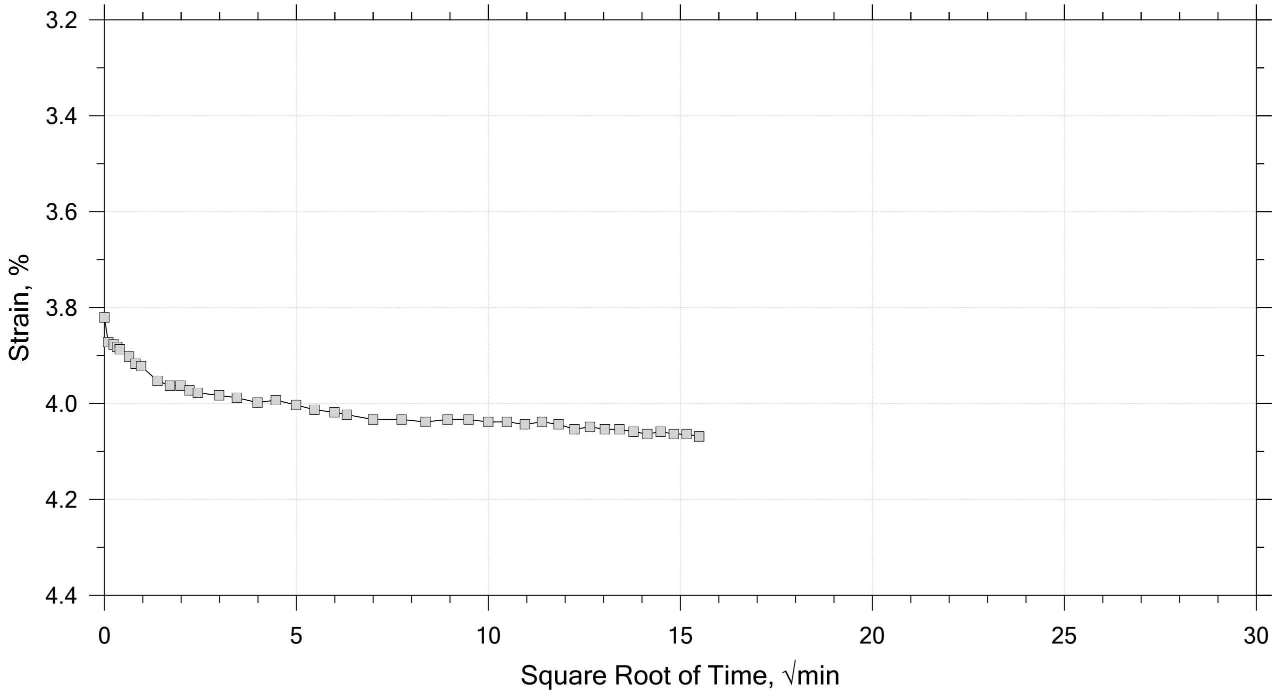
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf





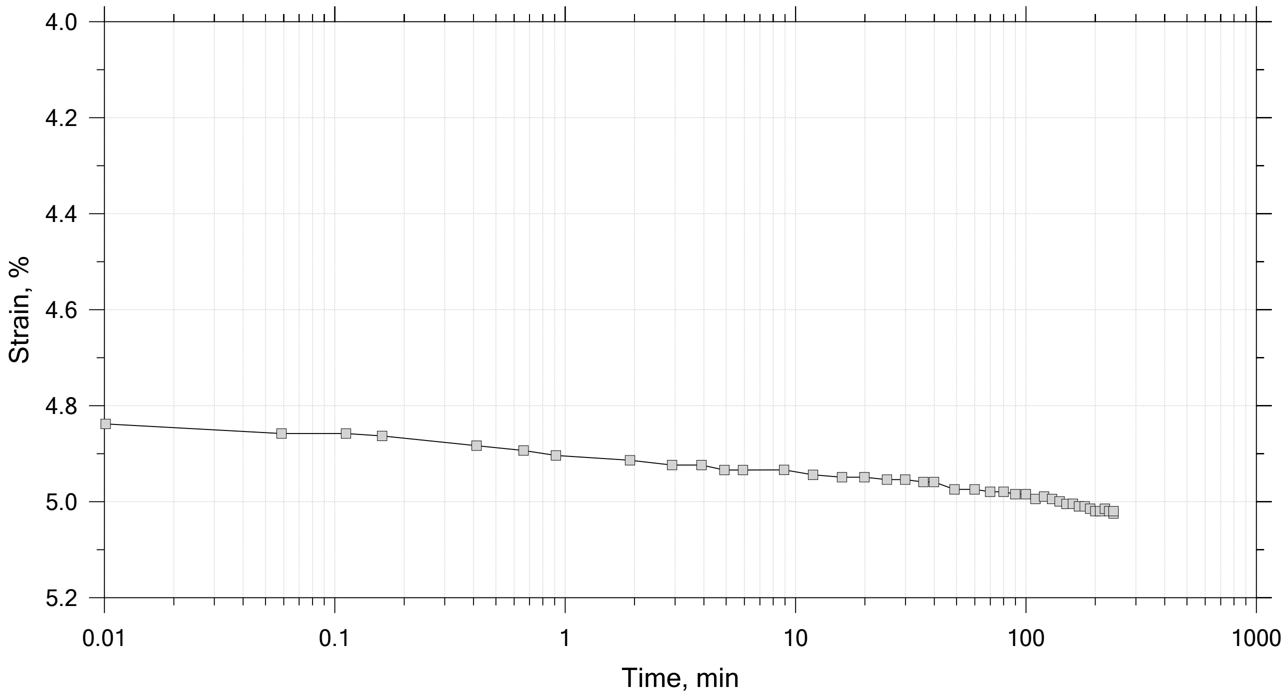
GeoTesting EXPRESS	Project: SFWF	Location:	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
	Test No.: IP-3	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System O, Swell Pressure = 0.0723 tsf		

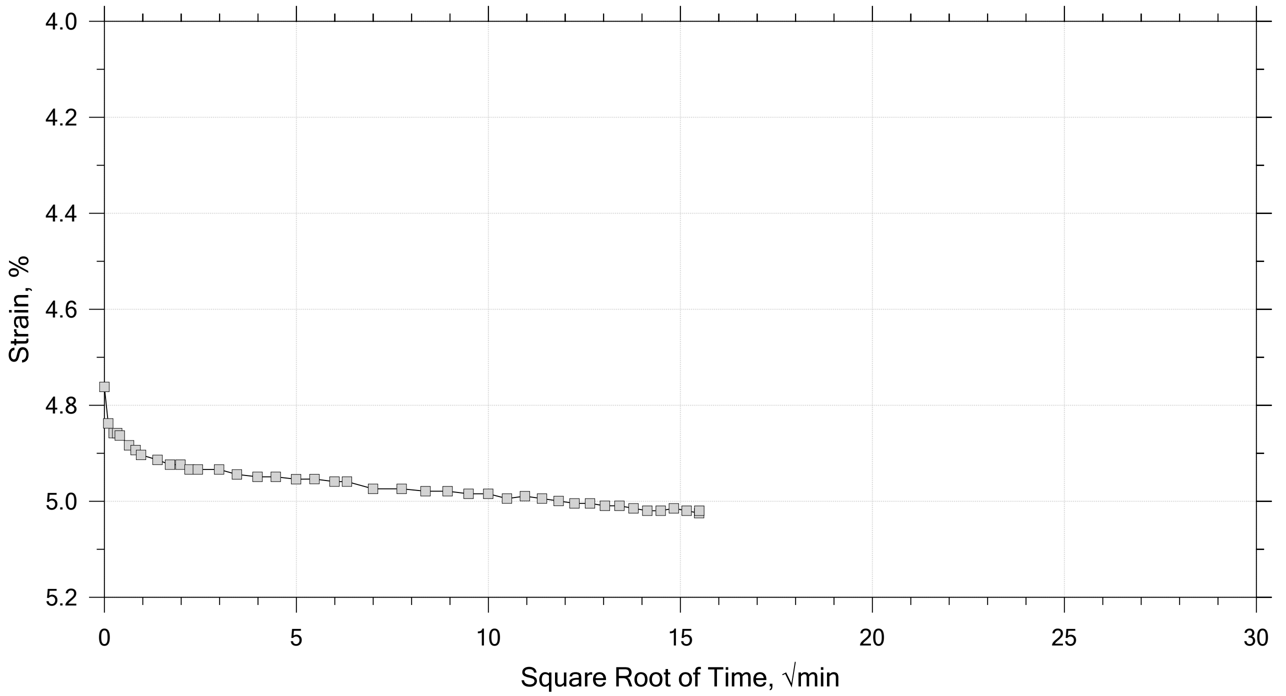
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15

Constant Load Step

Stress: 16 tsf





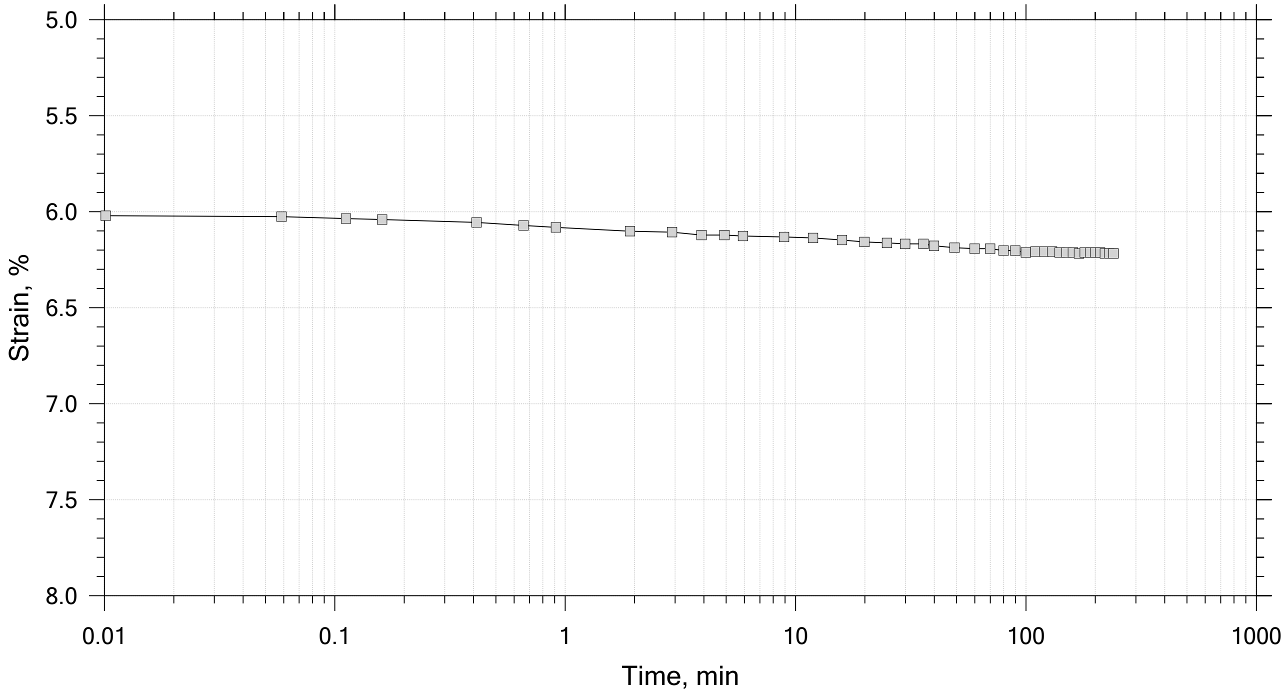
Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

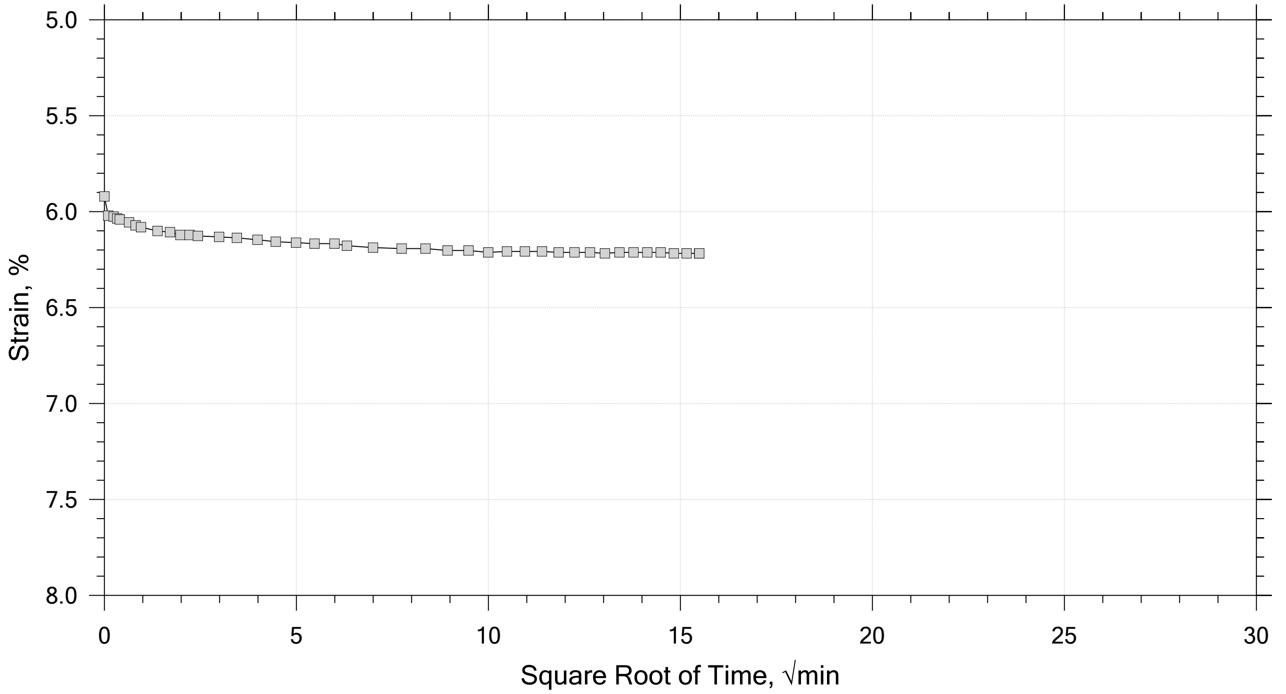
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf

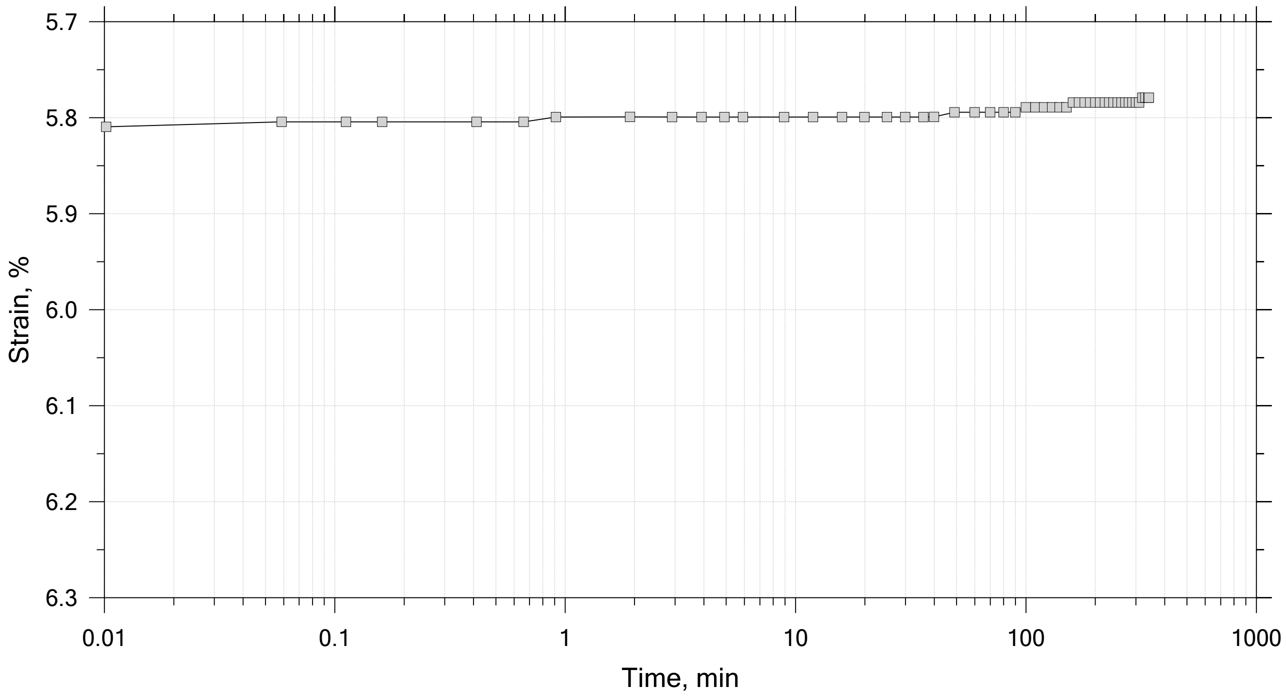


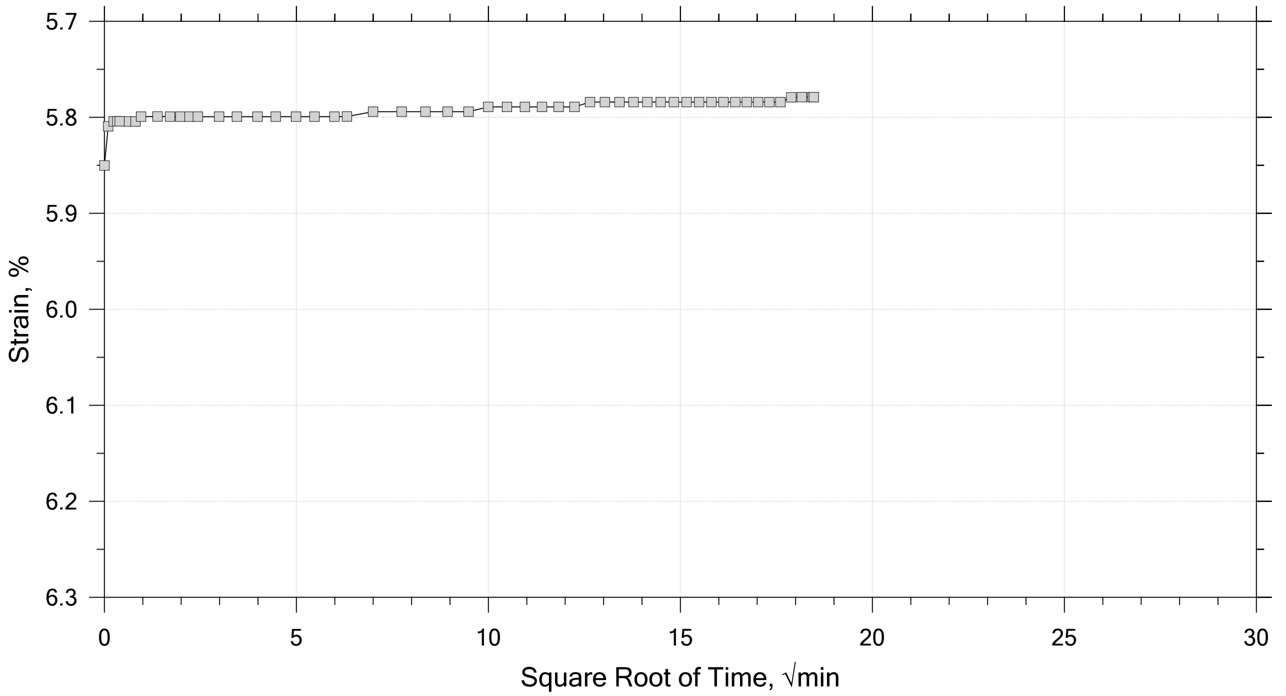


Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15
Constant Load Step
Stress: 8 tsf





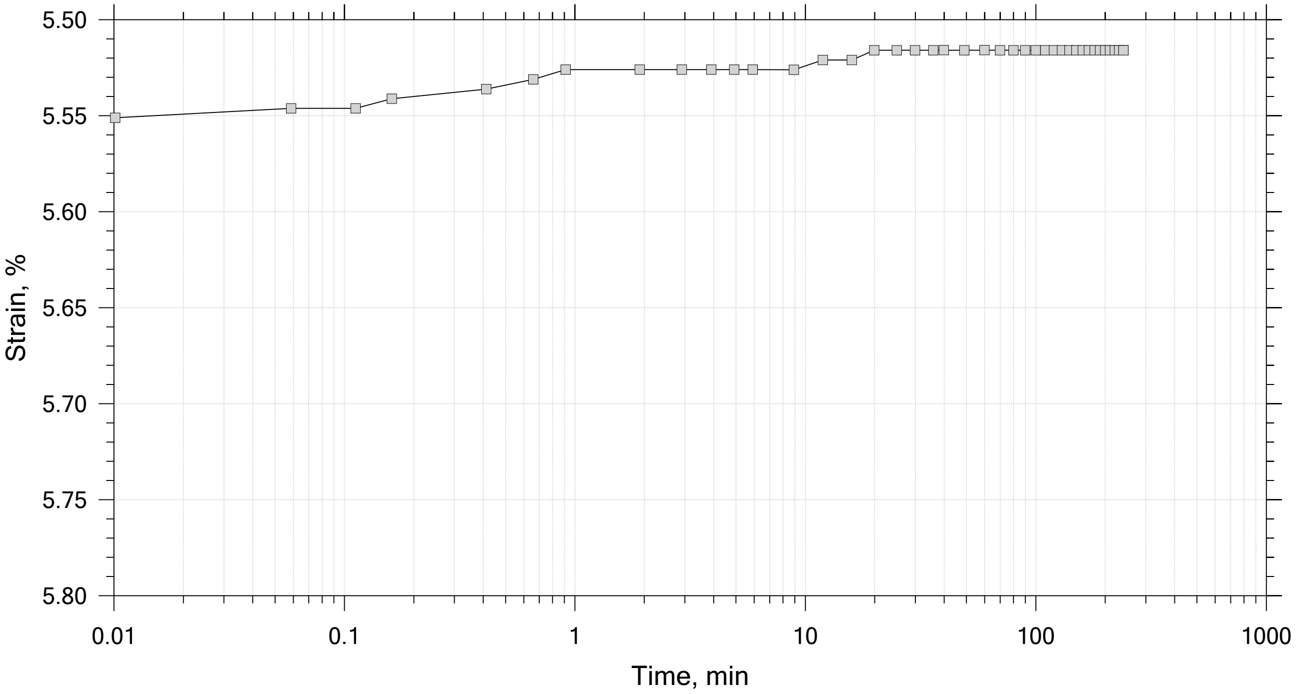
GeoTesting EXPRESS	Project: SFWF	Location:	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
	Test No.: IP-3	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System O, Swell Pressure = 0.0723 tsf		

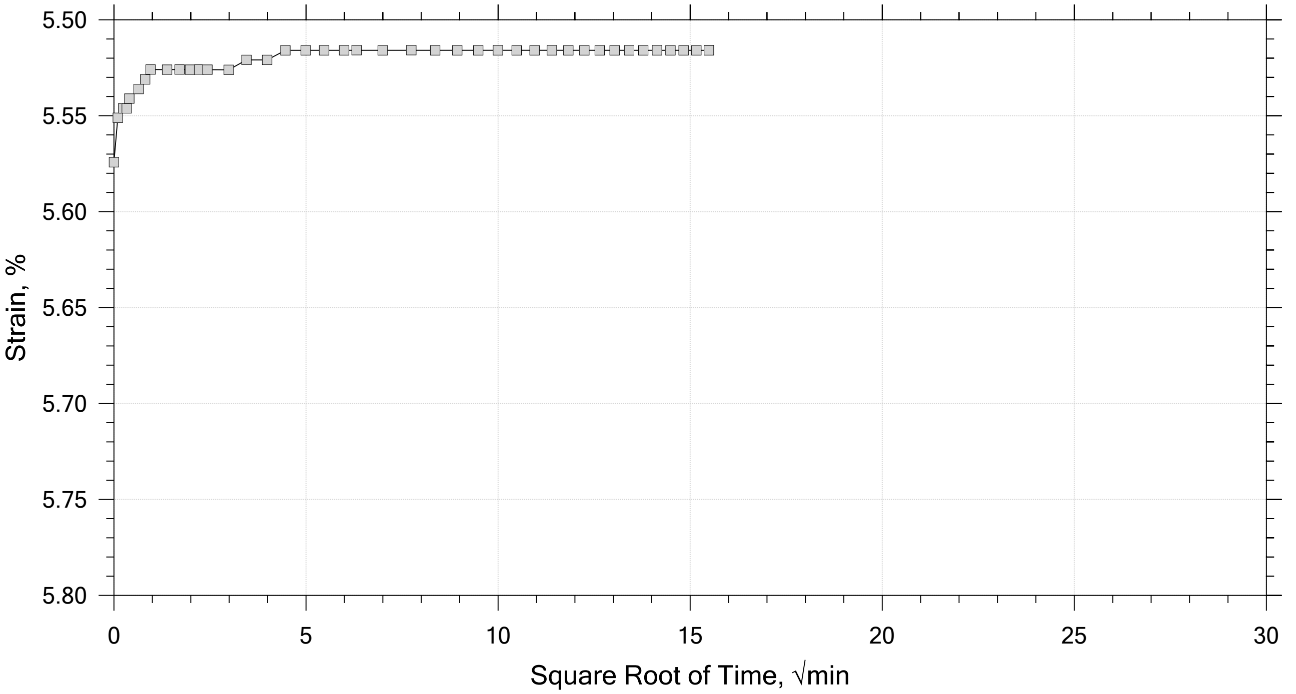
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15

Constant Load Step

Stress: 2 tsf





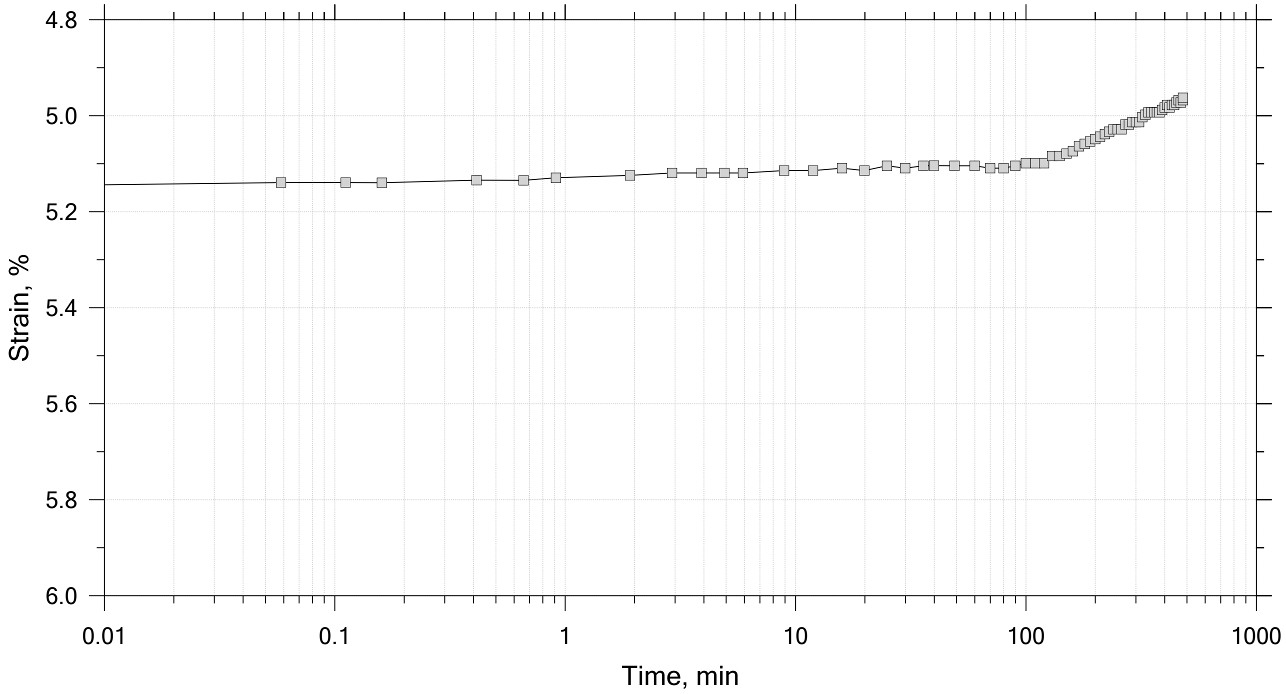
Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

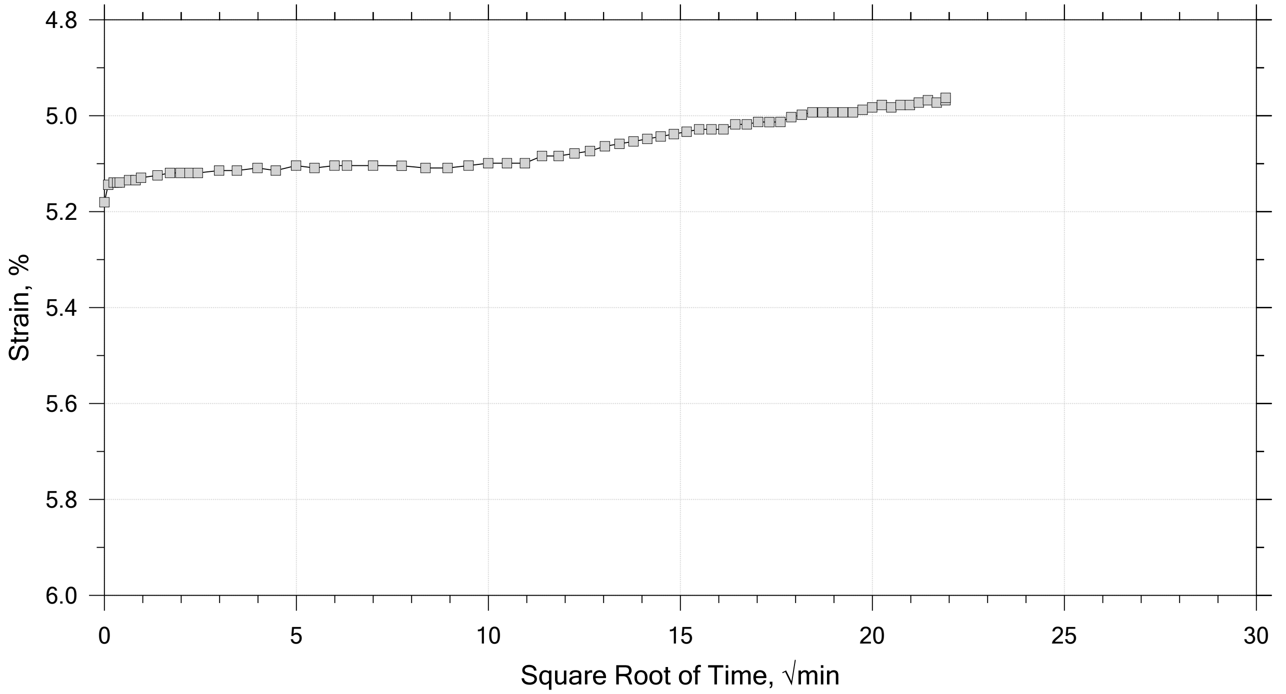
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf

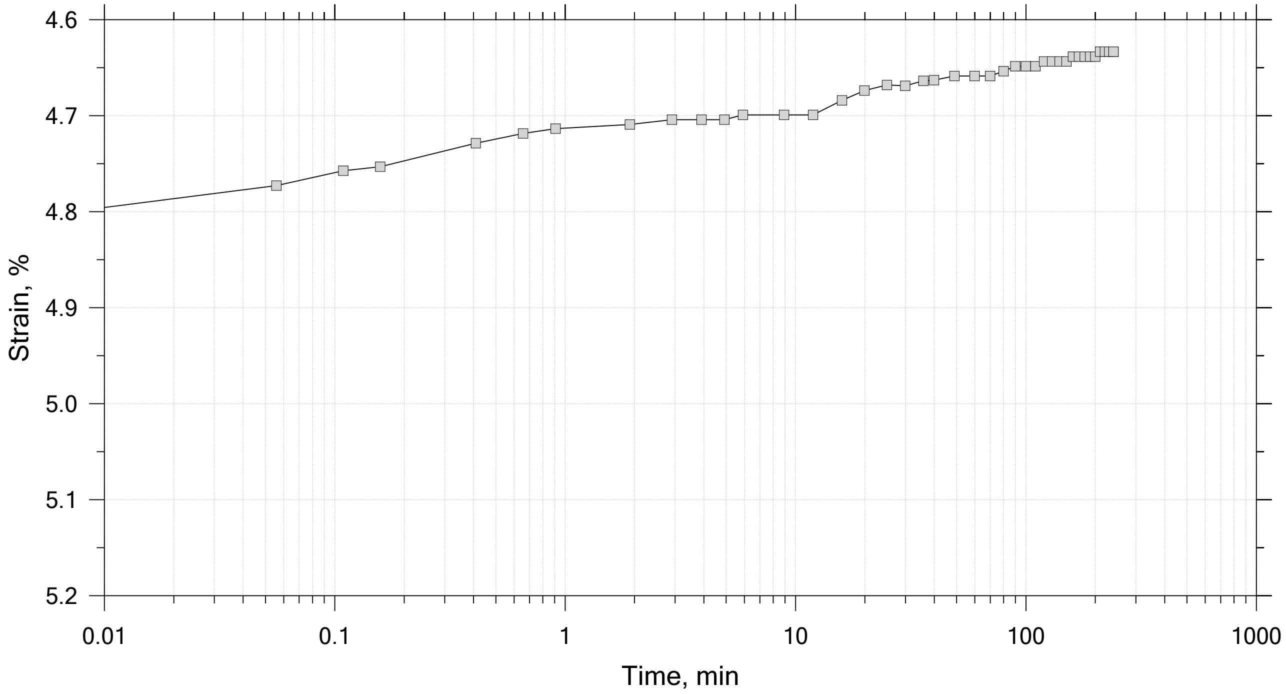


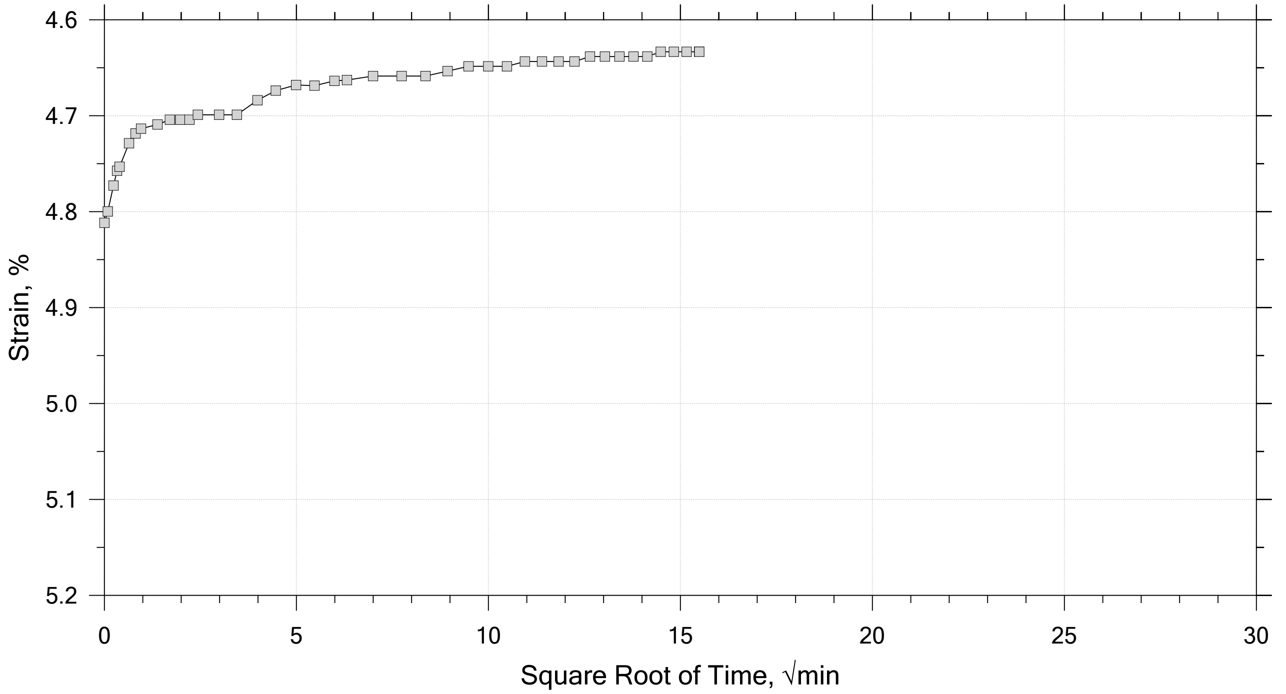


GeoTesting EXPRESS	Project: SFWF	Location:	Project No.: GTX-308764
	Boring No.: B-10	Tested By: md	Checked By: mcm
	Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
	Test No.: IP-3	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System O, Swell Pressure = 0.0723 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15
Constant Load Step
Stress: 0.125 tsf





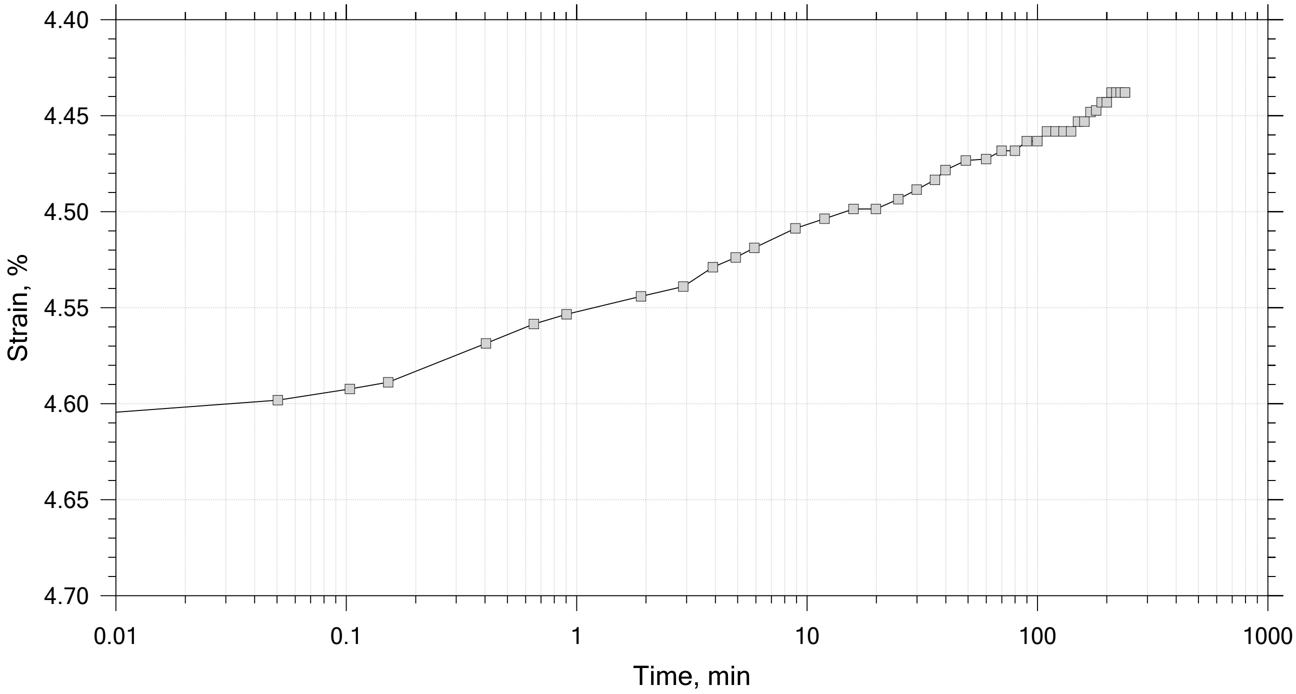
Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

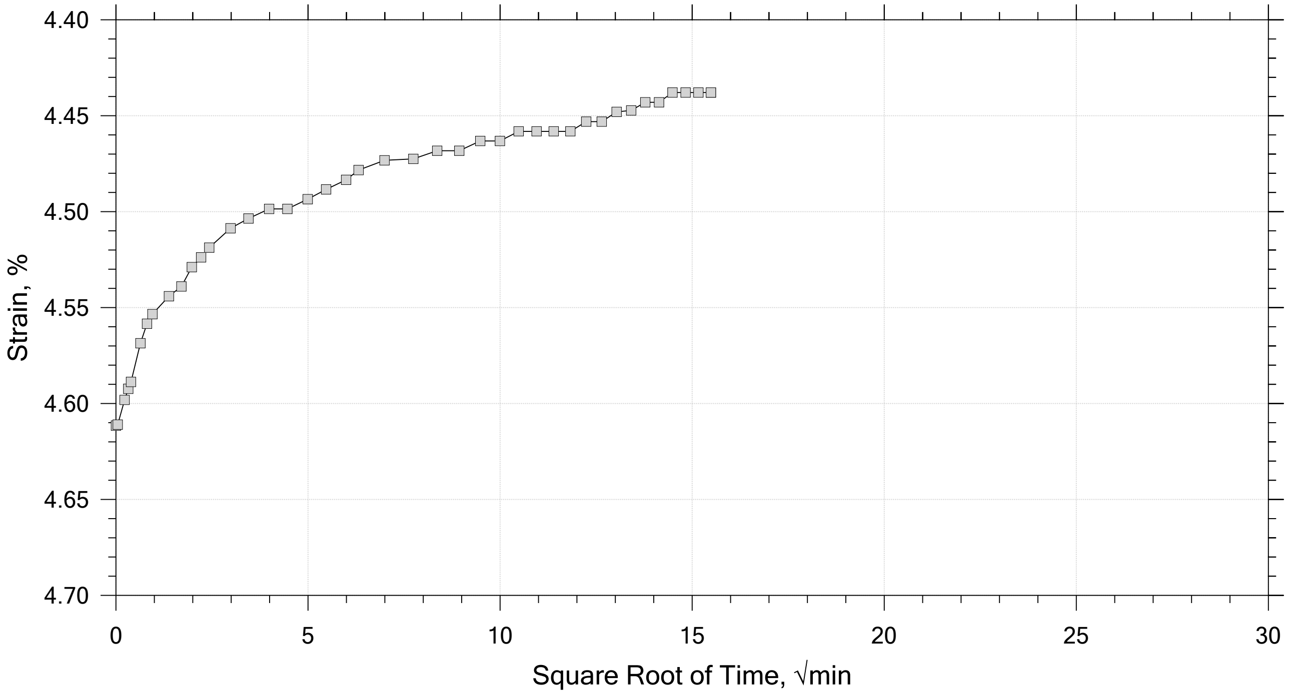
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15

Constant Load Step

Stress: 0.0625 tsf





Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 2.50 in	Estimated Specific Gravity: 2.77	Liquid Limit: 43
Initial Height: 1.00 in	Initial Void Ratio: 0.737	Plastic Limit: 23
Final Height: 0.96 in	Final Void Ratio: 0.66	Plasticity Index: 20

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	D-2383	RING		D-2310
Mass Container, gm	8.28	109.38	109.38	8.31
Mass Container + Wet Soil, gm	132.85	271.54	268.13	166.77
Mass Container + Dry Soil, gm	108.04	237.57	237.57	136.27
Mass Dry Soil, gm	99.76	128.19	128.19	127.96
Water Content, %	24.87	26.50	23.84	23.84
Void Ratio	---	0.74	0.66	---
Degree of Saturation, %	---	99.53	100.00	---
Dry Unit Weight, pcf	---	99.489	104.11	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System O, Swell Pressure = 0.0723 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/s	Mv 1/tsf	k ft/day	Ca %
1	0.0723	0.006521	0.726	0.652	0.000	0.00e+00	9.02e-02	0.00e+00	0.00e+00
2	0.125	0.008599	0.722	0.860	0.000	0.00e+00	3.94e-02	0.00e+00	0.00e+00
3	0.250	0.01214	0.716	1.21	0.000	0.00e+00	2.83e-02	0.00e+00	0.00e+00
4	0.500	0.01595	0.709	1.59	0.000	0.00e+00	1.52e-02	0.00e+00	0.00e+00
5	1.00	0.02087	0.701	2.09	0.000	0.00e+00	9.84e-03	0.00e+00	0.00e+00
6	2.00	0.02679	0.690	2.68	0.000	0.00e+00	5.93e-03	0.00e+00	0.00e+00
7	4.00	0.03359	0.678	3.36	0.000	0.00e+00	3.40e-03	0.00e+00	0.00e+00
8	8.00	0.04069	0.666	4.07	0.000	0.00e+00	1.77e-03	0.00e+00	0.00e+00
9	16.0	0.05020	0.650	5.02	0.000	0.00e+00	1.19e-03	0.00e+00	0.00e+00
10	32.0	0.06218	0.629	6.22	0.000	0.00e+00	7.49e-04	0.00e+00	0.00e+00
11	8.00	0.05779	0.636	5.78	0.000	0.00e+00	1.83e-04	0.00e+00	0.00e+00
12	2.00	0.05516	0.641	5.52	0.000	0.00e+00	4.39e-04	0.00e+00	0.00e+00
13	0.500	0.04963	0.651	4.96	195.865	2.61e-08	3.69e-03	2.60e-07	0.00e+00
14	0.125	0.04633	0.656	4.63	0.000	0.00e+00	8.78e-03	0.00e+00	0.00e+00
15	0.0625	0.04438	0.660	4.44	0.000	0.00e+00	3.13e-02	0.00e+00	0.00e+00

Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---

Description: Moist, dark gray clay

Remarks: System O, Swell Pressure = 0.0723 tsf

Displacement at End of Increment

One-Dimensional Consolidation by ASTM D2435 - Method B

Square Root of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0723	0.006521	0.726	0.652	183.237	1.33e-07	9.02e-02	3.24e-05
2	0.125	0.008599	0.722	0.860	206.356	1.17e-07	3.94e-02	1.24e-05
3	0.250	0.01214	0.716	1.21	1.901	1.26e-05	2.83e-02	9.66e-04
4	0.500	0.01595	0.709	1.59	19.253	1.24e-06	1.52e-02	5.08e-05
5	1.00	0.02087	0.701	2.09	183.077	1.29e-07	9.84e-03	3.43e-06
6	2.00	0.02679	0.690	2.68	182.344	1.28e-07	5.93e-03	2.05e-06
7	4.00	0.03359	0.678	3.36	24.834	9.29e-07	3.40e-03	8.51e-06
8	8.00	0.04069	0.666	4.07	48.913	4.65e-07	1.77e-03	2.23e-06
9	16.0	0.05020	0.650	5.02	184.895	1.21e-07	1.19e-03	3.88e-07
10	32.0	0.06218	0.629	6.22	24.534	8.91e-07	7.49e-04	1.80e-06
11	8.00	0.05779	0.636	5.78	0.000	0.00e+00	1.83e-04	0.00e+00
12	2.00	0.05516	0.641	5.52	0.911	2.40e-05	4.39e-04	2.84e-05
13	0.500	0.04963	0.651	4.96	0.000	0.00e+00	3.69e-03	0.00e+00
14	0.125	0.04633	0.656	4.63	48.910	4.55e-07	8.78e-03	1.08e-05
15	0.0625	0.04438	0.660	4.44	28.605	7.82e-07	3.13e-02	6.59e-05

Project: SFWF	Location:	Project No.: GTX-308764
Boring No.: B-10	Tested By: md	Checked By: mcm
Sample No.: HPC-17B	Test Date: 11/01/18	Depth:
Test No.: IP-3	Sample Type: intact	Elevation: ---

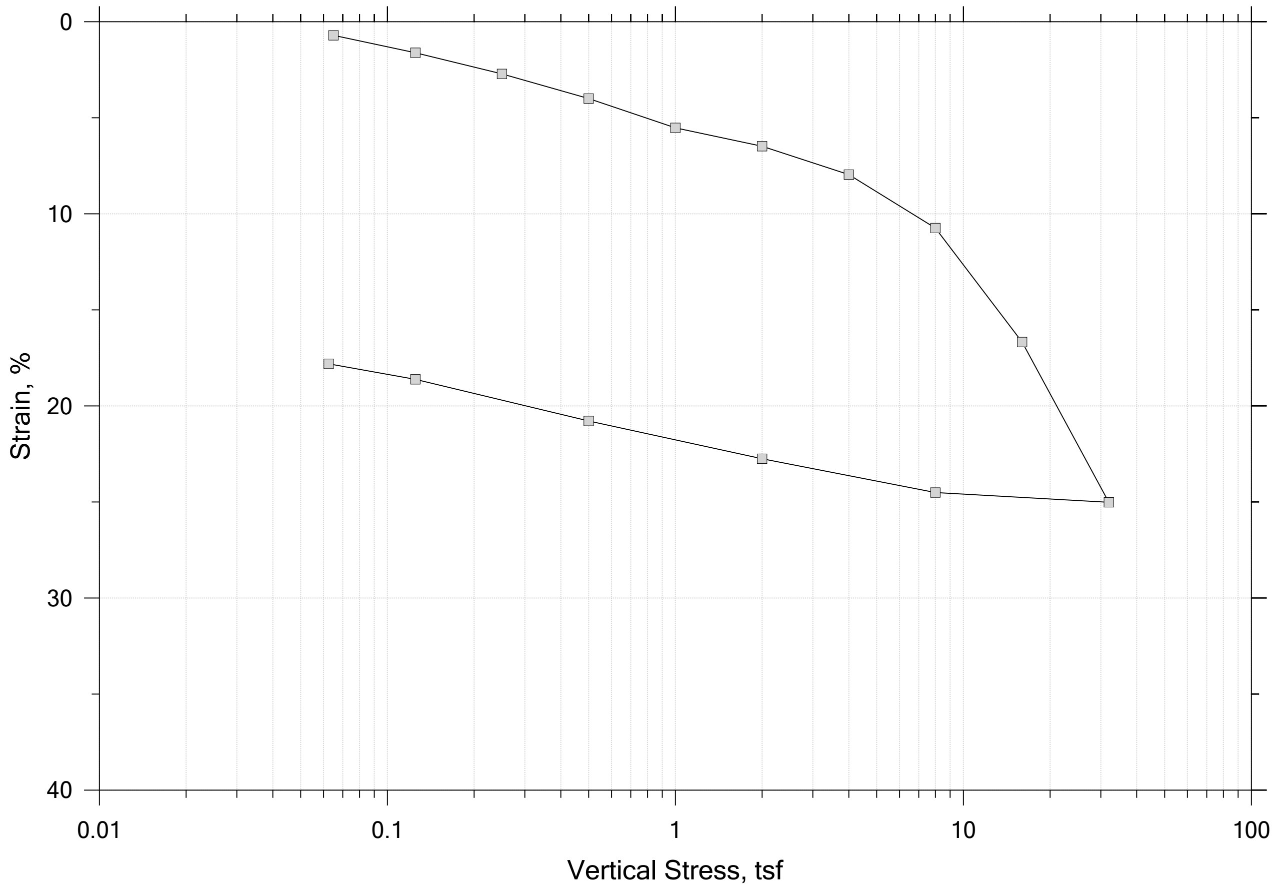
Description: Moist, dark gray clay

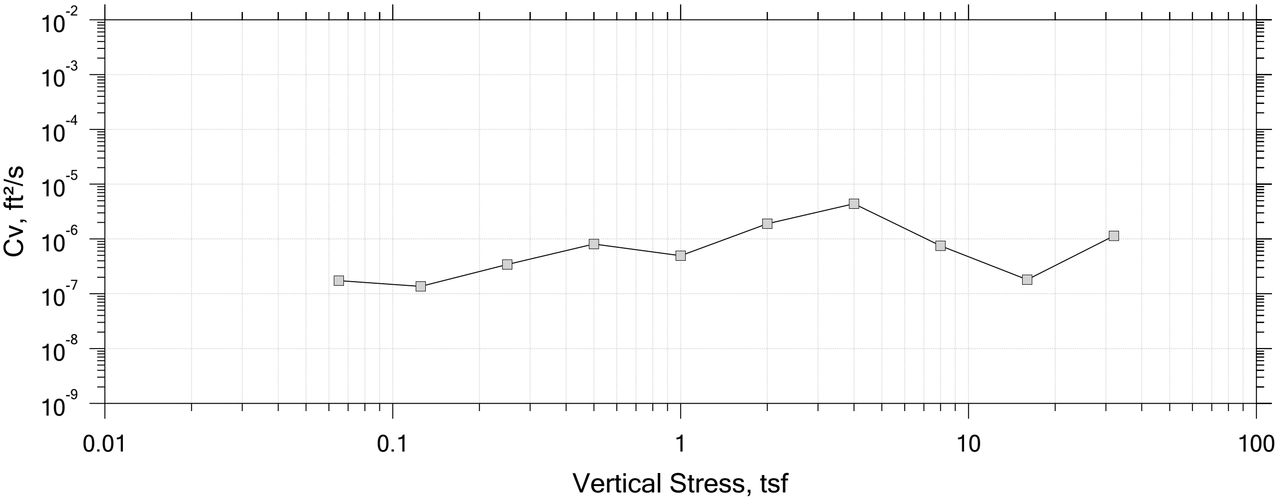
Remarks: System O, Swell Pressure = 0.0723 tsf

Displacement at End of Increment

One-Dimensional Consolidation by ASTM D2435 - Method B

Summary Report





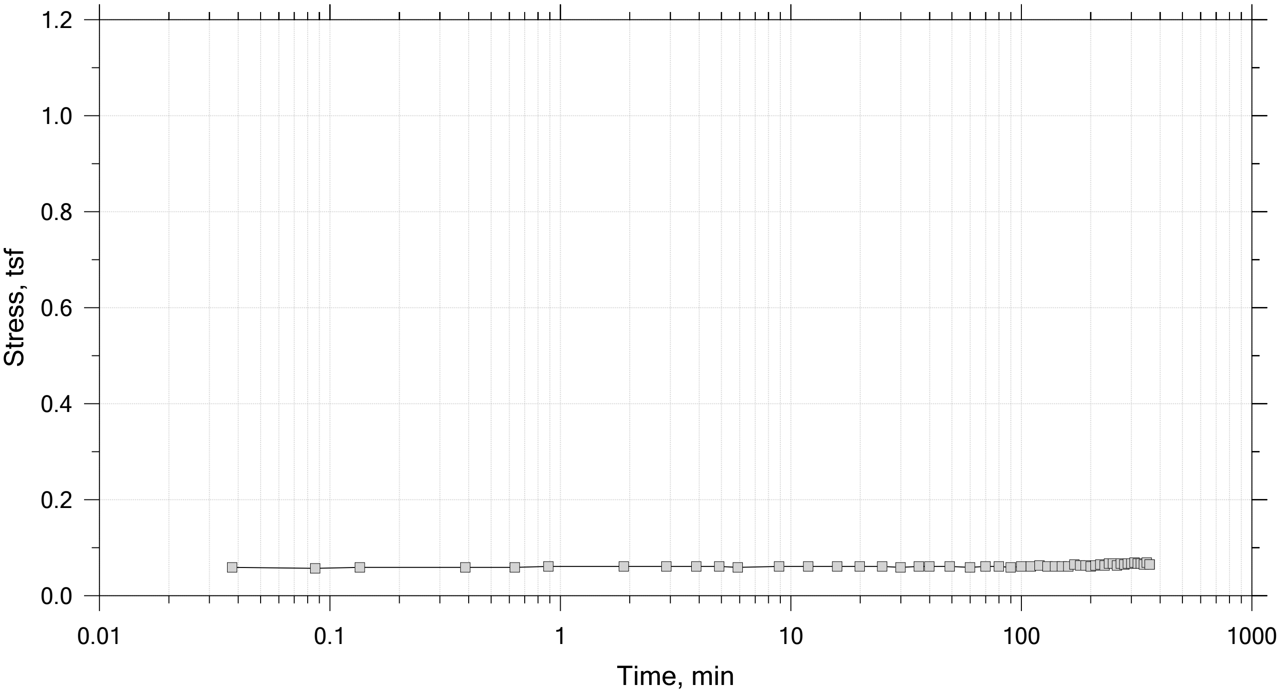
GeoTesting EXPRESS			
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		
	Displacement at 4 hr		

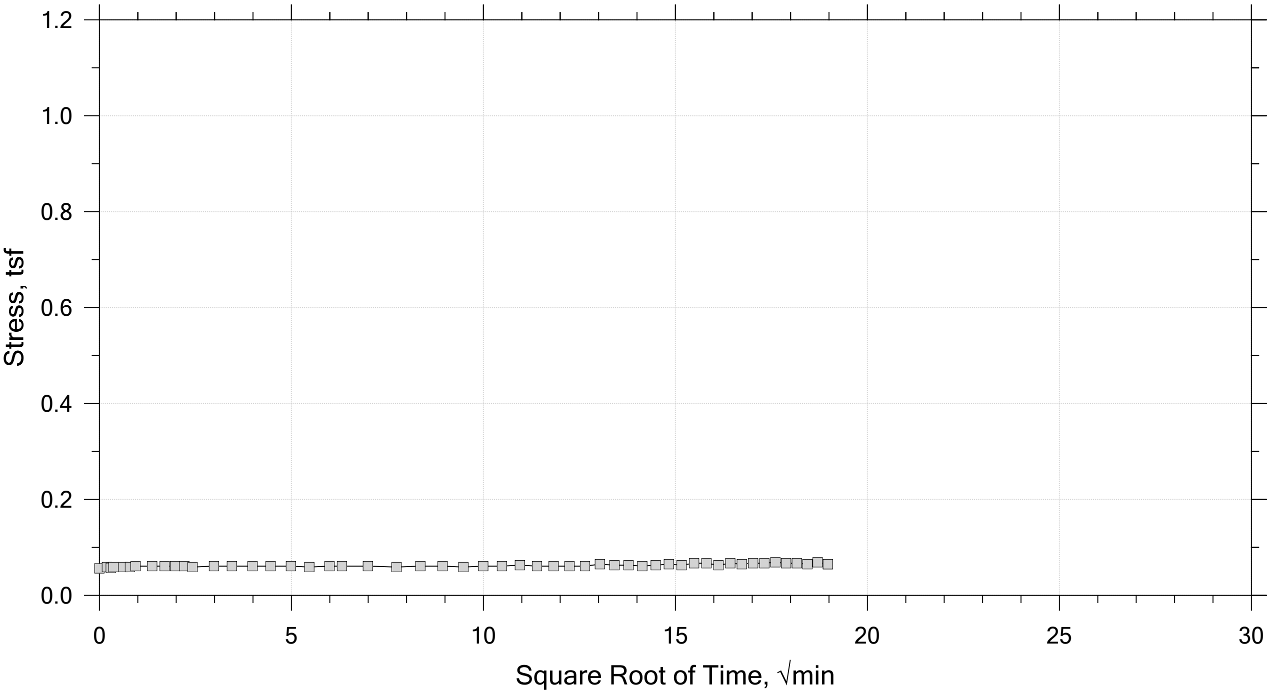
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 1 of 15

Constant Volume Step

Stress: 0.065 tsf





Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---

Description: Moist, dark gray clay

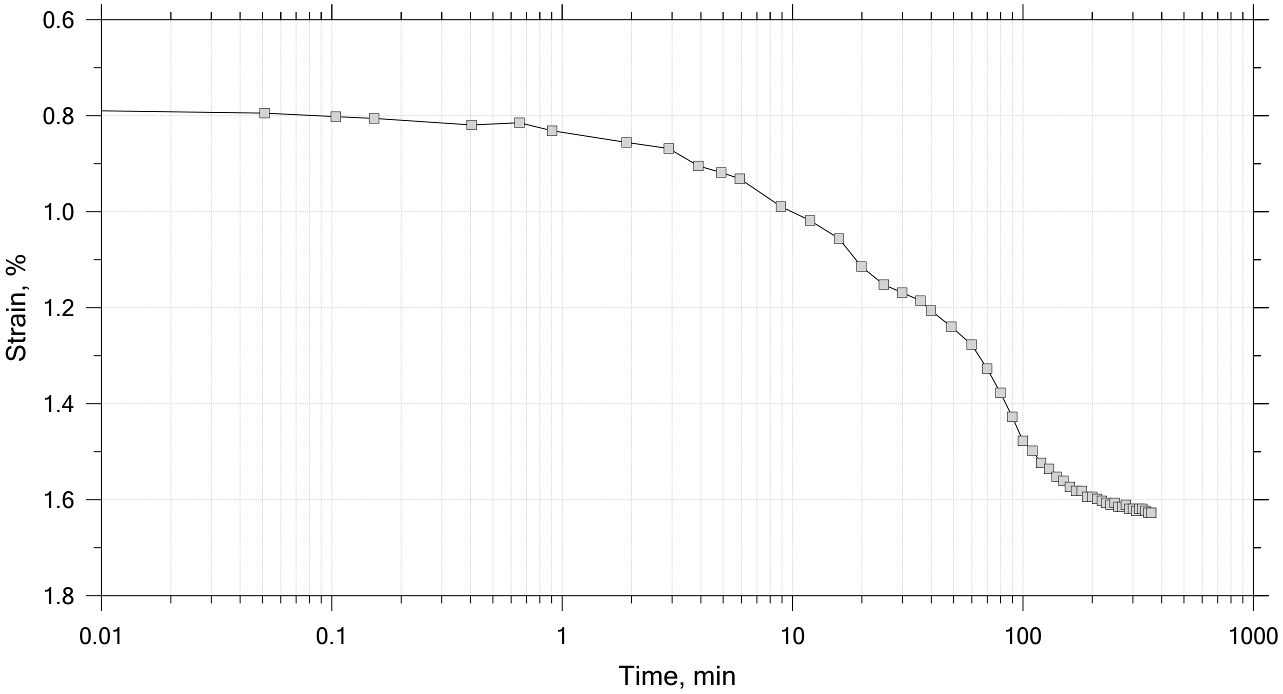
Remarks: System S, Swell Pressure = 0.065 tsf

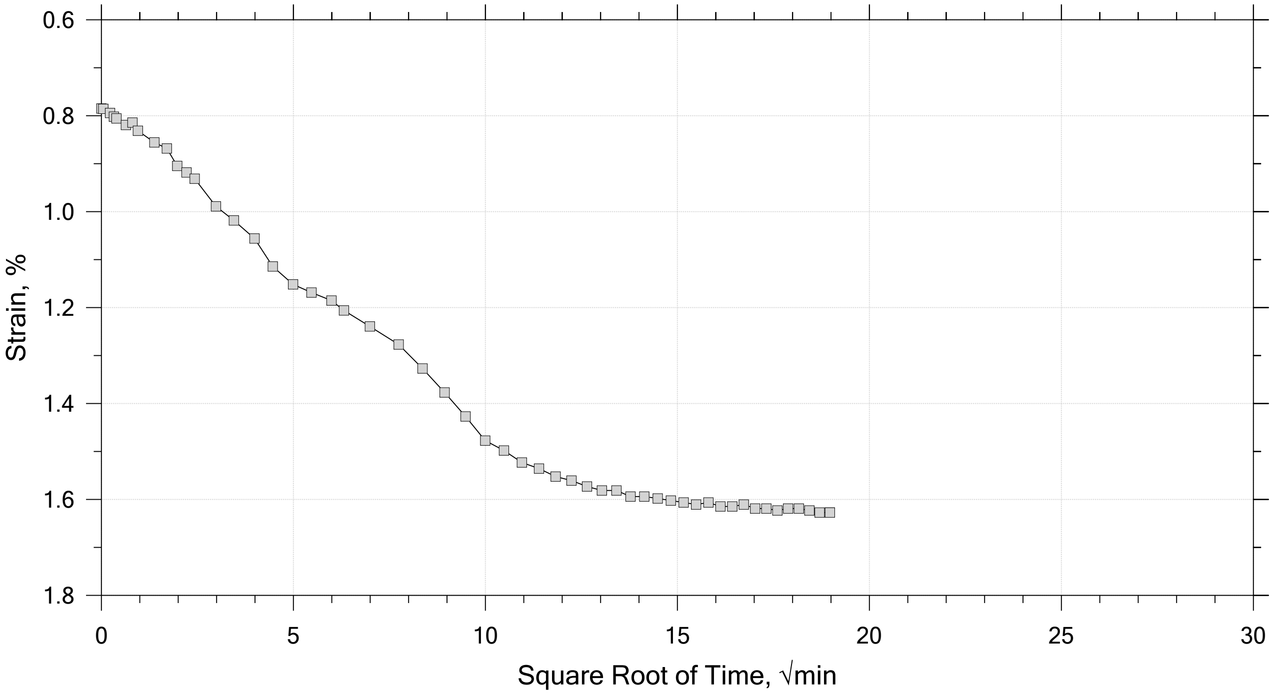
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 2 of 15

Constant Load Step

Stress: 0.125 tsf





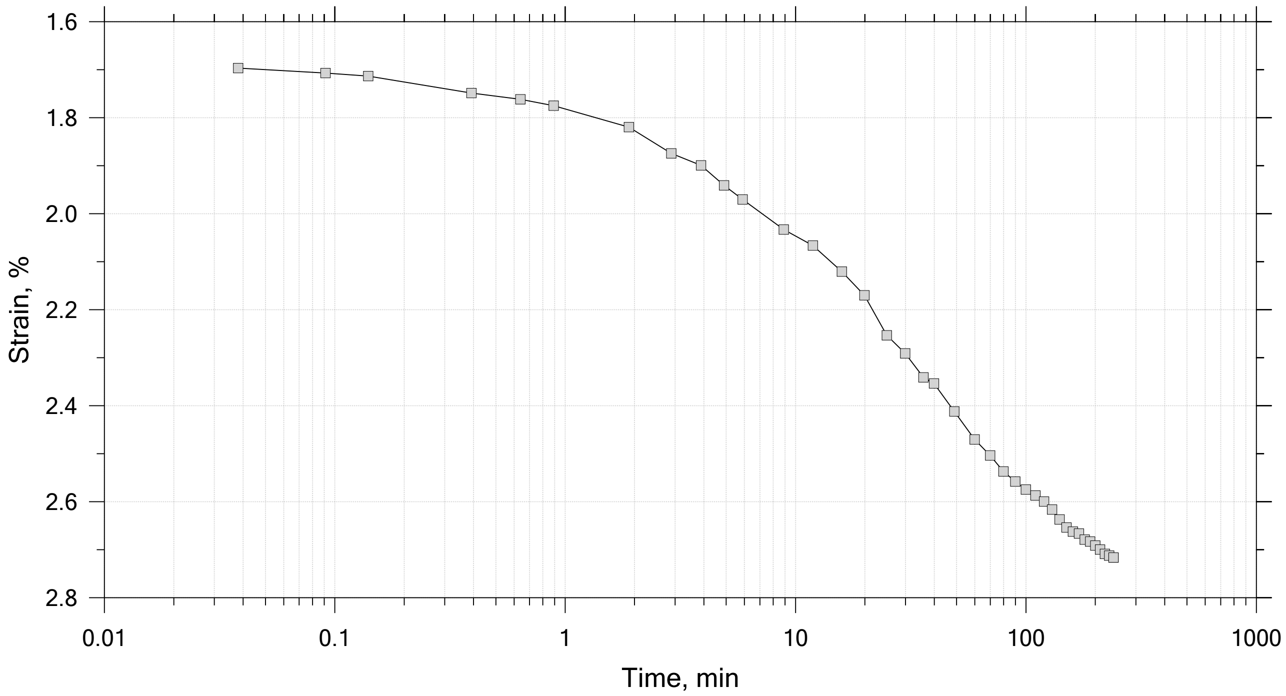
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

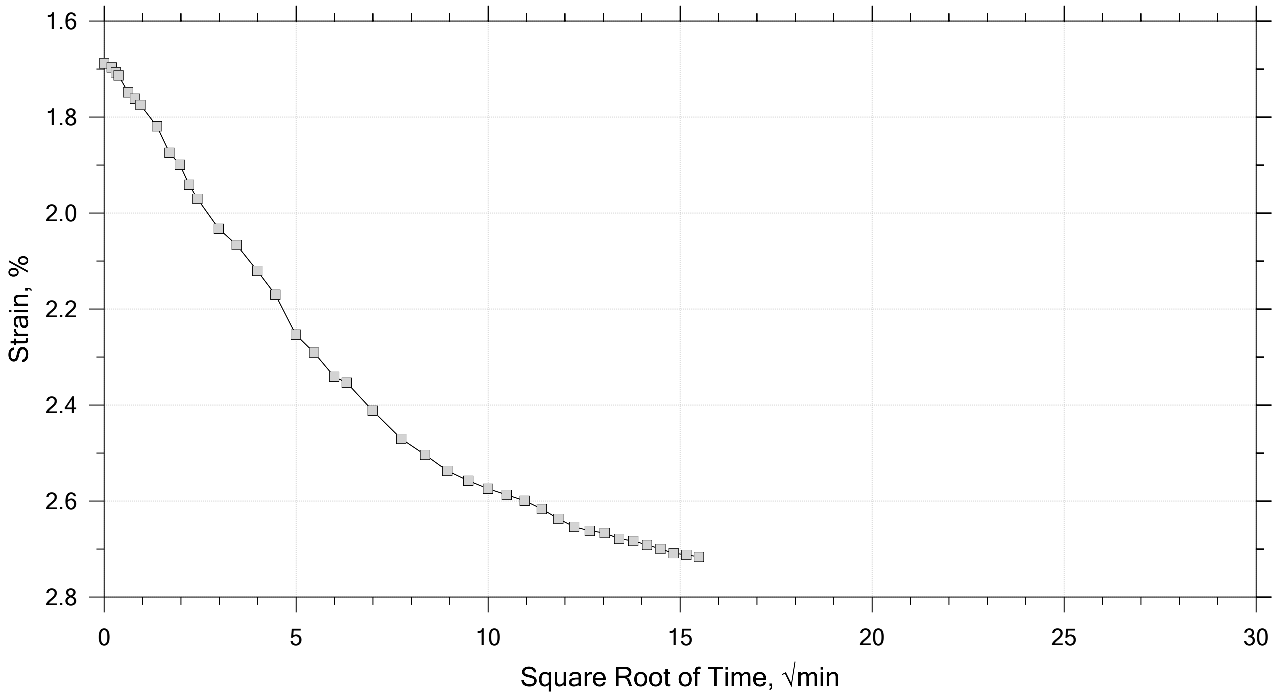
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 3 of 15

Constant Load Step

Stress: 0.25 tsf

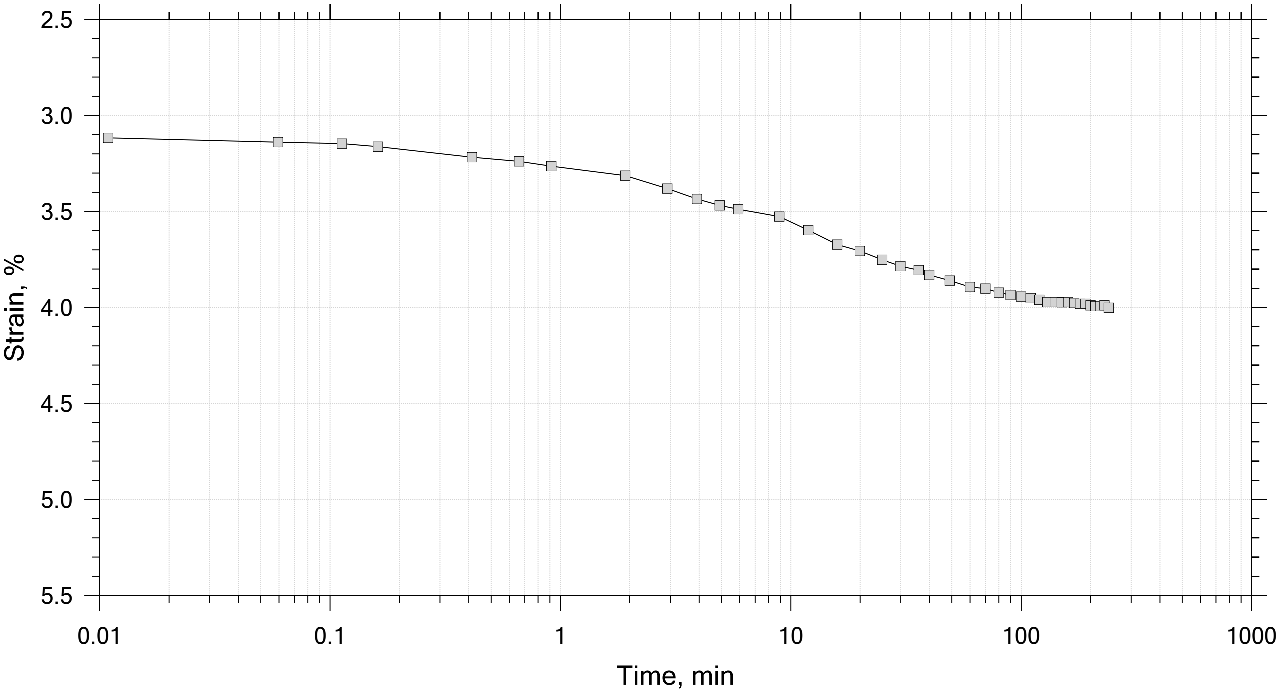


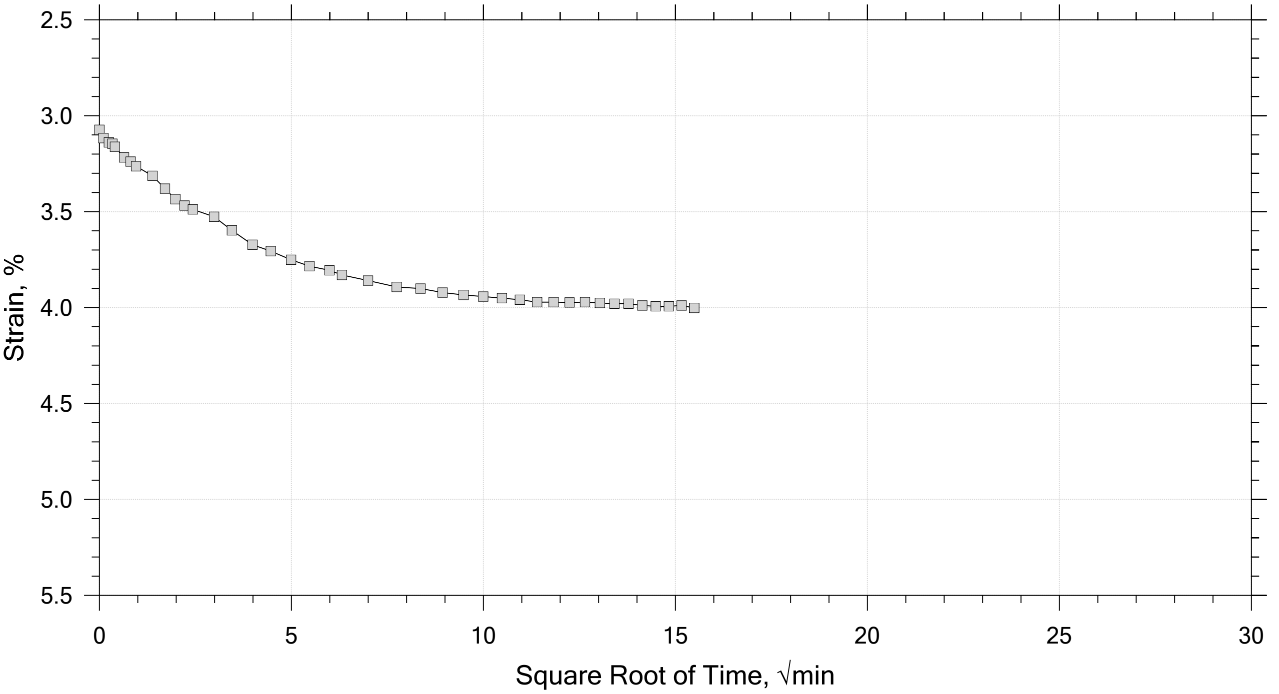


GeoTesting EXPRESS			
	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 4 of 15
Constant Load Step
Stress: 0.5 tsf





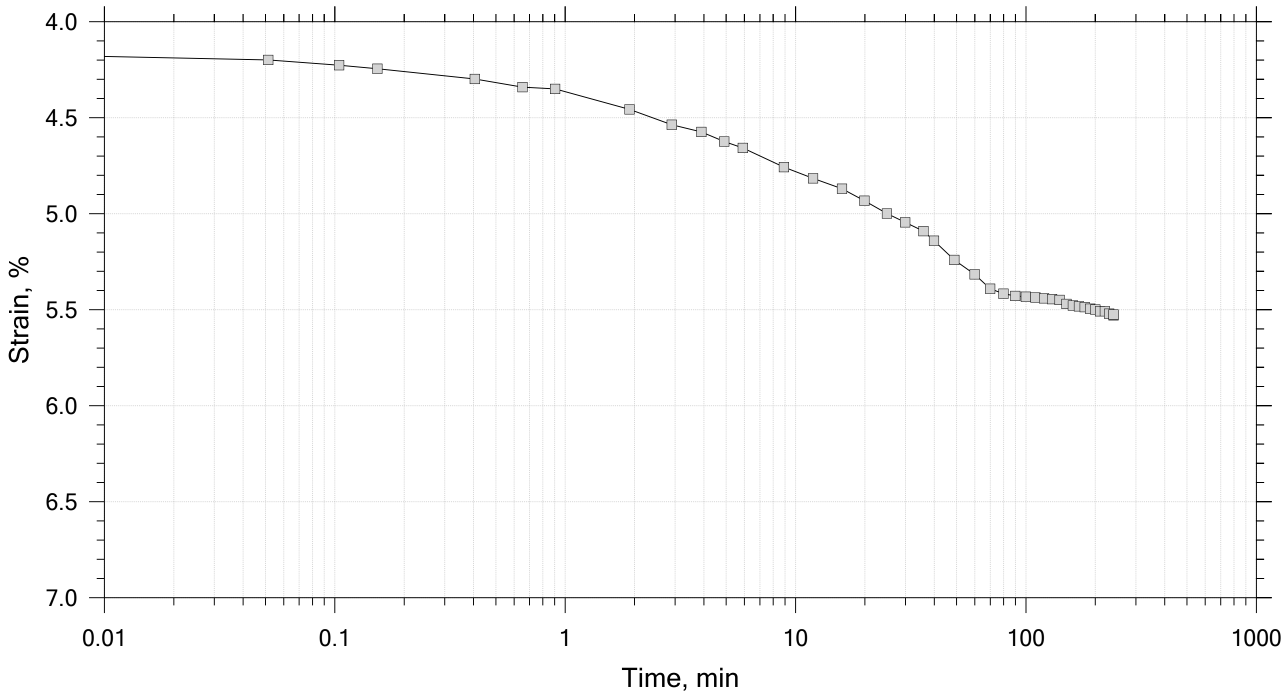
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System S, Swell Pressure = 0.065 tsf		

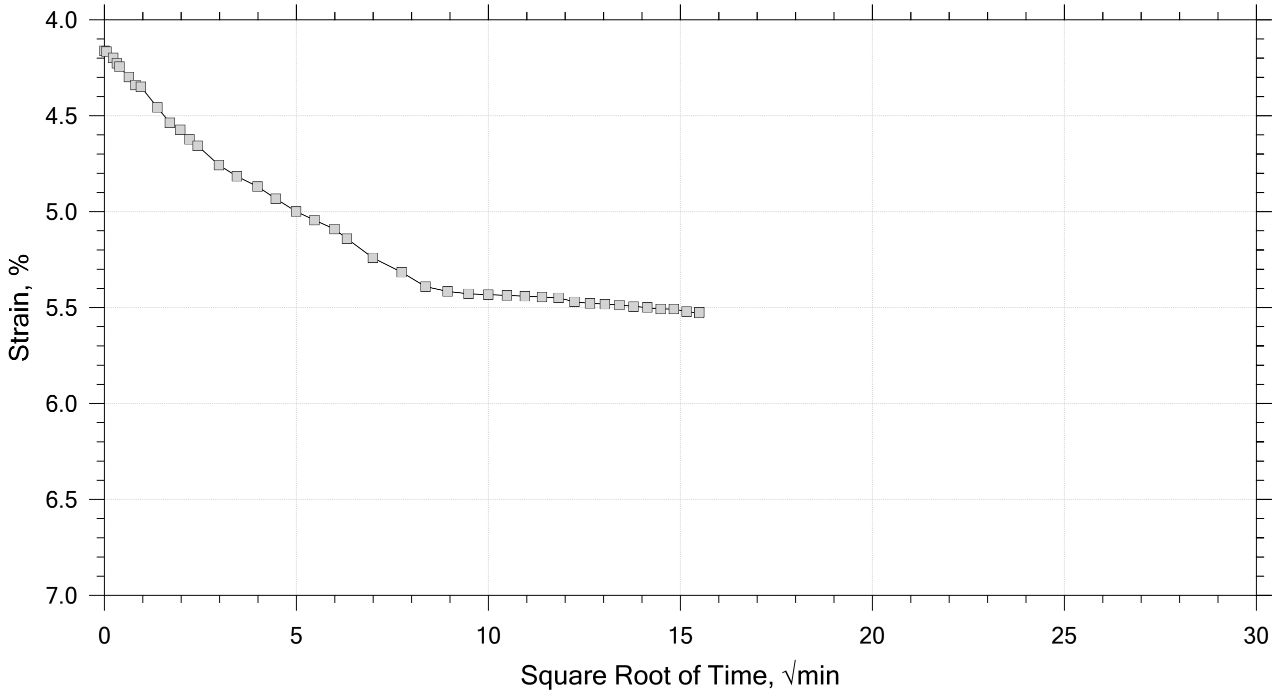
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 5 of 15

Constant Load Step

Stress: 1 tsf





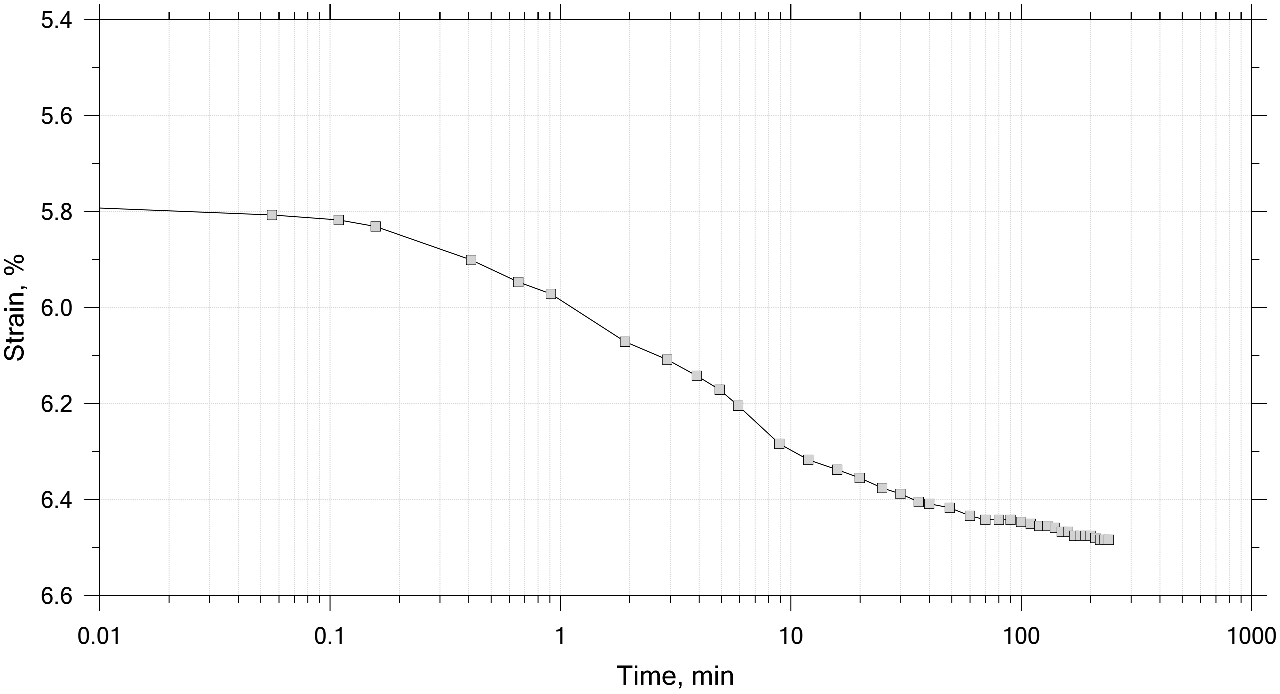
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System S, Swell Pressure = 0.065 tsf		

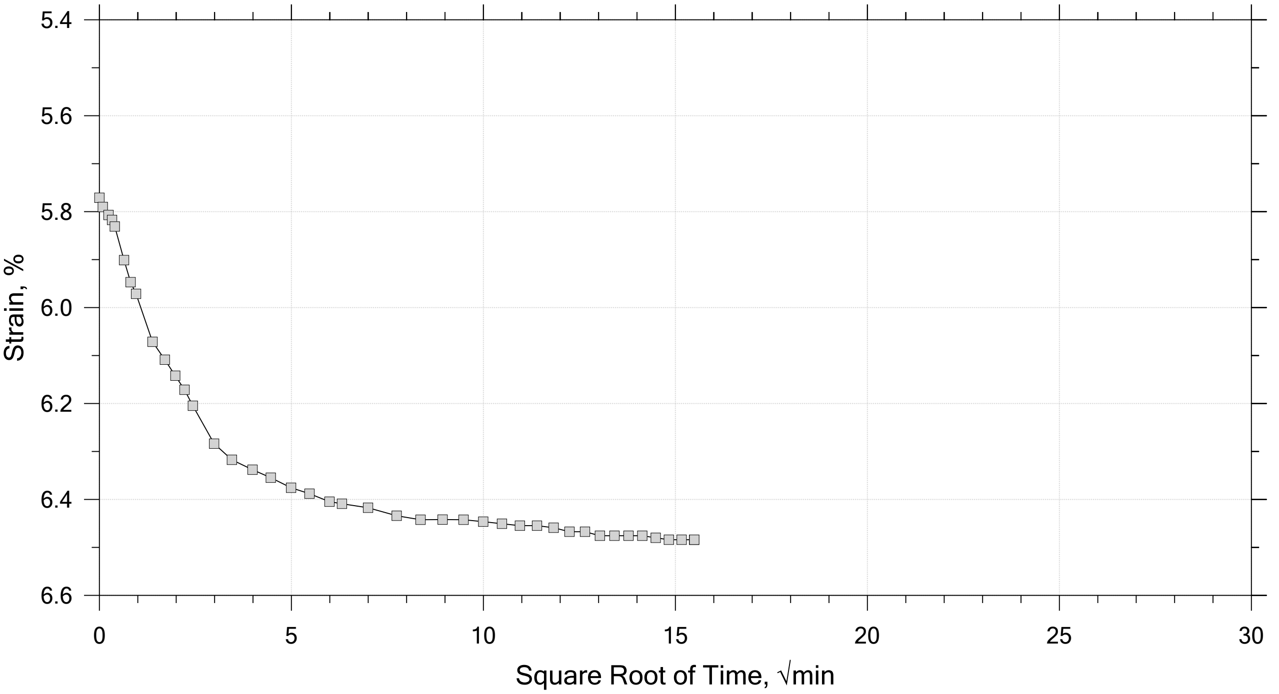
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 6 of 15

Constant Load Step

Stress: 2 tsf





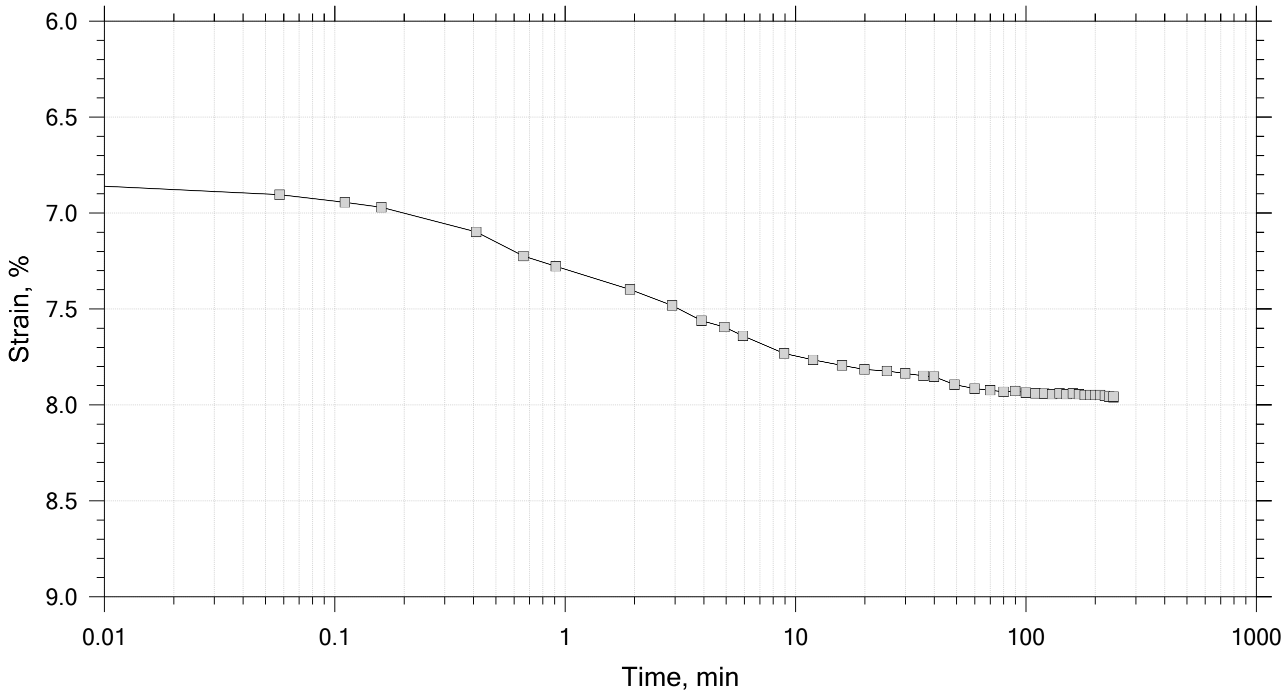
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

