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DRAFT

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TABLE OF CONTENTS

SECTION 1: INTRODUCTION.....	1
1.1 Project Description	1
1.2 Scope of Services	1
1.3 Exploration Program	2
1.4 Laboratory Testing Program.....	2
1.5 Environmental Services	2
SECTION 2: REGIONAL SETTING.....	2
2.1 Geological Setting.....	2
2.2 Regional Seismicity.....	2
Table 1: Approximate Fault Distances	3
SECTION 3: SITE CONDITIONS.....	3
3.1 Site Background and Surface Description.....	3
3.2 Subsurface Conditions	4
3.2.1 Plasticity/Expansion Potential.....	4
3.2.2 In-Situ Moisture Contents	4
3.3 Groundwater	4
Table 2: Depth to Groundwater	5
SECTION 4: GEOLOGIC HAZARDS	5
4.1 Fault Rupture	5
4.2 Estimated Ground Shaking	5
4.3 Liquefaction Potential.....	6
4.3.1 Background.....	6
4.3.2 Analysis	6
4.3.3 Summary	7
Table 3: Estimated Total and Differential Settlements.....	7
4.3.4 Ground Rupture Potential.....	7
4.4 Lateral Spreading.....	8
4.5 Seismic Settlement/Unsaturated Sand Shaking	8
4.6 Tsunami/Seiche	8
4.7 Flooding	9
SECTION 5: CONCLUSIONS.....	9
5.1 Summary	9
5.1.1 Potential for Significant Static Settlement	9
5.1.2 Potential for Liquefaction-Induced Settlements	10
5.1.3 Proximity of Basement Excavation to Adjacent Improvements.....	10

5.1.4	Dewatering Considerations	10
5.1.5	Wet, Unstable Excavation Subgrade Soil	10
5.1.6	Shoring Considerations for the Below-Grade Excavation.....	10
5.1.7	Hydrostatic Pressure and Uplift.....	11
5.1.8	Differential Movement at On-grade to On-Structure Transitions	11
5.2	Plans and Specifications Review	11
5.3	Construction Observation and Testing	11
SECTION 6: EARTHWORK		12
6.1	Site Demolition	12
6.1.1	Demolition of Existing Slabs, Foundations and Pavements	12
6.1.2	Abandonment of Existing Utilities	12
6.2	Site Clearing and Preparation	13
6.2.1	Site Stripping	13
6.2.2	Tree and Shrub Removal	13
6.3	Removal of Existing Fills	13
6.4	Temporary Cut and Fill Slopes.....	14
6.5	Below-Grade Excavations	14
6.5.1	Temporary Shoring.....	14
	Table 4: Suggested Temporary Shoring Design Parameters.....	15
6.5.2	Construction Dewatering	16
6.6	Subgrade Preparation.....	16
6.7	Subgrade Stabilization Measures	17
6.7.1	Removal and Replacement.....	17
6.7.2	Chemical Treatment	17
6.7.3	Scarification and Drying	17
6.7.4	Below-Grade Excavation Stabilization	18
6.8	Material for Fill.....	18
6.8.1	Re-Use of On-site Soils	18
6.8.2	Re-Use of On-Site Site Improvements	18
6.8.3	Potential Import Sources	18
6.9	Compaction Requirements.....	19
	Table 5: Compaction Requirements	19
6.10	Trench Backfill	20
6.11	Site Drainage.....	20
6.12	Low-Impact Development (LID) Improvements.....	20
6.12.1	Storm Water Treatment Design Considerations.....	21
SECTION 7: 2019 CBC SEISMIC DESIGN CRITERIA.....		23

7.1	Site Location and Provided Data for 2019 CBC Seismic Design	23
7.2	Site Classification – Chapter 20 of ASCE 7-16.....	23
7.3	Code-Based Seismic Design Parameters	24
	Table 6: 2019 CBC Site Categorization and Site Coefficients	25
7.4	Ground Motion Hazard Analysis	25
7.4.1	Probabilistic MCE_R	26
7.4.2	Deterministic MCE_R	26
7.4.3	Site-Specific MCE_R	27
	Table 7: Development of Site-Specific MCE_R Spectrum	27
7.4.4	Design Response Spectrum	27
	Table 8: Development of Site-Specific Design Response Spectrum.....	28
7.5	Design Acceleration Parameters	28
	Table 9: Site-Specific Design Acceleration Parameters	29
7.6	Site-Specific MCE_G Peak Ground Acceleration.....	29
SECTION 8: FOUNDATIONS		29
8.1	Summary of Recommendations	29
8.2	Reinforced Concrete Mat Foundation Over Ground Improvement	29
8.2.1	Settlement	30
8.2.2	Mat Modulus of Soil Subgrade Reaction	30
8.2.3	Lateral Loading.....	30
8.2.4	Mat Foundation Construction Considerations	31
8.3	Ground Improvement	31
8.3.1	Ground Improvement Requirements	31
8.3.2	Ground Improvement Performance Testing	32
8.4	Alternative Foundation	33
8.4.1	Deep Foundations	33
SECTION 9: CONCRETE SLABS AND PEDESTRIAN PAVEMENTS		33
9.1	Garage Ramp Slabs-On-Grade.....	33
9.2	Exterior Flatwork	34
SECTION 10: VEHICULAR PAVEMENTS		34
10.1	Asphalt Concrete	34
	Table 10: Asphalt Concrete Pavement Recommendations, Design R-value = 5	34
10.2	Portland Cement Concrete	35
	Table 11: PCC Pavement Recommendations, Design R-value = 5	35
SECTION 11: RETAINING WALLS.....		35
11.1	Static Lateral Earth Pressures	35
	Table 12: Recommended Lateral Earth Pressures.....	35

11.2	Seismic Lateral Earth Pressures	36
11.3	Surcharge Pressure from Adjacent Structures	37
11.4	Wall Drainage	37
11.4.1	At-Grade Site Walls	37
11.4.2	Below-Grade Walls	37
11.5	Backfill	38
11.6	Foundations	38
	SECTION 12: LIMITATIONS	38
	SECTION 13: REFERENCES.....	40

FIGURE 1: VICINITY MAP

FIGURE 2: SITE PLAN

FIGURE 3: REGIONAL FAULT MAP

FIGURE 4A TO 4J: LIQUEFACTION ANALYSIS SUMMARY – CPT-01 TO CPT-10

FIGURE 5: MCE_R RESPONSE SPECTRA

FIGURE 6: DESIGN RESPONSE SPECTRA

APPENDIX A: PREVIOUS FIELD INVESTIGATION, CORNERSTONE EARTH GROUP

APPENDIX B: PREVIOUS LABORATORY TEST PROGRAM

APPENDIX C: LIQUEFACTION ANALYSES CALCULATIONS

Type of Services	Geotechnical Investigation
Project Name	Westbank Valley Title
Location	300 South 1st Street San Jose, California

SECTION 1: INTRODUCTION

This updated geotechnical report was prepared for the sole use of Project Valley Title LLC for the Westbank Valley Title project in San Jose, California. The location of the site is shown on the Vicinity Map, Figure 1. This report is based on our current understanding of the planned development and discussion with you. As you know, the exact details including the overall levels, above and below grade, are being evaluated. Additional recommendations may be required based on the final development plan.

1.1 PROJECT DESCRIPTION

The project will consist of redeveloping the approximately 2.84-acre site for a new high-rise tower development. The project is still in the early planning stages. Based on our discussions with you, we understand the new tower will likely encompass the majority of the site, have one to three levels of below-grade parking, up to 21 stories above grade with a maximum above-grade height of about 300 feet. We anticipate the below-grade and lower two to four above-grade levels will be of concrete construction with steel-frame construction above the concrete podium. The project design will be based on the current 2019 California Building Code (CBC).

Structural loads are not available; however, structural loads are expected to be typical for this type of structure. As mentioned, the number of below-grade levels may be one to three levels. For one-, two-, and three-level basements, we estimate cuts will be on the order of 15 to 18 feet, 25 to 28 feet, and 35 to 38 feet, respectively.

1.2 SCOPE OF SERVICES

Our scope of services was presented in our previous proposal dated November 26, 2018 and more recent authorization dated January 22, 2020 for a report update. Our investigation consisted of field and laboratory programs to evaluate physical and engineering properties of the subsurface soils, engineering analysis to prepare recommendations for site work and grading, building foundations, flatwork, retaining walls, and pavements, and preparation of this report. Brief descriptions of our exploration and laboratory programs are presented below.

1.3 EXPLORATION PROGRAM

Field exploration consisted of eight borings drilled on December 6, 7, 17, 18, and 19, 2018 with truck-mounted, hollow-stem auger drilling equipment and ten Cone Penetration Tests (CPTs) advanced on December 5 and 6, 2018. The borings were drilled to depths ranging from 8½ to 130 feet; the CPTs were advanced to depths ranging from 50 to 140 feet. Seismic shear wave velocity measurements were collected from CPT-8. Each of our borings were advanced adjacent to CPTs for direct evaluation of physical samples to correlated soil behavior.

The borings and CPTs were backfilled with cement grout in accordance with local requirements; exploration permits were obtained as required by local jurisdictions.

The approximate locations of our exploratory borings are shown on the Site Plan, Figure 2. Details regarding our field program are included in Appendix A.

1.4 LABORATORY TESTING PROGRAM

In addition to visual classification of samples, the laboratory program focused on obtaining data for foundation design and seismic ground deformation estimates. Testing included moisture contents, dry densities, washed sieve analyses, Plasticity Index tests, triaxial compression tests, and consolidation tests. Details regarding our laboratory program are included in Appendix B.

1.5 ENVIRONMENTAL SERVICES

Cornerstone Earth Group also provided environmental services for this project; environmental findings and conclusions are provided under separate covers.

SECTION 2: REGIONAL SETTING

2.1 GEOLOGICAL SETTING

The site is located within the Santa Clara Valley, which is a broad alluvial plane between the Santa Cruz Mountains to the southwest and west, and the Diablo Range to the northeast. The San Andreas Fault system, including the Monte Vista-Shannon Fault, exists within the Santa Cruz Mountains and the Hayward and Calaveras Fault systems exist within the Diablo Range. The alluvium in the area is mapped to be greater than 500 feet thick (Rogers & Williams, 1974).

2.2 REGIONAL SEISMICITY

While seismologists cannot predict earthquake events, geologists from the U.S. Geological Survey have recently updated earlier estimates from their 2015 Uniform California Earthquake Rupture Forecast (Version 3) publication. The estimated probability of one or more magnitude 6.7 earthquakes (the size of the destructive 1994 Northridge earthquake) expected to occur somewhere in the San Francisco Bay Area has been revised (increased) to 72 percent for the period 2014 to 2043 (Aagaard et al., 2016). The faults in the region with the highest estimated probability of generating damaging earthquakes between 2014 and 2043 are the Hayward

(33%), Rodgers Creek (33%), Calaveras (26%), and San Andreas Faults (22%). In this 30-year period, the probability of an earthquake of magnitude 6.7 or larger occurring is 22 percent along the San Andreas Fault and 33 percent for the Hayward or Rodgers Creek Faults.

The faults considered capable of generating significant earthquakes are generally associated with the well-defined areas of crustal movement, which trend northwesterly. The table below presents the State-considered active faults within 25 kilometers of the site.

Table 1: Approximate Fault Distances

Fault Name	Distance	
	(miles)	(kilometers)
Hayward (Southeast Extension)	5.6	9.1
Monte Vista-Shannon	7.3	11.7
Calaveras	8.4	13.5
Hayward (Total Length)	9.0	14.5
San Andreas (1906)	11.9	19.1

A regional fault map is presented as Figure 3, illustrating the relative distances of the site to significant fault zones.

SECTION 3: SITE CONDITIONS

3.1 SITE BACKGROUND AND SURFACE DESCRIPTION

The site is located in an area that is primarily occupied by commercial, office and retail buildings. The site is bounded by San Carlos Street to the north, Second Street to the east, San Salvador Street and retail buildings to the South, and First Street and retail buildings to the west. The site is relatively level with elevations ranging from about Elevation 89 in the northeastern portion of the site to about Elevation 95 feet in the southern portion of the site (Google Earth, WGS84).

The northwestern portion of the site is currently occupied by a 3-story commercial/office structure. An asphalt parking lot occupies the majority of the site. Based on our review of historical aerials, the 3-story commercial structure has existed at the site since at least 1980. The site appears to be as it is in its current condition since 1980. Prior to 1980, several structures previously existed at areas currently occupied by the asphalt parking lot. These structures appear to have been demolished between 1948 to 1980.

Surface pavements generally consisted of 2 to 3½ inches of asphalt concrete over 1 to 6 inches of aggregate base. At borings EB-6, a 3-inch-thick concrete slab was encountered between the asphalt concrete and the aggregate base. At Boring EB-8, a 12-inch-thick concrete slab was encountered below the asphalt and aggregate base. Based on visual observations, the existing pavements are in fair condition.

3.2 SUBSURFACE CONDITIONS

Our explorations encountered undocumented fill beneath the pavements at Borings EB-3 and EB-4 to depths of 7½ and 11½ feet below the existing ground surface, respectively. The fill consisted of medium stiff to hard lean clay with variable amounts of sand and loose clayey sand. Below the surface pavements and fill, our explorations generally encountered soft to hard, lean clay with variable amounts of sand interbedded with loose to medium dense sand with variable amounts of clay and silt to depths ranging from approximately 34½ to 40 feet below existing ground surface. Beneath the lean clays, medium stiff to very stiff, fat clay was encountered at depths ranging from 34½ to 52 feet below existing ground surface in Borings EB-1, EB-3, EB-6, EB-7, and EB-8. Beneath the fat clays, stiff to very stiff lean clay with variable amounts of sand interbedded with medium dense to very dense sand with variable amounts of clay and silt was encountered to the maximum depth explored of 140 feet.

3.2.1 Plasticity/Expansion Potential

We performed two Plasticity Index (PI) tests on representative samples. Test results were used to evaluate expansion potential of surficial soils. The results of the surficial PI tests indicated PIs ranging from 9 to 12, indicating low expansion potential to wetting and drying cycles.

3.2.2 In-Situ Moisture Contents

Laboratory testing indicated that the in-situ moisture contents within the upper 30 feet range from 9 to 43 percent moisture. In our opinion, we estimated this corresponds to about near optimum to 20 percent above the optimum moisture content.

3.3 GROUNDWATER

Groundwater was encountered in some of our exploratory Borings at depths ranging from 16 to 29 feet below current grades. Groundwater was inferred at depths of approximately 14 to 23½ feet below current grades based on pore pressure dissipation tests at some of our CPT's. All measurements were taken at the time of drilling and may not represent the stabilized levels that can be higher than the initial levels encountered. Historic high groundwater levels are mapped at a depth of approximately 10 feet below current grades (CGS, San Jose West 7.5-Minute Quadrangle, 2002) in the site area. In general, fluctuations in groundwater levels occur due to many factors including seasonal fluctuation, underground drainage patterns, regional fluctuations, and other factors. Based on the above information, we recommend a design groundwater depth of 10 feet below current grades.

Table 2: Depth to Groundwater

Boring/CPT Number	Date Drilled	Depth to Groundwater (feet)	Depth of Boring/CPT (feet)
EB-1	12/6/18	22	70.5
EB-2	12/6/18	Not Encountered	8.5
EB-3	12/7/18	21	78.5
EB-4	12/7/18	29	40
EB-5	12/17/18	18.5	41.5
EB-6	12/17/18	25	40
EB-7	12/18/18	16	55
EB-8	12/19/18	20	129.9
CPT-1	12/5/18	17.6	124.5
CPT-2	12/5/18	17.4	100.5
CPT-3	12/5/18	14.9	101.4
CPT-4	12/6/18	23.5	140.6
CPT-5	12/5/18	14.1	50.7
CPT-6	12/5/18	No Reading	101.2
CPT-7	12/6/18	15.7	95.1
CPT-8	12/6/18	18.9	96.3
CPT-9	12/6/18	13.9	104.5
CPT-10	12/6/18	15.7	50.5

SECTION 4: GEOLOGIC HAZARDS

4.1 FAULT RUPTURE

As discussed above, several significant faults are located within 25 kilometers of the site. The site is not located within a State-designated Alquist Priolo Earthquake Fault Zone, or a Santa Clara County Fault Hazard Zone, or a City of San Jose Potential Hazard Zone. Based on review of geologic maps as summarized in Figure 3, no known surface expression of fault traces is thought to cross the site; therefore, fault rupture hazard is not a significant geologic hazard at the site.

4.2 ESTIMATED GROUND SHAKING

Moderate to severe (design-level) earthquakes can cause strong ground shaking, which is the case for most sites within the Bay Area. A peak ground acceleration (PGA_M) was estimated following the ground motion hazard analysis procedure presented in Chapter 21, Section 21.2 of

ASCE 7-16 and Supplement No. 1 and determined in accordance with Section 21.5 of ASCE 7-16. For our liquefaction analysis we used a PGA_M of 0.70g.

4.3 LIQUEFACTION POTENTIAL

The site is within a State-designated Liquefaction Hazard Zone (CGS, San Jose West Quadrangle, 2002) as well as a Santa Clara County Liquefaction Hazard Zone (Santa Clara County, 2003). Our field and laboratory programs addressed this issue by testing and sampling potentially liquefiable layers to depths of at least 50 feet, performing visual classification on sampled materials, evaluating CPT data, and performing various tests to further classify soil properties.

4.3.1 Background

During strong seismic shaking, cyclically induced stresses can cause increased pore pressures within the soil matrix that can result in liquefaction triggering, soil softening due to shear stress loss, potentially significant ground deformation due to settlement within sandy liquefiable layers as pore pressures dissipate, and/or flow failures in sloping ground or where open faces are present (lateral spreading) (NCEER 1998). Limited field and laboratory data is available regarding ground deformation due to settlement; however, in clean sand layers settlement on the order of 2 to 4 percent of the liquefied layer thickness can occur. Soils most susceptible to liquefaction are loose, non-cohesive soils that are saturated and are bedded with poor drainage, such as sand and silt layers bedded with a cohesive cap.

4.3.2 Analysis

As discussed in the “Subsurface” section above, several sand layers were encountered below the design groundwater depth of 10 feet. Following the liquefaction analysis framework in the 2008 monograph, *Soil Liquefaction During Earthquakes* (Idriss and Boulanger, 2008), incorporating updates in *CPT and SPT Based Liquefaction Triggering Procedures* (Boulanger and Idriss, 2014), and in accordance with CDMG Special Publication 117A guidelines (CDMG, 2008) for quantitative analysis, these layers were analyzed for liquefaction triggering and potential post-liquefaction settlement. These methods compare the ratio of the estimated cyclic shaking (Cyclic Stress Ratio - CSR) to the soil's estimated resistance to cyclic shaking (Cyclic Resistance Ratio - CRR), providing a factor of safety against liquefaction triggering. Factors of safety less than or equal to 1.3 are considered to be potentially liquefiable and capable of post-liquefaction re-consolidation (i.e. settlement).

The CSR for each layer quantifies the stresses anticipated to be generated due to a design-level seismic event, is based on the peak horizontal acceleration generated at the ground surface discussed in the “Estimated Ground Shaking” section above, and is corrected for overburden and stress reduction factors as discussed in the procedure developed by Seed and Idriss (1971) and updated in the 2008 Idriss and Boulanger monograph.

The soil's CRR is estimated from the in-situ measurements from CPTs and laboratory testing on samples retrieved from our borings. SPT “N” values obtained from hollow-stem auger borings

were not used in our analyses, as the “N” values obtained are less reliable in sands below groundwater. The tip pressures are corrected for effective overburden stresses, taking into consideration both the groundwater level at the time of exploration and the design groundwater level, and stress reduction versus depth factors. The CPT method utilizes the soil behavior type index (I_c) to estimate the plasticity of the layers.

The results of our CPT analyses (CPT-1 through CPT-10) are presented on Figures 4A through 4J of this report. Calculations for these CPTs are attached as Appendix C.

4.3.3 Summary

Our analyses indicate that several layers could potentially experience liquefaction triggering that could result in post-liquefaction total settlement based on the Yoshimine (2006) method. Table 3 summarizes estimated total post-liquefaction settlements for one-, two-, and three-levels below-grade. As discussed in SP 117A, differential movement for level ground sites over deep soil sites will be up to about two-thirds of the total settlement between independent foundation elements.

Table 3: Estimated Total and Differential Settlements

Conditions	Total Liquefaction Settlement (inches)	Differential Liquefaction Settlement (inches)
Below One-Level Basement (15 feet)	$\frac{1}{3}$ to 4	$2\frac{2}{3}$
Below Two-Level Basement (25 feet)	$\frac{1}{3}$ to $3\frac{1}{3}$	$2\frac{1}{4}$
Below Three-Level Basement (35 feet)	0 to $2\frac{2}{3}$	$1\frac{3}{4}$

4.3.4 Ground Rupture Potential

The methods used to estimate liquefaction settlements assume that there is a sufficient cap of non-liquefiable material to prevent ground rupture or sand boils. For ground rupture to occur, the pore water pressure within the liquefiable soil layer will need to be great enough to break through the overlying non-liquefiable layer, which could cause significant ground deformation and settlement. The work of Youd and Garriss (1995) indicates that the 10-foot thick layer of non-liquefiable cap is not sufficient to prevent ground rupture at CPT-5 and CPT-7 and therefore there is the potential for additional ground deformation and settlements in addition to the above stated liquefaction settlements for at-grade improvements.

For a building with a below-grade basement excavation depth less than about 33 feet, the layers of liquefiable soils with the potential to cause ground rupture would extend beneath the bottom of the excavation. Therefore, ground rupture could affect the proposed structure if the bottom of basement excavation has a depth less than 33 feet and the above liquefaction settlements could be greater than those listed above.

If the below-grade basement excavation extends a minimum of 25 feet beneath the surface, the liquefiable soils with the potential to cause ground rupture are above the bottom of the basement. Therefore, ground rupture would not affect the proposed structure and the above liquefaction settlements beneath the bottom of the basement are reasonable provided the basement extends a minimum of 33 feet beneath the surface.

4.4 LATERAL SPREADING

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. As failure tends to propagate as block failures, it is difficult to analyze and estimate where the first tension crack will form.

There are no open faces within a distance considered susceptible to lateral spreading; therefore, in our opinion, the potential for lateral spreading to affect the site is low.

4.5 SEISMIC SETTLEMENT/UNSATURATED SAND SHAKING

Loose unsaturated sandy soils can settle during strong seismic shaking. We evaluated the potential for seismic compaction of the unsaturated loose sand layers based on the work by Pradell (1998). Our analyses indicate that these layers could experience up to $\frac{3}{4}$ inch of movement after strong seismic shaking. Settlement of these layers would only be expected to effect surface improvements.

4.6 TSUNAMI/SEICHE

The terms tsunami or seiche are described as ocean waves or similar waves usually created by undersea fault movement or by a coastal or submerged landslide. Tsunamis may be generated at great distance from shore (far field events) or nearby (near field events). Waves are formed, as the displaced water moves to regain equilibrium, and radiates across the open water, similar to ripples from a rock being thrown into a pond. When the waveform reaches the coastline, it quickly raises the water level, with water velocities as high as 15 to 20 knots. The water mass, as well as vessels, vehicles, or other objects in its path create tremendous forces as they impact coastal structures.

Tsunamis have affected the coastline along the Pacific Northwest during historic times. The Fort Point tide gauge in San Francisco recorded approximately 21 tsunamis between 1854 and 1964. The 1964 Alaska earthquake generated a recorded wave height of 7.4 feet and drowned eleven people in Crescent City, California. For the case of a far-field event, the Bay area would have hours of warning; for a near field event, there may be only a few minutes of warning, if any.

A tsunami or seiche originating in the Pacific Ocean would lose much of its energy passing through San Francisco Bay. Based on the study of tsunami inundation potential for the San Francisco Bay Area (Ritter and Dupre, 1972), areas most likely to be inundated are marshlands,

tidal flats, and former bay margin lands that are now artificially filled, but are still at or below sea level, and are generally within 1½ miles of the shoreline. The site is approximately 11 miles inland from the San Francisco Bay shoreline, and is approximately 90 to 95 feet above mean sea level. Additionally, the site is also located outside of the tsunami inundation area, according to the Tsunami Inundation Maps for Emergency Planning by the California Geologic Survey. Therefore, the potential for inundation due to tsunami or seiche is considered low.

4.7 FLOODING

Based on our internet search of the Federal Emergency Management Agency (FEMA) flood map public database, the site is located within Zone D, an area of undetermined, but possible flood hazard. We recommend the project civil engineer be retained to confirm this information and verify the base flood elevation, if appropriate.

SECTION 5: CONCLUSIONS

5.1 SUMMARY

From a geotechnical viewpoint, the project is feasible provided the concerns listed below are addressed in the project design. Descriptions of each concern with brief outlines of our recommendations follow the listed concerns.

- Potential for significant static settlement
- Potential for liquefaction-induced settlements
- Proximity of basement excavation to adjacent improvements
- Dewatering considerations
- Wet, unstable excavation subgrade
- Shoring considerations for the below-grade excavation
- Hydrostatic pressure and uplift
- Differential movement at on-grade to on-structure transitions

5.1.1 Potential for Significant Static Settlement

We evaluated immediate and long-term consolidation settlement due to static building loads using estimated interior column loading of about 3,000 kips. For a rigid mat foundation, total static settlement was estimated to range up to approximately 19, 14, and 12 inches for one-level below grade, two levels below grade, and three levels below grade, respectively.

5.1.2 Potential for Liquefaction-Induced Settlements

As discussed, our liquefaction analysis indicates that there is a potential for liquefaction of localized sand layers during a significant seismic event. Although the potential for liquefied sands to vent to the ground surface through cracks in the surficial soils is considered low, our analysis indicates that liquefaction-induced settlement up to 4 inches could occur, resulting in differential settlement up to 2 $\frac{2}{3}$ inches. Based on the above, and to mitigate the combined total and differential seismic and static settlements, we recommend the structure be supported on reinforced concrete mat foundations over ground improvement or on deep foundations. Detailed foundation recommendations are presented in the “Foundations” section.

5.1.3 Proximity of Basement Excavation to Adjacent Improvements

We anticipate that excavations for the basement excavation will extend between 15 to 35 feet below the existing ground surface and within 10 feet or less of adjacent property lines. Design of shoring should incorporate surcharge loads from adjacent improvements.

5.1.4 Dewatering Considerations

Historic high groundwater levels are mapped at a depth of approximately 10 feet below current grades (CGS, San Jose West 7.5-Minute Quadrangle, 2002) in the site area. During our exploration groundwater was encountered at the site at depths ranging from approximately 14 to 29 feet below the existing ground surface. Our experience with similar sites in the vicinity indicates that groundwater could significantly impact underground construction. These impacts typically consist of potentially wet and unstable subgrade, difficulty achieving compaction, and difficult underground utility installation. Dewatering and shoring of utility trenches may be required in some isolated areas of the site. Detailed recommendations addressing this concern are presented in the “Earthwork” section of this report.

5.1.5 Wet, Unstable Excavation Subgrade Soil

The proposed excavation will extend into saturated clay and sand with varying strength. Due to the high moisture content of this material, it will likely be unstable under the weight of track-mounted or rubber-tired construction equipment. To provide a firm working base for construction of the foundation, it may be necessary to remove an additional approximately 12 to 18 inches of native soil below the foundation level and replace it with a bridging layer, such as crushed rock. Otherwise, a layer of lean cement-sand slurry (“rat slab”) may be considered or a combination of the two. Temporary dewatering to a depth of at least 5 feet below the bottom of the building excavation is recommended during construction.

5.1.6 Shoring Considerations for the Below-Grade Excavation

An excavation ranging from 15 to 35 feet deep is expected for the below-grade parking garage. The primary considerations in selecting a suitable shoring system typically include 1) control of vertical and lateral ground surface or wall movements, 2) constructability, 3) dewatering, and 4)

cost. There are several possible methods of providing lateral support for the excavation. Additional recommendations can be provided once the shoring method has been determined.

5.1.7 Hydrostatic Pressure and Uplift

We anticipate that the groundwater levels may be as high as 10 feet below current grades. Based on our CPT pore dissipation test measurements, groundwater was inferred at the site as shallow as 14 feet below current grades and encountered in our borings as shallow as 16 feet below current grades. Based on the above, the below-grade garage slab will need to be designed to resist uplift forces resulting from hydrostatic pressures, the basement walls designed to resist hydrostatic pressure, and the entire structure checked for uplift loading. Based on the design groundwater level and the estimated bottom of the basement excavation, a hydrostatic pressure would need to be considered for uplift resistance design by the project structural engineer.

5.1.8 Differential Movement at On-grade to On-Structure Transitions

We anticipate surface improvements will transition from on-grade support to overlying the garage levels. Where the garage-level walls extend to within inches of finished grade, these transition areas typically experience increased differential movement due to a variety of causes, including difficulty in achieving compaction of retaining wall backfill closest to the wall. If surface improvements are included that are highly sensitive to differential movement, additional measures should be considered, such as doweling to the structure, additional reinforcing, or reduced construction and control joint spacing for concrete flatwork.

5.2 PLANS AND SPECIFICATIONS REVIEW

We recommend that we be retained to review the geotechnical aspects of the project structural, civil, and landscape plans and specifications, allowing sufficient time to provide the design team with any comments prior to issuing the plans for construction.

5.3 CONSTRUCTION OBSERVATION AND TESTING

As site conditions may vary significantly between the small-diameter borings performed during this investigation, we also recommend that a Cornerstone representative be present to provide geotechnical observation and testing during earthwork and foundation construction. This will allow us to form an opinion and prepare a letter at the end of construction regarding contractor compliance with project plans and specifications, and with the recommendations in our report. We will also be allowed to evaluate any conditions differing from those encountered during our investigation, and provide supplemental recommendations as necessary. For these reasons, the recommendations in this report are contingent of Cornerstone providing observation and testing during construction. Contractors should provide at least a 48-hour notice when scheduling our field personnel.

SECTION 6: EARTHWORK

6.1 SITE DEMOLITION

All existing improvements not to be reused for the current development, including all foundations, flatwork, pavements, utilities, and other improvements should be demolished and removed from the site. Recommendations in this section apply to the removal of these improvements, which are currently present on the site, prior to the start of mass grading or the construction of new improvements for the project.

Cornerstone should be notified prior to the start of demolition, and should be present on at least a part-time basis during all backfill and mass grading as a result of demolition. Occasionally, other types of buried structures (wells, cisterns, debris pits, etc.) can be found on sites with prior development. If encountered, Cornerstone should be contacted to address these types of structures on a case-by-case basis.

6.1.1 Demolition of Existing Slabs, Foundations and Pavements

All slabs, foundations, and pavements should be completely removed from within planned building areas.

As an owner value-engineered option, existing slabs, foundations, and pavements that extend into planned flatwork, pavement, or landscape areas may be left in place provided there is at least 3 feet of engineered fill overlying the remaining materials, they are shown not to conflict with new utilities, and that asphalt and concrete more than 10 feet square is broken up to allow subsurface drainage. Future distress and/or higher maintenance may result from leaving these prior improvements in place. A discussion of recycling existing improvements is provided later in this report.

Existing foundations are typically mat-slabs, shallow footings, or piers/piles. If slab or shallow footings are encountered, they should be completely removed. If drilled piers are encountered, they should be cut off at an elevation at least 60 inches below proposed footings or the final subgrade elevation, whichever is deeper. The remainder of the drilled pier could remain in place. Foundation elements to remain in place should be surveyed and superimposed on the proposed development plans to determine the potential for conflicts or detrimental impacts to the planned construction. Following review, additional mitigation or planned foundation elements may need to be modified.

6.1.2 Abandonment of Existing Utilities

All utilities should be completely removed from within planned building areas. For any utility line to be considered acceptable to remain within building areas, the utility line must be completely backfilled with grout or sand-cement slurry (sand slurry is not acceptable), the ends outside the building area capped with concrete, and the trench fills either removed and replaced as engineered fill with the trench side slopes flattened to at least 1:1, or the trench fills are

determined not to be a risk to the structure. The assessment of the level of risk posed by the particular utility line will determine whether the utility may be abandoned in place or needs to be completely removed. The contractor should assume that all utilities will be removed from within building areas unless provided written confirmation from both the owner and the geotechnical engineer.

Utilities extending beyond the building area may be abandoned in place provided the ends are plugged with concrete, they do not conflict with planned improvements, and that the trench fills do not pose significant risk to the planned surface improvements.

The risk for owners associated with abandoning utilities in place include the potential for future differential settlement of existing trench fills, and/or partial collapse and potential ground loss into utility lines that are not completely filled with grout.

6.2 SITE CLEARING AND PREPARATION

6.2.1 Site Stripping

The site should be stripped of all surface vegetation, and surface and subsurface improvements to be removed within the proposed development area. Demolition of existing improvements is discussed in the prior paragraphs. A detailed discussion of removal of existing fills is provided later in this report. Although not currently present, if vegetation is encountered, it should be stripped to a sufficient depth to remove all material greater than 3 percent organic content by weight.

6.2.2 Tree and Shrub Removal

Trees and shrubs designated for removal should have the root balls and any roots greater than ½-inch diameter removed completely. Mature trees are estimated to have root balls extending to depths of 2 to 4 feet, depending on the tree size. Significant root zones are anticipated to extend to the diameter of the tree canopy. Grade depressions resulting from root ball removal should be cleaned of loose material and backfilled in accordance with the recommendations in the "Compaction" section of this report.

6.3 REMOVAL OF EXISTING FILLS

Undocumented fills will likely be completely removed from the building footprint during excavation for the below-grade parking garage, and no additional fill removal will be required. Provided the fills meet the "Material for Fill" requirements below, the fills may be reused when backfilling excavations. Based on review of the samples collected from our borings, it appears that the fill may be reused. If materials are encountered that do not meet the requirements, such as debris, wood, trash, those materials should be screened out of the remaining material and be removed from the site. Backfill of excavations should be placed in lifts and compacted in accordance with the "Compaction" section below.

Fills extending into planned pavement and flatwork areas may be left in place provided they are determined to be a low risk for future differential settlement and that the upper 12 to 18 inches of fill below pavement subgrade is re-worked and compacted as discussed in the “Compaction” section below.

6.4 TEMPORARY CUT AND FILL SLOPES

The contractor is responsible for maintaining all temporary slopes and providing temporary shoring where required. Temporary shoring, bracing, and cuts/fills should be performed in accordance with the strictest government safety standards. On a preliminary basis, the upper 30 feet at the site may be classified as OSHA Site C materials. Recommended soil parameters for temporary shoring are provided in the “Temporary Shoring” section of this report.

Excavations performed during site demolition and fill removal should be sloped at 3:1 (horizontal:vertical) within the upper 5 feet below building subgrade. Excavations extending more than 5 feet below building subgrade and excavations in pavement and flatwork areas should be sloped at a 1:1 inclination unless the OSHA soil classification indicates that slope should not exceed 1.5:1.

6.5 BELOW-GRADE EXCAVATIONS

Below-grade excavations may be constructed with temporary slopes in accordance with the “Temporary Cut and Fill Slopes” section above if space allows. Alternatively, temporary shoring may support the planned cuts. We have provided geotechnical parameters for shoring design in the section below. The choice of shoring method should be left to the contractor’s judgment based on experience, economic considerations and adjacent improvements such as utilities, pavements, and foundation loads. Temporary shoring should support adjacent improvements without distress and should be the contractor’s responsibility. A pre-condition survey including photographs and installation of monitoring points for existing site improvements should be included in the contractor’s scope. We should be provided the opportunity to review the geotechnical parameters of the shoring design prior to implementation; the project structural engineer should be consulted regarding support of adjacent structures.

6.5.1 Temporary Shoring

Based on the site conditions encountered during our investigation, the cuts may be supported by soldier beams and tie-backs, braced excavations, or potentially other methods. Where shoring will extend more than about 10 feet, restrained shoring will most likely be required to limit detrimental lateral deflections and settlement behind the shoring. In addition to soil earth pressures, the shoring system will need to support adjacent loads such as construction vehicles and incidental loading, existing structure foundation loads, and street loading. We recommend that heavy construction loads (cranes, etc.) and material stockpiles be kept at least 15 feet behind the shoring. Where this loading cannot be set back, the shoring will need to be designed to support the loading. The shoring designer should provide for timely and uniform mobilization of soil pressures that will not result in excessive lateral deflections. Minimum suggested geotechnical parameters for shoring design are provided in Table 4.

Table 4: Suggested Temporary Shoring Design Parameters

Design Parameter	Design Value
Minimum Lateral Wall Surcharge (upper 5 feet)	120 psf
Cantilever Wall – Triangular Earth Pressure	40 pcf
Restrained Wall – Trapezoidal Earth Pressure	Increase from 0 to 25H* psf
Passive Pressure – Starting at 2 feet below the bottom of the excavation	350 pcf up to 1,400 psf maximum uniform pressure

* H equals the height of the excavation; passive pressures are assumed to act over twice the soldier pile diameter

The restrained earth pressure may also be distributed as described in Figure 24 of the *FHWA Circular No. 4 – Ground Anchors and Anchored Systems* (with the hinge points at $\frac{1}{4}H$ and $\frac{3}{4}H$) provided the total pressure is established from the uniform pressure above.

If shotcrete lagging is used for the shoring facing, the permanent retaining wall drainage materials, as discussed in the “Wall Drainage” section of this report, will need to be installed during temporary shoring construction. At a minimum, 2-foot-wide vertical panels should be placed between soil nails or tiebacks that are spaced at 6-foot centers. For 8-foot centers, 4-foot-wide vertical panels should be provided. A horizontal strip drain connecting the vertical panels should be provided, or pass-through connections should be included for each vertical panel.

We performed our borings with hollow-stem auger drilling equipment and as such were not able to evaluate the potential for caving soils, which can create difficult conditions during soldier beam, tie-back, or soil nail installation; caving soils can also be problematic during excavation and lagging placement. The contractor is responsible for evaluating excavation difficulties prior to construction. Where relatively clean sands (especially encountered below groundwater) or difficult drilling or cobble conditions were encountered during our exploration, pilot holes performed by the contractor may be desired to further evaluate these conditions prior to the finalization of the shoring budget.

In addition to anticipated deflection of the shoring system, other factors such as voids created by soil sloughing, and erosion of granular layers due to perched water conditions can create adverse ground subsidence and deflections. The contractor should attempt to cut the excavation as close to neat lines as possible; where voids are created they should be backfilled as soon as possible with sand, gravel, or grout.

As previously mentioned, we recommend that a monitoring program be developed and implemented to evaluate the effects of the shoring on adjacent improvements. All sensitive improvements should be located and monitored for horizontal and vertical deflections and distress cracking based on a pre-construction survey. For multi-level excavations, the installation of inclinometers at critical areas may be desired for more detailed deflection monitoring. The monitoring frequency should be established and agreed to by the project team prior to start of shoring construction.

The above recommendations are for the use of the design team; the contractor in conjunction with input from the shoring designer should perform additional subsurface exploration they deem necessary to design the chosen shoring system. A California-licensed civil or structural engineer must design and be in responsible charge of the temporary shoring design. The contractor is responsible for means and methods of construction, as well as site safety.

6.5.2 Construction Dewatering

Groundwater levels could rise, based on historic data, to as high as about 5 to 25 feet above the planned excavation bottom, depending on the time of year of construction; therefore, temporary dewatering may be necessary during construction. If needed, design, selection of the equipment and dewatering method, and construction of temporary dewatering should be the responsibility of the contractor. Modifications to the dewatering system are often required in layered alluvial soils and should be anticipated by the contractor. The dewatering plan, including planned dewatering well filter pack materials, should be forwarded to our office for review prior to implementation.

The dewatering design should maintain groundwater at least 5 feet below the bottom of the mass excavation, and at least 2 feet below localized excavations such as deepened footings, elevator shafts, and utilities. If the dewatering system was to shut down for an extended period of time, destabilization and/or heave of the excavation bottom requiring over-excavation and stabilization, flooding and softening, and/or shoring failures could occur; therefore, we recommend that a backup power source be considered.

Temporary draw down of the groundwater table can cause the subsidence outside the excavation area, causing settlement of adjacent improvements. As a draw down of approximately 10 feet could be required to a depth of about 30 feet below the surface at well points, we evaluated the potential deflection of existing improvements. We estimate that there could be up to $\frac{3}{4}$ inch of settlement, with most of the settlement occurring near well points, diminishing the distance from the well points. If this settlement is deemed excessive, we recommend alternative shoring methods such as tied back slurry walls or soil mixed curtain walls be considered.

Depending on the groundwater quality and previous environmental impacts to the site and surrounding area, settlement and storage tanks, particulate filtration, and environmental testing may be required prior to discharge, either into storm or sanitary, or trucked to an off-site facility.

6.6 SUBGRADE PREPARATION

After site clearing and demolition is complete, and prior to backfilling any excavations resulting from fill removal or demolition, the excavation subgrade and subgrade within areas to receive additional site fills, slabs-on-grade and/or pavements should be scarified to a depth of 6 inches, moisture conditioned, and compacted in accordance with the "Compaction" section below.

The subgrade for any slab or mat foundation extending to or below ground water (i.e. the basement level) should generally be cut to the desired grades, including the thickness for any subgrade stabilization, as discussed below.

6.7 SUBGRADE STABILIZATION MEASURES

Soil subgrade and fill materials, especially soils with high fines contents such as clays and silty soils, can become unstable due to high moisture content, whether from high in-situ moisture contents or from winter rains. As the moisture content increases over the laboratory optimum, it becomes more likely the materials will be subject to softening and yielding (pumping) from construction loading or become unworkable during placement and compaction.

As discussed in the “Subsurface” section in this report, the in-situ moisture contents are up to 20 percent over the estimated laboratory optimum in the upper 30 feet of the soil profile. The contractor should anticipate drying the soils prior to reusing them as fill. In addition, repetitive rubber-tire loading will likely de-stabilize the soils.

Even presuming that temporary dewatering will be included for the below-grade parking garage excavation, the soils above the depressed water table can be wet and difficult to work with.

There are several methods to address potential unstable soil conditions and facilitate fill placement and trench backfill. Some of the methods are briefly discussed below. Implementation of the appropriate stabilization measures should be evaluated on a case-by-case basis according to the project construction goals and the particular site conditions.

6.7.1 Removal and Replacement

As an alternative to scarification, the contractor may choose to over-excavate the unstable soils and replace them with dry on-site or import materials. A Cornerstone representative should be present to provide recommendations regarding the appropriate depth of over-excavation, whether a geosynthetic (stabilization fabric or geogrid) is recommended, and what materials are recommended for backfill.

6.7.2 Chemical Treatment

Where the unstable area exceeds about 5,000 to 10,000 square feet and/or site winterization is desired, chemical treatment with quicklime (CaO), kiln-dust, or cement may be more cost-effective than removal and replacement. Recommended chemical treatment depths will typically range from 12 to 18 inches depending on the magnitude of the instability.

6.7.3 Scarification and Drying

For at-grade improvements subgrade may be scarified to a depth of 12 to 18 inches and allowed to dry to near optimum conditions, if sufficient dry weather is anticipated to allow sufficient drying. More than one round of scarification may be needed to break up the soil clods.

6.7.4 Below-Grade Excavation Stabilization

As the planned basement excavation will extend below the current groundwater level, we recommend that the contractor plan to excavate an additional 12 to 18 inches below subgrade, place a layer of stabilization fabric (Mirafi RS380i, or equivalent) at the bottom, and backfill with clean, crushed rock. The crushed rock should be consolidated in place with light vibratory equipment. Rubber-tire equipment should not be allowed to operate on the exposed subgrade; the crushed rock should be stockpiled and pushed out over the stabilization fabric.

6.8 MATERIAL FOR FILL

6.8.1 Re-Use of On-site Soils

On-site soils with an organic content less than 3 percent by weight may be reused as general fill. General fill should not have lumps, clods or cobble pieces larger than 6 inches in diameter; 85 percent of the fill should be smaller than 2½ inches in diameter. Minor amounts of oversize material (smaller than 12 inches in diameter) may be allowed provided the oversized pieces are not allowed to nest together and the compaction method will allow for loosely placed lifts not exceeding 12 inches.

6.8.2 Re-Use of On-Site Site Improvements

Asphalt concrete (AC) grindings and aggregate base (AB) may be generated during site demolition. If the AC grindings are mixed with the underlying AB to meet Class 2 AB specifications, they may be reused within the new pavement and flatwork structural sections. AC/AB grindings may not be reused within the building areas. Laboratory testing will be required to confirm the grindings meet project specifications.

6.8.3 Potential Import Sources

Imported and non-expansive material should be inorganic with a Plasticity Index (PI) of 15 or less, and not contain recycled asphalt concrete where it will be used within the structure's footprint. To prevent significant caving during trenching or foundation construction, imported material should have sufficient fines. Samples of potential import sources should be delivered to our office at least 10 days prior to the desired import start date. Information regarding the import source should be provided, such as any site geotechnical reports. If the material will be derived from an excavation rather than a stockpile, potholes will likely be required to collect samples from throughout the depth of the planned cut that will be imported. At a minimum, laboratory testing will include PI tests. Material data sheets for select fill materials (Class 2 aggregate base, ¾-inch crushed rock, quarry fines, etc.) listing current laboratory testing data (not older than 6 months from the import date) may be provided for our review without providing a sample. If current data is not available, specification testing will need to be completed prior to approval.

Environmental and soil corrosion characterization should also be considered by the project team prior to acceptance. Suitable environmental laboratory data to the planned import quantity

should be provided to the project environmental consultant; additional laboratory testing may be required based on the project environmental consultant's review. The potential import source should also not be more corrosive than the on-site soils, based on pH, saturated resistivity, and soluble sulfate and chloride testing.

6.9 COMPACTION REQUIREMENTS

All fills, and subgrade areas where fill, slabs-on-grade, and pavements are planned, should be placed in loose lifts 8 inches thick or less and compacted in accordance with ASTM D1557 (latest version) requirements as shown in the table below. In general, clayey soils should be compacted with sheepsfoot equipment and sandy/gravelly soils with vibratory equipment; open-graded materials such as crushed rock should be placed in lifts no thicker than 18 inches consolidated in place with vibratory equipment. Each lift of fill and all subgrade should be firm and unyielding under construction equipment loading in addition to meeting the compaction requirements to be approved. The contractor (with input from a Cornerstone representative) should evaluate the in-situ moisture conditions, as the use of vibratory equipment on soils with high moistures can cause unstable conditions. General recommendations for soil stabilization are provided in the "Subgrade Stabilization Measures" section of this report.

Table 5: Compaction Requirements

Description	Material Description	Minimum Relative ¹ Compaction (percent)	Moisture ² Content (percent)
General Fill (within upper 5 feet)	On-Site Soils	90	>1
General Fill (below a depth of 5 feet)	On-Site Soils	95	>1
Basement Wall Backfill	Without Surface Improvements	90	>1
Basement Wall Backfill	With Surface Improvements	95 ⁴	>1
Trench Backfill	On-Site Soils	90	>1
Trench Backfill (upper 6 inches of subgrade)	On-Site Soils	95	>1
Crushed Rock Fill	¾-inch Clean Crushed Rock	Consolidate In-Place	NA
Non-Expansive Fill	Imported Non-Expansive Fill	90	Optimum
Flatwork Subgrade	On-Site Soils	90	>1
Flatwork Aggregate Base	Class 2 Aggregate Base ³	90	Optimum
Pavement Subgrade	On-Site Soils	95	>1
Pavement Aggregate Base	Class 2 Aggregate Base ³	95	Optimum
Asphalt Concrete	Asphalt Concrete	95	NA

1 – Relative compaction based on maximum density determined by ASTM D1557 (latest version)

2 – Moisture content based on optimum moisture content determined by ASTM D1557 (latest version)

3 – Class 2 aggregate base shall conform to Caltrans Standard Specifications, latest edition, except that the relative compaction should be determined by ASTM D1557 (latest version)

4 – Using light-weight compaction or walls should be braced

6.10 TRENCH BACKFILL

Utility lines constructed within public right-of-way should be trenched, bedded and shaded, and backfilled in accordance with the local or governing jurisdictional requirements. Utility lines in private improvement areas should be constructed in accordance with the following requirements unless superseded by other governing requirements.

All utility lines should be bedded and shaded to at least 6 inches over the top of the lines with crushed rock (¾-inch-diameter or greater) or well-graded sand and gravel materials conforming to the pipe manufacturer's requirements. Open-graded shading materials should be consolidated in place with vibratory equipment and well-graded materials should be compacted to at least 90 percent relative compaction with vibratory equipment prior to placing subsequent backfill materials.

General backfill over shading materials may consist of on-site native materials provided they meet the requirements in the "Material for Fill" section, and are moisture conditioned and compacted in accordance with the requirements in the "Compaction" section.

Where utility lines will cross perpendicular to strip footings, the footing should be deepened to encase the utility line, providing sleeves or flexible cushions to protect the pipes from anticipated foundation settlement, or the utility lines should be backfilled to the bottom of footing with sand-cement slurry or lean concrete. Where utility lines will parallel footings and will extend below the "foundation plane of influence," an imaginary 1:1 plane projected down from the bottom edge of the footing, either the footing will need to be deepened so that the pipe is above the foundation plane of influence or the utility trench will need to be backfilled with sand-cement slurry or lean concrete within the influence zone. Sand-cement slurry used within foundation influence zones should have a minimum compressive strength of 75 psi.

6.11 SITE DRAINAGE

Ponding should not be allowed adjacent to building foundations, slabs-on-grade, or pavements. Hardscape surfaces should slope at least 2 percent towards suitable discharge facilities; landscape areas should slope at least 3 percent towards suitable discharge facilities. Roof runoff should be directed away from building areas in closed conduits, to approved infiltration facilities, or on to hardscaped surfaces that drain to suitable facilities. Retention, detention or infiltration facilities should be spaced at least 10 feet from buildings, and preferably at least 5 feet from slabs-on-grade or pavements. However, if retention, detention or infiltration facilities are located within these zones, we recommend that these treatment facilities meet the requirements in the Storm Water Treatment Design Considerations section of this report.

6.12 LOW-IMPACT DEVELOPMENT (LID) IMPROVEMENTS

The Municipal Regional Permit (MRP) requires regulated projects to treat 100 percent of the amount of runoff identified in Provision C.3.d from a regulated project's drainage area with low impact development (LID) treatment measures onsite or at a joint stormwater treatment facility. LID treatment measures are defined as rainwater harvesting and use, infiltration,

evapotranspiration, or biotreatment. A biotreatment system may only be used if it is infeasible to implement harvesting and use, infiltration, or evapotranspiration at a project site.

Technical infeasibility of infiltration may result from site conditions that restrict the operability of infiltration measures and devices. Various factors affecting the feasibility of infiltration treatment may create an environmental risk, structural stability risk, or physically restrict infiltration. The presence of any of these limiting factors may render infiltration technically infeasible for a proposed project. To aid in determining if infiltration may be feasible at the site, we provide the following site information regarding factors that may aid in determining the feasibility of infiltration facilities at the site.

- The near-surface soils at the site are clayey, and categorized as Hydrologic Soil Group D and are expected to have infiltration rates of less than 0.2 inches per hour. In our opinion, these clayey soils will significantly limit the infiltration of stormwater.
- Locally, seasonal high groundwater is mapped at a depth of 10 feet, and therefore is expected to be within 10 feet of the base of the infiltration measure.
- No groundwater production wells are within 100 feet of potential locations for infiltration facilities.
- In our opinion, infiltration locations within 10 feet of the buildings would create a geotechnical hazard.
- Infiltration measures, devices, or facilities may conflict with the location of existing or proposed underground utilities or easements. Infiltration measures, devices, or facilities should not be placed on top of or very near to underground utilities such that they discharge to the utility trench, restrict access, or cause stability concerns.
- Local Water District policies or guidelines may limit locations where infiltration may occur, require greater separation from seasonal high groundwater, or require greater setbacks from potential sources of pollution.

