PRESENTATION OF SITE INVESTIGATION RESULTS

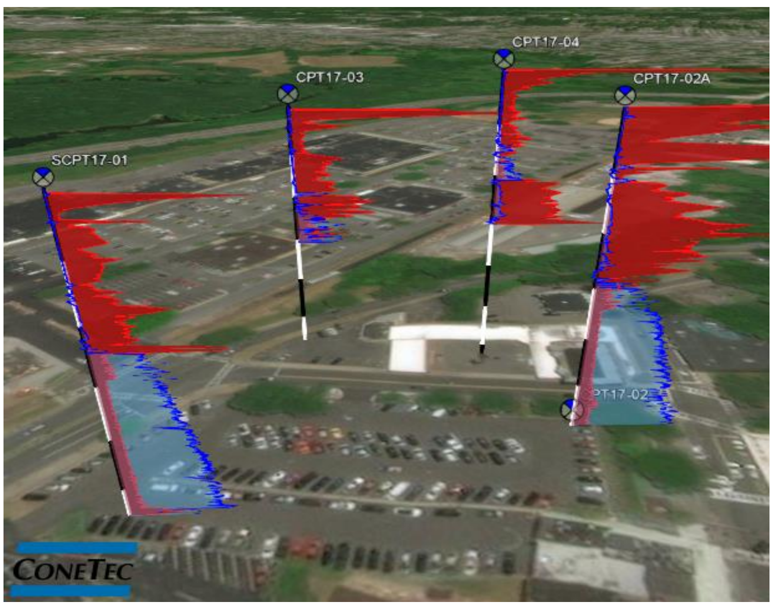
19 North Front Street
Kingston, New York

Prepared for:

Hoffman Engineering

ConeTec Job No: 17-53167

Project Start Date: 6-Dec-2017
Project End Date: 6-Dec-2017
Report Date: 7-Dec-2017



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Introduction

The enclosed report presents the results of a piezocone penetration testing (CPTu or CPT) and seismic piezocone penetration testing (SCPTu or SCPT) program and also a flat plate dilatometer test (DMT) carried out at the 19 North Front Street site located in Kingston, New York. The site investigation program was conducted by ConeTec Inc. (ConeTec), under contract to Hoffman Engineering (Hoffman) of Rotterdam, New York.

A total of 4 cone penetration tests, 1 seismic cone penetration test and 1 flat plate dilatometer test were completed at 4 locations (there was one shallow CPT refusal that was offset and pushed to depth). The CPT, SCPT and DMT program was performed to evaluate the subsurface soil conditions. Test locations were selected and numbered under supervision of Hoffman personnel (Mr. Vern Hoffman).

Project Information

Project	
Client	Hoffman Engineering
Project	19 North Front Street, Kingston, NY
ConeTec project number	17-53167

A map from CESIUM including the CPT test locations is presented below.

Rig Description	Deployment System	Test Type
CPT Truck Rig	25 ton truck mounted (twin cylinders)	CPT, SCPT and DMT

Coordinates		
Test Type	Collection Method	EPSG Number
CPT, SCPT and DMT	GPS (GlobalSat MR-350)	32618 (WGS 84 / UTM North)

Cone Penetration Test (CPT)	
Depth reference	Ground surface at the time of the investigation.
Tip and sleeve data offset	0.1 meter. This has been accounted for in the CPT data files.
Pore pressure dissipation (PPD) tests	Seven pore pressure dissipation tests were completed to determine the phreatic surface and consolidation characteristics.
Additional Comments	Shear wave velocity tests were conducted at one meter depth intervals at one location, SCPT17-01. DMT17-01 was also performed at this test location.

Cone Description	Cone Number	Cross Sectional Area (cm^2)	Sleeve Area (cm^2)	Tip Capacity (bar)	Sleeve Capacity (bar)	Pore Pressure Capacity (psi)
508:T1500F15U500	508	15	225	1500	15	500

Limitations

This report has been prepared for the exclusive use of Hoffman Engineering (Client) for the project titled "19 North Front Street, Kingston, NY". The report's contents may not be relied upon by any other party without the express written permission of ConeTec. ConeTec has provided site investigation services, prepared the factual data reporting, and provided geotechnical parameter calculations consistent with current best practices. No other warranty, expressed or implied, is made.

The information presented in the report document and the accompanying data set pertain to the specific project, site conditions and objectives described to ConeTec by the Client. In order to properly understand the factual data, assumptions and calculations, reference must be made to the documents provided and their accompanying data sets, in their entirety.

The cone penetration tests (CPTu) are conducted using an integrated electronic piezocone penetrometer and data acquisition system manufactured by Adara Systems Ltd. of Richmond, British Columbia, Canada.

ConeTec's piezocone penetrometers are compression type designs in which the tip and friction sleeve load cells are independent and have separate load capacities. The piezocones use strain gauged load cells for tip and sleeve friction and a strain gauged diaphragm type transducer for recording pore pressure. The piezocones also have a platinum resistive temperature device (RTD) for monitoring the temperature of the sensors, an accelerometer type dual axis inclinometer and a geophone sensor for recording seismic signals. All signals are amplified down hole within the cone body and the analog signals are sent to the surface through a shielded cable.

ConeTec penetrometers are manufactured with various tip, friction and pore pressure capacities in both 10 cm^2 and 15 cm^2 tip base area configurations in order to maximize signal resolution for various soil conditions. The 15 cm^2 penetrometers do not require friction reducers as they have a diameter larger than the deployment rods. The 10 cm^2 piezocones use a friction reducer consisting of a rod adapter extension behind the main cone body with an enlarged cross sectional area (typically 44 mm diameter over a length of 32 mm with tapered leading and trailing edges) located at a distance of 585 mm above the cone tip.

The penetrometers are designed with equal end area friction sleeves, a net end area ratio of 0.8 and cone tips with a 60 degree apex angle.

All ConeTec piezocones can record pore pressure at various locations. Unless otherwise noted, the pore pressure filter is located directly behind the cone tip in the "u_2" position (ASTM Type 2). The filter is 6 mm thick, made of porous plastic (polyethylene) having an average pore size of 125 microns (90-160 microns). The function of the filter is to allow rapid movements of extremely small volumes of water needed to activate the pressure transducer while preventing soil ingress or blockage.

The piezocone penetrometers are manufactured with dimensions, tolerances and sensor characteristics that are in general accordance with the current ASTM D5778 standard. ConeTec's calibration criteria also meet or exceed those of the current ASTM D5778 standard. An illustration of the piezocone penetrometer is presented in Figure CPTu.

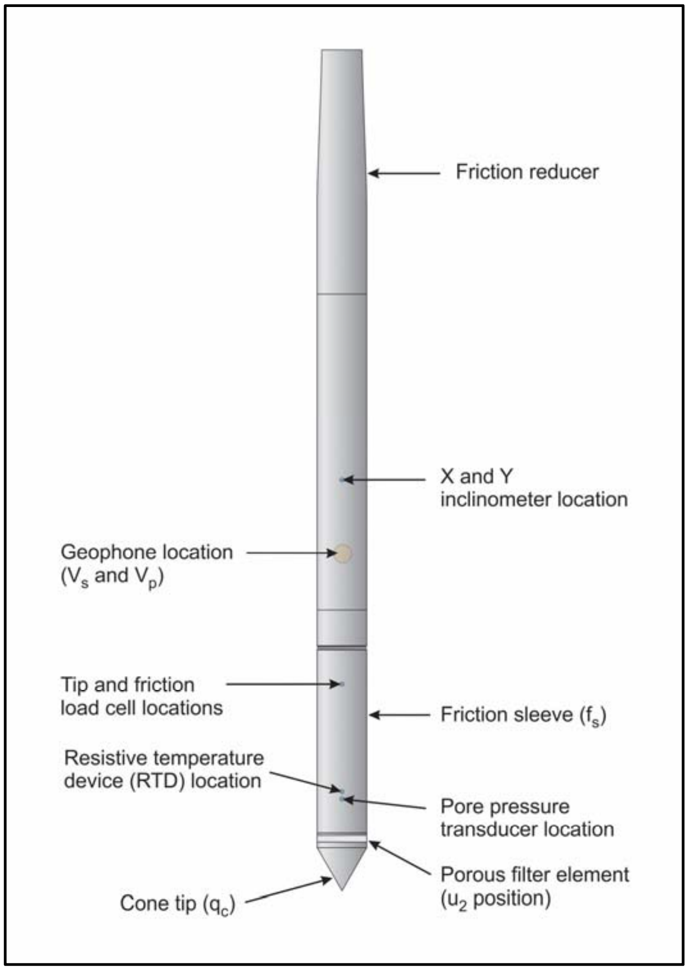


Figure CPTu. Piezocone Penetrometer (15 cm^2)

The ConeTec data acquisition systems consist of a Windows based computer and a signal conditioner and power supply interface box with a 16 bit (or greater) analog to digital (A/D) converter. The data is recorded at fixed depth increments using a depth wheel attached to the push cylinders or by using a spring loaded rubber depth wheel that is held against the cone rods. The typical recording intervals are either 2.5 cm or 5.0 cm depending on project requirements; custom recording intervals are possible. The system displays the CPTu data in real time and records the following parameters to a storage media during penetration:

- Depth
- Uncorrected tip resistance (q_c)
- Sleeve friction (f_s)
- Dynamic pore pressure (u)
- Additional sensors such as resistivity, passive gamma, ultra violet induced fluorescence, if applicable

All testing is performed in accordance to ConeTec's CPT operating procedures which are in general accordance with the current ASTM D5778 standard.

Prior to the start of a CPTu sounding a suitable cone is selected, the cone and data acquisition system are powered on, the pore pressure system is saturated with either glycerin or silicone oil and the baseline readings are recorded with the cone hanging freely in a vertical position.

The CPTu is conducted at a steady rate of 2 cm/s, within acceptable tolerances. Typically one meter length rods with an outer diameter of 1.5 inches are added to advance the cone to the sounding termination depth. After cone retraction final baselines are recorded.

Additional information pertaining to ConeTec's cone penetration testing procedures:

- Each filter is saturated in silicone oil or glycerin under vacuum pressure prior to use
- Recorded baselines are checked with an independent multi-meter
- Baseline readings are compared to previous readings
- Soundings are terminated at the client's target depth or at a depth where an obstruction is encountered, excessive rod flex occurs, excessive inclination occurs, equipment damage is likely to take place, or a dangerous working environment arises
- Differences between initial and final baselines are calculated to ensure zero load offsets have not occurred and to ensure compliance with ASTM standards

The interpretation of piezocone data for this report is based on the corrected tip resistance (q_t), sleeve friction (f_s) and pore water pressure (u). The interpretation of soil type is based on the correlations developed by Robertson (1990) and Robertson (2009). It should be noted that it is not always possible to accurately identify a soil type based on these parameters. In these situations, experience, judgment and an assessment of other parameters may be used to infer soil behavior type.

The recorded tip resistance (q_c) is the total force acting on the piezocone tip divided by its base area. The tip resistance is corrected for pore pressure effects and termed corrected tip resistance (q_t) according to the following expression presented in Robertson et al, 1986:

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

where: q_t is the corrected tip resistance
q_c is the recorded tip resistance
u_2 is the recorded dynamic pore pressure behind the tip (u_2 position)
a is the Net Area Ratio for the piezocone (0.8 for ConeTec probes)

The sleeve friction (f_s) is the frictional force on the sleeve divided by its surface area. As all ConeTec piezocones have equal end area friction sleeves, pore pressure corrections to the sleeve data are not required.

The dynamic pore pressure (u) is a measure of the pore pressures generated during cone penetration. To record equilibrium pore pressure, the penetration must be stopped to allow the dynamic pore pressures to stabilize. The rate at which this occurs is predominantly a function of the permeability of the soil and the diameter of the cone.

The friction ratio (Rf) is a calculated parameter. It is defined as the ratio of sleeve friction to the tip resistance expressed as a percentage. Generally, saturated cohesive soils have low tip resistance, high friction ratios and generate large excess pore water pressures. Cohesionless soils have higher tip resistances, lower friction ratios and do not generate significant excess pore water pressure.

A summary of the CPTu soundings along with test details and individual plots are provided in the appendices. A set of interpretation files were generated for each sounding based on published correlations and are provided in Excel format in the data release folder. Information regarding the interpretation methods used is included in an appendix.

For additional information on CPTu interpretations, refer to Robertson et al. (1986), Lunne et al. (1997), Robertson (2009), Mayne (2013, 2014) and Mayne and Peuchen (2012).

References

ASTM D5778-12, 2012, "Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils", ASTM, West Conshohocken, US.

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

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

Mayne, P.W. and Peuchen, J., 2012, “Unit weight trends with cone resistance in soft to firm clays”, Geotechnical and Geophysical Site Characterization *4,* Vol. 1 (Proc. ISC-4, Pernambuco), CRC Press, London: 903-910.

Mayne, P.W., 2014, “Interpretation of geotechnical parameters from seismic piezocone tests”, CPT’14 Keynote Address, Las Vegas, NV, May 2014.

Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J., 1986, “Use of Piezometer Cone Data”, Proceedings of InSitu 86, ASCE Specialty Conference, Blacksburg, Virginia.

Robertson, P.K., 1990, “Soil Classification Using the Cone Penetration Test”, Canadian Geotechnical Journal, Volume 27: 151-158.

Robertson, P.K., 2009, “Interpretation of cone penetration tests – a unified approach”, Canadian Geotechnical Journal, Volume 46: 1337-1355.

Shear wave velocity testing is performed in conjunction with the piezocone penetration test (SCPTu) in order to collect interval velocities. For some projects seismic compression wave (Vp) velocity is also determined.

ConeTec's piezocone penetrometers are manufactured with a horizontally active geophone (28 hertz) that is rigidly mounted in the body of the cone penetrometer, 0.2 meters behind the cone tip.

Shear waves are typically generated by using an impact hammer horizontally striking a beam that is held in place by a normal load. In some instances an auger source or an imbedded impulsive source maybe used for both shear waves and compression waves. The hammer and beam act as a contact trigger that triggers the recording of the seismic wave traces. For impulsive devices an accelerometer trigger may be used. The traces are recorded using an up-hole integrated digital oscilloscope which is part of the SCPTu data acquisition system. An illustration of the shear wave testing configuration is presented in Figure SCPTu-1.

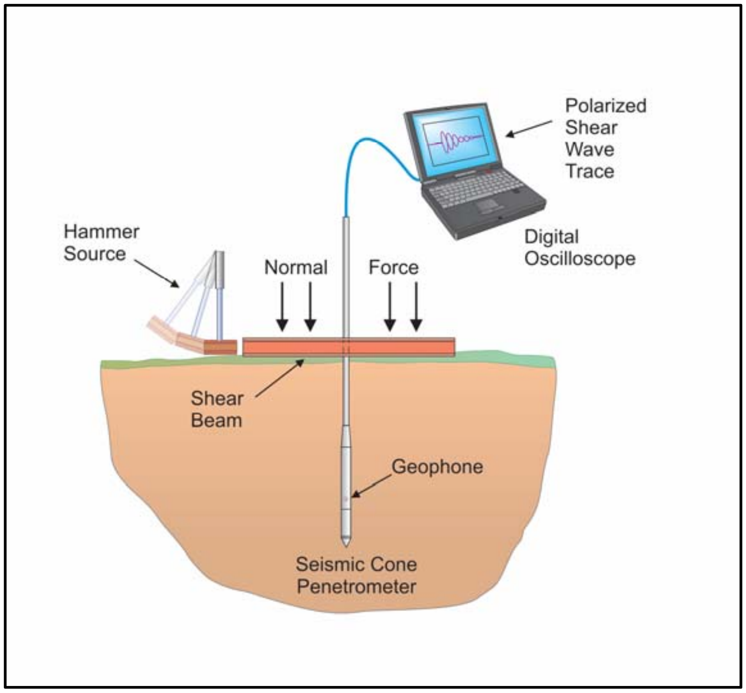


Figure SCPTu-1. Illustration of the SCPTu system

All testing is performed in accordance to ConeTec's SCPTu operating procedures.