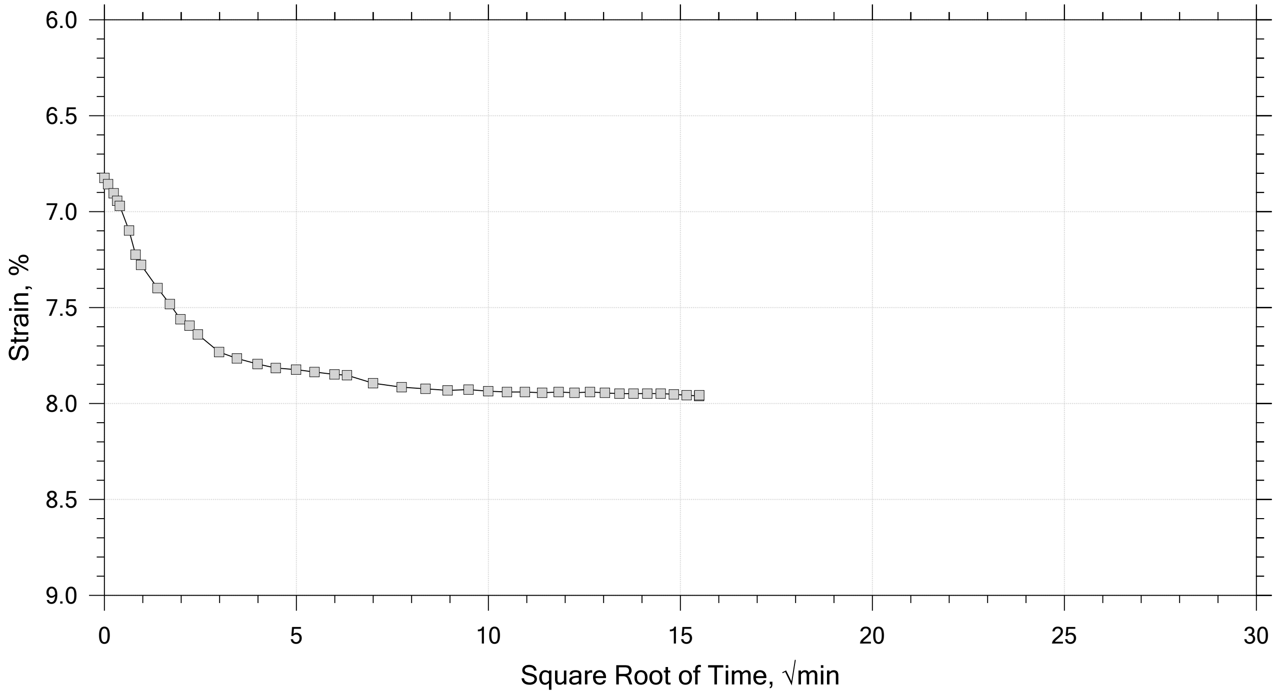
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 7 of 15

Constant Load Step

Stress: 4 tsf





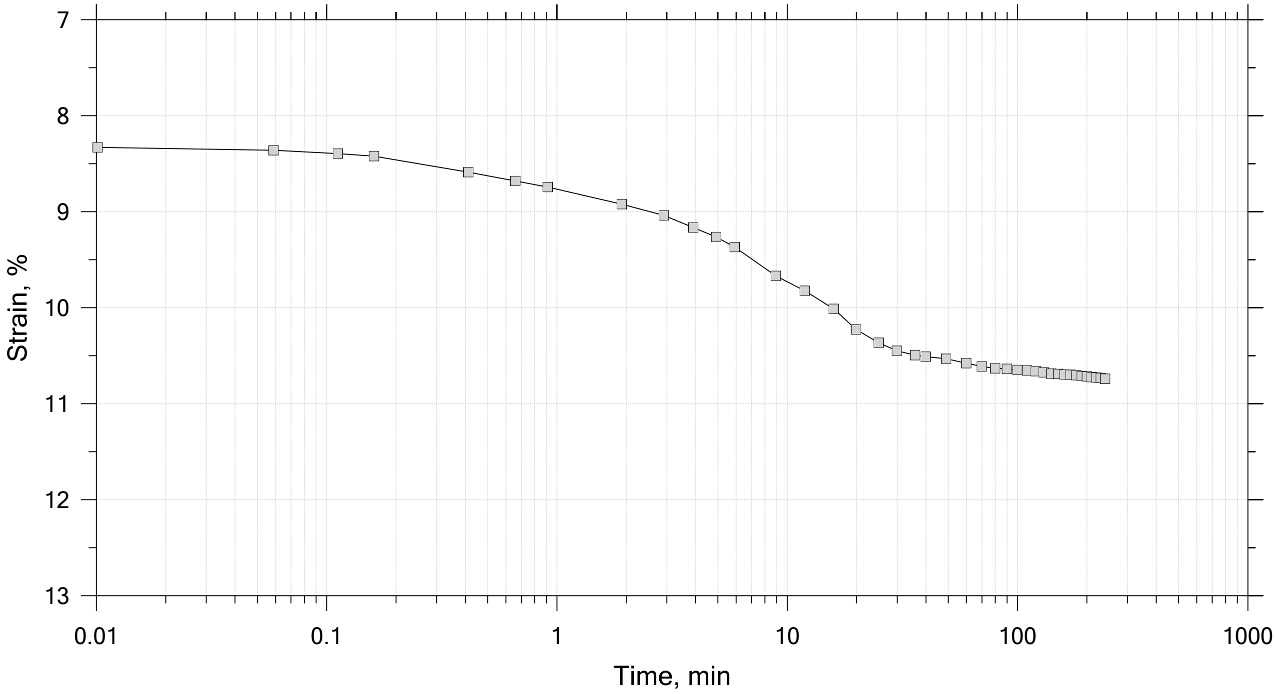
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

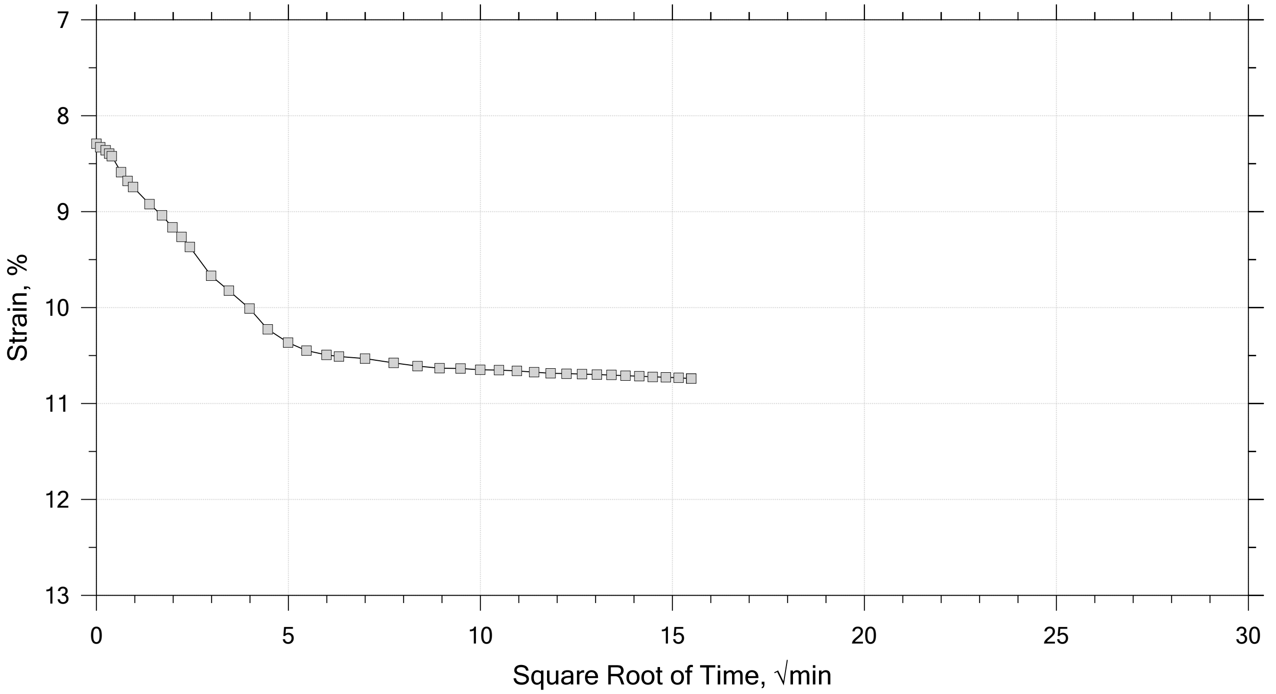
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 8 of 15

Constant Load Step

Stress: 8 tsf

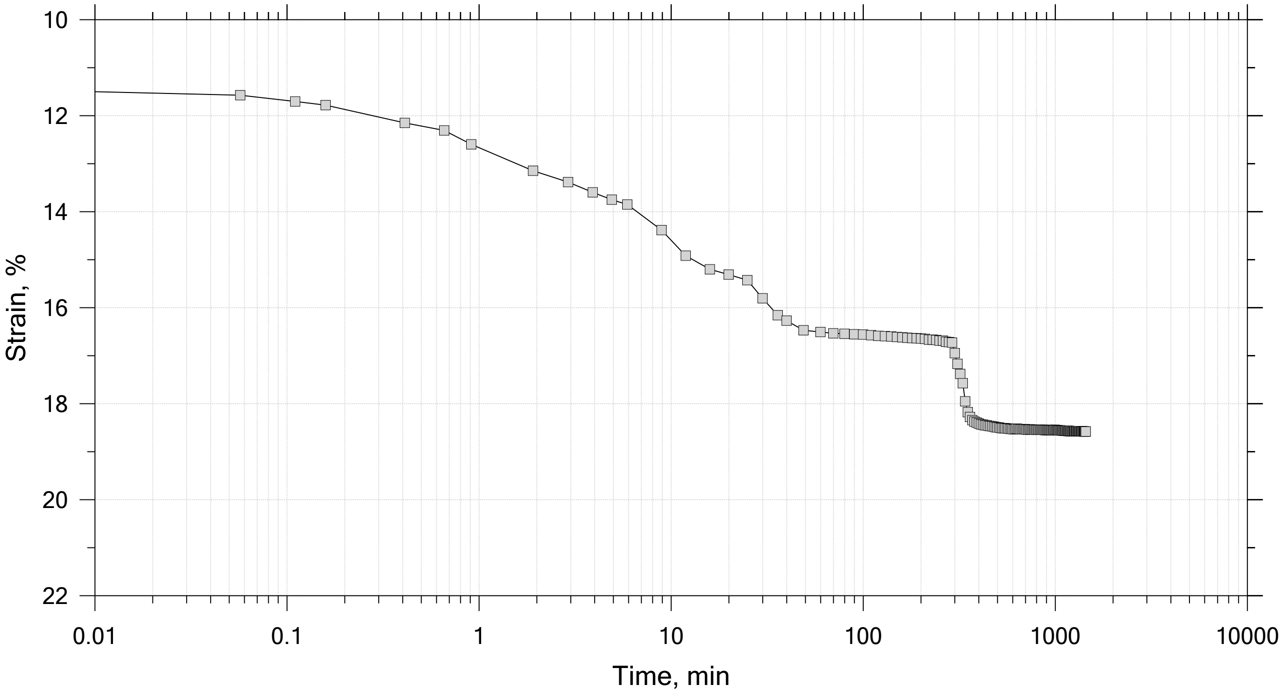


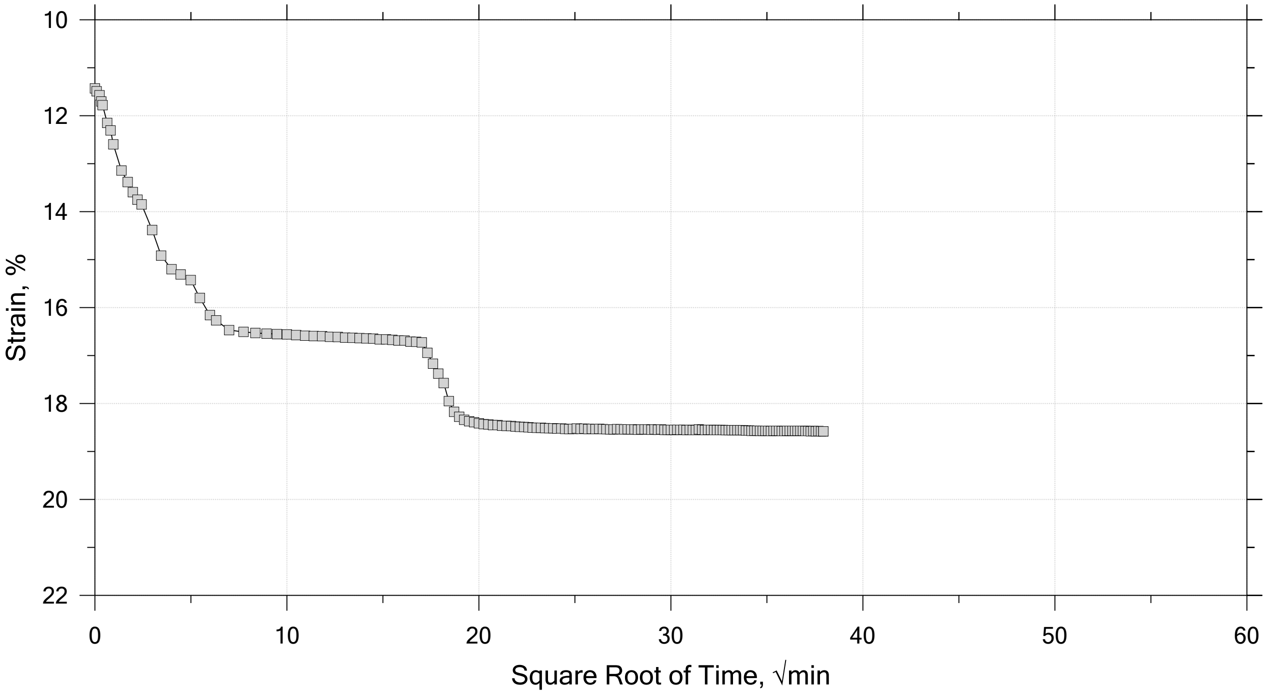


	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
GeoTesting EXPRESS	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 9 of 15
Constant Load Step
Stress: 16 tsf





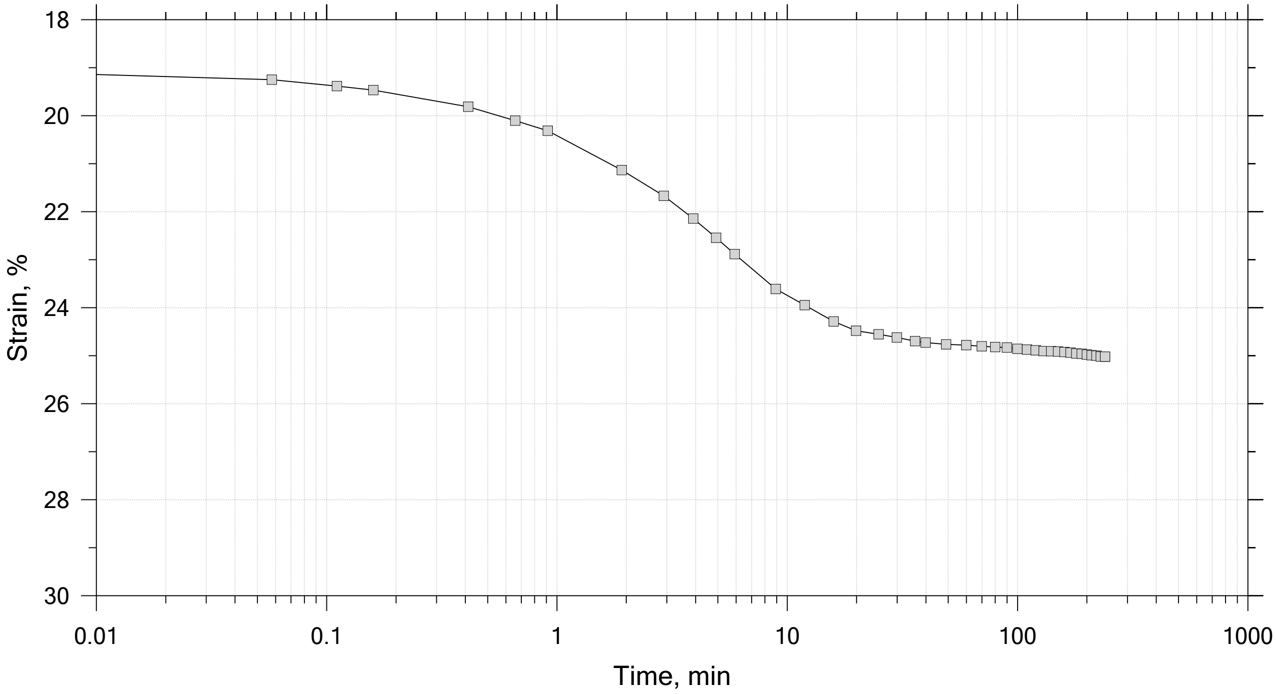
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System S, Swell Pressure = 0.065 tsf		

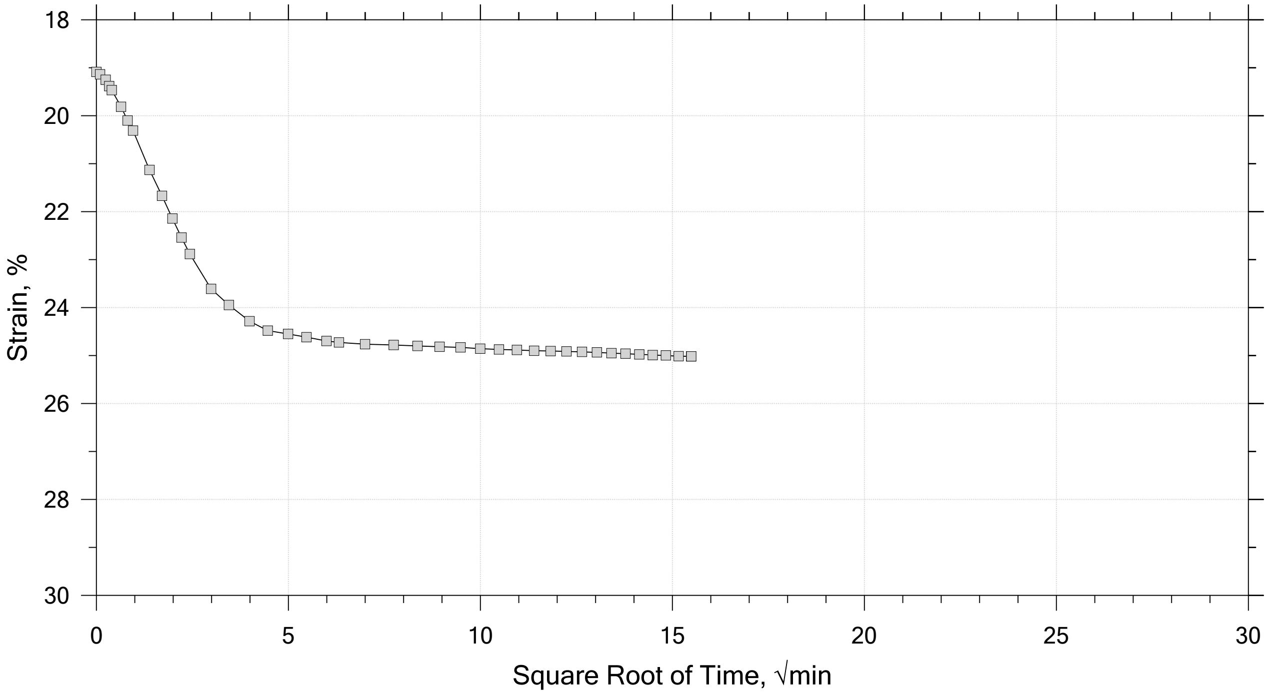
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 10 of 15

Constant Load Step

Stress: 32 tsf





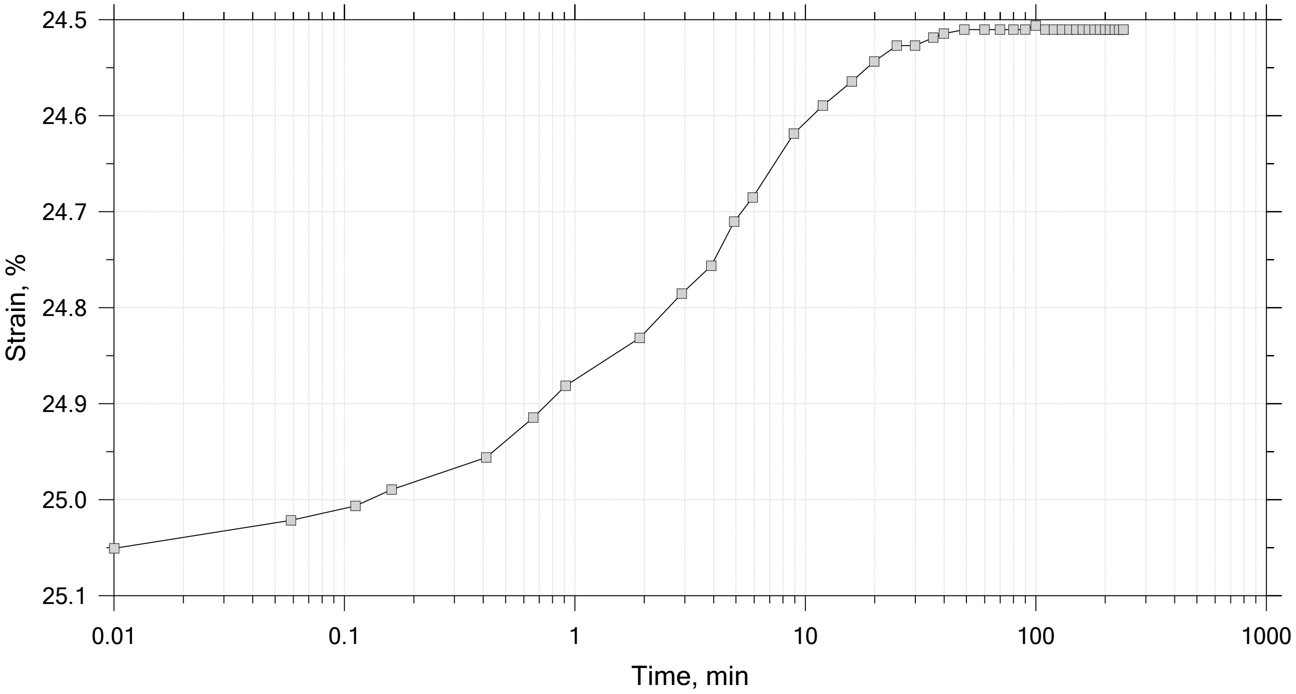
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System S, Swell Pressure = 0.065 tsf		

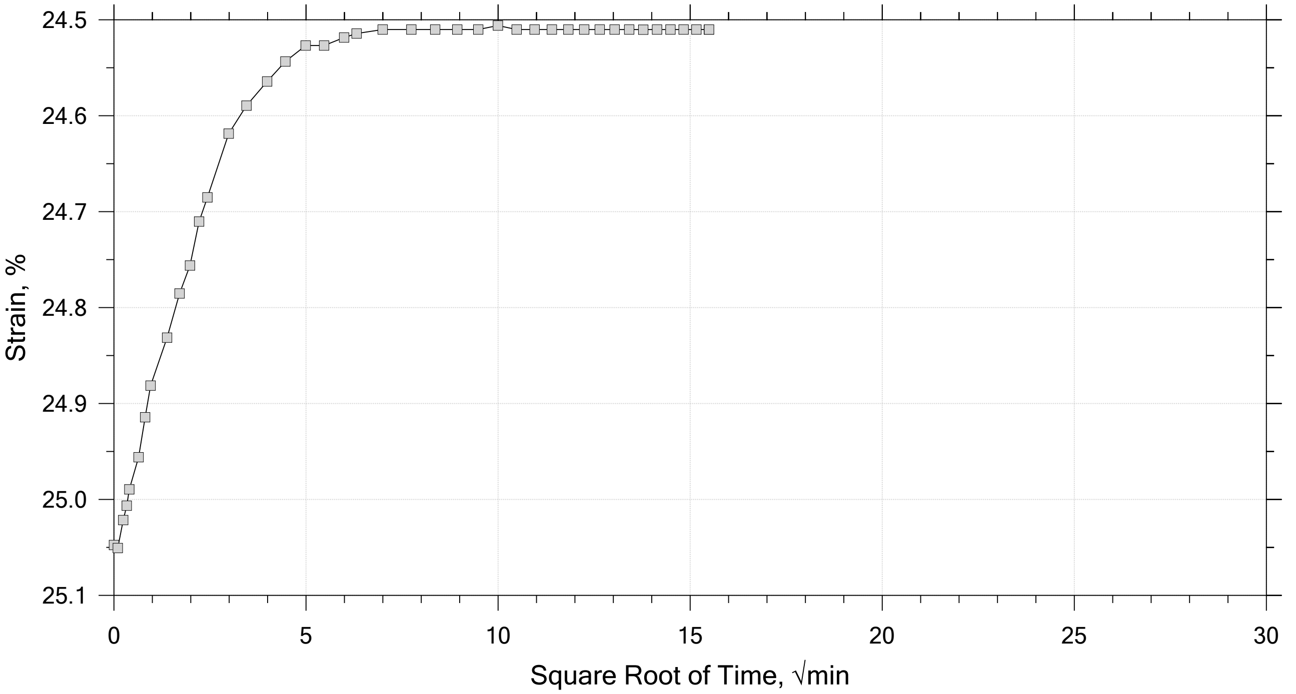
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 11 of 15

Constant Load Step

Stress: 8 tsf

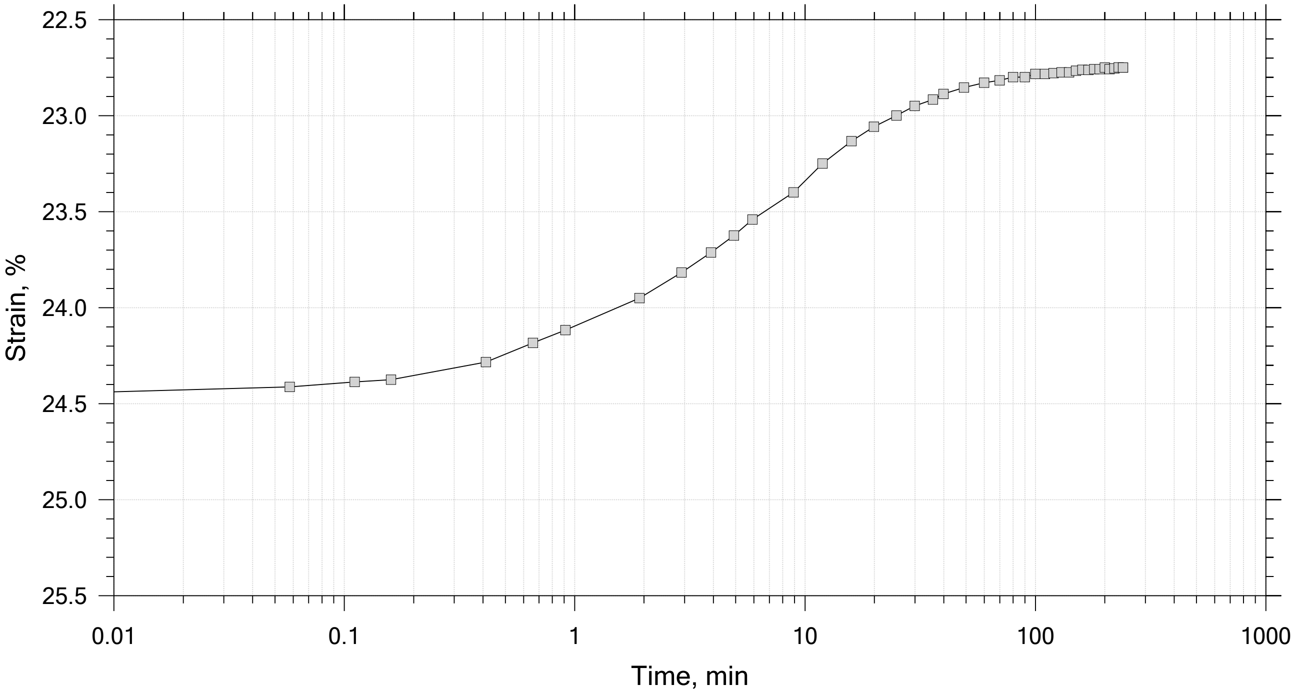


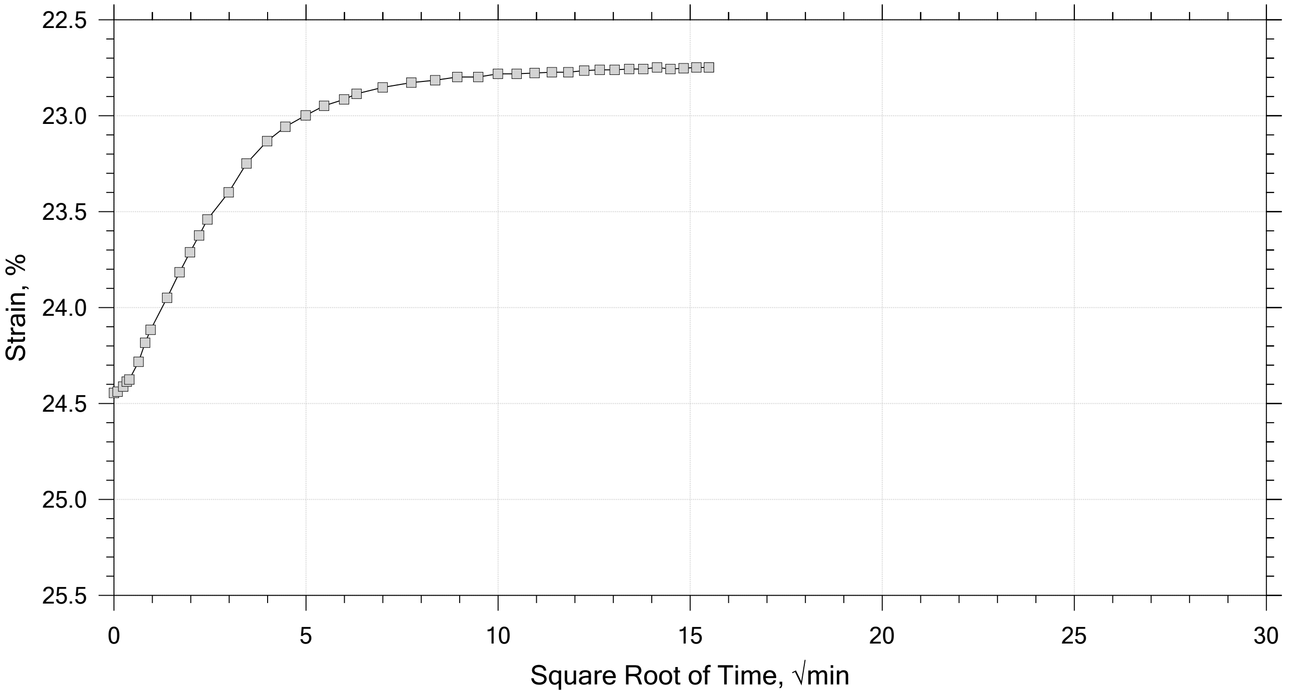


Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System S, Swell Pressure = 0.065 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 12 of 15
Constant Load Step
Stress: 2 tsf





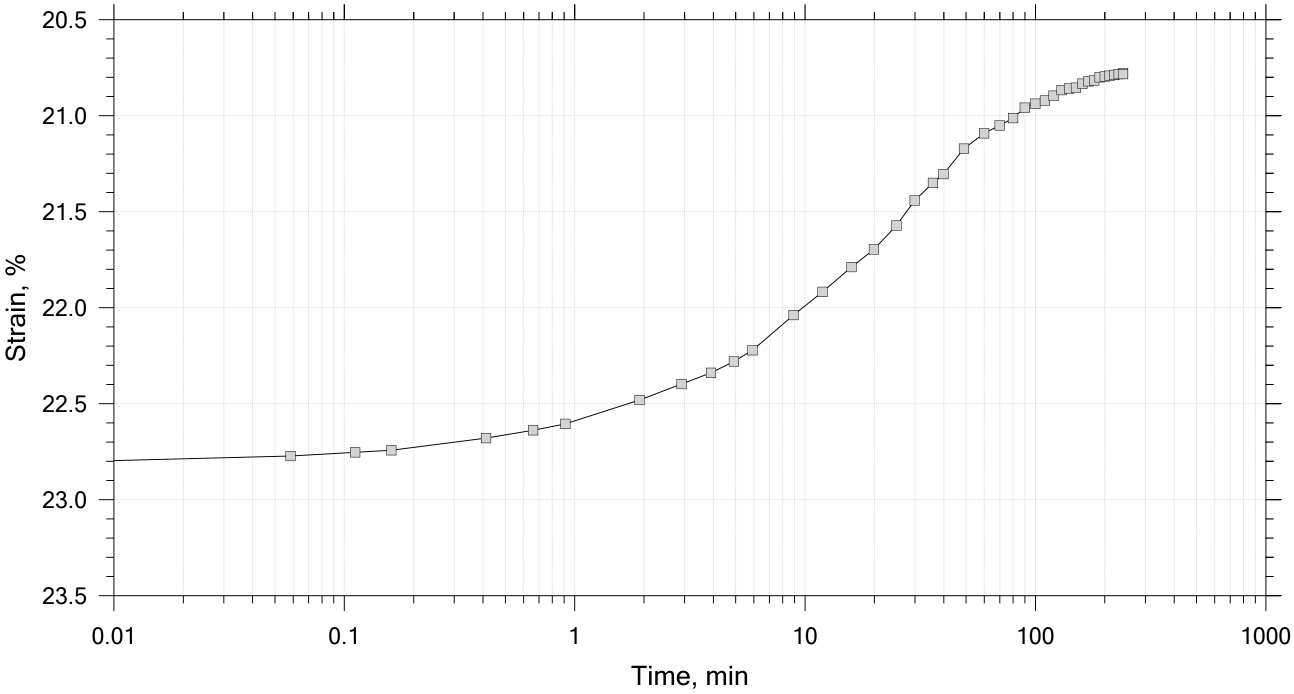
Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System S, Swell Pressure = 0.065 tsf		

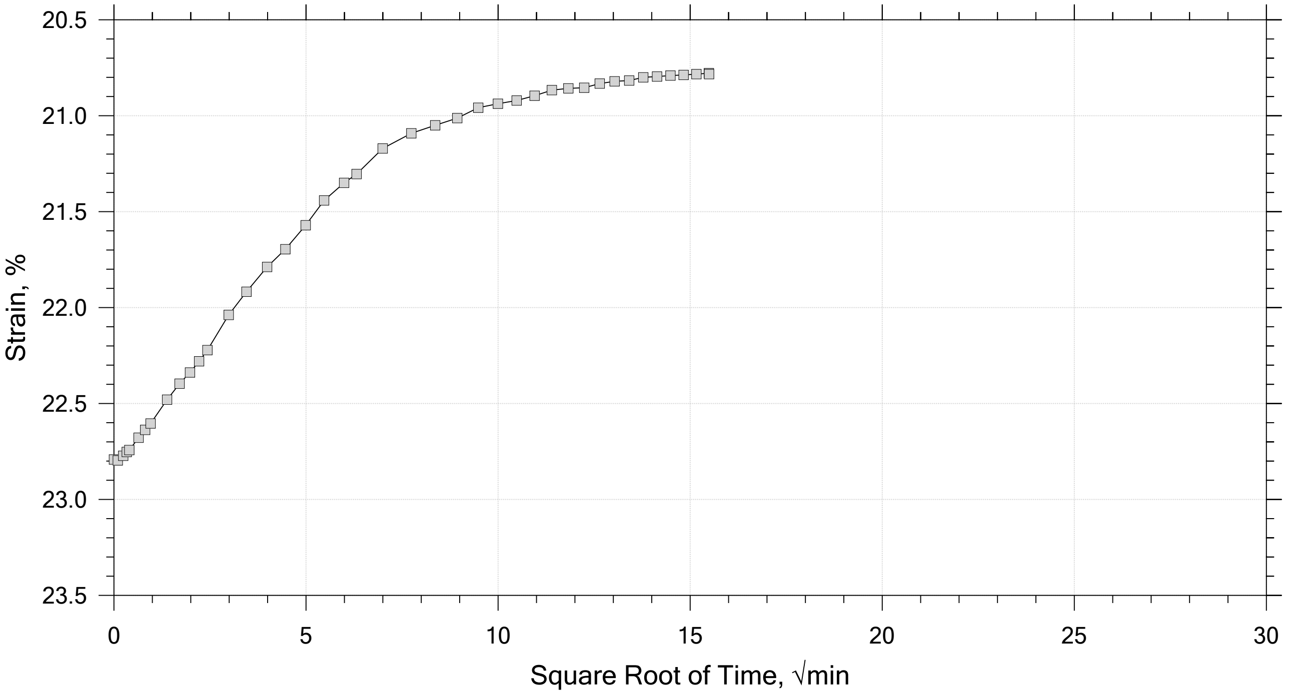
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 13 of 15

Constant Load Step

Stress: 0.5 tsf





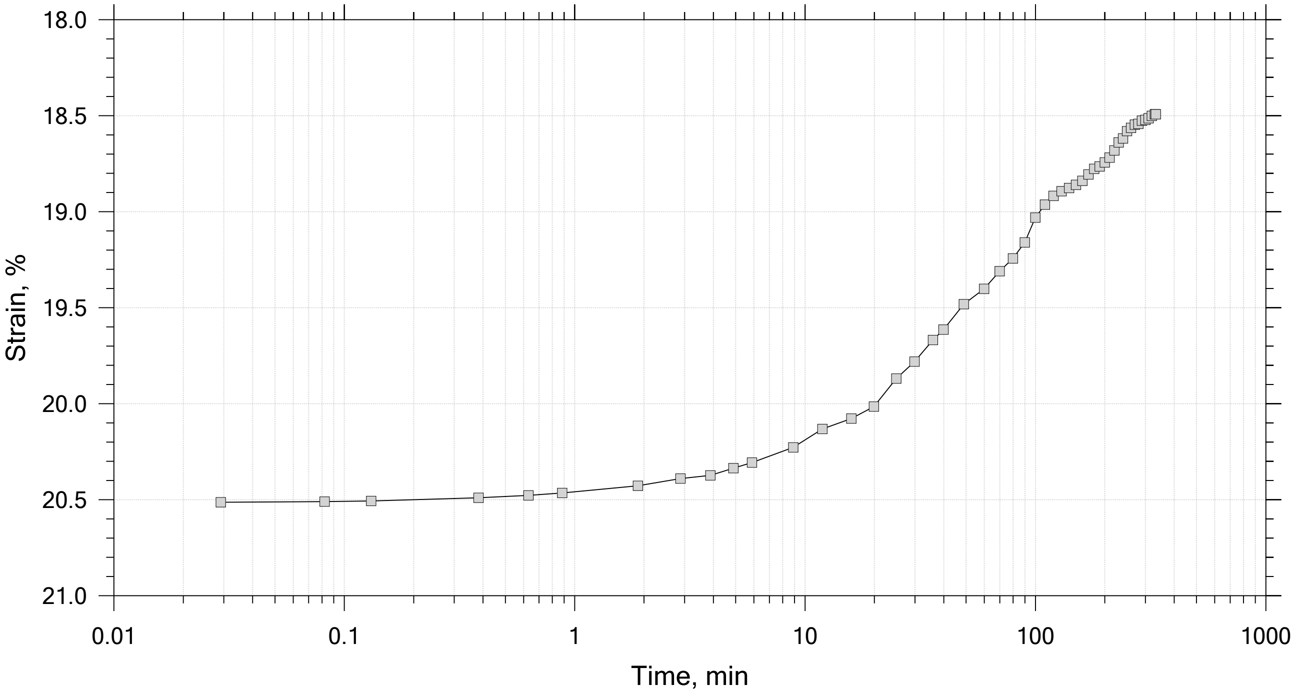
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

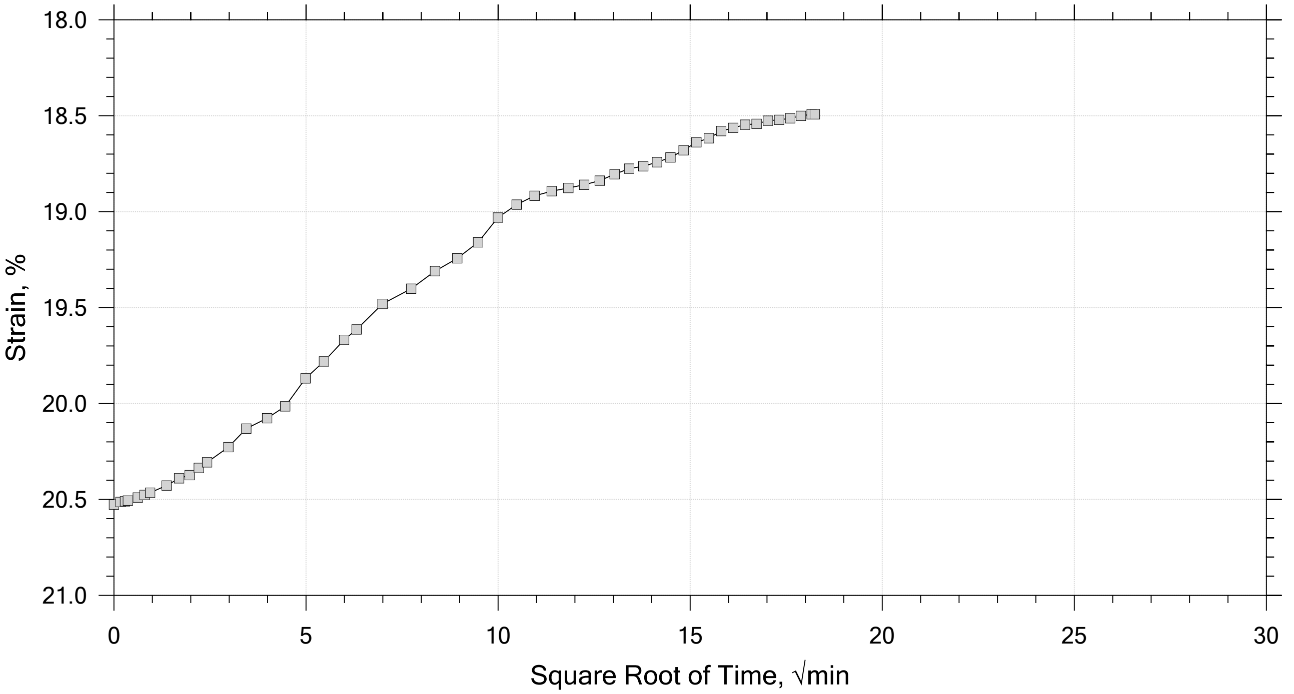
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 14 of 15

Constant Load Step

Stress: 0.125 tsf





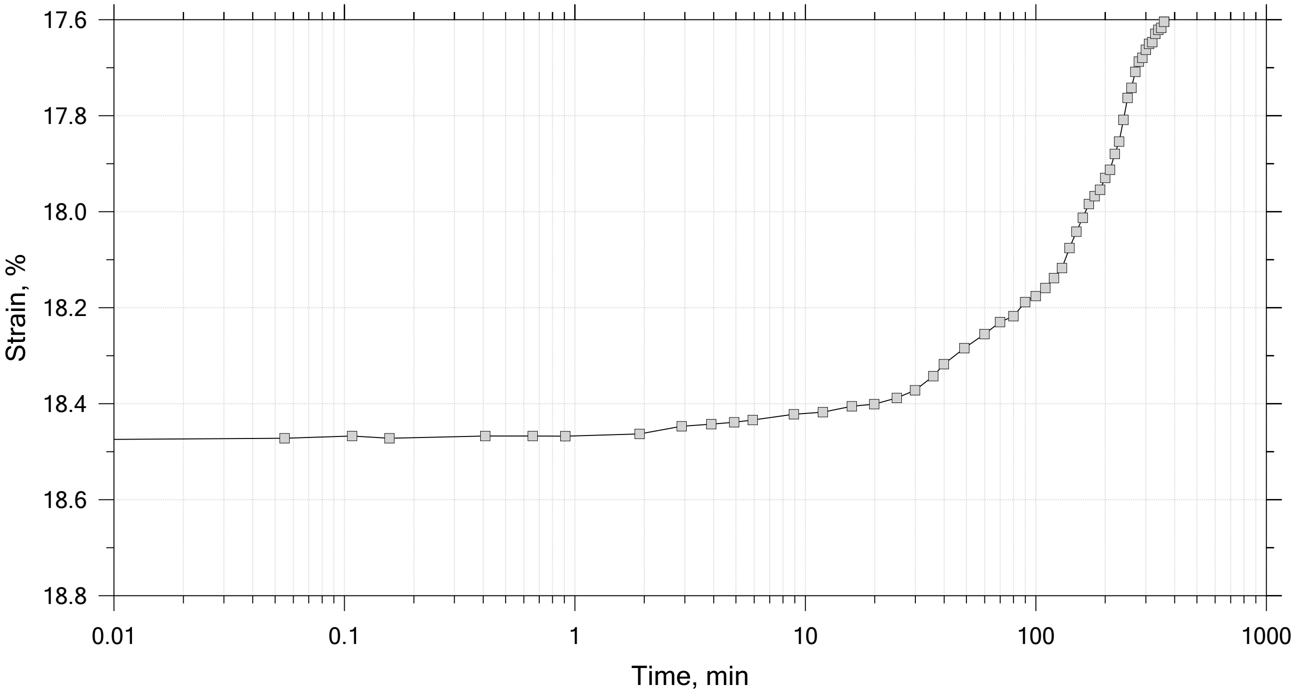
GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

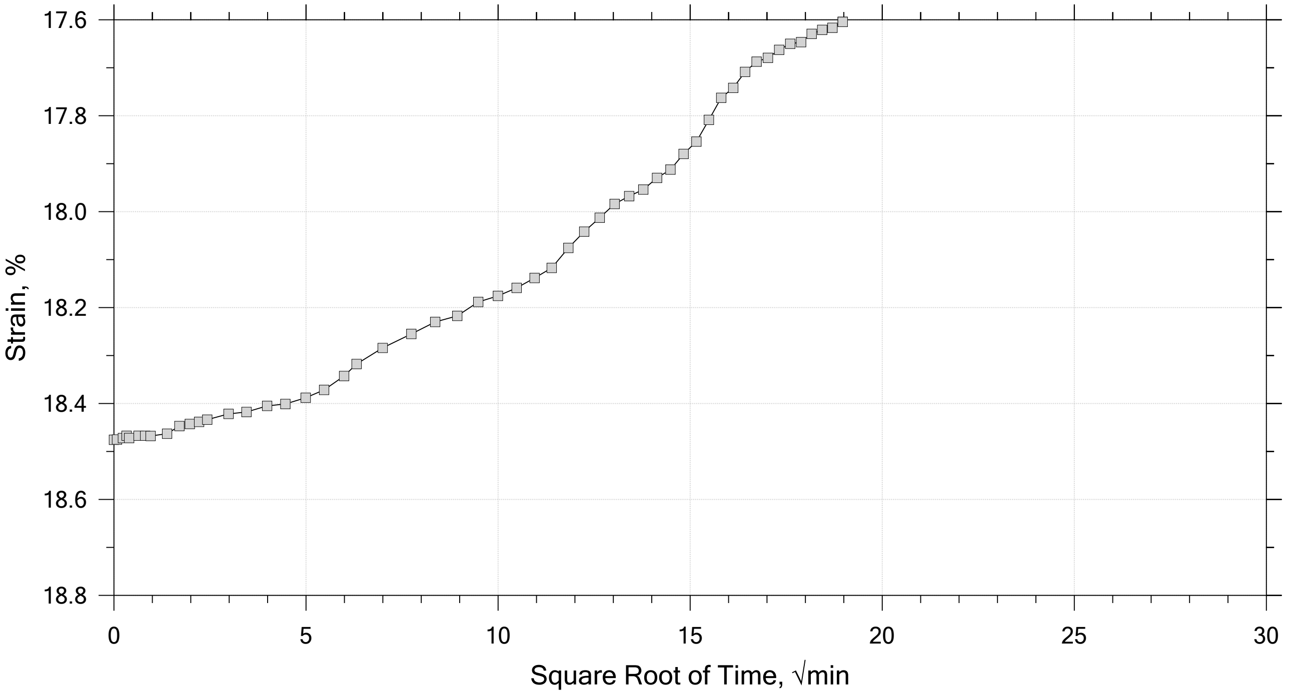
One-Dimensional Consolidation by ASTM D2435 - Method B

Time Curve 15 of 15

Constant Load Step

Stress: 0.0625 tsf





GeoTesting EXPRESS	Project: SFWF	Location: ---	Project No.: GTX-308764
	Boring No.: B-10	Tested By: trm	Checked By: njh
	Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
	Test No.: IP-7	Sample Type: intact	Elevation: ---
	Description: Moist, dark gray clay		
	Remarks: System S, Swell Pressure = 0.065 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Specimen Diameter: 1.89 in	Estimated Specific Gravity: 2.72	Liquid Limit: ---
Initial Height: 1.10 in	Initial Void Ratio: 1.14	Plastic Limit: ---
Final Height: 0.92 in	Final Void Ratio: 0.786	Plasticity Index: ---

	Before Test Trimmings	Before Test Specimen	After Test Specimen	After Test Trimmings
Container ID	D1647	RING		C-1118
Mass Container, gm	8.38	320.65	320.65	8.98
Mass Container + Wet Soil, gm	238.46	411.25	403.69	90.61
Mass Container + Dry Soil, gm	169.52	385.07	385.07	72.31
Mass Dry Soil, gm	161.14	64.424	64.424	63.33
Water Content, %	42.78	40.63	28.90	28.90
Void Ratio	---	1.14	0.79	---
Degree of Saturation, %	---	97.34	100.00	---
Dry Unit Weight, pcf	---	79.528	95.088	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test.
Therefore, values may not represent actual values for the specimen.