6.12.1 Storm Water Treatment Design Considerations

If storm water treatment improvements, such as shallow bio-retention swales, basins or pervious pavements, are required as part of the site improvements to satisfy Storm Water Quality (C.3) requirements, we recommend the following items be considered for design and construction.

6.12.1.1 General Bioswale Design Guidelines

- If possible, avoid placing bioswales or basins within 10 feet of the building perimeter or within 5 feet of exterior flatwork or pavements. If bioswales must be constructed within these setbacks, the side(s) and bottom of the trench excavation should be lined with 10-mil visqueen to reduce water infiltration into the surrounding expansive clay.

- Bioswales constructed within 3 feet of proposed buildings may be within the foundation zone of influence for perimeter wall loads. Therefore, where bioswales will parallel foundations and will extend below the “foundation plane of influence,” an imaginary 1:1 plane projected down from the bottom edge of the foundation, the foundation will need to be deepened so that the bottom edge of the bioswale filter material is above the foundation plane of influence.
- The bottom of bioswale or detention areas should include a perforated drain placed at a low point, such as a shallow trench or sloped bottom, to reduce water infiltration into the surrounding soils near structural improvements, and to address the low infiltration capacity of the on-site clay soils.

6.12.1.2 Bioswale Infiltration Material

- Gradation specifications for bioswale filter material, if required, should be specified on the grading and improvement plans.
- Compaction requirements for bioswale filter material in non-landscaped areas or in pervious pavement areas, if any, should be indicated on the plans and specifications to satisfy the anticipated use of the infiltration area.
- If required, infiltration (percolation) testing should be performed on representative samples of potential bioswale materials prior to construction to check for general conformance with the specified infiltration rates.
- It should be noted that multiple laboratory tests may be required to evaluate the properties of the bioswale materials, including percolation, landscape suitability and possibly environmental analytical testing depending on the source of the material. We recommend that the landscape architect provide input on the required landscape suitability tests if bioswales are to be planted.
- If bioswales are to be vegetated, the landscape architect should select planting materials that do not reduce or inhibit the water infiltration rate, such as covering the bioswale with grass sod containing a clayey soil base.
- If required by governing agencies, field infiltration testing should be specified on the grading and improvement plans. The appropriate infiltration test method, duration and frequency of testing should be specified in accordance with local requirements.
- Due to the relatively loose consistency and/or high organic content of many bioswale filter materials, long-term settlement of the bioswale medium should be anticipated. To reduce initial volume loss, bioswale filter material should be wetted in 12 inch lifts during placement to pre-consolidate the material. Mechanical compaction should not be allowed, unless specified on the grading and improvement plans, since this could significantly decrease the infiltration rate of the bioswale materials.

- It should be noted that the volume of bioswale filter material may decrease over time depending on the organic content of the material. Additional filter material may need to be added to bioswales after the initial exposure to winter rains and periodically over the life of the bioswale areas, as needed.

6.12.1.3 Bioswale Construction Adjacent to Pavements

If bio-infiltration swales or basins are considered adjacent to proposed parking lots or exterior flatwork, we recommend that mitigative measures be considered in the design and construction of these facilities to reduce potential impacts to flatwork or pavements. Exterior flatwork, concrete curbs, and pavements located directly adjacent to bio-swales may be susceptible to settlement or lateral movement, depending on the configuration of the bioswale and the setback between the improvements and edge of the swale. To reduce the potential for distress to these improvements due to vertical or lateral movement, the following options should be considered by the project civil engineer:

- Improvements should be setback from the vertical edge of a bioswale such that there is at least 1 foot of horizontal distance between the edge of improvements and the top edge of the bioswale excavation for every 1 foot of vertical bioswale depth, or
- Concrete curbs for pavements, or lateral restraint for exterior flatwork, located directly adjacent to a vertical bioswale cut should be designed to resist lateral earth pressures in accordance with the recommendations in the “Retaining Walls” section of this report, or concrete curbs or edge restraint should be adequately keyed into the native soil or engineered to reduce the potential for rotation or lateral movement of the curbs.

SECTION 7: 2019 CBC SEISMIC DESIGN CRITERIA

We developed site-specific design parameters in accordance with Chapter 16, Chapter 18 and Appendix J of the 2019 California Building Code (CBC) and Chapters 11, 12, 20 and 21 and Supplement No. 1 of ASCE 7-16.

7.1 SITE LOCATION AND PROVIDED DATA FOR 2019 CBC SEISMIC DESIGN

The project is located at latitude 37.331160° and longitude -121.886800°, which is based on Google Earth (WGS84) coordinates at the approximate center of the site at 300 South 1st Street in San Jose, California. We have assumed that a Seismic Importance Factor (I_e) of 1.00 has been assigned to the structure in accordance with Table 1.5-2 of ASCE 7-16 for structures classified as Risk Category II. The building period has not been provided by the project structural engineer.

7.2 SITE CLASSIFICATION – CHAPTER 20 OF ASCE 7-16

Code-based site classification and ground motion attenuation relationships are based on the time-weighted average shear wave velocity of the top approximately 100 feet (30 meters) of the soil profile, or V_{S30} .

Shear wave velocity (V_s) measurements were performed while advancing CPT-1, resulting in a time-averaged shear wave velocity for the top 30 meters (V_{s30}) of 699 feet per second (or 213 meters per second). As discussed, due to estimated building loading and soil conditions including high potential seismic settlements, we recommend a structure with a one-, two- or three-level below-grade basement (bottom of foundation at 15 to 35 feet) be supported by a mat foundation supported by ground improvement or deep foundations. Provided ground improvement is performed to densify the soil and mitigate the higher seismic settlements beneath a structure with a basement shallower than about 35 feet beneath the surface, we recommend the site be classified as Soil Classification D, which is described as a “stiff soil” profile. Because we used site specific data from our explorations and laboratory testing, the site class should be considered as “determined” for the purposes of estimating the seismic design parameters from the code outlined below. Our site-specific ground motion hazard analysis considered a V_{s30} of 213 m/s (699 ft/s).

Please be advised if ground improvement is not implemented for the site with a planned one-, two- or three-level below-grade basement, the site and project will fall under the criteria of Site Class F and the seismic design parameters presented in Sections 7.4 through 7.6 of this report will no longer be valid. If the site cannot be classified as Soil Classification D as discussed above, our analysis will have to be revised including a site-specific response analysis (SRA) following Section 21.1 of ASCE 7-16.

7.3 CODE-BASED SEISMIC DESIGN PARAMETERS

Code-based spectral acceleration parameters were determined based on mapped acceleration response parameters adjusted for the specific site conditions. Mapped Risk-Adjusted Maximum Considered Earthquake (MCE_R) spectral acceleration parameters (S_S and S_1) were determined using the ATC Hazards by Location website (<https://hazards.atcouncil.org>).

The mapped acceleration parameters were adjusted for local site conditions based on the average soil conditions for the upper 100 feet (30 meters) of the soil profile. Code-based MCE_R spectral response acceleration parameters adjusted for site effects (S_{MS} and S_{M1}) and design spectral response acceleration parameters (S_{DS} and S_{D1}) are presented in Table 6.

In accordance with Section 11.4.8 of ASCE 7-16, structures on Site Class D sites with mapped 1-second period spectral acceleration (S_1) values greater than or equal to 0.2 require a site-specific ground motion hazard analysis be performed in accordance with Section 21.2 of ASCE 7-16. **Design seismic parameters are presented in Table 9. The values in Table 6 should not be used for design.** Values summarized in Table 6 are only used to determine Seismic Design Category and comparison with minimum code requirements in our site-specific ground motion hazard analysis (Section 7.4 to follow).

Table 6: 2019 CBC Site Categorization and Site Coefficients

Classification/Coefficient	Design Value
Site Class	D
Site Latitude	37.331160°
Site Longitude	-121.886800°
Risk Category	II*
0.2-second Period Mapped Spectral Acceleration ¹ , S_s	1.5
1-second Period Mapped Spectral Acceleration ¹ , S_1	0.6
Short-Period Site Coefficient – F_a	1
Long-Period Site Coefficient – F_v	**null
0.2-second Period, Maximum Considered Earthquake Spectral Response Acceleration Adjusted for Site Effects – S_{MS}	1.5
1-second Period, Maximum Considered Earthquake Spectral Response Acceleration Adjusted for Site Effects – S_{M1}	**null
0.2-second Period, Design Earthquake Spectral Response Acceleration – S_{DS}	1
1-second Period, Design Earthquake Spectral Response Acceleration – S_{D1}	**null
Long-Period Transition – T_L	12
Mapped MCEG Peak Ground Acceleration – PGA	0.553
Site Coefficient – F_{PGA}	1.1
MCEG Mapped Adjusted for Site Effects – PGA_M	0.608

*Assumed, to be confirmed by Structural Engineer

**null – per Section 11.4.8 of ASCE 7-16

7.4 GROUND MOTION HAZARD ANALYSIS

In accordance with Section 11.4.8 of ASCE 7-16, we performed a ground motion hazards analysis (GMHA) in accordance with Chapter 21, Section 21.2 of ASCE 7. Following the methodology outlined in Section 21.2, we evaluated both Probabilistic MCE_R Ground Motions in accordance with Method 1 and Deterministic MCE_R Ground Motions to generate our recommended design response spectrum for the project.

We performed a GMHA in accordance with ASCE 7-16 Chapter 21.2 and 2019 CBC Section 1803.6. Our analyses were performed using the USGS interface Unified Hazard Tool (UHT) based on the UCERF 3 Data Set, Building Seismic Safety Council (BSSC) Scenario Catalog 2014 event set (BSSC 2014), and the 2014 National Seismic Hazard Maps – Source Parameters (NSHMP deterministic event set). Additionally, we utilized the USGS program Response Spectra Plotter with combined models (Combined: WUS 2014 (4.1)).

Our analysis utilized the mean ground motions predicted by four of the Next Generation Attenuation West 2 (NGA-West 2) relationships: Boore-Atkinson (2013), Campbell-Bozognia (2013), Chiou-Youngs (2013), and Abrahamson-Silva (2013). Rotation factors (scale factors)

were determined as specified in ASCE 7-16 Chapter 21, Section 21.2, to calculate the maximum rotated component of ground motions (ASCE, 2016).

7.4.1 Probabilistic MCE_R

We performed a probabilistic seismic hazard analysis (PSHA) in accordance with ASCE 7-16 Section 21.2.1. The probabilistic MCE acceleration response spectrum is defined as the 5 percent damped acceleration response spectrum having a 2 percent probability of exceedance in a 50-year period (2,475-year return period). The probabilistic MCE spectrum was multiplied by Risk Coefficients (C_R) to determine the probabilistic MCE_R . We used Risk Coefficients (C_{R_S} and C_{R_I}) of 0.957 and 0.933, respectively, based on ASCE 7-16 Section 21.2.1.1 - Method 1 and the ATC website. Risk coefficients for the various periods are presented in Table 5, Column 3.

The resulting probabilistic MCE_R is presented on Figure 5 (red line). Spectral ordinates are tabulated in Table 7, Column 6.

7.4.2 Deterministic MCE_R

We performed deterministic seismic hazard analyses in accordance with ASCE 7-16 Section 21.2.2 and ASCE 7-16 Supplement No. 1. The deterministic MCE_R acceleration response spectrum is calculated as the largest 84th percentile ground motion in the direction of maximum horizontal response for each period for characteristic earthquakes on all known active faults within the region. The largest deterministic ground motion for periods 2 seconds or less resulted from a M_w 7.58 earthquake on the Hayward Fault (RC+HN+HS+HE segments), located at a distance of approximately 10.65 km from the site and from a M_w 7.43 earthquake on the Calaveras Fault (CN+CC+CS+CE segments), located at a distance of approximately 12.42 km from the site for periods greater than 2 seconds.

In accordance with Supplement No.1 of ASCE 7-16, when the largest spectral response acceleration of the resulting deterministic ground motion response spectrum is less than $1.5F_a$, then the largest 84th percentile rotated response spectrum (Table 7, Column 4) shall be scaled by a single factor such that the maximum response spectral acceleration equals $1.5F_a$. For Site Classes A, B, C and D, F_a is determined using Table 11.4.1 with the value of S_s taken as 1.5; for Site Class E, F_a shall be taken as 1.0. When the largest spectral response acceleration of the probabilistic ground motion response of 21.2.1 is less than $1.2F_a$, the deterministic ground motion response spectrum does not need to be calculated.

As the largest probabilistic spectral response acceleration was determined to be 1.831 which is greater than $1.2F_a$, where F_a is taken as 1.000 from Table 11.4-1 in ASCE 7-16 Supplement No.1, the 84th percentile rotated response spectrum was calculated as part of the deterministic analyses. The maximum spectral acceleration from the 84th percentile rotated response spectrum was then compared to $1.5F_a$ to determine if a scale factor needed to be applied. The deterministic MCE spectrum are tabulated in Table 7, Column 5. The deterministic MCE_R is presented graphically on Figure 5 (blue line).

7.4.3 Site-Specific MCE_R

The site-specific MCE_R is defined by ASCE 7-16 Section 21.2.3 as the lesser of the deterministic and probabilistic MCE_R 's at each period. Spectral ordinates for the site-specific MCE_R are tabulated in Table 7, Column 7 and shown graphically on Figure 5 (dashed black line).

Table 7: Development of Site-Specific MCE_R Spectrum

Period (seconds)	CBC General Spectrum (g)	Risk Coefficient	Det. 84th Percentile Rotated	Deterministic MCE_R (g)	Probabilistic MCE_R (g)	Site-Specific MCE_R (g)
0.000	0.400	0.957	0.774	0.774	0.962	0.774
0.050	0.550	0.957	0.789	0.789	1.316	0.789
0.100	0.700	0.957	1.159	1.159	1.671	1.159
0.150	0.850	0.957	1.444	1.444	1.935	1.444
0.200	1.000	0.957	1.591	1.591	2.198	1.591
0.250	1.000	0.956	1.699	1.699	2.362	1.699
0.300	1.000	0.954	1.756	1.756	2.526	1.756
0.400	1.000	0.951	1.822	1.822	2.548	1.822
0.500	1.000	0.948	1.831	1.831	2.569	1.831
0.750	1.000	0.941	1.571	1.571	2.191	1.571
1.000	1.000	0.933	1.391	1.391	1.917	1.391
2.000	0.500	0.933	0.817	0.817	1.099	0.817
3.000	0.333	0.933	0.565	0.565	0.753	0.565
4.000	0.250	0.933	0.411	0.411	0.560	0.411
5.000	0.200	0.933	0.319	0.319	0.439	0.319

7.4.4 Design Response Spectrum

The Design Response Spectrum (DRS) is defined in ASCE 7-16 Section 21.3 as two-thirds of the site-specific MCE_R , but not less than 80% of the general design response spectrum. Spectral accelerations corresponding to two-thirds of the MCE_R are tabulated in Table 8, Column 2. Ordinates corresponding to 80% of the general Site Class D response spectrum are tabulated below in Table 8, Column 3. Ordinates of the site-specific DRS are tabulated in Table 8, Column 4. Development of the site-specific DRS is presented graphically on Figure 6 (dashed black line).

Table 8: Development of Site-Specific Design Response Spectrum

Period (seconds)	2/3 Site-Specific MCE _R (g)	80% CBC General Spectrum (g)	Design Response Spectrum (g)
0.000	0.516	0.320	0.516
0.050	0.526	0.440	0.526
0.100	0.773	0.560	0.773
0.150	0.962	0.680	0.962
0.200	1.061	0.800	1.061
0.250	1.132	0.800	1.132
0.300	1.171	0.800	1.171
0.400	1.215	0.800	1.215
0.500	1.220	0.800	1.220
0.750	1.048	0.800	1.048
1.000	0.927	0.800	0.927
2.000	0.545	0.400	0.545
3.000	0.377	0.267	0.377
4.000	0.274	0.200	0.274
5.000	0.212	0.160	0.212

7.5 DESIGN ACCELERATION PARAMETERS

Design acceleration parameters (S_{DS} and S_{D1}) were determined in accordance with Section 21.4 of ASCE 7-16. S_{DS} is defined as the design spectral acceleration at 90% of the maximum spectral acceleration, S_a , obtained from the site-specific spectrum, at any period within the range from 0.2 to 5 seconds, inclusive. S_{D1} is defined as the maximum value of the product, TS_a , for periods from 1 to 2 seconds for sites with $v_{s,30} > 1,200$ ft/s ($v_{s,30} > 365.76$ m/s) and for periods from 1 to 5 seconds for sites with $v_{s,30} \leq 1,200$ ft/s ($v_{s,30} \leq 365.76$ m/s).

Site-specific MCE_R spectral response acceleration parameters (S_{MS} and S_{M1}) are calculated as 1.5 times the S_{DS} and S_{D1} values, respectively, but not less than 80% of the code-based values presented in Table 6. Site-specific design acceleration parameters are summarized in Table 9.

When using the Equivalent Lateral Force Procedure, ASCE 7-16 Section 21.4 allows using the spectral acceleration at any period (T) in lieu of S_{D1}/T in Eq. 12.8-3 and $S_{D1}T_L/T^2$ in Eq. 12.8-4. The site-specific spectral acceleration at any period may be calculated by interpolation of the spectral ordinates in Table 8, Column 4.

Table 9: Site-Specific Design Acceleration Parameters

Parameter	Value
S_{DS}	1.098
S_{D1}	1.130
S_{MS}	1.648
S_{M1}	1.696

7.6 SITE-SPECIFIC MCE_G PEAK GROUND ACCELERATION

We calculated the Site-Specific MCE_G Peak Ground Acceleration (PGA_M) in accordance with ASCE 7-16 Section 21.5. The Site-Specific PGA_M is calculated as the lesser of probabilistic and deterministic geometric mean PGA. The 2% in 50-year probabilistic geometric mean PGA is 0.913g. The deterministic PGA is considered the greater of the largest 84th percentile deterministic geometric mean PGA (0.704g) or one-half of the tabulated F_{PGA} value from ASCE 7-16 Table 11.8.1 with the value of PGA taken as 0.5g. For Site Class D, F_{PGA} is 1.100 and one-half of the F_{PGA} is 0.55g; therefore, the deterministic PGA is 0.704g. Additionally, the Site-Specific PGA_M may not be less than 80% of the mapped PGA_M determined from ASCE 7-16 Equation 11.8-1. The mapped PGA_M for the site is 0.608g; 80% of PGA_M is 0.486g. Therefore, the Site-Specific PGA_M for the site is 0.704g.

We note that if ground improvement is not implemented, that the seismic design parameters presented in this report will have to be revised to include a site response analysis (SRA) following Section 21.1 of ASCE 7-16.

SECTION 8: FOUNDATIONS

8.1 SUMMARY OF RECOMMENDATIONS

In our opinion, due to the high anticipated foundation loads, and significant anticipated static and seismic settlements, the proposed structure may be supported on a reinforced concrete mat foundation over ground improvement provided the recommendations in the “Earthwork” section and the sections below are followed. As an alternative to ground improvement, the structure may also be supported by deep foundation systems such as auger-cast piles. If ground improvement is selected, we recommend a design-build ground improvement contractor design the mitigation using an appropriate ground improvement technique to meet the project requirements and recommendations provided herein.

8.2 REINFORCED CONCRETE MAT FOUNDATION OVER GROUND IMPROVEMENT

As discussed, to minimize potentially high static and seismic total and differential settlements based on the preliminary assumed loads, the structure may be supported on a reinforced concrete mat foundation overlying ground improvement. Ground improvement should be

designed to provide adequate bearing capacity and reduce total settlement due to static and seismic conditions to tolerable levels as described below. Additional ground improvement recommendations are provided in the following sections.

On a preliminary basis and for your project forward planning, we anticipate Drill Displacement Column™ (DDC) ground improvement or other similar ground densification elements could be utilized to manage settlement under a mat foundation. We estimate DDC column spacing on the order of 4 to 5 feet on-center (square layout) with allowable capacities on the order of 50 to 70 kips each. The above DDC ground improvement element is based on estimated depths of 30 to 40 feet below the mat foundation. The improved bearing pressures are estimated to be on the order of 4,000 to 5,000 psf. The above estimates are preliminary, and during design the design-build ground improvement contractor should collaborate with the structural engineer for the mat design.

8.2.1 Settlement

Ground improvement should be designed to reduce total settlement due to static and seismic conditions to tolerable levels. As discussed in the “Ground Improvement” section below, the ground improvement design should be such that the total foundation settlement (static and seismic) is reduced to about 2½ inches, or less, from the center of the mat to an edge with no more than about 1½ inches for either the static or seismic components.

8.2.2 Mat Modulus of Soil Subgrade Reaction

The modulus of soil subgrade reaction is a model element that represents the response to a specific loading condition, including the magnitude, rate, and shape of loading, given the subsurface conditions at that location. We recommend using a variable modulus of soil subgrade reaction to provide a more accurate soil response and prediction of shears and moments in the mat. This will require at least one iteration between our soil model and the structural SAFE (or similar) analysis for the mat. As the mat foundation will be underlain by ground improvement, the modulus of subgrade reaction will be affected by the ground improvement method and the bearing pressure across the mat. Once ground improvement design has been confirmed and initial bearing pressures determined, please forward a color plot of contact pressures for the mat (to scale) so that we can provide a revised plan with updated contours of equal modulus of soil subgrade reaction values. An initial soil subgrade modulus of 10 pci can be used for the initial analysis until additional design details are confirmed.

8.2.3 Lateral Loading

Lateral loads may be resisted by friction between the bottom of mat foundation and the supporting subgrade, and also by passive pressures generated against deepened mat edges. An ultimate frictional resistance of 0.4 applied to the mat dead load, and an ultimate passive pressure based on an equivalent fluid pressure of 400 pcf may be used in design. The structural engineer should apply an appropriate factor of safety (such as 1.5) to the ultimate values above. The upper 12 inches of soil should be neglected when determining passive pressure capacity.

8.2.4 Mat Foundation Construction Considerations

Prior to placement of any vapor retarder and mat construction, the subgrade should be proof-rolled and visually observed by a Cornerstone representative to confirm stable subgrade conditions. The pad moisture should also be checked at least 24 hours prior to vapor barrier or mat reinforcement placement to confirm that the soil has a moisture content of at least 2 percent over optimum in the upper 12 inches.

8.3 GROUND IMPROVEMENT

8.3.1 Ground Improvement Requirements

As discussed above, mat foundations may be used in combination with ground improvement to improve bearing capacities of the soils beneath the structure as well as reduce the total differential settlements (seismic and static) to tolerable levels. Ground improvement should be designed to increase the soils bearing capacities and improve the subsurface soils such that the combined static and seismic settlement is reduced to 2½ inches or less, and no more than 1½ inches for either the static or seismic component, enabling the structure to be supported on a mat foundation if determined feasible. Ground improvement should provide adequate confining improvement around all foundations. We anticipate that the ground improvement construction will be a design-build process where Cornerstone Earth Group will review preliminary design-build ground improvement designs, including proposed spacing and layout relative to the foundation plans and installation lengths, and anticipated bearing capacity and densification improvement of the surrounding soils prepared by prospective contractors, provide comments, and come to a general agreement with the contractor on the intended design approach.

Ground improvement should consist of densification techniques to improve the ground's resistance to liquefaction, reduce static settlement, and improve bearing capacity and seismic performance. Ground densification techniques could potentially consist of Drill Displacement Column™ (DDC), grouted displacement columns (i.e. CLSM), or similar densification techniques. Granular densification ground improvement elements may not be desired as they may pose an issue for a dewatering system. The intent of the ground improvement design would be to increase the bearing capacity of the underlying soils, increase the density of the potentially liquefiable layers, and increase the density of the compressible clays to help reduce post-construction consolidation settlements. The degree to which the density is increased will depend on the improvement method, spacing, and depth.

Based on the chosen ground improvement technique, the upper 1 to 2 feet or more of the working pad will likely need to be re-compacted after ground improvement installation, due to surface disturbance and potential ground heave. For this reason, we do not recommend preparation of the final pad, placement of non-expansive fill, or the construction of utilities prior to ground improvement.

Contractors to perform recommended ground improvement should have adequate experience for the proposed methods to address the requirements herein. All construction quality control and quality assurance records should be supplied to the design team for review on completion.

of the ground improvement. Adequate quality control readings must be available at the time of installation so that real time oversight can be provided. The instrumentation provided will depend on the ground improvement method chosen. Once a method is chosen, the geotechnical engineer should modify the project design guideline specification for the appropriate method.

We recommend that the ground improvement design include, but not be limited to: 1) drawings showing the ground improvement layout, spacing and diameter, 2) the foundation layout plan, 3) proposed ground improvement length, 4) top and bottom elevations. We should be retained to review the ground improvement contractor's plan and settlement estimates prior to construction, and to review and confirm that the contractor's ground improvement design will satisfactorily meet the design criteria based on the performance testing. Following the completion of the Ground Improvement Performance Testing indicated below, a final ground improvement design report and calculation package, including support for the ground improvement design and indicating that the design criteria will be met, should be submitted to the design team for review and approval.

8.3.2 Ground Improvement Performance Testing

Performance testing typically consists of a pre-construction test section with post-installation load testing and CPT testing to confirm that the necessary soil strength and densification increases were achieved to meet the bearing capacity and settlement criteria. We should observe and monitor installation of the test arrays and production ground improvement on a full-time basis and review the post-test array settlement analyses provided by the contractor. Working with the structural engineer, the team will evaluate whether differential settlement estimates and bearing capacities are tolerable and adequate or whether additional ground improvement is required.

The proposed design capacity of the ground improvement will be confirmed prior to construction by the installation of at least two test array sections of four ground improvement columns with installation lengths and spacing as initially agreed to between the ground improvement contractor and Cornerstone Earth Group. Testing of arrays should include CPT testing at center of array, sampling for strength consolidation testing, and a modulus test of at least one pier in each test array. To validate the parameters selected for a specific project, a modulus load test is performed on a test pier typically constructed in locations chosen in coordination with the geotechnical engineer. Modulus tests are conducted to a pressure equal to at least 150% of the maximum design top of pier stress to assure a reasonable level of safety which supports long term settlement control and demonstrates that the ground improvement element has adequate strength. Performing modulus testing beyond the limit state top of pier stress meets the intent of the building code with respect to shallow foundation support. Modulus testing should be performed in general accordance with ASTM D1143.

The ground improvement contractor shall make their own interpretation of strength parameters and other characteristics for the soil, obtained or derived from the soil boring logs, cone penetration tests, and any geotechnical laboratory testing data provided in the Geotechnical Report and these specifications for bearing capacity analysis. Static settlement shall be

assessed using appropriate soil parameters for an elastic settlement analysis based on an area replacement ratio considering the stiffness of the native soils, and the densification columns. Liquefaction and seismic settlement estimates shall be performed using the methodology presented in the project geotechnical report, which followed the procedures in the 2008 monograph, *Soil Liquefaction During Earthquakes* (Idriss and Boulanger, 2008). Liquefaction and settlement shall be evaluated for the upper 50 feet of the soil profile. Any additional subsurface information needed to design the ground improvement shall be the responsibility of the Contractor.

8.4 ALTERNATIVE FOUNDATION

8.4.1 Deep Foundations

As an alternative to a mat foundation over ground improvements or if the estimated settlements exceed the structural requirements, the structure can also be supported on deep foundations. The proposed office tower could be supported on conventional drilled, cast-in-place augercast (ACIP) piles. Conventional augercast piles have been successfully used for projects in downtown San Jose and around the Bay Area in similar soil conditions. ACIP piles are concrete piles that are cast in place using a hollow-stem auger that drills to the design depth and then sand-cement grout (4,000 to 6,000 psi grout) is pumped through the hollow-stem as the drill stem is extracted. Two types of augercast piles are typically available: ACIP piles, which like piers, remove the soil column and replace it with grout; and APGD piles, which displace the soil column as the drill stem is advanced, similar to driven piles, prior to pumping the grout. Because of the presence of several dense sand layers across the site, displacement (APGD) piles are not recommended. Augercast piles are a low noise and vibration installation compared to driven piles. Various types of steel reinforcing including rebar cages or H-piles may be installed into the still-wet grout after drilling to satisfy bending moment requirements.

On a preliminary basis, we estimate a typical 100-ton pile (vertical capacity), 16-inch and 18-inch auger-cast piles would be about 60 to 75 feet in length. If this alternative is considered, we can provide additional recommendations.

SECTION 9: CONCRETE SLABS AND PEDESTRIAN PAVEMENTS

9.1 GARAGE RAMP SLABS-ON-GRADE

Slabs-on-grade for garage ramps should be at least 5 inches thick and if constructed with minimal reinforcement intended for shrinkage control only, should have a minimum compressive strength of 3,000 psi. If the slab will have heavier reinforcing because the slab will also serve as a structural diaphragm, the compressive strength may be reduced at the structural engineer's discretion. The garage slab should also be supported on at least 6 inches of either Class 2 aggregate base or $\frac{3}{4}$ -inch clean, crushed rock placed and compacted in accordance with the "Compaction" section of this report. Consideration should be given to limiting the control joint spacing to a maximum of about 2 feet in each direction for each inch of concrete thickness.

9.2 EXTERIOR FLATWORK

Exterior concrete flatwork subject to pedestrian traffic only should be at least 4 inches thick and supported on at least 4 inches of Class 2 aggregate base overlying subgrade prepared in accordance with the “Earthwork” recommendations of this report. Flatwork that will be subject to heavier or frequent vehicular loading should be designed in accordance with the recommendations in the “Vehicular Pavements” section below. To help reduce the potential for uncontrolled shrinkage cracking, adequate expansion and control joints should be included. Consideration should be given to limiting the control joint spacing to a maximum of about 2 feet in each direction for each inch of concrete thickness. Flatwork should be isolated from adjacent foundations or retaining walls except where limited sections of structural slabs are included to help span irregularities in retaining wall backfill at the transitions between at-grade and on-structure flatwork.

SECTION 10: VEHICULAR PAVEMENTS

10.1 ASPHALT CONCRETE

The following asphalt concrete pavement recommendations tabulated below are based on the Procedure 608 of the Caltrans Highway Design Manual, estimated traffic indices for various pavement-loading conditions, and on an assumed R-value of 5. The design R-value was chosen based on engineering judgment considering the variable surface conditions.

Table 10: Asphalt Concrete Pavement Recommendations, Design R-value = 5

Design Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base* (inches)	Total Pavement Section Thickness (inches)
4.0	2.5	7.5	10.0
4.5	2.5	9.5	12.0
5.0	3.0	10.0	13.0
5.5	3.0	12.0	15.0
6.0	3.5	12.5	16.0
6.5	4.0	14.0	18.0

*Caltrans Class 2 aggregate base; minimum R-value of 78

Frequently, the full asphalt concrete section is not constructed prior to construction traffic loading. This can result in significant loss of asphalt concrete layer life, rutting, or other pavement failures. To improve the pavement life and reduce the potential for pavement distress through construction, we recommend the full design asphalt concrete section be constructed prior to construction traffic loading. Alternatively, a higher traffic index may be chosen for the areas where construction traffic will be using the pavements.

10.2 PORTLAND CEMENT CONCRETE

The exterior Portland Cement Concrete (PCC) pavement recommendations tabulated below are based on methods presented in the Portland Cement Association (PCA) design manual (PCA, 1984). Recommendations for garage slabs-on-grade were provided in the “Concrete Slabs and Pedestrian Pavements” section above. We have provided a few pavement alternatives as an anticipated Average Daily Truck Traffic (ADTT) was not provided. An allowable ADTT should be chosen that is greater than what is expected for the development.

Table 11: PCC Pavement Recommendations, Design R-value = 5

Allowable ADTT	Minimum PCC Thickness (inches)
13	5½
130	6

The PCC thicknesses above are based on a concrete compressive strength of at least 3,500 psi, supporting the PCC on at least 6 inches of Class 2 aggregate base compacted as recommended in the “Earthwork” section, and laterally restraining the PCC with curbs or concrete shoulders. Adequate expansion and control joints should be included. Consideration should be given to limiting the control joint spacing to a maximum of about 2 feet in each direction for each inch of concrete thickness.

SECTION 11: RETAINING WALLS

11.1 STATIC LATERAL EARTH PRESSURES

The structural design of any site retaining wall should include resistance to lateral earth pressures that develop from the soil behind the wall, any undrained water pressure, and surcharge loads acting behind the wall. Provided a drainage system is constructed behind the wall to prevent the build-up of hydrostatic pressures as discussed in the section below, we recommend that the walls with level backfill be designed for the following pressures:

Table 12: Recommended Lateral Earth Pressures

Wall Condition	Lateral Earth Pressure*	Additional Surcharge Loads
Unrestrained – Cantilever Wall	45 pcf	⅓ of vertical loads at top of wall
Restrained – Braced Wall	45 pcf + 8H** psf	½ of vertical loads at top of wall

* Lateral earth pressures are based on an equivalent fluid pressure for level backfill conditions

** H is the distance in feet between the bottom of footing and top of retained soil

Basement walls should be designed as restrained walls. If adequate drainage cannot be provided behind the wall, an additional equivalent fluid pressure of 40 pcf should be added to

the values above for both restrained and unrestrained walls for the portion of the wall that will not have drainage. Damp proofing or waterproofing of the walls may be considered where moisture penetration and/or efflorescence are not desired.

11.2 SEISMIC LATERAL EARTH PRESSURES

The 2016 California Building Code (CBC) states that lateral pressures from earthquakes should be considered in the design of basements and retaining walls. We developed seismic earth pressures for the proposed basement using interim recommendations generally based on refinement of the Mononobe-Okabe method (Lew et al., SEAOC 2010). Because the walls are greater than 12 feet in height, and peak ground accelerations are greater than 0.40g, we checked the result of the seismic increment when added to the recommended active earth pressure against the recommended fixed wall earth pressures. Basement walls are not free to deflect, and should therefore be designed for static conditions as a restrained wall, which is also a CBC requirement. Based on current recommendations for seismic earth pressures, it appears that active earth pressures plus a seismic increment exceed the restrained (i.e. at-rest), static wall earth pressures. Therefore, we recommend checking the walls for the seismic condition in accordance with the interim recommendations of the above referenced paper and the 2016 CBC.

The CBC prescribes basic load combinations for structures, components and foundations with the intention that their design strength equals or exceeds the effects of the factored loads. With respect to the load from lateral earth pressure and groundwater pressure, the CBC prescribes the basic combinations shown in CBC equations 16-2 and 16-7 below.

$$1.2(D + F) + 1.6(L + H) + 0.5(L_r \text{ or } S \text{ or } R) \quad [\text{Eq. 16-2}]$$

In Eq. 16-2: H - should represent the total static lateral earth pressure, which for the basement wall will be restrained (use 45 pcf + 8H psf)

$$0.9(D + F) + 1.0E + 1.6H \quad [\text{Eq. 16-7}]$$

In Eq. 16-7: H - should represent the static "active" earth pressure component under seismic loading conditions (use 45 pcf)

E - should represent the seismic increment component in Eq. 16-7, a triangular load with a resultant force of $6H^2$, which should be applied one third of the height up from the base of the wall (and which can also be expressed as an equivalent fluid pressure equal to 12 pcf).

The interim recommendations in the SEAOC paper more appropriately split out "active" earth pressure (and not the restrained ["at-rest"] pressure) from our report and provide the total seismic increment so that different load factors can be applied in accordance with different risk levels.

11.3 SURCHARGE PRESSURE FROM ADJACENT STRUCTURES

Additional pressures should be added for a surcharge condition due to the existing adjacent structures. The project structural engineer should determine the appropriate surcharge loads due to the adjacent structures.

11.4 WALL DRAINAGE

11.4.1 At-Grade Site Walls

Adequate drainage should be provided by a subdrain system behind all walls. This system should consist of a 4-inch minimum diameter perforated pipe placed near the base of the wall (perforations placed downward). The pipe should be bedded and backfilled with Class 2 Permeable Material per Caltrans Standard Specifications, latest edition. The permeable backfill should extend at least 12 inches out from the wall and to within 2 feet of outside finished grade. Alternatively, ½-inch to ¾-inch crushed rock may be used in place of the Class 2 Permeable Material provided the crushed rock and pipe are enclosed in filter fabric, such as Mirafi 140N or approved equivalent. The upper 2 feet of wall backfill should consist of compacted on-site soil. The subdrain outlet should be connected to a free-draining outlet or sump.

Miradrain, Geotech Drainage Panels, or equivalent drainage matting can be used for wall drainage as an alternative to the Class 2 Permeable Material or drain rock backfill. Horizontal strip drains connecting to the vertical drainage matting may be used in lieu of the perforated pipe and crushed rock section. The vertical drainage panel should be connected to the perforated pipe or horizontal drainage strip at the base of the wall, or to some other closed or through-wall system such as the TotalDrain system from AmerDrain. Sections of horizontal drainage strips should be connected with either the manufacturer's connector pieces or by pulling back the filter fabric, overlapping the panel dimples, and replacing the filter fabric over the connection. At corners, a corner guard, corner connection insert, or a section of crushed rock covered with filter fabric must be used to maintain the drainage path.

Drainage panels should terminate 18 to 24 inches from final exterior grade. The Miradrain panel filter fabric should be extended over the top of and behind the panel to protect it from intrusion of the adjacent soil.

11.4.2 Below-Grade Walls

Miradrain, AmerDrain or other equivalent drainage matting should be used for wall drainage where below-grade walls are temporarily shored and the shoring will be flush with the back of the permanent walls. The drainage panel should be connected at the base of the wall by a horizontal drainage strip and closed or through-wall system such as the TotalDrain system from AmerDrain.

Sections of horizontal drainage strips should be connected with either the manufacturer's connector pieces or by pulling back the filter fabric, overlapping the panel dimples, and replacing the filter fabric over the connection. At corners, a corner guard, corner connection

insert, or a section of crushed rock covered with filter fabric must be used to maintain the drainage path.

Drainage panels should terminate 18 to 24 inches from final exterior grade unless capped by hardscape. The drainage panel filter fabric should be extended over the top of and behind the panel to protect it from intrusion of the adjacent soil. If the shoring system will be offset behind the back of permanent wall, the drainage systems discussed in the “At-Grade Site Walls” section may also be used.

11.5 BACKFILL

Where surface improvements will be located over the retaining wall backfill, backfill placed behind the walls should be compacted to at least 95 percent relative compaction using light compaction equipment. Where no surface improvements are planned, backfill should be compacted to at least 90 percent. If heavy compaction equipment is used, the walls should be temporarily braced.

As discussed previously, consideration should be given to the transitions from on-grade to on-structure. Providing subslabs or other methods for reducing differential movement of flatwork or pavements across this transition should be included in the project design.

11.6 FOUNDATIONS

We assume that garage walls will be supported on mat foundations over ground improvement, or pile-supported mat foundations. At-grade site retaining walls may be supported on a continuous spread footing on natural, undisturbed soil or engineered fill, be at least 15 inches wide, and extend at least 18 inches below the lowest adjacent grade. Lowest adjacent grade is defined as the deeper of the following: 1) bottom of the adjacent interior slab-on-grade, or 2) finished exterior grade, excluding landscape topsoil.

Footings constructed to the above dimensions and in accordance with the “Earthwork” recommendations of this report are capable of supporting maximum allowable bearing pressures of 2,000 psf for dead loads, 3,000 psf for combined dead plus live loads, and 4,000 psf for all loads including wind and seismic. These pressures are based on factors of safety of 3.0, 2.0, and 1.5 applied to the ultimate bearing pressure for dead, dead plus live, and all loads, respectively. These pressures are net values; the weight of the footing may be neglected for the portion of the footing extending below grade (typically, the full footing depth). Top and bottom mats of reinforcing steel should be included in continuous footings to help span irregularities and differential settlement.

SECTION 12: LIMITATIONS

This report, an instrument of professional service, has been prepared for the sole use of Project Valley Title LLC specifically to support the design of the Westbank Valley Title project in San Jose, California. The opinions, conclusions, and recommendations presented in this report have been formulated in accordance with accepted geotechnical engineering practices that exist

in Northern California at the time this report was prepared. No warranty, expressed or implied, is made or should be inferred.

Recommendations in this report are based upon the soil and groundwater conditions encountered during our subsurface exploration. If variations or unsuitable conditions are encountered during construction, Cornerstone must be contacted to provide supplemental recommendations, as needed.

Project Valley Title LLC may have provided Cornerstone with plans, reports and other documents prepared by others. Project Valley Title LLC understands that Cornerstone reviewed and relied on the information presented in these documents and cannot be responsible for their accuracy.

Cornerstone prepared this report with the understanding that it is the responsibility of the owner or his representatives to see that the recommendations contained in this report are presented to other members of the design team and incorporated into the project plans and specifications, and that appropriate actions are taken to implement the geotechnical recommendations during construction.

Conclusions and recommendations presented in this report are valid as of the present time for the development as currently planned. Changes in the condition of the property or adjacent properties may occur with the passage of time, whether by natural processes or the acts of other persons. In addition, changes in applicable or appropriate standards may occur through legislation or the broadening of knowledge. Therefore, the conclusions and recommendations presented in this report may be invalidated, wholly or in part, by changes beyond Cornerstone's control. This report should be reviewed by Cornerstone after a period of three (3) years has elapsed from the date of this report. In addition, if the current project design is changed, then Cornerstone must review the proposed changes and provide supplemental recommendations, as needed.

An electronic transmission of this report may also have been issued. While Cornerstone has taken precautions to produce a complete and secure electronic transmission, please check the electronic transmission against the hard copy version for conformity.

Recommendations provided in this report are based on the assumption that Cornerstone will be retained to provide observation and testing services during construction to confirm that conditions are similar to that assumed for design, and to form an opinion as to whether the work has been performed in accordance with the project plans and specifications. If we are not retained for these services, Cornerstone cannot assume any responsibility for any potential claims that may arise during or after construction as a result of misuse or misinterpretation of Cornerstone's report by others. Furthermore, Cornerstone will cease to be the Geotechnical-Engineer-of-Record if we are not retained for these services.

SECTION 13: REFERENCES

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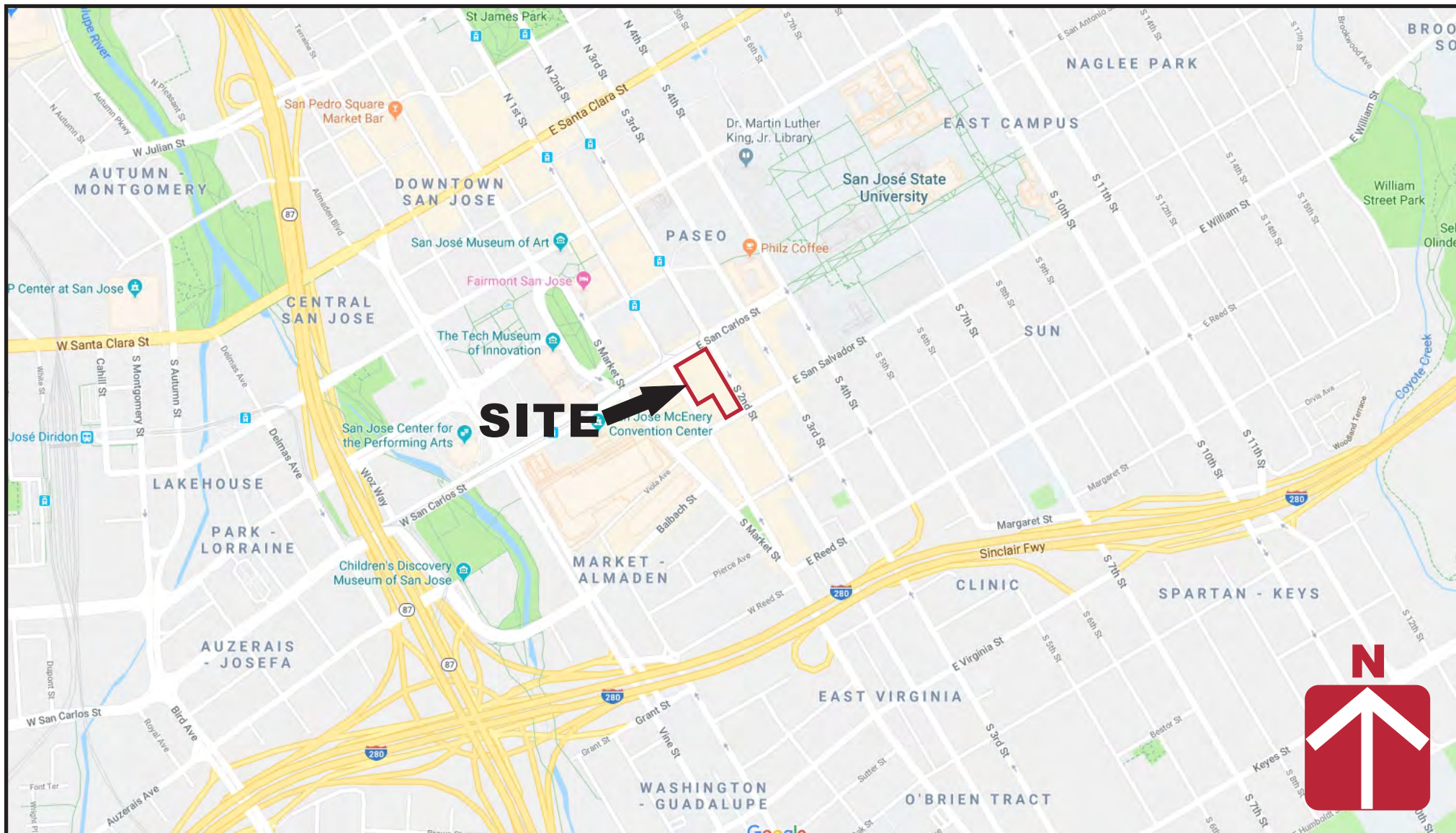
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Vicinity Map

300 South First Street
San Jose, CA

Project Number

1178-1-3

Figure Number

Figure 1

Date

June 2020

Drawn By

RRN



Approximate
Site Boundary

South Second Street

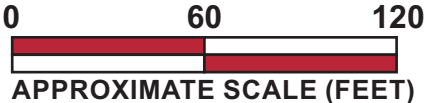
East San Carlos Street

East San Salvador Street

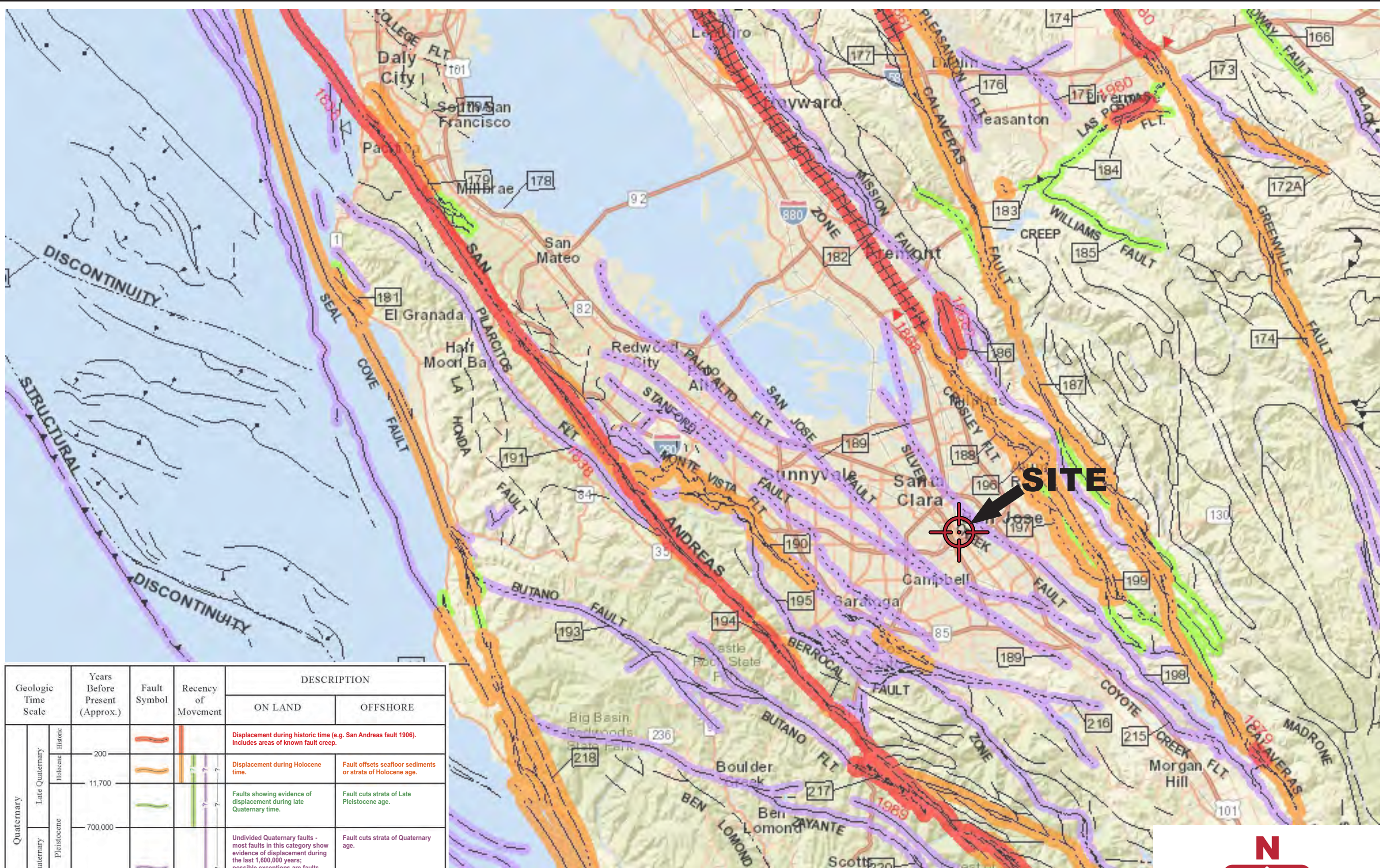
South First Street

Legend

-  Approximate location of exploratory boring (EB)
-  Approximate location of cone penetration test (CPT)

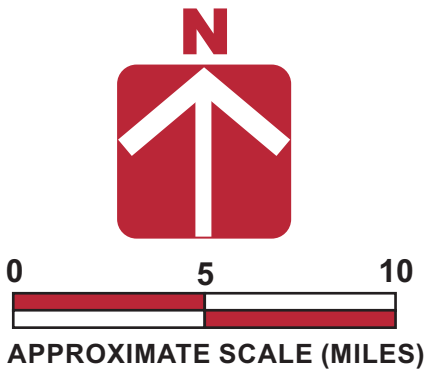


Project Number	1178-1-3	
	Figure Number	Figure 2
	Date	June 2020
Site Plan		Drawn By RRN
300 South First Street San Jose, CA		
 CORNERSTONE EARTH GROUP		



Geologic Time Scale		Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
					ON LAND	OFFSHORE
Quaternary	Late Quaternary	Holocene	200		Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
			11,700		Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
	Pleistocene		700,000		Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
			1,600,000		Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary		4.5 billion (Age of Earth)			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.