Prior to the start of a SCPTu sounding, the procedures described in the Cone Penetration Test section are followed. In addition, the active axis of the geophone is aligned parallel to the beam (or source) and the horizontal offset between the cone and the source is measured and recorded.

Prior to recording seismic waves at each test depth, cone penetration is stopped and the rods are decoupled from the rig to avoid transmission of rig energy down the rods. Multiple wave traces are recorded for quality control purposes. After reviewing wave traces for consistency the cone is pushed to the next test depth (typically one meter intervals or as requested by the client). Figure SCPTu-2 presents an illustration of a SCPTu test.

For additional information on seismic cone penetration testing refer to Robertson et.al. (1986).

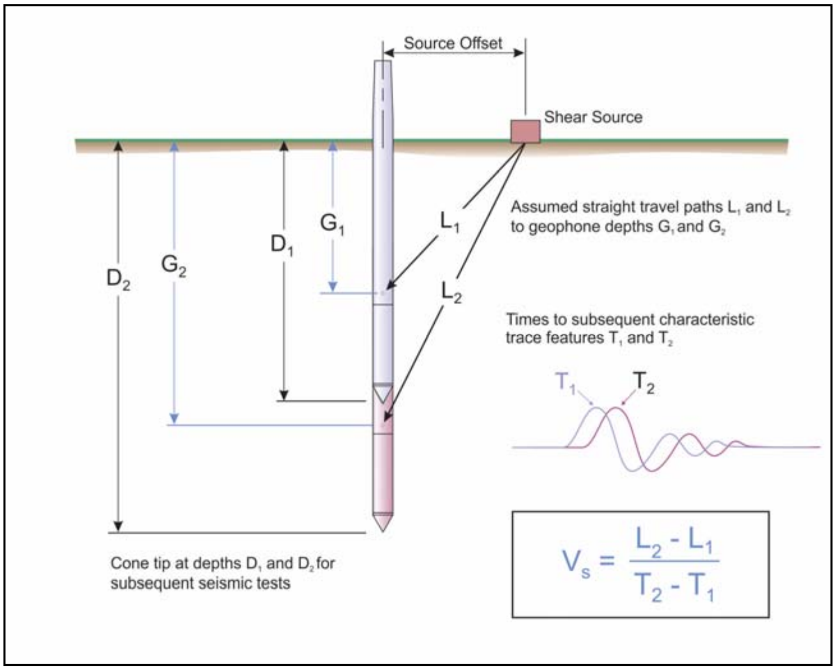


Figure SCPTu-2. Illustration of a seismic cone penetration test

Calculation of the interval velocities are performed by visually picking a common feature (e.g. the first characteristic peak, trough, or crossover) on all of the recorded wave sets and taking the difference in ray path divided by the time difference between subsequent features. Ray path is defined as the straight line distance from the seismic source to the geophone, accounting for beam offset, source depth and geophone offset from the cone tip.

The average shear wave velocity to a depth of 100 feet (30 meters) ($\bar{v}_s$) has been calculated and provided for all applicable soundings using the following equation presented in ASCE, 2010.

$$\bar{v}_s = \frac{\sum_{i=1}^{n} d_i}{\sum_{i=1}^{n} \frac{d_i}{v_{si}}}$$

where: $\bar{v}_s$ = average shear wave velocity ft/s (m/s)
d_i = the thickness of any layer between 0 and 100 ft (30 m)
v_{si} = the shear wave velocity in ft/s (m/s)
$\sum_{i=1}^{n} d_i$ = 100 ft (30 m)

Average shear wave velocity, $\bar{v}_s$ is also referenced to V_{s100} or V_{s30}.

The layer travel times refers to the travel times propagating in the vertical direction, not the measured travel times from an offset source.

Tabular results and SCPTu plots are presented in the relevant appendix.

References

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

Robertson, P.K., Campanella, R.G., Gillespie D and Rice, A., 1986, “Seismic CPT to Measure In-Situ Shear Wave Velocity”, Journal of Geotechnical Engineering ASCE, Vol. 112, No. 8: 791-803.

The cone penetration test is halted at specific depths to carry out pore pressure dissipation (PPD) tests, shown in Figure PPD-1. For each dissipation test the cone and rods are decoupled from the rig and the data acquisition system measures and records the variation of the pore pressure (u) with time (t).

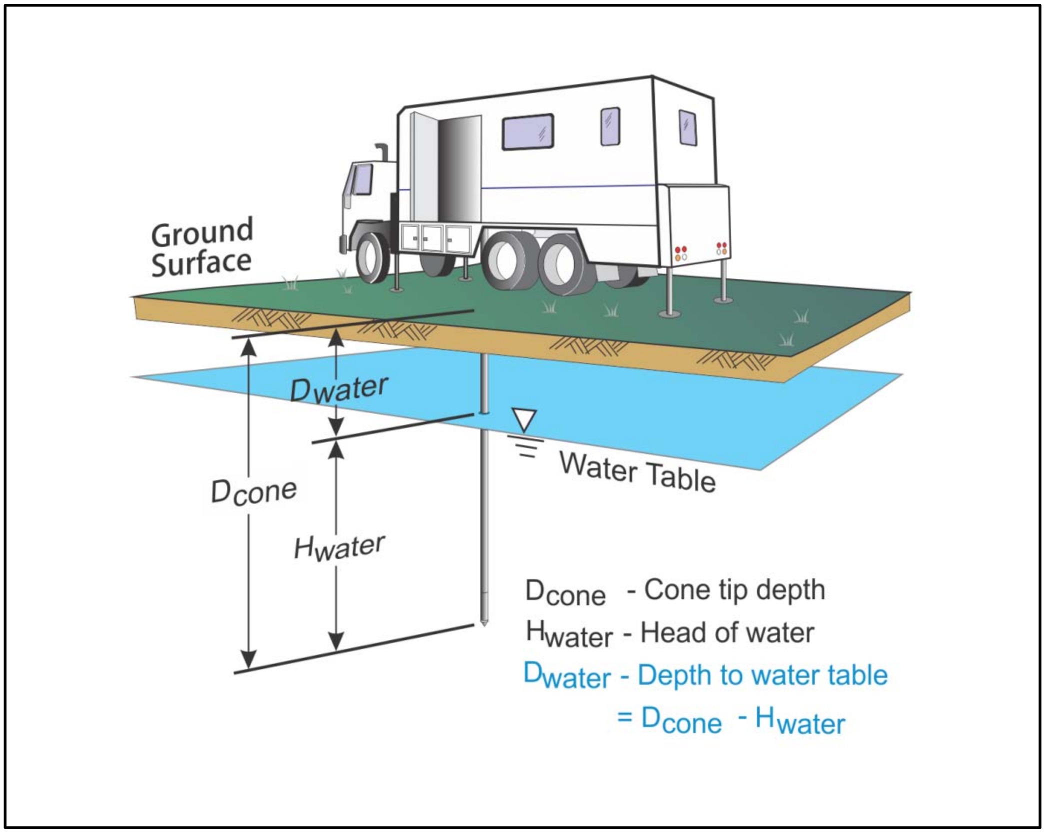


Figure PPD-1. Pore pressure dissipation test setup

Pore pressure dissipation data can be interpreted to provide estimates of ground water conditions, permeability, consolidation characteristics and soil behavior.

The typical shapes of dissipation curves shown in Figure PPD-2 are very useful in assessing soil type, drainage, in situ pore pressure and soil properties. A flat curve that stabilizes quickly is typical of a freely draining sand. Undrained soils such as clays will typically show positive excess pore pressure and have long dissipation times. Dilative soils will often exhibit dynamic pore pressures below equilibrium that then rise over time. Overconsolidated fine-grained soils will often exhibit an initial dilatory response where there is an initial rise in pore pressure before reaching a peak and dissipating.

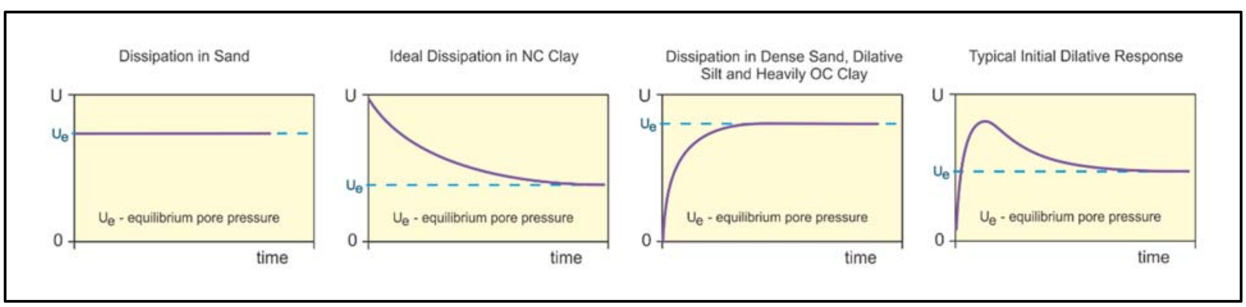


Figure PPD-2. Pore pressure dissipation curve examples

In order to interpret the equilibrium pore pressure (u_{eq}) and the apparent phreatic surface, the pore pressure should be monitored until such time as there is no variation in pore pressure with time as shown for each curve of Figure PPD-2.

In fine grained deposits the point at which 100% of the excess pore pressure has dissipated is known as t_{100}. In some cases this can take an excessive amount of time and it may be impractical to take the dissipation to t_{100}. A theoretical analysis of pore pressure dissipations by Teh and Houlsby (1991) showed that a single curve relating degree of dissipation versus theoretical time factor (T*) may be used to calculate the coefficient of consolidation (c_h) at various degrees of dissipation resulting in the expression for c_h shown below.

$$c_h = \frac{T^* \cdot a^2 \cdot \sqrt{I_r}}{t}$$

Where:

T*	is the dimensionless time factor (Table Time Factor)
a	is the radius of the cone
I_r	is the rigidity index
t	is the time at the degree of consolidation

Table Time Factor. T* versus degree of dissipation (Teh and Houlsby, 1991)

Degree of Dissipation (%)	20	30	40	50	60	70	80
T* (u_2)	0.038	0.078	0.142	0.245	0.439	0.804	1.60

The coefficient of consolidation is typically analyzed using the time (t_{50}) corresponding to a degree of dissipation of 50% (u_{50}). In order to determine t_{50}, dissipation tests must be taken to a pressure less than u_{50}. The u_{50} value is half way between the initial maximum pore pressure and the equilibrium pore pressure value, known as u_{100}. To estimate u_{50}, both the initial maximum pore pressure and u_{100} must be known or estimated. Other degrees of dissipations may be considered, particularly for extremely long dissipations.

At any specific degree of dissipation the equilibrium pore pressure (u at t_{100}) must be estimated at the depth of interest. The equilibrium value may be determined from one or more sources such as measuring the value directly (u_{100}), estimating it from other dissipations in the same profile, estimating the phreatic surface and assuming hydrostatic conditions, from nearby soundings, from client provided information, from site observations and/or past experience, or from other site instrumentation.

For calculations of c_h (Teh and Houlsby, 1991), t_{50} values are estimated from the corresponding pore pressure dissipation curve and a rigidity index (I_r) is assumed. For curves having an initial dilatory response in which an initial rise in pore pressure occurs before reaching a peak, the relative time from the peak value is used in determining t_{50}. In cases where the time to peak is excessive, t_{50} values are not calculated.

Due to possible inherent uncertainties in estimating I_r, the equilibrium pore pressure and the effect of an initial dilatory response on calculating t_{50}, other methods should be applied to confirm the results for c_h.

Additional published methods for estimating the coefficient of consolidation from a piezocone test are described in Burns and Mayne (1998, 2002), Jones and Van Zyl (1981), Robertson et al. (1992) and Sully et al. (1999).

A summary of the pore pressure dissipation tests and dissipation plots are presented in the relevant appendix.

References

Burns, S.E. and Mayne, P.W., 1998, "Monotonic and dilatory pore pressure decay during piezocone tests", Canadian Geotechnical Journal 26 (4): 1063-1073.

Burns, S.E. and Mayne, P.W., 2002, "Analytical cavity expansion-critical state model cone dissipation in fine-grained soils", Soils & Foundations, Vol. 42(2): 131-137.

Jones, G.A. and Van Zyl, D.J.A., 1981, "The piezometer probe: a useful investigation tool", Proceedings, 10th International Conference on Soil Mechanics and Foundation Engineering, Vol. 3, Stockholm: 489-495.

Robertson, P.K., Sully, J.P., Woeller, D.J., Lunne, T., Powell, J.J.M. and Gillespie, D.G., 1992, "Estimating coefficient of consolidation from piezocone tests", Canadian Geotechnical Journal, 29(4): 551-557.

Sully, J.P., Robertson, P.K., Campanella, R.G. and Woeller, D.J., 1999, "An approach to evaluation of field CPTU dissipation data in overconsolidated fine-grained soils", Canadian Geotechnical Journal, 36(2): 369-381.

Teh, C.I., and Houlsby, G.T., 1991, "An analytical study of the cone penetration test in clay", Geotechnique, 41(1): 17-34.

Flat plate dilatometer tests (DMT) are conducted using a flat steel blade with a thin, expandable, circular membrane mounted on one surface, a control unit and a compressed gas (typically nitrogen) supply. A photo of the system is presented in Figure DMT-1.

The dilatometer blade is connected to the up-hole control box by a pneumatic tube with an inner conductor wire. The tube is threaded through a set of steel push rods. The control unit has pressure gauges, an audio-visual signal, a gas flow control and vent valve. A syringe is used to quantify the stiffness of the blade membrane.

Figure DMT-1. Flat plate dilatometer system
(Marchetti, http://www.marchetti-dmt.it/pagespictures/blade&case.htm)

Prior to conducting a DMT profile, the blade membrane stiffness is recorded according to the current ASTM D6635 specifications and the system is assembled and tested for any leaks.

The dilatometer blade is pushed into the ground to the desired depth from surface or through a cased hole using a CPT rig or a drill rig. The blade is inflated using compressed gas and up to three pressure readings are recorded, the A reading at zero deflection (lift-off) and the B reading when a deflection of 1.1 mm has been achieved. An optional C reading representing the closing pressure can be recorded by slowly deflating the membrane soon after B is reached. The blade is advanced to subsequent depths and the test procedures are repeated at each test depth, up to the sounding termination depth. After the blade is retracted membrane stiffness values are recorded.

The dilatometer operating procedures are performed in general accordance with the current ASTM D6635 standard.

The interpretation of the dilatometer data is based on the pressure related parameters p_o and p_1 that are derived from the recorded A and B pressure values corrected for membrane stiffness and the gauge zero offset. Figure DMT-2 shows p_o and p_1.