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---
Description: Moist, dark gray clay		
Remarks: System S, Swell Pressure = 0.065 tsf		

One-Dimensional Consolidation by ASTM D2435 - Method B

Log of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/s	Mv 1/tsf	k ft/day	Ca %
1	0.0650	0.007796	1.12	0.709	0.000	0.00e+00	1.09e-01	0.00e+00	0.00e+00
2	0.125	0.01772	1.10	1.61	0.000	0.00e+00	1.50e-01	0.00e+00	0.00e+00
3	0.250	0.02988	1.08	2.72	18.745	3.52e-07	8.85e-02	8.40e-05	0.00e+00
4	0.500	0.04402	1.05	4.00	10.643	6.05e-07	5.14e-02	8.39e-05	0.00e+00
5	1.00	0.06077	1.02	5.52	0.000	0.00e+00	3.05e-02	0.00e+00	0.00e+00
6	2.00	0.07133	0.997	6.48	3.926	1.55e-06	9.60e-03	4.02e-05	0.00e+00
7	4.00	0.08753	0.966	7.96	1.747	3.40e-06	7.36e-03	6.75e-05	0.00e+00
8	8.00	0.1181	0.906	10.7	7.380	7.68e-07	6.96e-03	1.44e-05	0.00e+00
9	16.0	0.1834	0.780	16.7	0.000	0.00e+00	7.42e-03	0.00e+00	0.00e+00
10	32.0	0.2752	0.601	25.0	3.180	1.36e-06	5.22e-03	1.91e-05	0.00e+00
11	8.00	0.2696	0.612	24.5	0.000	0.00e+00	2.12e-04	0.00e+00	0.00e+00
12	2.00	0.2502	0.650	22.7	4.072	9.88e-07	2.94e-03	7.82e-06	0.00e+00
13	0.500	0.2286	0.692	20.8	16.897	2.50e-07	1.31e-02	8.83e-06	0.00e+00
14	0.125	0.2048	0.738	18.6	52.340	8.50e-08	5.78e-02	1.32e-05	0.00e+00
15	0.0625	0.1959	0.755	17.8	0.000	0.00e+00	1.29e-01	0.00e+00	0.00e+00

GeoTesting EXPRESS

Project: SFWF
Location: ---
Project No.: GTX-308764
Boring No.: B-10
Tested By: trm
Checked By: njh
Sample No.: HPC-12B
Test Date: 12/5/18
Depth: 112 ft
Test No.: IP-7
Sample Type: intact
Elevation: ---
Description: Moist, dark gray clay
Remarks: System S, Swell Pressure = 0.065 tsf
Displacement at 4 hr

One-Dimensional Consolidation by ASTM D2435 - Method B

Square Root of Time Coefficients

Step	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt. T90 min	Cv ft²/s	Mv 1/tsf	k ft/day
1	0.0650	0.007796	1.12	0.709	170.570	1.73e-07	1.09e-01	5.09e-05
2	0.125	0.01772	1.10	1.61	189.902	1.53e-07	1.50e-01	6.19e-05
3	0.250	0.02988	1.08	2.72	80.456	3.53e-07	8.85e-02	8.43e-05
4	0.500	0.04402	1.05	4.00	25.081	1.11e-06	5.14e-02	1.53e-04
5	1.00	0.06077	1.02	5.52	54.146	4.97e-07	3.05e-02	4.09e-05
6	2.00	0.07133	0.997	6.48	12.350	2.12e-06	9.60e-03	5.50e-05
7	4.00	0.08753	0.966	7.96	5.490	4.65e-06	7.36e-03	9.24e-05
8	8.00	0.1181	0.906	10.7	35.342	6.90e-07	6.96e-03	1.30e-05
9	16.0	0.1834	0.780	16.7	606.271	3.65e-08	7.42e-03	7.29e-07
10	32.0	0.2752	0.601	25.0	20.196	9.21e-07	5.22e-03	1.30e-05
11	8.00	0.2696	0.612	24.5	11.749	1.43e-06	2.12e-04	8.17e-07
12	2.00	0.2502	0.650	22.7	20.644	8.39e-07	2.94e-03	6.64e-06
13	0.500	0.2286	0.692	20.8	66.311	2.74e-07	1.31e-02	9.68e-06
14	0.125	0.2048	0.738	18.6	231.400	8.27e-08	5.78e-02	1.29e-05
15	0.0625	0.1959	0.755	17.8	270.525	7.34e-08	1.29e-01	2.56e-05

Project: SFWF	Location: ---	Project No.: GTX-308764
Boring No.: B-10	Tested By: trm	Checked By: njh
Sample No.: HPC-12B	Test Date: 12/5/18	Depth: 112 ft
Test No.: IP-7	Sample Type: intact	Elevation: ---

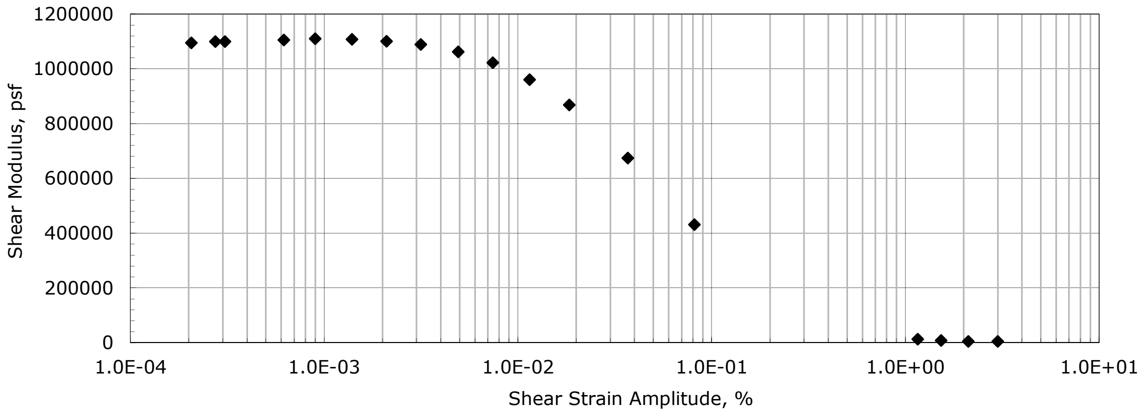
Description: Moist, dark gray clay

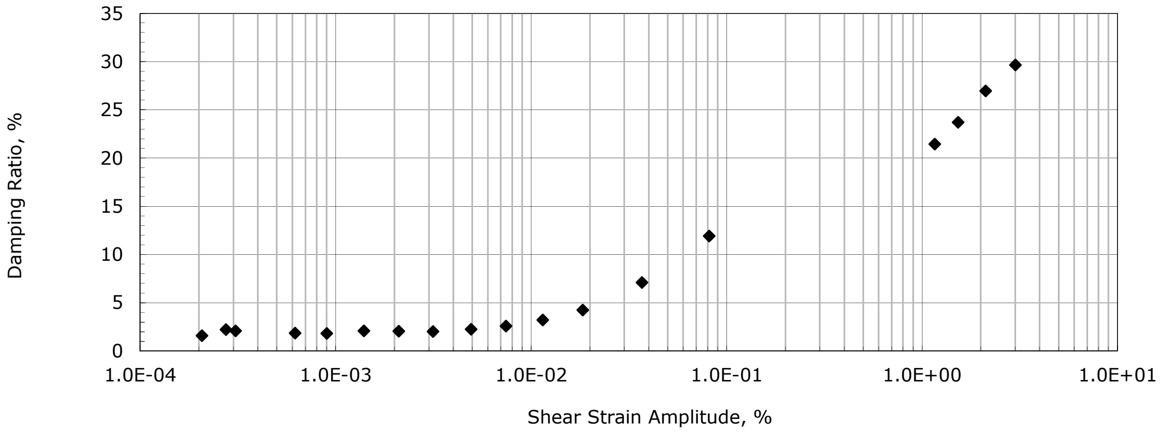
Remarks: System S, Swell Pressure = 0.065 tsf

Displacement at 4 hr

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	11/12/18
Tested By:	njh
Checked By:	emm
Boring ID:	B-6
Sample ID:	ALN-1B
Depth, ft:	---
Test Confining Pressure, psf:	**2106**
Visual Description:	Moist, gray clay
Preparation:	Extruded from cylinder mold and placed into test chamber at as-received density and moisture content.

Modulus and Damping of Soils by Resonant-Column Method
by ASTM D4015





Initial Diameter, in:	2.61
Initial Height, in:	5.70
Initial Mass, grams:	945
Initial Moisture Content, %:	37.1
Initial Dry Density, pcf:	86.1
Initial Bulk Density, pcf:	118.0
Initial Degree of Saturation:	98.6
Initial Void Ratio:	1.08

Final Diameter, in:	2.53
Final Height, in:	5.59
Final Mass, grams:	896
Final Moisture Content, %:	31.8
Final Dry Density, pcf:	93.5
Final Bulk Density, pcf:	123.3
Final Degree of Saturation:	99.8
Final Void Ratio:	0.91

Notes:

Specific Gravity = 2.87 (determined by ASTM D854)

Isotropic stress conditions

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	11/12/18
Tested By:	njh
Checked By:	emm
Boring ID:	B-6
Sample ID:	ALN-1B
Depth, ft:	---
Test Confining Pressure, psf:	**2106**
Visual Description:	Moist, gray clay
Test Conditions:	Confining Stress of 2106 psf over a range of strains from 0.000207 to 3.00% with a forced sinusoidal vibration.
Preparation:	Extruded from cylinder mold and placed into test chamber at as-received density and moisture content.

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015

Apparatus Used: Type 2 - Geocomp Corp. quasi-fixed/free boundry condition automated RCTS Test System

Torque Transducer Stiffness (k_p), N-m/rad:	47616.8	Torque Calibration Factor, N-m/V:	6.360863
Passive Inertia (Jp), kg-m2:	0.001394	Accelerometer 1 Calibration Factor, rad/s^2/V:	3272.804
		Accelerometer 2 Calibration Factor, rad/s^2/V:	3287.549

Elapsed Time min	Excitation %	Frequency Hz	Axial Strain %	Effective Confining Stress psf	Average Strain Amplitude %	Shear Modulus, G psf	Damping Ratio, D %
0.11	0.025	102	0.0	2103	2.07E-04	1.10E+06	1.59
0.21	0.040	102	0.0	2102	2.74E-04	1.10E+06	2.22
0.32	0.064	102	0.0	2108	3.07E-04	1.10E+06	2.10
0.43	0.102	102	0.0	2108	6.19E-04	1.10E+06	1.85
0.54	0.161	102	0.0	2108	9.00E-04	1.11E+06	1.84
0.64	0.256	102	0.0	2105	1.39E-03	1.11E+06	2.08
0.75	0.406	102	0.0	2103	2.10E-03	1.10E+06	2.06
0.86	0.643	101	0.0	2100	3.15E-03	1.09E+06	2.02
0.96	1.019	100	0.0	2100	4.92E-03	1.06E+06	2.24
1.07	1.615	99	0.0	2101	7.43E-03	1.02E+06	2.58
1.18	2.560	96	0.0	2099	1.15E-02	9.60E+05	3.22
1.28	4.059	92	0.0	2101	1.84E-02	8.68E+05	4.26
1.39	6.438	81	0.0	2104	3.69E-02	6.75E+05	7.09
1.61	10.215	65	0.0	2121	8.15E-02	4.32E+05	11.91
1.93	16.218	20	0.0	2125	1.16E+00	1.35E+04	21.45
2.57	25.704	20	-0.1	2086	1.53E+00	8.55E+03	23.71
2.67	40.739	20	-0.1	2084	2.11E+00	5.37E+03	26.97
2.78	64.581	20	-0.1	2084	3.00E+00	5.37E+03	29.65

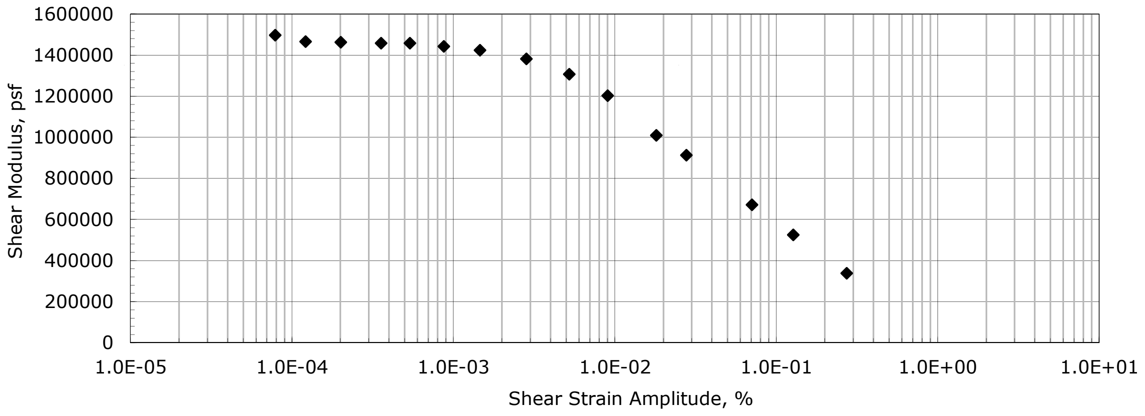
The Shear Wave Velocity can be determined by the following equation:

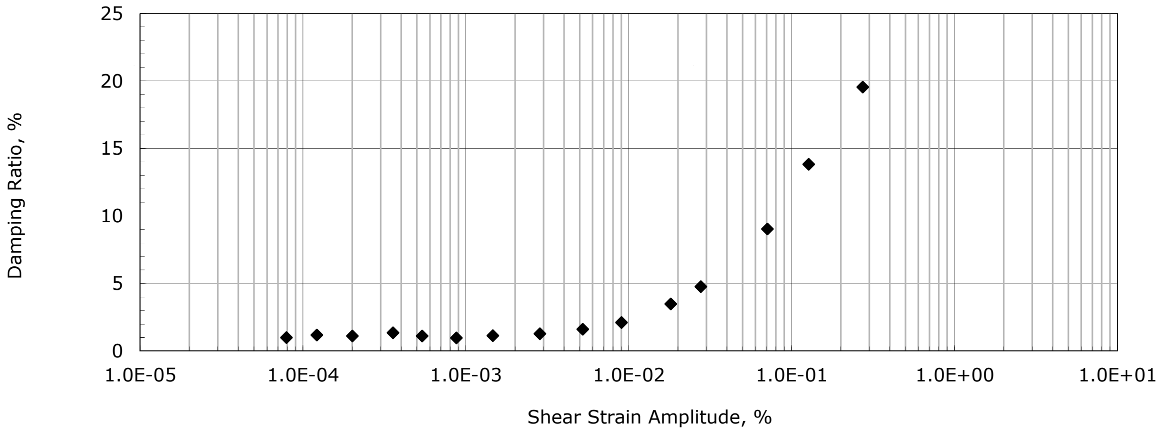
Vs = sqrt(G*g/bulk density)

where: Vs = shear wave velocity
G = shear modulus
g = acceleration due to gravity, 9.81 m/sec^2
final bulk density

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	11/23/18
Tested By:	md
Checked By:	emm
Boring ID:	B-3
Sample ID:	HPC-4
Depth, ft:	---
Test Confining Pressure, psf:	**2,322**
Visual Description:	Moist, brown sand with silt
Preparation:	Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method
by ASTM D4015





Initial Diameter, in:	2.85
Initial Height, in:	5.70
Initial Mass, grams:	1002
Initial Moisture Content, %:	18.5
Initial Dry Density, pcf:	88.6
Initial Bulk Density, pcf:	105.0
Initial Degree of Saturation:	54.6
Initial Void Ratio:	0.93

Final Diameter, in:	2.80
Final Height, in:	5.68
Final Mass, grams:	1035
Final Moisture Content, %:	30.2
Final Dry Density, pcf:	92.2
Final Bulk Density, pcf:	120.0
Final Degree of Saturation:	96.8
Final Void Ratio:	0.85

Notes:

Specific Gravity = 2.74 (determined by ASTM D854)

Isotropic stress conditions

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	11/23/18
Tested By:	md
Checked By:	emm
Boring ID:	B-3
Sample ID:	HPC-4
Depth, ft:	---
Test Confining Pressure, psf:	**2322**
Visual Description:	Moist, brown sand with silt
Test Conditions:	Confining Stress of 2322 psf over a range of strains from 0.0000789 to 0.273% with a forced sinusoidal vibration.
Preparation:	Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015

Apparatus Used: Type 2 - Geocomp Corp. quasi-fixed/free boundry condition automated RCTS Test System

Torque Transducer Stiffness (k_p), N-m/rad:	47616.8	Torque Calibration Factor, N-m/V:	6.360863
Passive Inertia (Jp), kg-m2:	0.001394	Accelerometer 1 Calibration Factor, rad/s^2/V:	3272.804
		Accelerometer 2 Calibration Factor, rad/s^2/V:	3287.549

Elapsed Time min	Excitation %	Frequency Hz	Axial Strain %	Effective Confining Stress psf	Average Strain Amplitude %	Shear Modulus, G psf	Damping Ratio, D %
0.22	0.040	130	0.0	2344	1.22E-04	1.47E+06	1.19
0.33	0.064	132	0.0	2347	7.89E-05	1.50E+06	1.00
0.65	0.255	131	0.0	2345	2.01E-04	1.46E+06	1.10
0.76	0.405	131	0.0	2334	3.57E-04	1.46E+06	1.35
0.87	0.642	131	0.0	2348	5.39E-04	1.46E+06	1.12
0.98	1.016	130	0.0	2345	8.75E-04	1.44E+06	0.96
1.09	1.611	130	0.0	2303	1.46E-03	1.42E+06	1.13
1.20	2.553	128	0.0	2333	2.84E-03	1.38E+06	1.27
1.31	4.048	125	0.0	2346	5.22E-03	1.31E+06	1.61
1.41	6.418	120	0.0	2329	9.02E-03	1.20E+06	2.10
1.52	10.182	110	0.0	2310	1.81E-02	1.01E+06	3.49
1.74	16.143	105	0.0	2272	2.77E-02	9.13E+05	4.76
1.85	25.619	91	0.0	2289	7.09E-02	6.72E+05	9.02
2.17	40.631	81	0.2	2243	1.27E-01	5.26E+05	13.83
2.39	64.472	65	0.3	2188	2.73E-01	3.38E+05	19.54

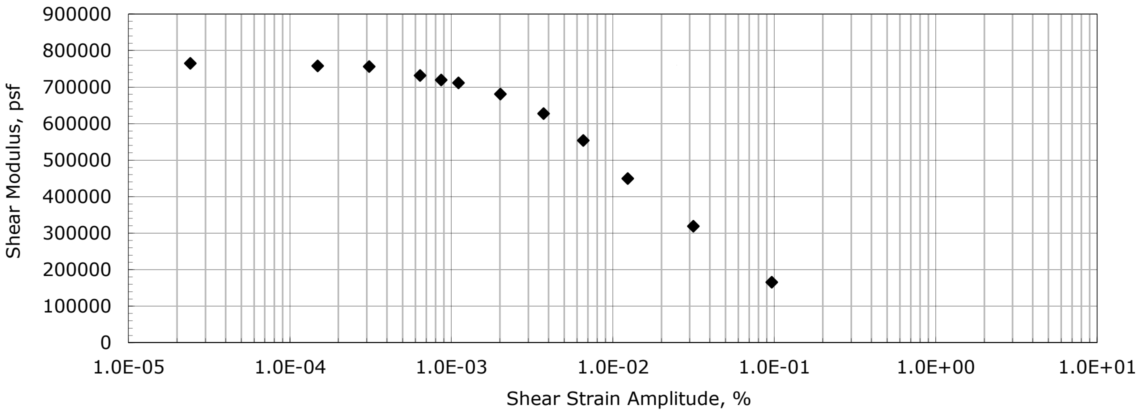
The Shear Wave Velocity can be determined by the following equation:

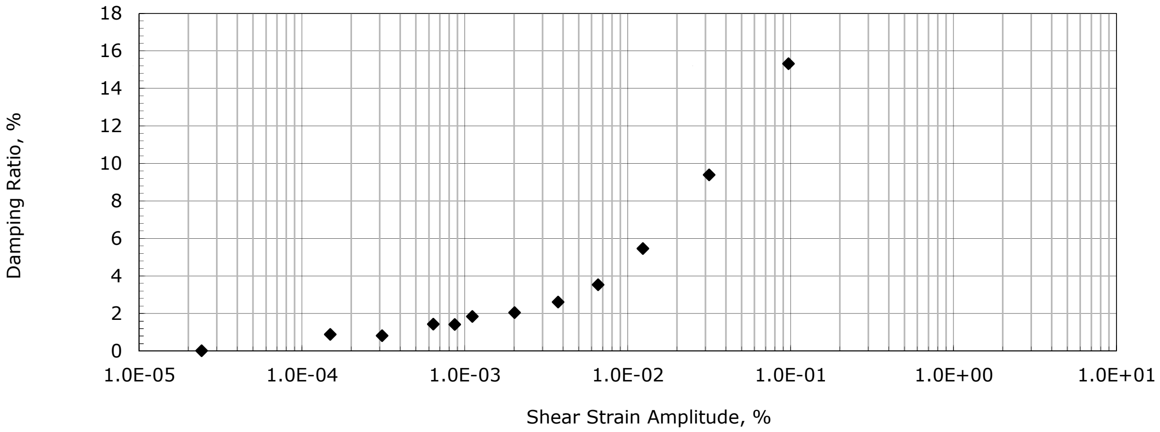
Vs = sqrt(G*g/bulk density)

where: Vs = shear wave velocity
G = shear modulus
g = acceleration due to gravity, 9.81 m/sec^2
final bulk density

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	11/15/18
Tested By:	md
Checked By:	emm
Boring ID:	B-10
Sample ID:	HPC-4A
Depth, ft:	---
Test Confining Pressure, psf:	**486**
Visual Description:	Moist, gray sand
Preparation:	Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method
by ASTM D4015





Initial Diameter, in:	2.85
Initial Height, in:	5.70
Initial Mass, grams:	990
Initial Moisture Content, %:	16.2
Initial Dry Density, pcf:	89.3
Initial Bulk Density, pcf:	103.7
Initial Degree of Saturation:	48.5
Initial Void Ratio:	0.92

Final Diameter, in:	2.85
Final Height, in:	5.70
Final Mass, grams:	1022
Final Moisture Content, %:	31.9
Final Dry Density, pcf:	89.4
Final Bulk Density, pcf:	117.9
Final Degree of Saturation:	95.8
Final Void Ratio:	0.91

Notes:

Specific Gravity = 2.74 (determined by ASTM D854)

Isotropic stress conditions

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	11/15/18
Tested By:	md
Checked By:	emm
Boring ID:	B-10
Sample ID:	HPC-4A
Depth, ft:	---
Test Confining Pressure, psf:	**486**
Visual Description:	Moist, gray sand
Test Conditions:	Confining Stress of 486 psf over a range of strains from 0.0000242 to 0.0967% with a forced sinusoidal vibration.
Preparation:	Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015

Apparatus Used: Type 2 - Geocomp Corp. quasi-fixed/free boundry condition automated RCTS Test System

Torque Transducer Stiffness (k_p), N-m/rad:	47616.8	Torque Calibration Factor, N-m/V:	6.360863
Passive Inertia (Jp), kg-m2:	0.001394	Accelerometer 1 Calibration Factor, rad/s^2/V:	3272.804
		Accelerometer 2 Calibration Factor, rad/s^2/V:	3287.549

Elapsed Time min	Excitation %	Frequency Hz	Axial Strain %	Effective Confining Stress psf	Average Strain Amplitude %	Shear Modulus, G psf	Damping Ratio, D %
0.00	0.016	95	0.0	486	2.42E-05	7.65E+05	0.01
1.08	0.102	95	0.0	489	1.49E-04	7.58E+05	0.89
1.19	0.161	95	0.0	489	3.10E-04	7.57E+05	0.82
1.41	0.406	93	0.0	489	6.40E-04	7.31E+05	1.42
1.52	0.644	93	0.0	489	8.65E-04	7.20E+05	1.41
1.63	1.020	92	0.0	491	1.11E-03	7.12E+05	1.84
1.73	1.616	90	0.0	491	2.02E-03	6.81E+05	2.04
1.84	2.562	87	0.0	485	3.72E-03	6.27E+05	2.61
1.95	4.062	82	0.0	484	6.57E-03	5.53E+05	3.53
2.06	6.442	74	0.0	475	1.24E-02	4.50E+05	5.47
2.28	10.217	63	0.0	469	3.16E-02	3.19E+05	9.39
2.49	16.205	46	-0.1	444	9.67E-02	1.66E+05	15.32

The Shear Wave Velocity can be determined by the following equation:

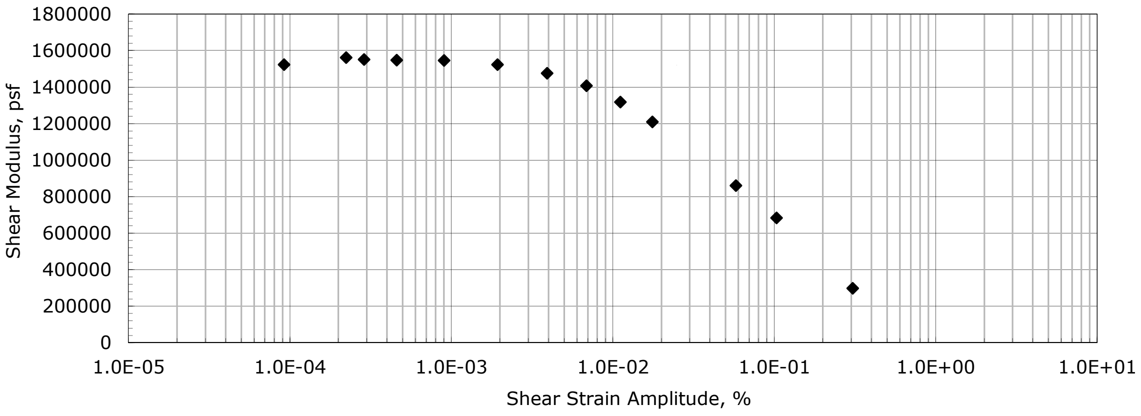
Vs = sqrt(G*g/bulk density)

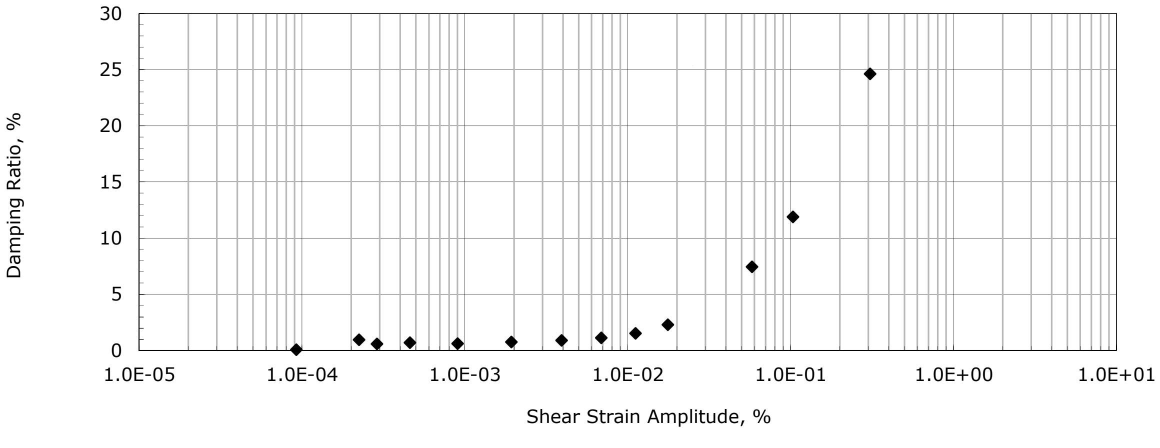
where: Vs = shear wave velocity
G = shear modulus
g = acceleration due to gravity, 9.81 m/sec^2
final bulk density

GeoTesting EXPRESS

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	11/21/18
Tested By:	md
Checked By:	emm
Boring ID:	B-OSS
Sample ID:	ALN-9B
Depth, ft:	---
Test Confining Pressure, psf:	**2,160**
Visual Description:	Wet, yellow and black sand
Preparation:	Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015





Initial Diameter, in:	2.85
Initial Height, in:	5.70
Initial Mass, grams:	1014
Initial Moisture Content, %:	18.0
Initial Dry Density, pcf:	90.0
Initial Bulk Density, pcf:	106.2
Initial Degree of Saturation:	55.9
Initial Void Ratio:	0.87

Final Diameter, in:	2.84
Final Height, in:	5.69
Final Mass, grams:	999
Final Moisture Content, %:	30.2
Final Dry Density, pcf:	90.6
Final Bulk Density, pcf:	118.0
Final Degree of Saturation:	95.0
Final Void Ratio:	0.86

Notes:

Specific Gravity = 2.70 (determined by ASTM D854)

Isotropic stress conditions

Client: GZA GeoEnvironmental
Project Name: SFWF
Project Location: ---
GTX #: 308764

Test Date: 11/21/18
Tested By: md
Checked By: emm

Boring ID: B-OSS
Sample ID: ALN-9B
Depth, ft: ---

Test Confining Pressure, psf: 2160

Visual Description: Wet, yellow and black sand
Test Conditions: Confining Stress of 2160 psf over a range of strains from 0.0000921 to 0.307% with a forced sinusoidal vibration.
Preparation: Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015

Apparatus Used: Type 2 - Geocomp Corp. quasi-fixed/free boundry condition automated RCTS Test System
Torque Transducer Stiffness (k_p), N-m/rad: 47616.8
Passive Inertia (Jp), kg-m2: 0.001394
Torque Calibration Factor, N-m/V: 6.360863
Accelerometer 1 Calibration Factor, rad/s^2/V: 3272.804
Accelerometer 2 Calibration Factor, rad/s^2/V: 3287.549

Elapsed Time min	Excitation %	Frequency Hz	Axial Strain %	Effective Confining Stress psf	Average Strain Amplitude %	Shear Modulus, G psf	Damping Ratio, D %
0.65	0.161	134	0.0	2153	9.21E-05	1.52E+06	0.09
0.87	0.405	135	0.0	2153	2.23E-04	1.56E+06	0.96
0.98	0.641	134	0.0	2146	2.89E-04	1.55E+06	0.61
1.08	1.016	134	0.0	2151	4.59E-04	1.55E+06	0.72
1.19	1.610	134	0.0	2150	9.00E-04	1.55E+06	0.61
1.30	2.552	133	0.0	2153	1.93E-03	1.52E+06	0.76
1.41	4.045	132	0.0	2151	3.92E-03	1.48E+06	0.92
1.52	6.413	129	0.0	2148	6.88E-03	1.41E+06	1.13
1.63	10.168	125	0.0	2152	1.11E-02	1.32E+06	1.54
1.74	16.121	120	0.0	2144	1.76E-02	1.21E+06	2.30
1.84	25.596	102	0.0	2117	5.78E-02	8.60E+05	7.46
2.17	40.602	91	0.1	2056	1.03E-01	6.84E+05	11.90
2.60	102.200	61	0.1	2167	3.07E-01	2.97E+05	24.62

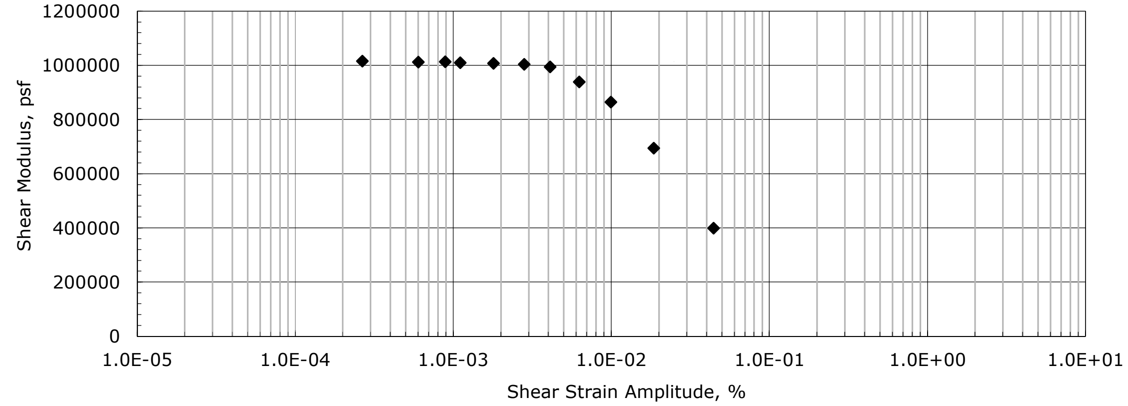
The Shear Wave Velocity can be determined by the following equation:

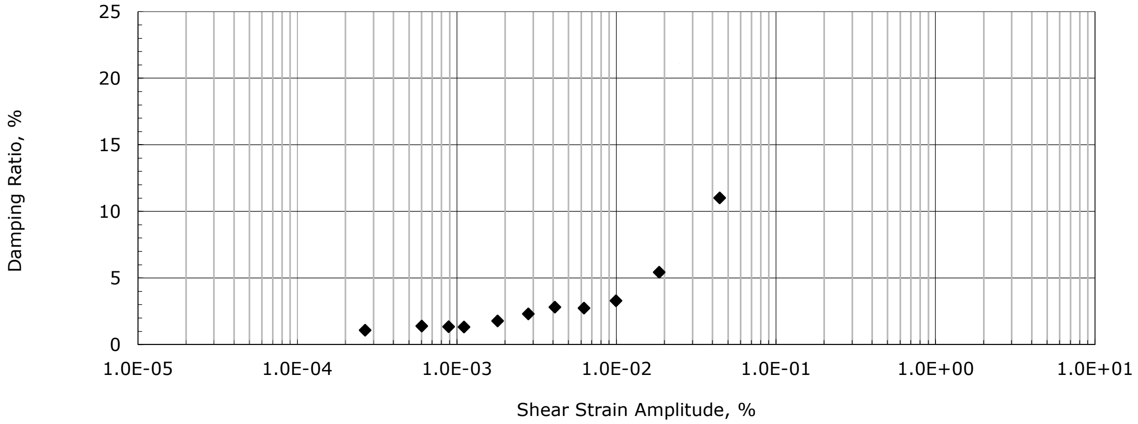
Vs = sqrt(G*g/bulk density)

where: Vs = shear wave velocity
G = shear modulus
g = acceleration due to gravity, 9.81 m/sec^2
final bulk density

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	12/18/18
Tested By:	md
Checked By:	emm
Boring ID:	B-10
Sample ID:	ALN-4B
Depth, ft:	---
Test Confining Pressure, psf:	**1,350**
Visual Description:	Moist, brown sand
Preparation:	Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015





Initial Diameter, in:	2.85
Initial Height, in:	5.70
Initial Mass, grams:	1007
Initial Moisture Content, %:	17.3
Initial Dry Density, pcf:	90.0
Initial Bulk Density, pcf:	105.5
Initial Degree of Saturation:	52.8
Initial Void Ratio:	0.89

Final Diameter, in:	2.59
Final Height, in:	6.28
Final Mass, grams:	1106
Final Moisture Content, %:	25.1
Final Dry Density, pcf:	99.0
Final Bulk Density, pcf:	123.8
Final Degree of Saturation:	95.2
Final Void Ratio:	0.72

Notes:

Specific Gravity = 2.73 (determined by ASTM D854)

Isotropic stress conditions

GeoTesting EXPRESS

Client: GZA GeoEnvironmental
Project Name: SFWF
Project Location: ---
GTX #: 308764
Test Date: 12/18/18
Tested By: md
Checked By: emm
Boring ID: B-10
Sample ID: ALN-4B
Depth, ft: ---

Test Confining Pressure, psf: 1350

Visual Description: Moist, brown sand
Test Conditions: Confining Stress of 1350 psf over a range of strains from 0.000266 to 0.0442% with a forced sinusoidal vibration.
Preparation: Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015

Apparatus Used: Type 2 - Geocomp Corp. quasi-fixed/free boundry condition automated RCTS Test System

Torque Transducer Stiffness (k_p), N-m/rad: 47616.8
Passive Inertia (Jp), kg-m2: 0.001394
Torque Calibration Factor, N-m/V: 6.360863
Accelerometer 1 Calibration Factor, rad/s^2/V: 3272.804
Accelerometer 2 Calibration Factor, rad/s^2/V: 3287.549

Elapsed Time min	Excitation %	Frequency Hz	Axial Strain %	Effective Confining Stress psf	Average Strain Amplitude %	Shear Modulus, G psf	Damping Ratio, D %
0.22	0.025	111	0.0	1360	2.66E-04	1.02E+06	1.09
0.33	0.040	111	0.0	1362	6.02E-04	1.01E+06	1.41
0.43	0.064	111	0.0	1354	8.88E-04	1.01E+06	1.34
0.54	0.102	111	0.0	1366	1.11E-03	1.01E+06	1.33
0.65	0.161	111	0.0	1354	1.80E-03	1.01E+06	1.78
0.76	0.256	111	0.0	1358	2.81E-03	1.00E+06	2.32
0.87	0.405	110	0.0	1357	4.10E-03	9.94E+05	2.82
0.98	0.643	108	0.0	1374	6.26E-03	9.39E+05	2.75
1.09	1.019	104	0.0	1336	9.92E-03	8.64E+05	3.29
1.30	1.616	94	0.0	1310	1.85E-02	6.95E+05	5.44
1.73	2.564	71	0.1	1264	4.42E-02	3.99E+05	11.03