Base by California Geological Survey - 2010 Fault Activity Map of California (Jennings and Bryant, 2010)



Project Number851-3-1

Figure NumberFigure 3

DateJune 2020

Drawn ByRRN

Regional Fault Map

300 South First Street
San Jose, CA

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FIGURE **4A**

CPT NO. **1**

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PROJECT/CPT DATA

Project Title **Westbank Valley Title**

Project No. **1178-1-3**

Project Manager **DTT**

SEISMIC PARAMETERS

Controlling Fault **Hayward**

Earthquake Magnitude (Mw) **7.6**

PGA (Amax) **0.7** (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet) **17.6**

Design Water Depth (feet) **10**

Ave. Unit Weight Above GW (pcf) **120**

Ave. Unit Weight Below GW (pcf) **120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM **10** FEET

0.06 (Inches)

LIQUEFACTION SETTLEMENT FROM **85** FEET

3.88 (Inches)

TOTAL SEISMIC SETTLEMENT **3.9** INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI² **0.76** L/H **133.3**

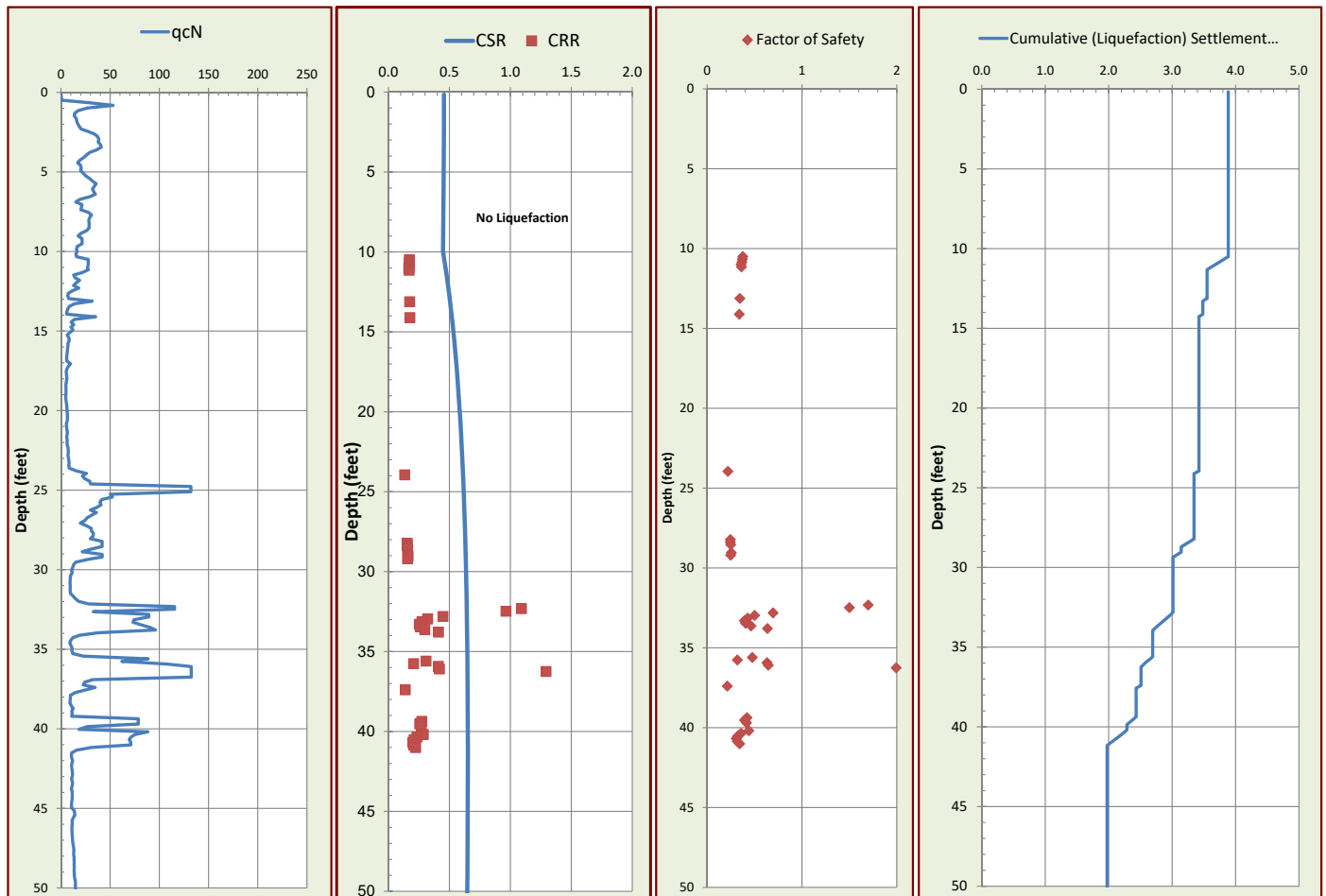
LDI¹ Corrected for Distance **0.09** (4 < L/H < 40)

EXPECTED RANGE OF DISPLACEMENT

0.0 to **0.2** feet

¹Not Valid for L/H Values < 4 and > 40.

²LDI Values Only Summed to 2H Below Grade.





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FIGURE **4B**

CPT NO. **2**

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PROJECT/CPT DATA

Project Title **Westbank Valley Title**

Project No. **1178-1-3**

Project Manager **DTT**

SEISMIC PARAMETERS

Controlling Fault **Hayward**

Earthquake Magnitude (Mw) **7.6**

PGA (Amax) **0.7** (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet) **17.4**

Design Water Depth (feet) **10**

Ave. Unit Weight Above GW (pcf) **120**

Ave. Unit Weight Below GW (pcf) **120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM **10** FEET

0.33 (Inches)

LIQUEFACTION SETTLEMENT FROM **85** FEET

2.18 (Inches)

TOTAL SEISMIC SETTLEMENT **2.5** INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI² **0.56** L/H **130.0**

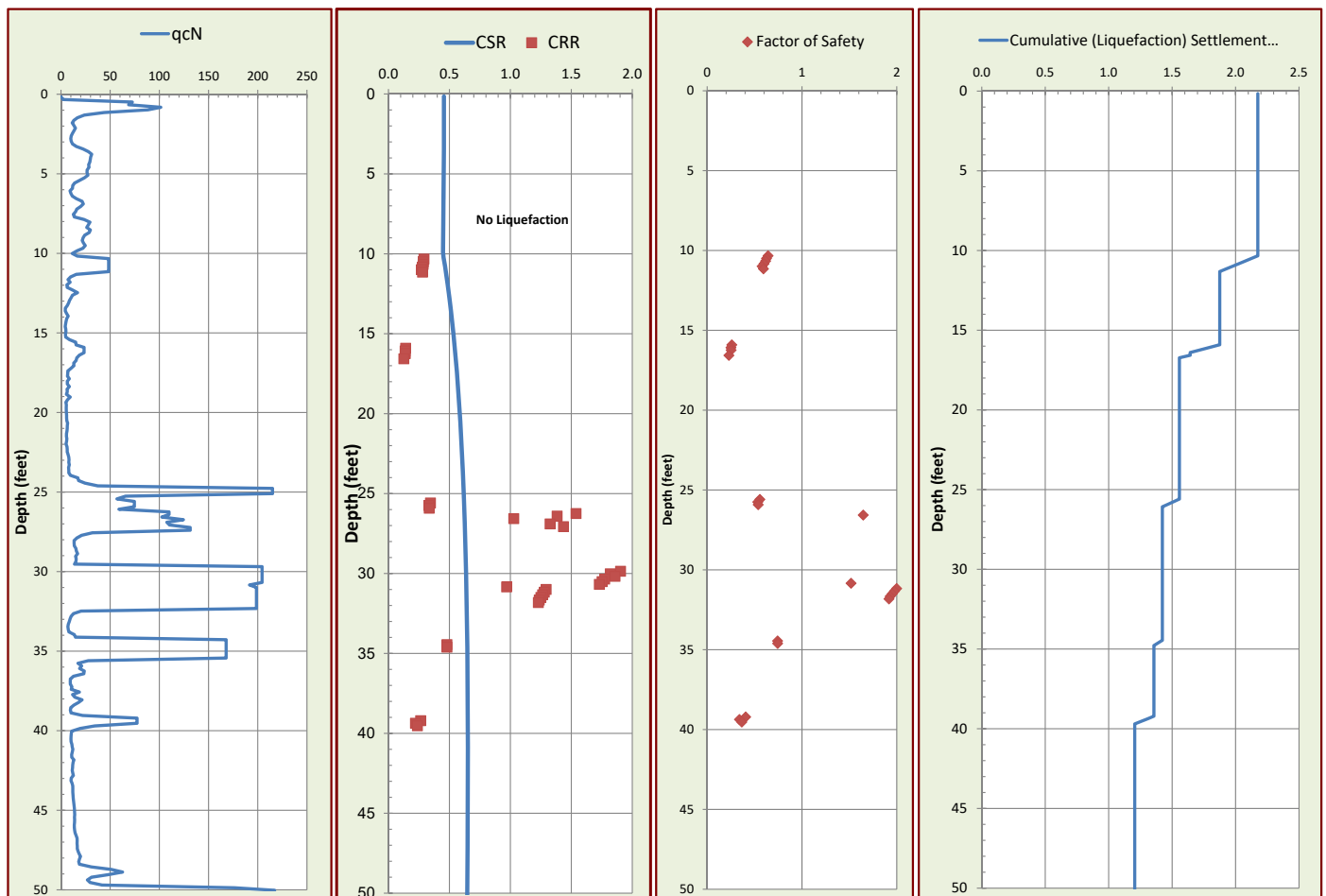
LDI¹ Corrected for Distance **0.07** ($4 < L/H < 40$)

EXPECTED RANGE OF DISPLACEMENT

0.0 to **0.1** feet

¹Not Valid for L/H Values < 4 and > 40.

²LDI Values Only Summed to 2H Below Grade.





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PROJECT/CPT DATA

Project Title **Westbank Valley Title**

Project No. **1178-1-3**

Project Manager **DTT**

SEISMIC PARAMETERS

Controlling Fault **Hayward**

Earthquake Magnitude (Mw) **7.6**

PGA (Amax) **0.7** (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet) **14.9**

Design Water Depth (feet) **10**

Ave. Unit Weight Above GW (pcf) **120**

Ave. Unit Weight Below GW (pcf) **120**

FIGURE **4C**

CPT NO. **3**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM **10** FEET

0.00 (Inches)

LIQUEFACTION SETTLEMENT FROM **85** FEET

1.30 (Inches)

TOTAL SEISMIC SETTLEMENT **1.3** INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI² **0.53** L/H **126.7**

LDI¹ Corrected for Distance **0.07** (4 < L/H < 40)

EXPECTED RANGE OF DISPLACEMENT

0.0 to **0.1** feet

¹Not Valid for L/H Values < 4 and > 40.

²LDI Values Only Summed to 2H Below Grade.

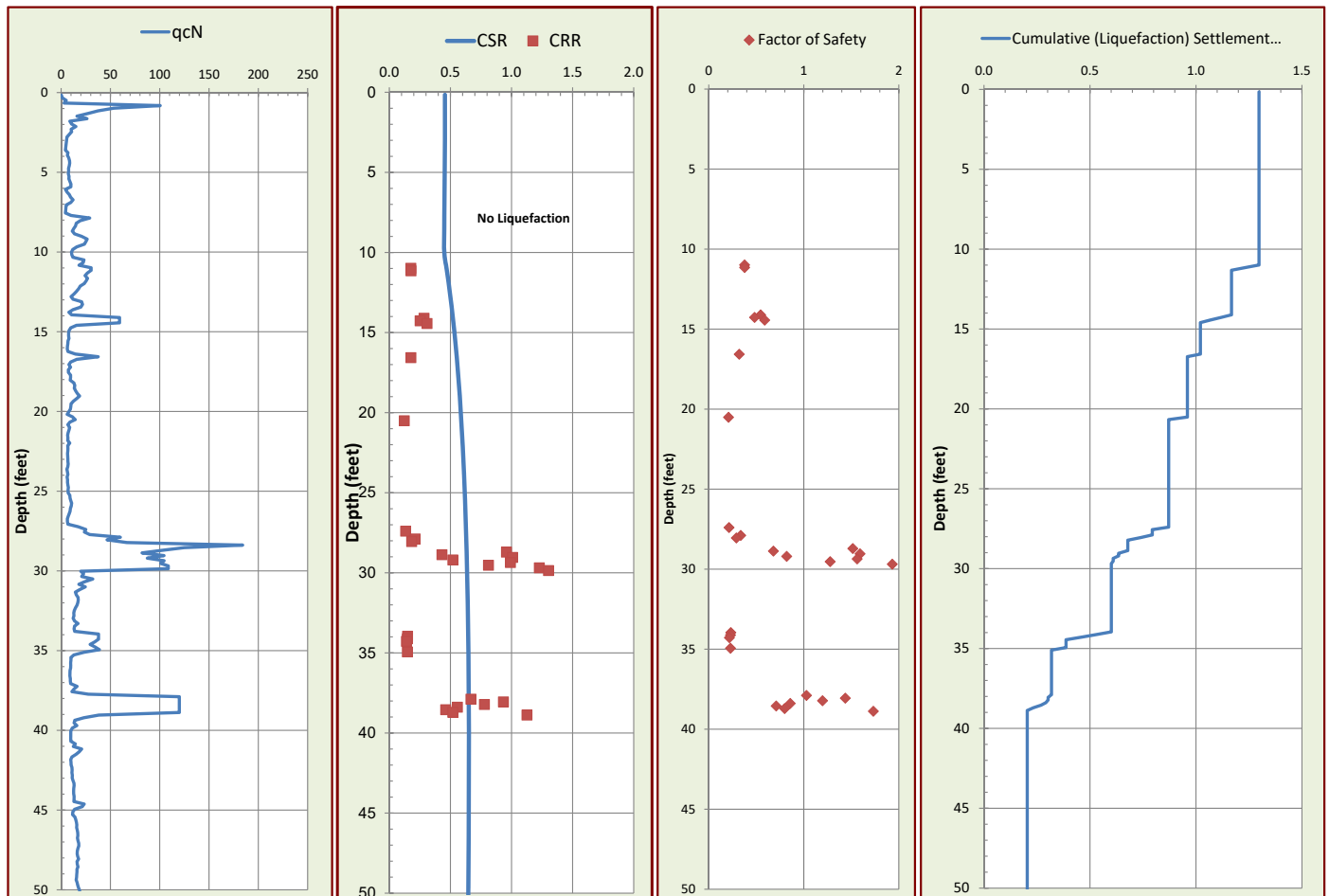


FIGURE **4D**

CPT NO. **4**

PROJECT/CPT DATA

Project Title **Westbank Valley Title**

Project No. **1178-1-3**

Project Manager **DTT**

SEISMIC PARAMETERS

Controlling Fault **Hayward**

Earthquake Magnitude (Mw) **7.6**

PGA (Amax) **0.7** (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet) **23.5**

Design Water Depth (feet) **10**

Ave. Unit Weight Above GW (pcf) **120**

Ave. Unit Weight Below GW (pcf) **120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM **10** FEET

0.00 (Inches)

LIQUEFACTION SETTLEMENT FROM **85** FEET

1.46 (Inches)

TOTAL SEISMIC SETTLEMENT **1.5** INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI² **0.04** L/H **116.7**

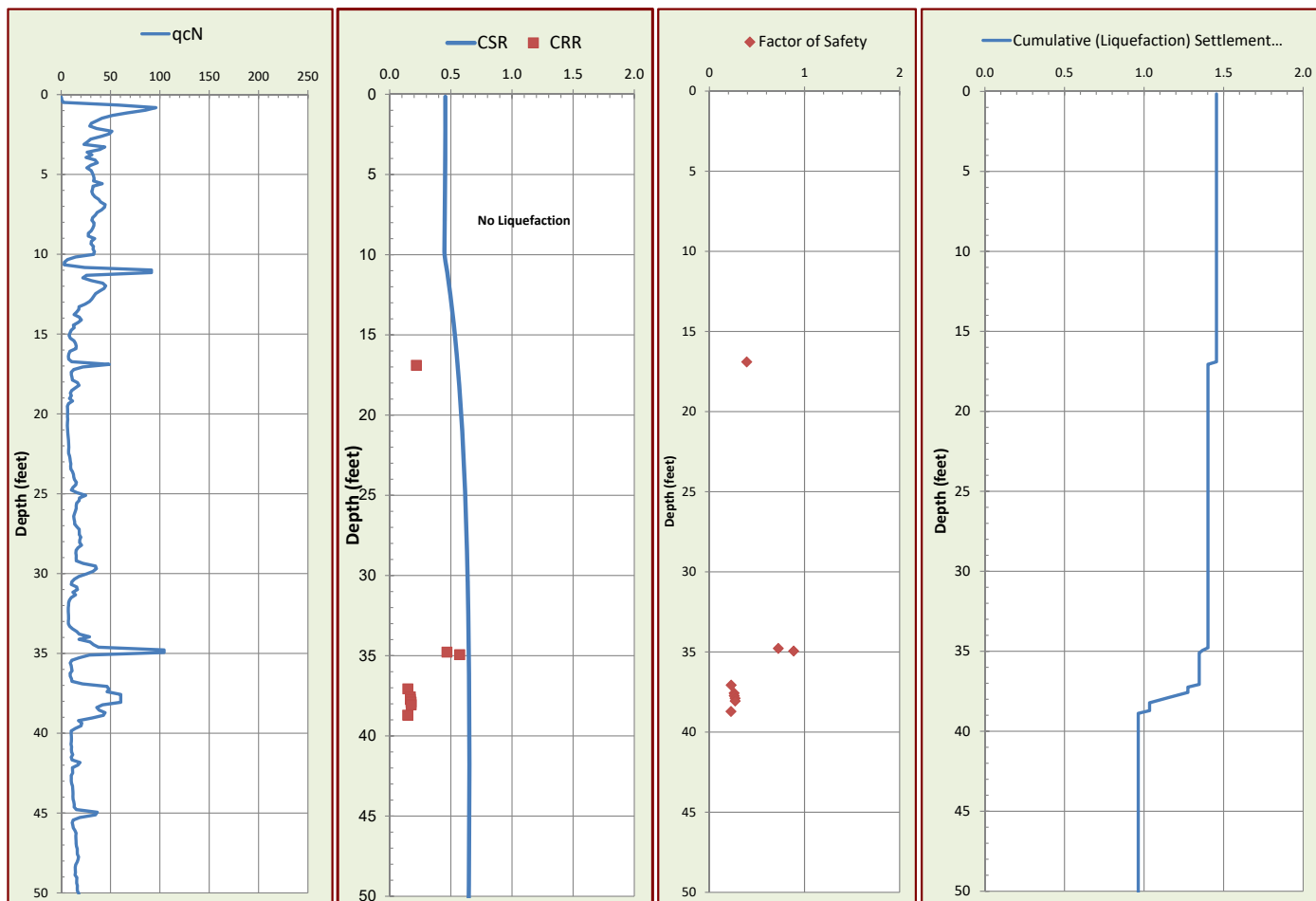
LDI¹ Corrected for Distance **0.00** (4 < L/H < 40)

EXPECTED RANGE OF DISPLACEMENT

0.0 to **0.0** feet

¹Not Valid for L/H Values < 4 and > 40.

²LDI Values Only Summed to 2H Below Grade.





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FIGURE **4E**

CPT NO. **5**

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PROJECT/CPT DATA

Project Title **Westbank Valley Title**

Project No. **1178-1-3**

Project Manager **DTT**

SEISMIC PARAMETERS

Controlling Fault **Hayward**

Earthquake Magnitude (Mw) **7.6**

PGA (Amax) **0.7** (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet) **14.1**

Design Water Depth (feet) **10**

Ave. Unit Weight Above GW (pcf) **120**

Ave. Unit Weight Below GW (pcf) **120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM **10** FEET

0.01 (Inches)

LIQUEFACTION SETTLEMENT FROM **85** FEET

3.90 (Inches)

TOTAL SEISMIC SETTLEMENT **3.9** INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI² **2.07** L/H **116.7**

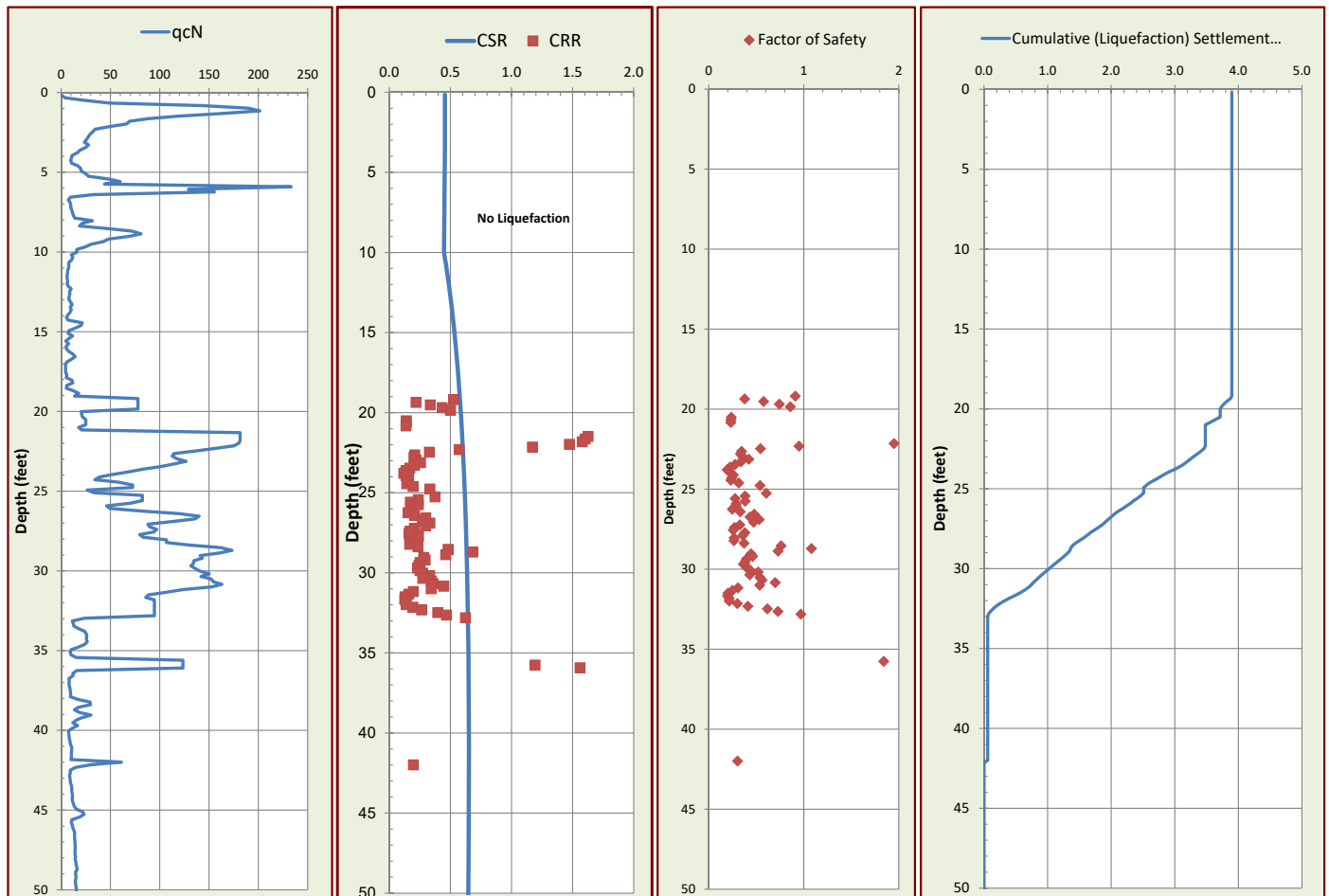
LDI¹ Corrected for Distance **0.28** (4 < L/H < 40)

EXPECTED RANGE OF DISPLACEMENT

0.1 to **0.6** feet

¹Not Valid for L/H Values < 4 and > 40.

²LDI Values Only Summed to 2H Below Grade.

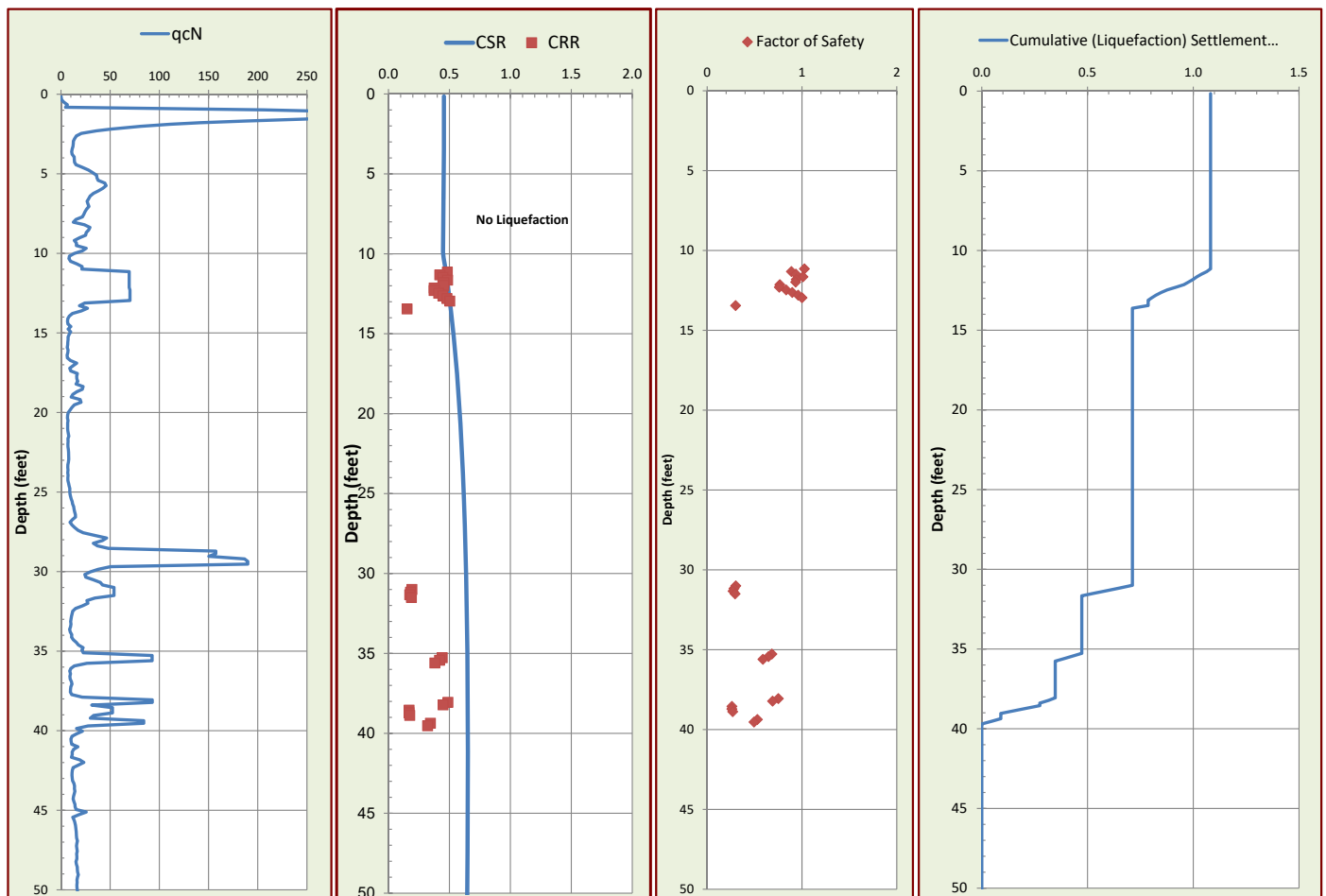




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FIGURE 4F**CPT NO. 6**

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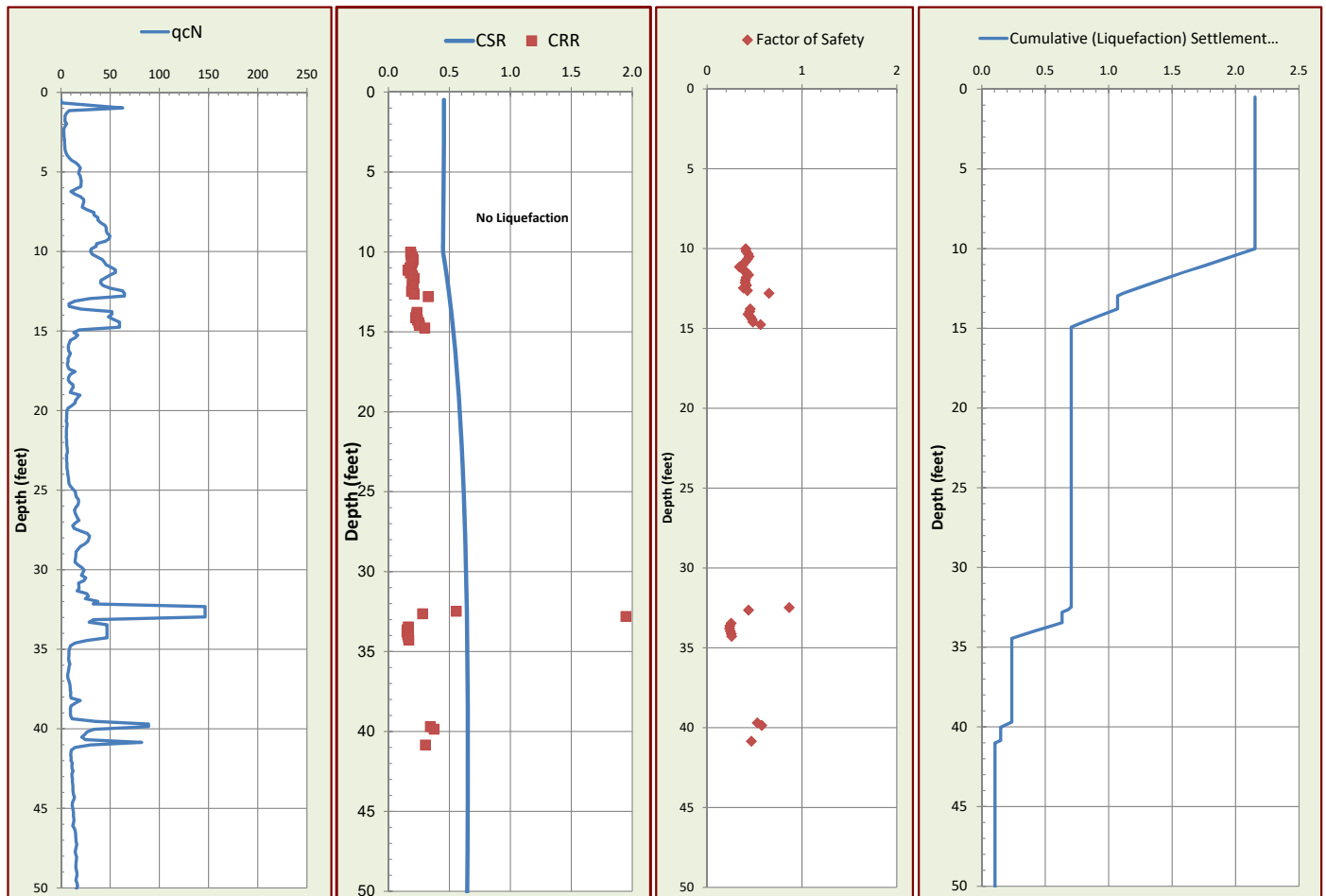
PROJECT/CPT DATAProject Title **Westbank Valley Title**Project No. **1178-1-3**Project Manager **DTT****SEISMIC PARAMETERS**Controlling Fault **Hayward**Earthquake Magnitude (Mw) **7.6**PGA (Amax) **0.7** (g)**SITE SPECIFIC PARAMETERS**Ground Water Depth at Time of Drilling (feet) **14.1**Design Water Depth (feet) **10**Ave. Unit Weight Above GW (pcf) **120**Ave. Unit Weight Below GW (pcf) **120****CPT ANALYSIS RESULTS**DRY SAND SETTLEMENT FROM **10** FEET**0.18** (Inches)LIQUEFACTION SETTLEMENT FROM **85** FEET**1.08** (Inches)**TOTAL SEISMIC SETTLEMENT 1.3 INCHES****POTENTIAL LATERAL DISPLACEMENT**LDI² **0.16** L/H **126.7**LDI¹ Corrected for Distance **0.02** (4 < L/H < 40)**EXPECTED RANGE OF DISPLACEMENT****0.0** to **0.0** feet¹Not Valid for L/H Values < 4 and > 40.²LDI Values Only Summed to 2H Below Grade.



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FIGURE 4G**CPT NO. 7**

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PROJECT/CPT DATAProject Title **Westbank Valley Title**Project No. **1178-1-3**Project Manager **DTT****SEISMIC PARAMETERS**Controlling Fault **Hayward**Earthquake Magnitude (Mw) **7.6**PGA (Amax) **0.7** (g)**SITE SPECIFIC PARAMETERS**Ground Water Depth at Time of Drilling (feet) **15.7**Design Water Depth (feet) **10**Ave. Unit Weight Above GW (pcf) **120**Ave. Unit Weight Below GW (pcf) **120****CPT ANALYSIS RESULTS**DRY SAND SETTLEMENT FROM **10** FEET**0.00** (Inches)LIQUEFACTION SETTLEMENT FROM **85** FEET**2.15** (Inches)**TOTAL SEISMIC SETTLEMENT 2.2 INCHES****POTENTIAL LATERAL DISPLACEMENT**LDI² **1.04** L/H **123.3**LDI¹ Corrected for Distance **0.13** (4 < L/H < 40)**EXPECTED RANGE OF DISPLACEMENT****0.1** to **0.3** feet¹Not Valid for L/H Values < 4 and > 40.²LDI Values Only Summed to 2H Below Grade.



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FIGURE **4H**

CPT NO. **8**

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PROJECT/CPT DATA

Project Title **Westbank Valley Title**

Project No. **1178-1-3**

Project Manager **DTT**

SEISMIC PARAMETERS

Controlling Fault **Hayward**

Earthquake Magnitude (Mw) **7.6**

PGA (Amax) **0.7** (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet) **18.9**

Design Water Depth (feet) **10**

Ave. Unit Weight Above GW (pcf) **120**

Ave. Unit Weight Below GW (pcf) **120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM **10** FEET

0.68 (Inches)

LIQUEFACTION SETTLEMENT FROM **85** FEET

0.47 (Inches)

TOTAL SEISMIC SETTLEMENT **1.2** INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI² **0.00** L/H **133.3**

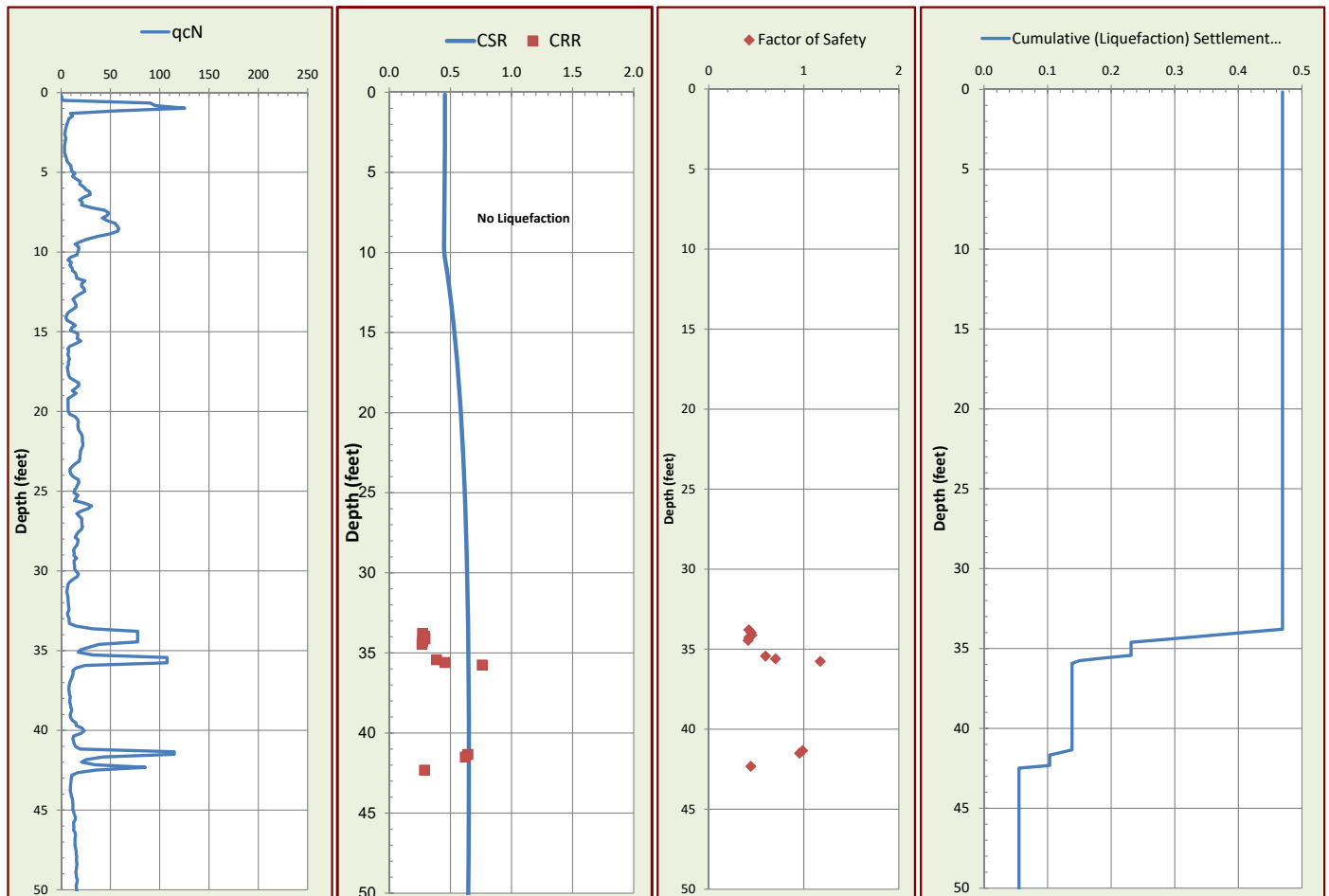
LDI¹ Corrected for Distance **0.00** (4 < L/H < 40)

EXPECTED RANGE OF DISPLACEMENT

0.0 to **0.0** feet

¹Not Valid for L/H Values < 4 and > 40.

²LDI Values Only Summed to 2H Below Grade.





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FIGURE **4I**

CPT NO. **9**

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PROJECT/CPT DATA

Project Title **Westbank Valley Title**

Project No. **1178-1-3**

Project Manager **DTT**

SEISMIC PARAMETERS

Controlling Fault **Hayward**

Earthquake Magnitude (Mw) **7.6**

PGA (Amax) **0.7** (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet) **13.9**

Design Water Depth (feet) **10**

Ave. Unit Weight Above GW (pcf) **120**

Ave. Unit Weight Below GW (pcf) **120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM **10** FEET

0.01 (Inches)

LIQUEFACTION SETTLEMENT FROM **85** FEET

0.75 (Inches)

TOTAL SEISMIC SETTLEMENT **0.8** INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI² **0.05** L/H **133.3**

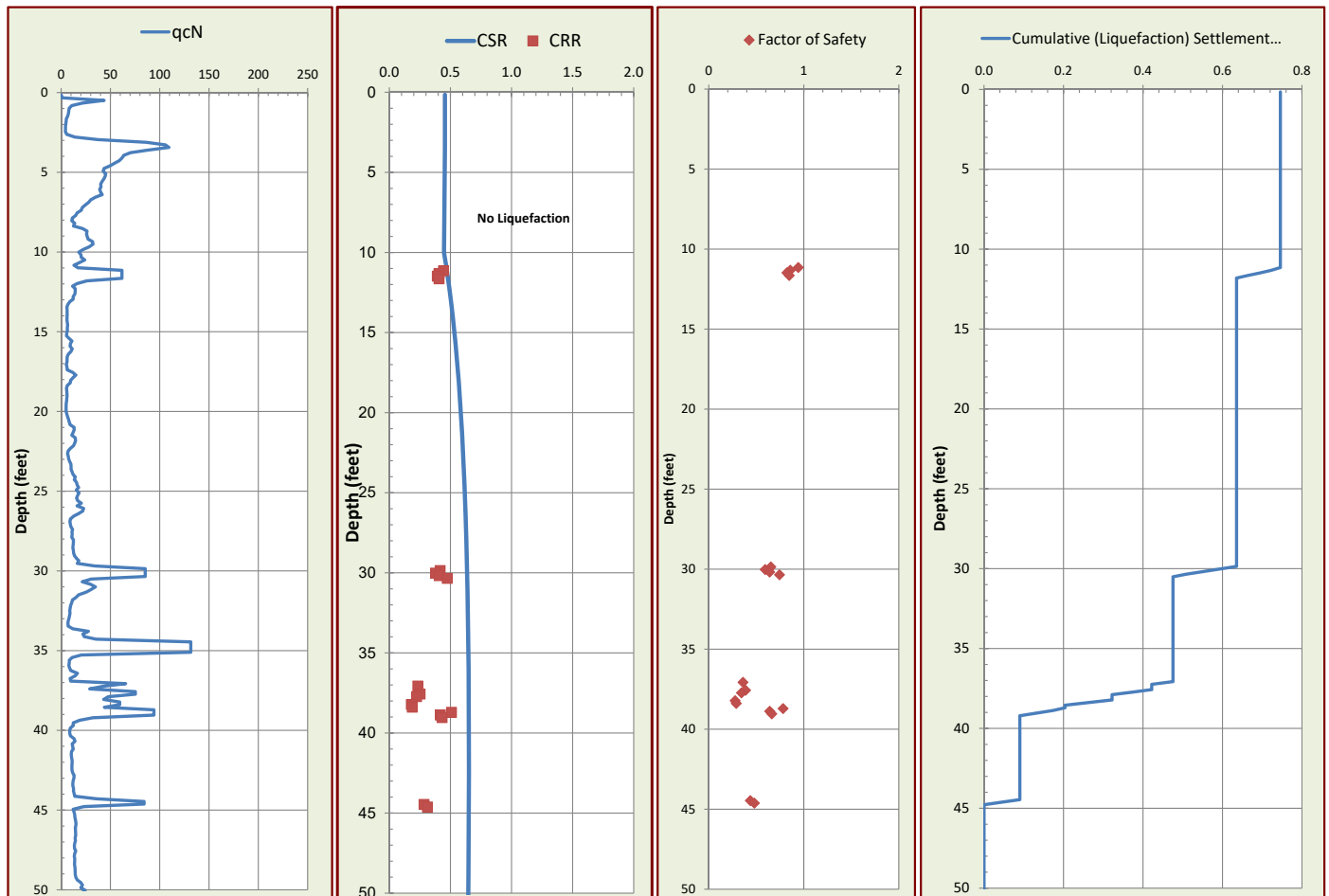
LDI¹ Corrected for Distance **0.01** (4 < L/H < 40)

EXPECTED RANGE OF DISPLACEMENT

0.0 to **0.0** feet

¹Not Valid for L/H Values < 4 and > 40.

²LDI Values Only Summed to 2H Below Grade.

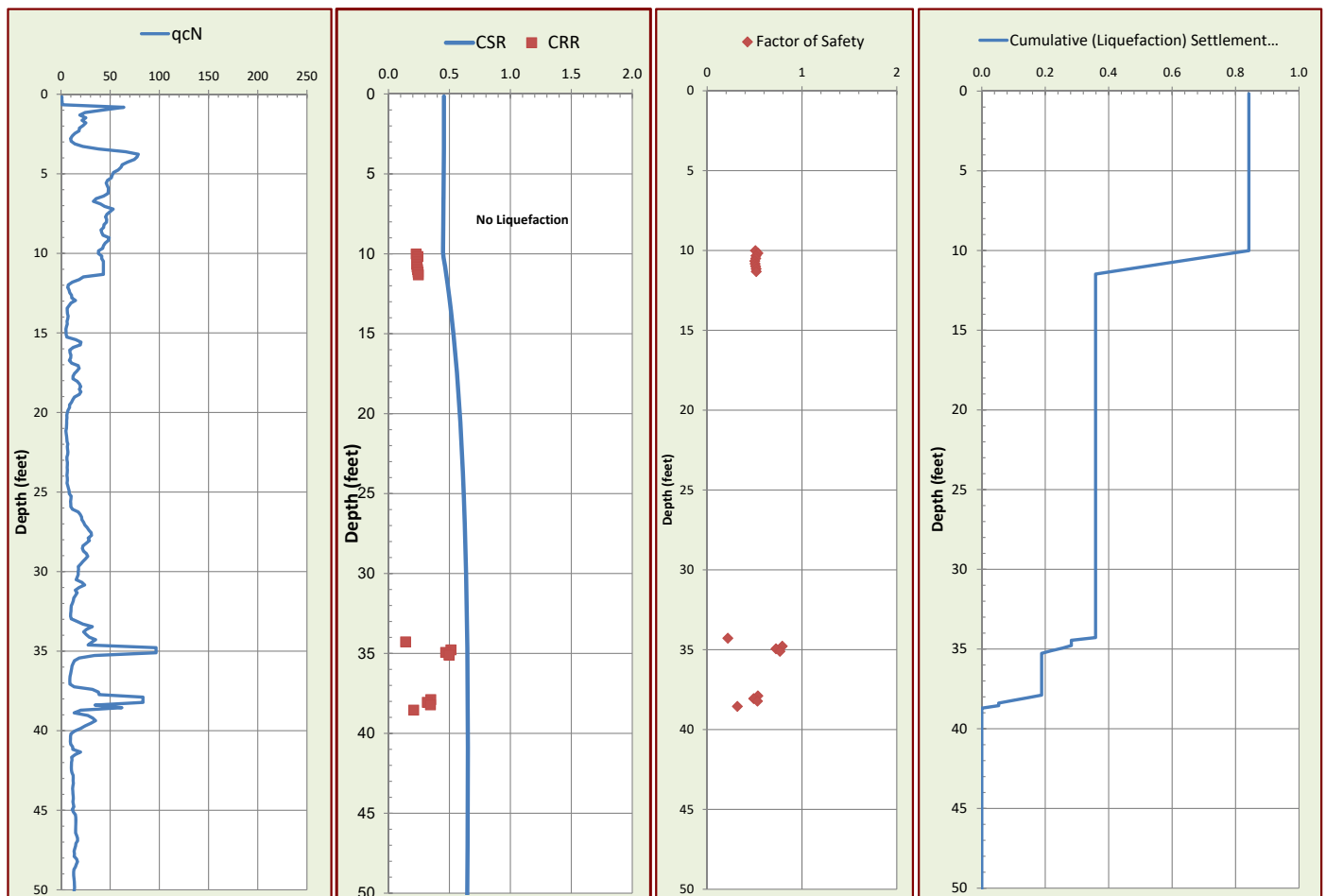


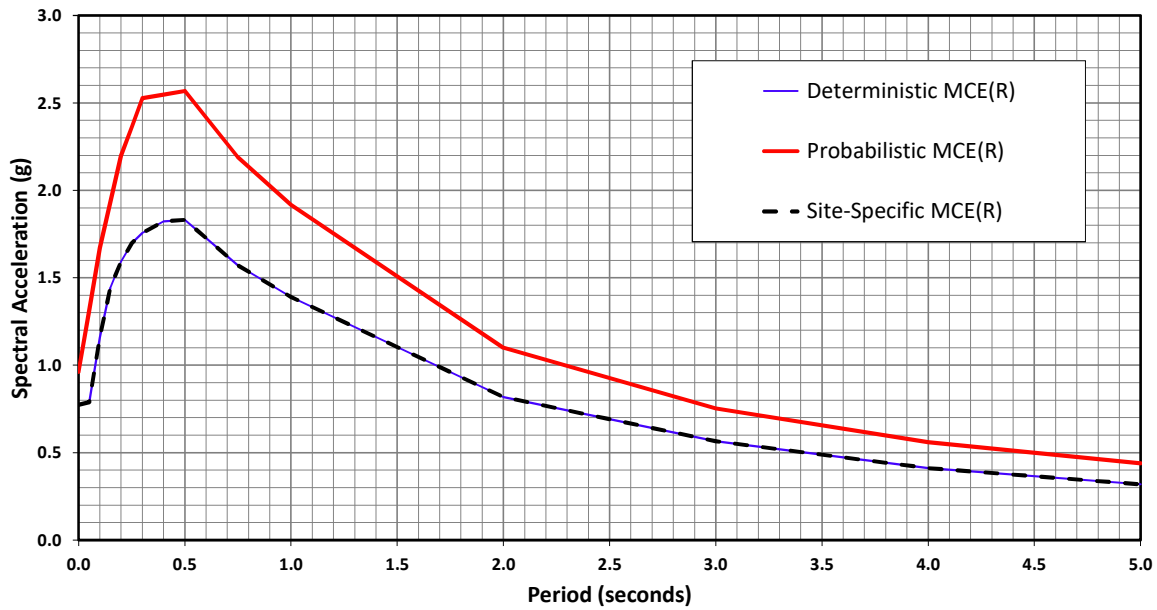


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FIGURE 4J**CPT NO. 10**

© 2014 Cornerstone Earth Group, Inc.

PROJECT/CPT DATAProject Title **Westbank Valley Title**Project No. **1178-1-3**Project Manager **DTT****SEISMIC PARAMETERS**Controlling Fault **Hayward**Earthquake Magnitude (Mw) **7.6**PGA (Amax) **0.7** (g)**SITE SPECIFIC PARAMETERS**Ground Water Depth at Time of Drilling (feet) **15.7**Design Water Depth (feet) **10**Ave. Unit Weight Above GW (pcf) **120**Ave. Unit Weight Below GW (pcf) **120****CPT ANALYSIS RESULTS**DRY SAND SETTLEMENT FROM **10** FEET**0.02** (Inches)LIQUEFACTION SETTLEMENT FROM **85** FEET**0.84** (Inches)**TOTAL SEISMIC SETTLEMENT 0.9 INCHES****POTENTIAL LATERAL DISPLACEMENT**LDI² **0.31** L/H **133.3**LDI¹ Corrected for Distance **0.04** (4 < L/H < 40)**EXPECTED RANGE OF DISPLACEMENT****0.0** to **0.1** feet¹Not Valid for L/H Values < 4 and > 40.²LDI Values Only Summed to 2H Below Grade.



The Site-Specific Maximum Considered Earthquake (MCE_R) is defined as the lesser of the following at all periods:

- Deterministic MCE_R – maximum 84th percentile deterministic, or
- Probabilistic MCE_R – defined as the 2,475-year ground motion.