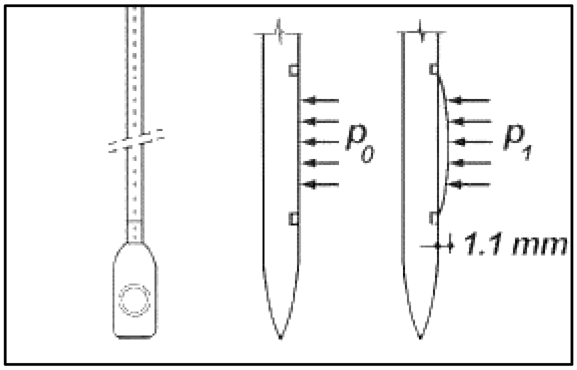


Figure DMT-2. Flat plate dilatometer p_0 and p_1
(Marchetti, http://www.marchetti-dmt.it/)

The A reading is the pressure required to lift-off the membrane while the B reading is the pressure required to move the center of the membrane by 1.1 mm. The C pressure measurement is the pressure at which the membrane returns to the A position and is used to estimate equilibrium pore pressures in sand. The A and B pressure readings are corrected by the membrane stiffness values at the respective membrane deflections that are recorded before and after each test location.

The empirical correlations use the parameters p_0, p_1 and p_2 derived from the A, B and C readings accounting for membrane stiffness and gauge offset. These parameters provide the basic values needed in the empirical correlations developed by Marchetti et al. (2001). The equations for these parameters are presented in the relevant appendix.

The p_o, p_1 and p_2 parameters are used to calculate the DMT indices, material index (I_D), horizontal stress index (K_D), and dilatometer modulus (E_D). Soil type is inferred from the material index. Clays generally have a material index of less than 0.6. The material index for silts is generally between 0.6 and 1.8, while sands generally exhibit a material index greater than 1.8. While K_D and E_D have limited direct use in geotechnical design, they are critical for determining parameters that are required for most design calculations such as earth pressure coefficient (K_o), undrained shear strength (S_u), and over consolidation ratio (OCR).

A summary of the tests including coordinates and estimated phreatic surface, along with plots and tabular results are provided in the relevant appendices. The calculated geotechnical parameters presented are based on published empirical correlations and are provided only as a first approximation. No warranty, expressed or implied, is made to the accuracy of these estimated geotechnical parameters.

References

ASTM D6635-01, Reapproved 2007, "Standard Test Method for Performing the Flat Plate Dilatometer ", ASTM, West Conshohocken, US.

Foti, D., Lancellotta, R., Marchetti, D., Monaco, P., and Totani, P., 2006, “Interpretation of SDMT tests in a transversely isotropic medium”, Proceedings from the Second International Conference on the Flat Dilatometer, Washington, DC., April 2-5.

Marchetti, S., Monaco P., Totani G. and Calabrese M., 2001, “The Flat Dilatometer Test (DMT) in soil investigations”, A Report by the ISSMEGE Committee TC16. Proc. IN SITU 2001, Intnl. Conf. On In Situ Measurement of Soil Properties, Bali, Indonesia, May 2001, 41 pp.

Marchetti, S., n.d, [Photographs of DMT and SDMT system], Retrieved from http://www.marchetti-dmt.it/pagespictures/blade&case.htm.

Marchetti, S., n.d, [Illustration of DMT blade, po and p1], http://www.marchetti-dmt.it/.

The appendices listed below are included in the report:

- Cone Penetration Test Summary and Standard Cone Penetration Test Plots
- Normalized Cone Penetration Test Plots
- Seismic Cone Penetration Test Plots
- Seismic Cone Penetration Test Tabular Results
- Pore Pressure Dissipation Summary and Pore Pressure Dissipation Plots
- Flat Plate Dilatometer Test Plots and Tabular Results

Cone Penetration Test Summary and

Standard Cone Penetration Test Plots

Job No: 17-53167
Client: Hoffman Engineering
Project: 19 North Front Street, Kingston, NY
Start Date: 06-Dec-2017
End Date: 06-Dec-2017

CONE PENETRATION TEST SUMMARY

Sounding ID	File Name	Date	Cone	Assumed Phreatic Surface[1] (ft)	Final Depth (ft)	Shear Wave Velocity Tests	Northing[2] (m)	Easting (m)	Refer to Notation Number
SCPT17-01	17-53167_SP01	6-Dec-2017	508:T1500F15U500	20.2	93.83	28	4643153	581210	
CPT17-02	17-53167_CP02	6-Dec-2017	508:T1500F15U500		9.68		4643078	581265	4
CPT17-02A	17-53167_CP02A	6-Dec-2017	508:T1500F15U500	21.0	101.05		4643078	581263	3
CPT17-03	17-53167_CP03	6-Dec-2017	508:T1500F15U500	21.8	50.03		4643154	581286	
CPT17-04	17-53167_CP04	6-Dec-2017	508:T1500F15U500	21.8	50.03		4643104	581291	
Totals	5 soundings				304.62	28			

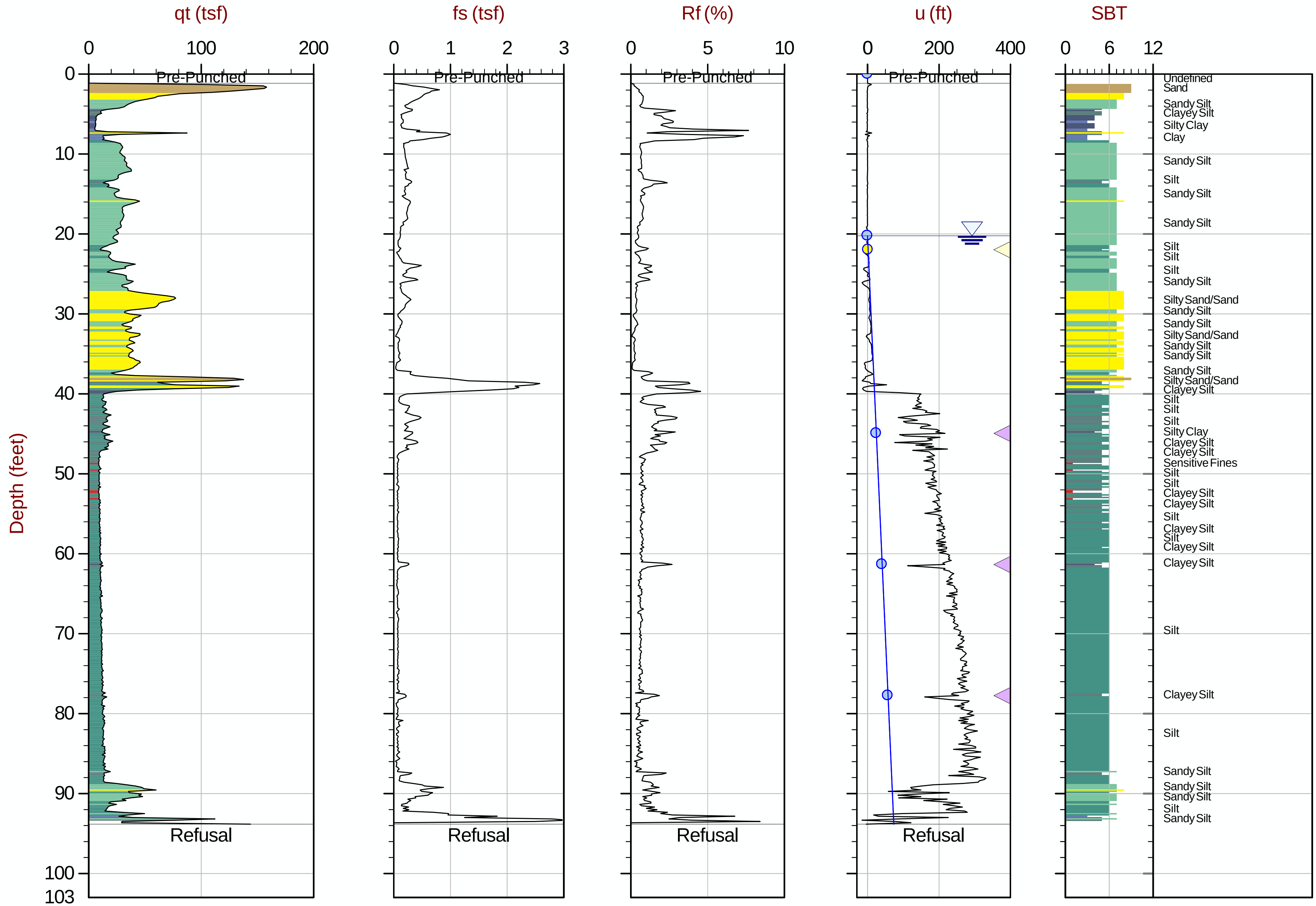
1. Assumed phreatic surface depths were determined from the pore pressure data unless otherwise noted. Hydrostatic data were used for calculated parameters.
2. Coordinates are WGS 84 / UTM Zone 18 and were collected using a MR-350 GlobalSat GPS Receiver.
3. Assumed phreatic surface estimated from the dynamic pore pressure response.
4. No phreatic surface detected

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 11:14
Site: 19 North Front Street, Kingston, NY

Sounding: SCPT17-01
Cone: 508:T1500F15U500



Max Depth: 28.600 m / 93.83 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_SP01.COR

SBT: Robertson and Campanella, 1986
Coords: UTM Zone 18 N: 4643153m E: 581210m

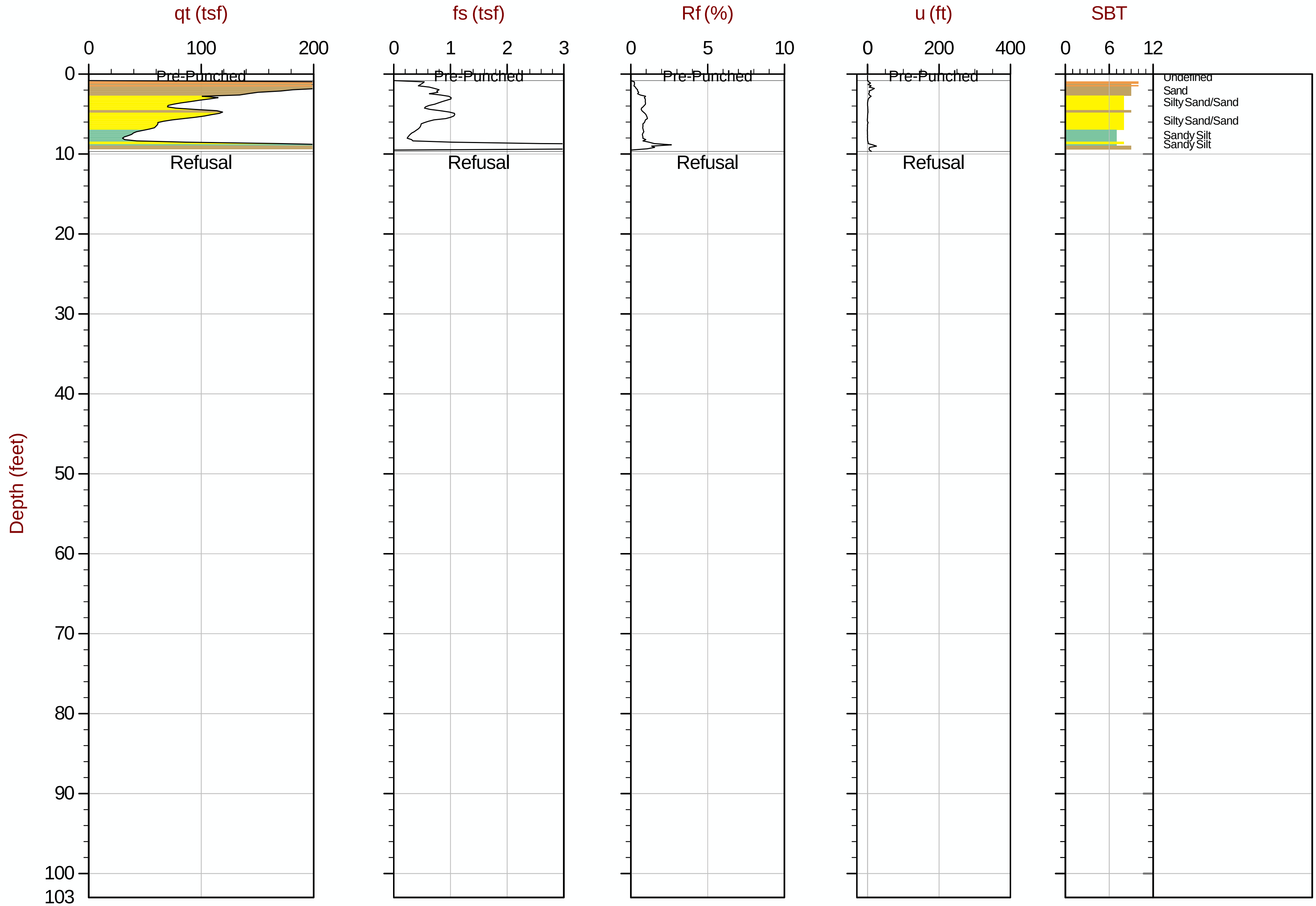
Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 13:23
Site: 19 North Front Street, Kingston, NY

Sounding: CPT17-02
Cone: 508:T1500F15U500



Max Depth: 2.950 m / 9.68 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_CP02.COR

SBT: Robertson and Campanella, 1986
Coords: UTM Zone 18 N: 4643078m E: 581265m

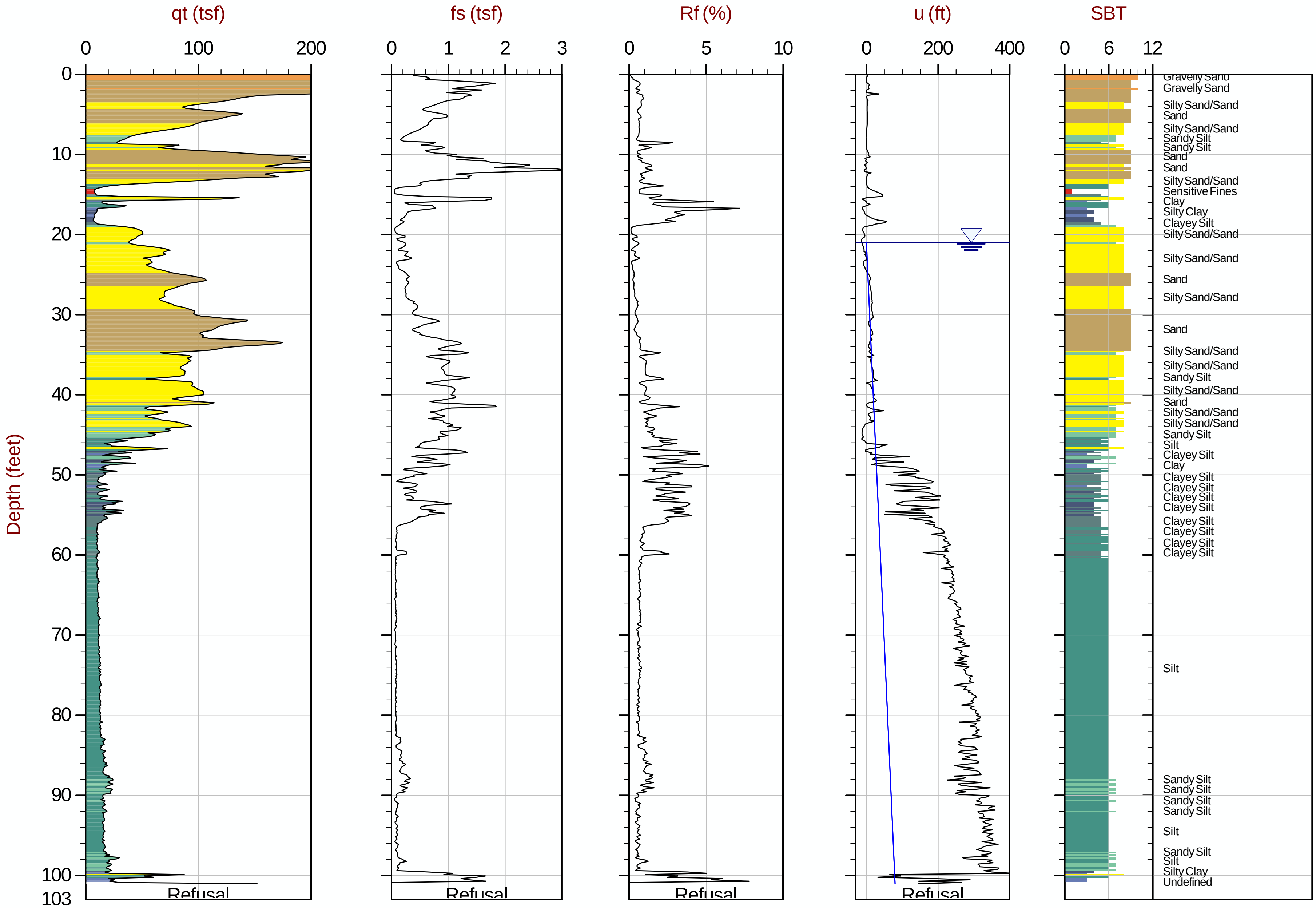
Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