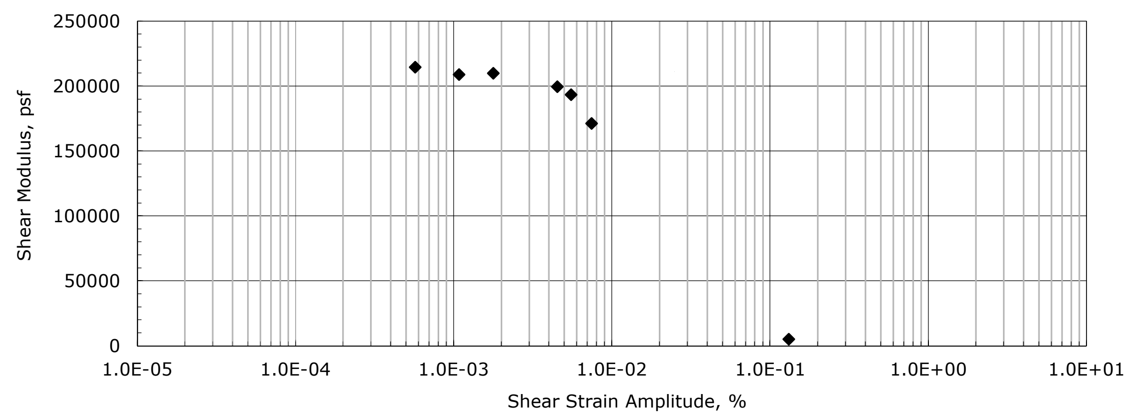
The Shear Wave Velocity can be determined by the following equation:

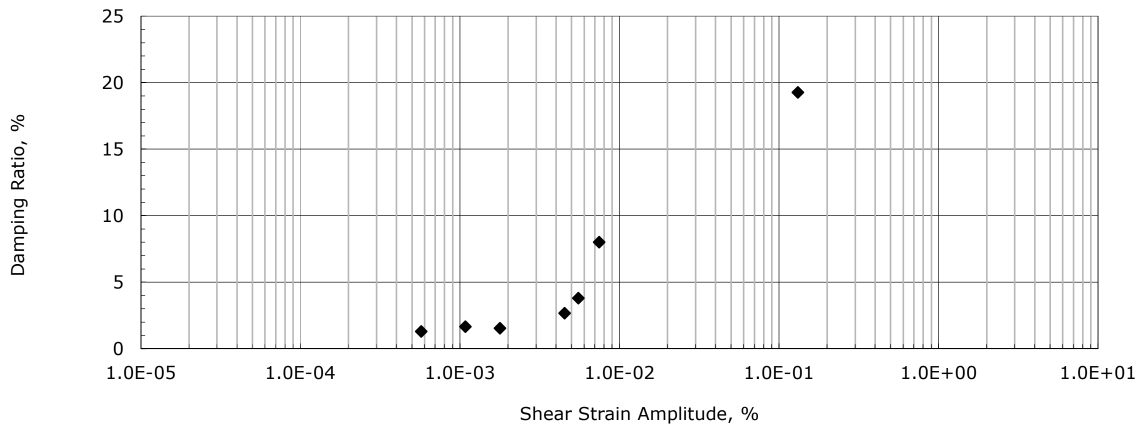
Vs = sqrt(G*g/bulk density)

where: Vs = shear wave velocity
G = shear modulus
g = acceleration due to gravity, 9.81 m/sec^2
final bulk density

Client:	GZA GeoEnvironmental
Project Name:	SFWF
Project Location:	---
GTX #:	308764
Test Date:	12/03/18
Tested By:	md
Checked By:	emm
Boring ID:	B-11
Sample ID:	HPC-1B
Depth, ft:	---
Test Confining Pressure, psf:	**216**
Visual Description:	Moist, brown sand
Preparation:	Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015





Initial Diameter, in:	2.85
Initial Height, in:	5.70
Initial Mass, grams:	1010
Initial Moisture Content, %:	19.6
Initial Dry Density, pcf:	88.5
Initial Bulk Density, pcf:	105.8
Initial Degree of Saturation:	58.4
Initial Void Ratio:	0.91

Final Diameter, in:	2.85
Final Height, in:	5.71
Final Mass, grams:	1070
Final Moisture Content, %:	32.2
Final Dry Density, pcf:	88.4
Final Bulk Density, pcf:	116.9
Final Degree of Saturation:	95.7
Final Void Ratio:	0.91

Notes:

Specific Gravity = 2.71 (determined by ASTM D854)

Isotropic stress conditions

Client: GZA GeoEnvironmental
Project Name: SFWF
Project Location: ---
GTX #: 308764

Test Date: 12/03/18
Tested By: md
Checked By: emm

Boring ID: B-11
Sample ID: HPC-1B
Depth, ft: ---

Test Confining Pressure, psf: 216

Visual Description: Moist, brown sand
Test Conditions: Confining Stress of 216 psf over a range of strains from 0.000571 to 0.131% with a forced sinusoidal vibration.
Preparation: Target Compaction: 90 pcf (provided by client)

Modulus and Damping of Soils by Resonant-Column Method by ASTM D4015

Apparatus Used: Type 2 - Geocomp Corp. quasi-fixed/free boundry condition automated RCTS Test System
Torque Transducer Stiffness (k_p), N-m/rad: 47616.8
Passive Inertia (Jp), kg-m2: 0.001394
Torque Calibration Factor, N-m/V: 6.360863
Accelerometer 1 Calibration Factor, rad/s^2/V: 3272.804
Accelerometer 2 Calibration Factor, rad/s^2/V: 3287.549

Elapsed Time min	Excitation %	Frequency Hz	Axial Strain %	Effective Confining Stress psf	Average Strain Amplitude %	Shear Modulus, G psf	Damping Ratio, D %
0.22	0.026	51	0.0	235	5.71E-04	2.15E+05	1.30
0.33	0.041	51	0.0	233	1.08E-03	2.09E+05	1.68
0.43	0.064	51	0.0	227	1.78E-03	2.10E+05	1.54
0.54	0.102	50	0.0	239	4.52E-03	2.00E+05	2.68
0.65	0.162	49	0.0	245	5.51E-03	1.93E+05	3.81
0.76	0.257	47	-0.1	255	7.45E-03	1.71E+05	8.01
1.19	0.407	20	-1.6	212	1.31E-01	5.18E+03	19.27

The Shear Wave Velocity can be determined by the following equation:

Vs = sqrt(G*g/bulk density)

where: Vs = shear wave velocity
G = shear modulus
g = acceleration due to gravity, 9.81 m/sec^2
final bulk density

APPENDIX D

COLOG DATA REPORTS

borehole geophysics / hydrophysics

Geophysical Summary Plot

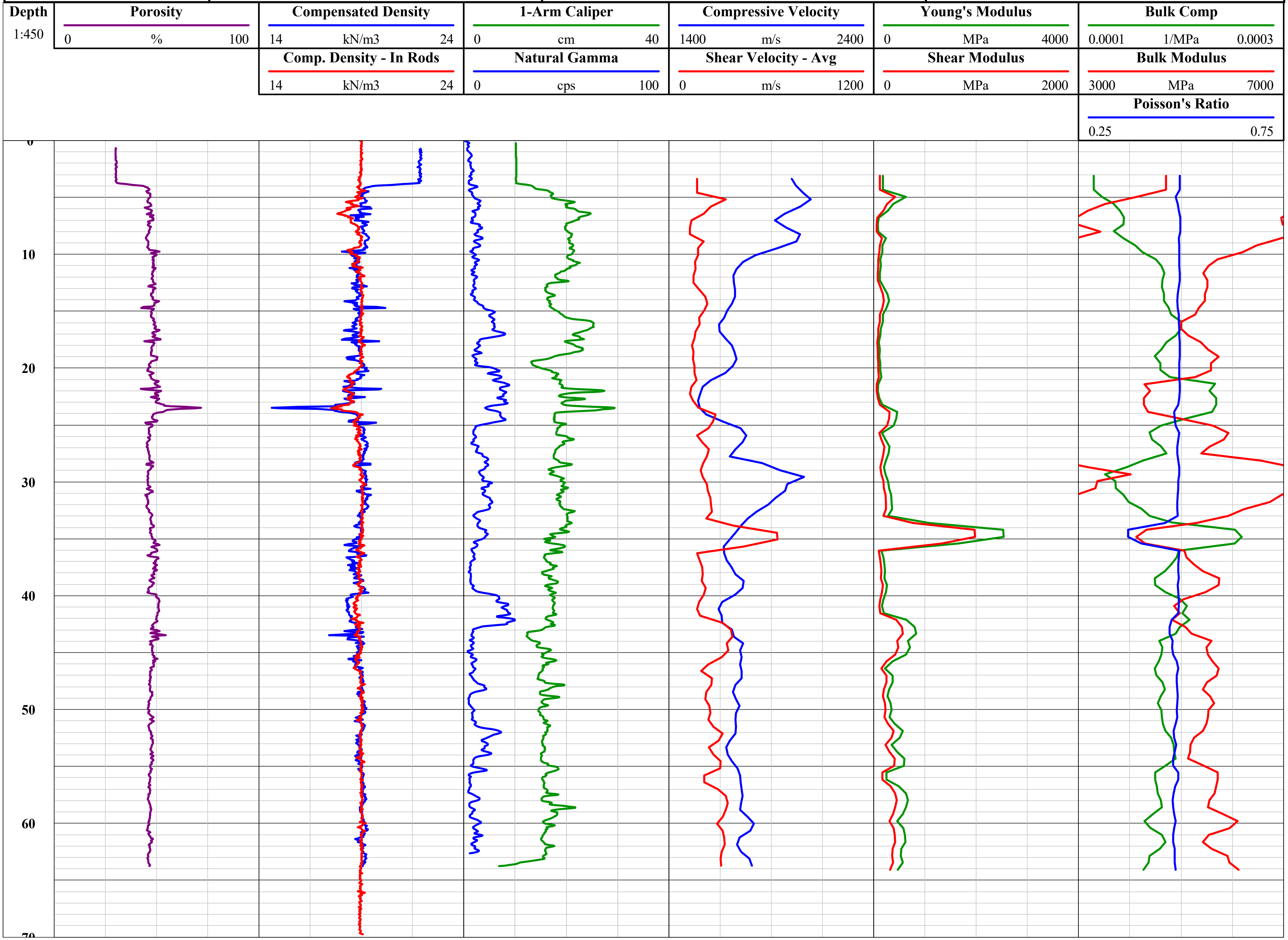
COMPANY: DOSECC

PROJECT: Deep Water Wind - South Fork

DATE LOGGED: 28-30 August 2018

WELL: SFWF-B-3

Colog, Inc.
810 Quail Street, Suite E, Lakewood, CO 80215
Phone: (303) 279-0171, Fax: (303) 278-0135
www.colog.com



COLOG

borehole geophysics / hydrophysics

Geophysical Summary Plot

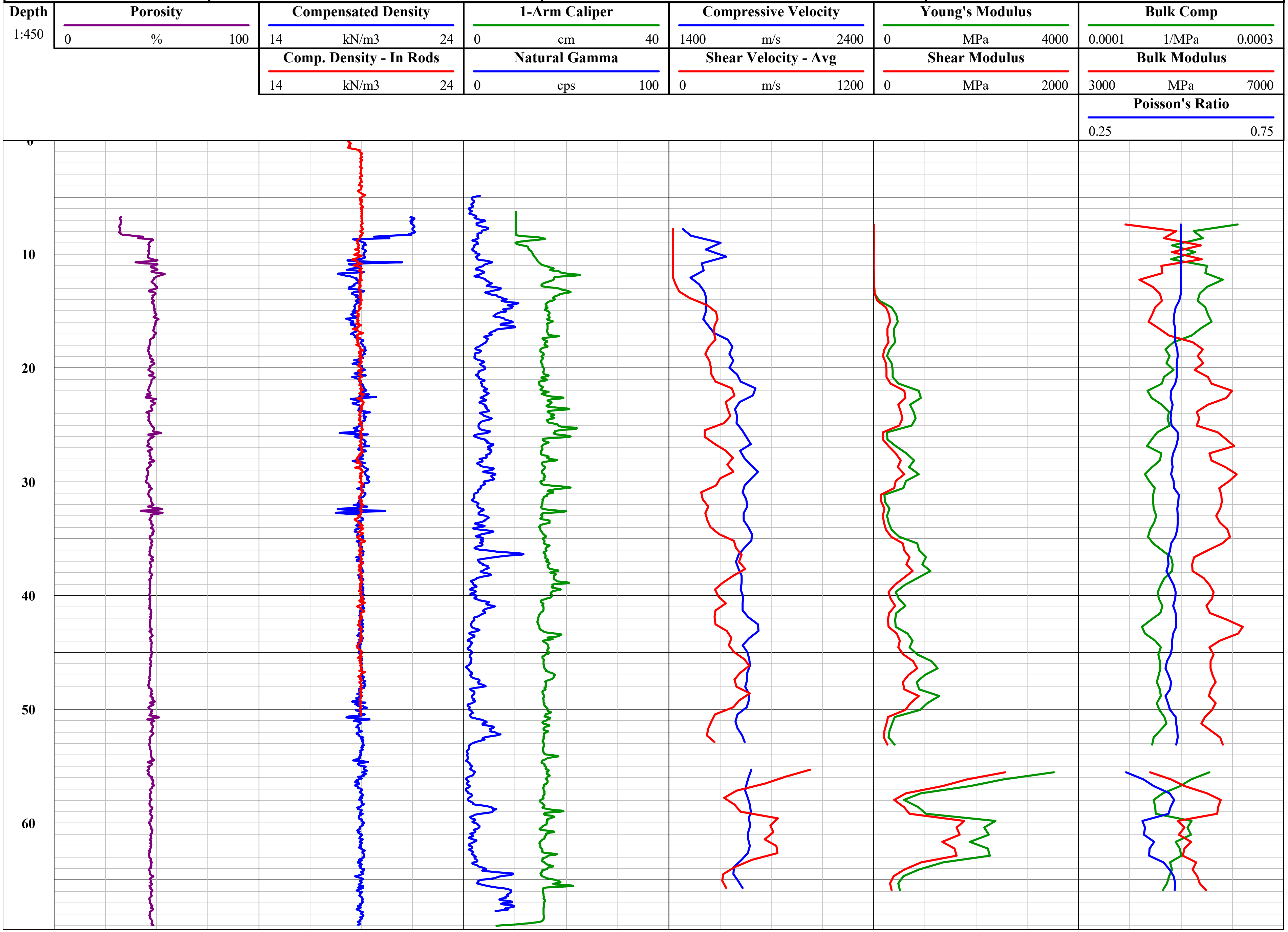
COMPANY: DOSECC

PROJECT: Deep Water Wind - South Fork

DATE LOGGED: 14-16 August 2018

WELL: SFWF-B-6

Colog, Inc.
810 Quail Street, Suite E, Lakewood, CO 80215
Phone: (303) 279-0171, Fax: (303) 278-0135
www.colog.com



borehole geophysics / hydrophysics

Geophysical Summary Plot

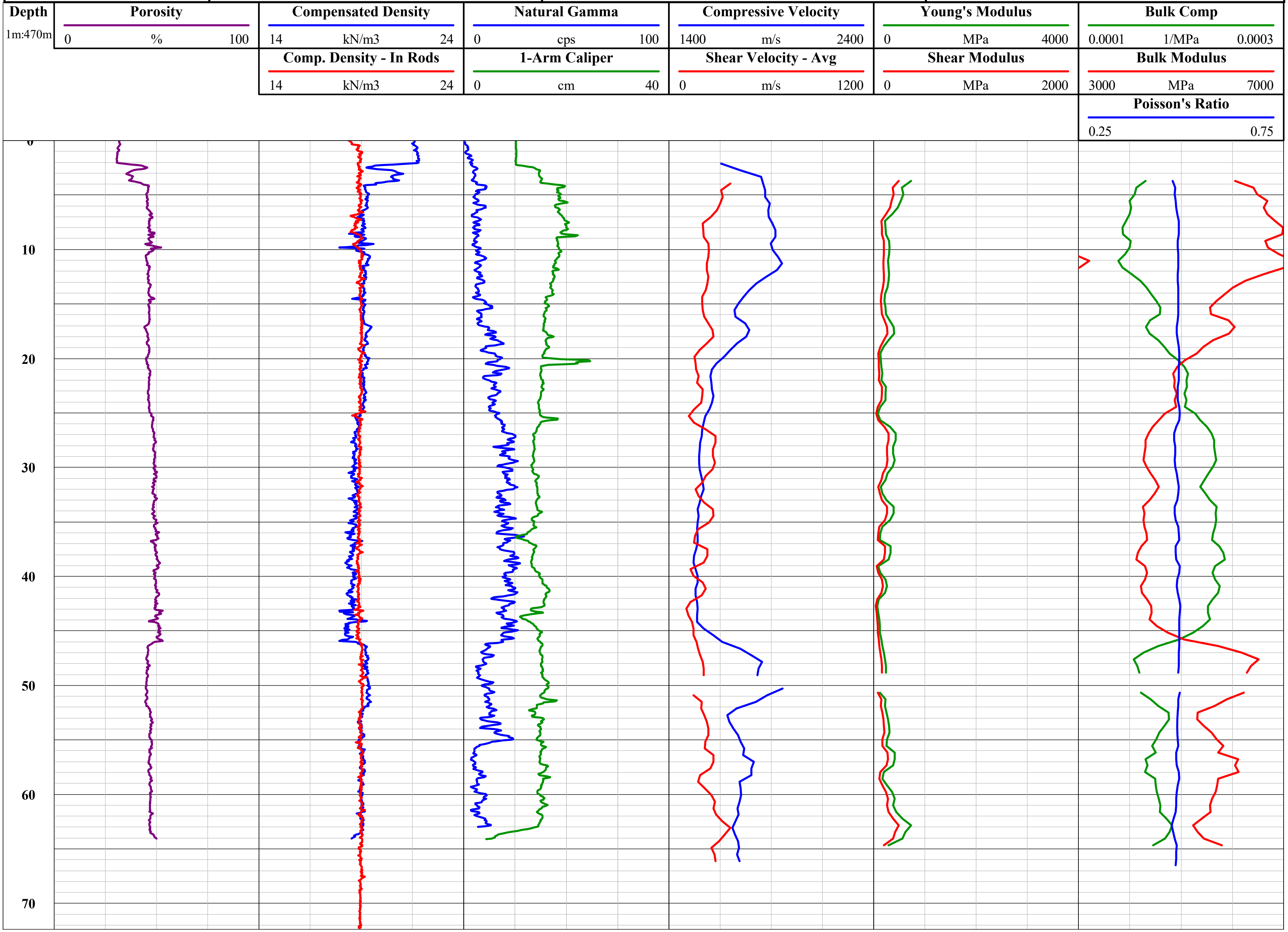
COMPANY: DOSECC

PROJECT: Deep Water Wind - South Fork

DATE LOGGED: 2-3 September 2018

WELL: SFWF-B-10

Colog, Inc.
810 Quail Street, Suite E, Lakewood, CO 80215
Phone: (303) 279-0171, Fax: (303) 278-0135
www.colog.com



COLOG

borehole geophysics / hydrophysics

Geophysical Summary Plot

COMPANY: DOSECC

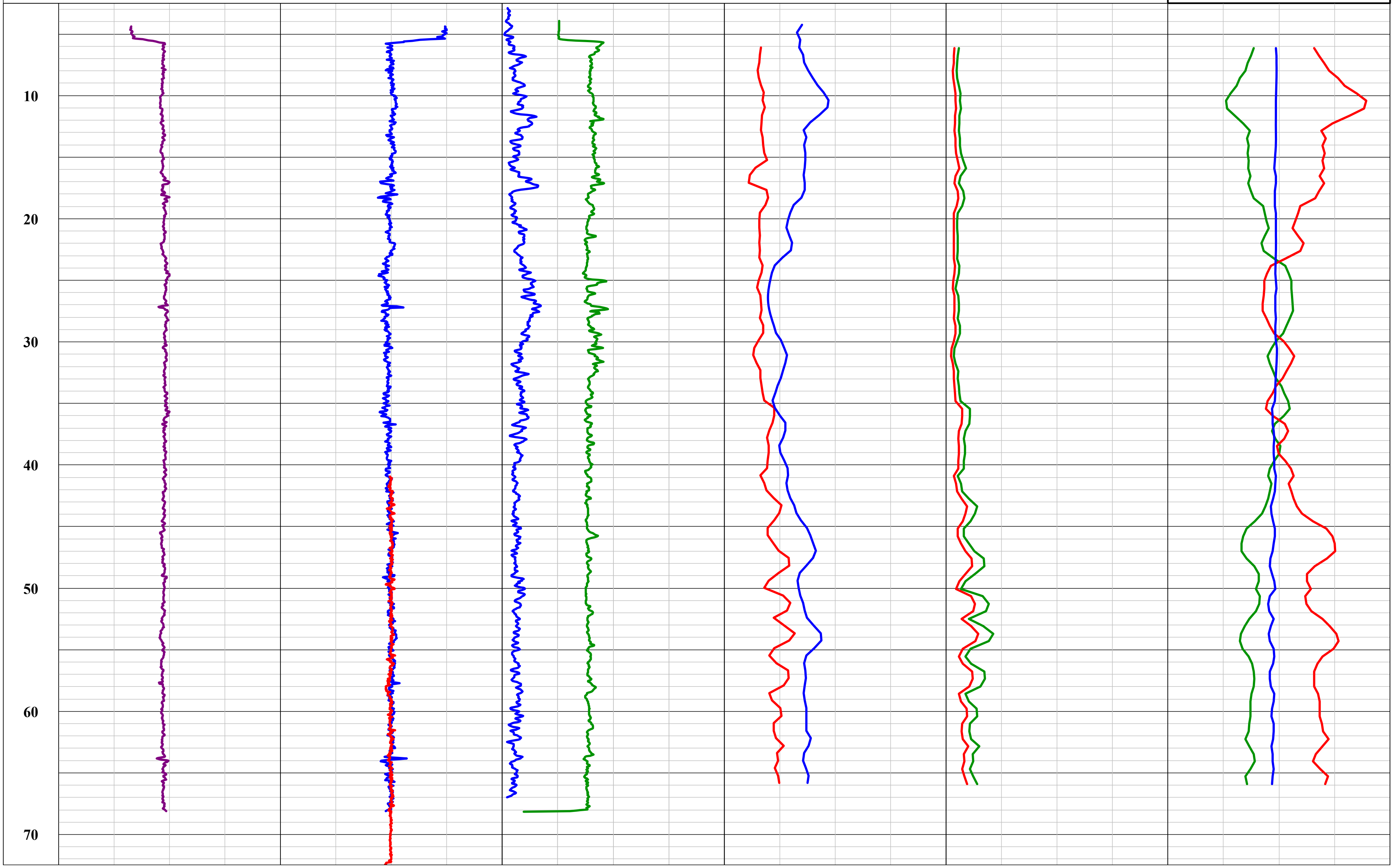
PROJECT: Deep Water Wind - South Fork

DATE LOGGED: 5-6 September 2018

WELL: SFWF-B-11A

Colog, Inc.
810 Quail Street, Suite E, Lakewood, CO 80215
Phone: (303) 279-0171, Fax: (303) 278-0135
www.colog.com

Depth	Porosity	Compensated Density	Natural Gamma	Shear Velocity - Avg	Shear Modulus	Bulk Comp
1m:450m	0 % 100	14 kN/m3 24	0 cps 100	0 m/s 1200	0 MPa 2000	0.0001 1/MPa 0.0003
		Comp. Density - In Rods	1-Arm Caliper	Compressive Velocity	Young's Modulus	Bulk Modulus
		14 kN/m3 24	0 cm 40	1400 m/s 2400	0 MPa 4000	3000 MPa 7000
						Poisson's Ratio
						0.25 0.75



borehole geophysics / hydrophysics

Geophysical Summary Plot

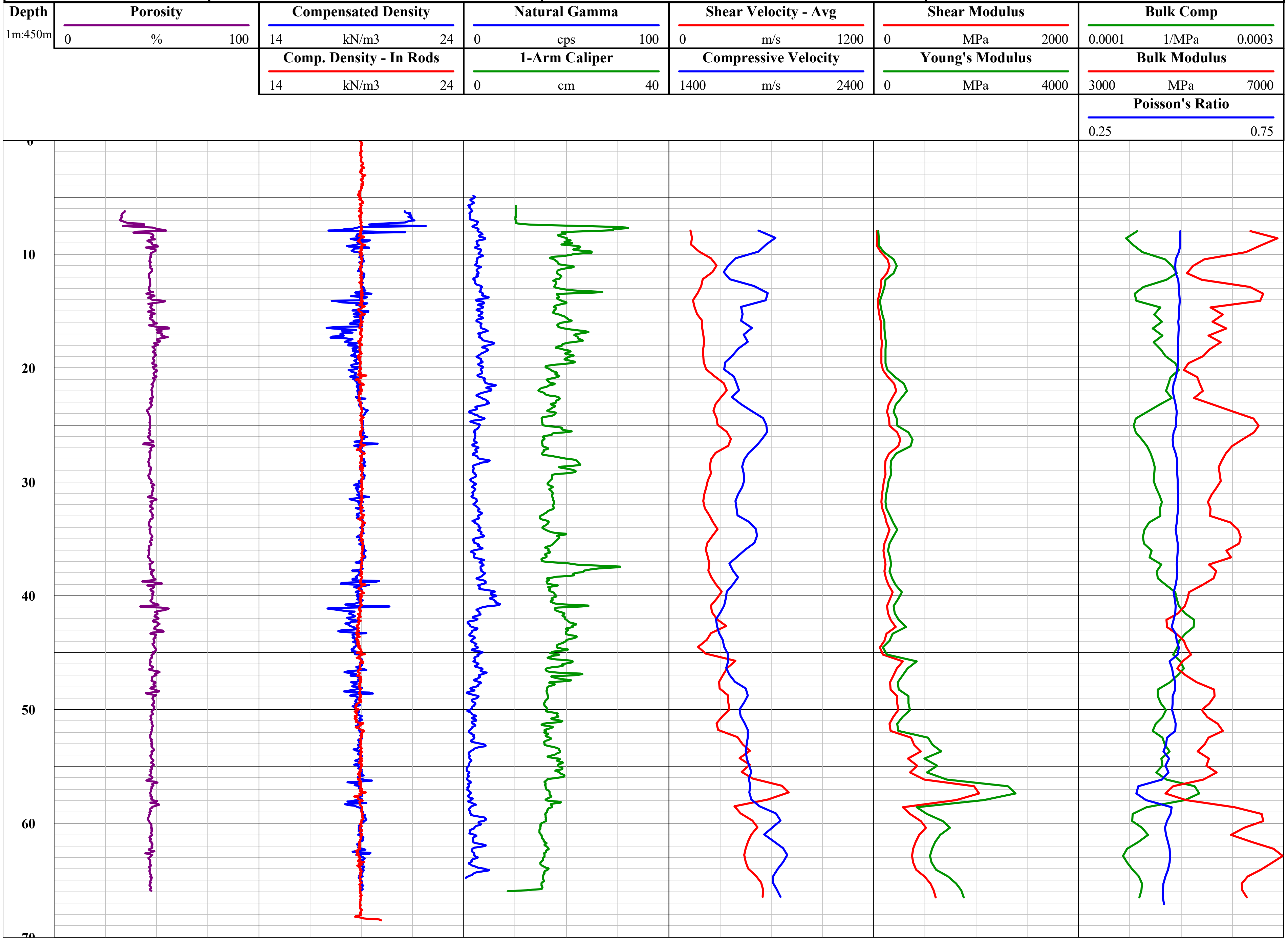
COMPANY: DOSECC

PROJECT: Deep Water Wind - South Fork

DATE LOGGED: 21-23 August 2018

WELL: SFWF-B-OSS

Colog, Inc.
810 Quail Street, Suite E, Lakewood, CO 80215
Phone: (303) 279-0171, Fax: (303) 278-0135
www.colog.com

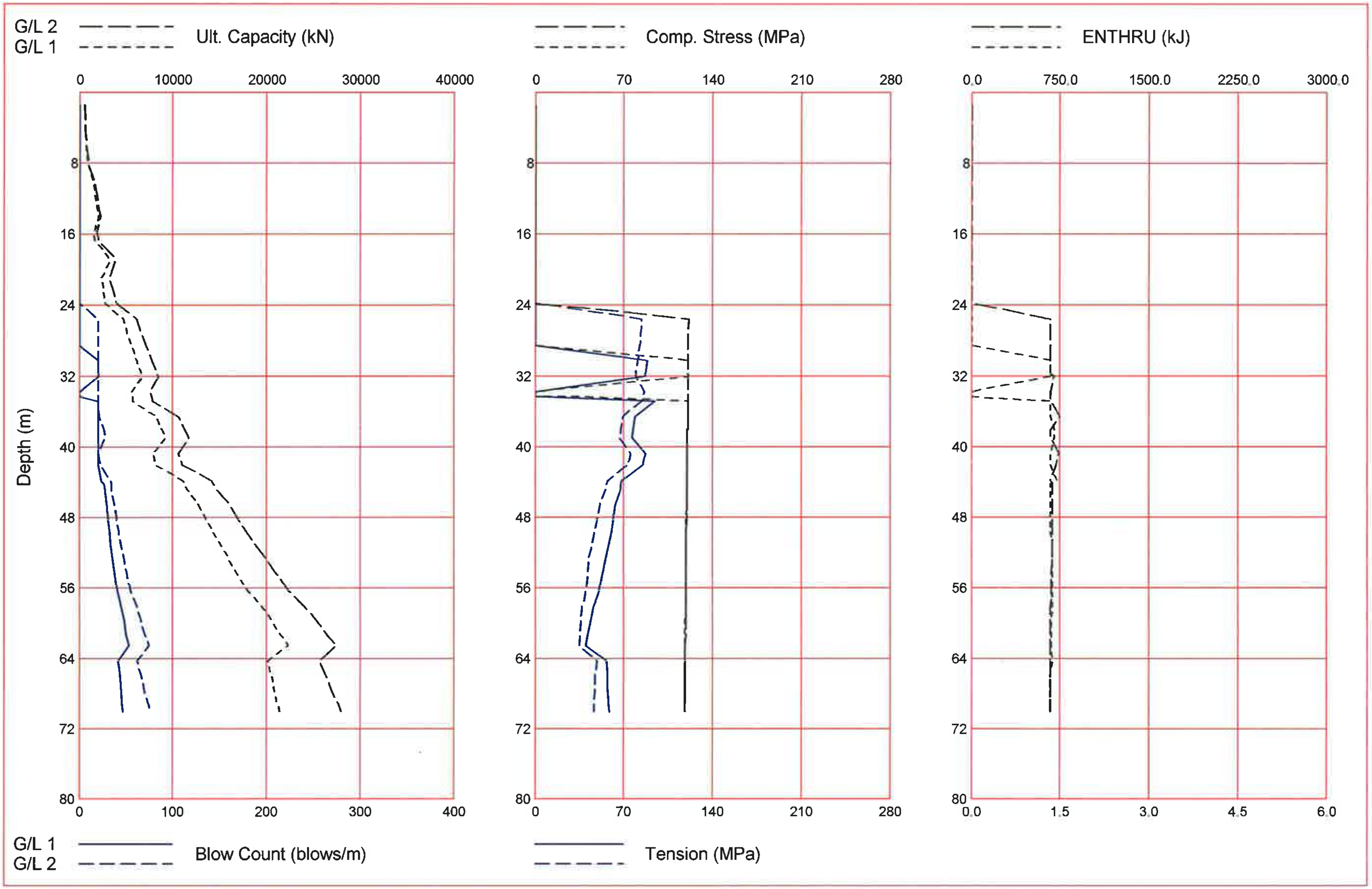


APPENDIX E

DRIVABILITY STUDY FOR JACKET PILES

GZA GeoEnvironmental Inc.
SFWF B-3 S-3000 105m 2.4mx64mmJacketPile
Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	575.7	12.5	563.2	0.0	0.000	0.000	0.50	0.0
3.0	613.6	50.4	563.2	0.0	0.000	0.000	0.50	0.0
4.6	676.3	113.1	563.2	0.0	0.000	0.000	0.50	0.0
6.1	764.7	201.6	563.2	0.0	0.000	0.000	0.50	0.0
7.6	877.7	314.5	563.2	0.0	0.000	0.000	0.50	0.0
8.2	930.1	366.9	563.2	0.0	0.000	0.000	0.50	0.0
10.1	1492.2	556.6	935.5	0.0	0.000	0.000	0.50	0.0
11.6	1685.2	749.7	935.5	0.0	0.000	0.000	0.50	0.0
13.1	1906.1	970.6	935.5	0.0	0.000	0.000	0.50	0.0
14.0	2050.1	1114.6	935.5	0.0	0.000	0.000	0.50	0.0
15.9	1548.8	1377.6	171.2	0.0	0.000	0.000	0.50	0.0
16.3	1603.3	1432.1	171.2	0.0	0.000	0.000	0.50	0.0
16.8	1656.7	1485.5	171.2	0.0	0.000	0.000	0.50	0.0
18.6	3041.1	1770.1	1271.1	0.0	0.000	0.000	0.50	0.0
18.9	3102.9	1831.8	1271.1	0.0	0.000	0.000	0.50	0.0
19.2	3163.7	1892.6	1271.1	0.0	0.000	0.000	0.50	0.0
21.0	2414.2	2212.5	201.7	0.0	0.000	0.000	0.50	0.0
22.6	2628.7	2427.0	201.7	0.0	0.000	0.000	0.50	0.0
23.8	2798.6	2596.8	201.7	0.0	0.000	0.000	0.50	0.0
25.6	4728.2	2967.8	1760.4	0.0	0.000	0.000	0.50	0.0
27.1	5155.1	3394.7	1760.4	0.0	0.000	0.000	0.50	0.0
28.6	5604.4	3844.1	1760.4	0.0	0.000	0.000	0.50	0.0
30.2	6082.3	4321.9	1760.4	20.6	120.690	-88.238	0.50	670.1
31.7	6582.3	4821.9	1760.4	20.7	120.566	-87.001	0.50	670.1
32.0	6683.9	4923.5	1760.4	20.7	120.543	-86.675	0.50	670.1
33.8	5621.7	5383.0	238.7	0.0	0.000	0.000	0.50	0.0
34.3	5693.3	5454.6	238.7	0.0	0.000	0.000	0.50	0.0
34.8	5764.9	5526.2	238.7	20.5	120.327	-94.216	0.50	670.1
36.6	8232.5	6022.0	2210.5	20.7	120.247	-79.088	0.50	670.1
38.1	8836.6	6626.1	2210.5	20.7	120.149	-77.522	0.50	702.2
39.0	9209.9	6999.3	2210.5	20.6	120.090	-76.626	0.50	701.6
40.8	7897.9	7601.9	296.0	20.7	119.887	-86.708	0.50	670.0
41.5	8043.0	7747.0	296.0	20.6	119.850	-85.614	0.50	670.0
42.1	8188.3	7892.3	296.0	20.7	119.811	-84.763	0.50	670.0
43.9	11054.7	8530.0	2524.7	23.5	119.759	-68.504	0.50	725.1
44.3	11269.5	8744.8	2524.7	27.2	119.730	-67.804	0.50	669.9
44.8	11486.6	8961.8	2524.7	27.4	119.695	-67.467	0.50	669.9
46.6	12724.3	9842.5	2881.8	29.9	119.571	-63.315	0.50	669.9
48.2	13492.0	10610.2	2881.8	31.2	119.459	-61.550	0.50	669.8
49.7	14279.5	11397.7	2881.8	32.6	119.359	-59.791	0.50	669.7
51.2	15097.2	12215.4	2881.8	34.2	119.250	-57.612	0.50	685.1
52.7	15934.4	13052.6	2881.8	35.9	119.137	-55.639	0.50	683.8
54.2	16796.4	13914.6	2881.8	37.8	119.035	-53.437	0.50	682.2
55.8	17689.0	14807.2	2881.8	39.7	118.934	-51.434	0.50	683.1
56.4	18051.9	15170.1	2881.8	40.7	118.890	-50.473	0.50	683.8
58.2	19608.8	16282.7	3326.1	45.2	118.772	-45.702	0.50	685.8
59.7	20560.5	17234.4	3326.1	47.7	118.681	-43.735	0.50	679.5
61.3	21537.1	18211.1	3326.1	50.6	118.585	-41.577	0.50	677.1
62.5	22339.1	19013.1	3326.1	53.0	118.524	-40.195	0.50	676.0

Gain/Loss 1 at Shaft and Toe 0.500 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
64.3	20232.1	19812.0	420.1	42.3	118.415	-56.395	0.50	683.5
65.8	20541.2	20121.1	420.1	43.7	118.342	-56.821	0.50	668.8
67.4	20849.0	20428.9	420.1	45.0	118.278	-57.435	0.50	667.9
68.9	21157.5	20737.4	420.1	46.1	118.206	-58.077	0.50	667.8
69.2	21220.5	20800.4	420.1	46.5	118.193	-58.186	0.50	667.7
70.1	21405.6	20985.5	420.1	47.2	118.159	-58.655	0.50	667.6

Total Number of Blows: 1320 (starting at penetration 1.5 m)

Driving Time (min):	44	33	26	22	18	16	14	13	12	11
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	578.2	15.0	563.2	0.0	0.000	0.000	0.50	0.0
3.0	623.7	60.5	563.2	0.0	0.000	0.000	0.50	0.0
4.6	698.9	135.8	563.2	0.0	0.000	0.000	0.50	0.0
6.1	805.1	241.9	563.2	0.0	0.000	0.000	0.50	0.0
7.6	940.6	377.4	563.2	0.0	0.000	0.000	0.50	0.0
8.2	1003.5	440.3	563.2	0.0	0.000	0.000	0.50	0.0
10.1	1603.5	667.9	935.5	0.0	0.000	0.000	0.50	0.0
11.6	1835.2	899.6	935.5	0.0	0.000	0.000	0.50	0.0
13.1	2100.2	1164.7	935.5	0.0	0.000	0.000	0.50	0.0
14.0	2273.0	1337.5	935.5	0.0	0.000	0.000	0.50	0.0
15.9	1910.6	1739.4	171.2	0.0	0.000	0.000	0.50	0.0
16.3	2019.6	1848.4	171.2	0.0	0.000	0.000	0.50	0.0
16.8	2126.3	1955.1	171.2	0.0	0.000	0.000	0.50	0.0
18.6	3655.0	2383.9	1271.1	0.0	0.000	0.000	0.50	0.0
18.9	3729.2	2458.1	1271.1	0.0	0.000	0.000	0.50	0.0
19.2	3802.1	2531.0	1271.1	0.0	0.000	0.000	0.50	0.0
21.0	3218.6	3016.8	201.7	0.0	0.000	0.000	0.50	0.0
22.6	3647.7	3446.0	201.7	0.0	0.000	0.000	0.50	0.0
23.8	3987.3	3785.6	201.7	0.0	0.000	0.000	0.50	0.0
25.6	6094.5	4334.1	1760.4	20.6	121.039	-84.047	0.50	670.1
27.1	6606.8	4846.4	1760.4	20.7	120.937	-83.161	0.50	670.1
28.6	7146.0	5385.6	1760.4	20.7	120.846	-82.164	0.50	670.1
30.2	7719.4	5959.0	1760.4	20.7	120.755	-80.936	0.50	670.1
31.7	8319.4	6559.0	1760.4	20.7	120.660	-79.520	0.50	670.1
32.0	8441.4	6681.0	1760.4	20.6	120.638	-79.212	0.50	703.4
33.8	7584.3	7345.6	238.7	20.6	120.464	-86.200	0.50	670.1
34.3	7727.5	7488.8	238.7	20.7	120.436	-85.181	0.50	670.1
34.8	7870.7	7632.1	238.7	20.7	120.412	-84.175	0.50	670.1
36.6	10550.9	8340.4	2210.5	21.5	120.375	-69.022	0.50	746.1
38.1	11275.9	9065.4	2210.5	27.3	120.273	-67.461	0.50	670.0
39.0	11723.8	9513.2	2210.5	28.1	120.208	-66.540	0.50	670.0
40.8	10597.2	10301.2	296.0	20.7	120.036	-75.252	0.50	738.0
41.5	10814.9	10518.9	296.0	21.7	119.997	-73.941	0.50	722.8
42.1	11032.8	10736.8	296.0	22.4	119.960	-72.665	0.50	714.7
43.9	14092.5	11567.8	2524.7	34.0	119.870	-56.944	0.50	669.9
44.3	14350.3	11825.6	2524.7	34.5	119.839	-56.363	0.50	684.5
44.8	14610.8	12086.1	2524.7	35.0	119.806	-55.776	0.50	684.1
46.6	16024.6	13142.8	2881.8	38.4	119.671	-51.427	0.50	686.8
48.2	16945.9	14064.1	2881.8	40.5	119.562	-49.145	0.50	687.1
49.7	17890.9	15009.1	2881.8	42.7	119.460	-46.834	0.50	686.8
51.2	18872.1	15990.4	2881.8	45.2	119.350	-44.569	0.50	685.0
52.7	19876.8	16995.0	2881.8	47.8	119.246	-42.383	0.50	682.5
54.2	20911.1	18029.4	2881.8	50.8	119.137	-41.152	0.50	676.1
55.8	21982.3	19100.5	2881.8	54.0	119.050	-40.558	0.50	674.2
56.4	22417.8	19536.0	2881.8	55.3	119.013	-40.277	0.50	673.0
58.2	24197.2	20871.1	3326.1	62.0	118.894	-36.928	0.50	669.3
59.7	25339.2	22013.1	3326.1	66.1	118.813	-36.076	0.50	668.4
61.3	26511.2	23185.1	3326.1	70.7	118.724	-35.252	0.50	668.1
62.5	27473.6	24147.5	3326.1	74.6	118.659	-34.605	0.50	667.9

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
64.3	25673.1	25253.1	420.1	62.4	118.554	-48.649	0.50	667.5
65.8	26291.4	25871.3	420.1	66.1	118.480	-47.701	0.50	667.2
67.4	26907.0	26486.9	420.1	69.8	118.401	-47.064	0.50	667.0
68.9	27524.0	27103.9	420.1	73.6	118.334	-46.694	0.50	666.7
69.2	27650.0	27229.9	420.1	74.3	118.328	-46.646	0.50	666.7
70.1	28020.2	27600.1	420.1	76.5	118.290	-46.562	0.50	666.5

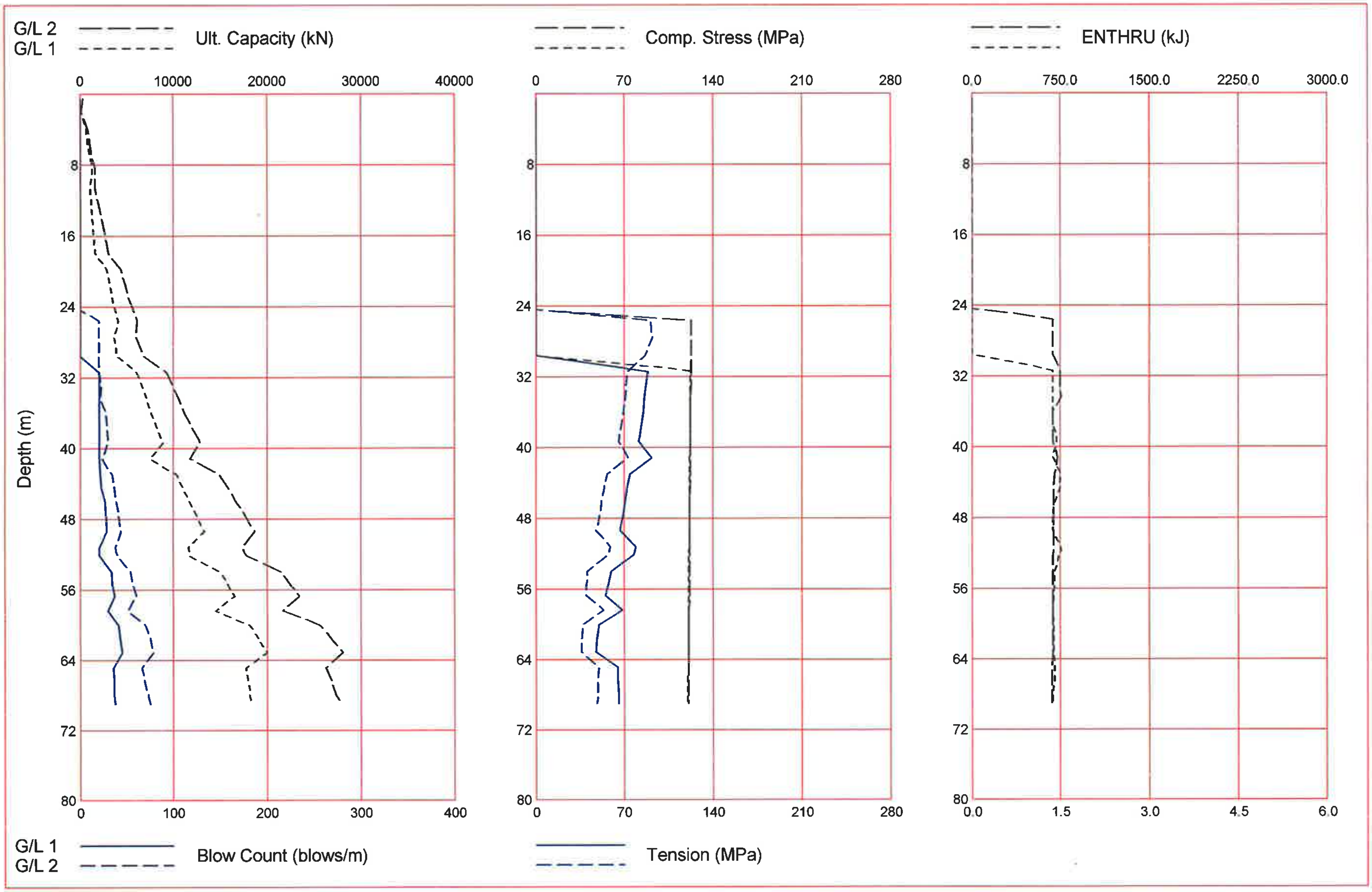
Total Number of Blows: 1905 (starting at penetration 1.5 m)