Site-Specific MCE_R	
Period (Seconds)	Spectral Acceleration (g)
0.00	0.774
0.05	0.789
0.10	1.159
0.15	1.444
0.20	1.591
0.25	1.699
0.30	1.756
0.40	1.822
0.50	1.831
0.75	1.571
1.00	1.391
2.00	0.817
3.00	0.565
4.00	0.411
5.00	0.319
0.00	0.000
0.00	0.000

References:

ASCE/SEI 7-16: Minimum Design Loads and Associated Criteria for Buildings and Other Structures with Supplement No. 1.
2019 California Building Code, Title 24, Part 2, Volume 2



MCE_R RESPONSE SPECTRA

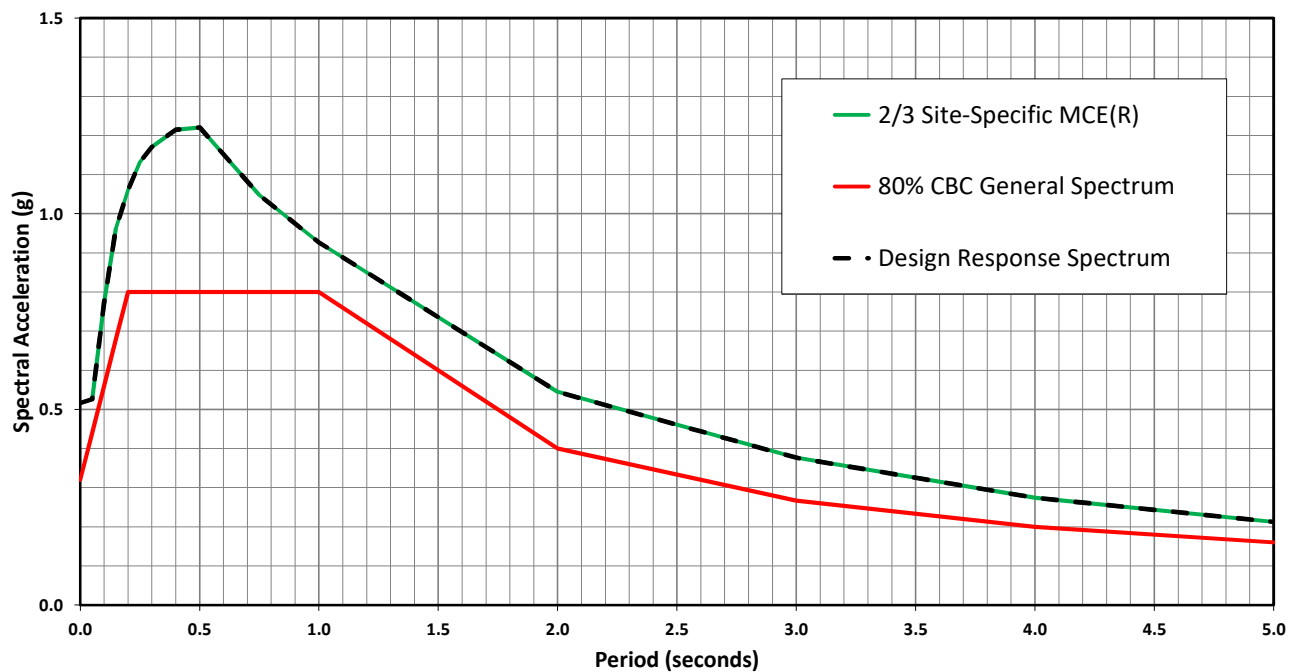
Westbank Valley Title
300 South 1st Street
San Jose, CA

FIGURE 5

PROJECT NO. 1178-1-3

June 5, 2020

RSM



Design Response Spectra	
Period (Seconds)	Spectral Acceleration (g)
0.00	0.516
0.05	0.526
0.10	0.773
0.15	0.962
0.20	1.061
0.25	1.132
0.30	1.171
0.40	1.215
0.50	1.220
0.75	1.048
1.00	0.927
2.00	0.545
3.00	0.377
4.00	0.274
5.00	0.212

Site Design	Design Values
Site Class (Per Chapter 20 ASCE 7-16)	D
Shear Wave Velocity, V_{S30} (m/sec)	213
Site Latitude (degrees)	37.33116
Site Longitude (degrees)	-121.8868
Risk Category	II
Building Period (sec)	Unknown
Importance Factor, I_e	1
¹ Site Specific PGA_M (g)	0.70

Design Acceleration Parameters ¹	
S_{DS}	1.098
S_{D1}	1.130
S_{MS}	1.648
S_{M1}	1.696

¹ Lower of Deterministic and Probabilistic, but not less than 80% of mapped value of $FM \times PGA$, determined in accordance with Section 21.5 of ASCE 7-16.

References:

ASCE/SEI 7-16: Minimum Design Loads and Associated Criteria for Buildings and Other Structures with Supplement No. 1.
2019 California Building Code, Title 24, Part 2, Volume 2



DESIGN RESPONSE SPECTRA

Westbank Valley Title
300 South 1st Street
San Jose, CA

FIGURE 6

PROJECT NO. 1178-1-3

June 5, 2020

RSM

APPENDIX A: PREVIOUS FIELD INVESTIGATION

The field investigation consisted of a surface reconnaissance and a subsurface exploration program using truck-mounted, hollow-stem auger drilling equipment and 20-ton truck-mounted Cone Penetration Test equipment. Eight 8-inch-diameter exploratory borings were drilled on December 6, 7, 17, 18 and 19, 2018 to depths ranging from 8½ to 130 feet. Ten CPT soundings were also performed in accordance with ASTM D 5778-95 (revised, 2002) on December 5 and 6, 2018, to depths ranging from 50 to 140 feet. The approximate locations of exploratory borings and CPTs are shown on the Site Plan, Figure 2. The soils encountered were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D2488). Boring logs, as well as a key to the classification of the soil, are included as part of this appendix.

Boring and CPT locations were approximated using existing site boundaries and other site features as references. Boring and CPT elevations were not determined. The locations of the borings and CPTs should be considered accurate only to the degree implied by the method used.

Representative soil samples were obtained from the borings at selected depths. All samples were returned to our laboratory for evaluation and appropriate testing. The standard penetration resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch O.D. split-spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration (ASTM D1586). 2.5-inch I.D. samples were obtained using a Modified California Sampler driven into the soil with the 140-pound hammer previously described. Relatively undisturbed samples were also obtained with 2.875-inch I.D. Shelby Tube sampler which were hydraulically pushed. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows required to drive the last 12 inches. The various samplers are denoted at the appropriate depth on the boring logs.

The CPT involved advancing an instrumented cone-tipped probe into the ground while simultaneously recording the resistance at the cone tip (q_c) and along the friction sleeve (f_s) at approximately 5-centimeter intervals. Based on the tip resistance and tip to sleeve ratio (R_f), the CPT classified the soil behavior type and estimated engineering properties of the soil, such as equivalent Standard Penetration Test (SPT) blow count, internal friction angle within sand layers, and undrained shear strength in silts and clays. A pressure transducer behind the tip of the CPT cone measured pore water pressure (u_2). Graphical logs of the CPT data is included as part of this appendix.

Field tests included an evaluation of the unconfined compressive strength of the soil samples using a pocket penetrometer device. The results of these tests are presented on the individual boring logs at the appropriate sample depths.

Attached boring and CPT logs and related information depict subsurface conditions at the locations indicated and on the date designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these boring and CPT locations. The passage of time may result in altered subsurface conditions due to environmental changes. In addition,

any stratification lines on the logs represent the approximate boundary between soil types and the transition may be gradual.



CORNERSTONE EARTH GROUP

BORING NUMBER EB-1

PAGE 1 OF 3

DATE STARTED 12/6/18 DATE COMPLETED 12/6/18

DRILLING CONTRACTOR Exploration Geoservices, Inc.

DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger

LOGGED BY SCO

NOTES

PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

GROUND ELEVATION BORING DEPTH 70.5 ft.

LATITUDE LONGITUDE

GROUND WATER LEVELS:

▽ AT TIME OF DRILLING 22 ft.

▼ AT END OF DRILLING 20 ft.

This log is a part of a report by Cornerstone Earth Group, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (ft)

DEPTH (ft)

SYMBOL

DESCRIPTIONN-Value (uncorrected)
blows per footSAMPLES
TYPE AND NUMBERDRY UNIT WEIGHT
PCFNATURAL
MOISTURE CONTENT

PLASTICITY INDEX, %

PERCENT PASSING
No. 200 SIEVEUNDRAINED SHEAR STRENGTH,
ksf

○ HAND PENETROMETER

△ TORVANE

● UNCONFINED COMPRESSION

▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL

1.0 2.0 3.0 4.0

>4.5

2 inches asphalt concrete over 6 inches aggregate base

Sandy Lean Clay (CL)

hard, moist, brown, fine sand, low plasticity

18

MC-1B

99

15

Clayey Sand (SC)

loose, moist, brown, fine sand

17

MC

Lean Clay (CL)

very stiff, moist, brown, some fine sand, low to moderate plasticity

Silty Sand (SM)

loose, moist, brown, fine sand

7

MC-3B

85

36

Lean Clay with Sand (CL)

soft, moist, brown, some fine sand, some silt, low plasticity

10

MC-4B

83

36

Lean Clay (CL)

medium stiff, moist, gray, some fine sand, moderate plasticity

30

MC-5B

103

21

Lean Clay with Sand (CL)

stiff to medium stiff, moist, brown with gray mottles, fine sand, some silt, low plasticity

Continued Next Page



PROJECT LOCATION San Jose, CA

ELEVATION (ft)		DEPTH (ft)		SYMBOL		DESCRIPTION		N-Value (uncorrected) blows per foot		SAMPLES TYPE AND NUMBER		DRY UNIT WEIGHT PCF		NATURAL MOISTURE CONTENT		PLASTICITY INDEX, %		PERCENT PASSING No. 200 SIEVE		UNDRAINED SHEAR STRENGTH, ksf				
																				○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL				
																				1.0 2.0 3.0 4.0				
		30				Lean Clay with Sand (CL) stiff to medium stiff, moist, brown with gray mottles, fine sand, some silt, low plasticity		13		SPT														
						Clayey Sand (SC) medium dense, moist, brown, fine sand				ST-7		109		19										
						Lean Clay (CL) medium stiff, moist, gray, some fine sand, moderate plasticity		28		8B MC 8C		88		35 17				20						
		35				Clayey Sand (SC) medium dense, moist, brown, fine to medium sand				MC-9B		90		34										
						Sandy Silt (ML) medium stiff, moist, gray, fine sand, low plasticity		22																
						Poorly Graded Sand with Silt (SP-SM) medium dense, moist, brown, fine to medium sand		30		MC-10A		94		28				8						
						Fat Clay (CH) stiff, moist, gray, some fine sand, high plasticity				ST-11		78		38										
		45																						
								24		MC-12B		76		43										
		50																						
						Silty Sand (SM) very dense, moist, gray, fine to coarse sand		61		SPT-13B				10				22						
		55																						
						Poorly Graded Sand with Silt (SP-SM) dense, moist, brown, fine to medium sand, some fine gravel		49		SPT-14B				10										
		60																						

Continued Next Page



PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

This log is a part of a report by Cornerstone Earth Group, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf ○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
			Poorly Graded Sand with Silt (SP-SM) dense, moist, brown, fine to medium sand, some fine gravel							
			becomes very dense	50 4"	SPT					
	65									
			Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity		ST-16	103 102	23 24			○ ▲
	70		Bottom of Boring at 70.5 feet.							
	75									
	80									
	85									
	90									



CORNERSTONE EARTH GROUP

BORING NUMBER EB-2

PAGE 1 OF 1

DATE STARTED 12/6/18 DATE COMPLETED 12/6/18

DRILLING CONTRACTOR Exploration Geoservices, Inc.

DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger

LOGGED BY SCO

NOTES

PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

GROUND ELEVATION BORING DEPTH 8.5 ft.

LATITUDE LONGITUDE

GROUND WATER LEVELS:

▽ AT TIME OF DRILLING Not Encountered

▼ AT END OF DRILLING Not Encountered

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ELEVATION (ft)

DEPTH (ft)

SYMBOL

DESCRIPTION

Lean Clay with Sand (CL)
hard to very stiff, moist, brown, fine sand,
moderate plasticity

Very strong petroleum odor at 6', terminated
boring at 8.5'.

Bottom of Boring at 8.5 feet.

N-Value (uncorrected)
blows per footSAMPLES
TYPE AND NUMBERDRY UNIT WEIGHT
PCFNATURAL
MOISTURE CONTENT

PLASTICITY INDEX, %

PERCENT PASSING
No. 200 SIEVEUNDRAINED SHEAR STRENGTH,
ksf

○ HAND PENETROMETER

△ TORVANE

● UNCONFINED COMPRESSION

▲ UNCONSOLIDATED-UNDRAINED
TRIAXIAL

1.0 2.0 3.0 4.0

28

MC

○



CORNERSTONE EARTH GROUP

BORING NUMBER EB-3

PAGE 1 OF 3

PROJECT NAME 300 South 1st Street Mixed UsePROJECT NUMBER 851-3-1PROJECT LOCATION San Jose, CADATE STARTED 12/7/18 DATE COMPLETED 12/7/18DRILLING CONTRACTOR Exploration Geoservices, Inc.DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem AugerLOGGED BY SCO

NOTES _____

GROUND ELEVATION _____ BORING DEPTH 78.5 ft.

LATITUDE _____ LONGITUDE _____

GROUND WATER LEVELS:▼ AT TIME OF DRILLING 21 ft.▼ AT END OF DRILLING 21 ft.

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0		2 inches asphalt concrete over 6 inches aggregate base							○ HAND PENETROMETER
			Lean Clay with Sand (CL) [Fill] medium stiff, moist, brown with dark brown mottles, fine to medium sand, low plasticity Liquid Limit = 29, Plastic Limit = 17	6	MC-1B	94	22	12		○
	5			2	MC-2B	90	21			○
			Clayey Sand (SC) loose, moist, brown, fine to medium sand							
	10		Silty Sand (SM) loose, moist, brown, fine sand	14	MC					
			Lean Clay with Sand (CL) medium stiff, moist, gray, fine sand, moderate plasticity	7	MC-4B	90	31			○
	15									
	20									
					ST-5	92	33			○
	25									

Continued Next Page



PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf				
										○ HAND PENETROMETER	△ TORVANE	● UNCONFINED COMPRESSION	▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL	
				1.0	2.0	3.0	4.0							
	30		Sandy Lean Clay (CL) very stiff to stiff, moist, gray with brown mottles, fine sand, low plasticity	32	MC-6B	107	20							
			becomes medium stiff		ST-7	105	22							
				15	MC-8B	99	28		26					
	35		Silty Sand (SM) loose, moist, brown, fine to medium sand											
				21	NR-9B		31							
	40		Fat Clay (CH) medium stiff to stiff, moist, gray, some fine sand, high plasticity											
				21	MC-10B	85	37							
	45													
				31	MC-11B	101	23							
	50		Lean Clay (CL) very stiff, moist, gray, some fine sand, moderate plasticity											
					ST-12	97	27							
	55					101	25							
			Sandy Lean Clay (CL) very stiff, moist, gray with brown mottles, fine sand, low plasticity											
	60													

Continued Next Page



PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf ○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL				
			Sandy Lean Clay (CL) very stiff, moist, gray with brown mottles, fine sand, low plasticity	16	MC-13B	110	19							
	65													
			Clayey Sand (SC) medium dense, moist, gray, fine to medium sand	22	MC-14B	102	23							
	70		Lean Clay with Sand (CL) stiff, moist, gray, fine sand, moderate plasticity											
	75													
					ST-15	111	21							
	80		Bottom of Boring at 78.5 feet.											
	85													
	90													



CORNERSTONE EARTH GROUP

BORING NUMBER EB-4

PAGE 1 OF 2

DATE STARTED 12/7/18 DATE COMPLETED 12/7/18

DRILLING CONTRACTOR Exploration Geoservices, Inc.

DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger

LOGGED BY SCO

NOTES

PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

GROUND ELEVATION BORING DEPTH 40 ft.

LATITUDE LONGITUDE

GROUND WATER LEVELS:

▽ AT TIME OF DRILLING 29 ft.

▼ AT END OF DRILLING 29 ft.

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ELEVATION (ft)

DEPTH (ft)

SYMBOL

DESCRIPTION

Clayey Sand (SC) [FILL]
loose, moist, brown, fine to coarse sand, fine to coarse subangular to subrounded gravel

Sandy Lean Clay (CL) [Fill]
hard, moist, brown, fine sand, some brick fragments, low plasticity

Lean Clay with Sand (CL) [Fill]
hard, moist, brown and gray mottled, fine sand, moderate plasticity

Silty Sand (SM)
loose, moist, brown, fine sand

Lean Clay with Sand (CL)
soft, moist, brown, some fine sand, some silt, low plasticity

Lean Clay (CL)
stiff, moist, gray, some fine sand, moderate plasticity

Continued Next Page

N-Value (uncorrected)
blows per footSAMPLES
TYPE AND NUMBERDRY UNIT WEIGHT
pcfNATURAL
MOISTURE CONTENT

PLASTICITY INDEX, %

PERCENT PASSING
No. 200 SIEVE

UNDRAINED SHEAR STRENGTH,
ksf
○ HAND PENETROMETER
△ TORVANE
● UNCONFINED COMPRESSION
▲ UNCONSOLIDATED-UNDRAINED
TRIAXIAL

1.0 2.0 3.0 4.0

13

MC-1B

109

9

53

MC

>4.5

58

MC

>4.5

50

MC-4B

112

16

>4.5

21

MC

7

MC-6B

93

28

○

21

MC-7B

90

31

○



CORNERSTONE EARTH GROUP

BORING NUMBER EB-4

PAGE 2 OF 2

PROJECT NAME 300 South 1st Street Mixed UsePROJECT NUMBER 851-3-1PROJECT LOCATION San Jose, CA

This log is a part of a report by Cornerstone Earth Group, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT pcf	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf				
										○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL				
				1.0	2.0	3.0	4.0							
	30		Sandy Lean Clay (CL) stiff, moist, brown with gray mottles, fine sand, low plasticity	17	MC-8B	100	24				○			
			Clayey Sand (SC) medium dense, moist, brown and gray mottled, fine sand											
			Sandy Lean Clay (CL) stiff, moist, gray, fine sand, low plasticity	27	MC-9B	114	18				○			
			Poorly Graded Sand with Silt (SP-SM) loose, moist, brown, fine to medium sand	17	MC									
			Lean Clay (CL) medium stiff, moist, brown, some fine sand, moderate plasticity	7	NR						○			
	40		Bottom of Boring at 40.0 feet.											
	45													
	50													
	55													
	60													



CORNERSTONE EARTH GROUP

BORING NUMBER EB-5

PAGE 1 OF 2

DATE STARTED 12/17/18 DATE COMPLETED 12/17/18

DRILLING CONTRACTOR Exploration Geoservices, Inc.

DRILLING METHOD Mobile B-53, 8 inch Hollow-Stem Auger

LOGGED BY JLC

NOTES

PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

GROUND ELEVATION BORING DEPTH 41.5 ft.

LATITUDE LONGITUDE

GROUND WATER LEVELS:

▽ AT TIME OF DRILLING 18.5 ft.

▼ AT END OF DRILLING 25.3 ft.

This log is a part of a report by Cornerstone Earth Group, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (ft)

DEPTH (ft)

SYMBOL

DESCRIPTION

3½ inches asphalt concrete over 1 inch aggregate base

Lean Clay with Sand (CL)
very stiff, moist, brown, fine sand, low plasticity
Liquid Limit = 25, Plastic Limit = 16

Sandy Lean Clay (CL)
hard, moist, light brown, fine to medium sand, low plasticity

Lean Clay (CL)
stiff, moist, brown, some fine sand, low to moderate plasticity

Silty Sand (SM)
loose, moist, brown, fine sand

Lean Clay with Sand (CL)
soft, moist, brown, some fine sand, some silt, low plasticity

Fat Clay (CH)
medium stiff, moist, gray, some fine sand, high plasticity

Lean Clay with Sand (CL)
stiff, moist, gray with brown mottles, fine sand, moderate plasticity

Sandy Lean Clay (CL)
stiff, moist, gray, fine to medium sand, low plasticity

Continued Next Page

N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT pcf	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf			
						○ HAND PENETROMETER	△ TORVANE	● UNCONFINED COMPRESSION	▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL
						1.0	2.0	3.0	4.0
29	MC-1B	106	18	9			○		
48	MC								>4.5
27	MC-3B	92	18				○		
22	MC					○			
34	MC-5B	78	43			○			
60	MC-6B	95	28				○		



PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf				
										○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL				
										1.0	2.0	3.0	4.0	
	30		Sandy Lean Clay (CL) stiff, moist, gray, fine to medium sand, low plasticity	50 5"	MC-7B	112	19							
			Silty Sand (SM) very dense, moist, brown, fine to medium sand											
	35		Clayey Sand (SC) dense, moist, grayish brown, fine to medium sand	50 4"	MC-8B	113	17							
			Poorly Graded Sand with Silt (SP-SM) dense, wet, gray, fine to medium sand	73	MC-9A	98	23		38					
	40		Lean Clay (CL) stiff, moist, grayish brown, some fine sand, moderate plasticity	62	MC-10B	101	24							
			Lean Clay (CL) stiff, moist, grayish brown, some fine sand, moderate plasticity	23	SPT-11B		34							
			Bottom of Boring at 41.5 feet.											
	45													
	50													
	55													
	60													



CORNERSTONE EARTH GROUP

BORING NUMBER EB-6

PAGE 1 OF 2

DATE STARTED 12/17/18 DATE COMPLETED 12/17/18

DRILLING CONTRACTOR Exploration Geoservices, Inc.

DRILLING METHOD Mobile B-53, 8 inch Hollow-Stem Auger

LOGGED BY JLC

NOTES

PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

GROUND ELEVATION BORING DEPTH 40 ft.

LATITUDE LONGITUDE

GROUND WATER LEVELS:

▽ AT TIME OF DRILLING 25 ft.

▼ AT END OF DRILLING 24.3 ft.

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0		3 inches asphalt concrete over 3 inches Portland cement concrete and 3 inches aggregate base							
			Sandy Lean Clay (CL) stiff, moist, brown, fine sand, moderate plasticity	19	MC-1B	104	19			○
	5		Silty Sand (SM) loose, moist, brown, fine sand	21	MC-2B	101	12			
			Sandy Lean Clay (CL) stiff, moist, brown, some fine sand, some silt, low plasticity							
	10		Silty Sand (SM) loose, moist, brown, fine sand	19	MC					○
			Sandy Lean Clay (CL) stiff, moist, brown, some fine sand, some silt, low plasticity	33	MC-4C	81	22			○
	15		Silty Sand (SM) medium dense, moist, brown, fine sand							
			Lean Clay with Sand (CL) medium stiff, moist, gray, some fine sand, some silt, low plasticity	31	MC					○
	20		Lean Clay (CL) medium stiff, moist, gray, some fine sand, moderate plasticity	41	MC-6B	91	31			○
	25									

Continued Next Page



CORNERSTONE EARTH GROUP

BORING NUMBER EB-6

PAGE 2 OF 2

PROJECT NAME 300 South 1st Street Mixed UsePROJECT NUMBER 851-3-1PROJECT LOCATION San Jose, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf ○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL	1.0	2.0	3.0	4.0
	30		Lean Clay (CL) medium stiff, moist, gray, some fine sand, moderate plasticity											
			Silty Sand (SM) medium dense, moist, brown, fine to medium sand		○ NR									
			Lean Clay with Sand (CL) medium stiff, moist, brown, fine sand, moderate plasticity	39	MC-8B	89	33			○				
	35		Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity		ST-9	87	35		93	○				
	40		Fat Clay (CH) very stiff, moist, gray, some fine sand, high plasticity	45	MC-10B	83	37				○			
			Bottom of Boring at 40.0 feet.											
	45													
	50													
	55													
	60													



CORNERSTONE EARTH GROUP

BORING NUMBER EB-7

PAGE 1 OF 2

PROJECT NAME 300 South 1st Street Mixed UsePROJECT NUMBER 851-3-1PROJECT LOCATION San Jose, CADATE STARTED 12/18/18 DATE COMPLETED 12/18/18DRILLING CONTRACTOR Exploration Geoservices, Inc.DRILLING METHOD Mobile B-40, 8 inch Hollow-Stem AugerLOGGED BY JLC

NOTES _____

GROUND ELEVATION _____ BORING DEPTH 55 ft.

LATITUDE _____ LONGITUDE _____

GROUND WATER LEVELS:▽ AT TIME OF DRILLING 16 ft.▼ AT END OF DRILLING 16 ft.

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf			
	0		2 inches asphalt concrete over 1 inch aggregate base										
			Sandy Lean Clay (CL) stiff, moist, brown, fine to medium sand, some fine gravel, low plasticity	17	MC-1B	102	16						
			Clayey Sand (SC) medium dense, moist, brown, fine to medium sand	18	MC								
	5		Sandy Lean Clay (CL) stiff, moist, brown, fine to medium sand, low plasticity	16	MC-3B	105	18						
			Silty Sand (SM) loose, moist, brown, fine sand	15	MC								
	10												
			Sandy Silty Clay (CL-ML) soft, moist, brown, fine sand, low plasticity	13	MC-5B	94	28						
	15												
			Lean Clay (CL) medium stiff, moist, gray, some fine sand, moderate plasticity	13	MC-6B	87	35						
	20												
			Silty Sand (SM) dense, moist, gray with brown mottles, fine to coarse sand, some fine subangular gravel	36	MC								
	25			70	MC-8B	121	14		19				

Continued Next Page



PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT pcf	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf				
										○ HAND PENETROMETER				
										△ TORVANE				
										● UNCONFINED COMPRESSION				
										▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL				
										1.0 2.0 3.0 4.0				
	30		Silty Sand (SM) dense, moist, gray with brown mottles, fine to coarse sand, some fine subangular gravel	67	MC									
	35		Lean Clay with Sand (CL) soft, moist, gray, fine sand, moderate plasticity	23	MC-10B	90	29		75	○				
	40		Sandy Silt (ML) medium stiff, moist, gray, fine sand, low plasticity	33	MC-11B	88	35			○				
	45		Fat Clay (CH) stiff, moist, gray, some fine sand, high plasticity	19	MC-12B	73	44			○				
	50		Clayey Sand (SC) dense, moist, gray and brown, fine to medium sand	61	MC-13C	105	13		17					
	55		Poorly Graded Sand with Gravel (SP-SC) very dense, wet, brown, fine to coarse sand, fine to coarse subangular to subrounded gravel	65	SPT-14B		10							
			Bottom of Boring at 55.0 feet.											
	60													



CORNERSTONE EARTH GROUP

BORING NUMBER EB-8

PAGE 1 OF 4

DATE STARTED 12/19/18 DATE COMPLETED 12/19/18

DRILLING CONTRACTOR Exploration Geoservices, Inc.

DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger

LOGGED BY JLC

NOTES

PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

GROUND ELEVATION BORING DEPTH 129.9 ft.

LATITUDE LONGITUDE

GROUND WATER LEVELS:

▽ AT TIME OF DRILLING 20 ft.

▼ AT END OF DRILLING 20 ft.

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ELEVATION (ft)

DEPTH (ft)

SYMBOL

DESCRIPTION

2 inches asphalt concrete over 5 inches aggregate base and 12 inches Portland cement concrete
Sandy Lean Clay (CL)
very stiff, moist, brown, fine to medium sand, low plasticity

Lean Clay with Sand (CL)
medium stiff, moist, brown, some fine sand, some silt, low plasticity

Lean Clay (CL)
stiff, moist, gray, some fine sand, moderate plasticity

Continued Next Page

N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf				
						○ HAND PENETROMETER				
						△ TORVANE				
						● UNCONFINED COMPRESSION				
						▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL				
						1.0 2.0 3.0 4.0				
13	MC-1B	107	13						○	
18	MC-2B	99	12						○	
7	MC-3B	86	31			○				
48	MC-4C	100	27					○		
18	MC-5B	97	28						○	



PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT pcf	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf ○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL 1.0 2.0 3.0 4.0				
	65		Lean Clay with Sand (CL) very stiff, moist, gray, fine sand, moderate plasticity											
	70			31	MC-12B	97	26							
	75		Lean Clay (CL) very stiff, moist, gray, some fine sand, moderate plasticity											
	80			64	MC-13B	101	26							
	85		Lean Clay with Sand (CL) very stiff, moist, gray, fine sand, moderate plasticity											
	90		color changes to brown	30	MC-14B	106	22							
	95		Poorly Graded Sand with Silt (SP-SM) very dense, wet, gray and brown, fine to coarse sand	50 4"	SPT									
				50										

Continued Next Page



PROJECT NAME 300 South 1st Street Mixed Use

PROJECT NUMBER 851-3-1

PROJECT LOCATION San Jose, CA

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ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf ○ HAND PENETROMETER △ TORVANE ● UNCONFINED COMPRESSION ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL 1.0 2.0 3.0 4.0				
	100		Poorly Graded Sand with Silt (SP-SM) very dense, wet, gray and brown, fine to coarse sand	6"	⊗ SPT									
	105			50 6"	⊗ SPT									
	110			11	⊗ SPT									
	115		Lean Clay with Sand (CL) medium stiff, moist, gray, fine sand, moderate plasticity											
	115		Poorly Graded Sand with Silt (SP-SM) very dense, wet, gray and brown, fine to coarse sand	50 3"	⊗ MC									
	120		Lean Clay with Sand (CL) very stiff, moist, brown, fine sand, moderate plasticity	50 5"	⊗ SPT									
	125			59	⊗ MC-21C	99	25							
	130		Poorly Graded Sand with Clay and Gravel (SP-SC) very dense, wet, brown, fine to coarse sand, fine to coarse subangular to subrounded gravel	50 1"	⊗ MC									
	130			50 4"	⊗ SPT									
			Bottom of Boring at 129.9 feet.											



Cornerstone Earth Group

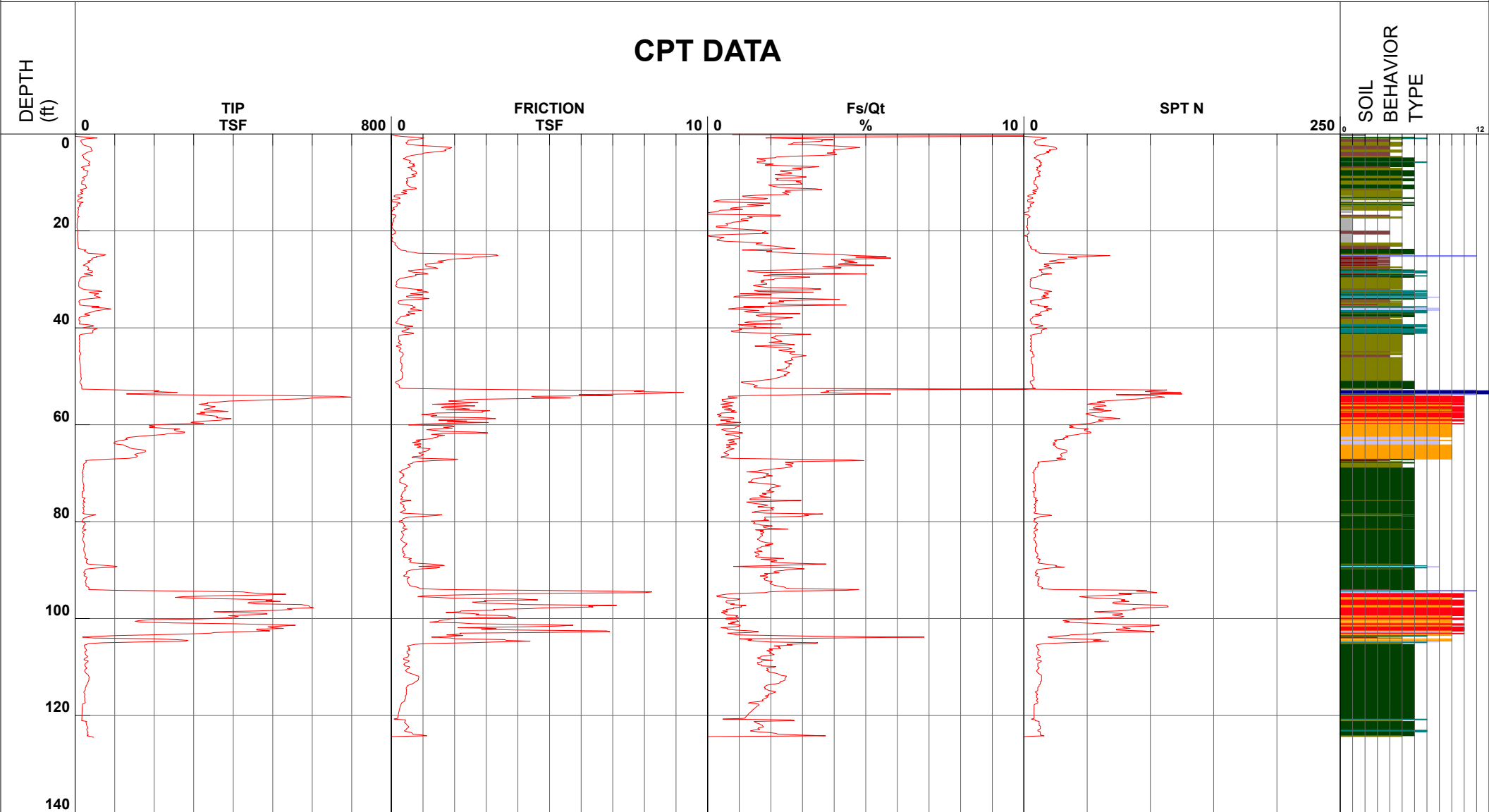
Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-01
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 9:23:10 AM
17.60 ft

Filename SDF(120).cpt
GPS
Maximum Depth 124.51 ft

Net Area Ratio .8

CPT DATA



SOIL
BEHAVIOR
TYPE

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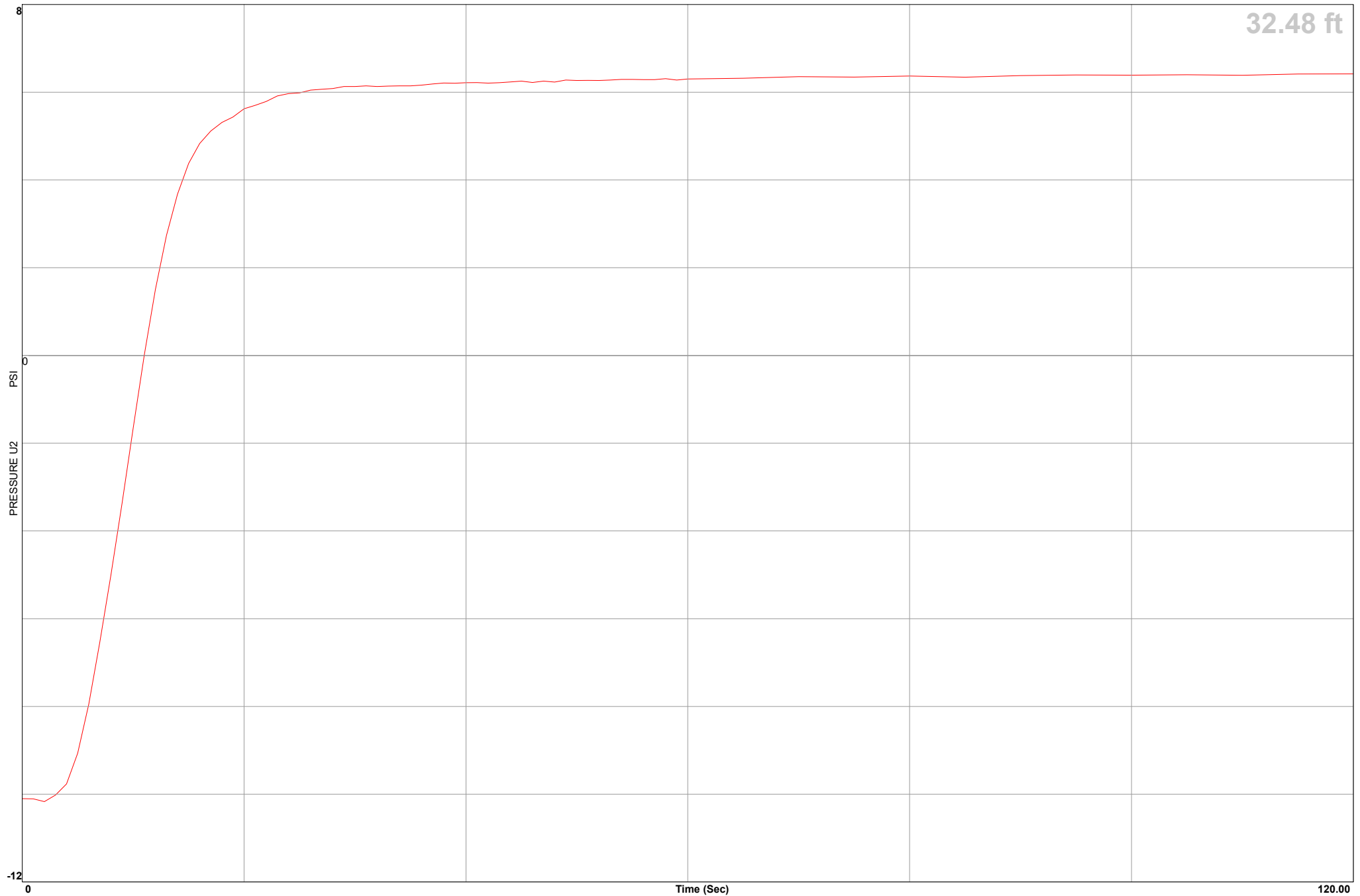


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-01
Equilized Pressure 6.4

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 9:23:10 AM
EST GW Depth During Test 17.6

GPS



32.48 ft



Cornerstone Earth Group

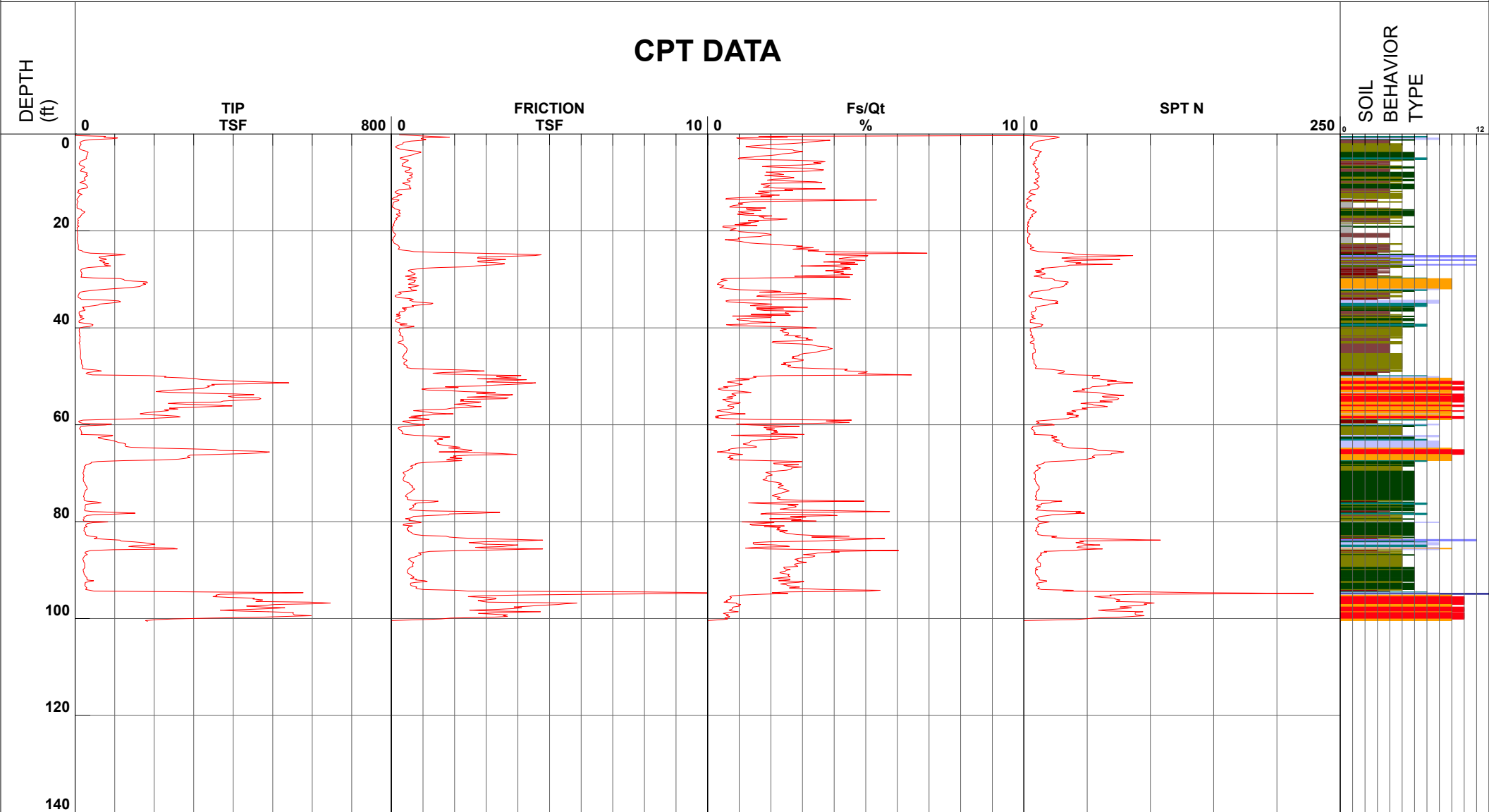
Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-02
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 11:13:37 AM
17.40 ft

Filename SDF(121).cpt
GPS
Maximum Depth 100.56 ft

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained

4 - silty clay to clay

7 - silty sand to sandy silt

10 - gravelly sand to sand

2 - organic material

5 - clayey silt to silty clay

8 - sand to silty sand

11 - very stiff fine grained (*)

3 - clay

6 - sandy silt to clayey silt

9 - sand

12 - sand to clayey sand (*)

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983

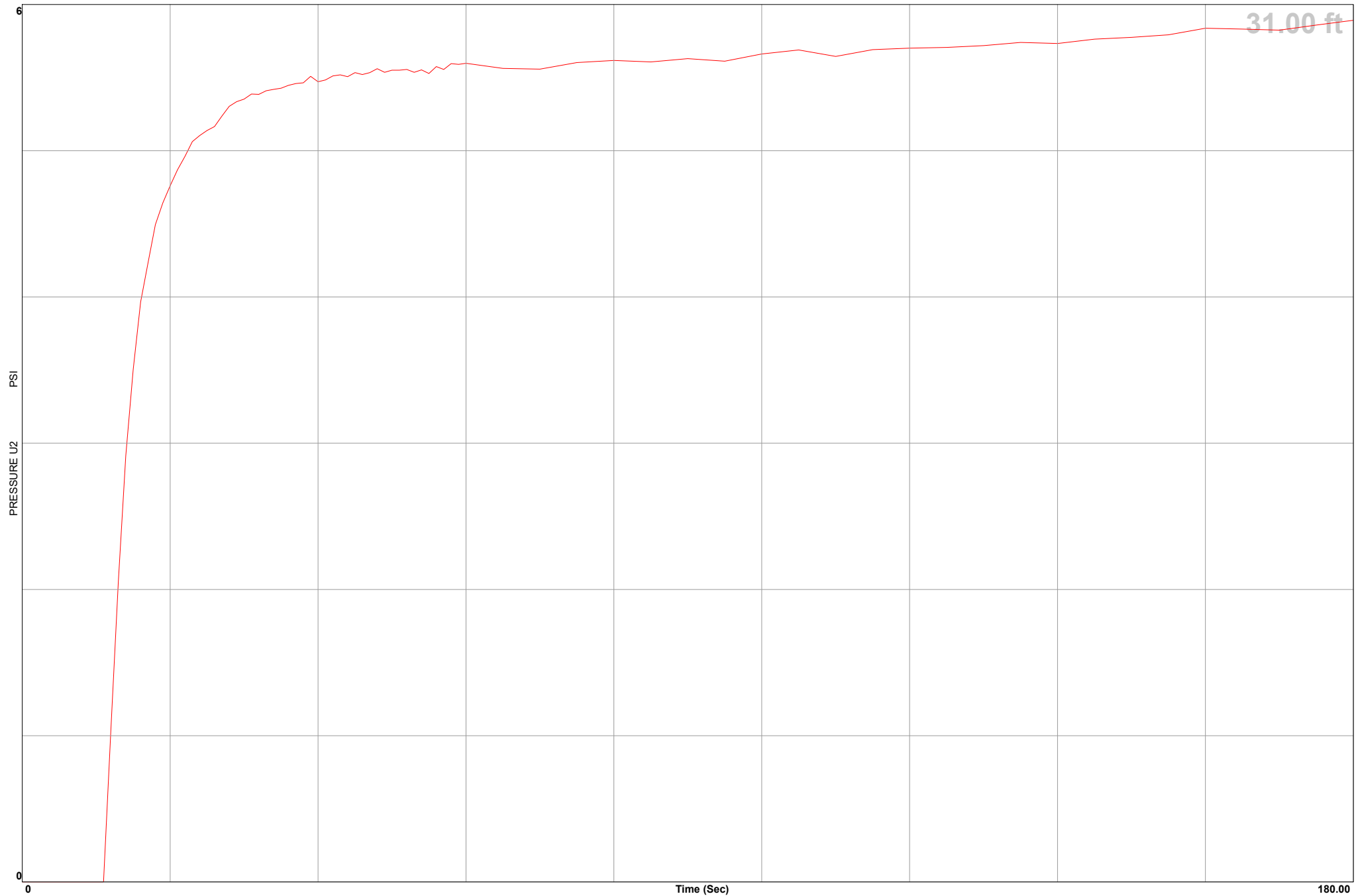


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-02
Equilized Pressure 5.8

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 11:13:37 AM
EST GW Depth During Test 17.4

GPS



31.00 ft



Cornerstone Earth Group

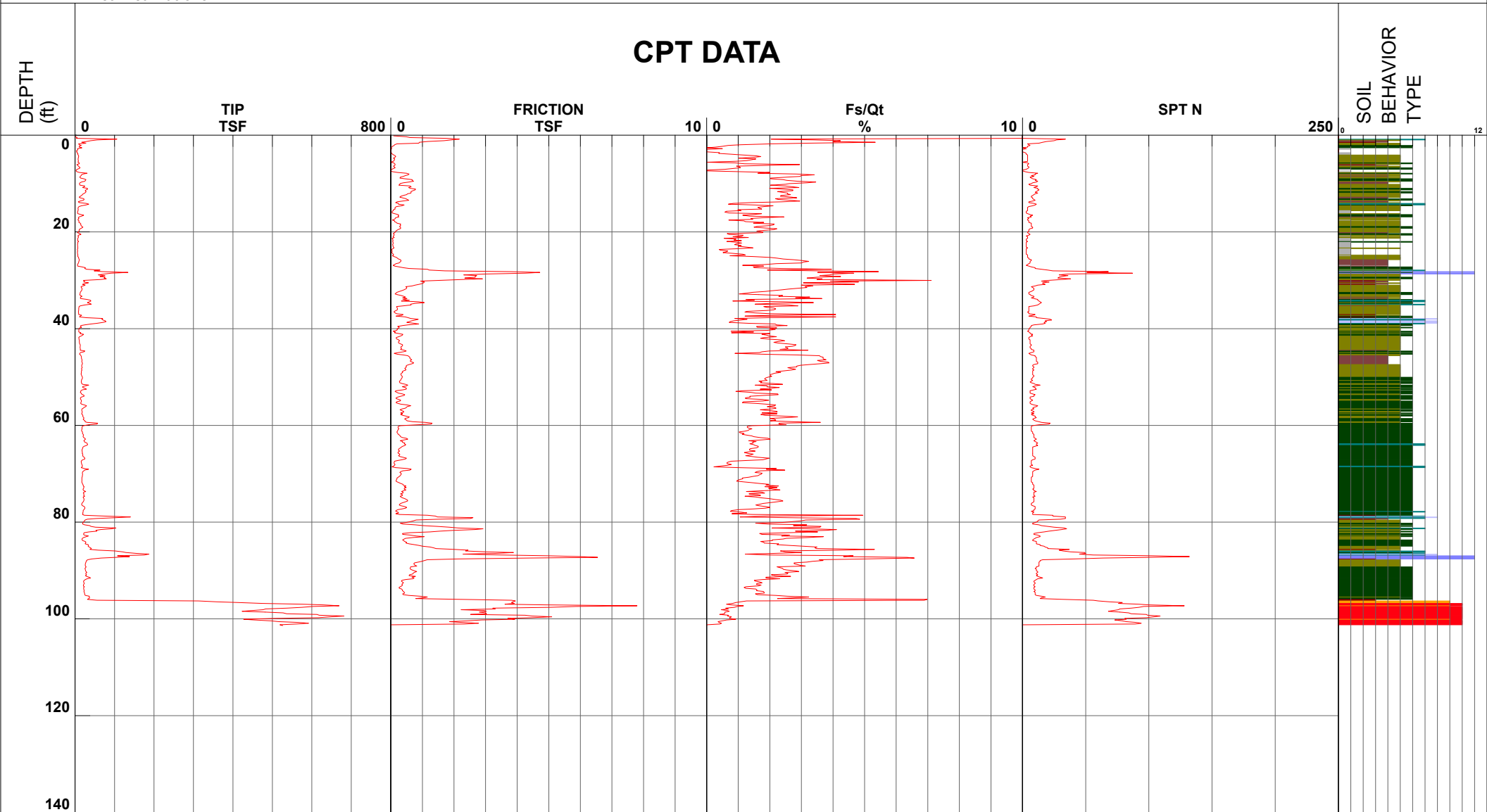
Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-03
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 7:35:39 AM
14.90 ft

Filename SDF(119).cpt
GPS
Maximum Depth 101.38 ft

Net Area Ratio .8

CPT DATA



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983

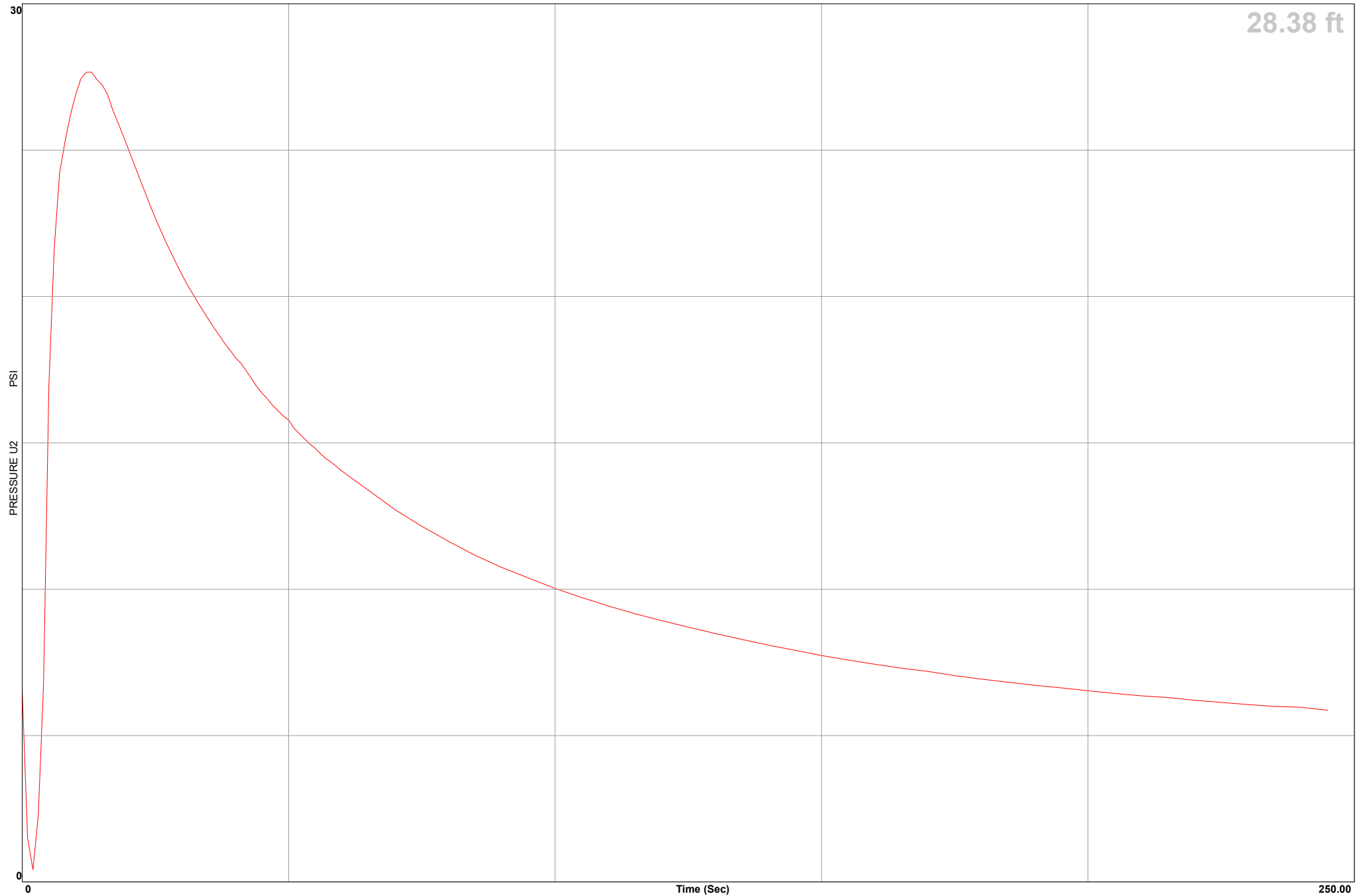


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-03
Equilized Pressure 5.8

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 7:35:39 AM
EST GW Depth During Test 14.9