ConeTec

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 13:34
Site: 19 North Front Street, Kingston, NY
Sounding: CPT17-02A
Cone: 508:T1500F15U500



Max Depth: 30.800 m / 101.05 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_CP02A.COR

SBT: Robertson and Campanella, 1986
Coords: UTM Zone 18 N: 4643078m E: 581263m

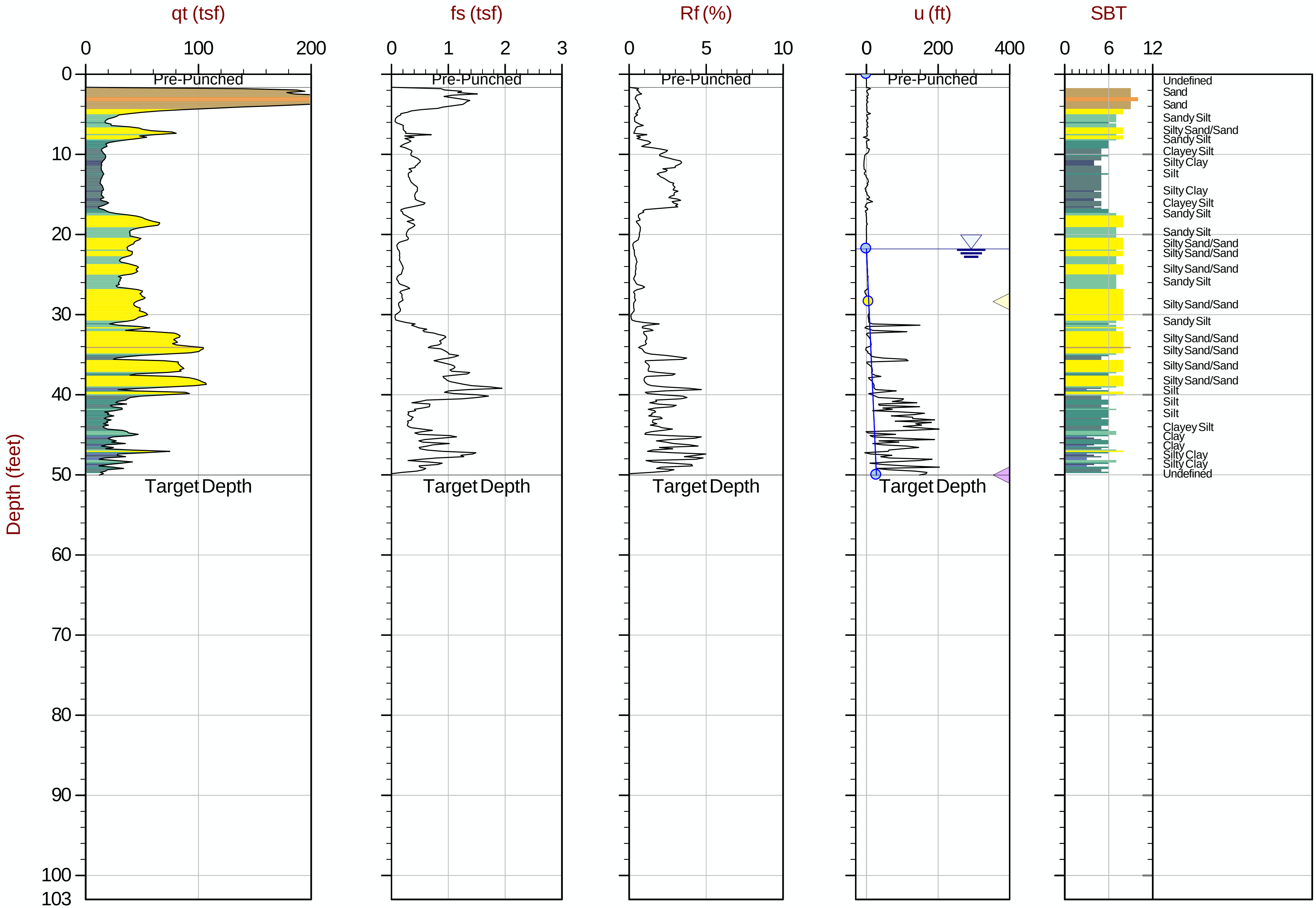
Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 10:21
Site: 19 North Front Street, Kingston, NY
Sounding: CPT17-03
Cone: 508:T1500F15U500



Max Depth: 15.250 m / 50.03 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_CP03.COR

SBT: Robertson and Campanella, 1986
Coords: UTM Zone 18 N: 4643154m E: 581286m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

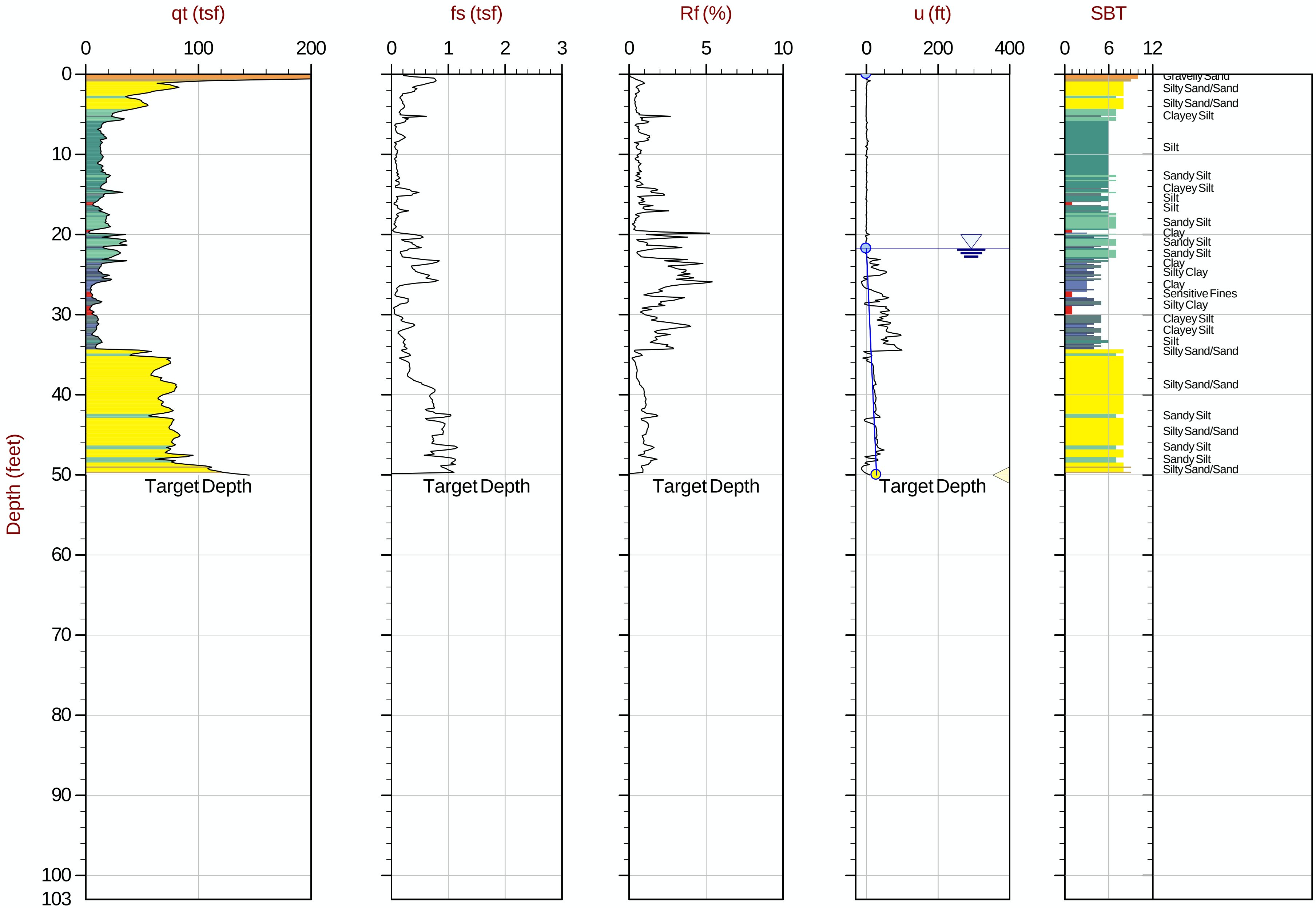
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 14:29
Site: 19 North Front Street, Kingston, NY

Sounding: CPT17-04
Cone: 508:T1500F15U500



Max Depth: 15.250 m / 50.03 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_CP04.COR

SBT: Robertson and Campanella, 1986
Coords: UTM Zone 18 N: 4643104m E: 581291m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

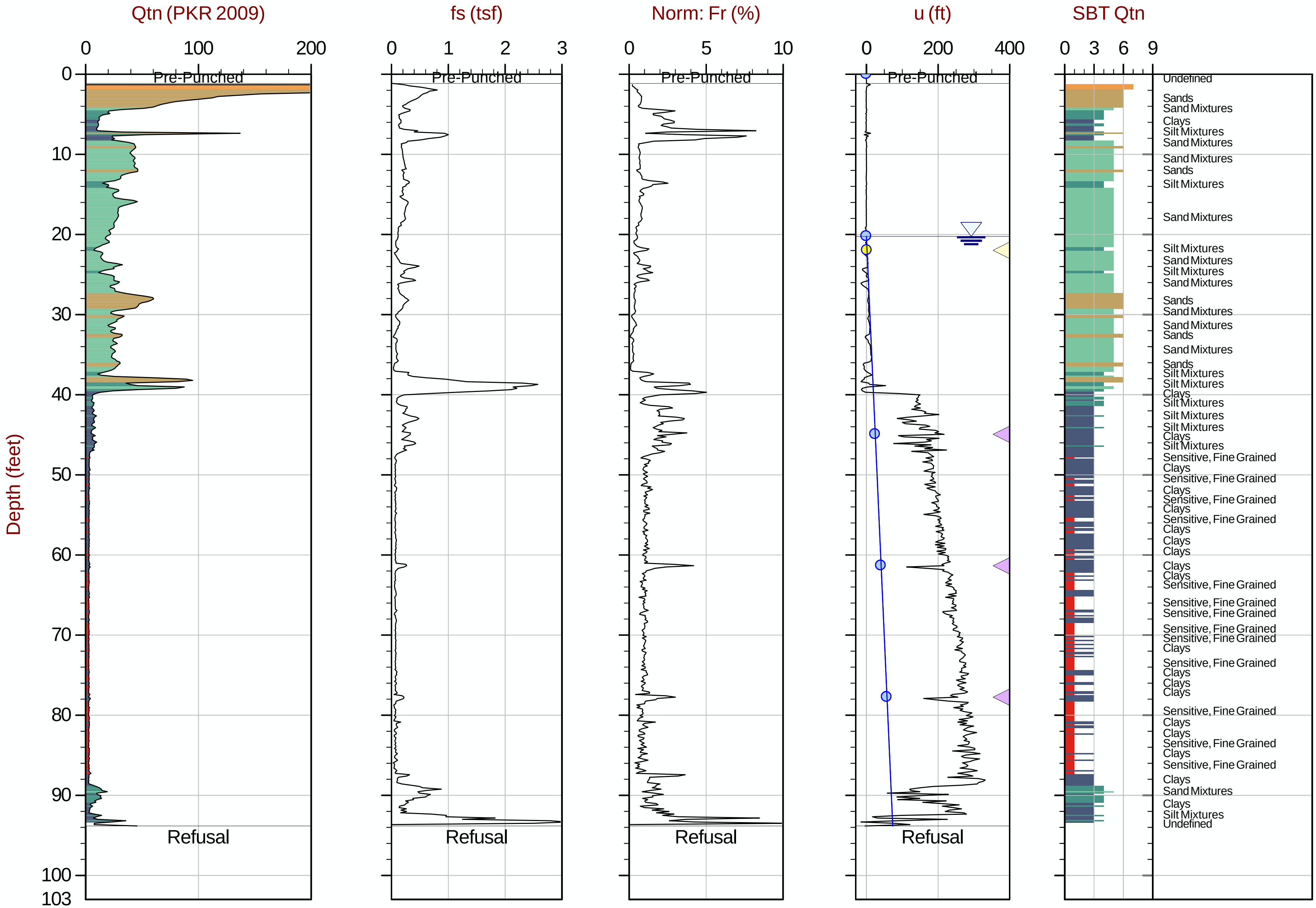
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Normalized Cone Penetration Test Plots

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 11:14
Site: 19 North Front Street, Kingston, NY
Sounding: SCPT17-01
Cone: 508:T1500F15U500



Max Depth: 28.600 m / 93.83 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_SP01.COR

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4643153m E: 581210m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

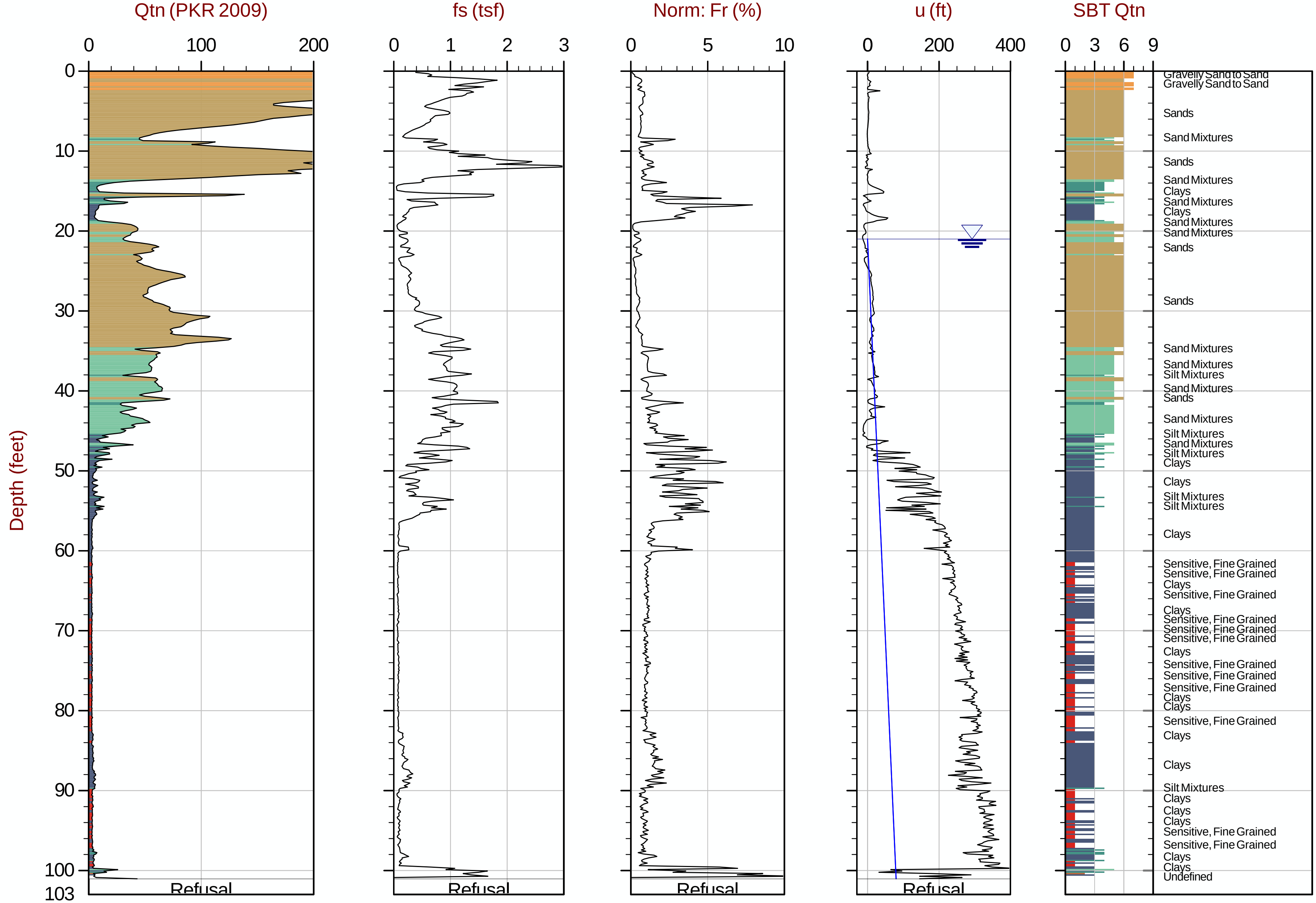
The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 13:34
Site: 19 North Front Street, Kingston, NY