Driving Time (min):	63	47	38	31	27	23	21	19	17	15
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc.
SFWF B-6 S-3000 105m 2.4mx64mmJacketPile
Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
0.6	364.7	4.0	360.8	0.0	0.000	0.000	0.50	0.0
2.1	77.0	33.2	43.8	0.0	0.000	0.000	0.50	0.0
4.0	749.6	115.5	634.0	0.0	0.000	0.000	0.50	0.0
5.5	900.5	266.5	634.0	0.0	0.000	0.000	0.50	0.0
7.0	1102.6	468.6	634.0	0.0	0.000	0.000	0.50	0.0
8.5	1356.6	722.6	634.0	0.0	0.000	0.000	0.50	0.0
8.8	1414.8	780.8	634.0	0.0	0.000	0.000	0.50	0.0
10.7	1171.3	1025.3	146.0	0.0	0.000	0.000	0.50	0.0
12.2	1272.6	1126.6	146.0	0.0	0.000	0.000	0.50	0.0
13.7	1374.7	1228.7	146.0	0.0	0.000	0.000	0.50	0.0
15.2	1476.2	1330.2	146.0	0.0	0.000	0.000	0.50	0.0
16.8	1577.9	1431.9	146.0	0.0	0.000	0.000	0.50	0.0
18.0	1659.6	1513.6	146.0	0.0	0.000	0.000	0.50	0.0
19.8	2838.1	1747.0	1091.1	0.0	0.000	0.000	0.50	0.0
21.3	3145.6	2054.5	1091.1	0.0	0.000	0.000	0.50	0.0
22.9	3474.2	2383.1	1091.1	0.0	0.000	0.000	0.50	0.0
24.4	3826.0	2734.9	1091.1	0.0	0.000	0.000	0.50	0.0
25.6	4125.0	3033.9	1091.1	0.0	0.000	0.000	0.50	0.0
27.4	3739.3	3387.6	351.8	0.0	0.000	0.000	0.50	0.0
29.0	3938.6	3586.9	351.8	0.0	0.000	0.000	0.50	0.0
29.6	4018.2	3666.4	351.8	0.0	0.000	0.000	0.50	0.0
31.4	6130.8	4060.8	2070.0	20.7	122.346	-88.253	0.50	683.3
32.9	6612.8	4542.8	2070.0	20.7	122.236	-86.940	0.50	683.3
34.4	7114.9	5044.9	2070.0	20.7	122.096	-85.850	0.50	683.3
36.0	7643.6	5573.6	2070.0	20.7	122.007	-84.403	0.50	683.3
37.5	8192.1	6122.0	2070.0	20.7	121.900	-83.156	0.50	683.3
39.0	8763.6	6693.6	2070.0	20.6	121.835	-81.495	0.50	715.6
39.3	8883.0	6813.0	2070.0	20.6	121.806	-81.195	0.50	715.2
41.2	7567.3	7276.7	290.6	20.7	121.597	-91.261	0.50	683.2
43.0	10381.0	7768.6	2612.4	21.5	121.583	-74.148	0.50	748.9
44.5	11035.9	8423.6	2612.4	22.4	121.472	-72.426	0.50	746.9
46.0	11714.1	9101.7	2612.4	26.8	121.385	-70.746	0.50	705.4
47.5	12420.0	9807.6	2612.4	27.9	121.258	-68.860	0.50	683.0
49.1	13144.6	10532.2	2612.4	29.1	121.184	-66.976	0.50	683.0
49.4	13295.2	10682.8	2612.4	29.3	121.153	-66.527	0.50	682.9
51.2	11618.3	11254.3	364.0	20.7	120.996	-78.404	0.50	751.4
51.7	11678.9	11314.9	364.0	20.7	120.939	-77.869	0.50	753.1
52.1	11740.9	11376.9	364.0	21.2	120.934	-77.579	0.50	731.2
54.0	15051.4	11981.9	3069.5	33.5	120.856	-59.114	0.50	698.1
55.5	15873.1	12803.6	3069.5	35.1	120.751	-56.972	0.50	696.7
56.7	16549.2	13479.7	3069.5	36.6	120.674	-55.156	0.50	695.6
58.4	14518.1	14100.9	417.2	29.7	120.573	-68.558	0.50	682.4
60.0	18127.5	14744.9	3382.7	40.8	120.519	-50.001	0.50	693.4
61.6	19042.1	15659.4	3382.7	43.0	120.428	-47.875	0.50	693.8
63.1	19979.8	16597.1	3382.7	45.3	120.377	-47.247	0.50	692.3
64.9	17738.4	17294.7	443.8	36.0	120.280	-64.490	0.50	698.8
66.4	17938.8	17495.0	443.8	36.7	120.212	-64.874	0.50	696.3

Gain/Loss 1 at Shaft and Toe 0.333 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
68.0	18138.4	17694.6	443.8	37.2	120.163	-65.082	0.50	686.1
68.1	18158.1	17714.4	443.8	37.2	120.161	-65.087	0.50	686.0
69.0	18279.2	17835.5	443.8	37.6	120.119	-65.581	0.50	685.0

Total Number of Blows: 1106 (starting at penetration 0.6 m)

Driving Time (min):	36	27	22	18	15	13	12	11	10	9
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc. 2018 Dec 21
SFWF B-6 S-3000 105m 2.4mx64mmJacketPile GRLWEAP Version 2010

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
0.6	365.8	5.1	360.8	0.0	0.000	0.000	0.50	0.0
2.1	116.2	72.4	43.8	0.0	0.000	0.000	0.50	0.0
4.0	842.5	208.4	634.0	0.0	0.000	0.000	0.50	0.0
5.5	1036.6	402.6	634.0	0.0	0.000	0.000	0.50	0.0
7.0	1296.5	662.4	634.0	0.0	0.000	0.000	0.50	0.0
8.5	1623.1	989.0	634.0	0.0	0.000	0.000	0.50	0.0
8.8	1697.9	1063.9	634.0	0.0	0.000	0.000	0.50	0.0
10.7	1629.4	1483.4	146.0	0.0	0.000	0.000	0.50	0.0
12.2	1933.6	1787.6	146.0	0.0	0.000	0.000	0.50	0.0
13.7	2240.2	2094.2	146.0	0.0	0.000	0.000	0.50	0.0
15.2	2545.2	2399.1	146.0	0.0	0.000	0.000	0.50	0.0
16.8	2850.5	2704.5	146.0	0.0	0.000	0.000	0.50	0.0
18.0	3095.8	2949.8	146.0	0.0	0.000	0.000	0.50	0.0
19.8	4446.9	3355.8	1091.1	0.0	0.000	0.000	0.50	0.0
21.3	4842.3	3751.2	1091.1	0.0	0.000	0.000	0.50	0.0
22.9	5264.9	4173.8	1091.1	0.0	0.000	0.000	0.50	0.0
24.4	5717.2	4626.1	1091.1	0.0	0.000	0.000	0.50	0.0
25.6	6101.7	5010.6	1091.1	20.7	122.856	-90.924	0.50	683.3
27.4	6020.5	5668.7	351.8	20.5	122.749	-92.446	0.50	683.3
29.0	6619.0	6267.2	351.8	20.7	122.661	-87.933	0.50	683.3
29.6	6857.8	6506.1	351.8	20.6	122.609	-86.193	0.50	683.3
31.4	9287.1	7217.1	2070.0	20.7	122.628	-72.399	0.50	750.9
32.9	9906.9	7836.9	2070.0	22.3	122.503	-71.522	0.50	748.3
34.4	10552.6	8482.5	2070.0	21.7	122.426	-70.612	0.50	757.0
36.0	11232.4	9162.4	2070.0	27.5	122.307	-69.402	0.50	683.3
37.5	11937.7	9867.7	2070.0	28.6	122.208	-67.809	0.50	683.2
39.0	12672.7	10602.6	2070.0	29.7	122.090	-65.754	0.50	683.2
39.3	12826.2	10756.2	2070.0	30.0	122.086	-65.280	0.50	683.2
41.2	11828.0	11537.4	290.6	23.7	121.938	-72.440	0.50	726.3
43.0	14965.3	12352.9	2612.4	35.4	121.841	-56.086	0.50	696.0
44.5	15807.6	13195.2	2612.4	37.1	121.740	-54.165	0.50	695.0
46.0	16679.5	14067.2	2612.4	39.1	121.635	-52.188	0.50	694.5
47.5	17587.3	14975.0	2612.4	41.1	121.544	-50.110	0.50	693.3
49.1	18519.0	15906.6	2612.4	43.4	121.440	-48.104	0.50	692.8
49.4	18712.7	16100.3	2612.4	43.9	121.424	-47.673	0.50	692.9
51.2	17411.9	17047.9	364.0	38.1	121.290	-58.709	0.50	689.0
51.7	17594.0	17230.0	364.0	38.8	121.262	-58.028	0.50	688.4
52.1	17780.2	17416.2	364.0	39.5	121.235	-57.361	0.50	687.8
54.0	21476.7	18407.2	3069.5	54.4	121.140	-40.751	0.50	685.8
55.5	22533.2	19463.7	3069.5	57.7	121.061	-40.250	0.50	683.2
56.7	23402.7	20333.2	3069.5	60.5	120.997	-39.942	0.50	681.4
58.4	21723.4	21306.2	417.2	50.9	120.891	-53.396	0.50	681.1
60.0	25691.4	22308.7	3382.7	70.5	120.825	-36.887	0.50	680.8
61.6	26867.5	23484.8	3382.7	75.1	120.761	-36.419	0.50	680.5
63.1	28073.2	24690.5	3382.7	78.7	120.686	-35.946	0.50	680.2
64.9	26235.5	25791.7	443.8	66.5	120.611	-49.966	0.50	679.8
66.4	26837.1	26393.4	443.8	69.7	120.558	-49.276	0.50	679.6

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
68.0	27436.5	26992.8	443.8	73.0	120.495	-48.720	0.50	679.4
68.1	27495.8	27052.0	443.8	73.3	120.488	-48.685	0.50	679.3
69.0	27859.5	27415.8	443.8	75.3	120.448	-48.456	0.50	679.2

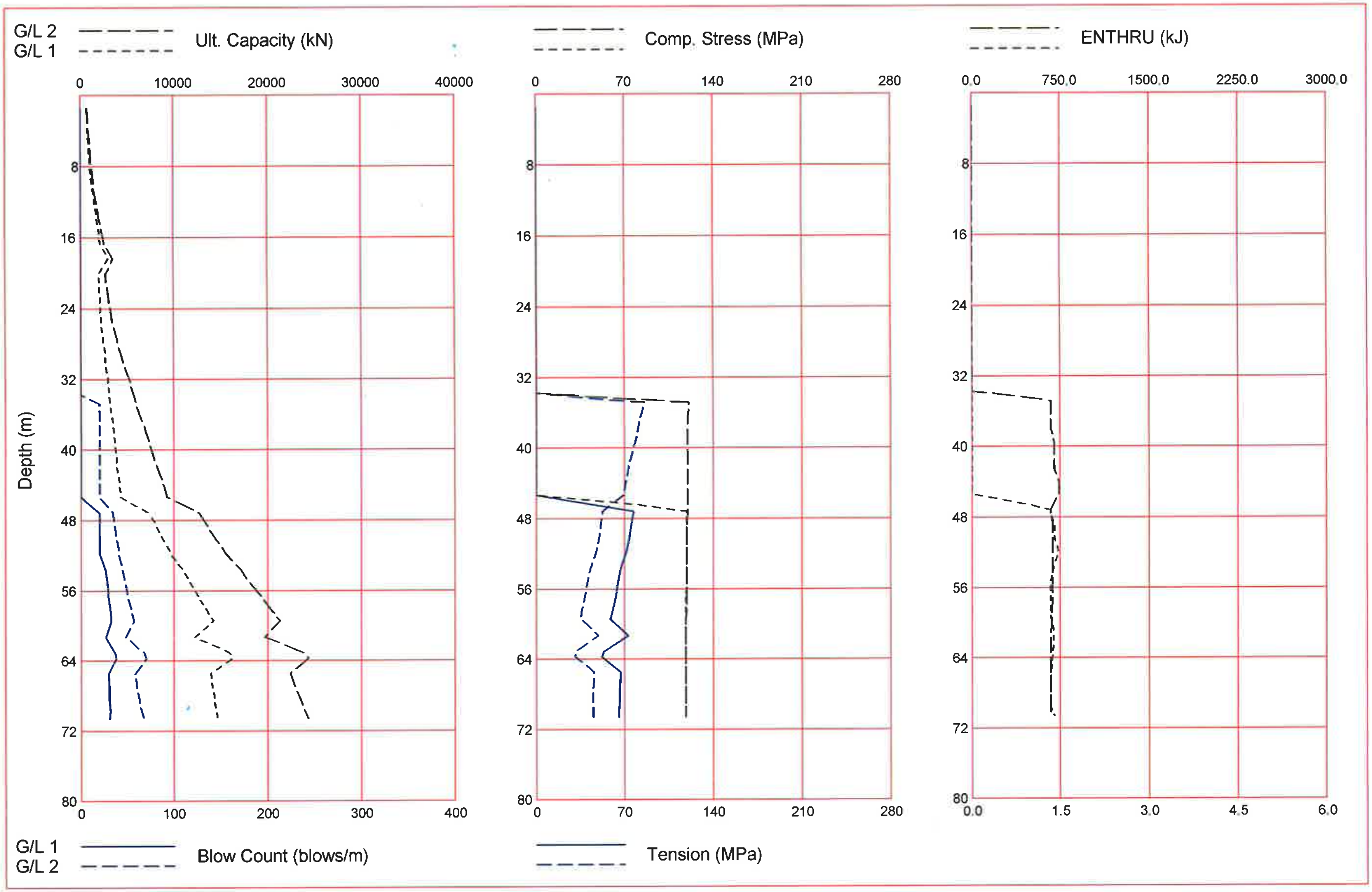
Total Number of Blows: 1890 (starting at penetration 0.6 m)

Driving Time (min):	63	47	37	31	27	23	21	18	17	15
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc.
SFWF B10 S-3000 105m 2.4mx64mmJacketPile
Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



GZA GeoEnvironmental Inc. 2018 Dec 21
SFWF B10 S-3000 105m 2.4mx64mmJacketPile GRLWEAP Version 2010

Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	790.6	11.7	778.9	0.0	0.000	0.000	0.50	0.0
3.0	825.9	47.0	778.9	0.0	0.000	0.000	0.50	0.0
4.6	884.4	105.5	778.9	0.0	0.000	0.000	0.50	0.0
6.1	966.8	187.9	778.9	0.0	0.000	0.000	0.50	0.0
7.6	1072.1	293.2	778.9	0.0	0.000	0.000	0.50	0.0
9.1	1200.7	421.8	778.9	0.0	0.000	0.000	0.50	0.0
10.7	1353.8	574.9	778.9	0.0	0.000	0.000	0.50	0.0
12.2	1529.2	750.3	778.9	0.0	0.000	0.000	0.50	0.0
13.7	1729.4	950.5	778.9	0.0	0.000	0.000	0.50	0.0
15.2	1951.7	1172.8	778.9	0.0	0.000	0.000	0.50	0.0
16.8	2197.3	1418.4	778.9	0.0	0.000	0.000	0.50	0.0
18.4	2982.0	1717.0	1265.0	0.0	0.000	0.000	0.50	0.0
20.1	2013.1	1906.0	107.2	0.0	0.000	0.000	0.50	0.0
21.6	2086.5	1979.3	107.2	0.0	0.000	0.000	0.50	0.0
23.2	2160.0	2052.8	107.2	0.0	0.000	0.000	0.50	0.0
23.5	2175.0	2067.8	107.2	0.0	0.000	0.000	0.50	0.0
25.3	2263.7	2156.5	107.2	0.0	0.000	0.000	0.50	0.0
25.6	2278.2	2171.1	107.2	0.0	0.000	0.000	0.50	0.0
25.9	2293.3	2186.1	107.2	0.0	0.000	0.000	0.50	0.0
27.7	2521.8	2317.7	204.2	0.0	0.000	0.000	0.50	0.0
29.3	2666.2	2462.0	204.2	0.0	0.000	0.000	0.50	0.0
30.8	2810.7	2606.6	204.2	0.0	0.000	0.000	0.50	0.0
32.3	2956.3	2752.1	204.2	0.0	0.000	0.000	0.50	0.0
33.8	3101.1	2896.9	204.2	0.0	0.000	0.000	0.50	0.0
34.8	3188.8	2984.6	204.2	0.0	0.000	0.000	0.50	0.0
36.6	3400.9	3166.1	234.8	0.0	0.000	0.000	0.50	0.0
38.1	3557.6	3322.9	234.8	0.0	0.000	0.000	0.50	0.0
39.6	3714.6	3479.8	234.8	0.0	0.000	0.000	0.50	0.0
41.2	3872.8	3638.0	234.8	0.0	0.000	0.000	0.50	0.0
42.7	4030.1	3795.3	234.8	0.0	0.000	0.000	0.50	0.0
44.2	4188.7	3954.0	234.8	0.0	0.000	0.000	0.50	0.0
45.4	4315.4	4080.6	234.8	0.0	0.000	0.000	0.50	0.0
47.2	7388.2	4596.5	2791.7	20.7	119.328	-77.388	0.50	670.0
48.8	8115.7	5324.0	2791.7	20.7	119.224	-75.223	0.50	703.0
50.3	8862.4	6070.7	2791.7	20.7	119.123	-73.412	0.50	701.4
51.8	9637.8	6846.1	2791.7	20.7	119.017	-71.248	0.50	735.3
51.8	9643.0	6851.3	2791.7	20.7	119.017	-71.236	0.50	735.3
53.7	10959.4	7810.5	3149.0	27.2	118.907	-66.765	0.50	693.2
55.2	11782.0	8633.0	3149.0	28.5	118.811	-64.869	0.50	669.7
56.7	12633.6	9484.6	3149.0	30.0	118.711	-62.734	0.50	669.6
58.2	13503.1	10354.2	3149.0	31.6	118.625	-60.752	0.50	669.5
59.4	14212.1	11063.1	3149.0	32.9	118.554	-58.957	0.50	669.5
61.3	12163.4	11725.2	438.2	26.6	118.420	-72.795	0.50	690.2
63.1	15909.1	12413.8	3495.3	37.1	118.355	-53.090	0.50	684.5
63.4	16104.5	12609.2	3495.3	37.5	118.340	-52.672	0.50	684.2
63.7	16294.5	12799.2	3495.3	38.1	118.323	-51.999	0.50	683.7
65.5	13969.5	13502.7	466.8	30.0	118.220	-67.101	0.50	669.1

Gain/Loss 1 at Shaft and Toe 0.333 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
67.1	14163.4	13696.6	466.8	30.5	118.155	-66.402	0.50	669.0
68.6	14356.5	13889.7	466.8	31.0	118.083	-65.864	0.50	668.9
69.7	14492.8	14026.0	466.8	31.4	118.047	-65.412	0.50	668.8
70.6	14609.0	14142.2	466.8	31.2	118.022	-65.016	0.50	700.1

Total Number of Blows: 682 (starting at penetration 1.5 m)

Driving Time (min):	22	17	13	11	9	8	7	6	6	5
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	793.9	15.0	778.9	0.0	0.000	0.000	0.50	0.0
3.0	839.3	60.4	778.9	0.0	0.000	0.000	0.50	0.0
4.6	914.5	135.6	778.9	0.0	0.000	0.000	0.50	0.0
6.1	1020.5	241.6	778.9	0.0	0.000	0.000	0.50	0.0
7.6	1155.9	377.0	778.9	0.0	0.000	0.000	0.50	0.0
9.1	1321.3	542.4	778.9	0.0	0.000	0.000	0.50	0.0
10.7	1518.1	739.2	778.9	0.0	0.000	0.000	0.50	0.0
12.2	1743.7	964.8	778.9	0.0	0.000	0.000	0.50	0.0
13.7	2001.1	1222.2	778.9	0.0	0.000	0.000	0.50	0.0
15.2	2286.9	1508.0	778.9	0.0	0.000	0.000	0.50	0.0
16.8	2602.8	1823.9	778.9	0.0	0.000	0.000	0.50	0.0
18.4	3472.9	2207.9	1265.0	0.0	0.000	0.000	0.50	0.0
20.1	2634.1	2526.9	107.2	0.0	0.000	0.000	0.50	0.0
21.6	2854.3	2747.1	107.2	0.0	0.000	0.000	0.50	0.0
23.2	3075.0	2967.8	107.2	0.0	0.000	0.000	0.50	0.0
23.5	3120.1	3012.9	107.2	0.0	0.000	0.000	0.50	0.0
25.3	3386.5	3279.3	107.2	0.0	0.000	0.000	0.50	0.0
25.6	3430.2	3323.0	107.2	0.0	0.000	0.000	0.50	0.0
25.9	3475.4	3368.2	107.2	0.0	0.000	0.000	0.50	0.0
27.7	3967.4	3763.2	204.2	0.0	0.000	0.000	0.50	0.0
29.3	4401.0	4196.8	204.2	0.0	0.000	0.000	0.50	0.0
30.8	4835.0	4630.8	204.2	0.0	0.000	0.000	0.50	0.0
32.3	5272.2	5068.0	204.2	0.0	0.000	0.000	0.50	0.0
33.8	5706.9	5502.7	204.2	0.0	0.000	0.000	0.50	0.0
34.8	5970.2	5766.1	204.2	20.7	120.324	-85.742	0.50	670.1
36.6	6546.0	6311.2	234.8	20.6	120.190	-82.617	0.50	670.1
38.1	7016.6	6781.9	234.8	20.7	120.076	-80.154	0.50	670.1
39.6	7487.9	7253.2	234.8	20.7	119.971	-77.715	0.50	703.2
41.2	7963.0	7728.2	234.8	20.7	119.878	-75.299	0.50	700.5
42.7	8435.5	8200.8	234.8	20.7	119.788	-72.951	0.50	697.5
44.2	8911.9	8677.1	234.8	20.7	119.688	-70.637	0.50	741.0
45.4	9292.1	9057.3	234.8	20.7	119.602	-68.823	0.50	743.7
47.2	12674.8	9883.1	2791.7	35.0	119.528	-52.764	0.50	669.8
48.8	13610.3	10818.6	2791.7	36.8	119.429	-51.138	0.50	683.8
50.3	14570.4	11778.7	2791.7	38.7	119.321	-49.280	0.50	687.0
51.8	15567.6	12775.9	2791.7	41.0	119.211	-47.226	0.50	687.7
51.8	15574.2	12782.5	2791.7	41.0	119.210	-47.213	0.50	687.7
53.7	17164.9	14015.9	3149.0	45.4	119.093	-42.830	0.50	686.8
55.2	18222.6	15073.6	3149.0	48.1	118.990	-40.516	0.50	683.9
56.7	19317.7	16168.7	3149.0	51.2	118.884	-38.135	0.50	680.5
58.2	20435.8	17286.9	3149.0	54.5	118.793	-36.465	0.50	676.3
59.4	21347.4	18198.5	3149.0	57.3	118.717	-35.431	0.50	673.4
61.3	19692.7	19254.4	438.2	48.4	118.608	-48.710	0.50	668.7
63.1	23842.4	20347.1	3495.3	68.1	118.519	-31.122	0.50	668.4
63.4	24093.7	20598.4	3495.3	69.1	118.502	-30.968	0.50	668.4
63.7	24338.1	20842.8	3495.3	70.0	118.486	-30.831	0.50	668.3
65.5	22411.7	21944.9	466.8	57.8	118.396	-45.583	0.50	668.0

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
67.1	22993.8	22527.0	466.8	60.7	118.330	-45.120	0.50	667.8
68.6	23573.9	23107.0	466.8	63.6	118.260	-44.895	0.50	667.5
69.7	23983.2	23516.4	466.8	65.7	118.223	-44.881	0.50	667.3
70.6	24332.0	23865.2	466.8	67.5	118.194	-44.946	0.50	667.2

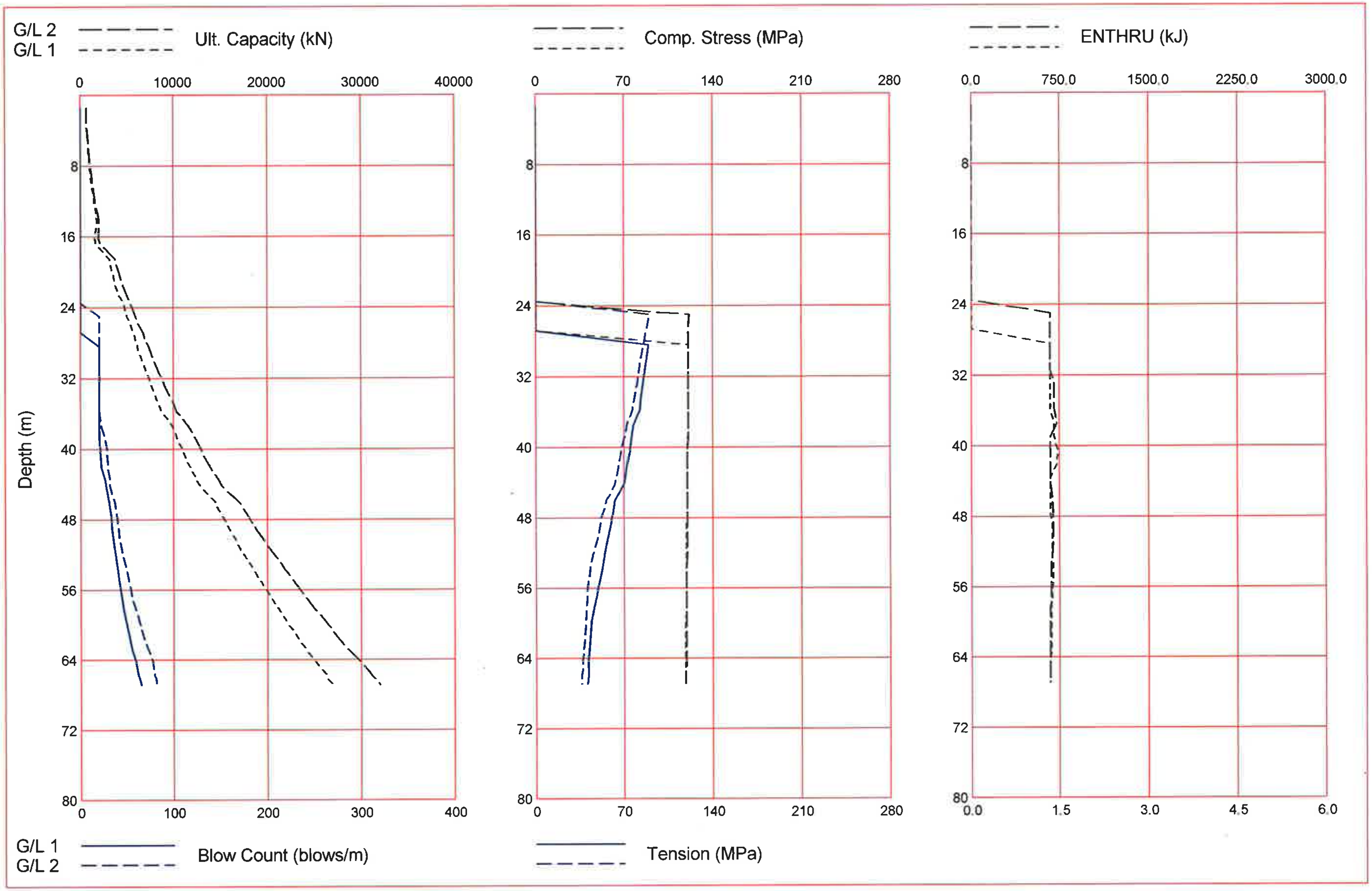
Total Number of Blows: 1505 (starting at penetration 1.5 m)

Driving Time (min):	50	37	30	25	21	18	16	15	13	12
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc.
SFWF B11 S-3000 105m 2.4mx64mmJacketPile
Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	729.8	12.5	717.3	0.0	0.000	0.000	0.50	0.0
3.0	767.6	50.4	717.3	0.0	0.000	0.000	0.50	0.0
4.6	830.4	113.1	717.3	0.0	0.000	0.000	0.50	0.0
6.1	918.8	201.5	717.3	0.0	0.000	0.000	0.50	0.0
7.6	1031.7	314.4	717.3	0.0	0.000	0.000	0.50	0.0
9.1	1169.6	452.3	717.3	0.0	0.000	0.000	0.50	0.0
10.7	1333.7	616.5	717.3	0.0	0.000	0.000	0.50	0.0
12.2	1521.9	804.6	717.3	0.0	0.000	0.000	0.50	0.0
13.7	1736.5	1019.3	717.3	0.0	0.000	0.000	0.50	0.0
14.3	1829.2	1111.9	717.3	0.0	0.000	0.000	0.50	0.0
16.1	1619.9	1393.5	226.4	0.0	0.000	0.000	0.50	0.0
16.5	1666.2	1439.8	226.4	0.0	0.000	0.000	0.50	0.0
16.8	1711.1	1484.7	226.4	0.0	0.000	0.000	0.50	0.0
18.6	3146.3	1800.5	1345.8	0.0	0.000	0.000	0.50	0.0
20.1	3465.9	2120.1	1345.8	0.0	0.000	0.000	0.50	0.0
21.6	3808.0	2462.2	1345.8	0.0	0.000	0.000	0.50	0.0
23.5	4579.5	2905.6	1673.9	0.0	0.000	0.000	0.50	0.0
25.0	4973.6	3299.7	1673.9	0.0	0.000	0.000	0.50	0.0
26.8	5701.9	3807.5	1894.4	0.0	0.000	0.000	0.50	0.0
28.4	6154.4	4260.0	1894.4	20.7	120.831	-89.482	0.50	670.1
29.9	6628.5	4734.0	1894.4	20.6	120.716	-88.076	0.50	670.1
31.4	7126.8	5232.4	1894.4	20.7	120.603	-86.584	0.50	670.1
32.9	7653.1	5758.7	1894.4	20.7	120.494	-85.047	0.50	670.1
34.4	8200.3	6305.9	1894.4	20.7	120.406	-83.499	0.50	670.1
35.7	8657.2	6762.8	1894.4	20.7	120.333	-82.276	0.50	670.1
37.5	9846.4	7477.5	2368.9	20.7	120.230	-77.346	0.50	701.7
39.0	10467.1	8098.3	2368.9	20.7	120.125	-75.724	0.50	698.1
40.5	11116.8	8747.9	2368.9	21.4	120.011	-74.021	0.50	732.3
42.1	11786.8	9418.0	2368.9	22.6	119.910	-72.214	0.50	726.0
43.6	12486.1	10117.3	2368.9	27.0	119.806	-70.296	0.50	670.0
44.2	12771.9	10403.0	2368.9	27.5	119.764	-69.513	0.50	669.9
46.0	14409.8	11279.2	3130.6	31.1	119.637	-62.564	0.50	669.9
47.5	15173.7	12043.1	3130.6	32.5	119.518	-60.608	0.50	669.8
49.1	15957.6	12827.0	3130.6	34.1	119.414	-58.672	0.50	686.0
50.6	16771.6	13641.0	3130.6	35.8	119.307	-56.546	0.50	684.5
52.1	17605.1	14474.5	3130.6	37.6	119.192	-54.404	0.50	686.3
53.6	18463.5	15332.8	3130.6	39.6	119.083	-52.289	0.50	688.7
55.2	19352.4	16221.8	3130.6	41.7	118.978	-50.136	0.50	688.2
56.7	20260.5	17129.8	3130.6	44.0	118.875	-48.014	0.50	687.4
58.2	21199.5	18068.8	3130.6	46.5	118.775	-45.826	0.50	677.7
59.7	22157.2	19026.6	3130.6	49.3	118.681	-43.625	0.50	675.9
61.3	23139.7	20009.1	3130.6	52.3	118.584	-42.997	0.50	674.6
62.8	24153.7	21023.0	3130.6	55.5	118.505	-42.366	0.50	672.2
64.3	25185.9	22055.2	3130.6	58.9	118.423	-41.752	0.50	669.0
65.8	26249.9	23119.3	3130.6	62.7	118.352	-41.142	0.50	668.2
66.0	26355.5	23224.9	3130.6	63.1	118.345	-41.082	0.50	668.2
66.9	27001.8	23871.1	3130.6	65.5	118.308	-40.729	0.50	668.0

Total Number of Blows: 1351 (starting at penetration 1.5 m)

Driving Time (min):	45	33	27	22	19	16	15	13	12	11
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc. 2018 Dec 21
SFWF B11 S-3000 105m 2.4mx64mmJacketPile GRLWEAP Version 2010

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	732.3	15.0	717.3	0.0	0.000	0.000	0.50	0.0
3.0	777.7	60.4	717.3	0.0	0.000	0.000	0.50	0.0
4.6	853.0	135.7	717.3	0.0	0.000	0.000	0.50	0.0
6.1	959.0	241.8	717.3	0.0	0.000	0.000	0.50	0.0
7.6	1094.6	377.3	717.3	0.0	0.000	0.000	0.50	0.0
9.1	1260.1	542.8	717.3	0.0	0.000	0.000	0.50	0.0
10.7	1457.0	739.8	717.3	0.0	0.000	0.000	0.50	0.0
12.2	1682.8	965.5	717.3	0.0	0.000	0.000	0.50	0.0
13.7	1940.4	1223.1	717.3	0.0	0.000	0.000	0.50	0.0
14.3	2051.6	1334.3	717.3	0.0	0.000	0.000	0.50	0.0
16.1	2007.3	1780.9	226.4	0.0	0.000	0.000	0.50	0.0
16.5	2100.0	1873.6	226.4	0.0	0.000	0.000	0.50	0.0
16.8	2189.7	1963.3	226.4	0.0	0.000	0.000	0.50	0.0
18.6	3798.2	2452.4	1345.8	0.0	0.000	0.000	0.50	0.0
20.1	4181.6	2835.8	1345.8	0.0	0.000	0.000	0.50	0.0
21.6	4592.2	3246.4	1345.8	0.0	0.000	0.000	0.50	0.0
23.5	5452.3	3778.4	1673.9	0.0	0.000	0.000	0.50	0.0
25.0	5925.3	4251.4	1673.9	20.6	121.080	-89.886	0.50	670.1
26.8	6755.1	4860.7	1894.4	20.7	120.960	-86.826	0.50	670.1
28.4	7298.2	5403.8	1894.4	20.6	120.869	-85.259	0.50	670.1
29.9	7867.0	5972.6	1894.4	20.7	120.780	-83.546	0.50	670.1
31.4	8465.1	6570.7	1894.4	20.7	120.684	-81.740	0.50	670.1
32.9	9096.6	7202.2	1894.4	20.6	120.588	-79.949	0.50	702.8
34.4	9753.3	7858.9	1894.4	20.6	120.501	-78.218	0.50	701.6
35.7	10301.5	8407.1	1894.4	20.7	120.427	-76.838	0.50	698.7
37.5	11633.7	9264.8	2368.9	22.7	120.313	-71.748	0.50	727.9
39.0	12378.5	10009.7	2368.9	27.2	120.237	-69.894	0.50	670.0
40.5	13158.1	10789.2	2368.9	28.5	120.163	-67.875	0.50	670.0
42.1	13962.2	11593.3	2368.9	29.9	120.063	-65.684	0.50	670.0
43.6	14801.3	12432.5	2368.9	31.4	119.985	-63.440	0.50	669.9
44.2	15144.2	12775.4	2368.9	32.0	119.941	-62.491	0.50	669.9
46.0	16957.3	13826.7	3130.6	36.7	119.851	-55.266	0.50	687.5
47.5	17874.1	14743.5	3130.6	38.7	119.778	-52.794	0.50	690.0
49.1	18814.7	15684.1	3130.6	41.0	119.664	-50.293	0.50	690.2
50.6	19791.5	16660.9	3130.6	43.4	119.581	-47.826	0.50	689.1
52.1	20791.8	17661.2	3130.6	46.1	119.469	-45.431	0.50	686.7
53.6	21821.8	18691.1	3130.6	49.0	119.401	-43.112	0.50	679.5
55.2	22888.5	19757.9	3130.6	52.2	119.275	-41.283	0.50	677.6
56.7	23978.2	20847.5	3130.6	55.6	119.211	-40.551	0.50	674.8
58.2	25105.0	21974.4	3130.6	59.4	119.088	-39.819	0.50	671.4
59.7	26254.2	23123.6	3130.6	63.4	119.022	-39.101	0.50	668.5
61.3	27433.2	24302.6	3130.6	67.8	118.917	-38.396	0.50	668.3
62.8	28650.0	25519.4	3130.6	72.7	118.855	-37.692	0.50	668.0
64.3	29888.7	26758.0	3130.6	77.0	118.752	-36.999	0.50	667.7
65.8	31165.5	28034.8	3130.6	79.9	118.691	-36.313	0.50	667.4
66.0	31292.3	28161.6	3130.6	80.2	118.671	-36.246	0.50	667.4
66.9	32067.7	28937.1	3130.6	82.0	118.640	-35.850	0.50	667.3

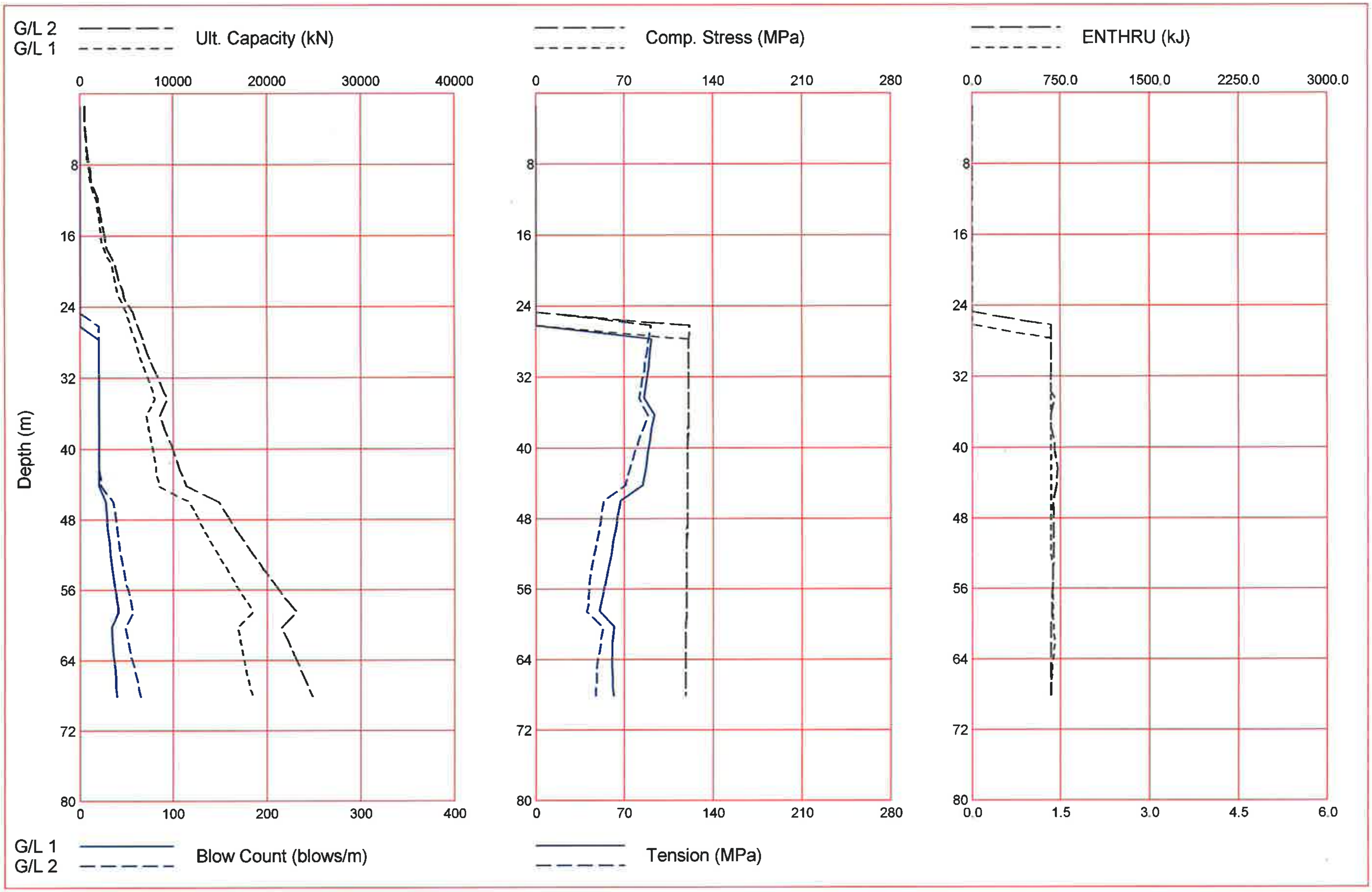
Total Number of Blows: 1722 (starting at penetration 1.5 m)

Driving Time (min):	57	43	34	28	24	21	19	17	15	14
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc.
SFWF BOSS S-3000 105m2.4mx64mmJacketPile
Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	541.1	12.3	528.8	0.0	0.000	0.000	0.50	0.0
3.0	578.3	49.5	528.8	0.0	0.000	0.000	0.50	0.0
4.6	639.9	111.1	528.8	0.0	0.000	0.000	0.50	0.0
6.1	726.7	197.9	528.8	0.0	0.000	0.000	0.50	0.0
7.0	790.2	261.4	528.8	0.0	0.000	0.000	0.50	0.0
8.8	1036.6	421.9	614.7	0.0	0.000	0.000	0.50	0.0
9.4	1100.5	485.8	614.7	0.0	0.000	0.000	0.50	0.0
10.1	1168.8	554.0	614.7	0.0	0.000	0.000	0.50	0.0
11.9	1775.9	777.8	998.1	0.0	0.000	0.000	0.50	0.0
13.4	1984.5	986.4	998.1	0.0	0.000	0.000	0.50	0.0
14.9	2219.8	1221.7	998.1	0.0	0.000	0.000	0.50	0.0
16.8	2428.0	1532.5	895.5	0.0	0.000	0.000	0.50	0.0
17.1	2484.0	1588.5	895.5	0.0	0.000	0.000	0.50	0.0
17.4	2539.0	1643.5	895.5	0.0	0.000	0.000	0.50	0.0
19.2	3362.8	1997.4	1365.3	0.0	0.000	0.000	0.50	0.0
20.7	3684.1	2318.8	1365.3	0.0	0.000	0.000	0.50	0.0
22.2	4027.5	2662.2	1365.3	0.0	0.000	0.000	0.50	0.0
22.9	4172.1	2806.8	1365.3	0.0	0.000	0.000	0.50	0.0
24.7	5053.3	3263.9	1789.3	0.0	0.000	0.000	0.50	0.0
26.2	5460.2	3670.9	1789.3	0.0	0.000	0.000	0.50	0.0
27.7	5894.9	4105.6	1789.3	20.5	120.881	-91.664	0.50	670.1
29.3	6351.6	4562.3	1789.3	20.7	120.764	-90.329	0.50	670.1
30.8	6833.1	5043.8	1789.3	20.7	120.650	-88.919	0.50	670.1
32.3	7342.8	5553.5	1789.3	20.6	120.540	-87.440	0.50	670.1
33.8	7874.1	6084.8	1789.3	20.7	120.444	-85.921	0.50	670.1
34.4	8094.3	6305.0	1789.3	20.7	120.411	-85.296	0.50	670.1
36.3	7092.2	6803.0	289.2	20.6	120.235	-93.484	0.50	670.1
37.8	7359.0	7069.8	289.2	20.6	120.123	-91.584	0.50	670.1
39.3	7624.6	7335.4	289.2	20.7	120.012	-89.946	0.50	670.1
40.5	7838.1	7548.9	289.2	20.6	119.918	-88.560	0.50	670.0
42.4	8158.9	7869.7	289.2	20.7	119.800	-86.703	0.50	670.0
43.9	8425.7	8136.5	289.2	20.7	119.695	-85.100	0.50	670.0
44.2	8480.2	8191.0	289.2	20.7	119.671	-84.833	0.50	670.0
46.0	11702.1	8789.0	2913.1	27.8	119.612	-66.461	0.50	669.9
47.5	12458.3	9545.2	2913.1	29.1	119.498	-64.614	0.50	669.9
49.1	13234.2	10321.1	2913.1	30.3	119.398	-62.980	0.50	669.8
50.6	14040.1	11126.9	2913.1	31.8	119.293	-61.118	0.50	669.7
52.1	14865.2	11952.1	2913.1	33.3	119.179	-59.266	0.50	669.7
53.6	15714.9	12801.8	2913.1	35.0	119.072	-57.116	0.50	683.9
55.2	16595.0	13681.9	2913.1	36.8	118.971	-55.032	0.50	682.5
56.7	17493.9	14580.8	2913.1	38.8	118.867	-52.779	0.50	682.9
58.2	18423.6	15510.5	2913.1	40.9	118.769	-50.561	0.50	684.1
58.5	18608.8	15695.7	2913.1	41.4	118.751	-50.072	0.50	683.9
60.3	16866.8	16453.3	413.5	34.1	118.624	-61.619	0.50	690.6
61.9	17174.2	16760.6	413.5	35.3	118.537	-59.970	0.50	696.1
63.4	17484.3	17070.7	413.5	36.4	118.456	-59.857	0.50	693.3
64.9	17793.0	17379.5	413.5	37.6	118.368	-60.095	0.50	673.2