GPS





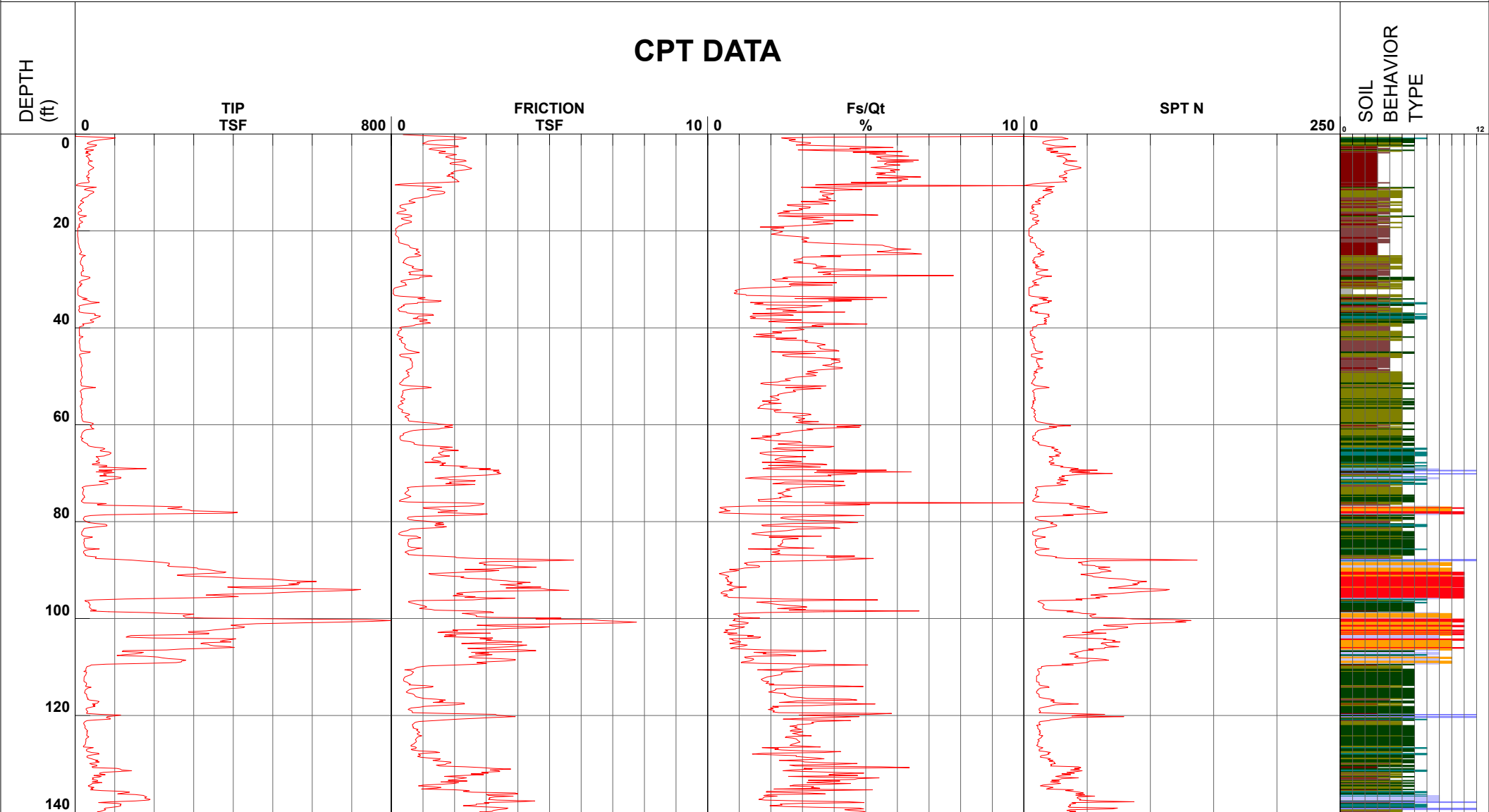
Cornerstone Earth Group

Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-04
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 8:47:39 AM
23.50 ft

Filename SDF(125).cpt
GPS
Maximum Depth 140.58 ft

Net Area Ratio .8



- | | | | |
|------------------------------|---------------------------------|--------------------------------|------------------------------------|
| ■ 1 - sensitive fine grained | ■ 4 - silty clay to clay | ■ 7 - silty sand to sandy silt | ■ 10 - gravelly sand to sand |
| ■ 2 - organic material | ■ 5 - clayey silt to silty clay | ■ 8 - sand to silty sand | ■ 11 - very stiff fine grained (*) |
| ■ 3 - clay | ■ 6 - sandy silt to clayey silt | ■ 9 - sand | ■ 12 - sand to clayey sand (*) |

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983

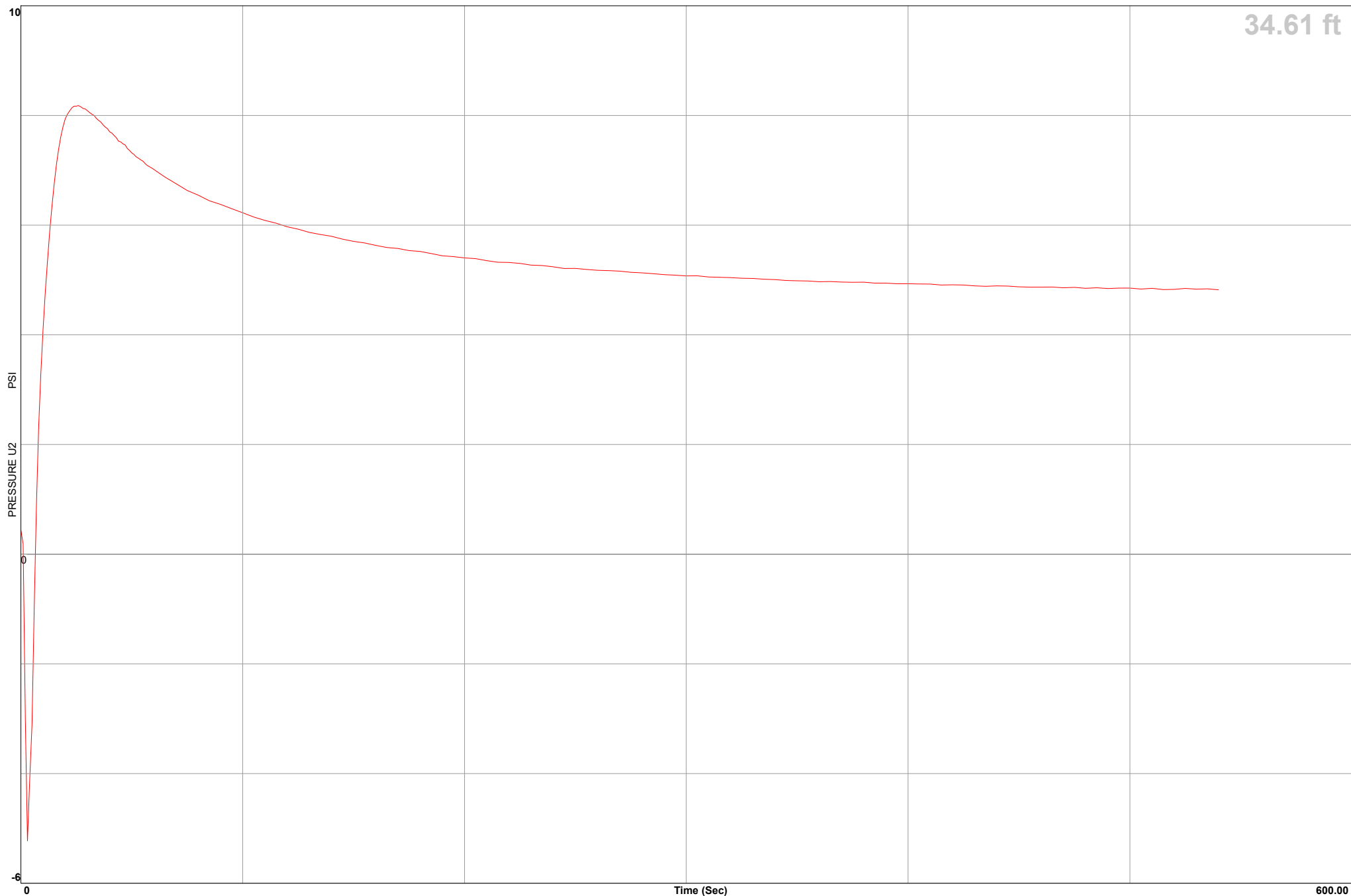


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-04
Equilized Pressure 4.8

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 8:47:39 AM
EST GW Depth During Test 23.5

GPS





Cornerstone Earth Group

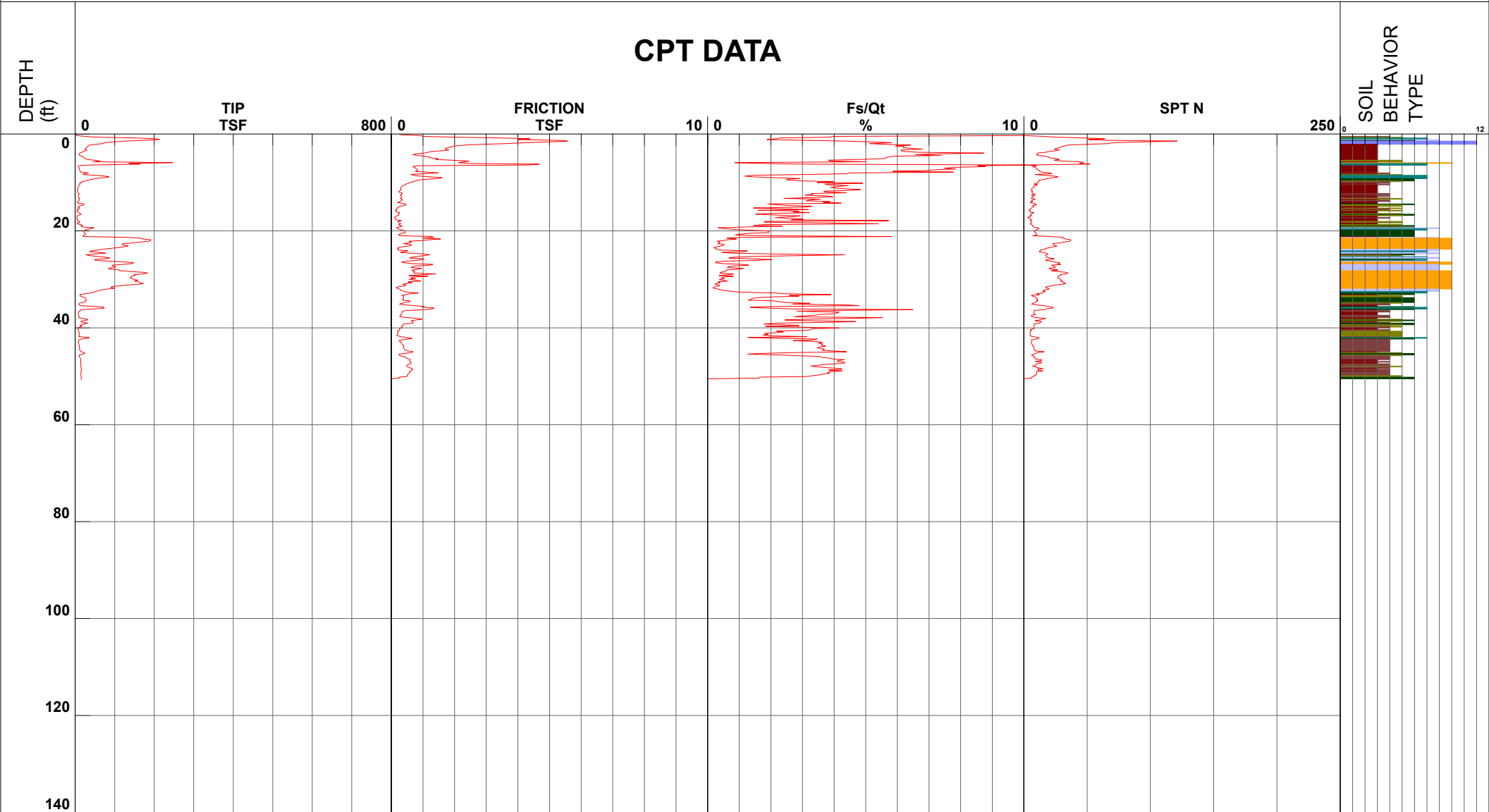
Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-05
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 1:56:05 PM
14.10 ft

Filename SDF(123).cpt
GPS
Maximum Depth 50.69 ft

Net Area Ratio .8

CPT DATA



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983

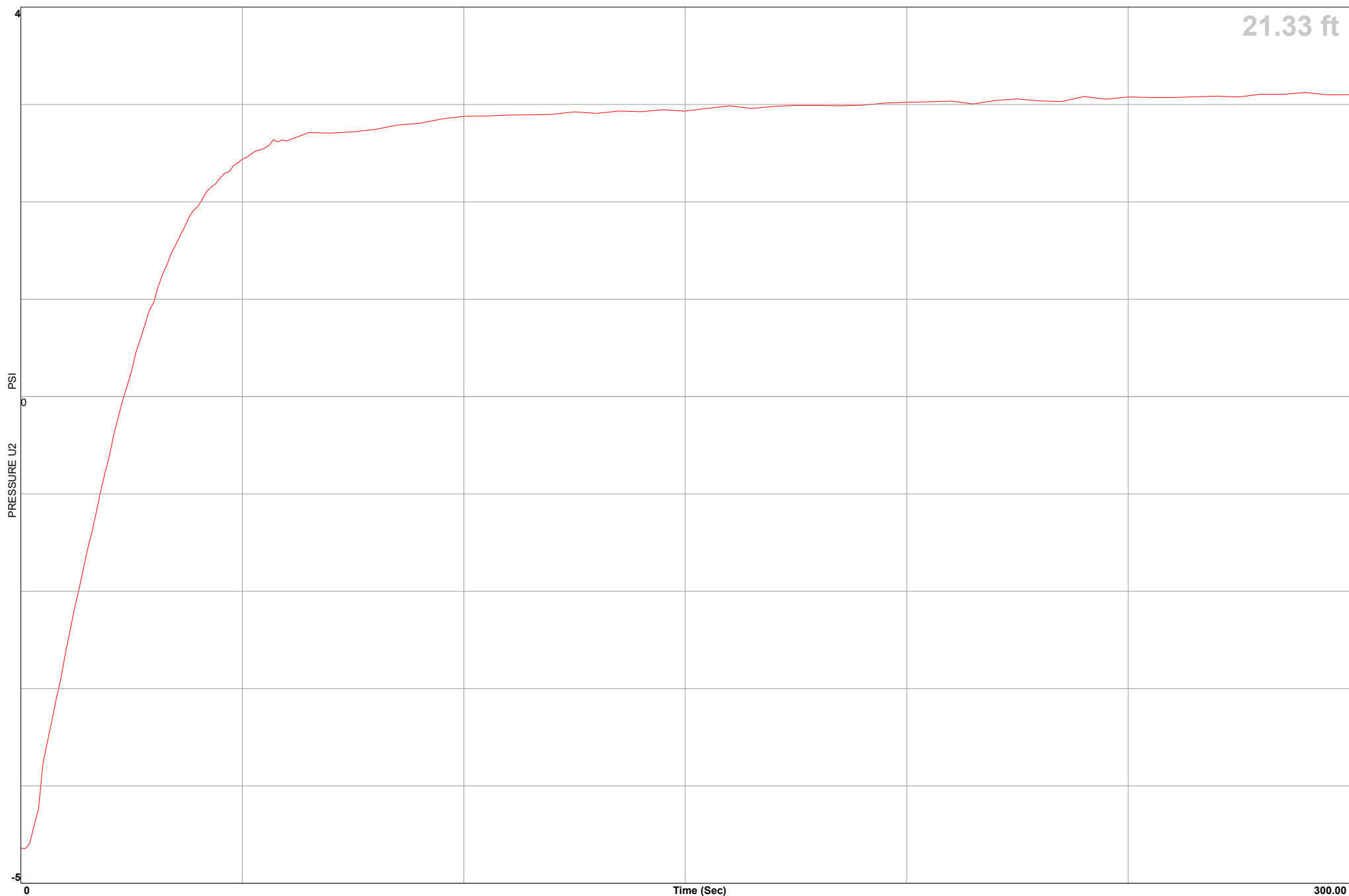


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-05
Equilized Pressure 3.1

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 1:56:05 PM
EST GW Depth During Test 14.1

GPS





Cornerstone Earth Group

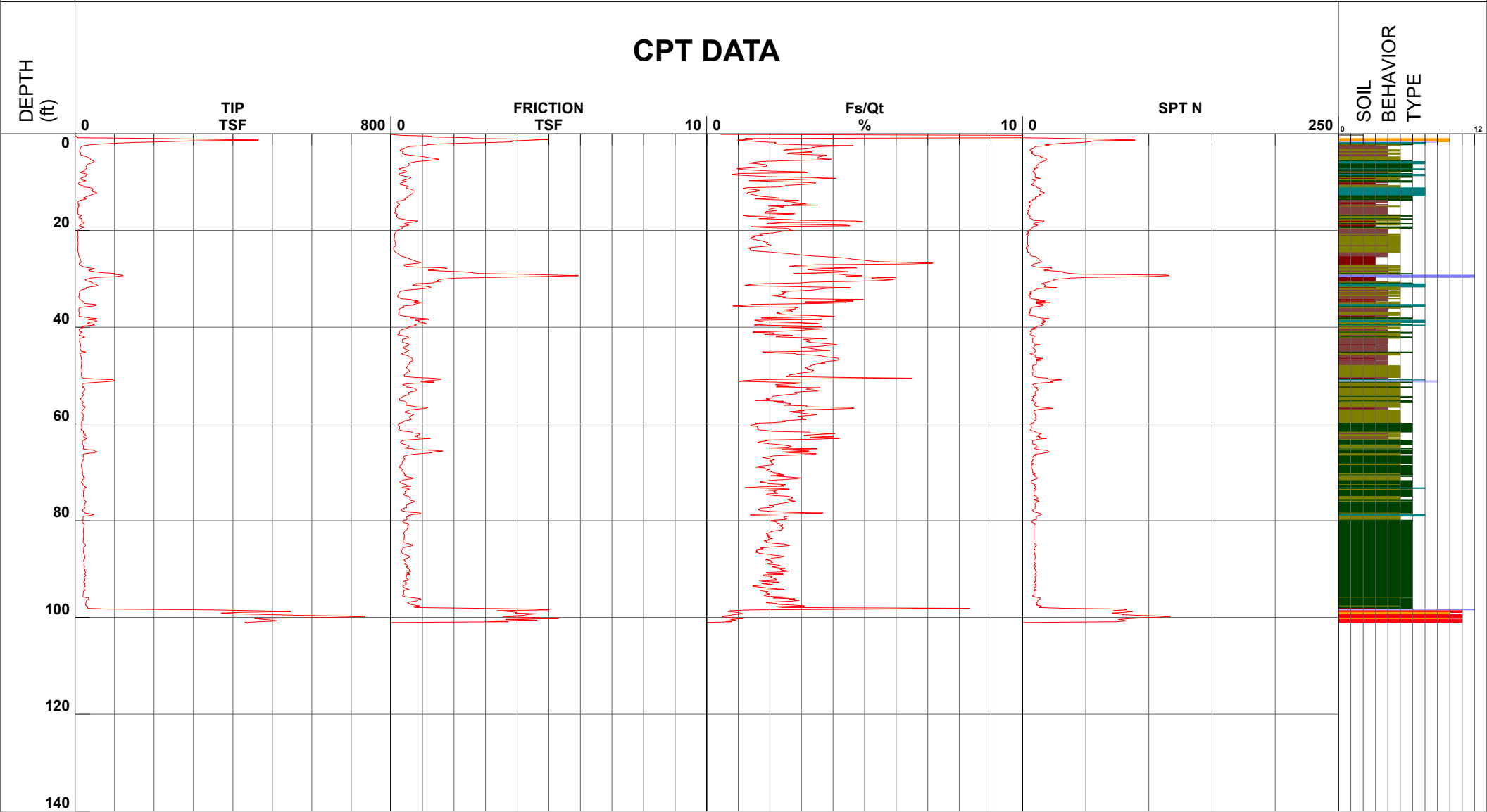
Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-06
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/5/2018 12:39:35 PM
17.00 ft

Filename SDF(122).cpt
GPS
Maximum Depth 101.21 ft

Net Area Ratio .8

CPT DATA



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983



Cornerstone Earth Group

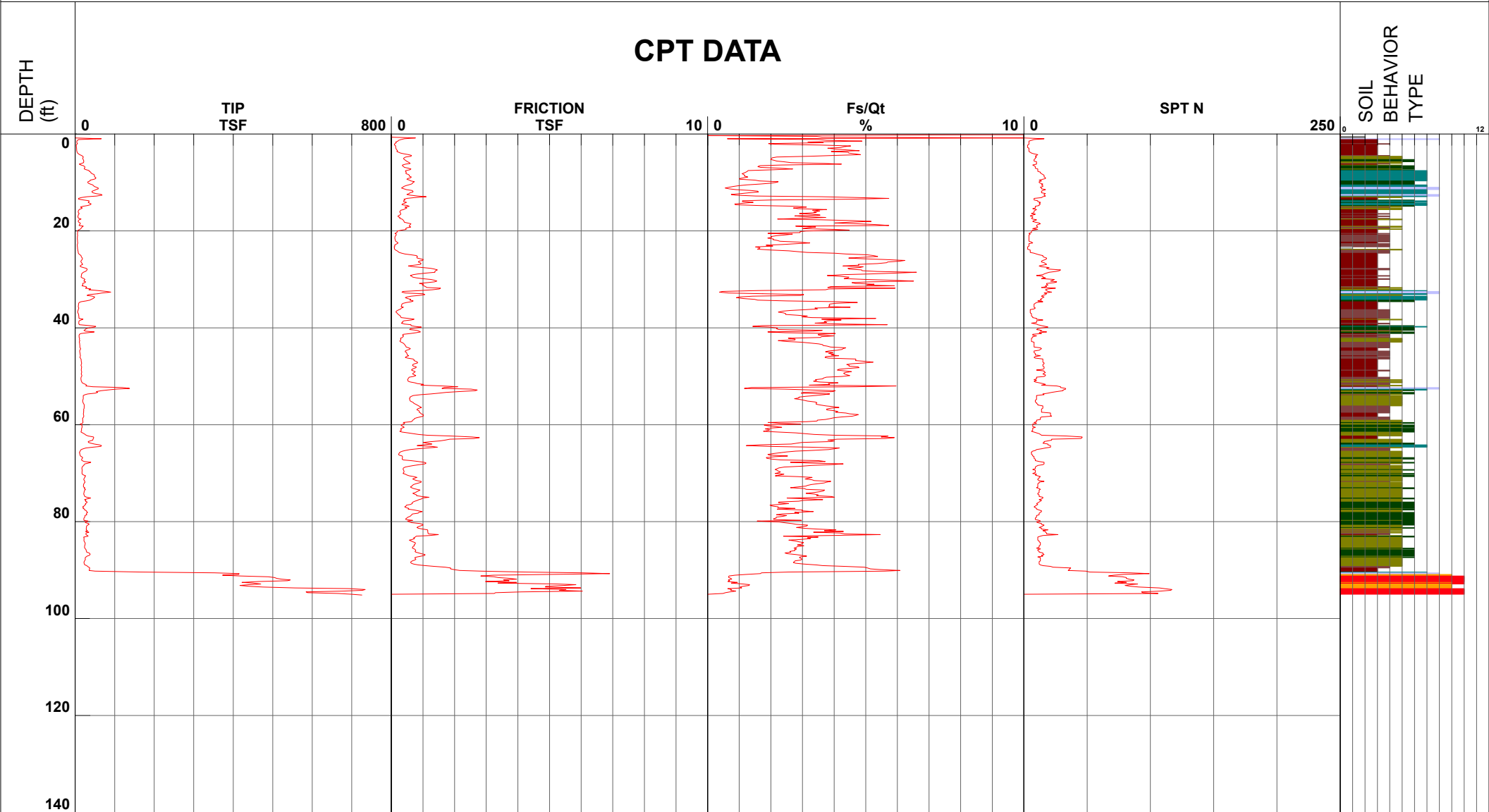
Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-07
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 12:13:07 PM
15.70 ft

Filename SDF(127).cpt
GPS
Maximum Depth 95.14 ft

Net Area Ratio .8

CPT DATA



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983

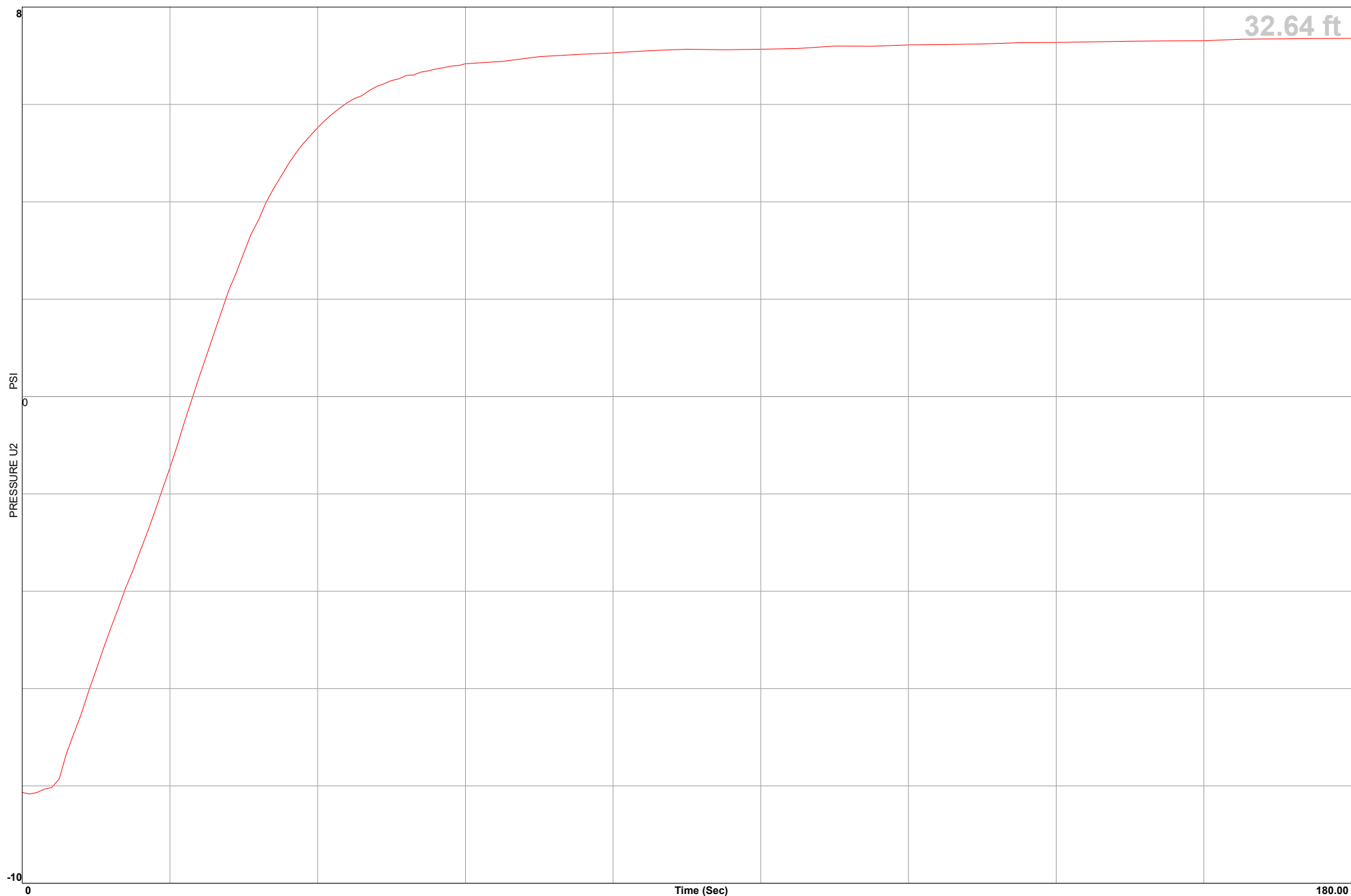


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-07
Equilized Pressure 7.3

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 12:13:07 PM
EST GW Depth During Test 15.7

GPS



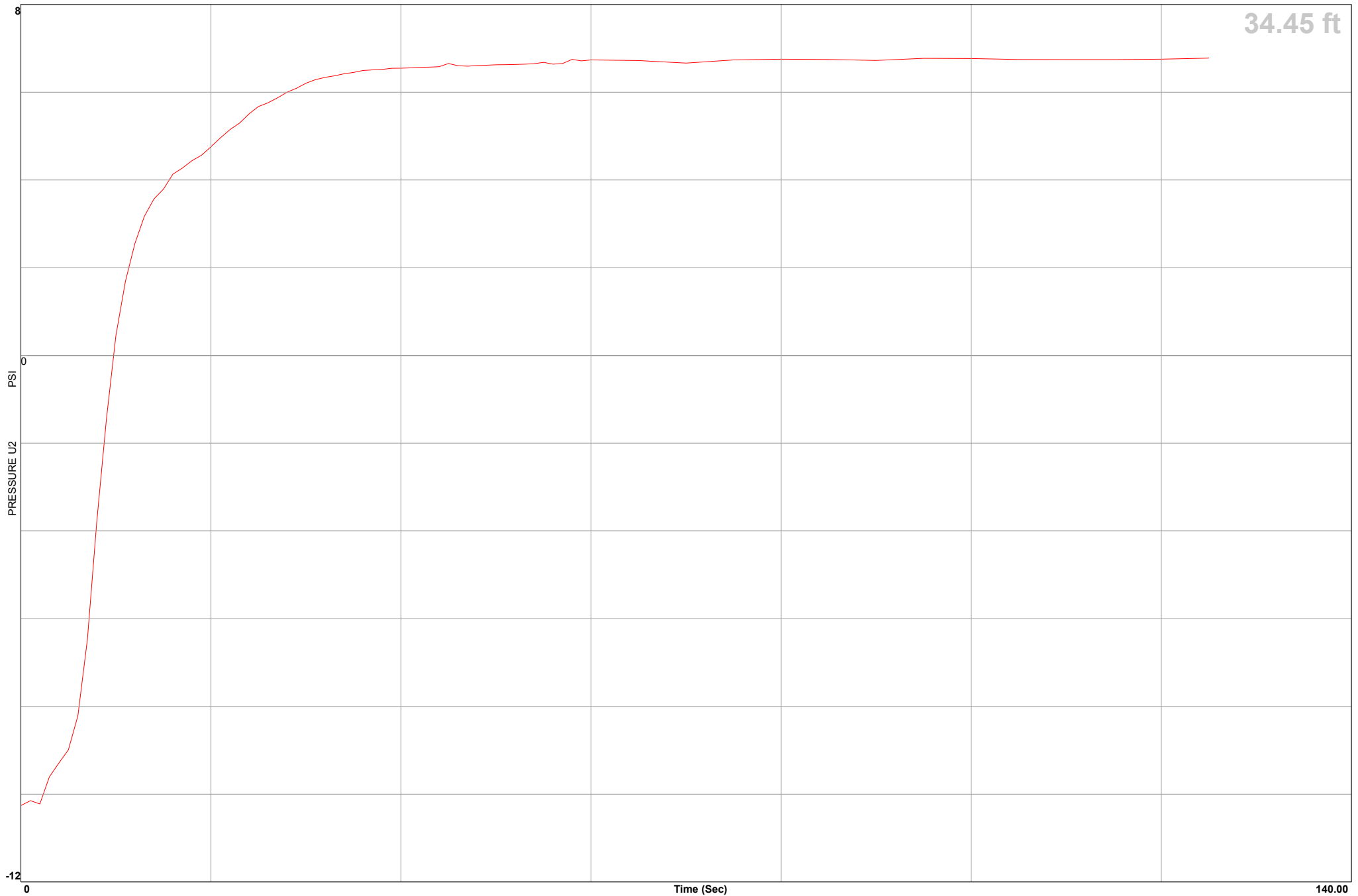


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-08
Equilized Pressure 6.7

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 7:21:13 AM
EST GW Depth During Test 18.9

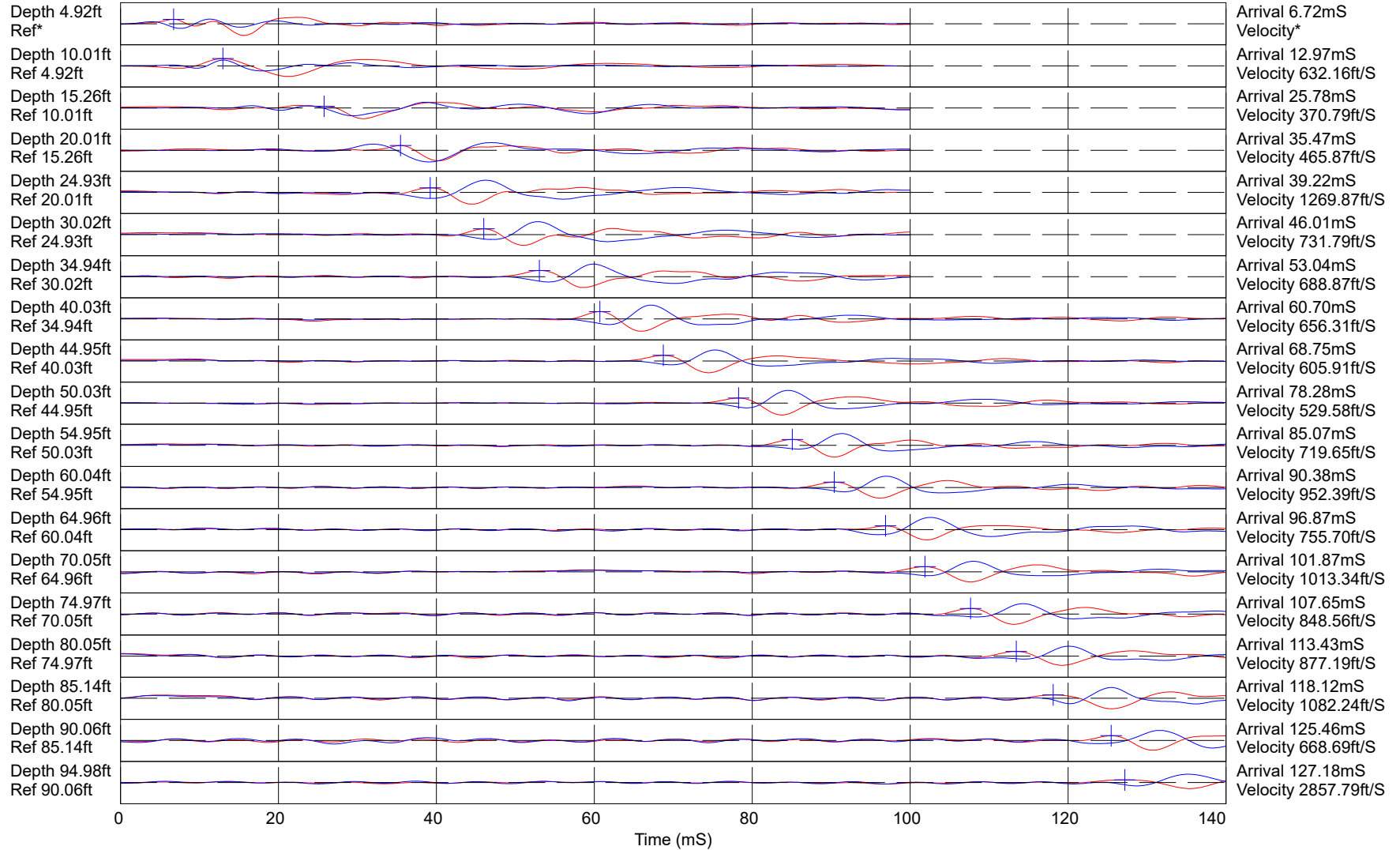
GPS



CPT-08

Cornerstone Earth Group

300 S 1st Street Mixed Use GI



Hammer to Rod String Distance (ft): 5.83

* = Not Determined

COMMENT:



Cornerstone Earth Group

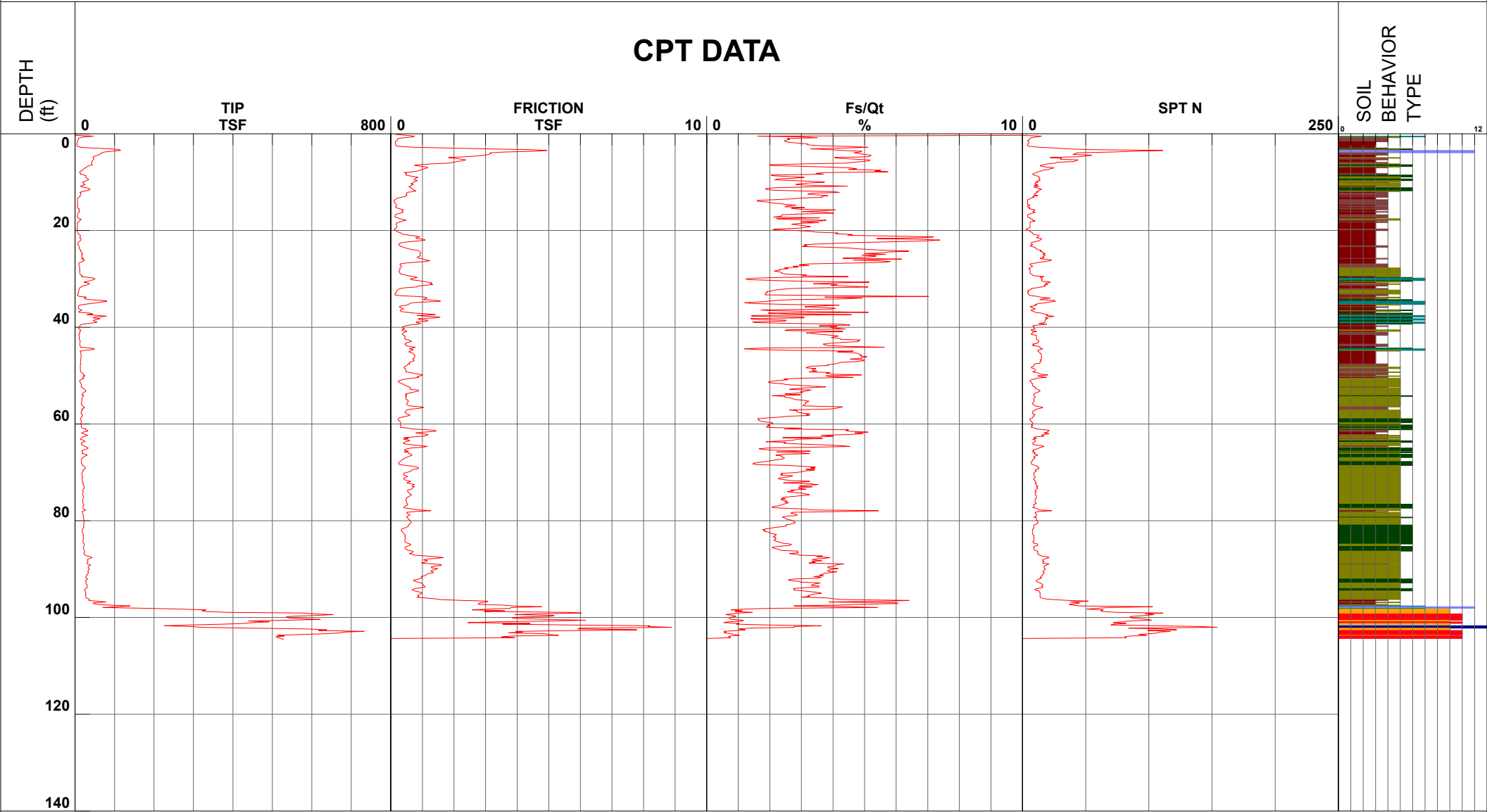
Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-09
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 1:33:06 PM
13.90 ft

Filename SDF(128).cpt
GPS
Maximum Depth 104.49 ft

Net Area Ratio .8

CPT DATA



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983

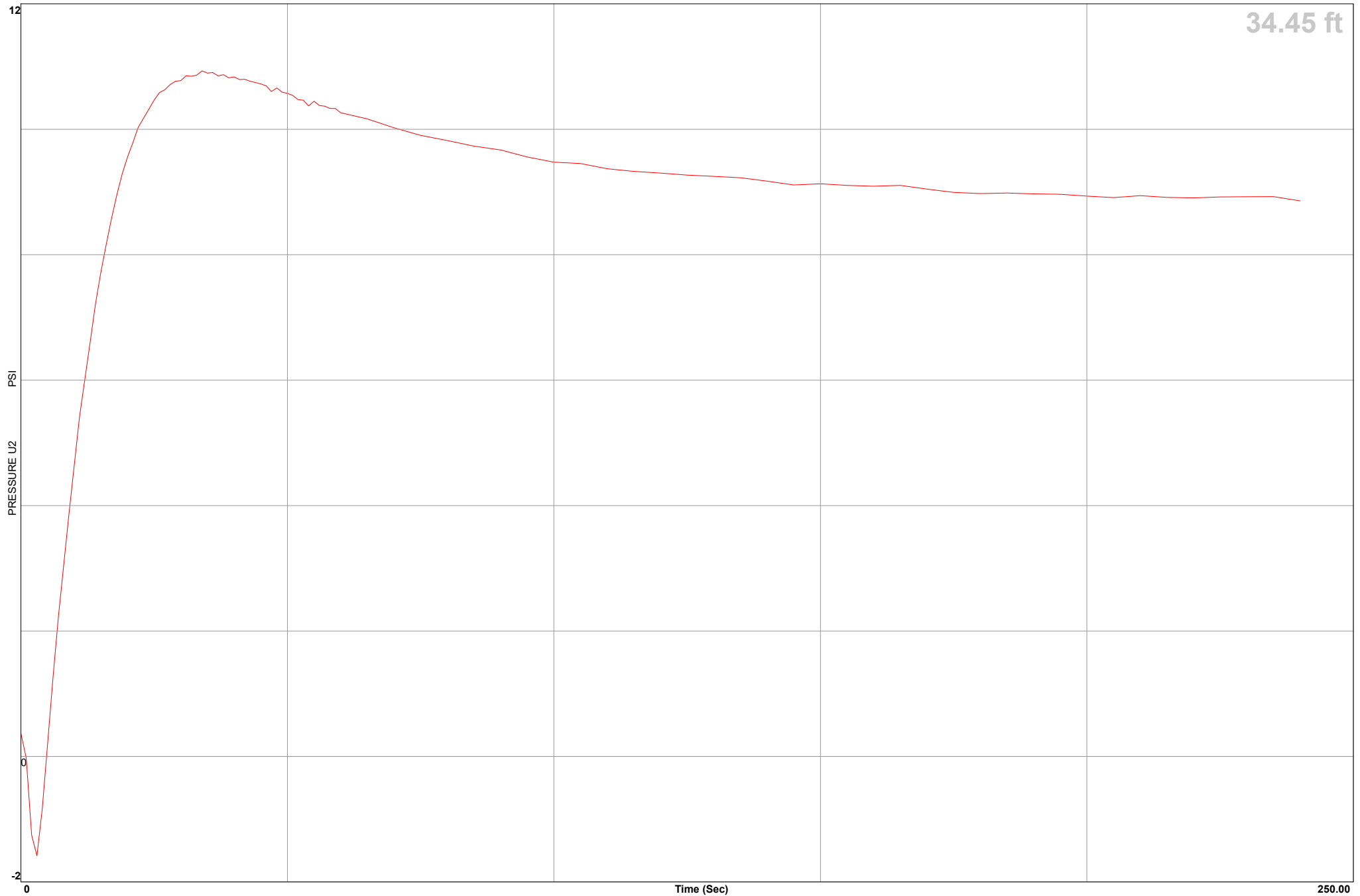


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-09
Equilized Pressure 8.8

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 1:33:06 PM
EST GW Depth During Test 13.9

GPS





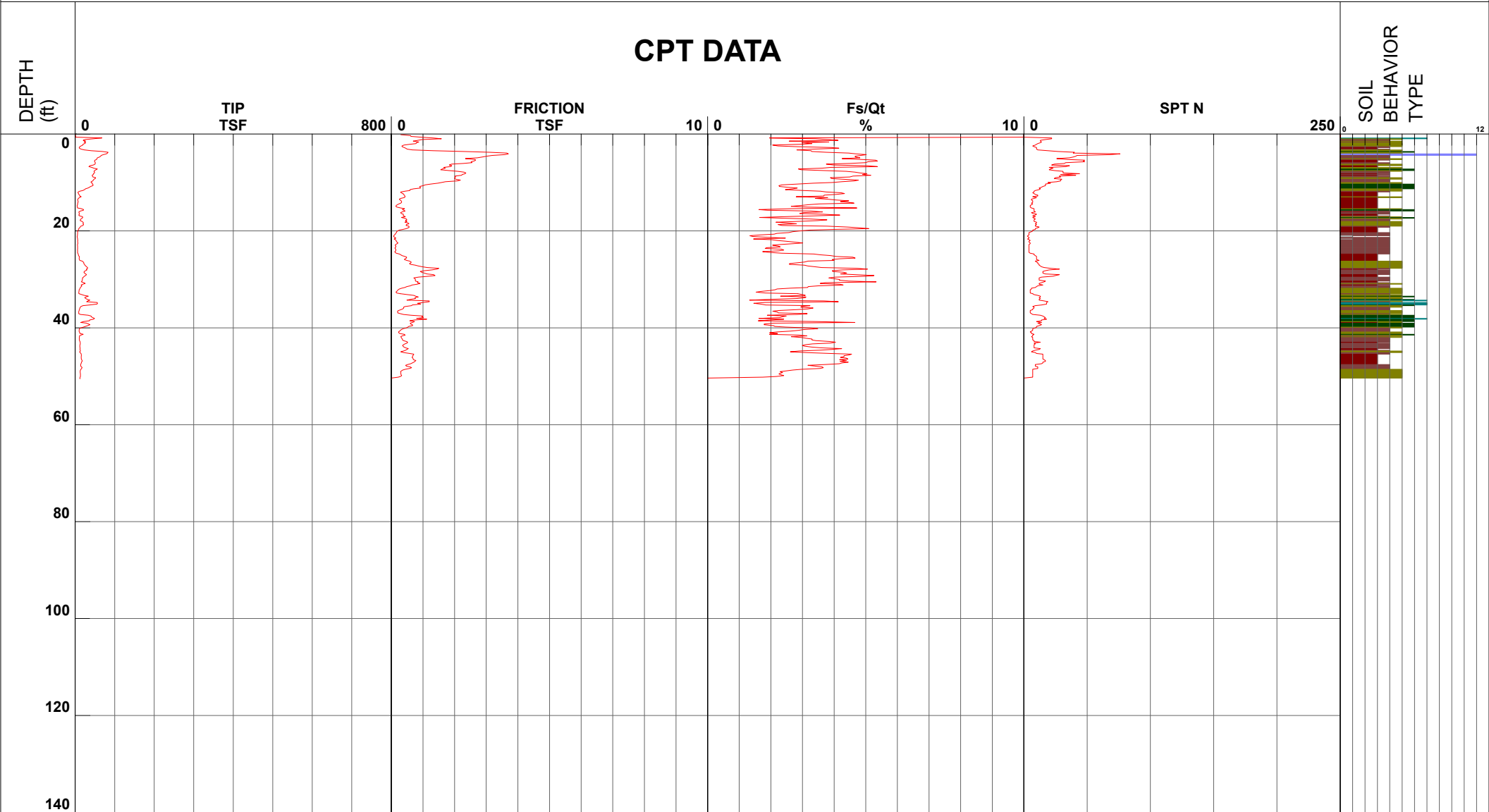
Cornerstone Earth Group

Project 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-10
EST GW Depth During Test

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 10:55:06 AM
15.70 ft

Filename SDF(126).cpt
GPS
Maximum Depth 50.52 ft

Net Area Ratio .8



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Cone Size 10cm squared

S*Soil behavior type and SPT based on data from UBC-1983

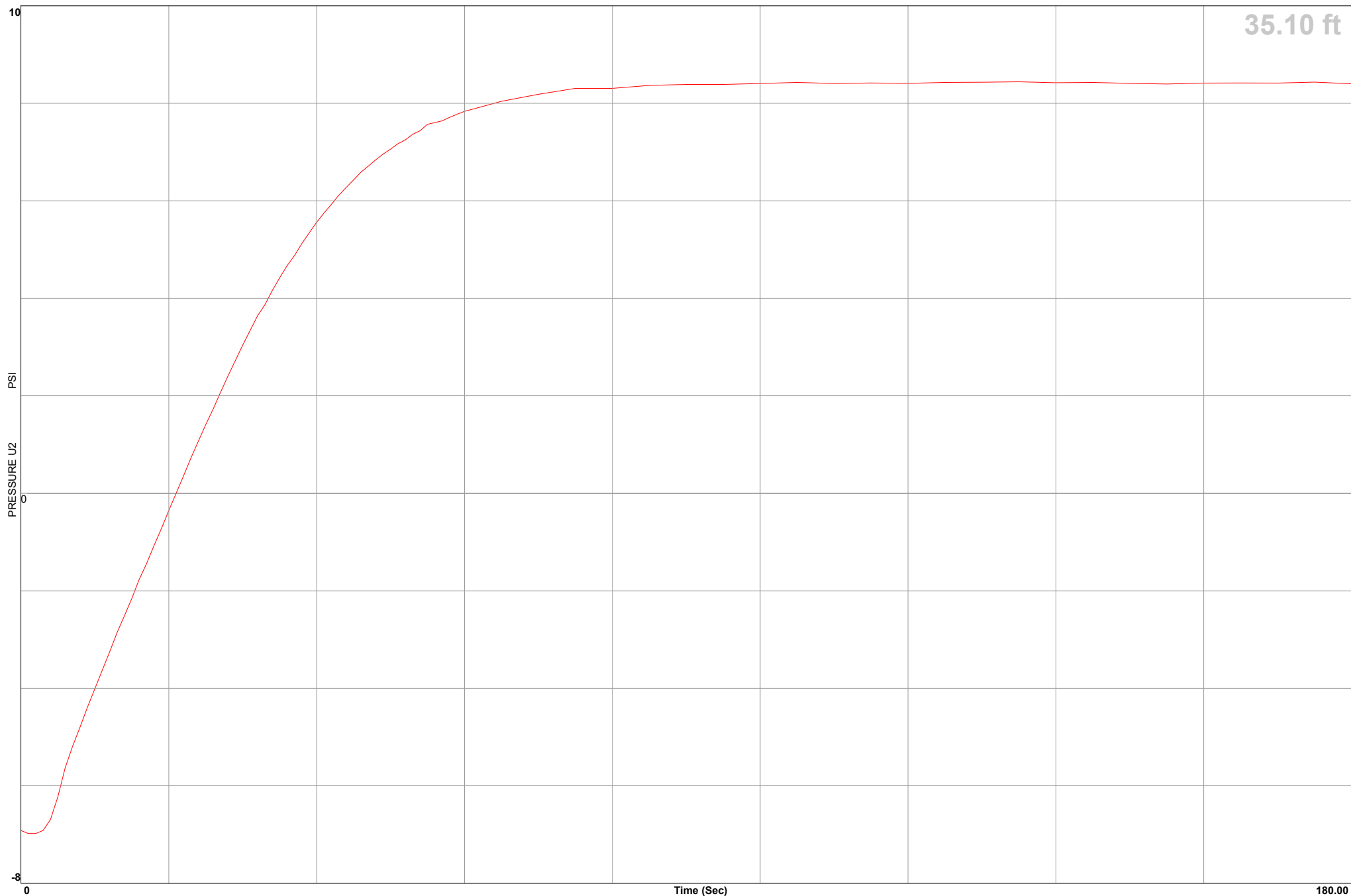


Cornerstone Earth Group

Location 300 S 1st Street Mixed Use GI
Job Number 815-3-1
Hole Number CPT-10
Equilized Pressure 8.3

Operator RB-JM
Cone Number DDG1281
Date and Time 12/6/2018 10:55:06 AM
EST GW Depth During Test 15.7

GPS



APPENDIX B: PREVIOUS LABORATORY TEST PROGRAM

The laboratory testing program was performed to evaluate the physical and mechanical properties of the soils retrieved from the site to aid in verifying soil classification.