Sounding: CPT17-02A
Cone: 508:T1500F15U500



Max Depth: 30.800 m / 101.05 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_CP02A.COR

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4643078m E: 581263m

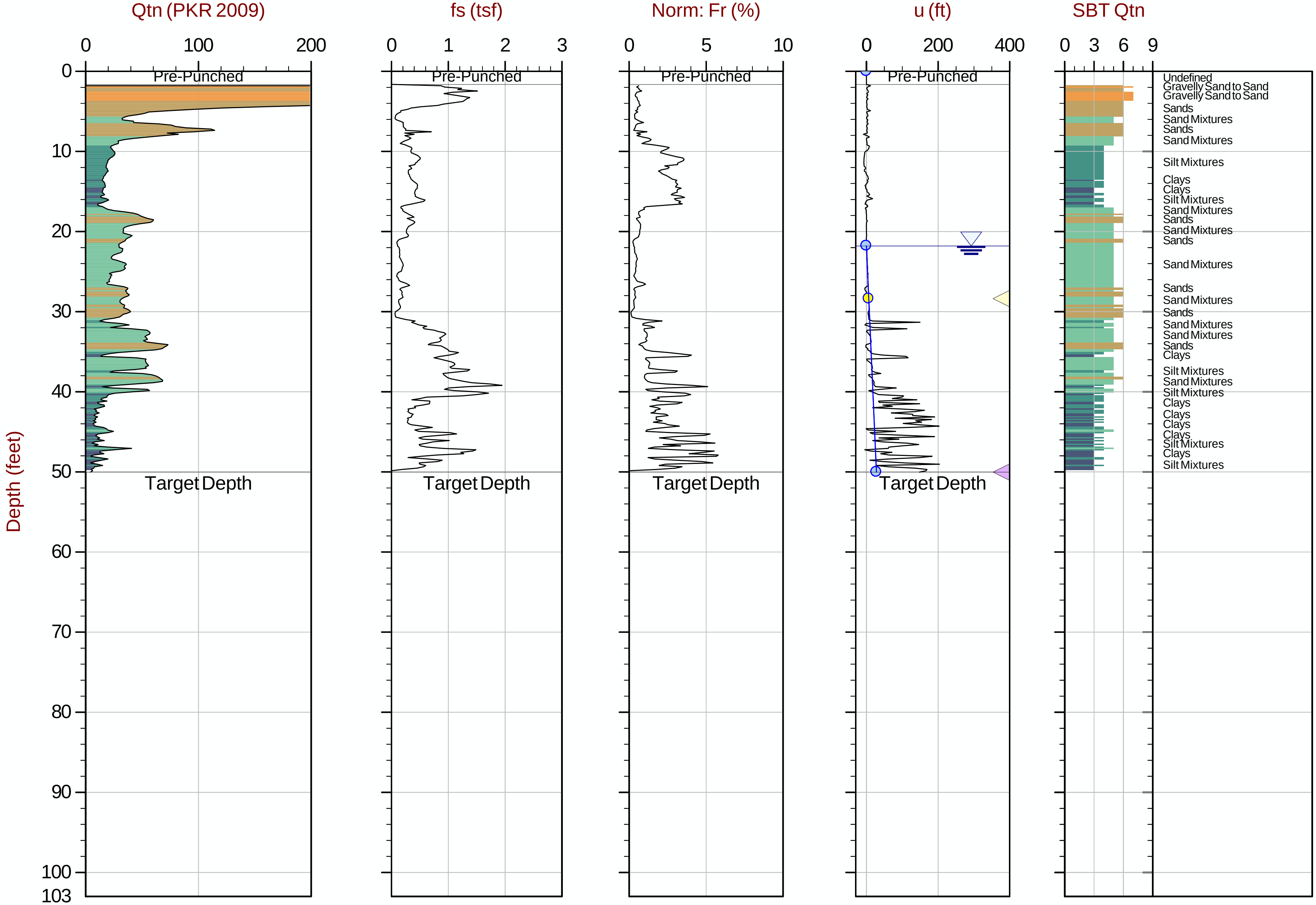
Hydrostatic Line · Ueq · Assumed Ueq · PPD, Ueq achieved · PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 10:21
Site: 19 North Front Street, Kingston, NY
Sounding: CPT17-03
Cone: 508:T1500F15U500



Max Depth: 15.250 m / 50.03 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_CP03.COR

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4643154m E: 581286m

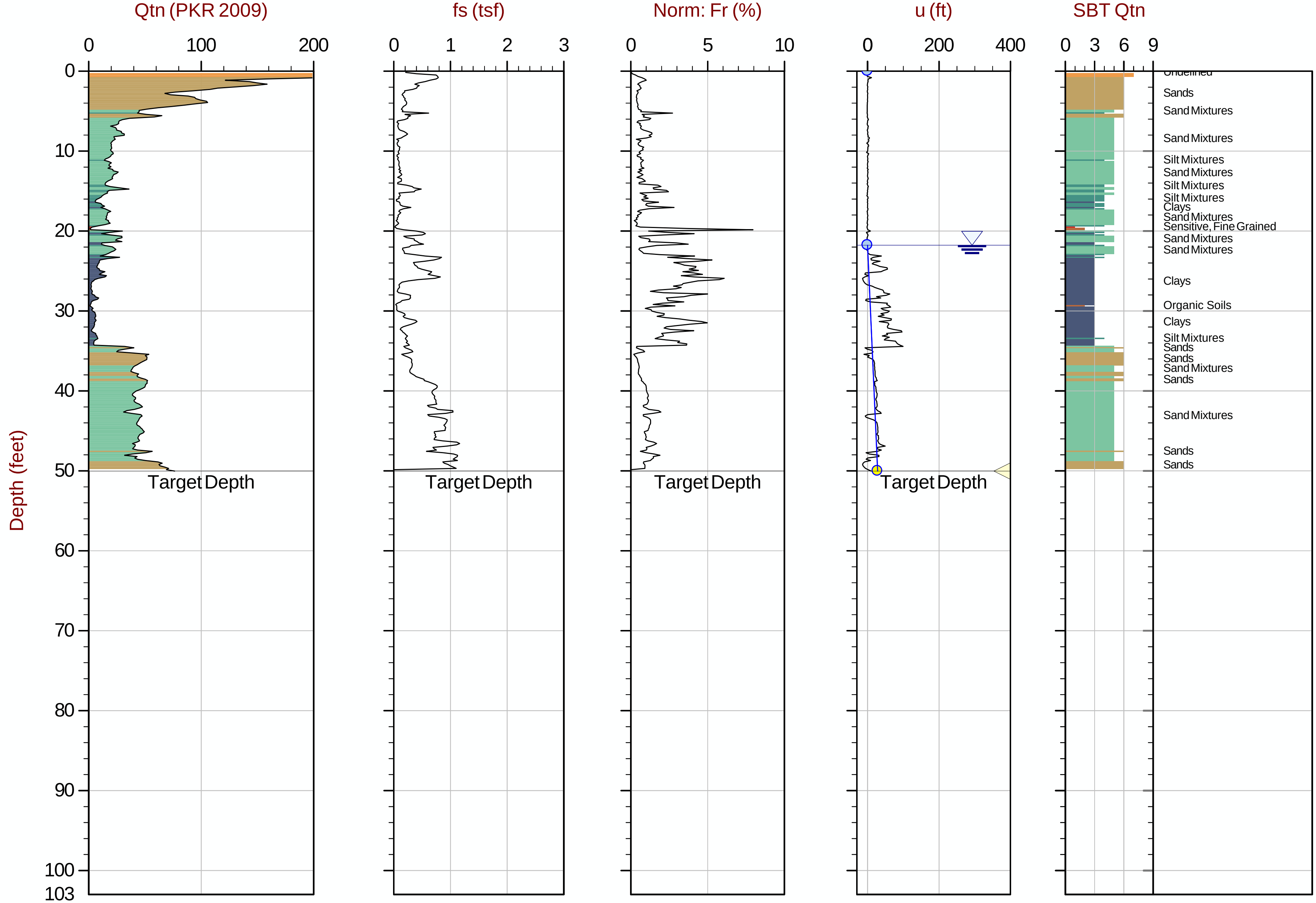
Hydrostatic Line | Ueq | Assumed Ueq | PPD, Ueq achieved | PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 14:29
Site: 19 North Front Street, Kingston, NY
Sounding: CPT17-04
Cone: 508:T1500F15U500



Max Depth: 15.250 m / 50.03 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_CP04.COR

SBT: Robertson, 2009 and 2010
Coords: UTM Zone 18 N: 4643104m E: 581291m

Hydrostatic Line Ueq Assumed Ueq PPD, Ueq achieved PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

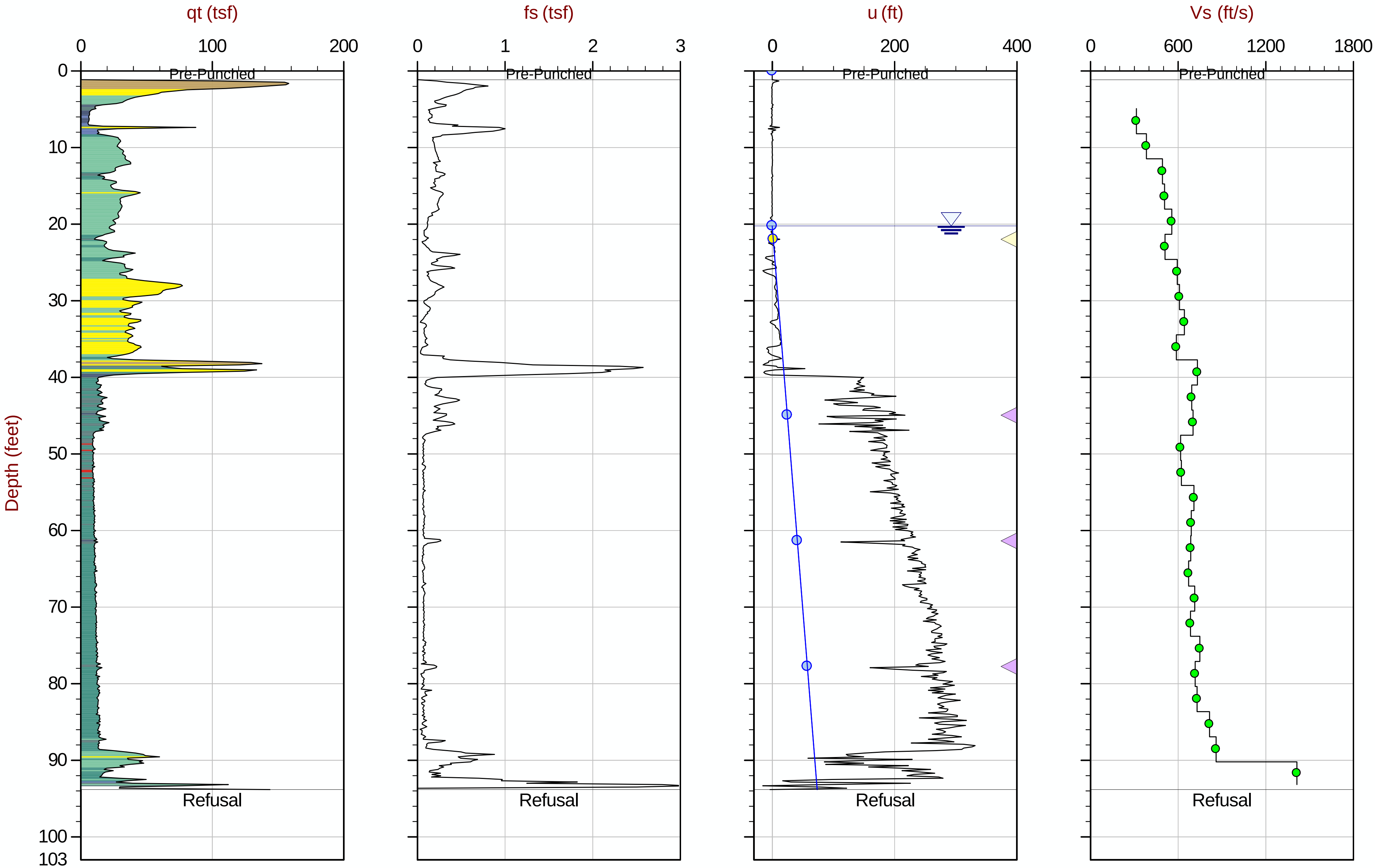
Seismic Cone Penetration Test Plots

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 2017-12-06 11:14
Site: 19 North Front Street, Kingston, NY

Sounding: SCPT17-01
Cone: 508:T1500F15U500



Max Depth: 28.600 m / 93.83 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 17-53167_SP01.COR

SBT: Robertson and Campanella, 1986
Coords: UTM Zone 18 N: 4643153m E: 581210m

Hydrostatic Line   Ueq   Assumed Ueq   PPD, Ueq achieved   PPD, Ueq not achieved

The reported coordinates were acquired from consumer-grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Seismic Cone Penetration Test Tabular Results (Vs)

Job No: 17-53167
Client: Hoffman Engineering
Project: 19 North Front Street, Kingston, NY
Sounding ID: SCPT17-01
Date: 06-Dec-2017

Seismic Source: Beam
Source Offset (ft): 1.97
Source Depth (ft): 0.00
Geophone Offset (ft): 0.66

SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
5.58	4.92	5.30			
8.86	8.20	8.44	3.13	10.00	314
12.14	11.48	11.65	3.22	8.40	383
15.42	14.76	14.89	3.24	6.58	493
18.70	18.04	18.15	3.26	6.43	507
21.98	21.33	21.42	3.26	5.86	557
25.26	24.61	24.68	3.27	6.41	510
28.54	27.89	27.96	3.27	5.51	594
31.82	31.17	31.23	3.27	5.37	609
35.10	34.45	34.50	3.27	5.10	643
38.39	37.73	37.78	3.28	5.57	588
41.67	41.01	41.06	3.28	4.47	732
44.95	44.29	44.33	3.28	4.73	693
48.23	47.57	47.61	3.28	4.67	702
51.51	50.85	50.89	3.28	5.32	617
54.79	54.13	54.17	3.28	5.27	622
58.07	57.41	57.45	3.28	4.63	708
61.35	60.70	60.73	3.28	4.75	690
64.63	63.98	64.01	3.28	4.78	686
67.91	67.26	67.29	3.28	4.88	672
71.19	70.54	70.57	3.28	4.59	714
74.48	73.82	73.85	3.28	4.79	685
77.76	77.10	77.12	3.28	4.38	749
81.04	80.38	80.40	3.28	4.57	717
84.32	83.66	83.68	3.28	4.49	730
87.60	86.94	86.96	3.28	4.03	815
90.88	90.22	90.24	3.28	3.81	860
93.83	93.18	93.20	2.95	2.09	1413

Pore Pressure Dissipation Summary and

Pore Pressure Dissipation Plots

ConeTec

	Job No:	17-53167
	Client:	Hoffman Engineering
	Project:	19 North Front Street, Kingston, NY
	Start Date:	06-Dec-2017
	End Date:	06-Dec-2017

CPTu PORE PRESSURE DISSIPATION SUMMARY

Sounding ID	File Name	Cone Area (cm^2)	Duration (s)	Test Depth (ft)	Estimated Equilibrium Pore Pressure U_{eq} (ft)	Calculated Phreatic Surface (ft)	Estimated Phreatic Surface (ft)	t_{50} [a] (s)	Assumed Rigidity Index (I_r)	c_h [b] (cm^2/min)
SCPT17-01	17-53167_SP01.PPD	15	1320	21.98	1.75	20.24				
SCPT17-01	17-53167_SP01.PPD	15	300	44.95	24.71		20.24	151	100	4.66
SCPT17-01	17-53167_SP01.PPD	15	540	61.35	41.12		20.24	316	100	2.22
SCPT17-01	17-53167_SP01.PPD	15	360	77.75	57.52		20.24	133	100	5.29
CPT17-03	17-53167_CP03.PPD	15	240	28.38	6.58	21.80				
CPT17-03	17-53167_CP03.PPD	15	240	50.03	28.24		21.80	75.035	100	9.35
CPT17-04	17-53167_CP04.PPD	15	180	50.03	28.25	21.78				
Totals	7 dissipations		53.0 min							

a. Time is relative to where umax occurred

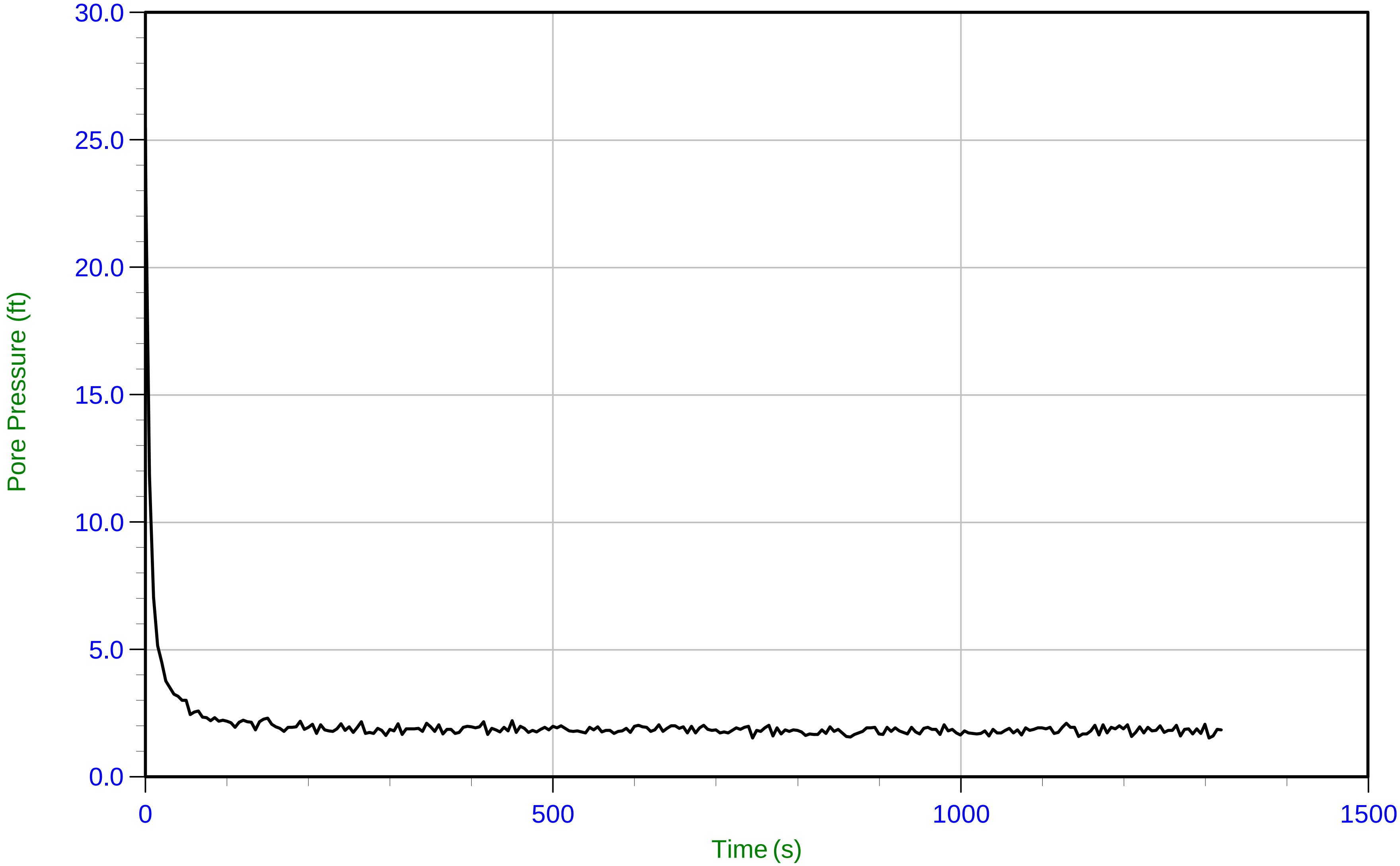
b. Houlsby and Teh, 1991

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 06-Dec-2017 11:14:47
Site: 19 North Front Street, Kingston, NY

Sounding: SCPT17-01
Cone: AD508 Area=15 cm²



Trace Summary:

Filename: 17-53167_SP01.PPD
Depth: 6.700 m / 21.981 ft
Duration: 1320.0 s

U Min: 1.5 ft
U Max: 25.5 ft

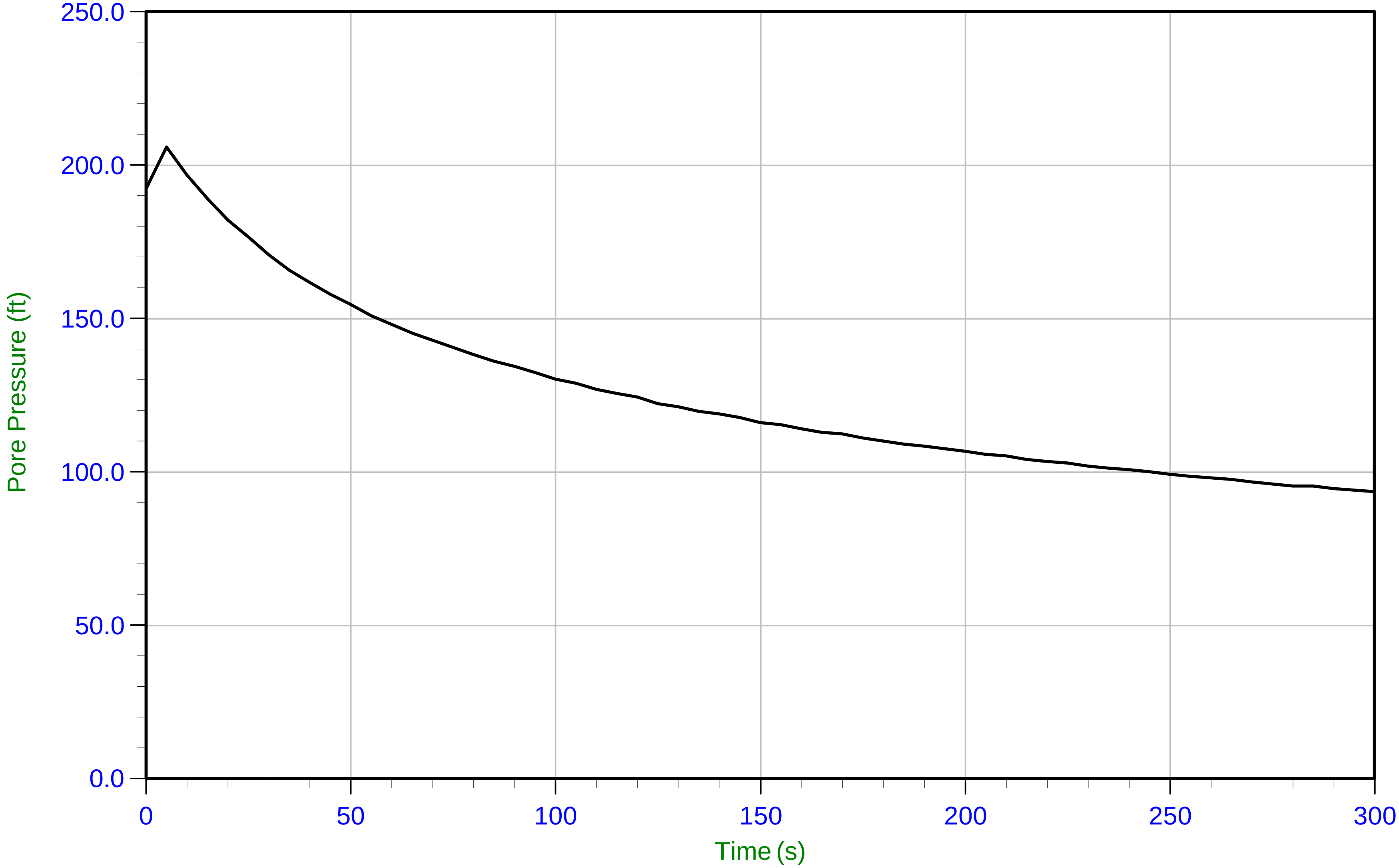
WT: 6.168 m / 20.236 ft
Ueq: 1.7 ft

ConeTec

Hoffman Engineering

Job No: 17-53167
Date: 06-Dec-2017 11:14:47
Site: 19 North Front Street, Kingston, NY

Sounding: SCPT17-01
Cone: AD508 Area=15 cm²



Trace Summary:

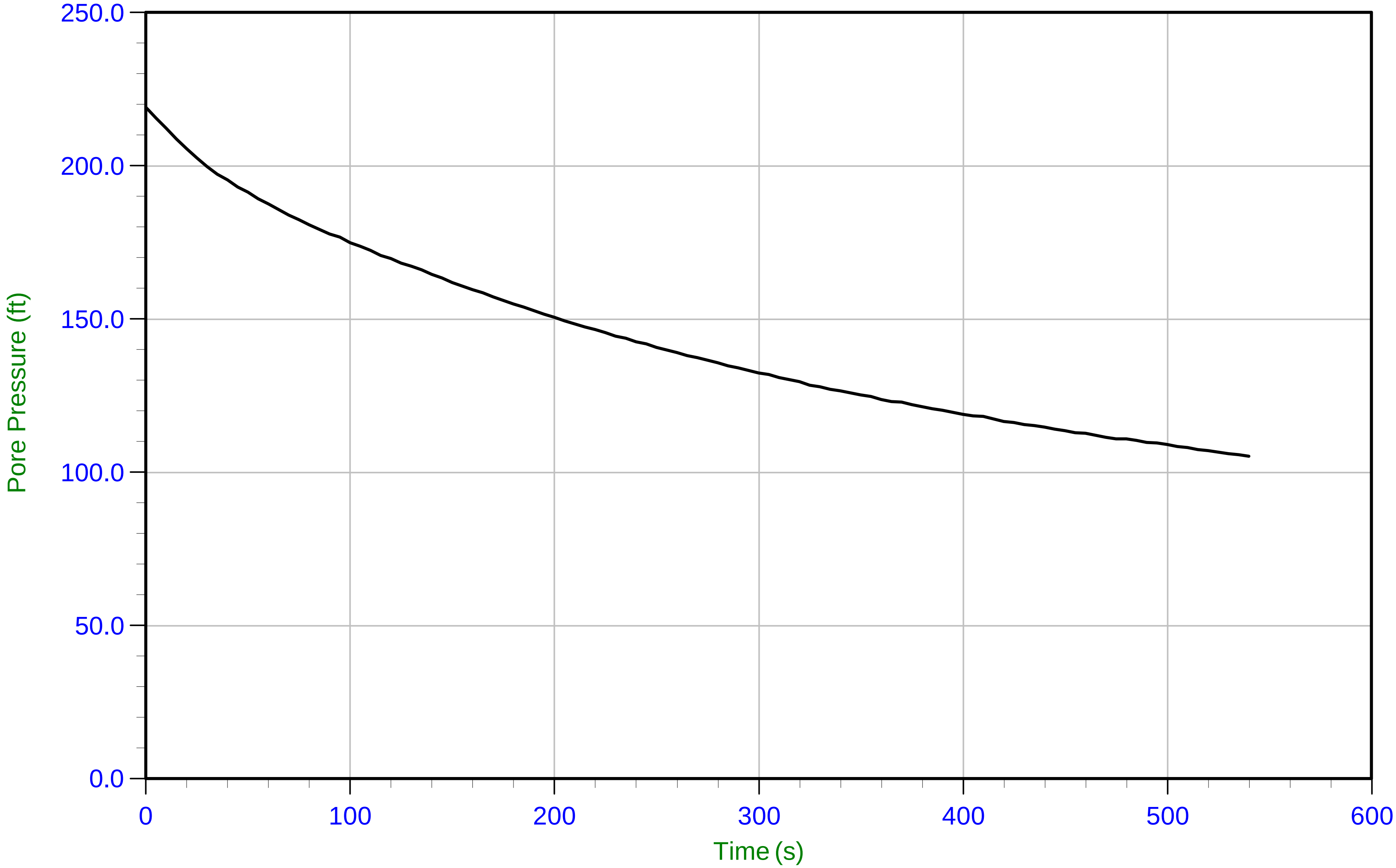
Filename: 17-53167_SP01.PPD
Depth: 13.700 m / 44.947 ft
Duration: 300.0 s