Gain/Loss 1 at Shaft and Toe 0.500 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
66.4	18104.6	17691.0	413.5	38.6	118.309	-60.732	0.50	671.2
67.2	18259.6	17846.0	413.5	39.2	118.275	-60.941	0.50	670.2
68.1	18445.4	18031.8	413.5	39.8	118.235	-61.336	0.50	669.0

Total Number of Blows: 1178 (starting at penetration 1.5 m)

Driving Time (min):	39	29	23	19	16	14	13	11	10	9
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc.
SFWF BOSS S-3000 105m2.4mx64mmJacketPile

2018 Dec 21
GRLWEAP Version 2010

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	543.6	14.7	528.8	0.0	0.000	0.000	0.50	0.0
3.0	588.2	59.4	528.8	0.0	0.000	0.000	0.50	0.0
4.6	662.1	133.3	528.8	0.0	0.000	0.000	0.50	0.0
6.1	766.3	237.5	528.8	0.0	0.000	0.000	0.50	0.0
7.0	842.4	313.6	528.8	0.0	0.000	0.000	0.50	0.0
8.8	1120.9	506.2	614.7	0.0	0.000	0.000	0.50	0.0
9.4	1197.7	583.0	614.7	0.0	0.000	0.000	0.50	0.0
10.1	1279.6	664.8	614.7	0.0	0.000	0.000	0.50	0.0
11.9	1931.5	933.4	998.1	0.0	0.000	0.000	0.50	0.0
13.4	2181.7	1183.7	998.1	0.0	0.000	0.000	0.50	0.0
14.9	2464.1	1466.1	998.1	0.0	0.000	0.000	0.50	0.0
16.8	2734.5	1839.0	895.5	0.0	0.000	0.000	0.50	0.0
17.1	2801.7	1906.2	895.5	0.0	0.000	0.000	0.50	0.0
17.4	2867.7	1972.2	895.5	0.0	0.000	0.000	0.50	0.0
19.2	3762.2	2396.9	1365.3	0.0	0.000	0.000	0.50	0.0
20.7	4147.8	2782.5	1365.3	0.0	0.000	0.000	0.50	0.0
22.2	4559.9	3194.6	1365.3	0.0	0.000	0.000	0.50	0.0
22.9	4733.4	3368.1	1365.3	0.0	0.000	0.000	0.50	0.0
24.7	5706.0	3916.7	1789.3	0.0	0.000	0.000	0.50	0.0
26.2	6194.4	4405.1	1789.3	20.6	120.997	-90.703	0.50	670.1
27.7	6716.0	4926.7	1789.3	20.7	120.892	-89.166	0.50	670.1
29.3	7264.1	5474.7	1789.3	20.7	120.796	-87.555	0.50	670.1
30.8	7841.9	6052.5	1789.3	20.6	120.705	-85.884	0.50	670.1
32.3	8453.5	6664.2	1789.3	20.7	120.608	-84.142	0.50	670.1
33.8	9091.1	7301.7	1789.3	20.7	120.525	-82.351	0.50	670.1
34.4	9355.3	7565.9	1789.3	20.7	120.491	-81.623	0.50	703.2
36.3	8579.6	8290.4	289.2	20.7	120.325	-88.261	0.50	670.1
37.8	9113.2	8824.0	289.2	20.7	120.226	-84.401	0.50	670.1
39.3	9644.3	9355.1	289.2	20.7	120.119	-80.798	0.50	701.4
40.5	10071.3	9782.1	289.2	20.7	120.035	-78.111	0.50	699.0
42.4	10712.9	10423.7	289.2	21.2	119.920	-74.379	0.50	723.9
43.9	11246.6	10957.4	289.2	22.8	119.818	-71.536	0.50	716.2
44.2	11355.6	11066.4	289.2	23.1	119.793	-70.970	0.50	716.2
46.0	14825.0	11911.9	2913.1	35.8	119.695	-53.628	0.50	685.5
47.5	15732.5	12819.4	2913.1	37.6	119.581	-52.192	0.50	689.6
49.1	16663.6	13750.5	2913.1	39.5	119.482	-50.416	0.50	692.7
50.6	17630.6	14717.4	2913.1	41.7	119.373	-48.335	0.50	691.9
52.1	18620.8	15707.6	2913.1	44.0	119.255	-46.115	0.50	688.6
53.6	19640.4	16727.3	2913.1	46.6	119.155	-43.772	0.50	684.9
55.2	20696.5	17783.4	2913.1	49.5	119.052	-42.101	0.50	680.3
56.7	21775.2	18862.1	2913.1	52.7	118.945	-41.343	0.50	676.4
58.2	22890.8	19977.7	2913.1	56.2	118.854	-40.378	0.50	672.8
58.5	23113.0	20199.9	2913.1	57.0	118.835	-40.167	0.50	672.2
60.3	21669.5	21256.0	413.5	48.9	118.711	-52.542	0.50	668.8
61.9	22284.3	21870.8	413.5	52.0	118.632	-50.857	0.50	668.6
63.4	22904.5	22490.9	413.5	55.2	118.549	-49.485	0.50	668.4
64.9	23522.0	23108.5	413.5	58.5	118.469	-48.485	0.50	668.2

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
66.4	24145.0	23731.5	413.5	61.8	118.406	-47.880	0.50	667.9
67.2	24455.0	24041.5	413.5	63.4	118.374	-47.724	0.50	667.8
68.1	24826.6	24413.1	413.5	65.3	118.333	-47.619	0.50	667.6

Total Number of Blows: 1548 (starting at penetration 1.5 m)

Driving Time (min):	51	38	30	25	22	19	17	15	14	12
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

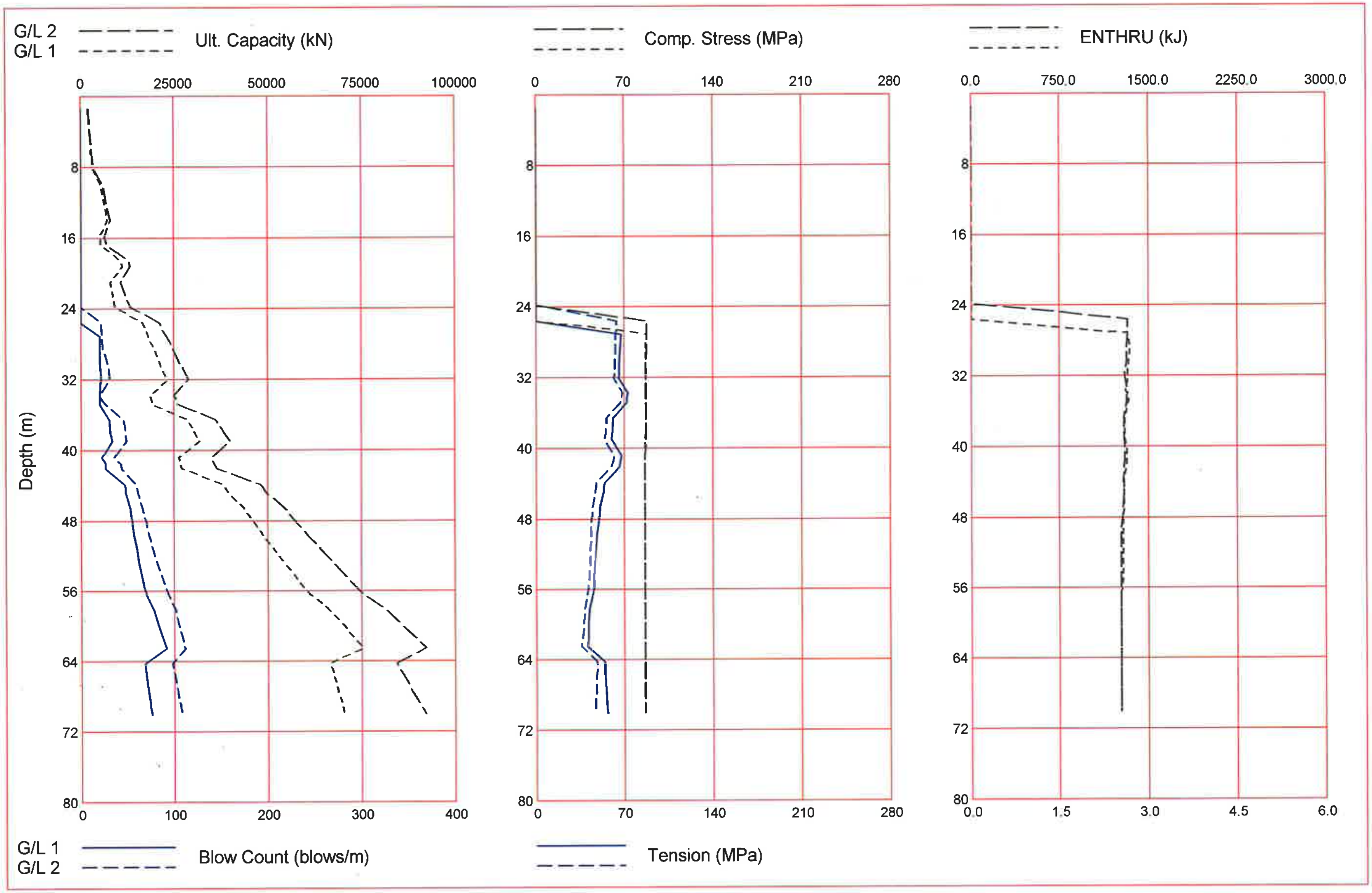
Driving Time for continuously running hammer; any wait times not included

APPENDIX F

DRIVABILITY STUDY FOR MONOPILES

GZA GeoEnvironmental Inc.
SFWF B-3 S-3000 105m 8.0mx75mm Monopile
Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



GZA GeoEnvironmental Inc.
SFWF B-3 S-3000 105m 8.0mx75mm Monopile

2018 Dec 21
GRLWEAP Version 2010

Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	2258.7	41.1	2217.6	0.0	0.000	0.000	1.00	0.0
3.0	2383.0	165.3	2217.6	0.0	0.000	0.000	1.00	0.0
4.6	2588.8	371.2	2217.6	0.0	0.000	0.000	1.00	0.0
6.1	2879.0	661.3	2217.6	0.0	0.000	0.000	1.00	0.0
7.6	3249.6	1032.0	2217.6	0.0	0.000	0.000	1.00	0.0
8.2	3421.4	1203.8	2217.6	0.0	0.000	0.000	1.00	0.0
10.1	5510.1	1826.2	3683.9	0.0	0.000	0.000	1.00	0.0
11.6	6143.5	2459.6	3683.9	0.0	0.000	0.000	1.00	0.0
13.1	6868.2	3184.4	3683.9	0.0	0.000	0.000	1.00	0.0
14.0	7340.7	3656.9	3683.9	0.0	0.000	0.000	1.00	0.0
15.9	5193.9	4519.8	674.1	0.0	0.000	0.000	1.00	0.0
16.3	5372.8	4698.7	674.1	0.0	0.000	0.000	1.00	0.0
16.8	5547.9	4873.8	674.1	0.0	0.000	0.000	1.00	0.0
18.6	10812.6	5807.5	5005.1	0.0	0.000	0.000	1.00	0.0
18.9	11015.3	6010.2	5005.1	0.0	0.000	0.000	1.00	0.0
19.2	11214.6	6209.5	5005.1	0.0	0.000	0.000	1.00	0.0
21.0	8053.2	7258.9	794.3	0.0	0.000	0.000	1.00	0.0
22.6	8757.2	7962.9	794.3	0.0	0.000	0.000	1.00	0.0
23.8	9314.4	8520.1	794.3	0.0	0.000	0.000	1.00	0.0
25.6	16669.1	9737.2	6931.9	0.0	0.000	0.000	1.00	0.0
27.1	18069.6	11137.7	6931.9	20.7	87.428	-67.599	1.00	1327.0
28.6	19544.0	12612.1	6931.9	20.7	87.314	-67.034	1.00	1336.3
30.2	21111.7	14179.8	6931.9	20.7	87.209	-66.357	1.00	1330.3
31.7	22752.2	15820.3	6931.9	21.4	87.109	-65.721	1.00	1326.5
32.0	23085.7	16153.8	6931.9	21.7	87.090	-65.545	1.00	1323.3
33.8	18601.1	17661.3	939.8	20.7	86.880	-72.616	1.00	1311.4
34.3	18836.0	17896.2	939.8	20.7	86.843	-72.274	1.00	1330.2
34.8	19071.0	18131.2	939.8	20.7	86.806	-72.064	1.00	1328.7
36.6	28462.1	19757.7	8704.4	30.5	86.758	-60.748	1.00	1303.9
38.1	30444.2	21739.8	8704.4	32.4	86.650	-59.766	1.00	1300.3
39.0	31668.8	22964.4	8704.4	33.6	86.588	-59.204	1.00	1297.5
40.8	26106.9	24941.3	1165.7	22.4	86.404	-67.540	1.00	1317.3
41.5	26583.2	25417.5	1165.7	26.8	86.363	-66.888	1.00	1316.7
42.1	27059.7	25894.0	1165.7	27.2	86.317	-66.375	1.00	1314.7
43.9	37927.8	27986.2	9941.5	47.1	86.228	-53.906	1.00	1294.7
44.3	38632.7	28691.1	9941.5	47.8	86.194	-53.498	1.00	1294.3
44.8	39344.8	29403.3	9941.5	48.3	86.158	-53.274	1.00	1293.9
46.6	43640.2	32292.6	11347.6	52.9	86.113	-50.413	1.00	1288.4
48.2	46159.0	34811.4	11347.6	55.3	86.113	-49.394	1.00	1287.4
49.7	48742.8	37395.2	11347.6	57.5	86.113	-48.373	1.00	1287.5
51.2	51425.7	40078.1	11347.6	60.0	86.113	-47.323	1.00	1287.2
52.7	54172.5	42824.9	11347.6	62.6	86.114	-46.877	1.00	1285.0
54.2	57000.5	45653.0	11347.6	65.6	86.113	-46.289	1.00	1280.4
55.8	59929.2	48581.7	11347.6	68.7	86.113	-45.559	1.00	1273.1
56.4	61119.8	49772.3	11347.6	70.2	86.113	-45.164	1.00	1271.1
58.2	66519.8	53422.7	13097.0	78.6	86.113	-42.298	1.00	1267.9
59.7	69642.1	56545.1	13097.0	82.9	86.113	-41.811	1.00	1266.2
61.3	72846.5	59749.4	13097.0	87.7	86.113	-41.230	1.00	1264.9
62.5	75477.7	62380.7	13097.0	91.8	86.114	-40.793	1.00	1264.7

Gain/Loss 1 at Shaft and Toe 0.500 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
64.3	66656.1	65002.1	1654.1	68.4	86.113	-53.893	1.00	1265.9
65.8	67670.3	66016.3	1654.1	70.2	86.113	-54.361	1.00	1266.1
67.4	68680.2	67026.1	1654.1	72.2	86.113	-54.918	1.00	1264.7
68.9	69692.3	68038.3	1654.1	74.2	86.113	-55.517	1.00	1264.7
69.2	69899.1	68245.0	1654.1	74.7	86.113	-55.622	1.00	1264.7
70.1	70506.4	68852.3	1654.1	76.0	86.113	-56.031	1.00	1264.7

Total Number of Blows: 2243 (starting at penetration 1.5 m)

Driving Time (min):	74	56	44	37	32	28	24	22	20	18
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

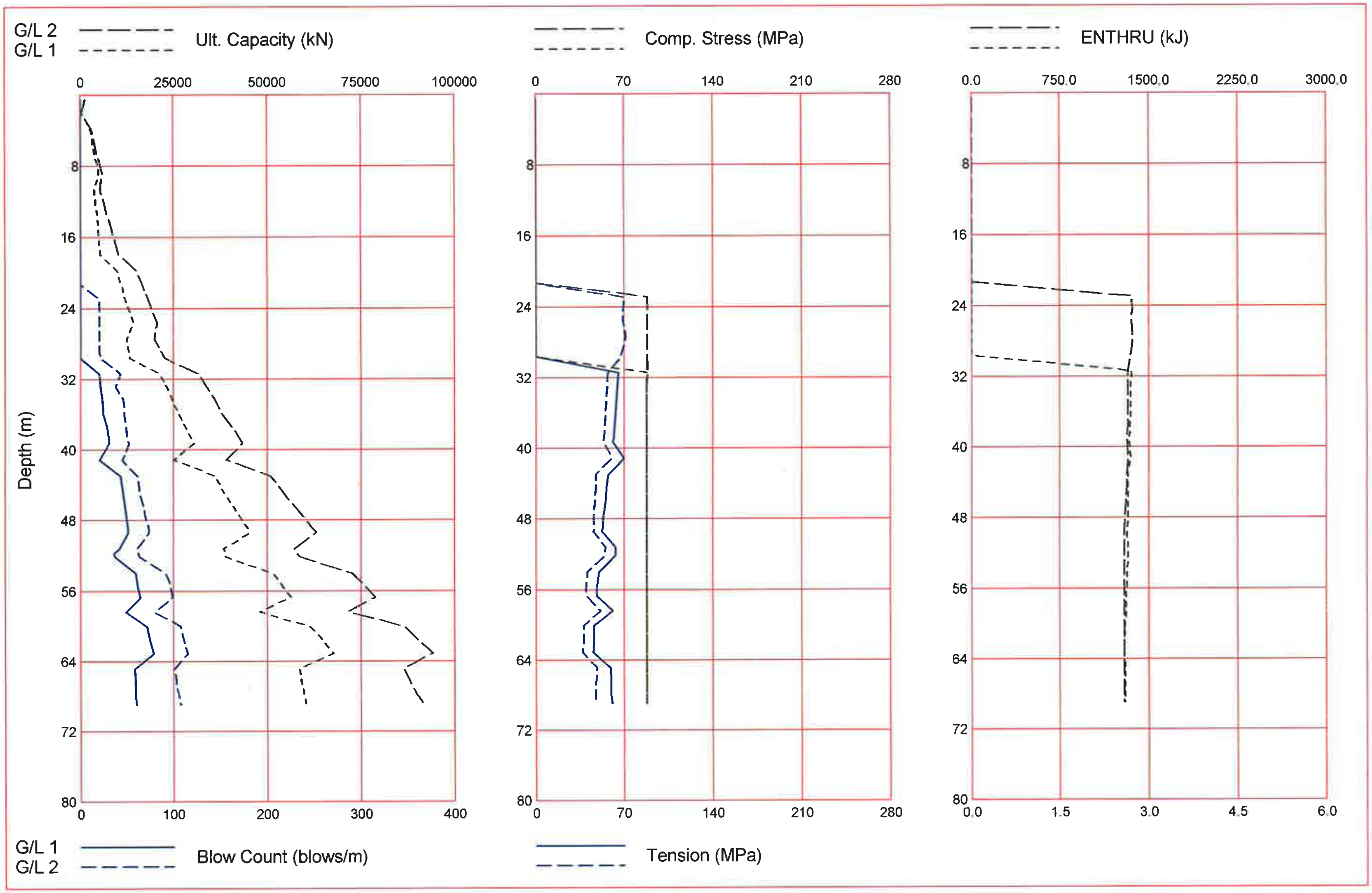
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	2266.9	49.3	2217.6	0.0	0.000	0.000	1.00	0.0
3.0	2416.0	198.4	2217.6	0.0	0.000	0.000	1.00	0.0
4.6	2663.0	445.4	2217.6	0.0	0.000	0.000	1.00	0.0
6.1	3011.2	793.6	2217.6	0.0	0.000	0.000	1.00	0.0
7.6	3456.0	1238.4	2217.6	0.0	0.000	0.000	1.00	0.0
8.2	3662.2	1444.6	2217.6	0.0	0.000	0.000	1.00	0.0
10.1	5875.3	2191.5	3683.9	0.0	0.000	0.000	1.00	0.0
11.6	6635.4	2951.6	3683.9	0.0	0.000	0.000	1.00	0.0
13.1	7505.1	3821.2	3683.9	0.0	0.000	0.000	1.00	0.0
14.0	8072.1	4388.2	3683.9	0.0	0.000	0.000	1.00	0.0
15.9	6380.9	5706.8	674.1	0.0	0.000	0.000	1.00	0.0
16.3	6738.7	6064.6	674.1	0.0	0.000	0.000	1.00	0.0
16.8	7088.8	6414.7	674.1	0.0	0.000	0.000	1.00	0.0
18.6	12826.7	7821.6	5005.1	0.0	0.000	0.000	1.00	0.0
18.9	13070.0	8064.8	5005.1	0.0	0.000	0.000	1.00	0.0
19.2	13309.2	8304.1	5005.1	0.0	0.000	0.000	1.00	0.0
21.0	10692.4	9898.1	794.3	0.0	0.000	0.000	1.00	0.0
22.6	12100.3	11306.0	794.3	0.0	0.000	0.000	1.00	0.0
23.8	13214.7	12420.4	794.3	0.0	0.000	0.000	1.00	0.0
25.6	21151.9	14220.0	6931.9	21.6	87.576	-63.610	1.00	1325.0
27.1	22832.5	15900.6	6931.9	23.0	87.483	-63.272	1.00	1321.1
28.6	24601.8	17669.9	6931.9	24.0	87.386	-62.955	1.00	1318.8
30.2	26483.0	19551.1	6931.9	29.0	87.280	-62.564	1.00	1314.9
31.7	28451.6	21519.7	6931.9	30.5	87.172	-62.065	1.00	1303.5
32.0	28851.9	21920.0	6931.9	30.9	87.151	-61.932	1.00	1303.0
33.8	25040.3	24100.5	939.8	22.2	86.964	-68.200	1.00	1320.3
34.3	25510.1	24570.4	939.8	22.6	86.929	-67.628	1.00	1319.9
34.8	25980.2	25040.4	939.8	27.0	86.895	-67.076	1.00	1314.7
36.6	36068.7	27364.3	8704.4	45.9	86.807	-55.612	1.00	1294.8
38.1	38447.3	29742.9	8704.4	47.9	86.697	-54.567	1.00	1293.4
39.0	39916.8	31212.4	8704.4	49.1	86.631	-53.921	1.00	1292.7
40.8	34963.2	33797.6	1165.7	35.5	86.468	-61.350	1.00	1299.2
41.5	35677.6	34511.9	1165.7	43.1	86.424	-60.535	1.00	1296.0
42.1	36392.4	35226.7	1165.7	44.0	86.376	-59.726	1.00	1294.5
43.9	47894.7	37953.2	9941.5	59.4	86.262	-47.594	1.00	1287.1
44.3	48740.6	38799.0	9941.5	60.1	86.226	-47.274	1.00	1288.1
44.8	49595.2	39653.6	9941.5	60.9	86.197	-46.942	1.00	1288.1
46.6	54468.4	43120.8	11347.6	66.7	86.170	-44.430	1.00	1283.9
48.2	57490.9	46143.4	11347.6	69.9	86.149	-44.046	1.00	1275.1
49.7	60591.5	49244.0	11347.6	73.4	86.142	-43.629	1.00	1269.8
51.2	63811.0	52463.4	11347.6	77.3	86.124	-43.199	1.00	1267.7
52.7	67107.2	55759.6	11347.6	81.5	86.113	-42.705	1.00	1265.5
54.2	70500.8	59153.3	11347.6	86.1	86.113	-42.024	1.00	1264.7
55.8	74015.3	62667.7	11347.6	91.2	86.113	-41.180	1.00	1264.7
56.4	75444.0	64096.4	11347.6	93.3	86.113	-40.879	1.00	1264.7
58.2	81574.0	68476.9	13097.0	101.6	86.113	-38.203	1.00	1264.7
59.7	85320.8	72223.8	13097.0	105.0	86.113	-37.569	1.00	1264.7
61.3	89166.0	76069.0	13097.0	108.5	86.113	-36.907	1.00	1264.7
62.5	92323.6	79226.5	13097.0	111.6	86.113	-36.363	1.00	1264.7

```
                 Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

          Ultimate              End        Blow       Comp.     Tension
Depth     Capacity   Friction   Bearing    Count      Stress    Stress     Stroke    ENTHRU
m         kN         kN         kN         blows/m    MPa       MPa        m         kJ

   64.3    84507.9    82853.8     1654.1      97.9     86.113    -47.943      1.00    1264.7
   65.8    86536.3    84882.2     1654.1     100.7     86.113    -47.473      1.00    1264.7
   67.4    88556.1    86902.0     1654.1     103.5     86.113    -47.148      1.00    1264.7
   68.9    90580.4    88926.3     1654.1     106.4     86.113    -46.981      1.00    1264.7
   69.2    90993.8    89339.7     1654.1     107.0     86.113    -46.976      1.00    1264.7
   70.1    92208.4    90554.3     1654.1     108.7     86.113    -46.991      1.00    1264.7

Total Number of Blows:       3020 (starting at penetration 1.5 m)
Driving Time (min):   100    75    60    50    43    37    33    30    27    25
@Blow Rate (b/min):   30     40    50    60    70    80    90    100   110   120
Driving Time for continuously running hammer; any wait times not included
```

GZA GeoEnvironmental Inc.
SFWF B-6 S-3000 105m 8.0mx75mm MonoPile
Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
0.6	1433.1	13.0	1420.2	0.0	0.000	0.000	1.00	0.0
2.1	281.2	108.8	172.4	0.0	0.000	0.000	1.00	0.0
4.0	2875.1	379.1	2495.9	0.0	0.000	0.000	1.00	0.0
5.5	3370.5	874.5	2495.9	0.0	0.000	0.000	1.00	0.0
7.0	4033.6	1537.6	2495.9	0.0	0.000	0.000	1.00	0.0
8.5	4867.1	2371.1	2495.9	0.0	0.000	0.000	1.00	0.0
8.8	5058.0	2562.0	2495.9	0.0	0.000	0.000	1.00	0.0
10.7	3939.1	3364.3	574.8	0.0	0.000	0.000	1.00	0.0
12.2	4271.5	3696.7	574.8	0.0	0.000	0.000	1.00	0.0
13.7	4606.4	4031.7	574.8	0.0	0.000	0.000	1.00	0.0
15.2	4939.7	4364.9	574.8	0.0	0.000	0.000	1.00	0.0
16.8	5273.3	4698.5	574.8	0.0	0.000	0.000	1.00	0.0
18.0	5541.3	4966.5	574.8	0.0	0.000	0.000	1.00	0.0
19.8	10027.9	5732.6	4295.3	0.0	0.000	0.000	1.00	0.0
21.3	11036.8	6741.6	4295.3	0.0	0.000	0.000	1.00	0.0
22.9	12115.2	7819.9	4295.3	0.0	0.000	0.000	1.00	0.0
24.4	13269.3	8974.1	4295.3	0.0	0.000	0.000	1.00	0.0
25.6	14250.5	9955.2	4295.3	0.0	0.000	0.000	1.00	0.0
27.4	12500.6	11115.8	1384.8	0.0	0.000	0.000	1.00	0.0
29.0	13154.6	11769.8	1384.8	0.0	0.000	0.000	1.00	0.0
29.6	13415.6	12030.8	1384.8	0.0	0.000	0.000	1.00	0.0
31.4	21473.8	13324.8	8148.9	20.7	87.985	-65.544	1.00	1356.9
32.9	23055.5	14906.6	8148.9	22.1	87.897	-64.676	1.00	1349.3
34.4	24703.0	16554.1	8148.9	23.6	87.797	-63.996	1.00	1346.6
36.0	26437.9	18289.0	8148.9	24.5	87.695	-63.082	1.00	1346.2
37.5	28237.6	20088.7	8148.9	29.1	87.585	-62.313	1.00	1342.8
39.0	30113.1	21964.2	8148.9	30.6	87.521	-61.343	1.00	1332.8
39.3	30504.9	22356.0	8148.9	30.9	87.509	-61.164	1.00	1332.2
41.2	25021.6	23877.6	1144.0	21.0	87.407	-69.517	1.00	1350.4
43.0	35775.5	25491.6	10283.9	43.4	87.489	-56.775	1.00	1323.4
44.5	37924.8	27640.8	10283.9	45.0	87.468	-55.725	1.00	1324.3
46.0	40149.9	29866.0	10283.9	46.8	87.485	-54.751	1.00	1322.6
47.5	42466.4	32182.5	10283.9	48.8	87.473	-53.580	1.00	1321.8
49.1	44843.9	34560.0	10283.9	50.8	87.480	-52.482	1.00	1319.8
49.4	45338.1	35054.2	10283.9	51.3	87.461	-52.202	1.00	1319.2
51.2	38362.5	36929.5	1433.0	41.7	87.413	-63.059	1.00	1321.2
51.7	38561.4	37128.4	1433.0	36.3	87.393	-63.005	1.00	1322.3
52.1	38764.9	37331.8	1433.0	36.6	87.401	-63.189	1.00	1323.2
54.0	51400.5	39317.1	12083.5	58.9	87.469	-49.281	1.00	1314.2
55.5	54096.7	42013.2	12083.5	61.5	87.469	-48.508	1.00	1313.4
56.7	56315.4	44232.0	12083.5	63.8	87.475	-47.817	1.00	1311.7
58.4	47912.5	46270.2	1642.4	49.1	87.447	-60.540	1.00	1307.1
60.0	61699.7	48383.3	13316.4	71.0	87.476	-46.090	1.00	1296.3
61.6	64700.8	51384.4	13316.4	74.8	87.461	-45.550	1.00	1294.5
63.1	67777.6	54461.2	13316.4	78.7	87.499	-45.137	1.00	1293.4
64.9	58497.1	56750.2	1746.9	58.2	87.510	-58.864	1.00	1297.6
66.4	59154.5	57407.6	1746.9	59.0	87.509	-59.141	1.00	1298.1

Gain/Loss 1 at Shaft and Toe 0.333 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
68.0	59809.5	58062.6	1746.9	59.5	87.533	-59.229	1.00	1299.0
68.1	59874.3	58127.4	1746.9	59.5	87.534	-59.344	1.00	1299.0
69.0	60271.7	58524.8	1746.9	59.8	87.537	-59.943	1.00	1298.3

Total Number of Blows: 1797 (starting at penetration 0.6 m)

Driving Time (min):	59	44	35	29	25	22	19	17	16	14
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
0.6	1436.9	16.7	1420.2	0.0	0.000	0.000	1.00	0.0
2.1	410.0	237.6	172.4	0.0	0.000	0.000	1.00	0.0
4.0	3179.9	683.9	2495.9	0.0	0.000	0.000	1.00	0.0
5.5	3816.9	1321.0	2495.9	0.0	0.000	0.000	1.00	0.0
7.0	4669.6	2173.7	2495.9	0.0	0.000	0.000	1.00	0.0
8.5	5741.4	3245.4	2495.9	0.0	0.000	0.000	1.00	0.0
8.8	5986.9	3490.9	2495.9	0.0	0.000	0.000	1.00	0.0
10.7	5442.5	4867.7	574.8	0.0	0.000	0.000	1.00	0.0
12.2	6440.7	5865.9	574.8	0.0	0.000	0.000	1.00	0.0
13.7	7446.7	6871.9	574.8	0.0	0.000	0.000	1.00	0.0
15.2	8447.3	7872.5	574.8	0.0	0.000	0.000	1.00	0.0
16.8	9449.1	8874.3	574.8	0.0	0.000	0.000	1.00	0.0
18.0	10254.1	9679.3	574.8	0.0	0.000	0.000	1.00	0.0
19.8	15307.0	11011.7	4295.3	0.0	0.000	0.000	1.00	0.0
21.3	16604.4	12309.1	4295.3	0.0	0.000	0.000	1.00	0.0
22.9	17991.1	13695.8	4295.3	20.7	88.655	-69.669	1.00	1355.1
24.4	19475.2	15179.9	4295.3	20.6	88.561	-69.355	1.00	1364.9
25.6	20736.8	16441.6	4295.3	20.7	88.468	-68.999	1.00	1359.9
27.4	19986.0	18601.2	1384.8	20.7	88.311	-70.969	1.00	1364.1
29.0	21949.8	20565.1	1384.8	20.7	88.225	-68.357	1.00	1354.2
29.6	22733.6	21348.8	1384.8	21.8	88.184	-67.321	1.00	1348.3
31.4	31830.7	23681.8	8148.9	42.6	88.117	-56.945	1.00	1321.2
32.9	33864.7	25715.8	8148.9	38.2	88.010	-56.185	1.00	1327.6
34.4	35983.2	27834.3	8148.9	45.7	87.987	-55.504	1.00	1324.0
36.0	38214.2	30065.2	8148.9	47.4	87.965	-54.890	1.00	1321.7
37.5	40528.4	32379.4	8148.9	49.3	87.929	-54.247	1.00	1321.3
39.0	42940.1	34791.1	8148.9	51.3	87.926	-53.428	1.00	1319.6
39.3	43443.9	35295.0	8148.9	51.8	87.921	-53.242	1.00	1319.1
41.2	39002.4	37858.4	1144.0	45.0	87.861	-59.973	1.00	1322.2
43.0	50818.5	40534.5	10283.9	61.1	87.884	-47.621	1.00	1313.9
44.5	53582.2	43298.3	10283.9	63.6	87.854	-47.493	1.00	1312.2
46.0	56443.5	46159.6	10283.9	66.4	87.863	-46.909	1.00	1306.3
47.5	59422.3	49138.3	10283.9	69.6	87.856	-46.286	1.00	1296.8
49.1	62479.5	52195.6	10283.9	73.1	87.853	-45.607	1.00	1294.7
49.4	63115.0	52831.1	10283.9	73.8	87.850	-45.458	1.00	1294.3
51.2	57373.5	55940.5	1433.0	60.9	87.809	-54.866	1.00	1295.1
51.7	57970.9	56537.9	1433.0	61.9	87.797	-54.459	1.00	1294.0
52.1	58581.8	57148.8	1433.0	63.0	87.793	-54.063	1.00	1293.1
54.0	72484.2	60400.7	12083.5	91.4	87.826	-40.836	1.00	1292.9
55.5	75951.1	63867.7	12083.5	96.8	87.832	-40.241	1.00	1292.9
56.7	78804.2	66720.7	12083.5	99.2	87.838	-39.893	1.00	1292.9
58.4	71556.0	69913.6	1642.4	79.8	87.828	-50.926	1.00	1292.9
60.0	86519.5	73203.1	13316.4	107.6	87.828	-37.763	1.00	1292.9
61.6	90378.6	77062.2	13316.4	111.2	87.813	-37.353	1.00	1292.9
63.1	94335.1	81018.7	13316.4	115.0	87.832	-36.924	1.00	1292.9
64.9	86379.0	84632.1	1746.9	100.5	87.851	-48.098	1.00	1292.9
66.4	88353.3	86606.4	1746.9	103.1	87.862	-47.565	1.00	1292.9

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
68.0	90320.2	88573.3	1746.9	105.8	87.873	-47.430	1.00	1292.9
68.1	90514.6	88767.7	1746.9	106.0	87.875	-47.425	1.00	1292.9
69.0	91708.1	89961.2	1746.9	107.7	87.875	-47.393	1.00	1292.9

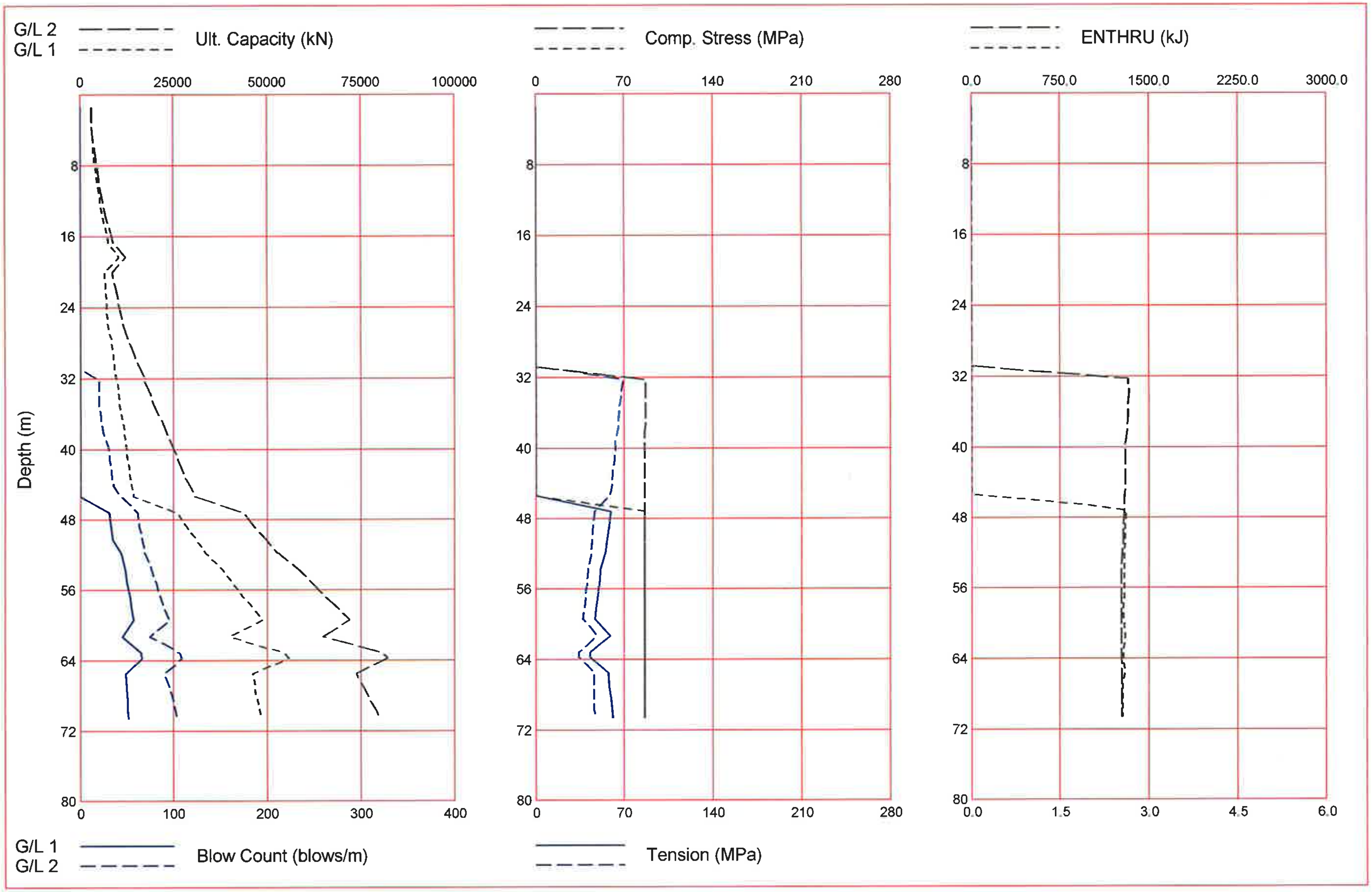
Total Number of Blows: 3048 (starting at penetration 0.6 m)

Driving Time (min):	101	76	60	50	43	38	33	30	27	25
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc.
SFWF B10 S-3000 105m 8.0mx75mm Monopile
Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



GZA GeoEnvironmental Inc. 2018 Dec 21
SFWF B10 S-3000 105m 8.0mx75mm Monopile GRLWEAP Version 2010

Gain/Loss 1 at Shaft and Toe 0.333 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	3105.4	38.3	3067.1	0.0	0.000	0.000	1.00	0.0
3.0	3221.2	154.1	3067.1	0.0	0.000	0.000	1.00	0.0
4.6	3413.1	346.0	3067.1	0.0	0.000	0.000	1.00	0.0
6.1	3683.5	616.4	3067.1	0.0	0.000	0.000	1.00	0.0
7.6	4029.0	961.9	3067.1	0.0	0.000	0.000	1.00	0.0
9.1	4451.1	1384.0	3067.1	0.0	0.000	0.000	1.00	0.0
10.7	4953.2	1886.1	3067.1	0.0	0.000	0.000	1.00	0.0
12.2	5528.8	2461.8	3067.1	0.0	0.000	0.000	1.00	0.0
13.7	6185.6	3118.5	3067.1	0.0	0.000	0.000	1.00	0.0
15.2	6914.8	3847.8	3067.1	0.0	0.000	0.000	1.00	0.0
16.8	7720.7	4653.6	3067.1	0.0	0.000	0.000	1.00	0.0
18.4	10614.6	5633.5	4981.1	0.0	0.000	0.000	1.00	0.0
20.1	6675.4	6253.4	422.0	0.0	0.000	0.000	1.00	0.0
21.6	6916.0	6493.9	422.0	0.0	0.000	0.000	1.00	0.0
23.2	7157.1	6735.0	422.0	0.0	0.000	0.000	1.00	0.0
23.5	7206.3	6784.3	422.0	0.0	0.000	0.000	1.00	0.0
25.3	7497.4	7075.4	422.0	0.0	0.000	0.000	1.00	0.0
25.6	7545.2	7123.1	422.0	0.0	0.000	0.000	1.00	0.0
25.9	7594.6	7172.5	422.0	0.0	0.000	0.000	1.00	0.0
27.7	8408.0	7604.1	803.9	0.0	0.000	0.000	1.00	0.0
29.3	8881.7	8077.8	803.9	0.0	0.000	0.000	1.00	0.0
30.8	9355.8	8551.9	803.9	0.0	0.000	0.000	1.00	0.0
32.3	9833.5	9029.6	803.9	0.0	0.000	0.000	1.00	0.0
33.8	10308.5	9504.6	803.9	0.0	0.000	0.000	1.00	0.0
34.8	10596.2	9792.3	803.9	0.0	0.000	0.000	1.00	0.0
36.6	11312.4	10387.9	924.5	0.0	0.000	0.000	1.00	0.0
38.1	11826.6	10902.1	924.5	0.0	0.000	0.000	1.00	0.0
39.6	12341.5	11417.0	924.5	0.0	0.000	0.000	1.00	0.0
41.2	12860.5	11936.0	924.5	0.0	0.000	0.000	1.00	0.0
42.7	13376.8	12452.3	924.5	0.0	0.000	0.000	1.00	0.0
44.2	13897.2	12972.7	924.5	0.0	0.000	0.000	1.00	0.0
45.4	14312.7	13388.2	924.5	0.0	0.000	0.000	1.00	0.0
47.2	26073.6	15080.7	10992.9	30.4	86.113	-59.028	1.00	1304.1
48.8	28460.8	17467.9	10992.9	32.6	86.113	-57.622	1.00	1301.1
50.3	30910.3	19917.4	10992.9	34.9	86.113	-56.386	1.00	1297.5
51.8	33454.6	22461.7	10992.9	43.7	86.113	-54.873	1.00	1295.0
51.8	33471.5	22478.6	10992.9	43.7	86.113	-54.864	1.00	1295.0
53.7	38025.4	25625.7	12399.7	47.9	86.113	-51.479	1.00	1294.3
55.2	40724.1	28324.4	12399.7	50.2	86.113	-50.172	1.00	1293.1
56.7	43518.2	31118.5	12399.7	52.7	86.113	-48.853	1.00	1290.8
58.2	46371.1	33971.4	12399.7	55.3	86.113	-47.633	1.00	1287.0
59.4	48697.1	36297.3	12399.7	57.6	86.113	-46.600	1.00	1286.1
61.3	40195.2	38469.6	1725.6	44.7	86.113	-58.468	1.00	1296.2
63.1	54492.3	40728.9	13763.4	64.9	86.113	-43.206	1.00	1286.3
63.4	55133.4	41370.0	13763.4	65.6	86.113	-42.957	1.00	1285.0
63.7	55756.9	41993.5	13763.4	66.5	86.113	-42.570	1.00	1284.1
65.5	46139.8	44301.6	1838.2	49.5	86.113	-57.083	1.00	1292.9