Moisture Content: The natural water content was determined (ASTM D2216) on 79 samples of the materials recovered from the borings. These water contents are recorded on the boring logs at the appropriate sample depths.

Dry Densities: In place dry density determinations (ASTM D2937) were performed on 72 samples to measure the unit weight of the subsurface soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

Washed Sieve Analyses: The percent soil fraction passing the No. 200 sieve (ASTM D1140) was determined on 11 samples of the subsurface soils to aid in the classification of these soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

Plasticity Index: Two Plasticity Index determinations (ASTM D4318) were performed on samples of the subsurface soils to measure the range of water contents over which this material exhibits plasticity. The Plasticity Index was used to classify the soil in accordance with the Unified Soil Classification System and to evaluate the soil expansion potential. Results of these tests are shown on the boring logs at the appropriate sample depths.

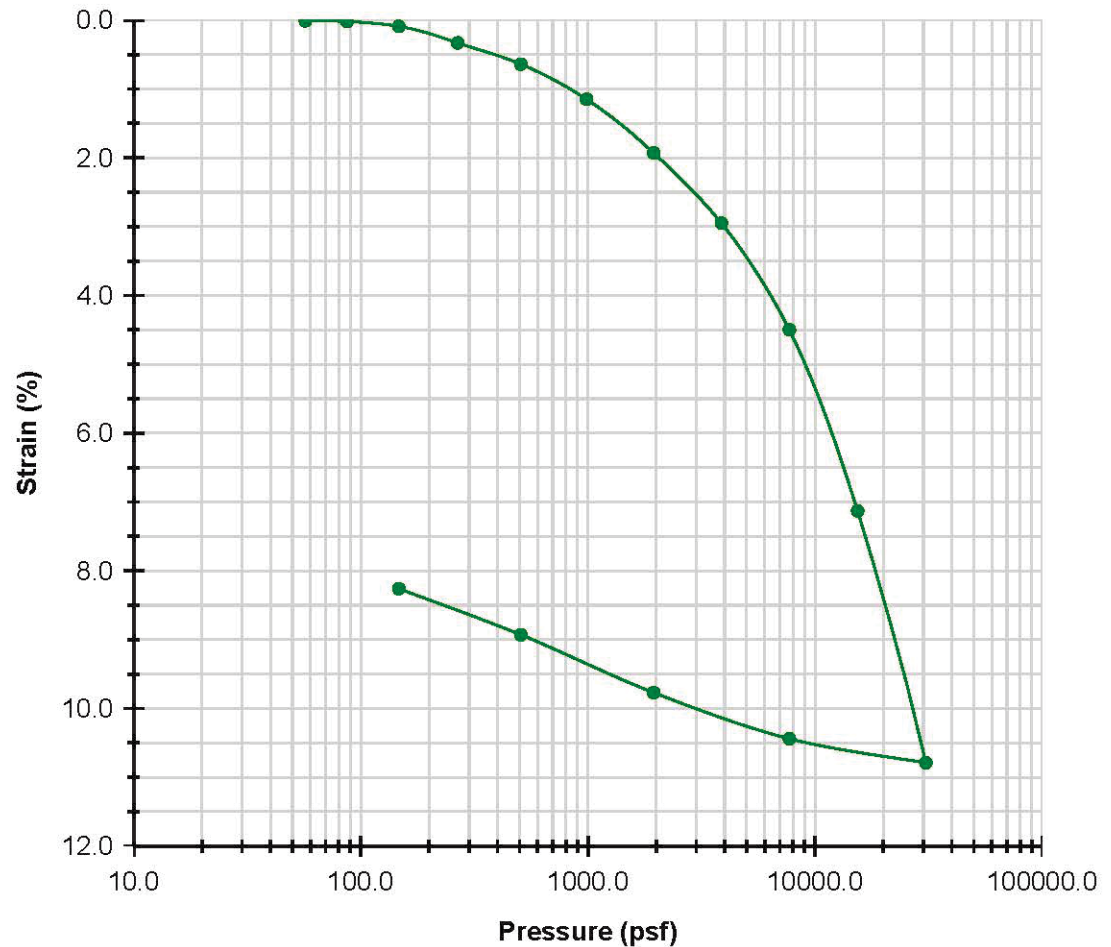
Undrained-Unconsolidated Triaxial Shear Strength: The undrained shear strength was determined on five relatively undisturbed sample(s) by unconsolidated-undrained triaxial shear strength testing (ASTM D2850). The results of this test are included as part of this appendix.

Consolidation: Five consolidation tests (ASTM D2435) were performed on relatively undisturbed samples of the subsurface clayey soils to assist in evaluating the compressibility property of this soil. Results of the consolidation tests are presented graphically in this appendix.

Consolidation Test ASTM D2435

Boring: EB-1 Sample: 16 Depth: 70.0'

Description: Lean Clay (CL)



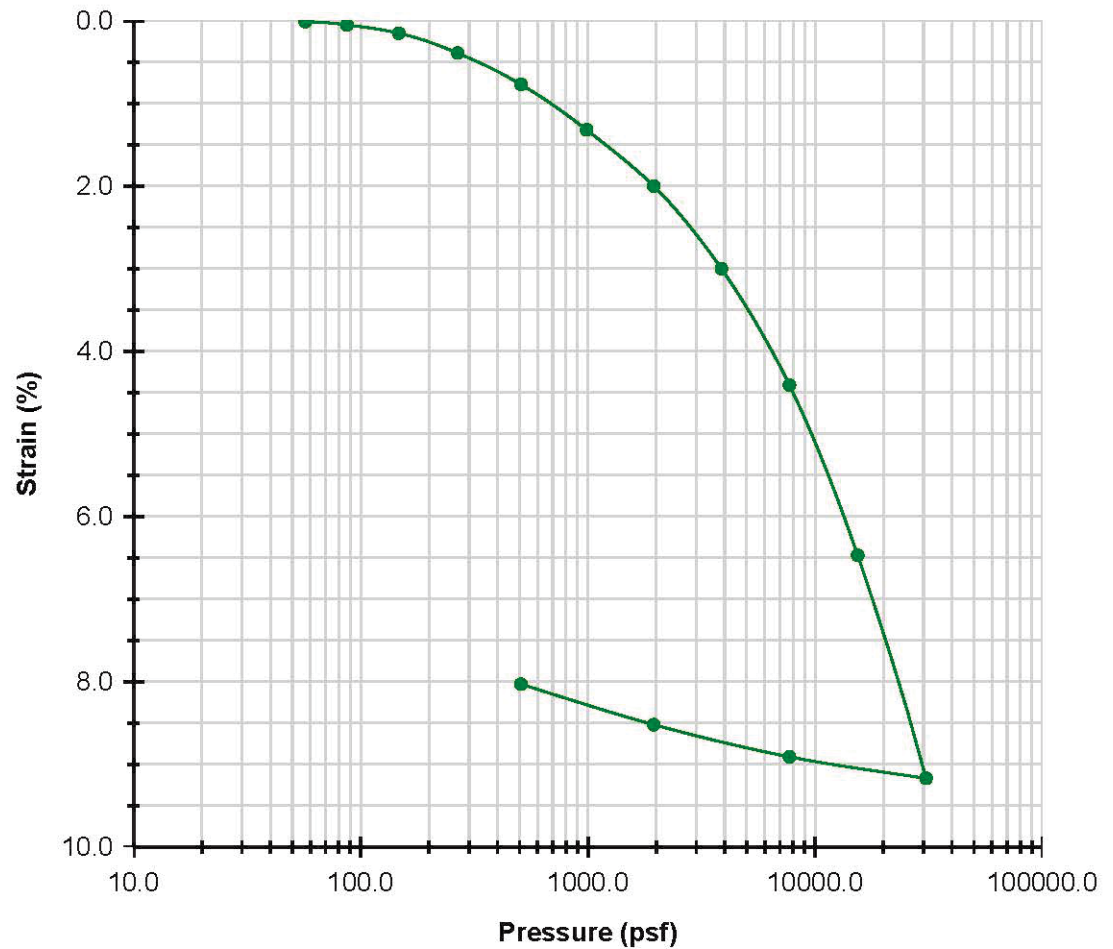
	BEFORE	AFTER
Moisture (%)	23.8	21.5
Dry Density (pcf)	102.1	107.2
Saturation (%)	97.5	100.0
Void Ratio	0.66	0.58

—●— (A) Stress Strain Curve

Consolidation Test ASTM D2435

Boring: EB-3 Sample: 12 Depth: 54.8'

Description: Lean Clay (CL)

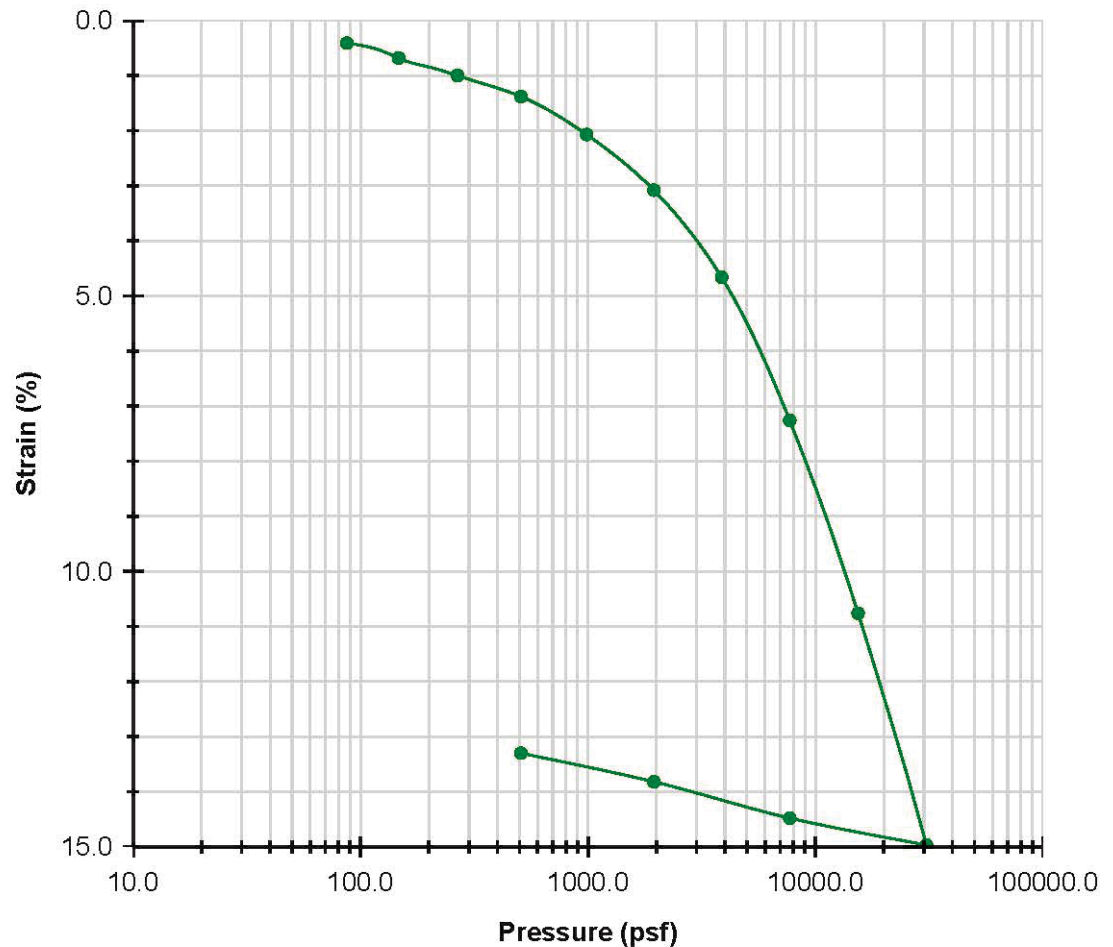


	BEFORE	AFTER
Moisture (%)	25.3	20.7
Dry Density (pcf)	101.1	108.7
Saturation (%)	101.4	100.0
Void Ratio	0.68	0.56

—●— (A) Stress Strain Curve

Consolidation Test ASTM D2435

Boring: EB-6 Sample: 9 Depth: 36.0'
 Description: Lean Clay (CL)



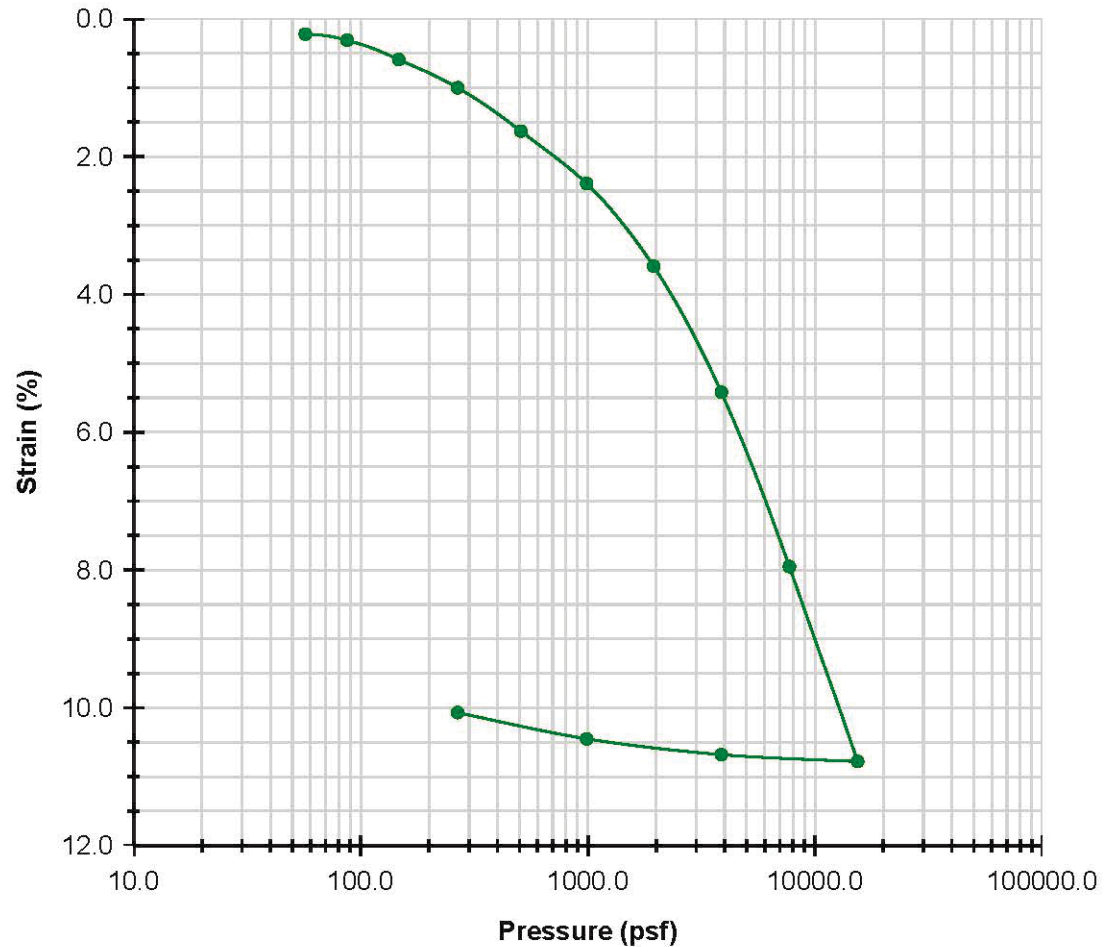
	BEFORE	AFTER
Moisture (%)	35.3	28.3
Dry Density (pcf)	87.2	95.9
Saturation (%)	101.3	100.0
Void Ratio	0.95	0.77

—●— (A) Stress Strain Curve

Consolidation Test ASTM D2435

Boring: EB-8 Sample: 6 Depth: 32.5'

Description: Sandy Lean Clay (CL)



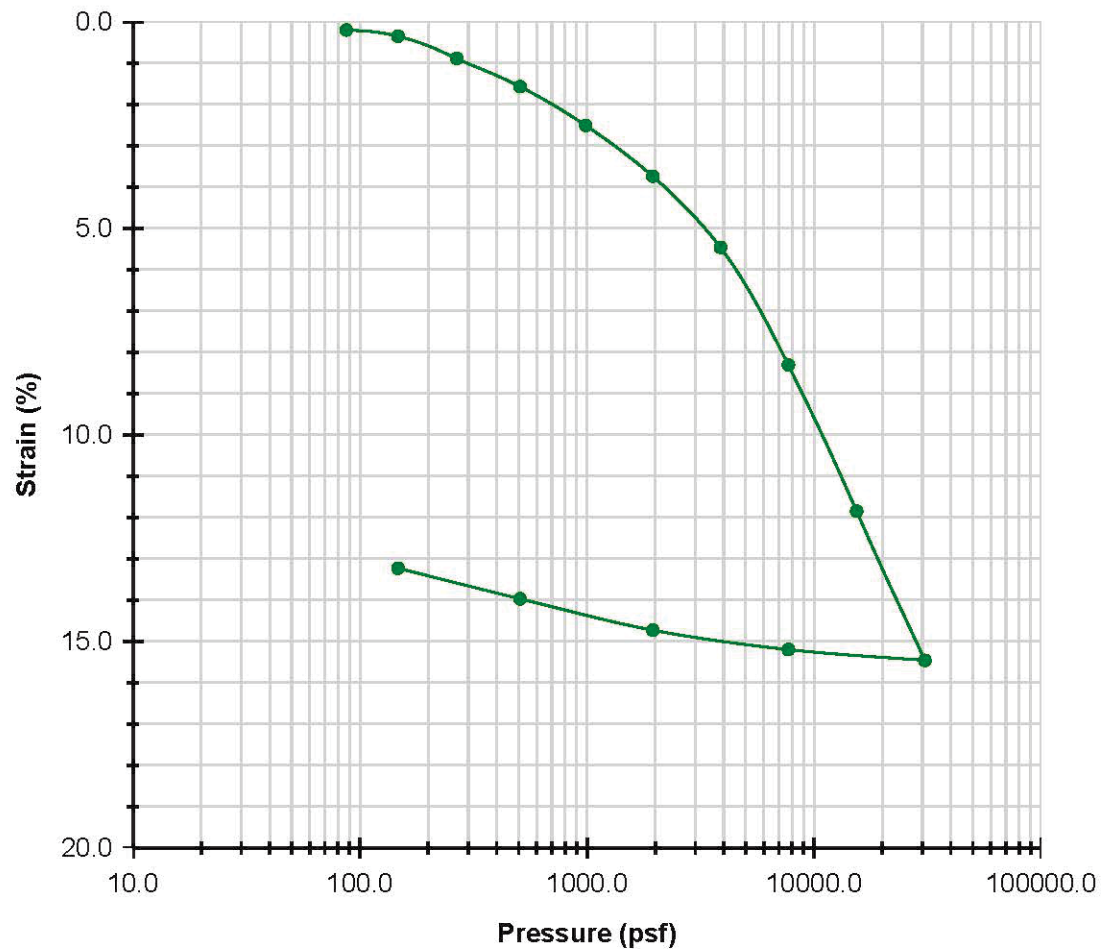
	BEFORE	AFTER
Moisture (%)	28.9	23.6
Dry Density (pcf)	92.2	103.4
Saturation (%)	93.5	100.0
Void Ratio	0.84	0.64

—●— (A) Stress Strain Curve

Consolidation Test ASTM D2435

Boring: EB-8 Sample: 8 Depth: 37.5'

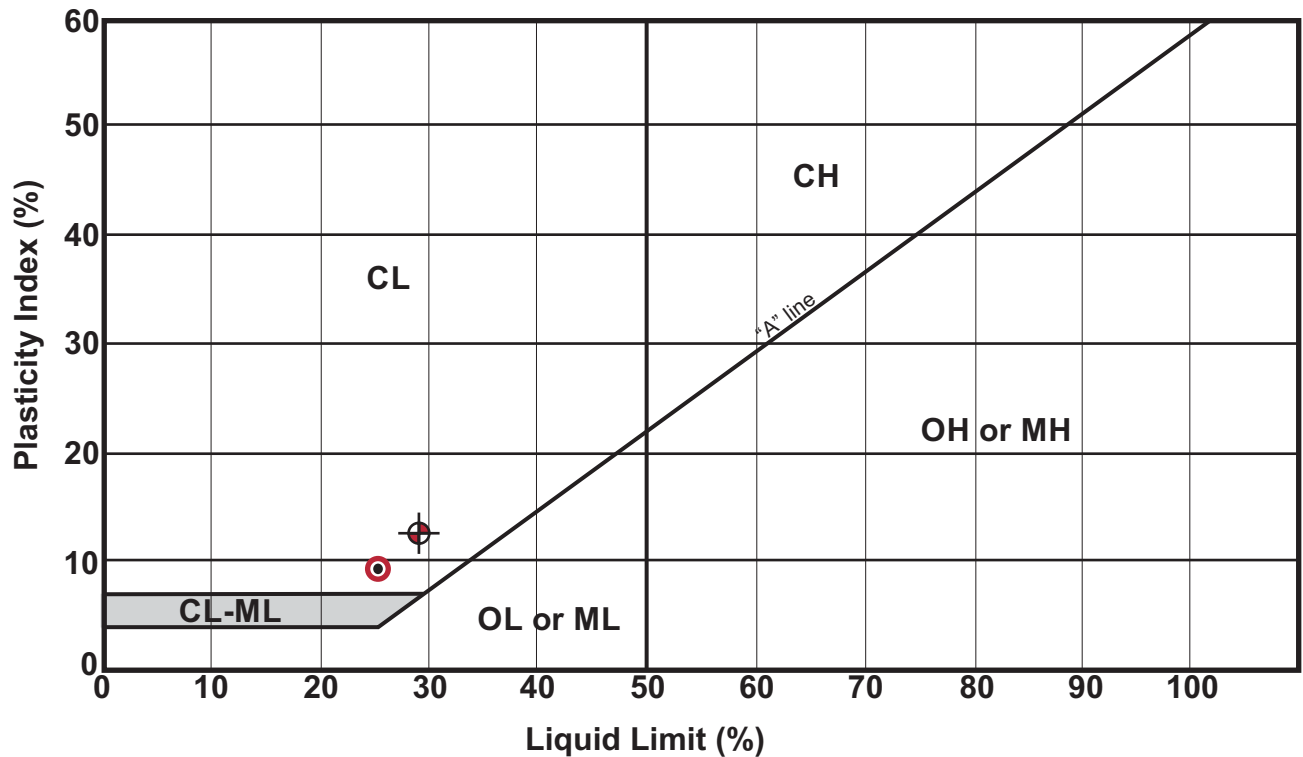
Description: Sandy Lean Clay (CL)



	BEFORE	AFTER
Moisture (%)	25.0	19.5
Dry Density (pcf)	99.2	110.9
Saturation (%)	95.6	100.0
Void Ratio	0.71	0.53

—●— (A) Stress Strain Curve

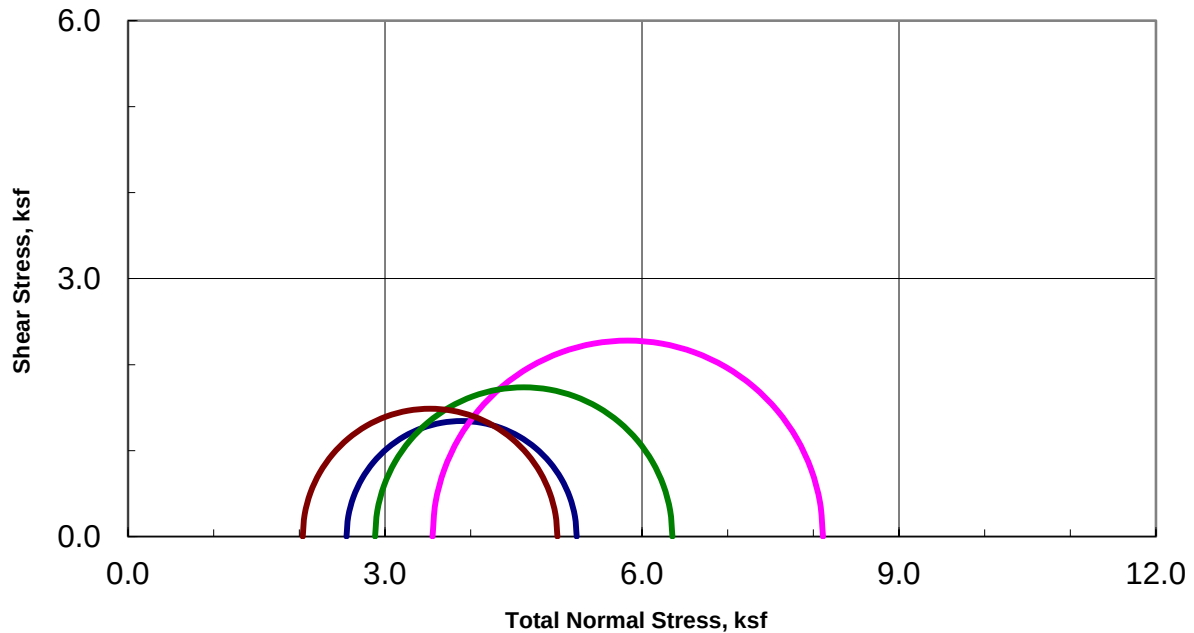
Plasticity Index (ASTM D4318) Testing Summary



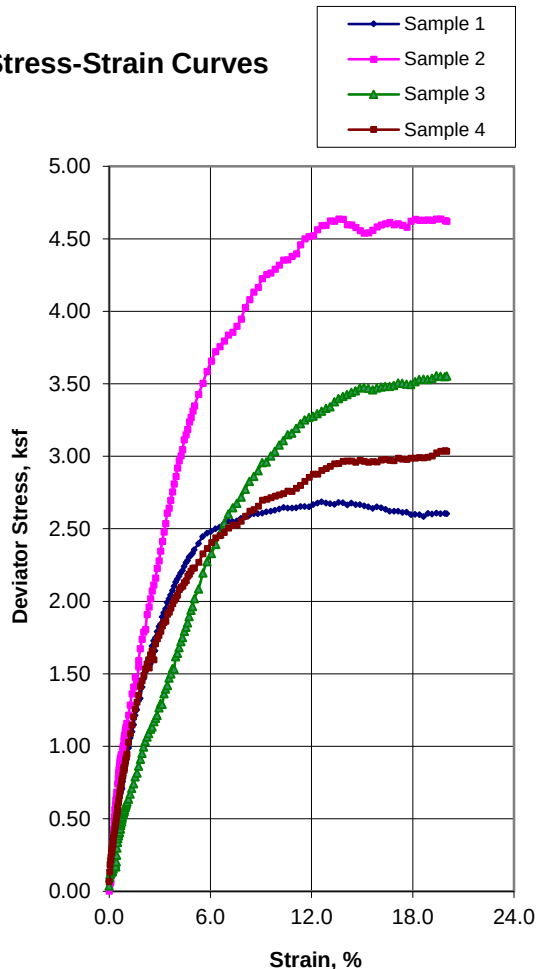
Symbol	Boring No.	Depth (ft)	Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Passing No. 200 (%)	Group Name (USCS - ASTM D2487)
⊗	EB-3	3.0	22	29	17	12	—	Lean Clay with Sand (CL) [Fill]
⊙	EB-5	2.0	18	25	16	9	—	Lean Clay with Sand (CL)



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	37.5	23.1	26.7	30.6
Dry Den,pcf	78.2	103.0	97.3	92.2
Void Ratio	1.154	0.637	0.732	0.828
Saturation %	87.7	98.0	98.7	99.8
Height in	6.08	6.08	6.10	6.08
Diameter in	2.86	2.86	2.86	2.87
Cell psi	17.7	24.7	20.0	14.2
Strain %	12.59	15.00	15.00	15.00
Deviator, ksf	2.688	4.558	3.471	2.973
Rate %/min	1.00	1.00	1.00	1.00
in/min	0.061	0.061	0.061	0.061

Job No.:	640-1273a			
Client:	Cornerstone Earth Group			
Project:	851-3-1			
Boring:	EB-1	EB-1	EB-3	EB-8
Sample:	11	16	12	6
Depth ft:	42(Tip-1.5")	68	52.5	30.5

Visual Soil Description

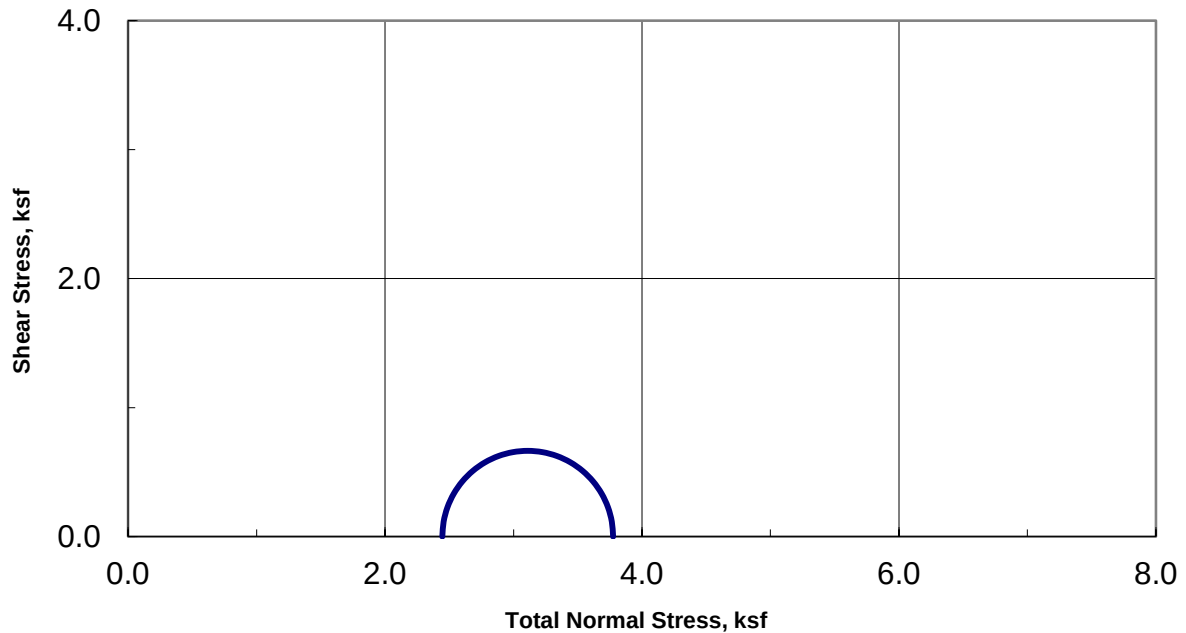
Sample #	
1	Dark Gray SILT (slightly plastic)
2	Dark Greenish Gray CLAY
3	Dark Greenish Gray SILT
4	Olive CLAY (Silty)/ SILT (slightly plastic)

Remarks:

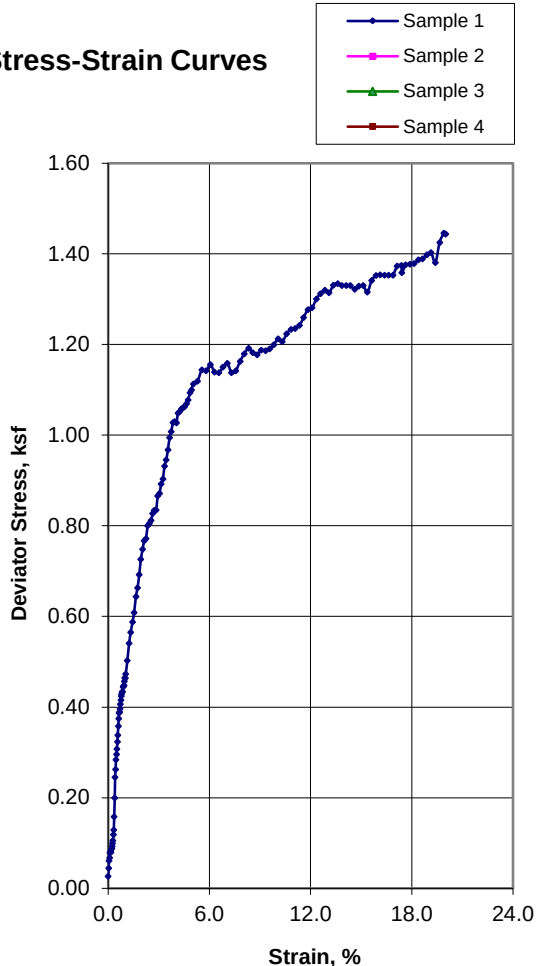
Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	26.1			
Dry Den,pcf	95.1			
Void Ratio	0.773			
Saturation %	91.0			
Height in	6.08			
Diameter in	2.86			
Cell psi	17.0			
Strain %	15.00			
Deviator, ksf	1.329			
Rate %/min	1.00			
in/min	0.061			
Job No.:	640-1273b			
Client:	Cornerstone Earth Group			
Project:	851-3-1			
Boring:	EB-8			
Sample:	8			
Depth ft:	36			

Visual Soil Description

Sample #	
1	Grayish Brown SILT
2	
3	
4	

Remarks:

Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.

APPENDIX C: LIQUEFACTION ANALYSES CALCULATIONS

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5, σ _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	0.170	0.001	19.2	19.2	4.076	0.810	3.07		Unsaturated	100.0			0.16	1.70	0.27	54.29	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	0.220	0.118	39.6	39.6	10.111	58.741	3.87		Unsaturated	100.0			0.21	1.70	0.35	54.40	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	0.480	0.327	58.8	58.8	15.327	72.459	3.83		Unsaturated	100.0			0.45	1.70	0.77	54.94	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	31.730	0.700	79.2	79.2	154.824	2.207	2.02		Unsaturated	24.7			29.99	1.70	50.98	89.61	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	55.950	1.029	98.4	98.4	245.015	1.841	1.84		Unsaturated	9.9			52.88	1.70	89.90	97.17	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	28.760	0.931	117.6	117.6	115.072	3.242	2.23		Unsaturated	41.5			27.18	1.70	46.21	100.25	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	18.430	0.732	138.0	138.0	67.956	3.988	2.45		Unsaturated	58.9			17.42	1.70	29.61	86.34	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	14.750	0.534	157.2	157.2	50.877	3.636	2.51		Unsaturated	63.5			13.94	1.70	23.70	79.90	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	14.310	0.520	177.6	177.6	46.397	3.659	2.54		Unsaturated	65.9			13.53	1.70	22.99	79.51	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	16.410	0.523	196.8	196.8	50.554	3.205	2.47		Unsaturated	60.6			15.51	1.70	26.37	82.62	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	16.920	0.460	216.0	216.0	49.735	2.735	2.43		Unsaturated	57.2			15.99	1.70	27.19	82.75	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	17.920	0.481	236.4	236.4	50.340	2.700	2.42		Unsaturated	56.5			16.94	1.70	28.79	84.62	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	19.640	0.501	255.6	255.6	53.064	2.569	2.39		Unsaturated	54.0			18.56	1.70	31.56	87.36	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	21.460	0.748	276.0	276.0	55.801	3.509	2.47		Unsaturated	60.4			20.28	1.70	34.48	92.96	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	29.240	1.181	295.2	295.2	73.620	4.058	2.43		Unsaturated	57.5			27.64	1.70	46.98	108.13	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	36.070	1.611	314.4	314.4	88.060	4.487	2.41		Unsaturated	56.2			34.09	1.70	57.96	121.70	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	39.560	1.908	334.8	334.8	93.604	4.843	2.42		Unsaturated	56.9			37.39	1.70	63.57	129.11	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	40.750	1.863	354.0	354.0	93.758	4.590	2.41		Unsaturated	55.4			38.52	1.70	65.48	131.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	40.110	1.727	374.4	374.4	89.707	4.325	2.40		Unsaturated	54.8			37.91	1.70	64.45	129.47	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	42.390	1.685	393.6	393.6	92.467	3.994	2.36		Unsaturated	52.0			40.07	1.70	68.11	133.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	43.320	1.725	412.8	412.8	92.261	4.002	2.36		Unsaturated	52.1			40.95	1.70	69.61	134.96	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	38.450	1.528	433.2	433.2	79.868	3.997	2.40		Unsaturated	55.3			36.34	1.70	61.78	126.25	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	31.110	1.255	452.4	452.4	63.131	4.064	2.48		Unsaturated	61.1			29.40	1.70	49.99	113.03	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	27.310	1.033	472.8	472.8	54.135	3.814	2.50		Unsaturated	63.2			25.81	1.70	43.88	105.74	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	24.380	0.979	492.0	492.0	47.306	4.057	2.56		Unsaturated	68.0			23.04	1.70	39.17	100.79	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	20.170	0.823	512.4	512.4	50.793	4.134	2.55		Unsaturated	66.7			19.06	1.70	32.41	91.81	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	17.900	0.646	531.6	531.6	43.835	3.661	2.55		Unsaturated	67.3			16.92	1.70	28.76	87.23	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	21.110	0.555	550.8	550.8	38.598	2.664	2.50		Unsaturated	63.1			19.95	1.70	33.92	92.93	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	21.710	0.474	571.2	571.2	38.975	2.211	2.45		Unsaturated	58.6			20.52	1.70	34.88	93.00	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	21.130	0.448	590.4	590.4	37.281	2.150	2.45		Unsaturated	59.2			19.97	1.70	33.95	91.97	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	24.150	0.377	610.8	610.8	41.948	1.581	2.33		Unsaturated	49.3			22.83	1.70	38.80	94.83	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	26.640	0.447	630.0	630.0	45.601	1.697	2.32		Unsaturated	48.6			25.18	1.70	42.81	99.56	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	30.690	0.559	649.2	649.2	51.816	1.841	2.30		Unsaturated	46.9			29.01	1.70	49.31	107.02	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	34.010	0.614	669.6	669.6	56.582	1.823	2.27		Unsaturated	44.4			32.15	1.70	54.65	112.42	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	37.780	0.590	688.8	688.8	62.017	1.575	2.20		Unsaturated	38.7			35.71	1.69	60.19	115.70	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	35.890	0.564	709.2	709.2	58.016	1.587	2.22		Unsaturated	40.6			33.92	1.67	56.77	112.81	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	33.870	0.650	728.4	728.4	53.977	1.940	2.30		Unsaturated	47.1			32.01	1.66	53.02	111.74	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	35.200	0.730	747.6	747.6	55.379	2.095	2.31		Unsaturated	48.2			33.27	1.63	54.20	113.75	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	36.960	0.673	768.0	768.0	57.384	1.840	2.27		Unsaturated	44.2			34.93	1.61	56.15	114.21	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	30.880	0.745	787.2	787.2	47.243	2.445	2.41		Unsaturated	55.8			29.19	1.61	47.00	107.61	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	20.090	0.707	807.6	807.6	36.517	3.590	2.61		Unsaturated	71.5			18.99	1.65	31.28	91.28	0.99	0.451	1.096	n.a.	n.a.	n.a.	0.00	0.00
6.890	15.950	0.520	826.8	826.8	28.350	3.344	2.67		Unsaturated	76.4			15.08	1.66	24.95	83.91	0.99	0.451	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.050	22.570	0.606	846.0	846.0	33.106	2.738	2.56		Unsaturated	67.7			21.33	1.60	34.09	94.19	0.99	0.451	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.220	22.040	0.655	866.4	866.4	38.156	3.032	2.54		Unsaturated	66.4			20.83	1.58	33.00	92.49	0.99	0.451	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.380	21.440	0.626	885.6	885.6	36.515	2.981	2.55		Unsaturated	67.1			20.26	1.57	31.83	91.14	0.99	0.450	1.086	n.a.	n.a.	n.a.	0.00	0.00
7.550	29.800	0.690	906.0	906.0	42.391	2.353	2.43		Unsaturated	57.8			28.17	1.52	42.75	102.81	0.99	0.450	1.092	n.a.	n.a.	n.a.	0.00	0.00
7.710	32.810	0																						

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	CRRM=7.5, $\gamma_{vc} = 1$ atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
11.320	23.150	0.791	1358.4	1358.4	33.084	3.519	2.63		Clay	73.5			21.88	1.12	n.a.	n.a.	0.98	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	13.660	0.494	1377.6	1377.6	18.832	3.806	2.84		Clay	90.1			12.91	1.12	n.a.	n.a.	0.98	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	15.070	0.373	1398.0	1398.0	20.559	2.592	2.71		Clay	79.5			14.24	1.12	n.a.	n.a.	0.98	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	20.020	0.491	1417.2	1417.2	27.253	2.542	2.60		Clay	71.3			18.92	1.11	n.a.	n.a.	0.98	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	16.140	0.423	1437.6	1437.6	21.454	2.743	2.71		Clay	79.5			15.26	1.11	n.a.	n.a.	0.98	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	13.590	0.321	1456.8	1456.8	17.657	2.495	2.75		Clay	82.9			12.84	1.10	n.a.	n.a.	0.98	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	19.120	0.474	1476.0	1476.0	24.908	2.580	2.64		Clay	74.1			18.07	1.10	n.a.	n.a.	0.98	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	12.250	0.315	1496.4	1496.4	15.373	2.736	2.82		Clay	88.7			11.58	1.10	n.a.	n.a.	0.98	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	7.800	0.127	1515.6	1515.6	9.293	1.802	2.90		Clay	95.4			7.37	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	7.270	0.080	1536.0	1536.0	8.466	1.224	2.86		Clay	91.7			6.87	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	8.280	0.094	1555.2	1555.2	9.648	1.250	2.81		Clay	88.0			7.83	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	18.660	0.264	1574.4	1574.4	19.584	1.479	2.58		Sand	69.7		1.8	31.75	1.16	36.83	98.12	0.97	0.506	1.031	0.135	0.174	0.34	0.03	0.07
13.290	14.360	0.272	1594.8	1594.8	17.009	2.006	2.71		Clay	79.6			13.57	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	8.990	0.161	1614.0	1614.0	10.140	1.965	2.89		Clay	94.3			8.50	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	7.250	0.031	1634.4	1634.4	7.872	0.482	2.73		Clay	81.2			6.85	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	6.260	0.015	1653.6	1653.6	6.571	0.282	2.74		Clay	81.8			5.92	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	6.160	0.012	1672.8	1672.8	6.365	0.220	2.72		Clay	81.0			5.82	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	20.700	0.209	1693.2	1693.2	20.977	1.052	2.48		Sand	61.5		1.8	35.22	1.12	39.36	99.52	0.97	0.521	1.024	0.137	0.176	0.34	0.03	0.06
14.270	14.270	0.282	1712.4	1712.4	15.667	2.102	2.75		Clay	82.9			13.49	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	10.960	0.172	1732.8	1732.8	11.650	1.701	2.81		Clay	87.6			10.36	1.05	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	13.770	0.175	1752.0	1752.0	14.719	1.354	2.67		Clay	76.6			13.02	1.05	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	10.660	0.188	1771.2	1771.2	11.037	1.925	2.86		Clay	91.5			10.08	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	12.960	0.175	1791.6	1791.6	13.468	1.450	2.72		Clay	80.4			12.25	1.04	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	5.980	0.102	1810.8	1810.8	9.581	1.179	2.80		Clay	87.3			9.05	1.04	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	6.630	0.050	1831.2	1831.2	6.241	0.882	2.92		Clay	96.4			6.27	1.04	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	8.570	0.062	1850.4	1850.4	8.263	0.814	2.79		Clay	86.4			8.10	1.04	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	8.880	0.098	1869.6	1869.6	8.499	1.238	2.86		Clay	91.8			8.39	1.03	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	7.590	0.029	1890.0	1890.0	7.032	0.442	2.76		Clay	84.0			7.17	1.03	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	7.490	0.026	1909.2	1909.2	6.846	0.402	2.76		Clay	83.8			7.08	1.03	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	7.160	0.016	1929.6	1929.6	6.421	0.253	2.73		Clay	81.8			6.77	1.02	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	6.040	0.138	2007.6	2007.6	5.017	2.740	3.23		Clay	100.0			5.71	1.01	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	6.530	0.147	2028.0	2028.0	5.440	2.672	3.19		Clay	100.0			6.17	1.01	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	10.330	0.132	2047.2	2047.2	9.092	1.413	2.86		Clay	91.9			9.76	1.01	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	7.890	0.112	2066.4	2066.4	6.636	1.629	3.01		Clay	100.0			7.46	1.01	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	6.300	0.079	2086.8	2086.8	5.038	1.509	3.10		Clay	100.0			5.95	1.00	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	5.580	0.060	2106.0	2106.0	4.299	1.317	3.14		Clay	100.0			5.27	1.00	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	5.850	0.061	2126.4	2118.9	4.518	1.264	3.11		Clay	100.0			5.53	1.00	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	6.170	0.078	2145.6	2128.1	4.790	1.526	3.12		Clay	100.0			5.83	1.00	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	6.250	0.064	2164.8	2137.3	4.836	1.238	3.08		Clay	100.0			5.91	1.00	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	5.690	0.045	2185.2	2147.1	4.282	0.970	3.08		Clay	100.0			5.38	1.00	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	5.360	0.038	2204.4	2156.4	3.949	0.885	3.10		Clay	100.0			5.07	1.00	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	5.300	0.029	2224.8	2166.1	3.866	0.697	3.07		Clay	100.0			5.01	0.99	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	5.420	0.033	2244.0	2175.4	3.952	0.758	3.08		Clay	100.0			5.12	0.99	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	5.300	0.031	2263.2	2184.6	3.816	0.748	3.09		Clay	100.0			5.01	0.99	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	5.200	0.014	2283.6	2194.4	3.699	0.340	3.00		Clay	100.0			4.91	0.99	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	5.060	0.013	2302.8	2203.6	3.547	0.327	3.01		Clay	100.0			4.78	0.99	n.a.	n.a.	0.95	0.578	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	5.450	0.032	2323.2	2213.4	3.875	0.753	3.08		Clay	100.0			5.15	0.99	n.a.	n.a.	0.95	0.580	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	5.800	0.044	2342.4	2222.6	4.165	0.955	3.09		Clay	100.0			5.48	0.99	n.a.	n.a.	0.95	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	6.140	0.071	2362.8	2232.4	4.442	1.440	3.14		Clay	100.0			5.80	0.99	n.a.	n.a.	0.95	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	6.450	0.099	2382.0	2241.6	4.692	1.882	3.17		Clay	100.0			6.10	0.98	n.a.	n.a.	0.95	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	6.660	0.113	2401.2	2250.8	4.851	2.070	3.18		Clay	100.0			6.29	0.98	n.a.	n.a.	0.95	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	6.810	0.119	2421.6	2260.6	4.954	2.127	3.18		Clay	100.0			6.44	0.98	n.a.	n.a.	0.95	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	6.830	0.112	2440.8	2269.8	4.943	2.004	3.17		Clay	100.0			6.46	0.98	n.a.	n.a.	0.95	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	6.960	0.127	2461.2	2279.6	5.027	2.217	3.18		Clay	100.0			6.58	0.98	n.a.	n.a.	0.95	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	6.660	0.061	2480.4	2288.8	4.736	1.129	3.07		Clay	100.0			6.29	0.98	n.a.	n.a.	0.95	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	5.780	0.013	2499.6	2298.0	3.943	0.291	2.95		Clay	99.4			5.46	0.98	n.a.	n.a.	0.95	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.0