U Min: 93.5 ft
U Max: 206.0 ft

WT: 6.168 m / 20.236 ft
Ueq: 24.7 ft
U(50): 115.34 ft

T(50): 150.5 s
Ir: 100
Ch: 4.7 cm²/min

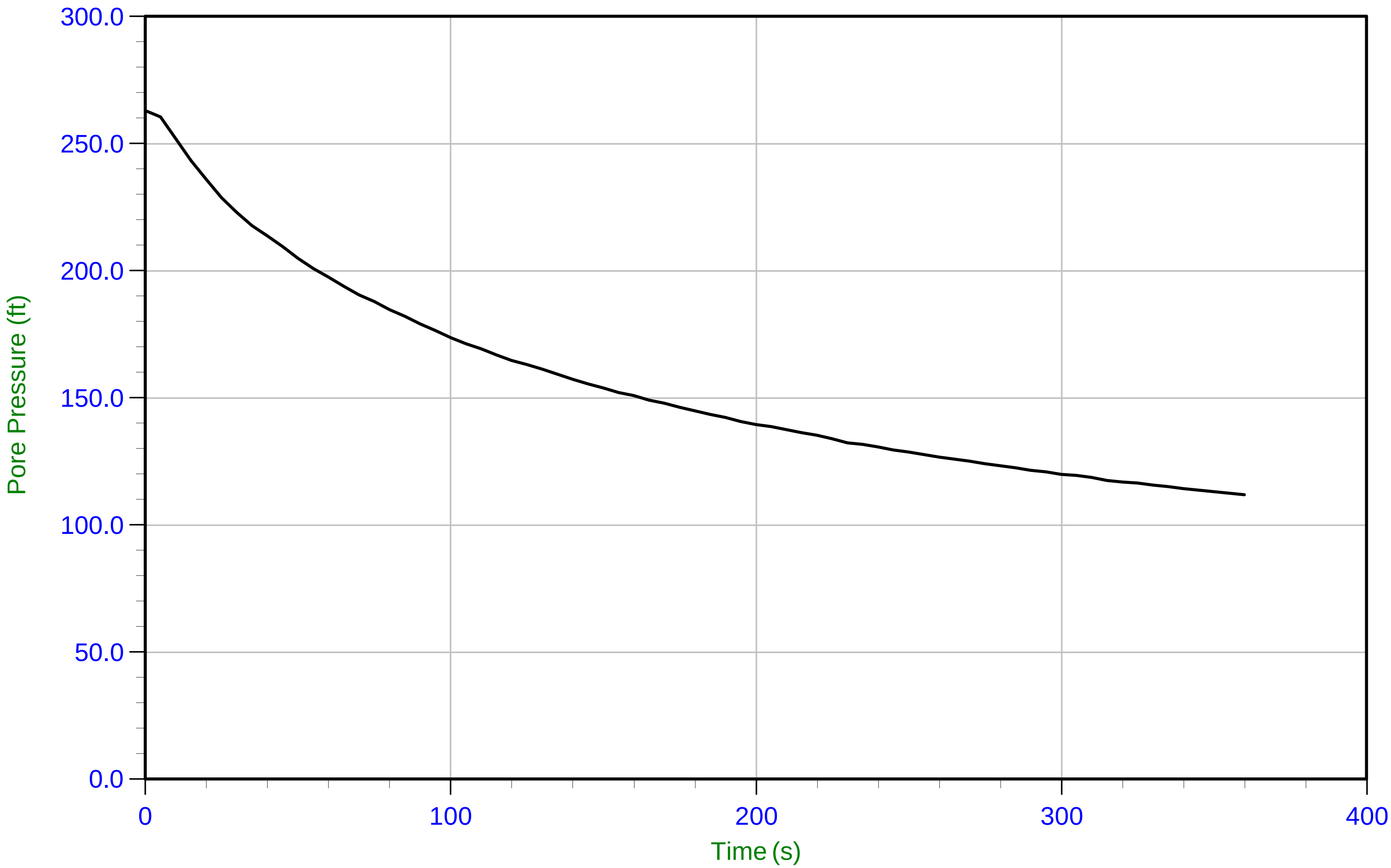
ConeTec	*Hoffman Engineering*	Job No: 17-53167 Date: 06-Dec-2017 11:14:47 Site: 19 North Front Street, Kingston, NY
		Sounding: SCPT17-01 Cone: AD508 Area=15 cm²



Trace Summary:

Filename: 17-53167_SP01.PPD	U Min: 105.2 ft	WT: 6.168 m / 20.236 ft	T(50): 315.9 s
Depth: 18.700 m / 61.351 ft	U Max: 219.2 ft	Ueq: 41.1 ft	Ir: 100
Duration: 540.0 s		U(50): 130.14 ft	Ch: 2.2 cm²/min

Hoffman Engineering	Job No: 17-53167 Date: 06-Dec-2017 11:14:47 Site: 19 North Front Street, Kingston, NY	Sounding: SCPT17-01 Cone: AD508 Area=15 cm²



Trace Summary:

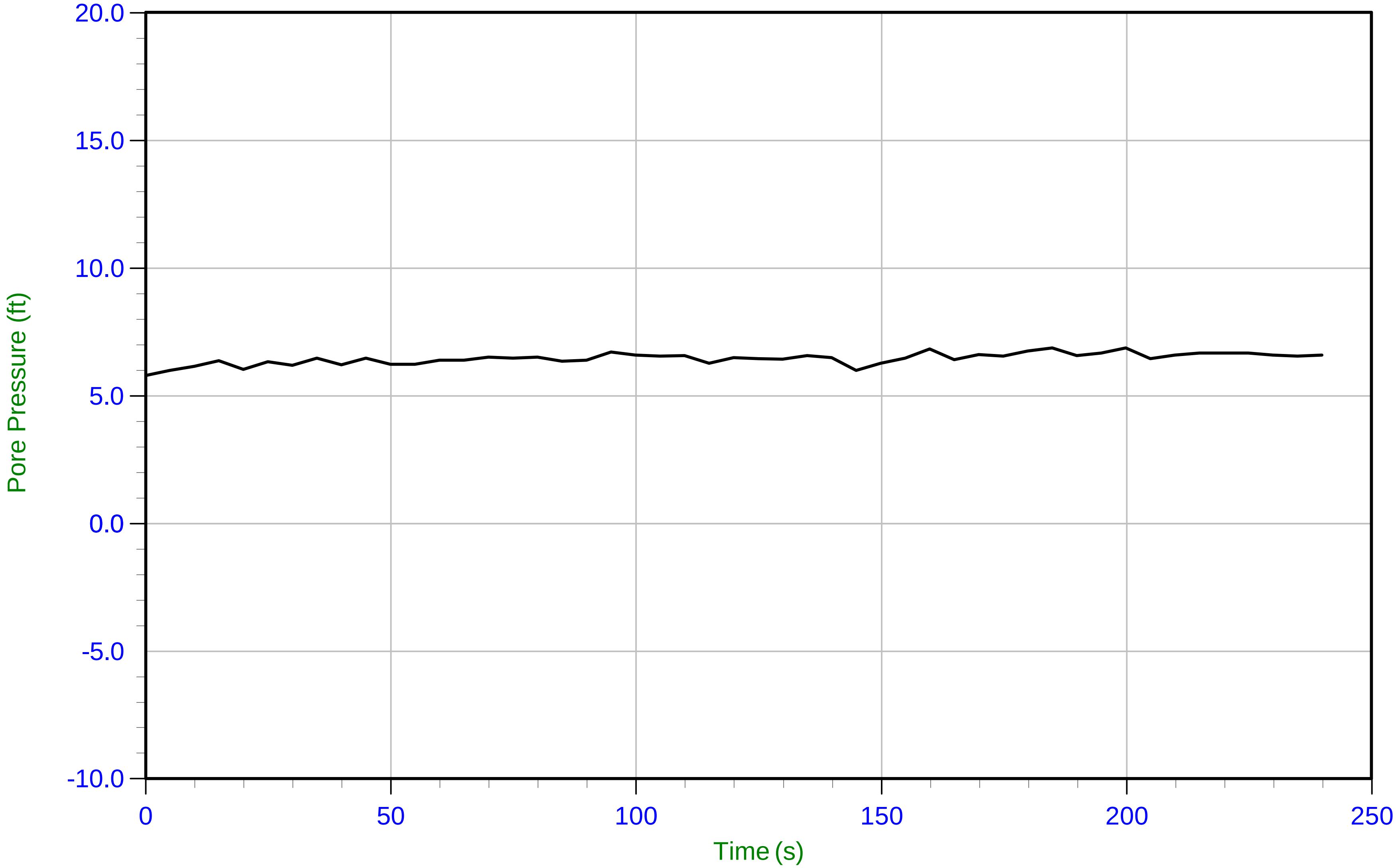
Filename: 17-53167_SP01.PPD	U Min: 111.9 ft	WT: 6.168 m / 20.236 ft	T(50): 132.8 s
Depth: 23.700 m / 77.755 ft	U Max: 262.9 ft	Ueq: 57.5 ft	Ir: 100
Duration: 360.0 s		U(50): 160.20 ft	Ch: 5.3 cm²/min

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 06-Dec-2017 10:21:47
Site: 19 North Front Street, Kingston, NY

Sounding: CPT17-03
Cone: AD508 Area=15 cm²



Trace Summary:

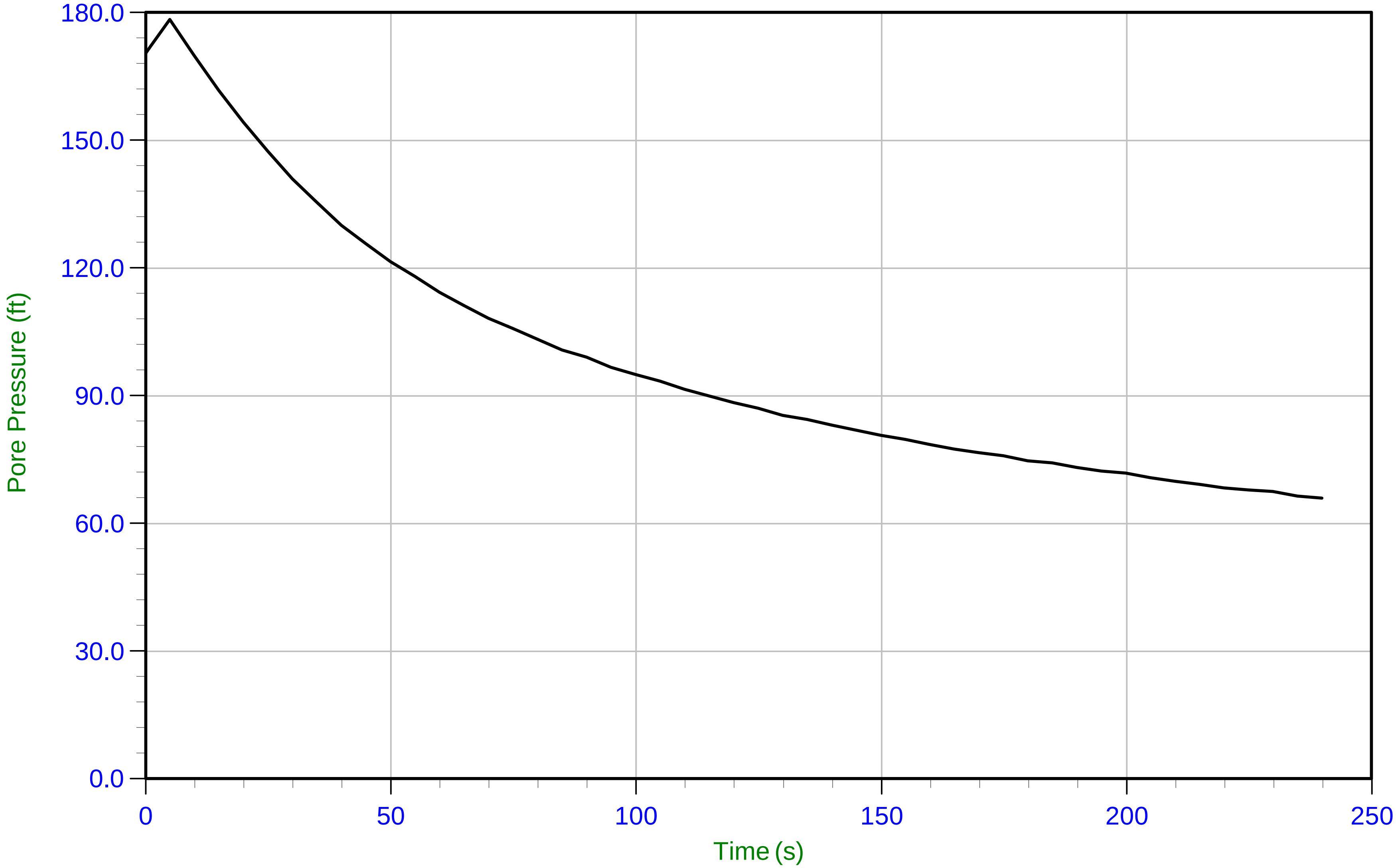
Filename: 17-53167_CP03.PPD	U Min: 5.8 ft	WT: 6.644 m / 21.798 ft
Depth: 8.650 m / 28.379 ft	U Max: 6.9 ft	Ueq: 6.6 ft
Duration: 240.0 s		

CONETEC

Hoffman Engineering

Job No: 17-53167
Date: 06-Dec-2017 10:21:47
Site: 19 North Front Street, Kingston, NY

Sounding: CPT17-03
Cone: AD508 Area=15 cm²

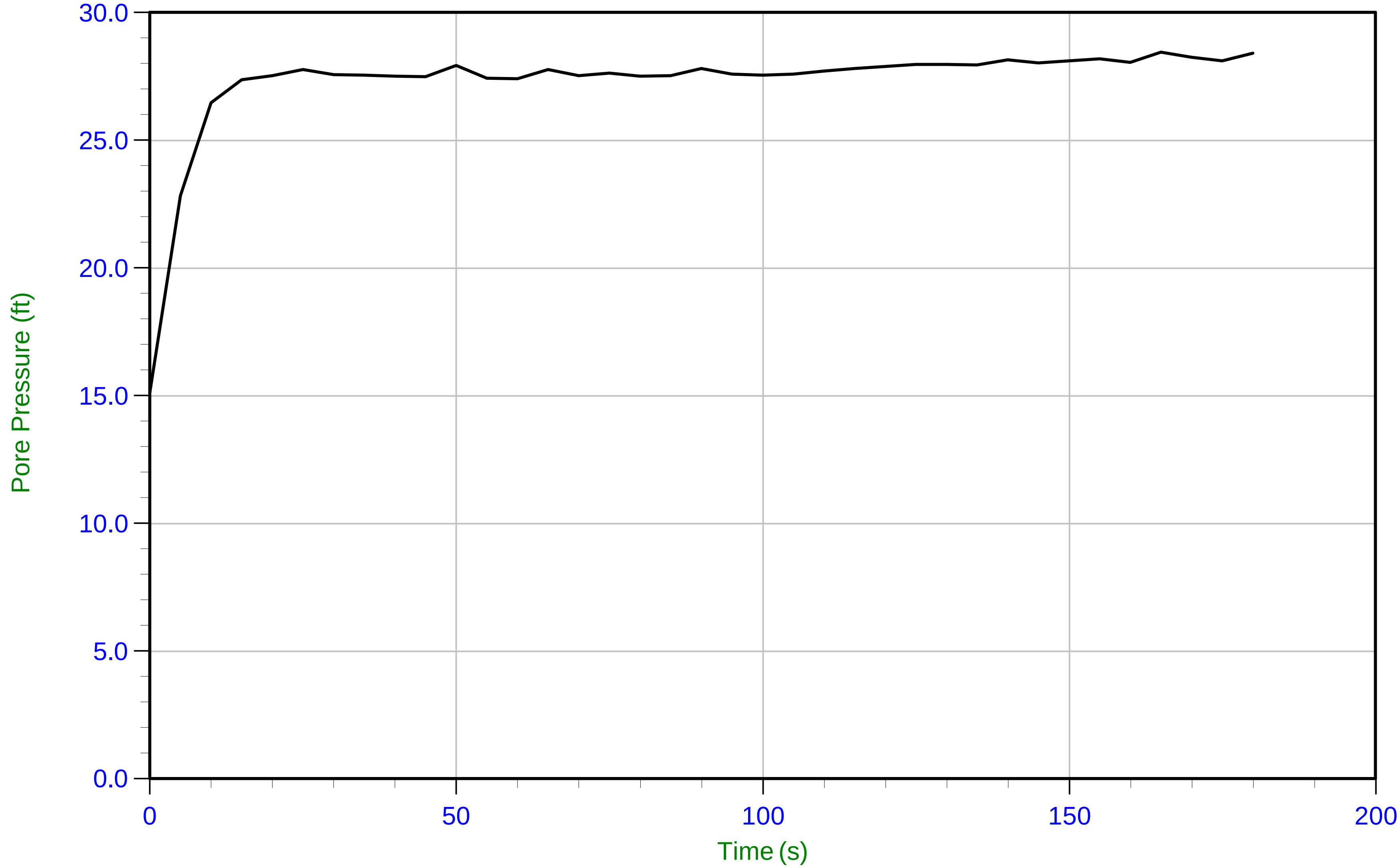


Trace Summary:

Filename: 17-53167_CP03.PPD	U Min: 65.9 ft	WT: 6.644 m / 21.798 ft	T(50): 75.0 s
Depth: 15.250 m / 50.032 ft	U Max: 178.3 ft	Ueq: 28.2 ft	Ir: 100
Duration: 240.0 s		U(50): 103.28 ft	Ch: 9.4 cm²/min

Hoffman Engineering

Job No: 17-53167
Date: 06-Dec-2017 14:29:41
Site: 19 North Front Street, Kingston, NY
Sounding: CPT17-04
Cone: AD508 Area=15 cm²



Trace Summary:

Filename: 17-53167_CP04.PPD
Depth: 15.250 m / 50.032 ft
Duration: 180.0 s
U Min: 15.1 ft
U Max: 28.4 ft
WT: 6.638 m / 21.778 ft
Ueq: 28.3 ft

Flat Plate Dilatometer Test Plots and Tabular Results

ConeTec

CONETEC

Job No.:	17-53167	Datum:	WGS 84 / UTM Zone 18N
Client:	Hoffman Engineering	Latitude:	4643154
Project:	19 North Front Street, Kingston, NY	Longitude:	581212
Sounding ID:	DMT17-01		
Date:	6-Dec-17		
Ground Water Depth (ft):	20.2		
Zm (bar):	0.1		

DILATOMETER TEST RESULTS

Depth[1] (ft)	A (bar)	B (bar)	Average ΔA (bar)	Average ΔB (bar)	p_o (bar)	p_1 (bar)	u_o (psf)	γ_T[2] (pcf)	σ_{vo} (psf)	σ_{vo}' (psf)	I_D	K_D	E_D (bar)	K_o	OCR[3]	OCR[4]	R_M	E_D (ksf)	s_u[4] (psf)	s_u[5] (psf)	M (ksf)
43.0	5.75	14.20	0.20	0.65	5.5	13.5	1420	119	5137	3716	1.65	2.7	277				1.3	578			726
44.0	4.30	9.85	0.20	0.65	4.2	9.2	1483	115	5251	3769	1.41	1.9	171				0.9	358			324
45.0	5.65	8.70	0.20	0.65	5.7	8.0	1545	112	5364	3819	0.47	2.7	80	0.7	1.4	1.6	1.2	167	1227	1034	194
46.0	5.45	9.30	0.20	0.65	5.5	8.6	1608	114	5478	3870	0.67	2.5	109	0.7	1.3	1.4	1.1	228	1140	977	250
47.0	5.80	9.85	0.20	0.65	5.8	9.2	1670	115	5592	3922	0.67	2.7	117	0.7	1.4	1.6	1.1	244	1231	1042	280
48.0	5.75	7.20	0.20	0.65	5.9	6.5	1732	105	5698	3965	0.12	2.7	22	0.7	1.4	1.6	1.1	46	1243	1053	52
49.0	4.55	6.70	0.20	0.65	4.6	6.0	1795	108	5806	4011	0.36	2.0	47	0.5	1.0	1.0	0.9	99	864	789	84
50.0	5.10	6.95	0.20	0.65	5.2	6.3	1857	107	5913	4056	0.24	2.2	36	0.6	1.1	1.2	1.0	76	1017	900	73
51.0	4.95	6.40	0.20	0.65	5.1	5.7	1920	104	6017	4098	0.15	2.1	22	0.6	1.1	1.1	0.9	46	967	867	41
52.0	5.00	6.45	0.20	0.65	5.1	5.8	1982	104	6122	4140	0.15	2.1	22	0.6	1.1	1.1	0.9	46	970	871	41
53.0	5.05	6.50	0.20	0.65	5.2	5.8	2044	104	6226	4182	0.15	2.1	22	0.6	1.1	1.1	0.9	46	974	875	41
54.0	5.20	6.30	0.20	0.65	5.3	5.6	2107	100	6327	4220	0.06	2.1	9	0.6	1.1	1.1	0.9	19	1012	904	18
55.0	4.95	6.35	0.20	0.65	5.1	5.7	2169	104	6430	4261	0.14	2.0	20	0.5	1.0	1.0	0.9	42	924	842	36
56.0	5.50	6.65	0.20	0.65	5.6	6.0	2232	101	6532	4300	0.07	2.2	11	0.6	1.1	1.2	1.0	23	1077	954	22
57.0	5.70	7.10	0.20	0.65	5.8	6.4	2294	105	6636	4342	0.12	2.3	20	0.6	1.2	1.2	1.0	42	1120	987	41
58.0	5.35	6.30	0.20	0.65	5.5	5.6	2356	96	6732	4376	0.02	2.1	4	0.6	1.1	1.1	0.9	8	1014	912	7
59.0	6.45	7.40	0.20	0.65	6.6	6.7	2419	97	6829	4410	0.02	2.6	4	0.7	1.3	1.5	1.1	8	1330	1136	8
60.0	5.55	6.95	0.20	0.65	5.7	6.3	2481	104	6933	4452	0.13	2.1	20	0.6	1.1	1.1	0.9	42	1043	937	38
61.0	5.45	6.80	0.20	0.65	5.6	6.1	2544	104	7037	4493	0.12	2.0	18	0.6	1.0	1.0	0.9	38	1004	910	33
62.0	6.10	7.75	0.20	0.65	6.2	7.1	2606	107	7144	4538	0.17	2.3	29	0.6	1.2	1.2	1.0	61	1178	1036	60
63.0	6.25	7.40	0.20	0.65	6.4	6.7	2668	102	7246	4577	0.06	2.3	11	0.6	1.2	1.3	1.0	23	1219	1067	23
64.0	6.75	7.90	0.20	0.65	6.9	7.2	2731	102	7348	4617	0.06	2.5	11	0.7	1.3	1.4	1.1	23	1358	1165	25
65.0	6.35	8.00	0.20	0.65	6.5	7.3	2793	107	7455	4662	0.16	2.3	29	0.6	1.2	1.2	1.0	61	1218	1070	60
66.0	6.40	7.95	0.20	0.65	6.5	7.3	2856	106	7561	4706	0.14	2.3	26	0.6	1.2	1.2	1.0	53	1223	1075	53
67.0	5.85	7.20	0.20	0.65	6.0	6.5	2918	104	7665	4747	0.11	2.0	18	0.5	1.0	1.0	0.9	38	1054	956	33
68.0	6.30	7.50	0.20	0.65	6.4	6.8	2980	103	7768	4787	0.07	2.2	13	0.6	1.1	1.1	0.9	27	1175	1045	25
69.0	6.65	8.10	0.20	0.65	6.8	7.4	3043	106	7877	4834	0.12	2.3	22	0.6	1.2	1.2	1.0	46	1263	1110	45
70.0	6.40	7.95	0.20	0.65	6.5	7.3	3105	106	7983	4878	0.15	2.2	26	0.6	1.1	1.1	0.9	53	1177	1050	49
71.0	6.50	7.85	0.20	0.65	6.6	7.2	3168	105	8088	4920	0.10	2.2	18	0.6	1.1	1.1	0.9	38	1198	1067	36
72.0	6.35	7.70	0.20	0.65	6.5	7.0	3230	104	8192	4962	0.11	2.1	18	0.6	1.1	1.1	0.9	38	1143	1029	34
73.0	7.05	9.10	0.20	0.65	7.1	8.4	3292	110	8302	5009	0.23	2.3	44	0.6	1.2	1.3	1.0	91	1326	1162	92
74.0	6.35	8.05	0.20	0.65	6.5	7.4	3355	107	8409	5054	0.18	2.0	31	0.5	1.0	1.0	0.9	65	1115	1013	55
75.0	6.80	8.40	0.20	0.65	6.9	7.7	3417	107	8516	5098	0.15	2.2	27	0.6	1.1	1.1	0.9	57	1236	1102	53
76.0	7.40	9.55	0.20	0.65	7.5	8.9	3480	110	8626	5146	0.23	2.4	47	0.6	1.2	1.3	1.0	99	1394	1215	101
77.0	7.00	8.40	0.20	0.65	7.1	7.7	3542	105	8731	5189	0.11	2.2	20	0.6	1.1	1.1	0.9	42	1274	1133	39
78.0	7.55	9.40	0.20	0.65	7.7	8.7	3604	109	8840	5236	0.18	2.4	36	0.6	1.2	1.3	1.0	76	1419	1237	78
79.0	7.25	8.75	0.20	0.65	7.4	8.1	3667	106	8947	5280	0.12	2.2	24	0.6	1.1	1.2	1.0	49	1323	1172	47
80.0	7.50	8.90	0.20	0.65	7.6	8.2	3729	106	9052	5323	0.10	2.3	20	0.6	1.2	1.2	1.0	42	1387	1219	41
81.0	7.65	9.15	0.20	0.65	7.8	8.5	3792	107	9159	5368	0.11	2.3	24	0.6	1.2	1.3	1.0	49	1418	1243	50
82.0	7.10	8.65	0.20	0.65	7.2	8.0	3854	107	9266	5412	0.14	2.1	26	0.6	1.1	1.1	0.9	53	1245	1121	47
83.0	7.85	9.30	0.20	0.65	8.0	8.6	3916	106	9372	5456	0.10	2.3	22	0.6	1.2	1.3	1.0	46	1455	1273	46
84.0	6.95	9.25	0.20	0.65	7.0	8.6	3979	110	9482	5504	0.30	1.9	53	0.5	1.0	1.0	0.9	110	1168	1070	94
85.0	6.80	8.10	0.20	0.65	6.9	7.4	4041	104	9586	5545	0.09	1.9	16	0.5	1.0	0.9	0.9	34	1129	1043	29

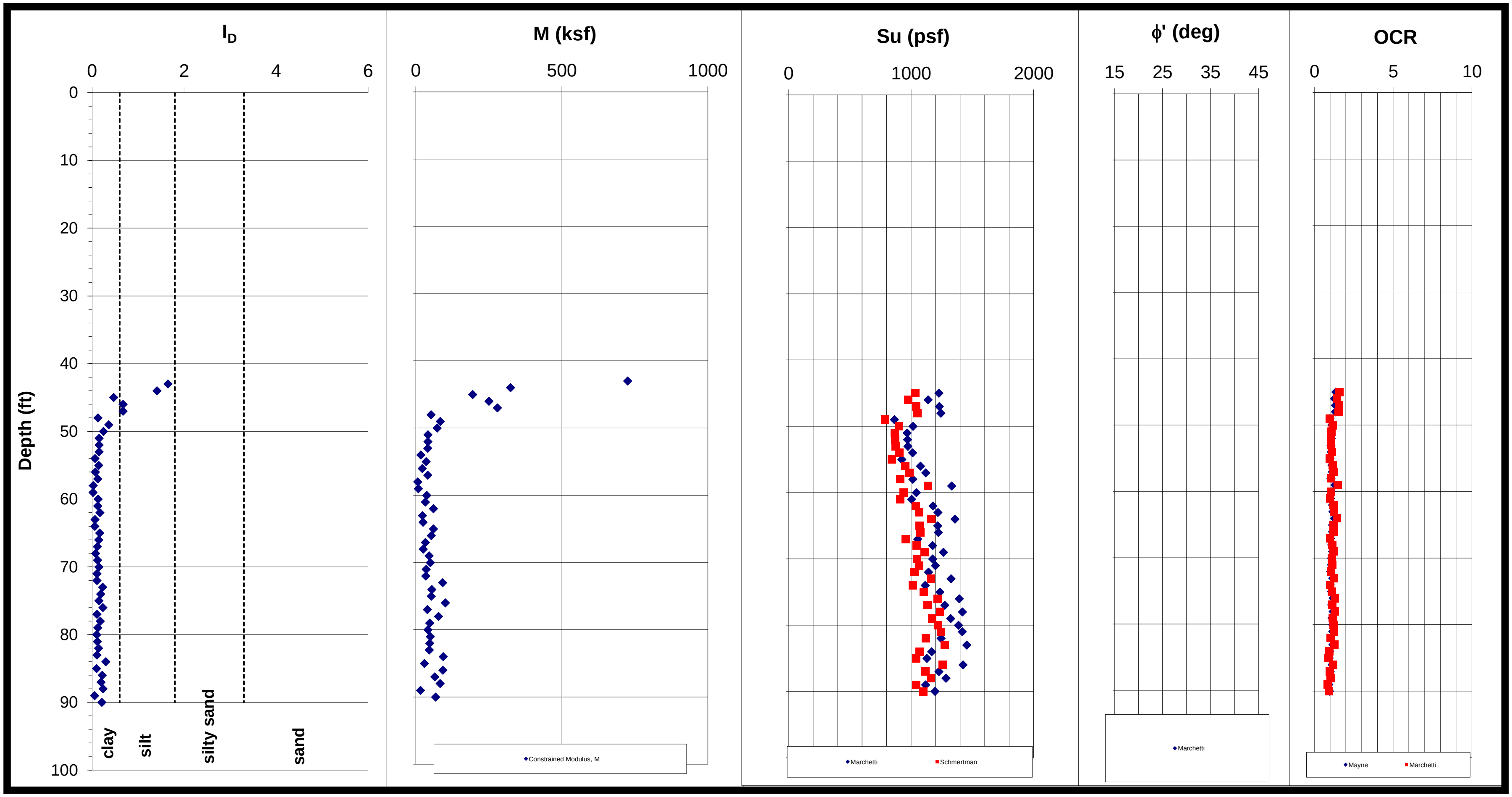
86.0	7.90	10.00	0.20	0.65	8.0	9.3	4104	110	9697	5593	0.22	2.2	46	0.6	1.1	1.2	1.0	95	1425	1258	92
87.0	7.25	9.10	0.20	0.65	7.4	8.4	4166	108	9805	5639	0.20	2.0	36	0.5	1.0	1.0	0.9	76	1228	1118	65
88.0	7.50	9.60	0.20	0.65	7.6	8.9	4228	110	9915	5687	0.24	2.0	46	0.6	1.0	1.0	0.9	95	1285	1162	83
89.0	6.90	8.00	0.20	0.65	7.0	7.3	4291	101	10016	5725	0.05	1.8	9	0.5	0.9	0.9	0.9	19	1118	1041	16
90.0	7.25	9.15	0.20	0.65	7.3	8.5	4353	109	10125	5771	0.21	1.9	38	0.5	1.0	0.9	0.9	80	1194	1099	68

1. Depth is referenced below the exisiting ground surface at the time of testing.
2. Mayne et al., 2002
3. Mayne, 1995
4. Marchetti et al., 2001
5. Schmertman, 1991

CONETEC

DILATOMETER TEST RESULTS

Job No.:	17-53167	Datum:	WGS 84 / UTM Zone 18N
Client:	Hoffman Engineering	Latitude:	4643154
Project:	19 North Front Street, Kingston, NY	Longitude:	581212
Sounding ID:	DMT17-01		
Date:	6-Dec-17		



CONETEC

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