Gain/Loss 1 at Shaft and Toe 0.333 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
67.1	46775.8	44937.6	1838.2	50.2	86.113	-58.056	1.00	1279.6
68.6	47409.5	45571.4	1838.2	50.8	86.113	-59.139	1.00	1279.0
69.7	47856.8	46018.6	1838.2	51.3	86.113	-59.895	1.00	1278.2
70.6	48237.8	46399.7	1838.2	51.8	86.113	-60.530	1.00	1277.2

Total Number of Blows: 1169 (starting at penetration 1.5 m)

Driving Time (min):	38	29	23	19	16	14	12	11	10	9
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	3116.3	49.2	3067.1	0.0	0.000	0.000	1.00	0.0
3.0	3265.3	198.2	3067.1	0.0	0.000	0.000	1.00	0.0
4.6	3512.0	444.9	3067.1	0.0	0.000	0.000	1.00	0.0
6.1	3859.8	792.7	3067.1	0.0	0.000	0.000	1.00	0.0
7.6	4304.0	1237.0	3067.1	0.0	0.000	0.000	1.00	0.0
9.1	4846.7	1779.7	3067.1	0.0	0.000	0.000	1.00	0.0
10.7	5492.4	2425.3	3067.1	0.0	0.000	0.000	1.00	0.0
12.2	6232.7	3165.6	3067.1	0.0	0.000	0.000	1.00	0.0
13.7	7077.2	4010.1	3067.1	0.0	0.000	0.000	1.00	0.0
15.2	8014.9	4947.8	3067.1	0.0	0.000	0.000	1.00	0.0
16.8	9051.1	5984.0	3067.1	0.0	0.000	0.000	1.00	0.0
18.4	12225.2	7244.1	4981.1	0.0	0.000	0.000	1.00	0.0
20.1	8712.8	8290.8	422.0	0.0	0.000	0.000	1.00	0.0
21.6	9435.2	9013.2	422.0	0.0	0.000	0.000	1.00	0.0
23.2	10159.3	9737.2	422.0	0.0	0.000	0.000	1.00	0.0
23.5	10307.1	9885.1	422.0	0.0	0.000	0.000	1.00	0.0
25.3	11181.2	10759.2	422.0	0.0	0.000	0.000	1.00	0.0
25.6	11324.7	10902.7	422.0	0.0	0.000	0.000	1.00	0.0
25.9	11473.0	11051.0	422.0	0.0	0.000	0.000	1.00	0.0
27.7	13150.9	12347.0	803.9	0.0	0.000	0.000	1.00	0.0
29.3	14573.5	13769.6	803.9	0.0	0.000	0.000	1.00	0.0
30.8	15997.3	15193.4	803.9	0.0	0.000	0.000	1.00	0.0
32.3	17431.7	16627.8	803.9	20.7	86.983	-69.025	1.00	1326.6
33.8	18858.1	18054.2	803.9	20.6	86.864	-67.692	1.00	1333.1
34.8	19722.0	18918.1	803.9	20.6	86.794	-66.975	1.00	1327.2
36.6	21631.2	20706.7	924.5	22.3	86.673	-65.434	1.00	1320.5
38.1	23175.4	22250.9	924.5	24.4	86.579	-64.284	1.00	1318.6
39.6	24721.7	23797.2	924.5	29.6	86.478	-63.156	1.00	1302.6
41.2	26280.2	25355.7	924.5	31.7	86.370	-62.044	1.00	1298.6
42.7	27830.7	26906.2	924.5	33.7	86.263	-60.944	1.00	1297.9
44.2	29393.4	28469.0	924.5	35.7	86.149	-59.835	1.00	1299.1
45.4	30641.1	29716.6	924.5	44.2	86.113	-58.932	1.00	1294.3
47.2	43418.6	32425.7	10992.9	60.8	86.113	-46.331	1.00	1288.9
48.8	46488.2	35495.3	10992.9	63.4	86.113	-45.302	1.00	1286.8
50.3	49638.1	38645.2	10992.9	66.3	86.113	-44.363	1.00	1282.7
51.8	52909.8	41916.9	10992.9	69.5	86.113	-43.771	1.00	1273.7
51.8	52931.5	41938.6	10992.9	69.5	86.113	-43.767	1.00	1273.7
53.7	58385.1	45985.4	12399.7	76.8	86.113	-41.255	1.00	1268.8
55.2	61855.5	49455.7	12399.7	81.1	86.113	-40.340	1.00	1266.9
56.7	65448.4	53048.6	12399.7	85.8	86.113	-39.282	1.00	1265.5
58.2	69116.9	56717.1	12399.7	91.0	86.113	-38.122	1.00	1264.8
59.4	72107.8	59708.1	12399.7	95.4	86.113	-37.128	1.00	1264.7
61.3	64898.2	63172.6	1725.6	74.7	86.113	-48.374	1.00	1265.1
63.1	80521.2	66757.7	13763.4	107.1	86.113	-34.269	1.00	1264.7
63.4	81345.5	67582.1	13763.4	107.9	86.113	-34.143	1.00	1264.7
63.7	82147.3	68383.8	13763.4	108.7	86.113	-34.029	1.00	1264.7
65.5	73838.0	71999.8	1838.2	90.2	86.113	-46.225	1.00	1264.7

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
67.1	75747.9	73909.8	1838.2	95.4	86.113	-46.027	1.00	1264.7
68.6	77651.0	75812.8	1838.2	99.7	86.113	-46.039	1.00	1264.7
69.7	78994.0	77155.9	1838.2	101.5	86.113	-46.163	1.00	1264.7
70.6	80138.4	78300.2	1838.2	103.0	86.113	-46.308	1.00	1264.7

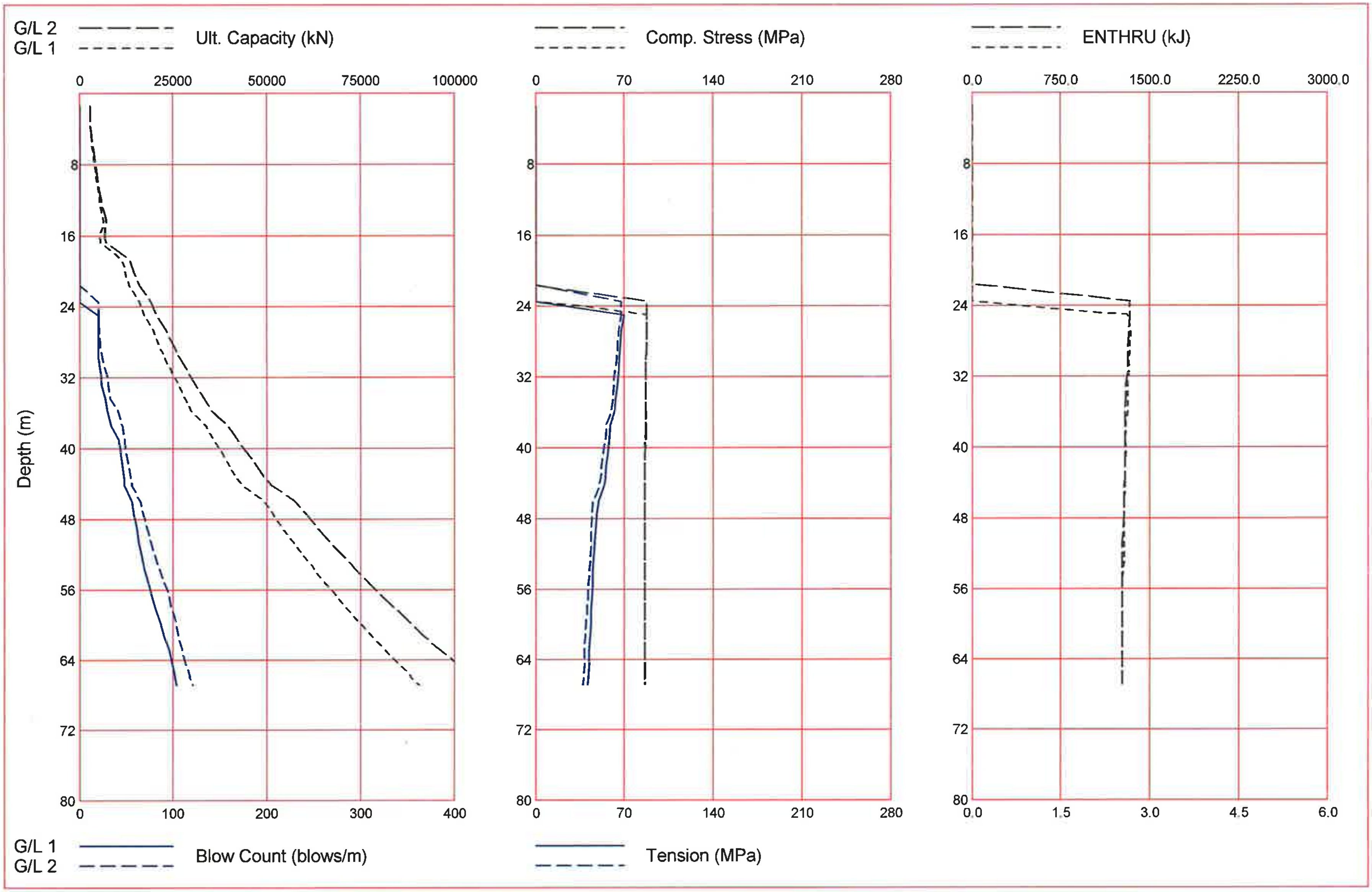
Total Number of Blows: 2463 (starting at penetration 1.5 m)

Driving Time (min):	82	61	49	41	35	30	27	24	22	20
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

GZA GeoEnvironmental Inc.
SFWF B11 S-3000 105m 8.0mx75mm Monopile
Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



GZA GeoEnvironmental Inc. 2018 Dec 21
SFWF B11 S-3000 105m 8.0mx75mm Monopile GRLWEAP Version 2010

Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	2865.4	41.0	2824.4	0.0	0.000	0.000	1.00	0.0
3.0	2989.7	165.3	2824.4	0.0	0.000	0.000	1.00	0.0
4.6	3195.4	371.0	2824.4	0.0	0.000	0.000	1.00	0.0
6.1	3485.4	661.0	2824.4	0.0	0.000	0.000	1.00	0.0
7.6	3855.9	1031.5	2824.4	0.0	0.000	0.000	1.00	0.0
9.1	4308.5	1484.1	2824.4	0.0	0.000	0.000	1.00	0.0
10.7	4847.0	2022.6	2824.4	0.0	0.000	0.000	1.00	0.0
12.2	5464.3	2639.9	2824.4	0.0	0.000	0.000	1.00	0.0
13.7	6168.5	3344.1	2824.4	0.0	0.000	0.000	1.00	0.0
14.3	6472.5	3648.1	2824.4	0.0	0.000	0.000	1.00	0.0
16.1	5463.6	4572.0	891.5	0.0	0.000	0.000	1.00	0.0
16.5	5615.5	4724.0	891.5	0.0	0.000	0.000	1.00	0.0
16.8	5762.7	4871.1	891.5	0.0	0.000	0.000	1.00	0.0
18.6	11206.8	5907.4	5299.4	0.0	0.000	0.000	1.00	0.0
20.1	12255.2	6955.8	5299.4	0.0	0.000	0.000	1.00	0.0
21.6	13377.7	8078.4	5299.4	0.0	0.000	0.000	1.00	0.0
23.5	16124.4	9533.1	6591.3	0.0	0.000	0.000	1.00	0.0
25.0	17417.4	10826.1	6591.3	20.7	87.599	-69.497	1.00	1311.5
26.8	19951.7	12492.1	7459.6	20.7	87.463	-67.484	1.00	1337.2
28.4	21436.5	13976.9	7459.6	20.6	87.362	-66.739	1.00	1332.2
29.9	22991.8	15532.1	7459.6	21.0	87.262	-65.952	1.00	1326.0
31.4	24626.9	17167.3	7459.6	22.5	87.158	-65.119	1.00	1320.8
32.9	26353.5	18893.9	7459.6	23.5	87.047	-64.238	1.00	1319.7
34.4	28149.0	20689.4	7459.6	28.2	86.937	-63.310	1.00	1316.4
35.7	29648.0	22188.3	7459.6	29.4	86.844	-62.534	1.00	1315.7
37.5	33861.3	24533.4	9327.9	34.4	86.715	-58.926	1.00	1296.3
39.0	35897.9	26569.9	9327.9	42.4	86.605	-57.912	1.00	1294.7
40.5	38029.3	28701.4	9327.9	44.0	86.493	-56.882	1.00	1297.3
42.1	40227.7	30899.8	9327.9	45.8	86.380	-55.839	1.00	1295.2
43.6	42522.1	33194.1	9327.9	47.8	86.263	-54.767	1.00	1294.5
44.2	43459.6	34131.7	9327.9	48.6	86.217	-54.336	1.00	1293.4
46.0	49333.7	37006.2	12327.5	55.8	86.113	-49.433	1.00	1286.6
47.5	51840.3	39512.8	12327.5	58.4	86.113	-48.327	1.00	1286.0
49.1	54412.0	42084.5	12327.5	60.9	86.113	-47.188	1.00	1286.1
50.6	57082.7	44755.2	12327.5	63.6	86.113	-46.500	1.00	1285.1
52.1	59817.5	47490.0	12327.5	66.6	86.113	-45.973	1.00	1283.6
53.6	62633.6	50306.1	12327.5	69.8	86.113	-45.449	1.00	1273.8
55.2	65550.3	53222.8	12327.5	73.4	86.113	-44.918	1.00	1269.9
56.7	68529.4	56201.9	12327.5	77.3	86.113	-44.399	1.00	1267.8
58.2	71610.3	59282.8	12327.5	81.6	86.113	-43.898	1.00	1265.7
59.7	74752.5	62425.0	12327.5	86.2	86.113	-43.402	1.00	1264.7
61.3	77976.0	65648.5	12327.5	91.1	86.113	-42.896	1.00	1264.7
62.8	81302.8	68975.4	12327.5	96.0	86.113	-42.383	1.00	1264.7
64.3	84689.4	72362.0	12327.5	98.8	86.113	-41.863	1.00	1264.7
65.8	88180.4	75852.9	12327.5	101.7	86.113	-41.342	1.00	1264.7
66.0	88527.1	76199.6	12327.5	102.0	86.113	-41.289	1.00	1264.7
66.9	90647.2	78319.8	12327.5	103.9	86.113	-40.973	1.00	1264.7

Total Number of Blows: 2344 (starting at penetration 1.5 m)

Driving Time (min):	78	58	46	39	33	29	26	23	21	19
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

```
GZA GeoEnvironmental Inc.                                                 2018 Dec 21
SFWF B11 S-3000 105m 8.0mx75mm Monopile                             GRLWEAP Version 2010

                           Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

         Ultimate             End       Blow      Comp.     Tension
Depth    Capacity  Friction   Bearing   Count     Stress    Stress    Stroke    ENTHRU
m        kN        kN         kN        blows/m   MPa       MPa       m         kJ

   1.5    2873.7      49.3    2824.4      0.0      0.000     0.000     1.00       0.0
   3.0    3022.7     198.3    2824.4      0.0      0.000     0.000     1.00       0.0
   4.6    3269.6     445.2    2824.4      0.0      0.000     0.000     1.00       0.0
   6.1    3617.7     793.3    2824.4      0.0      0.000     0.000     1.00       0.0
   7.6    4062.2    1237.8    2824.4      0.0      0.000     0.000     1.00       0.0
   9.1    4605.3    1780.9    2824.4      0.0      0.000     0.000     1.00       0.0
  10.7    5251.5    2427.1    2824.4      0.0      0.000     0.000     1.00       0.0
  12.2    5992.2    3167.8    2824.4      0.0      0.000     0.000     1.00       0.0
  13.7    6837.3    4012.9    2824.4      0.0      0.000     0.000     1.00       0.0
  14.3    7202.1    4377.7    2824.4      0.0      0.000     0.000     1.00       0.0
  16.1    6734.7    5843.1     891.5      0.0      0.000     0.000     1.00       0.0
  16.5    7038.6    6147.1     891.5      0.0      0.000     0.000     1.00       0.0
  16.8    7332.9    6441.4     891.5      0.0      0.000     0.000     1.00       0.0
  18.6   13345.4    8046.1    5299.4      0.0      0.000     0.000     1.00       0.0
  20.1   14603.5    9304.2    5299.4      0.0      0.000     0.000     1.00       0.0
  21.6   15950.6   10651.2    5299.4      0.0      0.000     0.000     1.00       0.0
  23.5   18988.2   12396.9    6591.3     20.7     87.720   -67.727     1.00    1335.5
  25.0   20539.8   13948.5    6591.3     20.6     87.612   -67.209     1.00    1334.9
  26.8   23407.3   15947.7    7459.6     22.0     87.511   -65.309     1.00    1323.1
  28.4   25189.1   17729.4    7459.6     23.2     87.411   -64.525     1.00    1319.8
  29.9   27055.4   19595.7    7459.6     24.5     87.307   -63.653     1.00    1317.1
  31.4   29017.6   21557.9    7459.6     29.3     87.196   -62.706     1.00    1314.9
  32.9   31089.5   23629.9    7459.6     31.1     87.083   -61.673     1.00    1302.8
  34.4   33244.1   25784.4    7459.6     33.3     86.967   -60.557     1.00    1297.6
  35.7   35042.8   27583.2    7459.6     41.4     86.871   -59.607     1.00    1293.1
  37.5   39725.1   30397.2    9327.9     45.9     86.743   -55.806     1.00    1295.3
  39.0   42169.0   32841.1    9327.9     48.0     86.629   -54.604     1.00    1294.1
  40.5   44726.7   35398.8    9327.9     50.3     86.517   -53.373     1.00    1292.3
  42.1   47364.9   38036.9    9327.9     52.8     86.399   -52.128     1.00    1288.2
  43.6   50118.1   40790.2    9327.9     55.4     86.328   -50.851     1.00    1288.9
  44.2   51243.1   41915.2    9327.9     56.4     86.321   -50.338     1.00    1287.3
  46.0   57692.1   45364.6   12327.5     65.0     86.302   -45.332     1.00    1284.8
  47.5   60700.0   48372.5   12327.5     68.3     86.276   -44.629     1.00    1283.3
  49.1   63786.1   51458.6   12327.5     71.9     86.255   -44.017     1.00    1276.8
  50.6   66990.9   54663.4   12327.5     76.0     86.245   -43.440     1.00    1269.8
  52.1   70272.7   57945.2   12327.5     80.5     86.229   -42.868     1.00    1267.5
  53.6   73652.0   61324.5   12327.5     85.4     86.217   -42.287     1.00    1265.1
  55.2   77152.0   64824.5   12327.5     90.6     86.179   -41.701     1.00    1264.7
  56.7   80727.0   68399.5   12327.5     96.0     86.192   -41.106     1.00    1264.7
  58.2   84424.0   72096.5   12327.5     99.2     86.195   -40.511     1.00    1264.7
  59.7   88194.7   75867.2   12327.5    102.4     86.192   -39.910     1.00    1264.7
  61.3   92062.9   79735.4   12327.5    105.8     86.182   -39.307     1.00    1264.7
  62.8   96055.1   83727.6   12327.5    109.5     86.168   -38.692     1.00    1264.7
  64.3  100119.0   87791.5   12327.5    113.4     86.165   -38.085     1.00    1264.7
  65.8  104308.1   91980.6   12327.5    117.7     86.187   -37.466     1.00    1264.7
  66.0  104724.2   92396.7   12327.5    118.1     86.189   -37.405     1.00    1264.7
  66.9  107268.4   94940.9   12327.5    120.8     86.195   -37.032     1.00    1264.7

Total Number of Blows:      2815 (starting at penetration 1.5 m)
Driving Time (min):    93     70     56     46     40     35     31     28     25     23
@Blow Rate (b/min):    30     40     50     60     70     80     90    100    110    120
Driving Time for continuously running hammer; any wait times not included
```

GZA GeoEnvironmental Inc.
SFWF B11 S-3000 105m 8.0mx75mm Monopile

2018 Dec 21
GRLWEAP Version 2010

Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	2865.4	41.0	2824.4	0.0	0.000	0.000	1.00	0.0
3.0	2989.7	165.3	2824.4	0.0	0.000	0.000	1.00	0.0
4.6	3195.4	371.0	2824.4	0.0	0.000	0.000	1.00	0.0
6.1	3485.4	661.0	2824.4	0.0	0.000	0.000	1.00	0.0
7.6	3855.9	1031.5	2824.4	0.0	0.000	0.000	1.00	0.0
9.1	4308.5	1484.1	2824.4	0.0	0.000	0.000	1.00	0.0
10.7	4847.0	2022.6	2824.4	0.0	0.000	0.000	1.00	0.0
12.2	5464.3	2639.9	2824.4	0.0	0.000	0.000	1.00	0.0
13.7	6168.5	3344.1	2824.4	0.0	0.000	0.000	1.00	0.0
14.3	6472.5	3648.1	2824.4	0.0	0.000	0.000	1.00	0.0
16.1	5463.6	4572.0	891.5	0.0	0.000	0.000	1.00	0.0
16.5	5615.5	4724.0	891.5	0.0	0.000	0.000	1.00	0.0
16.8	5762.7	4871.1	891.5	0.0	0.000	0.000	1.00	0.0
18.6	11206.8	5907.4	5299.4	0.0	0.000	0.000	1.00	0.0
20.1	12255.2	6955.8	5299.4	0.0	0.000	0.000	1.00	0.0
21.6	13377.7	8078.4	5299.4	0.0	0.000	0.000	1.00	0.0
23.5	16124.4	9533.1	6591.3	0.0	0.000	0.000	1.00	0.0
25.0	17417.4	10826.1	6591.3	20.7	87.599	-69.497	1.00	1311.5
26.8	19951.7	12492.1	7459.6	20.7	87.463	-67.484	1.00	1337.2
28.4	21436.5	13976.9	7459.6	20.6	87.362	-66.739	1.00	1332.2
29.9	22991.8	15532.1	7459.6	21.0	87.262	-65.952	1.00	1326.0
31.4	24626.9	17167.3	7459.6	22.5	87.158	-65.119	1.00	1320.8
32.9	26353.5	18893.9	7459.6	23.5	87.047	-64.238	1.00	1319.7
34.4	28149.0	20689.4	7459.6	28.2	86.937	-63.310	1.00	1316.4
35.7	29648.0	22188.3	7459.6	29.4	86.844	-62.534	1.00	1315.7
37.5	33861.3	24533.4	9327.9	34.4	86.715	-58.926	1.00	1296.3
39.0	35897.9	26569.9	9327.9	42.4	86.605	-57.912	1.00	1294.7
40.5	38029.3	28701.4	9327.9	44.0	86.493	-56.882	1.00	1297.3
42.1	40227.7	30899.8	9327.9	45.8	86.380	-55.839	1.00	1295.2
43.6	42522.1	33194.1	9327.9	47.8	86.263	-54.767	1.00	1294.5
44.2	43459.6	34131.7	9327.9	48.6	86.217	-54.336	1.00	1293.4
46.0	49333.7	37006.2	12327.5	55.8	86.113	-49.433	1.00	1286.6
47.5	51840.3	39512.8	12327.5	58.4	86.113	-48.327	1.00	1286.0
49.1	54412.0	42084.5	12327.5	60.9	86.113	-47.188	1.00	1286.1
50.6	57082.7	44755.2	12327.5	63.6	86.113	-46.500	1.00	1285.1
52.1	59817.5	47490.0	12327.5	66.6	86.113	-45.973	1.00	1283.6
53.6	62633.6	50306.1	12327.5	69.8	86.113	-45.449	1.00	1273.8
55.2	65550.3	53222.8	12327.5	73.4	86.113	-44.918	1.00	1269.9
56.7	68529.4	56201.9	12327.5	77.3	86.113	-44.399	1.00	1267.8
58.2	71610.3	59282.8	12327.5	81.6	86.113	-43.898	1.00	1265.7
59.7	74752.5	62425.0	12327.5	86.2	86.113	-43.402	1.00	1264.7
61.3	77976.0	65648.5	12327.5	91.1	86.113	-42.896	1.00	1264.7
62.8	81302.8	68975.4	12327.5	96.0	86.113	-42.383	1.00	1264.7
64.3	84689.4	72362.0	12327.5	98.8	86.113	-41.863	1.00	1264.7
65.8	88180.4	75852.9	12327.5	101.7	86.113	-41.342	1.00	1264.7
66.0	88527.1	76199.6	12327.5	102.0	86.113	-41.289	1.00	1264.7
66.9	90647.2	78319.8	12327.5	103.9	86.113	-40.973	1.00	1264.7

Total Number of Blows: 2344 (starting at penetration 1.5 m)

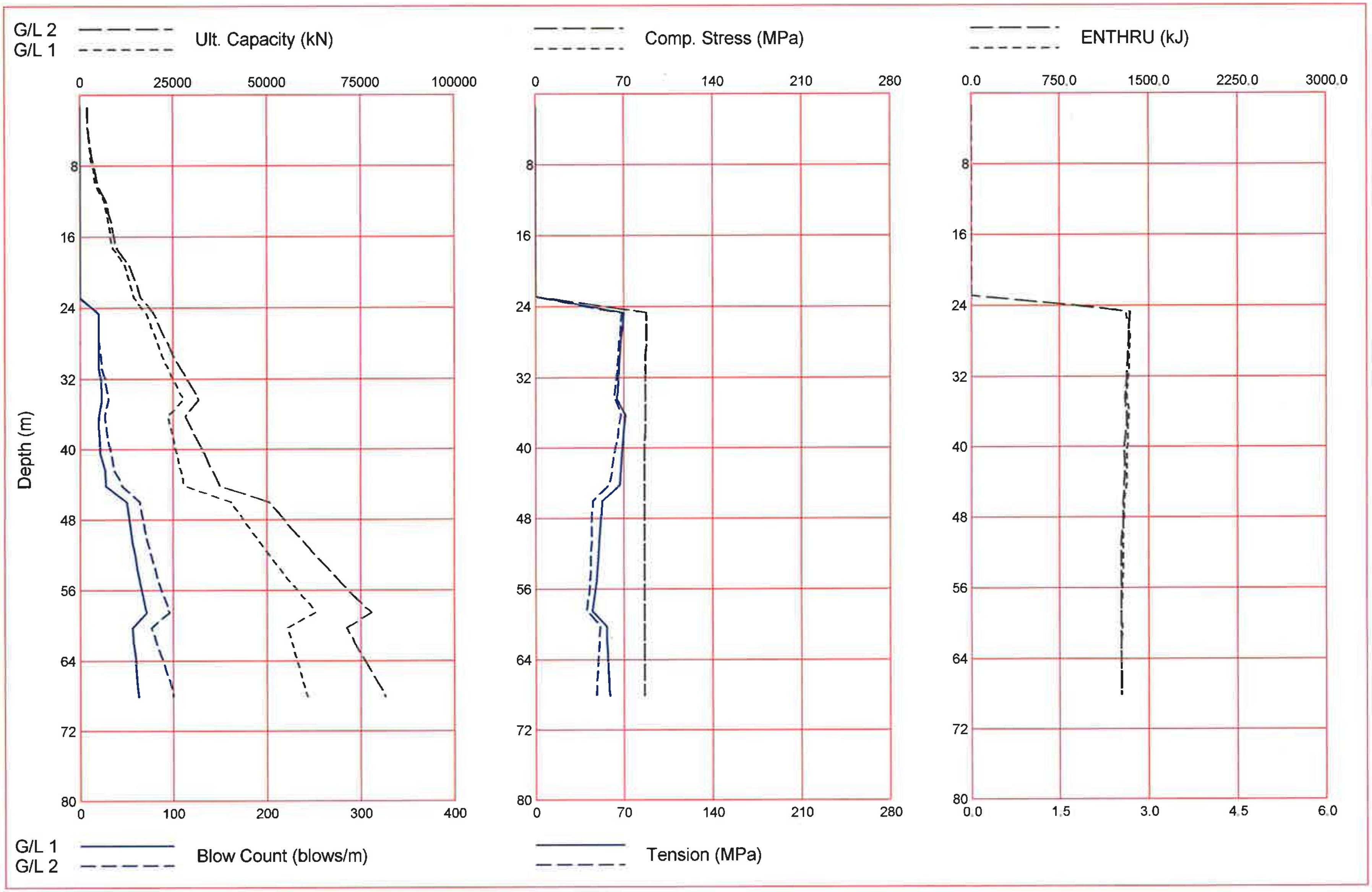
Driving Time (min):	78	58	46	39	33	29	26	23	21	19
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

```
GZA GeoEnvironmental Inc.                                                  2018 Dec 21
SFWF B11 S-3000 105m 8.0mx75mm Monopile                         GRLWEAP Version 2010

                        Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

          Ultimate              End       Blow      Comp.     Tension
Depth     Capacity  Friction    Bearing   Count     Stress    Stress    Stroke    ENTHRU
m         kN        kN          kN        blows/m   MPa       MPa       m         kJ

   1.5     2873.7      49.3     2824.4      0.0     0.000     0.000      1.00        0.0
   3.0     3022.7     198.3     2824.4      0.0     0.000     0.000      1.00        0.0
   4.6     3269.6     445.2     2824.4      0.0     0.000     0.000      1.00        0.0
   6.1     3617.7     793.3     2824.4      0.0     0.000     0.000      1.00        0.0
   7.6     4062.2    1237.8     2824.4      0.0     0.000     0.000      1.00        0.0
   9.1     4605.3    1780.9     2824.4      0.0     0.000     0.000      1.00        0.0
  10.7     5251.5    2427.1     2824.4      0.0     0.000     0.000      1.00        0.0
  12.2     5992.2    3167.8     2824.4      0.0     0.000     0.000      1.00        0.0
  13.7     6837.3    4012.9     2824.4      0.0     0.000     0.000      1.00        0.0
  14.3     7202.1    4377.7     2824.4      0.0     0.000     0.000      1.00        0.0
  16.1     6734.7    5843.1      891.5      0.0     0.000     0.000      1.00        0.0
  16.5     7038.6    6147.1      891.5      0.0     0.000     0.000      1.00        0.0
  16.8     7332.9    6441.4      891.5      0.0     0.000     0.000      1.00        0.0
  18.6    13345.4    8046.1     5299.4      0.0     0.000     0.000      1.00        0.0
  20.1    14603.5    9304.2     5299.4      0.0     0.000     0.000      1.00        0.0
  21.6    15950.6   10651.2     5299.4      0.0     0.000     0.000      1.00        0.0
  23.5    18988.2   12396.9     6591.3     20.7    87.720   -67.727      1.00     1335.5
  25.0    20539.8   13948.5     6591.3     20.6    87.612   -67.209      1.00     1334.9
  26.8    23407.3   15947.7     7459.6     22.0    87.511   -65.309      1.00     1323.1
  28.4    25189.1   17729.4     7459.6     23.2    87.411   -64.525      1.00     1319.8
  29.9    27055.4   19595.7     7459.6     24.5    87.307   -63.653      1.00     1317.1
  31.4    29017.6   21557.9     7459.6     29.3    87.196   -62.706      1.00     1314.9
  32.9    31089.5   23629.9     7459.6     31.1    87.083   -61.673      1.00     1302.8
  34.4    33244.1   25784.4     7459.6     33.3    86.967   -60.557      1.00     1297.6
  35.7    35042.8   27583.2     7459.6     41.4    86.871   -59.607      1.00     1293.1
  37.5    39725.1   30397.2     9327.9     45.9    86.743   -55.806      1.00     1295.3
  39.0    42169.0   32841.1     9327.9     48.0    86.629   -54.604      1.00     1294.1
  40.5    44726.7   35398.8     9327.9     50.3    86.517   -53.373      1.00     1292.3
  42.1    47364.9   38036.9     9327.9     52.8    86.399   -52.128      1.00     1288.2
  43.6    50118.1   40790.2     9327.9     55.4    86.328   -50.851      1.00     1288.9
  44.2    51243.1   41915.2     9327.9     56.4    86.321   -50.338      1.00     1287.3
  46.0    57692.1   45364.6    12327.5     65.0    86.302   -45.332      1.00     1284.8
  47.5    60700.0   48372.5    12327.5     68.3    86.276   -44.629      1.00     1283.3
  49.1    63786.1   51458.6    12327.5     71.9    86.255   -44.017      1.00     1276.8
  50.6    66990.9   54663.4    12327.5     76.0    86.245   -43.440      1.00     1269.8
  52.1    70272.7   57945.2    12327.5     80.5    86.229   -42.868      1.00     1267.5
  53.6    73652.0   61324.5    12327.5     85.4    86.217   -42.287      1.00     1265.1
  55.2    77152.0   64824.5    12327.5     90.6    86.179   -41.701      1.00     1264.7
  56.7    80727.0   68399.5    12327.5     96.0    86.192   -41.106      1.00     1264.7
  58.2    84424.0   72096.5    12327.5     99.2    86.195   -40.511      1.00     1264.7
  59.7    88194.7   75867.2    12327.5    102.4    86.192   -39.910      1.00     1264.7
  61.3    92062.9   79735.4    12327.5    105.8    86.182   -39.307      1.00     1264.7
  62.8    96055.1   83727.6    12327.5    109.5    86.168   -38.692      1.00     1264.7
  64.3   100119.0   87791.5    12327.5    113.4    86.165   -38.085      1.00     1264.7
  65.8   104308.1   91980.6    12327.5    117.7    86.187   -37.466      1.00     1264.7
  66.0   104724.2   92396.7    12327.5    118.1    86.189   -37.405      1.00     1264.7
  66.9   107268.4   94940.9    12327.5    120.8    86.195   -37.032      1.00     1264.7

Total Number of Blows:      2815 (starting at penetration 1.5 m)
Driving Time (min):    93    70    56    46    40    35    31    28    25    23
@Blow Rate (b/min):    30    40    50    60    70    80    90   100   110   120
Driving Time for continuously running hammer; any wait times not included
```

GZA GeoEnvironmental Inc.
SFWF BOSS S-3000 105m 8.0mx75mm Monopile
Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

2018 Dec 21
GRLWEAP Version 2010
Gain/Loss 2 at Shaft and Toe 1.000 / 1.000



Gain/Loss 1 at Shaft and Toe 0.500 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	2122.6	40.3	2082.3	0.0	0.000	0.000	1.00	0.0
3.0	2244.6	162.3	2082.3	0.0	0.000	0.000	1.00	0.0
4.6	2446.8	364.4	2082.3	0.0	0.000	0.000	1.00	0.0
6.1	2731.6	649.3	2082.3	0.0	0.000	0.000	1.00	0.0
7.0	2939.8	857.5	2082.3	0.0	0.000	0.000	1.00	0.0
8.8	3804.7	1384.1	2420.6	0.0	0.000	0.000	1.00	0.0
9.4	4014.4	1593.9	2420.6	0.0	0.000	0.000	1.00	0.0
10.1	4238.3	1817.8	2420.6	0.0	0.000	0.000	1.00	0.0
11.9	6482.2	2552.0	3930.1	0.0	0.000	0.000	1.00	0.0
13.4	7166.4	3236.2	3930.1	0.0	0.000	0.000	1.00	0.0
14.9	7938.5	4008.4	3930.1	0.0	0.000	0.000	1.00	0.0
16.8	8554.4	5028.1	3526.2	0.0	0.000	0.000	1.00	0.0
17.1	8737.9	5211.7	3526.2	0.0	0.000	0.000	1.00	0.0
17.4	8918.5	5392.3	3526.2	0.0	0.000	0.000	1.00	0.0
19.2	11929.7	6553.5	5376.3	0.0	0.000	0.000	1.00	0.0
20.7	12984.0	7607.7	5376.3	0.0	0.000	0.000	1.00	0.0
22.2	14110.7	8734.4	5376.3	0.0	0.000	0.000	1.00	0.0
22.9	14585.1	9208.8	5376.3	0.0	0.000	0.000	1.00	0.0
24.7	17754.6	10708.8	7045.8	20.7	87.634	-69.527	1.00	1311.6
26.2	19089.8	12044.0	7045.8	20.7	87.509	-68.735	1.00	1331.1
27.7	20515.9	13470.1	7045.8	20.7	87.405	-67.933	1.00	1337.9
29.3	22014.4	14968.6	7045.8	20.7	87.305	-67.119	1.00	1332.5
30.8	23594.2	16548.4	7045.8	21.0	87.204	-66.283	1.00	1329.0
32.3	25266.5	18220.7	7045.8	22.5	87.099	-65.424	1.00	1322.7
33.8	27009.6	19963.8	7045.8	23.5	86.990	-64.541	1.00	1319.3
34.4	27732.0	20686.2	7045.8	23.8	86.944	-64.177	1.00	1317.9
36.3	23459.1	22320.4	1138.8	20.6	86.746	-70.965	1.00	1328.4
37.8	24334.5	23195.7	1138.8	20.7	86.633	-69.917	1.00	1326.0
39.3	25205.8	24067.0	1138.8	21.3	86.526	-69.073	1.00	1324.0
40.5	25906.2	24767.4	1138.8	22.1	86.438	-68.362	1.00	1317.9
42.4	26958.7	25820.0	1138.8	26.7	86.302	-67.445	1.00	1315.7
43.9	27834.3	26695.5	1138.8	27.7	86.187	-66.669	1.00	1312.4
44.2	28013.0	26874.2	1138.8	27.9	86.162	-66.541	1.00	1313.2
46.0	40307.1	28836.1	11471.0	49.8	86.113	-52.647	1.00	1291.3
47.5	42788.2	31317.3	11471.0	52.0	86.114	-51.552	1.00	1288.3
49.1	45334.0	33863.0	11471.0	54.2	86.113	-51.036	1.00	1287.8
50.6	47977.8	36506.8	11471.0	56.5	86.113	-50.478	1.00	1287.7
52.1	50685.1	39214.1	11471.0	58.8	86.113	-49.841	1.00	1287.5
53.6	53472.9	42002.0	11471.0	61.4	86.113	-48.831	1.00	1285.2
55.2	56360.4	44889.4	11471.0	64.1	86.113	-47.807	1.00	1278.2
56.7	59309.8	47838.8	11471.0	67.3	86.113	-46.626	1.00	1273.8
58.2	62359.9	50888.9	11471.0	70.7	86.113	-45.414	1.00	1269.3
58.5	62967.5	51496.6	11471.0	71.5	86.113	-45.142	1.00	1269.0
60.3	55610.6	53982.2	1628.4	56.0	86.113	-56.337	1.00	1274.7
61.9	56619.0	54990.7	1628.4	57.5	86.113	-56.501	1.00	1271.9
63.4	57636.5	56008.1	1628.4	58.8	86.113	-56.921	1.00	1270.3
64.9	58649.5	57021.2	1628.4	60.2	86.113	-57.256	1.00	1269.9

Gain/Loss 1 at Shaft and Toe 0.500 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
66.4	59671.5	58043.2	1628.4	61.5	86.113	-57.854	1.00	1269.7
67.2	60180.1	58551.7	1628.4	62.2	86.113	-58.095	1.00	1268.6
68.1	60789.7	59161.4	1628.4	63.0	86.113	-58.468	1.00	1269.2

Total Number of Blows: 1849 (starting at penetration 1.5 m)

Driving Time (min):	61	46	36	30	26	23	20	18	16	15
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
1.5	2130.7	48.4	2082.3	0.0	0.000	0.000	1.00	0.0
3.0	2277.1	194.8	2082.3	0.0	0.000	0.000	1.00	0.0
4.6	2519.6	437.3	2082.3	0.0	0.000	0.000	1.00	0.0
6.1	2861.5	779.2	2082.3	0.0	0.000	0.000	1.00	0.0
7.0	3111.3	1029.0	2082.3	0.0	0.000	0.000	1.00	0.0
8.8	4081.5	1660.9	2420.6	0.0	0.000	0.000	1.00	0.0
9.4	4333.2	1912.6	2420.6	0.0	0.000	0.000	1.00	0.0
10.1	4601.9	2181.3	2420.6	0.0	0.000	0.000	1.00	0.0
11.9	6992.6	3062.4	3930.1	0.0	0.000	0.000	1.00	0.0
13.4	7813.6	3883.5	3930.1	0.0	0.000	0.000	1.00	0.0
14.9	8740.2	4810.1	3930.1	0.0	0.000	0.000	1.00	0.0
16.8	9560.0	6033.8	3526.2	0.0	0.000	0.000	1.00	0.0
17.1	9780.3	6254.0	3526.2	0.0	0.000	0.000	1.00	0.0
17.4	9997.0	6470.8	3526.2	0.0	0.000	0.000	1.00	0.0
19.2	13240.4	7864.1	5376.3	0.0	0.000	0.000	1.00	0.0
20.7	14505.5	9129.3	5376.3	0.0	0.000	0.000	1.00	0.0
22.2	15857.6	10481.3	5376.3	0.0	0.000	0.000	1.00	0.0
22.9	16426.8	11050.6	5376.3	0.0	0.000	0.000	1.00	0.0
24.7	19896.3	12850.5	7045.8	20.7	87.630	-68.194	1.00	1338.2
26.2	21498.6	14452.8	7045.8	20.7	87.536	-67.309	1.00	1335.0
27.7	23210.0	16164.2	7045.8	20.7	87.441	-66.396	1.00	1330.0
29.3	25008.1	17962.3	7045.8	22.3	87.339	-65.459	1.00	1324.1
30.8	26903.9	19858.1	7045.8	23.5	87.237	-64.491	1.00	1319.2
32.3	28910.7	21864.9	7045.8	28.3	87.127	-63.483	1.00	1316.6
33.8	31002.3	23956.5	7045.8	30.0	87.012	-62.442	1.00	1305.1
34.4	31869.2	24823.4	7045.8	30.8	86.968	-62.013	1.00	1303.6
36.3	28339.1	27200.3	1138.8	26.4	86.788	-67.888	1.00	1319.3
37.8	30089.8	28951.0	1138.8	28.4	86.683	-65.659	1.00	1313.3
39.3	31832.3	30693.6	1138.8	31.0	86.576	-63.595	1.00	1299.5
40.5	33233.2	32094.5	1138.8	33.3	86.487	-62.085	1.00	1295.0
42.4	35338.3	34199.5	1138.8	36.8	86.351	-60.075	1.00	1296.7
43.9	37089.4	35950.6	1138.8	45.0	86.234	-58.648	1.00	1293.4
44.2	37446.8	36308.0	1138.8	45.4	86.210	-58.375	1.00	1293.1
46.0	50553.2	39082.2	11471.0	63.9	86.113	-45.278	1.00	1285.3
47.5	53530.6	42059.6	11471.0	66.6	86.113	-44.650	1.00	1284.4
49.1	56585.5	45114.5	11471.0	69.5	86.113	-44.372	1.00	1282.4
50.6	59758.0	48287.1	11471.0	72.8	86.113	-44.269	1.00	1271.3
52.1	63006.8	51535.8	11471.0	76.4	86.113	-43.987	1.00	1268.6
53.6	66352.2	54881.2	11471.0	80.4	86.113	-43.493	1.00	1266.0
55.2	69817.2	58346.2	11471.0	84.8	86.113	-42.805	1.00	1264.7
56.7	73356.4	61885.5	11471.0	89.6	86.113	-41.915	1.00	1264.7
58.2	77016.6	65545.6	11471.0	94.8	86.113	-40.883	1.00	1264.7
58.5	77745.7	66274.7	11471.0	95.9	86.113	-40.729	1.00	1264.7
60.3	71368.0	69739.6	1628.4	76.9	86.113	-51.052	1.00	1264.7
61.9	73385.0	71756.6	1628.4	81.5	86.113	-50.135	1.00	1264.7
63.4	75419.8	73791.4	1628.4	86.6	86.113	-49.385	1.00	1264.7
64.9	77445.9	75817.5	1628.4	91.9	86.113	-48.843	1.00	1264.7

Gain/Loss 2 at Shaft and Toe 1.000 / 1.000 (Continued)

Depth m	Ultimate Capacity kN	Friction kN	End Bearing kN	Blow Count blows/m	Comp. Stress MPa	Tension Stress MPa	Stroke m	ENTHRU kJ
66.4	79490.0	77861.6	1628.4	97.1	86.113	-48.530	1.00	1264.7
67.2	80507.0	78878.7	1628.4	98.4	86.113	-48.473	1.00	1264.7
68.1	81726.3	80098.0	1628.4	100.0	86.113	-48.471	1.00	1264.7

Total Number of Blows: 2495 (starting at penetration 1.5 m)

Driving Time (min):	83	62	49	41	35	31	27	24	22	20
@Blow Rate (b/min):	30	40	50	60	70	80	90	100	110	120

Driving Time for continuously running hammer; any wait times not included