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRR _{m=7.5, σ'_{vc} = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.970	7.950	0.130	2756.4	2421.3	5.428	1.974	3.13		Clay	100.0			7.51	0.97	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	8.450	0.169	2775.6	2430.5	5.811	2.396	3.14		Clay	100.0			7.99	0.96	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	8.740	0.194	2794.8	2439.7	6.019	2.641	3.15		Clay	100.0			8.26	0.96	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	8.360	0.193	2815.2	2449.5	5.677	2.769	3.18		Clay	100.0			7.90	0.96	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	8.880	0.237	2834.4	2458.8	6.070	3.169	3.19		Clay	100.0			8.39	0.96	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	16.550	0.277	2854.8	2468.5	12.252	1.828	2.81		Clay	87.4			15.64	0.96	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	27.370	0.301	2874.0	2477.8	22.651	1.159	2.47		Sand	60.9			25.87	0.92	23.73	79.33	0.94	0.612	0.986	0.115	0.133	0.22	0.04	0.08
24.110	23.140	0.472	2893.2	2487.0	17.446	2.176	2.72		Clay	80.5			21.87	0.96	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	25.530	0.475	2913.6	2496.8	19.283	1.973	2.66		Clay	75.7			24.13	0.96	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	30.890	0.727	2932.8	2506.0	23.483	2.471	2.65		Clay	74.8			29.20	0.96	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	31.800	0.852	2953.2	2515.8	24.107	2.811	2.67		Clay	76.8			30.06	0.96	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	62.330	2.288	2972.4	2525.0	52.645	3.760	2.51		Sand	63.5	73.37	1.8	132.07	0.95	124.88	209.87	0.93	0.616	0.948	3.455	7.203	11.69	0.00	0.00
24.930	77.630	3.325	2991.6	2534.2	65.755	4.367	2.49		Sand	62.0		1.8	132.07	0.94	124.72	209.16	0.93	0.617	0.947	3.297	6.869	11.13	0.00	0.00
25.100	71.340	3.371	3012.0	2544.0	60.198	4.827	2.55		Sand	66.7	73.37	1.8	132.07	0.94	124.60	210.55	0.93	0.618	0.945	3.614	7.513	12.16	0.00	0.00
25.260	53.080	3.005	3031.2	2553.2	40.392	5.827	2.72		Clay	80.8			50.17	0.95	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	55.210	2.591	3051.6	2563.0	41.892	4.827	2.65		Clay	75.2			52.18	0.95	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	43.950	2.550	3070.8	2572.2	32.979	6.013	2.79		Clay	86.5			41.54	0.95	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	41.860	2.110	3090.0	2581.4	31.235	5.233	2.77		Clay	84.4			39.57	0.95	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	43.130	1.824	3110.4	2591.2	32.089	4.387	2.71		Clay	79.5			40.77	0.95	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	38.730	1.681	3129.6	2600.4	28.584	4.524	2.75		Clay	83.2			36.61	0.95	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	31.680	1.467	3150.0	2610.2	23.067	4.872	2.84		Clay	90.4			29.94	0.95	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	38.040	1.648	3169.2	2619.5	27.834	4.520	2.76		Clay	83.8			35.95	0.95	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	33.050	1.566	3188.4	2628.7	23.933	4.979	2.84		Clay	89.9			31.24	0.94	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	28.120	1.186	3208.8	2638.5	20.099	4.473	2.86		Clay	92.0			26.58	0.94	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	25.810	1.069	3228.0	2647.7	18.277	4.418	2.89		Clay	94.2			24.40	0.94	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	20.800	1.095	3248.4	2657.5	14.432	5.710	3.04		Clay	100.0			19.66	0.94	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	27.090	1.092	3267.6	2666.7	19.092	4.289	2.87		Clay	92.4			25.60	0.94	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	32.610	1.189	3288.0	2676.5	23.139	3.839	2.77		Clay	84.8			30.82	0.94	n.a.	n.a.	0.92	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	32.730	1.384	3307.2	2685.7	23.142	4.454	2.82		Clay	88.2			34.94	0.94	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	34.970	1.469	3326.4	2694.9	24.718	4.410	2.79		Clay	86.3			33.05	0.94	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	34.430	1.080	3346.8	2704.7	24.222	3.296	2.71		Clay	80.2			32.54	0.94	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	31.600	0.806	3366.0	2713.9	22.047	2.694	2.69		Clay	78.4			29.87	0.94	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	42.540	0.538	3386.4	2723.7	34.029	1.318	2.36		Sand	51.5	41.82		41.82	0.88	36.73	93.04	0.92	0.631	0.975	0.129	0.154	0.24	0.03	0.07
28.380	44.250	0.587	3405.6	2732.9	35.386	1.379	2.35		Sand	51.3			41.82	0.88	36.67	92.88	0.92	0.632	0.974	0.129	0.154	0.24	0.03	0.07
28.540	43.520	0.707	3424.8	2742.1	34.712	1.691	2.41		Sand	56.0	41.82		41.82	0.88	36.63	94.46	0.92	0.632	0.974	0.131	0.157	0.25	0.03	0.07
28.710	32.060	1.084	3445.2	2751.9	22.048	3.572	2.77		Clay	84.5			30.30	0.93	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	22.900	1.158	3464.4	2761.2	15.333	5.469	3.01		Clay	100.0			21.64	0.93	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	37.450	0.760	3484.8	2770.9	29.493	2.129	2.53		Sand	65.4	41.86		41.86	0.87	36.53	96.81	0.92	0.634	0.972	0.133	0.161	0.25	0.03	0.06
29.200	44.290	0.785	3504.0	2780.2	35.076	1.846	2.43		Sand	57.6			41.86	0.87	36.42	94.65	0.92	0.634	0.972	0.131	0.157	0.25	0.03	0.07
29.360	28.250	0.696	3523.2	2789.4	18.992	2.626	2.74		Clay	81.9			26.70	0.93	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	15.760	0.509	3543.6	2799.2	9.995	3.641	3.05		Clay	100.0			14.90	0.93	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	13.550	0.383	3562.8	2808.4	8.381	3.255	3.08		Clay	100.0			12.81	0.93	n.a.	n.a.	0.92	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	12.640	0.268	3583.2	2818.2	7.699	2.470	3.05		Clay	100.0			11.95	0.93	n.a.	n.a.	0.91	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	11.350	0.236	3602.4	2827.4	6.754	2.473	3.09		Clay	100.0			10.73	0.93	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	12.000	0.197	3621.6	2836.6	7.184	1.933	3.02		Clay	100.0			11.34	0.93	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	10.490	0.182	3642.0	2846.4	6.091	2.094	3.10		Clay	100.0			9.91	0.92	n.a.	n.a.	0.91	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	9.960	0.161	3661.2	2855.6	5.694	1.982	3.11		Clay	100.0			9.41	0.92	n.a.	n.a.	0.91	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	9.810	0.161	3681.6	2865.4	5.562	2.025</																		

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5, σ' _{vc} = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
33.960	40.220	1.195	4075.2	3054.3	25.002	3.130	2.69		Clay	78.2			38.02	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	19.920	0.835	4094.4	3063.6	11.668	4.669	3.06		Clay	100.0			18.83	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	12.650	0.381	4113.6	3072.8	6.895	3.595	3.17		Clay	100.0			11.96	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	10.290	0.231	4134.0	3082.6	5.335	2.810	3.21		Clay	100.0			9.73	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	9.470	0.225	4153.2	3091.8	4.783	3.046	3.27		Clay	100.0			8.95	0.90	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	10.830	0.211	4173.6	3101.6	5.638	2.411	3.16		Clay	100.0			10.24	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	12.050	0.226	4192.8	3110.8	6.399	2.273	3.10		Clay	100.0			11.39	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	11.660	0.257	4212.0	3120.0	6.124	2.691	3.15		Clay	100.0			11.02	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	12.680	0.526	4232.4	3129.8	6.750	4.983	3.26		Clay	100.0			11.98	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	23.900	0.676	4251.6	3139.0	13.873	3.102	2.89		Clay	94.2			22.59	0.90	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	60.380	0.686	4272.0	3148.8	45.128	1.177	2.23		Sand	41.2		1.55	88.46	0.84	74.61	135.40	0.89	0.648	0.944	0.216	0.309	0.48	0.02	0.04
35.760	42.230	0.758	4291.2	3158.0	31.013	1.890	2.48		Sand	61.5		1.55	61.87	0.83	51.32	114.83	0.89	0.648	0.952	0.161	0.206	0.32	0.03	0.06
35.930	73.580	0.675	4311.6	3167.8	55.174	0.945	2.10		Sand	31.1		1.55	107.80	0.85	91.40	146.64	0.89	0.648	0.937	0.268	0.409	0.63	0.02	0.04
36.090	90.400	0.600	4330.8	3177.0	68.061	0.680	1.95		Sand	18.7		1.55	132.44	0.85	112.22	147.41	0.89	0.648	0.936	0.272	0.418	0.64	0.02	0.04
36.250	74.140	0.810	4350.0	3186.2	55.431	1.126	2.14		Sand	34.5	85.44	1.55	132.43	0.86	114.32	178.50	0.89	0.649	0.915	0.684	1.293	1.99	0.00	0.00
36.420	58.740	0.957	4370.4	3196.0	43.495	1.692	2.34		Sand	49.8	85.44	1.55	132.43	0.87	115.05	191.42	0.89	0.649	0.902	1.204	2.389	3.68	0.00	0.00
36.580	47.730	0.557	4389.6	3205.2	34.969	1.222	2.33		Sand	49.2	85.44	1.55	132.43	0.87	114.91	190.93	0.89	0.649	0.901	1.176	2.331	3.59	0.00	0.00
36.750	41.580	0.531	4410.0	3215.0	30.193	1.349	2.40		Sand	55.4	85.44	1.55	132.43	0.87	115.00	194.08	0.89	0.649	0.897	1.376	2.715	4.18	0.00	0.00
36.910	34.050	0.574	4429.2	3224.3	19.747	1.802	2.63		Clay	73.2			32.18	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	25.460	0.747	4448.4	3233.5	14.372	3.214	2.89		Clay	93.9			24.06	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	23.980	0.476	4468.8	3243.3	13.410	2.191	2.81		Clay	88.2			22.67	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	36.710	0.566	4488.0	3252.5	26.276	1.641	2.50		Sand	63.2			34.70	0.79	27.58	84.82	0.88	0.650	0.959	0.120	0.138	0.21	0.04	0.08
37.570	25.430	0.411	4508.4	3262.3	14.208	1.774	2.74		Clay	82.5			24.04	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	15.000	0.284	4527.6	3271.5	7.786	2.229	3.02		Clay	100.0			14.18	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	10.220	0.274	4546.8	3280.7	4.844	3.445	3.29		Clay	100.0			9.66	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	10.050	0.240	4567.2	3290.5	4.721	3.095	3.28		Clay	100.0			9.50	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	9.800	0.208	4586.4	3299.7	4.550	2.771	3.27		Clay	100.0			9.26	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	9.630	0.203	4606.8	3309.5	4.428	2.772	3.28		Clay	100.0			9.10	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	11.140	0.200	4626.0	3318.7	5.320	2.266	3.16		Clay	100.0			10.53	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	13.080	0.172	4645.2	3327.9	6.465	1.601	3.02		Clay	100.0			12.36	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	11.630	0.134	4665.6	3337.7	5.571	1.437	3.05		Clay	100.0			10.99	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	12.000	0.166	4684.8	3346.9	5.771	1.719	3.07		Clay	100.0			11.34	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	11.530	0.248	4705.2	3356.7	5.468	2.699	3.19		Clay	100.0			10.90	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	32.910	0.316	4724.4	3366.0	22.893	1.033	2.44		Sand	58.6	43.63	1.8	78.53	0.82	64.11	130.35	0.88	0.651	0.937	0.198	0.273	0.42	0.02	0.05
39.530	46.160	0.536	4743.6	3375.2	32.770	1.224	2.35		Sand	51.1		1.8	78.53	0.81	63.86	127.28	0.87	0.651	0.938	0.189	0.257	0.39	0.02	0.05
39.700	44.570	0.681	4764.0	3385.0	31.527	1.613	2.43		Sand	57.7	43.63	1.8	78.53	0.81	63.92	129.83	0.87	0.651	0.937	0.197	0.270	0.42	0.02	0.05
39.860	28.410	0.419	4783.2	3394.2	15.331	1.610	2.69		Clay	78.5			26.85	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	19.390	0.459	4803.6	3404.0	9.981	2.703	2.97		Clay	100.0			18.33	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	56.250	0.564	4822.8	3413.2	40.067	1.048	2.24		Sand	42.3		1.66	88.26	0.81	71.74	132.56	0.87	0.651	0.934	0.206	0.286	0.44	0.02	0.05
40.350	48.220	0.518	4842.0	3422.4	34.038	1.132	2.32		Sand	48.5		1.66	75.66	0.80	60.87	122.33	0.87	0.651	0.939	0.177	0.233	0.36	0.03	0.05
40.520	45.240	0.409	4862.4	3432.2	31.770	0.955	2.30		Sand	47.4		1.66	70.98	0.80	56.73	116.57	0.87	0.651	0.941	0.164	0.210	0.32	0.03	0.05
40.680	44.240	0.329	4881.6	3441.4	30.979	0.787	2.27		Sand	44.7		1.66	69.41	0.80	55.23	113.34	0.87	0.651	0.943	0.158	0.199	0.31	0.03	0.06
40.850	45.240	0.371	4902.0	3451.2	31.668	0.867	2.28		Sand	45.8		1.66	70.98	0.80	56.52	115.50	0.87	0.651	0.941	0.162	0.206	0.32	0.03	0.05
41.010	45.130	0.638	4921.2	3460.4	31.537	1.496	2.41		Sand	56.2	42.76	1.66	70.98	0.80	56.71	120.11	0.87	0.651	0.939	0.171	0.223	0.34	0.03	0.05
41.170	32.880	0.705	4940.4	3469.6	17.529	2.317	2.73		Clay	81.6			31.08	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	16.750	0.536	4960.8	3479.4	8.202	3.758	3.12		Clay	100.0		</												

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRR _{M=7.5, σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
44.950	11.200	0.288	5394.0	3687.4	4.612	3.388	3.31		Clay	100.0			10.59	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.910	0.351	5413.2	3696.6	6.062	3.135	3.19		Clay	100.0			13.15	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	14.750	0.367	5433.6	3706.4	6.493	3.052	3.16		Clay	100.0			13.94	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	14.800	0.379	5452.8	3715.6	6.499	3.142	3.16		Clay	100.0			13.99	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	13.080	0.370	5472.0	3724.8	5.554	3.580	3.25		Clay	100.0			12.36	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	11.990	0.357	5492.4	3734.6	4.950	3.863	3.31		Clay	100.0			11.33	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	12.110	0.334	5511.6	3743.8	4.997	3.571	3.29		Clay	100.0			11.45	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	11.970	0.304	5532.0	3753.6	4.904	3.305	3.28		Clay	100.0			11.31	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	11.660	0.292	5551.2	3762.8	4.722	3.281	3.29		Clay	100.0			11.02	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	11.760	0.292	5570.4	3772.0	4.759	3.254	3.29		Clay	100.0			11.12	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	11.900	0.302	5590.8	3781.8	4.815	3.317	3.29		Clay	100.0			11.25	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	12.200	0.301	5610.0	3791.0	4.956	3.201	3.27		Clay	100.0			11.53	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	12.290	0.283	5630.4	3800.8	4.986	2.982	3.25		Clay	100.0			11.62	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	12.490	0.285	5649.6	3810.0	5.074	2.950	3.24		Clay	100.0			11.81	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	13.100	0.309	5668.8	3819.3	5.376	3.010	3.22		Clay	100.0			12.38	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	13.490	0.337	5689.2	3829.1	5.560	3.163	3.22		Clay	100.0			12.75	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	13.840	0.336	5708.4	3838.3	5.724	3.058	3.20		Clay	100.0			13.08	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	13.730	0.333	5728.8	3848.1	5.647	3.067	3.21		Clay	100.0			12.98	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	13.600	0.330	5748.0	3857.3	5.561	3.073	3.22		Clay	100.0			12.85	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	14.150	0.340	5767.2	3866.5	5.828	3.016	3.19		Clay	100.0			13.37	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	14.080	0.331	5787.6	3876.3	5.772	2.955	3.19		Clay	100.0			13.31	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	14.210	0.333	5806.8	3885.5	5.820	2.949	3.19		Clay	100.0			13.43	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	14.070	0.316	5827.2	3895.3	5.728	2.836	3.19		Clay	100.0			13.30	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	14.330	0.294	5846.4	3904.5	5.843	2.576	3.16		Clay	100.0			13.54	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	14.120	0.319	5865.6	3913.7	5.717	2.849	3.19		Clay	100.0			13.35	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	14.270	0.329	5886.0	3923.5	5.774	2.905	3.19		Clay	100.0			13.49	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	14.320	0.349	5905.2	3932.7	5.781	3.067	3.20		Clay	100.0			13.53	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	14.760	0.347	5925.6	3942.5	5.985	2.938	3.18		Clay	100.0			13.95	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	15.370	0.364	5944.8	3951.7	6.274	2.934	3.16		Clay	100.0			14.53	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	15.570	0.356	5964.0	3961.0	6.356	2.825	3.15		Clay	100.0			14.72	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	15.430	0.362	5984.4	3970.8	6.265	2.909	3.16		Clay	100.0			14.58	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	15.570	0.340	6003.6	3980.0	6.316	2.706	3.14		Clay	100.0			14.72	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	16.100	0.345	6024.0	3989.8	6.561	2.633	3.12		Clay	100.0			15.22	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	16.900	0.343	6043.2	3999.0	6.941	2.468	3.08		Clay	100.0			15.97	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	16.760	0.331	6062.4	4008.2	6.850	2.410	3.08		Clay	100.0			15.84	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	16.370	0.292	6082.8	4018.0	6.634	2.191	3.07		Clay	100.0			15.47	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	15.110	0.235	6102.0	4027.2	5.989	1.946	3.09		Clay	100.0			14.28	0.84	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	13.840	0.189	6122.4	4037.0	5.340	1.753	3.11		Clay	100.0			13.08	0.84	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	13.540	0.130	6141.6	4046.2	5.175	1.238	3.05		Clay	100.0			12.80	0.84	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	13.710	0.137	6162.0	4056.0	5.241	1.287	3.06		Clay	100.0			12.96	0.84	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	15.440	0.175	6181.2	4065.2	6.076	1.413	3.02		Clay	100.0			14.59	0.84	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	16.590	0.218	6200.4	4074.4	6.622	1.616	3.01		Clay	100.0			15.68	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	17.640	0.244	6220.8	4084.2	7.115	1.680	2.99		Clay	100.0			16.67	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	17.730	0.261	6240.0	4093.4	7.138	1.789	3.00		Clay	100.0			16.76	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	18.180	0.246	6260.4	4103.2	7.336	1.633	2.97		Clay	100.0			17.18	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	18.340	0.253	6279.6	4112.4	7.392	1.662	2.97		Clay	100.0			17.33	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	18.240	0.360	6298.8	4121.7	7.323	2.387	3.06		Clay	100.0			17.24	0.84	n.a.	n.a.	0.82	0.643	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	18.750	2.033	6319.2	4131.5	7.547	13.041	3.49		Clay	100.0			17.72	0.84	n.a.	n.a.	0.82	0.643	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	118.460	5.092	6338.4	4140.7	77.899	4.417	2.44	</																

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5, σ' _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
55.940	327.560	2.122	6712.8	4320.4	214.451	0.655	1.54		Sand	0.0			309.60	0.83	256.46	256.46	0.80	0.638	0.786	289.450	500.424	783.86	0.00	0.00
56.100	338.630	2.641	6732.0	4329.6	221.531	0.788	1.58		Sand	0.0			320.07	0.83	264.98	264.98	0.80	0.638	0.785	924.517	1597.079	2502.64	0.00	0.00
56.270	354.770	1.677	6752.4	4339.4	231.927	0.477	1.42		Sand	0.0			335.32	0.83	277.44	277.44	0.80	0.638	0.785	6429.129	11096.571	17395.70	0.00	0.00
56.430	346.720	1.588	6771.6	4348.6	226.368	0.462	1.42		Sand	0.0			327.71	0.83	270.99	270.99	0.80	0.638	0.784	2271.875	3918.037	6144.60	0.00	0.00
56.590	341.490	2.205	6790.8	4357.8	222.677	0.652	1.53		Sand	0.0			322.77	0.83	266.76	266.76	0.80	0.637	0.783	1197.853	2064.124	3238.43	0.00	0.00
56.760	327.880	2.471	6811.2	4367.6	213.467	0.762	1.59		Sand	0.0			309.91	0.83	255.97	255.97	0.80	0.637	0.783	271.958	468.232	734.93	0.00	0.00
56.920	327.170	1.731	6830.4	4376.8	212.769	0.535	1.48		Sand	0.0			309.23	0.83	255.28	255.28	0.80	0.637	0.782	248.840	428.083	672.18	0.00	0.00
57.090	361.660	3.105	6850.8	4386.6	235.166	0.867	1.60		Sand	0.0			341.83	0.83	282.02	282.02	0.80	0.637	0.781	14165.142	24347.592	38247.49	0.00	0.00
57.250	386.870	2.871	6870.0	4395.8	251.445	0.749	1.53		Sand	0.0			365.66	0.82	301.51	301.51	0.80	0.636	0.781	#####	#####	1837456.84	0.00	0.00
57.410	317.660	2.878	6889.2	4405.1	205.837	0.916	1.65		Sand	0.0			300.25	0.82	245.75	245.75	0.80	0.636	0.780	79.864	137.052	215.47	0.00	0.00
57.580	328.170	1.419	6909.6	4414.8	212.479	0.437	1.43		Sand	0.0			310.18	0.82	255.47	255.47	0.80	0.636	0.779	255.143	437.470	688.09	0.00	0.00
57.740	307.310	1.231	6928.8	4424.1	198.616	0.405	1.43		Sand	0.0			290.46	0.81	235.36	235.36	0.80	0.636	0.779	27.046	46.335	72.91	0.00	0.00
57.910	316.890	0.963	6949.2	4433.9	204.645	0.307	1.36		Sand	0.0			299.52	0.82	244.45	244.45	0.80	0.635	0.778	69.133	118.340	186.29	0.00	0.00
58.070	339.620	1.440	6968.4	4443.1	219.253	0.428	1.41		Sand	0.0			321.00	0.82	263.94	263.94	0.79	0.635	0.777	797.610	1364.231	2148.52	0.00	0.00
58.230	358.130	1.249	6987.6	4452.3	231.081	0.352	1.35		Sand	0.0			338.50	0.82	278.18	278.18	0.79	0.635	0.777	7278.249	12438.762	19598.08	0.00	0.00
58.400	360.540	1.318	7008.0	4462.1	232.389	0.369	1.36		Sand	0.0			340.78	0.82	279.89	279.89	0.79	0.634	0.776	9749.339	16647.799	26241.58	0.00	0.00
58.560	357.730	2.910	7027.2	4471.3	230.316	0.822	1.59		Sand	0.0			338.12	0.82	277.55	277.55	0.79	0.634	0.776	6552.740	11180.419	17631.02	0.00	0.00
58.730	394.850	3.293	7047.6	4481.1	254.167	0.841	1.56		Sand	0.0			373.20	0.82	306.18	306.18	0.79	0.634	0.775	#####	#####	5279694.58	0.00	0.00
58.890	374.540	2.589	7066.8	4490.3	240.722	0.698	1.52		Sand	0.0			354.01	0.82	290.27	290.27	0.79	0.634	0.774	65699.823	#####	176641.38	0.00	0.00
59.060	370.060	1.496	7087.2	4500.1	237.550	0.408	1.37		Sand	0.0			349.77	0.82	286.64	286.64	0.79	0.633	0.774	32802.008	55828.460	88158.25	0.00	0.00
59.220	331.310	2.385	7106.4	4509.3	212.211	0.728	1.57		Sand	0.0			313.15	0.82	256.48	256.48	0.79	0.633	0.773	290.327	493.740	780.00	0.00	0.00
59.380	300.200	1.772	7125.6	4518.5	191.867	0.597	1.55		Sand	0.0			283.74	0.80	226.75	226.75	0.79	0.633	0.772	12.353	20.992	33.18	0.00	0.00
59.550	293.420	3.071	7146.0	4528.3	187.272	1.059	1.73		Sand	1.2			277.33	0.79	220.12	220.12	0.79	0.632	0.772	7.201	12.227	19.33	0.00	0.00
59.710	324.610	1.590	7165.2	4537.5	207.207	0.495	1.47		Sand	0.0			306.81	0.81	250.03	250.03	0.79	0.632	0.771	130.702	221.738	350.77	0.00	0.00
59.880	247.870	0.980	7185.6	4547.3	157.499	0.401	1.52		Sand	0.0			234.28	0.76	177.84	177.84	0.79	0.632	0.842	0.667	1.153	1.83	0.00	0.00
60.040	199.510	0.543	7204.8	4556.5	126.184	0.277	1.52		Sand	0.0			188.57	0.72	135.87	135.87	0.79	0.632	0.891	0.217	0.295	0.47	0.02	0.04
60.200	187.740	1.915	7224.0	4565.8	118.477	1.040	1.87		Sand	12.2			177.45	0.73	129.34	145.26	0.79	0.631	0.882	0.260	0.371	0.59	0.02	0.04
60.370	201.610	1.985	7244.4	4575.6	127.259	1.003	1.83		Sand	9.5			190.56	0.73	138.98	146.40	0.79	0.631	0.880	0.266	0.382	0.61	0.02	0.04
60.530	188.110	1.651	7263.6	4584.8	118.456	0.895	1.82		Sand	8.8			177.80	0.72	127.16	132.44	0.78	0.631	0.893	0.205	0.273	0.43	0.02	0.05
60.700	221.420	1.926	7284.0	4594.6	139.690	0.884	1.77		Sand	4.2			209.28	0.74	153.84	153.88	0.78	0.630	0.872	0.316	0.473	0.75	0.02	0.03
60.860	264.280	1.361	7303.2	4603.8	167.008	0.522	1.56		Sand	0.0			249.79	0.77	191.66	191.66	0.78	0.630	0.814	1.218	2.182	3.46	0.00	0.00
61.020	251.140	1.118	7322.4	4613.0	158.423	0.452	1.54		Sand	0.0			237.37	0.76	179.62	179.62	0.78	0.630	0.836	0.715	1.245	1.98	0.00	0.00
61.190	252.760	1.423	7342.8	4622.8	159.285	0.571	1.60		Sand	0.0			238.90	0.76	180.90	180.90	0.78	0.629	0.833	0.753	1.320	2.10	0.00	0.00
61.350	259.470	1.569	7362.0	4632.0	163.407	0.613	1.61		Sand	0.0			245.25	0.76	186.79	186.79	0.78	0.629	0.822	0.969	1.752	2.79	0.00	0.00
61.520	277.460	2.678	7382.4	4641.8	174.708	0.978	1.72		Sand	0.9			262.25	0.77	203.09	203.09	0.78	0.629	0.786	2.259	3.906	6.21	0.00	0.00
61.680	276.170	3.047	7401.6	4651.0	173.706	1.118	1.77		Sand	4.4			261.03	0.77	201.75	201.81	0.78	0.629	0.789	2.096	3.637	5.79	0.00	0.00
61.840	233.150	1.612	7420.8	4660.2	146.129	0.702	1.69		Sand	0.0			220.37	0.74	162.90	162.90	0.78	0.628	0.858	0.403	0.634	1.01	0.01	0.02
62.010	226.380	1.273	7441.2	4670.0	141.662	0.572	1.64		Sand	0.0			213.97	0.73	156.87	156.87	0.78	0.628	0.866	0.341	0.517	0.82	0.01	0.02
62.170	199.040	1.680	7460.4	4679.2	124.139	0.860	1.80		Sand	6.7			188.13	0.71	133.90	135.27	0.78	0.628	0.888	0.215	0.289	0.46	0.02	0.05
62.340	169.850	1.465	7480.8	4689.0	105.469	0.882	1.86		Sand	11.6			160.54	0.70	112.57	125.59	0.78	0.627	0.896	0.185	0.237	0.38	0.03	0.05
62.500	146.420	1.479	7500.0	4698.2	90.498	1.036	1.95		Sand	19.3			138.39	0.71	98.01	132.98	0.78	0.627	0.890	0.207	0.275	0.44	0.02	0.05
62.660	132.150	1.353	7519.2	4707.5	81.360	1.054	1.99		Sand	22.5			124.91	0.70	87.84	128.73	0.78	0.627	0.893	0.194	0.252	0.40	0.02	0.05
62.830	128.260	1.300	7539.6	4717.2	78.807	1.044	2.00		Sand	23.2</														

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5, 'σ _c = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
66.930	134.530	1.035	8031.6	4953.4	80.627	0.793	1.92		Sand	16.8	149.23		149.23	0.69	103.14	131.98	0.76	0.618	0.883	0.204	0.267	0.43	0.02	0.05
67.090	85.040	2.098	8050.8	4962.6	50.001	2.590	2.41		Sand	55.7	149.23		149.23	0.75	111.34	189.57	0.76	0.618	0.801	1.102	1.941	3.14	0.00	0.00
67.260	42.970	1.946	8071.2	4972.4	15.660	4.999	2.98		Clay	100.0			40.61	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	26.850	1.322	8090.4	4981.6	9.156	5.796	3.20		Clay	100.0			25.38	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	28.520	0.812	8110.8	4991.4	9.803	3.321	3.03		Clay	100.0			26.96	0.80	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	28.600	0.686	8130.0	5000.6	9.813	2.797	2.99		Clay	100.0			27.03	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	26.090	0.676	8149.2	5009.9	8.789	3.070	3.05		Clay	100.0			24.66	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	23.230	0.587	8169.6	5019.6	7.628	3.066	3.10		Clay	100.0			21.96	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	22.480	0.521	8188.8	5028.9	7.312	2.833	3.10		Clay	100.0			21.25	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	23.290	0.572	8209.2	5038.7	7.615	2.980	3.09		Clay	100.0			22.01	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	23.960	0.602	8228.4	5047.9	7.863	3.034	3.09		Clay	100.0			22.65	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	23.860	0.582	8247.6	5057.1	7.805	2.947	3.08		Clay	100.0			22.55	0.79	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	22.920	0.515	8268.0	5066.9	7.415	2.744	3.08		Clay	100.0			21.66	0.79	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	22.460	0.455	8287.2	5076.1	7.217	2.485	3.07		Clay	100.0			21.23	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	22.340	0.398	8307.6	5085.9	7.152	2.186	3.05		Clay	100.0			21.12	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	21.210	0.333	8326.8	5095.1	6.691	1.952	3.05		Clay	100.0			20.05	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	21.470	0.311	8346.0	5104.3	6.777	1.800	3.02		Clay	100.0			20.29	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	21.540	0.247	8366.4	5114.1	6.788	1.422	2.97		Clay	100.0			20.36	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	19.510	0.296	8385.6	5123.3	5.979	1.932	3.09		Clay	100.0			18.44	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	20.660	0.360	8406.0	5133.1	6.412	2.190	3.09		Clay	100.0			19.53	0.79	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	22.090	0.397	8425.2	5142.3	6.953	2.218	3.06		Clay	100.0			20.88	0.79	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	21.030	0.358	8444.4	5151.6	6.525	2.131	3.07		Clay	100.0			19.88	0.79	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	21.140	0.400	8464.8	5161.3	6.552	2.368	3.10		Clay	100.0			19.98	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	22.130	0.367	8484.0	5170.6	6.919	2.053	3.04		Clay	100.0			20.92	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	20.900	0.353	8504.4	5180.4	6.427	2.121	3.08		Clay	100.0			19.75	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	20.790	0.300	8523.6	5189.6	6.370	1.817	3.05		Clay	100.0			19.65	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	20.970	0.278	8542.8	5198.8	6.424	1.667	3.03		Clay	100.0			19.82	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	20.500	0.264	8563.2	5208.6	6.228	1.626	3.03		Clay	100.0			19.38	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	21.450	0.273	8582.4	5217.8	6.577	1.590	3.01		Clay	100.0			20.27	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	21.050	0.267	8602.8	5227.6	6.408	1.591	3.02		Clay	100.0			19.90	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	21.740	0.257	8622.0	5236.8	6.656	1.476	2.99		Clay	100.0			20.55	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	21.960	0.315	8641.2	5246.0	6.725	1.784	3.02		Clay	100.0			20.76	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	22.490	0.383	8661.6	5255.8	6.910	2.108	3.05		Clay	100.0			21.26	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	23.140	0.447	8680.8	5265.0	7.141	2.376	3.06		Clay	100.0			21.87	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	23.570	0.487	8701.2	5274.8	7.287	2.534	3.07		Clay	100.0			22.28	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	23.700	0.515	8720.4	5284.0	7.320	2.664	3.08		Clay	100.0			22.40	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	23.120	0.466	8739.6	5293.2	7.085	2.484	3.08		Clay	100.0			21.85	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	22.170	0.416	8760.0	5303.0	6.709	2.338	3.08		Clay	100.0			20.95	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	23.120	0.426	8779.2	5312.3	7.052	2.273	3.06		Clay	100.0			21.85	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	23.050	0.426	8799.6	5322.0	7.009	2.286	3.06		Clay	100.0			21.79	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	24.330	0.448	8818.8	5331.3	7.473	2.248	3.04		Clay	100.0			23.00	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	23.150	0.407	8838.0	5340.5	7.015	2.175	3.05		Clay	100.0			21.88	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	19.460	0.374	8858.4	5350.3	5.619	2.488	3.16		Clay	100.0			18.39	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	19.580	0.358	8877.6	5359.5	5.650	2.365	3.15		Clay	100.0			18.51	0.78	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	21.450	0.340	8898.0	5369.3	6.333	2.000	3.07		Clay	100.0			20.27	0.78	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	19.750	0.336	8917.2	5378.5	5.686	2.196	3.13		Clay	100.0			18.67	0.78	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	20.280	0.323	8937.6	5388.3	5.869	2.041	3.10		Clay	100.0			19.17	0.78	n.a.	n.a.	0.73	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	20.520	0.308	8956.8	5397.5	5.944	1.919	3.09		Clay	100.0			19.40	0.78	n.a.	n.a.	0.73	0.603	n.a.	n.a.	n.a.	n.a.		

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' 'σ' = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
77.920	23.780	0.329	9350.4	5586.4	6.840	1.719	3.01		Clay	100.0			22.48	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	21.960	0.282	9369.6	5595.6	6.175	1.635	3.04		Clay	100.0			20.76	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	21.440	0.363	9390.0	5605.4	5.975	2.167	3.11		Clay	100.0			20.26	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	26.040	0.867	9409.2	5614.7	7.600	4.062	3.17		Clay	100.0			24.61	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	53.400	1.600	9429.6	5624.4	17.312	3.287	2.83		Clay	89.2			50.47	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	45.210	1.423	9448.8	5633.7	14.373	3.516	2.91		Clay	95.8			42.73	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	34.310	0.958	9468.0	5642.9	10.483	3.240	3.00		Clay	100.0			32.43	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	31.530	0.544	9488.4	5652.7	9.477	2.029	2.92		Clay	96.9			29.80	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	25.260	0.433	9507.6	5661.9	7.244	2.114	3.03		Clay	100.0			23.88	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	22.180	0.372	9528.0	5671.7	6.141	2.134	3.10		Clay	100.0			20.96	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	22.290	0.361	9547.2	5680.9	6.167	2.060	3.09		Clay	100.0			21.07	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	20.030	0.351	9566.4	5690.1	5.359	2.303	3.16		Clay	100.0			18.93	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	19.940	0.248	9586.8	5699.9	5.315	1.635	3.10		Clay	100.0			18.85	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	19.620	0.257	9606.0	5709.1	5.191	1.733	3.12		Clay	100.0			18.54	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	25.470	0.346	9626.4	5718.9	7.224	1.673	2.98		Clay	100.0			24.07	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	27.420	0.382	9645.6	5728.1	7.890	1.691	2.95		Clay	99.2			25.92	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	25.750	0.395	9664.8	5737.3	7.292	1.887	3.01		Clay	100.0			24.34	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	24.920	0.399	9685.2	5747.1	6.987	1.987	3.03		Clay	100.0			23.55	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	23.090	0.436	9704.4	5756.4	6.337	2.392	3.11		Clay	100.0			21.82	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	24.110	0.392	9724.8	5766.1	6.676	2.039	3.06		Clay	100.0			22.79	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	22.500	0.373	9744.0	5775.4	6.105	2.116	3.10		Clay	100.0			21.27	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	20.360	0.358	9763.2	5784.6	5.352	2.314	3.17		Clay	100.0			19.24	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	21.550	0.500	9783.6	5794.4	5.750	3.002	3.20		Clay	100.0			20.37	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	28.570	0.418	9802.8	5803.6	8.157	1.766	2.95		Clay	98.9			27.00	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	23.450	0.397	9823.2	5813.4	6.378	2.143	3.08		Clay	100.0			22.16	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	20.500	0.316	9842.4	5822.6	5.351	2.028	3.14		Clay	100.0			19.38	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	20.160	0.328	9862.8	5832.4	5.222	2.154	3.16		Clay	100.0			19.05	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	21.310	0.343	9882.0	5841.6	5.604	2.095	3.13		Clay	100.0			20.14	0.76	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	24.740	0.380	9901.2	5850.8	6.765	1.922	3.04		Clay	100.0			23.38	0.76	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	24.260	0.390	9921.6	5860.6	6.586	2.018	3.06		Clay	100.0			22.93	0.76	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	23.750	0.377	9940.8	5869.8	6.399	2.010	3.07		Clay	100.0			22.45	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	23.500	0.365	9961.2	5879.6	6.300	1.971	3.07		Clay	100.0			22.21	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	22.610	0.344	9980.4	5888.8	5.984	1.951	3.09		Clay	100.0			21.37	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	22.020	0.332	9999.6	5898.0	5.771	1.951	3.10		Clay	100.0			20.81	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	21.350	0.309	10020.0	5907.8	5.532	1.892	3.11		Clay	100.0			20.18	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	20.540	0.293	10039.2	5917.1	5.246	1.890	3.13		Clay	100.0			19.41	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	21.070	0.311	10059.6	5926.8	5.413	1.936	3.12		Clay	100.0			19.91	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	22.600	0.341	10078.8	5936.1	5.917	1.940	3.09		Clay	100.0			21.36	0.76	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	23.290	0.371	10098.0	5945.3	6.136	2.036	3.09		Clay	100.0			22.01	0.76	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	24.190	0.413	10118.4	5955.1	6.425	2.160	3.08		Clay	100.0			22.86	0.76	n.a.	n.a.	0.69	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	25.460	0.490	10137.6	5964.3	6.838	2.402	3.08		Clay	100.0			24.06	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	25.600	0.490	10158.0	5974.1	6.870	2.388	3.08		Clay	100.0			24.20	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	26.050	0.443	10177.2	5983.3	7.007	2.113	3.05		Clay	100.0			24.62	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	24.920	0.452	10196.4	5992.5	6.616	2.279	3.08		Clay	100.0			23.55	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	25.730	0.407	10216.8	6002.3	6.871	1.976	3.04		Clay	100.0			24.32	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.300	24.560	0.380	10236.0	6011.5	6.468	1.956	3.06		Clay	100.0			23.21	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.470	24.070	0.351	10256.4	6021.3	6.292	1.854	3.06		Clay	100.0			22.75	0.76	n.a.	n.a.	0.69	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.630	24.120	0.341	10275.6	6030.5	6.295	1.794	3.05		Clay	100.0			22.80	0.76	n.a.	n.a.	0.69	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.790	24.350	0.349	10294.8</																					

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tt})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
88.910	59.570	1.599	10669.2	6219.5	17.441	2.948	2.80		Clay	86.7			56.30	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	82.000	1.675	10688.4	6228.7	42.230	2.185	2.42		Sand	56.2	100.26	1.8	180.47	0.71	128.55	211.73	0.68	0.575	0.676	3.913	5.821	10.13	0.00	0.00
89.240	106.070	0.868	10708.8	6238.5	55.441	0.862	2.08		Sand	29.2		1.8	180.46	0.68	123.03	181.99	0.68	0.575	0.766	0.788	1.282	2.23	0.00	0.00
89.400	98.770	1.535	10728.0	6247.7	51.379	1.643	2.27		Sand	44.7	100.26	1.8	180.47	0.70	126.88	203.11	0.68	0.574	0.705	2.262	3.507	6.11	0.00	0.00
89.570	54.330	1.455	10748.4	6257.5	15.647	2.973	2.84		Clay	89.9			51.35	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	32.090	0.963	10767.6	6266.7	8.523	3.606	3.10		Clay	100.0			30.33	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	28.060	0.670	10788.0	6276.5	7.223	2.954	3.11		Clay	100.0			26.52	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	26.380	0.585	10807.2	6285.7	6.674	2.791	3.13		Clay	100.0			24.93	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	25.680	0.510	10826.4	6294.9	6.439	2.516	3.12		Clay	100.0			24.27	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	24.150	0.466	10846.8	6304.7	5.941	2.486	3.14		Clay	100.0			22.83	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.550	24.010	0.494	10866.0	6313.9	5.884	2.658	3.16		Clay	100.0			22.69	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	28.180	0.473	10886.4	6323.7	7.191	2.082	3.03		Clay	100.0			26.64	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	26.170	0.467	10905.6	6332.9	6.543	2.255	3.09		Clay	100.0			24.74	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	24.410	0.416	10924.8	6342.1	5.975	2.193	3.11		Clay	100.0			23.07	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	25.370	0.385	10945.2	6351.9	6.265	1.936	3.07		Clay	100.0			23.98	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.370	30.290	0.530	10964.4	6361.2	7.800	2.137	3.01		Clay	100.0			28.63	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.540	32.310	0.573	10984.8	6370.9	8.419	2.136	2.98		Clay	100.0			30.54	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	30.830	0.510	11004.0	6380.2	7.940	2.012	2.99		Clay	100.0			29.14	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	29.900	0.496	11023.2	6389.4	7.634	2.033	3.00		Clay	100.0			28.26	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	30.500	0.502	11043.6	6399.2	7.807	2.009	2.99		Clay	100.0			28.83	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	28.940	0.502	11062.8	6408.4	7.306	2.146	3.03		Clay	100.0			27.35	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	27.960	0.521	11083.2	6418.2	6.986	2.323	3.07		Clay	100.0			26.43	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	28.350	0.523	11102.4	6427.4	7.094	2.292	3.06		Clay	100.0			26.80	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	29.770	0.539	11121.6	6436.6	7.522	2.226	3.03		Clay	100.0			28.14	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	30.030	0.557	11142.0	6446.4	7.588	2.276	3.03		Clay	100.0			28.38	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.010	29.690	0.565	11161.2	6455.6	7.469	2.344	3.04		Clay	100.0			28.06	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.180	29.670	0.578	11181.6	6465.4	7.449	2.400	3.05		Clay	100.0			28.04	0.74	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.340	32.050	0.669	11200.8	6474.6	8.170	2.528	3.03		Clay	100.0			30.29	0.74	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.500	35.890	0.806	11220.0	6483.8	9.340	2.662	2.99		Clay	100.0			33.92	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.670	37.880	0.876	11240.4	6493.6	9.936	2.714	2.97		Clay	100.0			35.80	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.830	36.950	0.909	11259.6	6502.8	9.633	2.901	3.00		Clay	100.0			34.92	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.000	36.610	1.636	11280.0	6512.6	9.511	5.283	3.16		Clay	100.0			34.60	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.160	101.210	4.350	11299.2	6521.9	29.305	4.552	2.75		Clay	82.7			95.66	0.74	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.320	277.590	6.980	11318.4	6531.1	146.298	2.567	2.09		Sand	30.0			262.37	0.74	194.89	269.68	0.67	0.566	0.662	1856.801	2703.784	4776.32	0.00	0.00
94.490	423.830	8.231	11338.8	6540.9	224.801	1.968	1.88		Sand	13.6			400.60	0.74	297.44	329.46	0.67	0.566	0.661	#####	#####	#####	0.00	0.00
94.650	440.020	8.007	11358.0	6550.1	233.335	1.843	1.85		Sand	11.0			415.90	0.74	308.69	327.18	0.66	0.566	0.661	#####	#####	#####	0.00	0.00
94.820	467.560	3.989	11378.4	6559.9	247.939	0.864	1.58		Sand	0.0			441.93	0.74	327.88	327.88	0.66	0.565	0.661	#####	#####	#####	0.00	0.00
94.980	532.920	3.084	11397.6	6569.1	282.822	0.585	1.42		Sand	0.0			503.71	0.74	373.57	373.57	0.66	0.565	0.660	#####	#####	#####	0.00	0.00
95.140	465.420	1.927	11416.8	6578.3	246.434	0.419	1.37		Sand	0.0			439.91	0.74	326.14	326.14	0.66	0.565	0.660	#####	#####	#####	0.00	0.00
95.310	354.380	1.012	11437.2	6588.1	186.765	0.290	1.38		Sand	0.0			334.95	0.73	245.55	245.55	0.66	0.565	0.659	78.096	113.271	200.64	0.00	0.00
95.470	273.580	0.840	11456.4	6597.3	143.378	0.313	1.50		Sand	0.0			258.58	0.65	169.18	169.18	0.66	0.564	0.784	0.490	0.737	1.31	0.00	0.00
95.640	253.690	1.480	11476.8	6607.1	132.627	0.597	1.68		Sand	0.0			239.78	0.63	152.09	152.09	0.66	0.564	0.815	0.303	0.418	0.74	0.02	0.00
95.800	307.080	1.965	11496.0	6616.3	161.068	0.652	1.63		Sand	0.0			290.25	0.69	199.07	199.07	0.66	0.564	0.704	1.794	2.777	4.93	0.00	0.00
95.960	398.650	4.105	11515.2	6625.5	209.863	1.045	1.69		Sand	0.0			376.80	0.74	278.82	278.82	0.66	0.564	0.658	8120.442	11747.629	20845.29	0.00	0.00
96.130	498.690	4.628	11535.6	6635.3	263.099	0.939	1.59		Sand	0.0			471.35	0.74	348.66	348.66	0.66	0.563	0.657	#####	#####	#####	0.00	0.00
96.290	482.300	2.943	11554.8	6644.5	254.169	0.618	1.47		Sand	0.0			455.86	0.74	337.07	337.07	0.66	0.563	0.657	#####	#####	#####	0.00	0.00
96.460	519.380	3.007	11575.2	6654.3	273.7.7																			

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ'vc (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tl})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5σ' σ' = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
99.900	377.920	2.261	11988.0	6852.5	195.346	0.608	1.55		Sand	0.0			357.20	0.73	261.98	261.98	0.65	0.558	0.647	605.975	863.179	1546.92	0.00	0.00
100.070	315.830	1.812	12008.4	6862.3	162.613	0.585	1.60		Sand	0.0			298.52	0.68	203.78	203.78	0.65	0.558	0.677	2.354	3.504	6.28	0.00	0.00
100.230	194.370	1.788	12027.6	6871.5	98.793	0.949	1.90		Sand	15.0			183.71	0.60	110.80	134.76	0.65	0.558	0.835	0.213	0.269	0.48	0.02	0.00
100.390	162.680	1.510	12046.8	6880.7	82.112	0.964	1.97		Sand	20.4			153.76	0.59	91.36	128.04	0.65	0.557	0.843	0.192	0.234	0.42	0.02	0.00
100.560	151.940	1.495	12067.2	6890.5	76.423	1.024	2.01		Sand	23.6			143.61	0.59	85.24	127.86	0.65	0.557	0.843	0.191	0.233	0.42	0.02	0.00
100.720	167.750	1.218	12086.4	6899.7	84.642	0.753	1.89		Sand	14.4			158.55	0.57	90.46	110.96	0.65	0.557	0.863	0.154	0.176	0.32	0.03	0.00
100.890	247.880	2.174	12106.8	6909.5	126.489	0.899	1.80		Sand	7.2			234.29	0.62	144.38	146.49	0.65	0.557	0.816	0.267	0.355	0.64	0.02	0.00
101.050	389.170	2.563	12126.0	6918.7	200.253	0.669	1.57		Sand	0.0			367.84	0.73	269.10	269.10	0.65	0.557	0.645	1699.380	2409.884	4330.33	0.00	0.00
101.210	486.420	4.229	12145.2	6927.9	250.914	0.880	1.58		Sand	0.0			459.75	0.73	336.23	336.23	0.65	0.556	0.644	#####	#####	#####	0.00	0.00
101.380	557.500	5.745	12165.6	6937.7	287.835	1.042	1.60		Sand	0.0			526.94	0.73	385.22	385.22	0.65	0.556	0.644	#####	#####	#####	0.00	0.00
101.540	520.930	5.270	12184.8	6946.9	268.563	1.024	1.61		Sand	0.0			492.37	0.73	359.82	359.82	0.65	0.556	0.643	#####	#####	#####	0.00	0.00
101.710	488.210	4.213	12205.2	6956.7	251.312	0.874	1.58		Sand	0.0			461.45	0.73	337.10	337.10	0.65	0.556	0.643	#####	#####	#####	0.00	0.00
101.870	497.830	2.097	12224.4	6966.0	256.152	0.426	1.36		Sand	0.0			470.54	0.73	343.62	343.62	0.65	0.555	0.643	#####	#####	#####	0.00	0.00
102.030	526.990	3.321	12243.6	6975.2	271.158	0.638	1.46		Sand	0.0			498.10	0.73	363.62	363.62	0.65	0.555	0.642	#####	#####	#####	0.00	0.00
102.200	459.520	2.849	12264.0	6985.0	235.863	0.628	1.50		Sand	0.0			434.33	0.73	316.95	316.95	0.65	0.555	0.642	#####	#####	#####	0.00	0.00
102.360	459.350	3.914	12283.2	6994.2	235.614	0.864	1.59		Sand	0.0			434.17	0.73	316.72	316.72	0.65	0.555	0.641	#####	#####	#####	0.00	0.00
102.530	492.750	6.811	12303.6	7004.0	252.796	1.400	1.73		Sand	1.7			465.74	0.73	339.62	339.62	0.65	0.555	0.641	#####	#####	#####	0.00	0.00
102.690	431.420	6.902	12322.8	7013.2	220.784	1.623	1.82		Sand	8.6			407.77	0.73	297.25	304.72	0.65	0.555	0.641	#####	#####	3557441.89	0.00	0.00
102.850	353.720	4.782	12342.0	7022.4	180.321	1.376	1.82		Sand	8.8			334.33	0.72	241.99	248.99	0.65	0.554	0.640	115.677	162.906	293.88	0.00	0.00
103.020	343.190	2.166	12362.4	7032.2	174.730	0.643	1.60		Sand	0.0			324.38	0.70	227.81	227.81	0.65	0.554	0.640	13.535	19.048	34.38	0.00	0.00
103.180	288.860	2.208	12381.6	7041.4	146.461	0.781	1.71		Sand	0.2			273.02	0.65	176.68	176.68	0.65	0.554	0.754	0.638	0.980	1.77	0.00	0.00
103.350	192.780	1.755	12402.0	7051.2	96.606	0.940	1.91		Sand	15.4			182.21	0.59	108.36	133.39	0.65	0.554	0.833	0.208	0.260	0.47	0.02	0.00
103.510	109.260	2.258	12421.2	7060.4	53.322	2.191	2.34		Sand	50.2			103.27	0.58	59.80	121.72	0.65	0.554	0.848	0.175	0.208	0.38	0.03	0.00
103.670	45.850	1.747	12440.4	7069.6	11.211	4.408	3.06		Clay	100.0			43.34	0.73	n.a.	n.a.	0.64	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
103.840	19.910	1.276	12460.8	7079.4	3.865	9.327	3.62		Clay	100.0			18.82	0.73	n.a.	n.a.	0.64	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.000	49.080	1.873	12480.0	7088.6	12.087	4.371	3.03		Clay	100.0			46.39	0.73	n.a.	n.a.	0.64	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.170	199.210	2.034	12500.4	7098.4	99.577	1.054	1.93		Sand	17.1			188.29	0.61	114.50	145.38	0.64	0.553	0.814	0.261	0.343	0.62	0.02	0.00
104.330	256.120	3.576	12519.6	7107.6	128.856	1.431	1.93		Sand	17.7			242.08	0.67	162.62	200.86	0.64	0.553	0.678	1.984	2.961	5.36	0.00	0.00
104.490	286.040	3.643	12538.8	7116.9	144.188	1.302	1.87		Sand	12.7			270.36	0.67	181.99	202.42	0.64	0.552	0.672	2.172	3.212	5.81	0.00	0.00
104.660	280.290	4.389	12559.2	7126.7	141.123	1.602	1.94		Sand	18.4			264.92	0.70	185.58	228.73	0.64	0.552	0.636	14.665	20.510	37.14	0.00	0.00
104.820	166.220	3.287	12578.4	7135.9	82.315	2.055	2.18		Sand	37.7			157.11	0.63	98.55	162.27	0.64	0.552	0.783	0.396	0.565	1.02	0.01	0.00
104.990	71.580	2.482	12598.8	7145.7	18.271	3.802	2.85		Clay	90.9			67.66	0.73	n.a.	n.a.	0.64	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.150	35.060	1.120	12618.0	7154.9	8.037	3.896	3.14		Clay	100.0			33.14	0.73	n.a.	n.a.	0.64	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.320	31.740	0.749	12638.4	7164.7	7.096	2.947	3.12		Clay	100.0			30.00	0.72	n.a.	n.a.	0.64	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.480	26.370	0.628	12657.6	7173.9	5.587	3.132	3.22		Clay	100.0			24.92	0.72	n.a.	n.a.	0.64	0.551	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.640	26.780	0.504	12676.8	7183.1	5.692	2.466	3.16		Clay	100.0			25.31	0.72	n.a.	n.a.	0.64	0.551	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.810	26.280	0.536	12697.2	7192.9	5.542	2.690	3.19		Clay	100.0			24.84	0.72	n.a.	n.a.	0.64	0.551	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.970	27.460	0.557	12716.4	7202.1	5.860	2.639	3.16		Clay	100.0			25.95	0.72	n.a.	n.a.	0.64	0.551	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.140	27.830	0.586	12736.8	7211.9	5.952	2.730	3.16		Clay	100.0			26.30	0.72	n.a.	n.a.	0.64	0.551	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.300	29.960	0.529	12756.0	7221.1	6.531	2.243	3.08		Clay	100.0			28.32	0.72	n.a.	n.a.	0.64	0.551	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.460	31.490	0.593	12775.2	7230.3	6.944	2.360	3.07		Clay	100.0			29.76	0.72	n.a.	n.a.	0.64	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.630	31.340	0.543	12795.6	7240.1	6.890	2.177	3.06		Clay	100.0			29.62	0.72	n.a.	n.a.	0.64	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.790	28.280	0.497	12814.8	7249.3	6.034	2.270	3.12		Clay	100.0			26.73	0.72	n.a.	n.a.	0.64	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.960	27.580	0.496	12835.2	7259.1	5.831	2.341	3.14		Clay	100.0			26.07	0.72	n.a.	n.a.	0.64	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.120	28.330	0.496	12854.4	7268.4	6.027	2.266	3.12		Clay	100.0			26.78	0.72	n.a.	n.a.	0.64	0.550	n.a.	n.a.	n.a.			

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
110.890	27.200	0.471	13306.8	7485.5	5.490	2.292	3.15		Clay	100.0			25.71	0.72	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.060	28.250	0.493	13327.2	7495.3	5.760	2.283	3.14		Clay	100.0			26.70	0.72	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.220	29.890	0.574	13346.4	7504.5	6.187	2.470	3.13		Clay	100.0			28.25	0.72	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.380	31.850	0.645	13365.6	7513.7	6.699	2.564	3.11		Clay	100.0			30.10	0.72	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.550	34.950	0.728	13386.0	7523.5	7.512	2.575	3.06		Clay	100.0			33.03	0.72	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.710	35.580	0.776	13405.2	7532.7	7.667	2.686	3.07		Clay	100.0			33.63	0.72	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.880	37.060	0.860	13425.6	7542.5	8.047	2.835	3.06		Clay	100.0			35.03	0.72	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.040	37.750	0.872	13444.8	7551.7	8.217	2.810	3.05		Clay	100.0			35.68	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.200	37.650	0.870	13464.0	7561.0	8.178	2.815	3.05		Clay	100.0			35.59	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.370	37.370	0.855	13484.4	7570.8	8.091	2.790	3.06		Clay	100.0			35.32	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.530	37.380	0.859	13503.6	7580.0	8.081	2.804	3.06		Clay	100.0			35.33	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.700	37.040	0.853	13524.0	7589.8	7.979	2.819	3.06		Clay	100.0			35.01	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.860	36.120	0.808	13543.2	7599.0	7.724	2.754	3.07		Clay	100.0			34.14	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.020	34.940	0.758	13562.4	7608.2	7.402	2.690	3.08		Clay	100.0			33.02	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.190	34.290	0.736	13582.8	7618.0	7.219	2.676	3.09		Clay	100.0			32.41	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.350	33.100	0.694	13602.0	7627.2	6.896	2.637	3.10		Clay	100.0			31.29	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.520	32.770	0.647	13622.4	7637.0	6.798	2.490	3.09		Clay	100.0			30.97	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.680	31.940	0.565	13641.6	7646.2	6.570	2.247	3.08		Clay	100.0			30.19	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.850	30.150	0.511	13662.0	7656.0	6.092	2.190	3.11		Clay	100.0			28.50	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.010	30.480	0.509	13681.2	7665.2	6.168	2.153	3.10		Clay	100.0			28.81	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.170	29.150	0.473	13700.4	7674.4	5.811	2.119	3.12		Clay	100.0			27.55	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.340	28.630	0.468	13720.8	7684.2	5.666	2.151	3.13		Clay	100.0			27.06	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.500	28.970	0.468	13740.0	7693.4	5.745	2.117	3.12		Clay	100.0			27.38	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.670	28.390	0.486	13760.4	7703.2	5.585	2.259	3.15		Clay	100.0			26.83	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.830	27.450	0.473	13779.6	7712.4	5.332	2.298	3.17		Clay	100.0			25.95	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.990	25.840	0.475	13798.8	7721.7	4.906	2.510	3.22		Clay	100.0			24.42	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.160	24.780	0.473	13819.2	7731.5	4.623	2.649	3.25		Clay	100.0			23.42	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.320	25.760	0.470	13838.4	7740.7	4.868	2.495	3.22		Clay	100.0			24.35	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.490	26.900	0.482	13858.8	7750.5	5.153	2.415	3.19		Clay	100.0			25.43	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.650	27.430	0.472	13878.0	7759.7	5.281	2.304	3.17		Clay	100.0			25.93	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.810	26.990	0.466	13897.2	7768.9	5.159	2.324	3.18		Clay	100.0			25.51	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.980	26.910	0.434	13917.6	7778.7	5.130	2.177	3.17		Clay	100.0			25.43	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.140	26.550	0.448	13936.8	7787.9	5.029	2.290	3.19		Clay	100.0			25.09	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.310	26.960	0.450	13957.2	7797.7	5.125	2.254	3.18		Clay	100.0			25.48	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.470	27.710	0.450	13976.4	7806.9	5.309	2.172	3.16		Clay	100.0			26.19	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.630	27.620	0.434	13995.6	7816.1	5.277	2.103	3.15		Clay	100.0			26.11	0.71	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.800	27.200	0.416	14016.0	7825.9	5.160	2.061	3.16		Clay	100.0			25.71	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.960	27.300	0.424	14035.2	7835.1	5.177	2.092	3.16		Clay	100.0			25.80	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.130	27.640	0.403	14055.6	7844.9	5.255	1.955	3.14		Clay	100.0			26.12	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.290	28.560	0.349	14074.8	7854.1	5.481	1.622	3.08		Clay	100.0			26.99	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.450	27.640	0.320	14094.0	7863.4	5.238	1.555	3.09		Clay	100.0			26.12	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.620	22.250	0.311	14114.4	7873.2	3.859	2.045	3.26		Clay	100.0			21.03	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.780	21.410	0.302	14133.6	7882.4	3.639	2.103	3.29		Clay	100.0			20.24	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.950	21.200	0.293	14154.0	7892.2	3.579	2.075	3.30		Clay	100.0			20.04	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.110	21.050	0.284	14173.2	7901.4	3.534	2.030	3.30		Clay	100.0			19.90	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.270	20.940	0.277	14192.4	7910.6	3.500	1.999	3.30		Clay	100.0			19.79	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.440	20.790	0.269	14212.8	7920.4	3.455	1.966	3.30		Clay	100.0			19.65	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.600	20.670	0.263	14232.0	7929.6	3.419	1.943	3.30		Clay	100.0			19.54	0.71	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CPT No.

1

PGA (A_{max})

0.70

Total Settlement:

3.88

(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRRM=7.5, \sigma'_{vc} = 1 \text{ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
121.880	31.670	0.483	14625.6	8118.5	6.000	1.983	3.09		Clay	100.0			29.93	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.050	32.110	0.507	14646.0	8128.3	6.099	2.045	3.09		Clay	100.0			30.35	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.210	33.600	0.537	14665.2	8137.5	6.456	2.044	3.07		Clay	100.0			31.76	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.380	34.380	0.559	14685.6	8147.3	6.637	2.066	3.06		Clay	100.0			32.50	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.540	34.940	0.516	14704.8	8156.5	6.765	1.870	3.03		Clay	100.0			33.02	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.700	33.150	0.484	14724.0	8165.8	6.316	1.877	3.06		Clay	100.0			31.33	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.870	32.360	0.483	14744.4	8175.6	6.113	1.933	3.08		Clay	100.0			30.59	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.030	33.070	0.435	14763.6	8184.8	6.277	1.692	3.04		Clay	100.0			31.26	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.200	34.060	0.412	14784.0	8194.6	6.509	1.543	3.01		Clay	100.0			32.19	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.360	35.160	0.515	14803.2	8203.8	6.767	1.856	3.03		Clay	100.0			33.23	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.520	35.170	0.636	14822.4	8213.0	6.760	2.292	3.08		Clay	100.0			33.24	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.690	33.470	0.662	14842.8	8222.8	6.336	2.543	3.12		Clay	100.0			31.64	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.850	33.970	0.679	14862.0	8232.0	6.448	2.557	3.12		Clay	100.0			32.11	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.020	34.840	0.972	14882.4	8241.8	6.649	3.547	3.18		Clay	100.0			32.93	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.180	33.180	1.122	14901.6	8251.0	6.237	4.359	3.26		Clay	100.0			31.36	0.70	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	0.040	0.252	19.2	19.2	3.167	829.605	5.09		Unsaturated	100.0			0.04	1.70	0.06	54.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	2.260	0.774	39.6	39.6	113.141	34.533	3.10		Unsaturated	100.0			2.14	1.70	3.63	58.69	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	76.690	1.239	58.8	58.8	434.666	1.616	1.65		Unsaturated	0.0			72.49	1.70	123.23	123.23	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	72.800	1.836	79.2	79.2	355.471	2.523	1.86		Unsaturated	12.1			68.81	1.70	116.98	131.90	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	107.320	0.983	98.4	98.4	470.171	0.917	1.43		Unsaturated	0.0			101.44	1.70	172.44	172.44	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	93.470	0.942	117.6	117.6	374.513	1.008	1.52		Unsaturated	0.0			88.35	1.70	150.19	150.19	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	46.350	1.093	138.0	138.0	171.291	2.362	2.02		Unsaturated	24.3			43.81	1.70	74.48	116.55	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	25.130	0.972	157.2	157.2	86.872	3.879	2.37		Unsaturated	52.6			23.75	1.70	40.38	98.07	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	17.630	0.625	177.6	177.6	57.228	3.562	2.46		Unsaturated	60.1			16.66	1.70	28.33	85.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	13.870	0.444	196.8	196.8	42.682	3.222	2.52		Unsaturated	64.9			13.11	1.70	22.29	78.39	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	12.110	0.370	216.0	216.0	35.506	3.082	2.57		Unsaturated	68.6			11.45	1.70	19.46	75.49	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	13.980	0.370	236.4	236.4	39.198	2.668	2.50		Unsaturated	62.7			13.21	1.70	22.46	78.13	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	15.530	0.334	255.6	255.6	41.887	2.169	2.42		Unsaturated	56.3			14.68	1.70	24.95	79.64	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	13.930	0.252	276.0	276.0	36.095	1.829	2.42		Unsaturated	56.6			13.17	1.70	22.38	76.45	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	12.370	0.174	295.2	295.2	30.929	1.421	2.41		Unsaturated	55.7			11.69	1.70	19.88	73.01	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	11.020	0.133	314.4	314.4	26.636	1.225	2.43		Unsaturated	57.2			10.42	1.70	17.71	70.65	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	10.550	0.148	334.8	334.8	24.671	1.427	2.49		Unsaturated	62.3			9.97	1.70	16.95	70.96	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	11.000	0.203	354.0	354.0	25.010	1.874	2.55		Unsaturated	67.3			10.40	1.70	17.67	72.94	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	12.350	0.277	374.4	374.4	27.330	2.280	2.57		Unsaturated	68.9			11.67	1.70	19.84	76.04	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	16.430	0.443	393.6	393.6	35.575	2.731	2.53		Unsaturated	65.8			15.53	1.70	26.40	83.87	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	23.770	0.651	412.8	412.8	50.425	2.764	2.43		Unsaturated	57.1			22.47	1.70	38.19	96.77	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	29.610	0.890	433.2	433.2	61.401	3.029	2.39		Unsaturated	54.4			27.99	1.70	47.58	107.86	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	33.040	0.942	452.4	452.4	67.076	2.871	2.35		Unsaturated	50.9			31.23	1.70	53.09	113.53	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	31.970	0.851	472.8	472.8	63.453	2.681	2.34		Unsaturated	50.6			30.22	1.70	51.37	111.22	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	31.510	0.746	492.0	492.0	61.282	2.385	2.32		Unsaturated	48.6			29.78	1.70	50.63	109.45	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	30.970	0.694	512.4	512.4	58.993	2.261	2.32		Unsaturated	48.3			29.27	1.70	49.76	108.21	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	29.770	0.594	531.6	531.6	55.637	2.015	2.30		Unsaturated	47.1			28.14	1.70	47.83	105.24	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	30.140	0.482	550.8	550.8	55.326	1.613	2.24		Unsaturated	42.3			28.49	1.70	48.43	103.44	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	28.170	0.408	571.2	571.2	50.727	1.462	2.24		Unsaturated	42.5			26.63	1.70	45.26	99.60	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	28.000	0.285	590.4	590.4	49.574	1.029	2.16		Unsaturated	35.8			26.47	1.70	44.99	94.81	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	28.930	0.279	610.8	610.8	50.357	0.976	2.14		Unsaturated	34.4			27.34	1.70	46.48	95.41	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	25.300	0.367	630.0	630.0	43.279	1.469	2.30		Unsaturated	46.9			23.91	1.70	40.65	96.11	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	20.150	0.538	649.2	649.2	33.830	2.715	2.55		Unsaturated	67.0			19.05	1.70	32.38	91.82	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	14.660	0.523	669.6	669.6	30.297	3.652	2.67		Unsaturated	76.6			13.86	1.70	23.56	82.14	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	12.650	0.469	688.8	688.8	35.731	3.815	2.63		Unsaturated	73.4			11.96	1.70	20.33	77.45	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	12.360	0.414	709.2	709.2	33.856	3.451	2.62		Unsaturated	72.5			11.68	1.70	19.86	76.69	0.99	0.452	1.097	n.a.	n.a.	n.a.	0.00	0.00
6.070	9.780	0.351	728.4	728.4	25.853	3.726	2.73		Unsaturated	81.2			9.24	1.70	15.71	72.60	0.99	0.452	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.230	10.630	0.360	747.6	747.6	27.438	3.506	2.69		Unsaturated	78.3			10.05	1.70	17.08	73.98	0.99	0.452	1.090	n.a.	n.a.	n.a.	0.00	0.00
6.400	12.210	0.362	768.0	768.0	30.797	3.059	2.61		Unsaturated	72.2			11.54	1.70	19.62	76.33	0.99	0.452	1.089	n.a.	n.a.	n.a.	0.00	0.00
6.560	16.460	0.336	787.2	787.2	24.897	2.089	2.58		Unsaturated	69.6			15.56	1.70	26.39	84.63	0.99	0.451	1.093	n.a.	n.a.	n.a.	0.00	0.00
6.730	22.680	0.392	807.6	807.6	34.081	1.759	2.43		Unsaturated	57.3			21.44	1.64	35.17	93.00	0.99	0.451	1.097	n.a.	n.a.	n.a.	0.00	0.00
6.890	23.990	0.561	826.8	826.8	35.649	2.379	2.50		Unsaturated	62.6			22.67	1.61	36.51	96.14	0.99	0.451	1.097	n.a.	n.a.	n.a.	0.00	0.00
7.050	21.250	0.632	846.0	846.0	37.398	3.032	2.55		Unsaturated	66.9			20.09	1.61	32.27	91.66	0.99	0.451	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.220	17.000	0.572	866.4	866.4	29.256	3.452	2.67		Unsaturated	76.3			16.07	1.61	25.87	85.08	0.99	0.451	1.084	n.a.	n.a.	n.a.	0.00	0.00
7.380	15.740	0.577	885.6	885.6	34.547	3.769	2.64		Unsaturated	74.0			14.88	1.60	23.83	82.08	0.99	0.450	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.550	13.320	0.480	906.0	906.0	28.404	3.733	2.70		Unsaturated	78.8			12.59	1.60	20.10	77.97	0.99	0.450	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.710	14.310	0.43.																						

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,γ 'σ _c = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.320	16.440	0.611	1358.4	1358.4	23.205	3.877	2.77		Clay	85.0			15.54	1.12	n.a.	n.a.	0.98	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	10.430	0.254	1377.6	1377.6	14.142	2.606	2.84		Clay	90.1			9.86	1.12	n.a.	n.a.	0.98	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	7.570	0.204	1398.0	1398.0	9.830	2.970	3.00		Clay	100.0			7.16	1.12	n.a.	n.a.	0.98	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	9.810	0.157	1417.2	1417.2	12.844	1.722	2.77		Clay	84.9			9.27	1.11	n.a.	n.a.	0.98	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	6.350	0.114	1437.6	1437.6	7.834	2.019	2.99		Clay	100.0			6.00	1.11	n.a.	n.a.	0.98	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	6.700	0.130	1456.8	1456.8	8.198	2.175	2.99		Clay	100.0			6.33	1.10	n.a.	n.a.	0.98	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	12.330	0.186	1476.0	1476.0	15.707	1.607	2.68		Clay	77.7			11.65	1.10	n.a.	n.a.	0.98	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	17.770	0.339	1496.4	1496.4	22.750	1.994	2.60		Clay	71.2			16.80	1.10	n.a.	n.a.	0.98	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	12.350	0.280	1515.6	1515.6	15.297	2.415	2.79		Clay	86.3			11.67	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	10.820	0.181	1536.0	1536.0	13.089	1.796	2.78		Clay	85.1			10.23	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	9.160	0.185	1555.2	1555.2	10.780	2.208	2.90		Clay	94.7			8.66	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	8.160	0.086	1574.4	1574.4	9.366	1.169	2.81		Clay	87.9			7.71	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	6.680	0.039	1594.8	1594.8	7.377	0.663	2.80		Clay	87.2			6.31	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	4.630	0.026	1614.0	1614.0	4.737	0.691	2.99		Clay	100.0			4.38	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	4.610	0.243	1634.4	1634.4	4.641	6.412	3.46		Clay	100.0			4.36	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	6.020	0.211	1653.6	1653.6	6.281	4.071	3.24		Clay	100.0			5.69	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	7.740	0.113	1672.8	1672.8	8.254	1.635	2.93		Clay	97.3			7.32	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	6.130	0.076	1693.2	1693.2	6.241	1.446	3.01		Clay	100.0			5.79	1.06	n.a.	n.a.	0.97	0.521	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	5.470	0.053	1712.4	1712.4	5.389	1.155	3.02		Clay	100.0			5.17	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	4.950	0.055	1732.8	1732.8	4.713	1.354	3.11		Clay	100.0			4.68	1.05	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	4.540	0.048	1752.0	1752.0	4.183	1.299	3.15		Clay	100.0			4.29	1.05	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	5.130	0.042	1771.2	1771.2	4.793	0.982	3.04		Clay	100.0			4.85	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	5.290	0.038	1791.6	1791.6	4.905	0.872	3.01		Clay	100.0			5.00	1.04	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	4.790	0.033	1810.8	1810.8	4.290	0.850	3.06		Clay	100.0			4.53	1.04	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	5.090	0.092	1831.2	1831.2	4.559	2.213	3.22		Clay	100.0			4.81	1.04	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	9.110	0.110	1850.4	1850.4	8.847	1.348	2.86		Clay	91.9			8.61	1.04	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	15.780	0.199	1869.6	1869.6	15.881	1.343	2.64		Clay	74.1			14.91	1.03	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	16.290	0.274	1890.0	1890.0	16.238	1.786	2.70		Clay	78.7			15.40	1.03	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	19.470	0.237	1909.2	1909.2	18.424	1.278	2.57		Sand	68.8	23.49		23.49	1.06	24.83	82.46	0.97	0.544	1.010	0.118	0.141	0.26	0.04	0.08
16.080	24.850	0.242	1929.6	1929.6	23.641	1.014	2.43		Sand	57.3			23.49	1.05	24.70	79.61	0.96	0.546	1.008	0.115	0.137	0.25	0.04	0.08
16.240	23.150	0.259	1948.8	1948.8	21.841	1.169	2.49		Sand	62.2	23.49		23.49	1.05	24.57	80.70	0.96	0.548	1.008	0.116	0.138	0.25	0.04	0.08
16.400	19.720	0.289	1968.0	1968.0	19.041	1.540	2.60		Clay	71.3			18.64	1.02	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	16.990	0.161	1988.4	1988.4	15.596	1.006	2.58		Sand	69.8			16.06	1.04	16.64	72.05	0.96	0.552	1.005	0.109	0.126	0.23	0.04	0.09
16.730	16.260	0.198	2007.6	2007.6	15.198	1.296	2.65		Clay	74.8			15.37	1.01	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	13.740	0.279	2028.0	2028.0	12.550	2.195	2.84		Clay	90.1			12.99	1.01	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	13.920	0.228	2047.2	2047.2	12.599	1.765	2.79		Clay	85.9			13.16	1.01	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	10.830	0.193	2066.4	2066.4	9.482	1.968	2.92		Clay	96.3			10.24	1.01	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	7.400	0.131	2086.8	2086.8	6.092	2.066	3.09		Clay	100.0			6.99	1.00	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	7.240	0.182	2106.0	2096.6	5.902	2.937	3.18		Clay	100.0			6.84	1.00	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	7.000	0.153	2126.4	2106.4	5.637	2.581	3.17		Clay	100.0			6.62	1.00	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	8.950	0.114	2145.6	2115.6	7.447	1.446	2.94		Clay	98.4			8.46	1.00	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	6.810	0.108	2164.8	2124.9	5.391	1.891	3.12		Clay	100.0			6.44	1.00	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	6.830	0.098	2185.2	2134.7	5.375	1.706	3.10		Clay	100.0			6.46	1.00	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	8.970	0.089	2204.4	2143.9	7.340	1.135	2.90		Clay	95.0			8.48	1.00	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	6.570	0.088	2224.8	2153.7	5.068	1.605	3.11		Clay	100.0			6.21	1.00	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	6.770	0.057	2244.0	2162.9	5.223	1.009	3.01		Clay	100.0			6.40	0.99	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	5.870	0.089	2263.2	2172.1	4.363	1.868	3.20		Clay	100.0			5.55	0.99	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	9.930	0.047	2283.6	2181.9	8.056	0.539	2.73		Clay	81.8			9.39	0.99	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	7.160																							

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{LH})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRR _{M=7.5, γ_c = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.310	6.690	0.072	2677.2	2370.8	4.514	1.338	3.12		Clay	100.0			6.32	0.97	n.a.	n.a.	0.94	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	6.690	0.082	2696.4	2380.0	4.489	1.529	3.15		Clay	100.0			6.32	0.97	n.a.	n.a.	0.94	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	7.610	0.114	2716.8	2389.8	5.232	1.827	3.12		Clay	100.0			7.19	0.97	n.a.	n.a.	0.94	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	8.340	0.182	2736.0	2399.0	5.812	2.609	3.16		Clay	100.0			7.88	0.97	n.a.	n.a.	0.94	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	8.630	0.199	2756.4	2408.8	6.021	2.747	3.16		Clay	100.0			8.16	0.97	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	8.430	0.240	2775.6	2418.0	5.825	3.409	3.22		Clay	100.0			7.97	0.97	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	8.960	0.240	2794.8	2427.3	6.231	3.177	3.18		Clay	100.0			8.47	0.96	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	8.140	0.263	2815.2	2437.1	5.525	3.899	3.27		Clay	100.0			7.69	0.96	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	8.400	0.237	2834.4	2446.3	5.709	3.398	3.23		Clay	100.0			7.94	0.96	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	8.430	0.217	2854.8	2456.1	5.702	3.105	3.21		Clay	100.0			7.97	0.96	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	10.170	0.340	2874.0	2465.3	7.085	3.894	3.18		Clay	100.0			9.61	0.96	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	18.110	0.561	2893.2	2474.5	13.468	3.364	2.92		Clay	96.7			17.12	0.96	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	18.990	0.713	2913.6	2484.3	14.115	4.068	2.95		Clay	99.4			17.95	0.96	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	25.760	1.496	2932.8	2493.5	19.486	6.157	2.97		Clay	100.0			24.35	0.96	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	39.440	2.738	2953.2	2503.3	30.331	7.212	2.88		Clay	93.1			37.28	0.96	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	104.100	3.881	2972.4	2512.5	89.007	3.783	2.35		Sand	51.4	119.45	1.8	215.01	0.96	205.48	306.86	0.93	0.616	0.948	#####	#####	7790647.90	0.00	0.00
24.930	126.380	4.737	2991.6	2521.7	108.126	3.793	2.30		Sand	47.1		1.8	215.01	0.95	205.29	303.51	0.93	0.617	0.947	#####	#####	3592089.95	0.00	0.00
25.100	89.390	4.538	3012.0	2531.5	75.944	5.164	2.50		Sand	63.2	119.45	1.8	215.01	0.95	205.08	312.77	0.93	0.618	0.946	#####	#####	#####	0.00	0.00
25.260	69.360	3.492	3031.2	2540.7	53.405	5.147	2.60		Clay	71.1			65.56	0.95	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	60.170	2.747	3051.6	2550.5	45.986	4.685	2.62		Clay	72.2			56.87	0.95	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	63.570	2.722	3070.8	2559.7	53.310	4.388	2.55		Sand	67.1	74.57		74.57	0.92	68.81	138.78	0.93	0.620	0.972	0.229	0.345	0.56	0.02	0.04
25.750	76.750	3.195	3090.0	2569.0	64.512	4.248	2.48		Sand	61.8	74.57		74.57	0.92	68.67	137.17	0.93	0.621	0.972	0.222	0.331	0.53	0.02	0.05
25.920	78.900	3.615	3110.4	2578.8	66.221	4.674	2.51		Sand	63.6			74.57	0.92	68.57	137.58	0.93	0.622	0.972	0.224	0.335	0.54	0.02	0.04
26.080	62.330	3.101	3129.6	2588.0	46.960	5.104	2.64		Clay	73.9			58.91	0.95	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	66.120	2.726	3150.0	2597.8	55.060	4.223	2.53		Sand	65.3	70.88	1.55	109.86	0.93	102.14	181.22	0.93	0.623	0.956	0.763	1.539	2.47	0.00	0.00
26.410	74.990	2.757	3169.2	2607.0	62.507	3.756	2.45		Sand	59.3		1.55	109.86	0.93	101.94	179.00	0.93	0.624	0.956	0.698	1.384	2.22	0.00	0.00
26.570	69.990	3.264	3188.4	2616.2	58.139	4.773	2.55		Sand	67.2		1.55	102.54	0.92	94.83	172.34	0.93	0.625	0.958	0.545	1.028	1.65	0.00	0.00
26.740	84.930	3.577	3208.8	2626.0	70.698	4.293	2.46		Sand	59.9		1.55	124.42	0.93	115.78	196.92	0.93	0.625	0.945	1.596	3.318	5.31	0.00	0.00
26.900	73.460	3.495	3228.0	2635.2	60.851	4.865	2.55		Sand	66.6		1.55	107.62	0.92	99.45	178.13	0.93	0.626	0.954	0.675	1.326	2.12	0.00	0.00
27.070	75.330	3.057	3248.4	2645.0	62.311	4.147	2.49		Sand	61.9		1.55	110.36	0.92	101.90	179.86	0.93	0.627	0.953	0.722	1.436	2.29	0.00	0.00
27.230	89.650	2.650	3267.6	2654.2	74.279	3.010	2.33		Sand	49.6		1.55	131.34	0.93	121.89	199.97	0.93	0.627	0.940	1.886	3.903	6.22	0.00	0.00
27.400	60.540	2.463	3288.0	2664.0	49.612	4.182	2.56		Sand	67.6	84.74	1.55	131.35	0.93	122.02	207.50	0.92	0.628	0.934	2.962	6.085	9.69	0.00	0.00
27.560	33.810	1.525	3307.2	2673.2	24.058	4.743	2.82		Clay	88.7			31.96	0.94	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	22.190	0.948	3326.4	2682.4	15.305	4.616	2.96		Clay	99.9			20.97	0.94	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	16.980	0.774	3346.8	2692.2	11.371	5.053	3.09		Clay	100.0			16.05	0.94	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	14.120	0.582	3366.0	2701.4	9.208	4.677	3.14		Clay	100.0			13.35	0.94	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	14.100	0.530	3386.4	2711.2	9.152	4.268	3.12		Clay	100.0			13.33	0.94	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	14.360	0.621	3405.6	2720.4	9.305	4.902	3.15		Clay	100.0			13.57	0.94	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	16.010	0.643	3424.8	2729.7	10.476	4.496	3.08		Clay	100.0			15.13	0.94	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	16.610	0.718	3445.2	2739.5	10.869	4.820	3.09		Clay	100.0			15.70	0.93	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	17.870	0.757	3464.4	2748.7	11.742	4.690	3.06		Clay	100.0			16.89	0.93	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	15.760	0.726	3484.8	2758.5	10.163	5.177	3.13		Clay	100.0			14.90	0.93	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	16.360	0.530	3504.0	2767.7	10.556	3.625	3.03		Clay	100.0			15.46	0.93	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	16.090	0.445	3523.2	2776.9	10.320	3.104	2.99		Clay	100.0			15.21	0.93	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	14.530	0.656	3543.6	2786.7	9.157	5.139	3.17		Clay	100.0			13.73	0.93	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	45.310	0.803	3562.8	2795.9	35.792	1.845	2.42		Sand	57.0	173.22	1.18	204.40	0.93	189.91	290.39	0.92	0.636	0.916	67177.871	#####	213015.34	0.00	0.00
29.																								

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRR _{m=7.5, σ' _{vc} = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
33.300	7.930	0.132	3996.0	3003.8	3.950	2.222	3.27		Clay	100.0			7.50	0.91	n.a.	n.a.	0.90	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	7.440	0.116	4015.2	3013.1	3.606	2.126	3.30		Clay	100.0			7.03	0.91	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	7.820	0.156	4035.6	3022.8	3.839	2.680	3.32		Clay	100.0			7.39	0.91	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	8.500	0.225	4054.8	3032.1	4.269	3.475	3.34		Clay	100.0			8.03	0.91	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	14.310	0.588	4075.2	3041.9	8.069	4.790	3.19		Clay	100.0			13.53	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	15.610	0.695	4094.4	3051.1	8.891	5.123	3.17		Clay	100.0			14.75	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	81.200	0.572	4113.6	3060.3	62.202	0.723	1.99		Sand	22.5	108.31	1.55	167.88	0.89	148.58	198.83	0.90	0.646	0.904	1.770	3.521	5.45	0.00	0.00
34.450	110.560	0.639	4134.0	3070.1	85.133	0.589	1.83		Sand	9.5	108.31	1.55	167.88	0.86	144.66	151.97	0.90	0.646	0.939	0.302	0.480	0.74	0.02	0.03
34.610	114.590	0.702	4153.2	3079.3	88.156	0.624	1.83		Sand	9.5		1.55	167.88	0.86	144.49	152.01	0.90	0.647	0.939	0.302	0.481	0.74	0.02	0.03
34.780	104.330	0.996	4173.6	3089.1	79.982	0.974	1.98		Sand	21.3	108.31	1.55	167.88	0.88	147.82	194.92	0.89	0.647	0.906	1.436	2.863	4.43	0.00	0.00
34.940	83.950	1.313	4192.8	3098.3	63.936	1.604	2.19		Sand	38.3	108.31	1.55	167.88	0.89	149.96	226.38	0.89	0.647	0.886	11.967	23.315	36.04	0.00	0.00
35.100	61.990	1.262	4212.0	3107.5	46.706	2.108	2.37		Sand	52.7	108.31	1.55	167.88	0.90	150.64	238.12	0.89	0.647	0.885	35.532	69.157	106.86	0.00	0.00
35.270	59.150	0.899	4232.4	3117.3	44.413	1.576	2.31		Sand	47.7	108.31	1.55	167.88	0.90	150.27	234.61	0.89	0.647	0.884	25.159	48.917	75.56	0.00	0.00
35.430	48.200	0.653	4251.6	3126.5	35.826	1.418	2.36		Sand	51.5	108.31	1.55	167.88	0.90	150.30	237.00	0.89	0.648	0.883	31.763	61.694	95.26	0.00	0.00
35.600	29.330	0.701	4272.0	3136.3	17.341	2.576	2.76		Clay	84.1			27.72	0.90	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	18.310	0.583	4291.2	3145.5	10.278	3.607	3.03		Clay	100.0			17.31	0.90	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	22.220	0.344	4311.6	3155.3	12.718	1.716	2.78		Clay	85.2			21.00	0.90	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	20.040	0.483	4330.8	3164.5	11.297	2.703	2.93		Clay	97.2			18.94	0.90	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	25.020	0.392	4350.0	3173.8	14.396	1.715	2.73		Clay	81.5			23.65	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	24.530	0.445	4370.4	3183.6	14.038	1.991	2.78		Clay	85.0			23.19	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	13.450	0.410	4389.6	3192.8	7.050	3.645	3.17		Clay	100.0			12.71	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	10.120	0.252	4410.0	3202.6	4.943	3.179	3.27		Clay	100.0			9.57	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	9.970	0.246	4429.2	3211.8	4.829	3.176	3.28		Clay	100.0			9.42	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	10.050	0.258	4448.4	3221.0	4.859	3.292	3.28		Clay	100.0			9.50	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	11.740	0.161	4468.8	3230.8	5.884	1.693	3.06		Clay	100.0			11.10	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	11.040	0.288	4488.0	3240.0	5.430	3.272	3.24		Clay	100.0			10.43	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	19.790	0.153	4508.4	3249.8	10.792	0.870	2.70		Clay	78.9			18.71	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	12.520	0.247	4527.6	3259.0	6.294	2.410	3.11		Clay	100.0			11.83	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	14.850	0.280	4546.8	3268.2	7.696	2.230	3.02		Clay	100.0			14.04	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	22.670	0.245	4567.2	3278.0	12.438	1.204	2.71		Clay	79.6			21.43	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	18.980	0.173	4586.4	3287.2	10.152	1.034	2.76		Clay	83.4			17.94	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	13.900	0.133	4606.8	3297.0	7.035	1.145	2.92		Clay	96.4			13.14	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	10.550	0.131	4626.0	3306.2	4.983	1.593	3.12		Clay	100.0			9.97	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	10.110	0.132	4645.2	3315.5	4.698	1.694	3.15		Clay	100.0			9.56	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	10.810	0.217	4665.6	3325.2	5.099	2.563	3.21		Clay	100.0			10.22	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	23.190	0.296	4684.8	3334.5	12.504	1.418	2.74		Clay	82.3			21.92	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	39.860	0.498	4705.2	3344.3	28.199	1.327	2.43		Sand	57.0	42.95	1.8	77.31	0.82	63.20	128.68	0.88	0.651	0.939	0.193	0.264	0.41	0.02	0.05
39.370	45.440	0.271	4724.4	3353.5	32.343	0.628	2.21		Sand	39.7		1.8	77.31	0.81	62.61	119.44	0.88	0.651	0.943	0.170	0.222	0.34	0.03	0.05
39.530	44.200	0.358	4743.6	3362.7	31.362	0.855	2.29		Sand	45.8	42.95	1.8	77.31	0.81	62.75	123.35	0.87	0.651	0.941	0.179	0.238	0.37	0.03	0.05
39.700	36.200	0.719	4764.0	3372.5	20.055	2.127	2.66		Clay	76.1			34.22	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	20.530	0.605	4783.2	3381.7	10.727	3.333	3.00		Clay	100.0			19.40	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	11.470	0.395	4803.6	3391.5	5.348	4.351	3.31		Clay	100.0			10.84	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	11.080	0.255	4822.8	3400.7	5.098	2.943	3.24		Clay	100.0			10.47	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	10.860	0.263	4842.0	3409.9	4.950	3.112	3.26		Clay	100.0			10.26	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	10.710	0.234	4862.4	3419.7	4.842	2.829	3.25		Clay	100.0			10.12	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	10.870	0.244	4881.6	3428.9	4.917	2.889	3.25		Clay	100.0			10.27	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	11.740	0.257	4902.0	3438.7	5.403	2.761																		

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _{cs} for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
44.290	13.210	0.494	5314.8	3636.9	5.803	4.679	3.30		Clay	100.0			12.49	0.87	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	13.610	0.493	5335.2	3646.7	6.001	4.509	3.28		Clay	100.0			12.86	0.87	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	13.980	0.502	5354.4	3655.9	6.183	4.438	3.27		Clay	100.0			13.21	0.87	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	14.200	0.482	5373.6	3665.1	6.283	4.189	3.25		Clay	100.0			13.42	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	14.420	0.477	5394.0	3674.9	6.380	4.071	3.23		Clay	100.0			13.63	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	14.720	0.469	5413.2	3684.1	6.522	3.901	3.21		Clay	100.0			13.91	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	14.740	0.428	5433.6	3693.9	6.510	3.558	3.19		Clay	100.0			13.93	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	14.500	0.405	5452.8	3703.1	6.359	3.439	3.19		Clay	100.0			13.71	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	14.640	0.396	5472.0	3712.3	6.413	3.325	3.18		Clay	100.0			13.84	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	14.570	0.394	5492.4	3722.1	6.353	3.334	3.19		Clay	100.0			13.77	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	14.310	0.357	5511.6	3731.3	6.193	3.092	3.18		Clay	100.0			13.53	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	14.340	0.361	5532.0	3741.1	6.187	3.122	3.18		Clay	100.0			13.55	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	14.720	0.367	5551.2	3750.3	6.370	3.076	3.17		Clay	100.0			13.91	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.200	0.404	5570.4	3759.6	6.604	3.253	3.17		Clay	100.0			14.37	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	16.310	0.467	5590.8	3769.3	7.171	3.458	3.15		Clay	100.0			15.42	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	17.270	0.495	5610.0	3778.6	7.656	3.419	3.12		Clay	100.0			16.32	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	17.390	0.460	5630.4	3788.4	7.695	3.154	3.10		Clay	100.0			16.44	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	17.270	0.423	5649.6	3797.6	7.608	2.930	3.09		Clay	100.0			16.32	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	17.510	0.392	5668.8	3806.8	7.710	2.672	3.06		Clay	100.0			16.55	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	17.520	0.406	5689.2	3816.6	7.690	2.765	3.07		Clay	100.0			16.56	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	18.360	0.399	5708.4	3825.8	8.106	2.573	3.04		Clay	100.0			17.35	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	19.590	0.484	5728.8	3835.6	8.721	2.896	3.04		Clay	100.0			18.52	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	20.970	0.509	5748.0	3844.8	9.413	2.815	3.00		Clay	100.0			19.82	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	19.920	0.483	5767.2	3854.0	8.841	2.835	3.03		Clay	100.0			18.83	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	19.070	0.498	5787.6	3863.8	8.373	3.079	3.07		Clay	100.0			18.02	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	19.800	0.640	5806.8	3873.0	8.725	3.787	3.10		Clay	100.0			18.71	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	32.520	1.360	5827.2	3882.8	15.250	4.593	2.96		Clay	99.9			30.74	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	54.040	2.303	5846.4	3892.0	26.267	4.505	2.78		Clay	85.2			51.08	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	66.190	2.935	5865.6	3901.2	32.429	4.640	2.72		Clay	80.6			62.56	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	50.420	2.548	5886.0	3911.0	24.278	5.367	2.85		Clay	91.4			47.66	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	32.810	1.628	5905.2	3920.3	15.232	5.453	3.01		Clay	100.0			31.01	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	28.470	1.317	5925.6	3930.0	12.981	5.163	3.05		Clay	100.0			26.91	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	31.390	1.606	5944.8	3939.3	14.428	5.653	3.04		Clay	100.0			29.67	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	44.150	2.824	5964.0	3948.5	20.853	6.861	2.98		Clay	100.0			41.73	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	186.660	4.101	5984.4	3958.3	126.927	2.233	2.08		Sand	29.4			176.43	0.82	144.50	208.18	0.83	0.646	0.818	3.094	5.571	8.62	0.00	0.00
50.030	229.730	3.325	6003.6	3967.5	156.502	1.467	1.88		Sand	13.7			217.14	0.81	176.65	200.97	0.83	0.646	0.833	1.996	3.658	5.66	0.00	0.00
50.200	226.510	3.467	6024.0	3977.3	154.082	1.551	1.91		Sand	15.5			214.09	0.82	174.78	206.10	0.83	0.646	0.822	2.713	4.904	7.59	0.00	0.00
50.360	283.630	3.954	6043.2	3986.5	193.231	1.409	1.81		Sand	7.8			268.08	0.83	222.21	226.13	0.83	0.646	0.810	11.715	20.875	32.32	0.00	0.00
50.520	306.510	2.719	6062.4	3995.7	208.739	0.896	1.64		Sand	0.0			289.71	0.84	243.05	243.05	0.83	0.646	0.809	59.345	105.661	163.62	0.00	0.00
50.690	323.440	4.271	6082.8	4005.5	220.107	1.333	1.75		Sand	3.4			305.71	0.85	258.34	258.34	0.83	0.646	0.809	370.275	658.655	1020.28	0.00	0.00
50.850	380.030	3.875	6102.0	4014.7	258.679	1.028	1.62		Sand	0.0			359.20	0.84	303.36	303.36	0.83	0.645	0.808	#####	#####	2829563.46	0.00	0.00
51.020	412.970	3.247	6122.4	4024.5	280.933	0.792	1.51		Sand	0.0			390.33	0.84	329.44	329.44	0.83	0.645	0.807	#####	#####	#####	0.00	0.00
51.180	480.840	3.019	6141.6	4033.7	327.067	0.632	1.40		Sand	0.0			454.48	0.84	383.35	383.35	0.82	0.645	0.806	#####	#####	#####	0.00	0.00
51.350	540.950	4.562	6162.0	4043.5	367.764	0.848	1.46		Sand	0.0			511.29	0.84	431.00	431.00	0.82	0.645	0.806	#####	#####	#####	0.00	0.00
51.510	476.280	4.409	6181.2	4052.7	323.171	0.932	1.53		Sand	0.0			450.17	0.84	379.24	379.24	0.82	0.645	0.805	#####	#####	#####	0.00	0.00
51.670	345.650	3.785	6200.4	4062.0	233.684	1.105	1.68		Sand	0.0			326.70	0.84	275.06	275.06	0.82	0.644	0.804	4338.169	7676.781	11913.10	0.00	0.00
51.840	352.590	3.222	6220.8	4071.7	238.124	0.922	1.61		Sand	0.0			333.26	0.84	280.41	280.41	0.82	0.644	0.804	10667.567	18860.			

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{L1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff. r _d	CSR	K _s for Sand	CRR _{m=7.5, σ_{vc} = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
55.280	367.810	2.824	6633.6	4269.9	242.523	0.775	1.55		Sand	0.0			347.65	0.83	288.87	288.87	0.81	0.639	0.789	50060.399	86936.908	135962.24	0.00	0.00
55.450	266.280	2.745	6654.0	4279.7	174.761	1.044	1.74		Sand	2.5			251.68	0.79	199.45	199.45	0.81	0.639	0.816	1.832	3.289	5.15	0.00	0.00
55.610	235.810	2.341	6673.2	4288.9	154.338	1.007	1.77		Sand	4.7			222.88	0.77	171.72	171.84	0.81	0.639	0.862	0.536	0.906	1.42	0.00	0.00
55.770	281.240	1.998	6692.4	4298.1	184.294	0.719	1.62		Sand	0.0			265.82	0.80	213.00	213.00	0.80	0.639	0.787	4.271	7.398	11.58	0.00	0.00
55.940	343.820	2.331	6712.8	4307.9	225.533	0.685	1.54		Sand	0.0			324.97	0.83	269.40	269.40	0.80	0.638	0.787	1777.241	3076.031	4818.28	0.00	0.00
56.100	397.250	2.499	6732.0	4317.1	260.641	0.634	1.47		Sand	0.0			375.47	0.83	311.08	311.08	0.80	0.638	0.786	#####	#####	#####	0.00	0.00
56.270	345.690	2.842	6752.4	4326.9	226.260	0.830	1.59		Sand	0.0			326.74	0.83	270.55	270.55	0.80	0.638	0.785	2119.712	3662.618	5741.76	0.00	0.00
56.430	283.580	2.348	6771.6	4336.1	185.004	0.838	1.66		Sand	0.0			268.03	0.80	214.47	214.47	0.80	0.638	0.785	4.734	8.174	12.82	0.00	0.00
56.590	238.800	1.895	6790.8	4345.3	155.266	0.805	1.70		Sand	0.0			225.71	0.77	173.34	173.34	0.80	0.637	0.857	0.565	0.960	1.51	0.00	0.00
56.760	259.890	1.743	6811.2	4355.1	168.979	0.680	1.63		Sand	0.0			245.64	0.78	192.17	192.17	0.80	0.637	0.826	1.250	2.272	3.57	0.00	0.00
56.920	226.300	1.069	6830.4	4364.4	146.687	0.479	1.58		Sand	0.0			213.89	0.76	161.97	161.97	0.80	0.637	0.871	0.392	0.622	0.98	0.01	0.02
57.090	236.410	0.705	6850.8	4374.1	153.163	0.302	1.46		Sand	0.0			223.45	0.76	170.70	170.70	0.80	0.637	0.860	0.515	0.861	1.35	0.00	0.00
57.250	213.320	0.979	6870.0	4383.4	137.832	0.467	1.60		Sand	0.0			201.63	0.75	150.38	150.38	0.80	0.636	0.883	0.291	0.430	0.68	0.02	0.04
57.410	193.390	1.176	6889.2	4392.6	124.607	0.619	1.71		Sand	0.0			182.79	0.73	133.34	133.34	0.80	0.636	0.899	0.208	0.280	0.44	0.02	0.05
57.580	175.040	1.322	6909.6	4402.4	112.437	0.770	1.80		Sand	7.0			165.44	0.72	118.40	120.01	0.80	0.636	0.909	0.171	0.216	0.34	0.03	0.05
57.740	164.570	1.957	6928.8	4411.6	105.459	1.215	1.95		Sand	18.9			155.55	0.75	115.94	152.03	0.80	0.636	0.880	0.302	0.451	0.71	0.02	0.04
57.910	179.670	1.431	6949.2	4421.4	115.209	0.812	1.81		Sand	7.4			169.82	0.72	122.03	124.36	0.80	0.635	0.905	0.182	0.233	0.37	0.03	0.05
58.070	226.570	0.966	6968.4	4430.6	145.718	0.433	1.56		Sand	0.0			214.15	0.75	161.06	161.06	0.79	0.635	0.870	0.382	0.601	0.95	0.01	0.02
58.230	258.970	0.622	6987.6	4439.8	166.702	0.243	1.39		Sand	0.0			244.77	0.78	189.78	189.78	0.79	0.635	0.826	1.113	2.023	3.19	0.00	0.00
58.400	266.290	0.933	7008.0	4449.6	171.283	0.355	1.46		Sand	0.0			251.69	0.78	196.29	196.29	0.79	0.634	0.813	1.543	2.758	4.35	0.00	0.00
58.560	227.900	0.559	7027.2	4458.8	146.103	0.249	1.44		Sand	0.0	251.41		251.41	0.78	195.85	195.85	0.79	0.634	0.813	1.507	2.696	4.25	0.00	0.00
58.730	184.440	1.033	7047.6	4468.6	117.669	0.571	1.71		Sand	0.0	251.41		251.41	0.78	195.67	195.67	0.79	0.634	0.813	1.493	2.670	4.21	0.00	0.00
58.890	80.470	1.197	7066.8	4477.8	49.989	1.556	2.27		Sand	44.2	251.41		251.41	0.82	206.30	302.25	0.79	0.634	0.775	#####	#####	2158838.25	0.00	0.00
59.060	20.150	0.909	7087.2	4487.6	7.401	5.473	3.26		Clay	100.0			19.05	0.82	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	10.890	0.385	7106.4	4496.8	3.263	5.249	3.54		Clay	100.0			10.29	0.82	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	9.920	0.356	7125.6	4506.0	2.822	5.605	3.60		Clay	100.0			9.38	0.82	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	12.910	0.536	7146.0	4515.8	4.135	5.742	3.47		Clay	100.0			12.20	0.82	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	21.180	0.670	7165.2	4525.1	7.778	3.810	3.15		Clay	100.0			20.02	0.82	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	92.450	0.847	7185.6	4534.8	57.370	0.953	2.09		Sand	30.2			157.29	0.76	119.74	179.53	0.79	0.632	0.839	0.713	1.245	1.97	0.00	0.00
60.040	76.110	1.060	7204.8	4544.1	46.766	1.461	2.27		Sand	44.7	87.38	1.8	157.28	0.77	121.87	196.85	0.79	0.632	0.806	1.589	2.819	4.46	0.00	0.00
60.200	34.810	0.708	7224.0	4553.3	13.704	2.268	2.82		Clay	88.2			32.90	0.82	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	15.490	0.417	7244.4	4563.1	5.202	3.513	3.27		Clay	100.0			14.64	0.82	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	14.690	0.241	7263.6	4572.3	4.837	2.175	3.19		Clay	100.0			13.88	0.82	n.a.	n.a.	0.78	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	12.280	0.211	7284.0	4582.1	3.770	2.444	3.31		Clay	100.0			11.61	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	12.290	0.235	7303.2	4591.3	3.763	2.717	3.33		Clay	100.0			11.62	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	15.070	0.260	7322.4	4600.5	4.960	2.278	3.19		Clay	100.0			14.24	0.81	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	15.930	0.324	7342.8	4610.3	5.318	2.645	3.20		Clay	100.0			15.06	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	16.770	0.328	7362.0	4619.5	5.667	2.504	3.16		Clay	100.0			15.85	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	16.820	0.350	7382.4	4629.3	5.672	2.668	3.18		Clay	100.0			15.90	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	18.380	0.361	7401.6	4638.5	6.329	2.459	3.12		Clay	100.0			17.37	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	17.370	0.332	7420.8	4647.7	5.878	2.427	3.14		Clay	100.0			16.42	0.81	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	16.390	0.463	7441.2	4657.5	5.440	3.651	3.26		Clay	100.0			15.49	0.81	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	95.470	0.717	7460.4	4666.8	58.388	0.782	2.03		Sand	25.8			90.24	0.68	61.20	103.32	0.78	0.628	0.914	0.142	0.166	0.26	0.03	0.06
62.340	93.590	1.204	7480.8	4676.5	57.125	1.340	2.18		Sand	37.3	90.24		90.24	0.69	62.59	117.65	0.78	0.627	0.903	0.166	0.206	0.33	0.03	0.05
62.500	68.160	1.852	7500.0	4685.8	27.492	2.875	2.63		Clay	73.8			64.42	0.81	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00</

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tl})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
66.270	291.740	2.482	7952.4	4902.9	178.682	0.863	1.68		Sand	0.0			275.75	0.77	211.77	211.77	0.76	0.620	0.748	3.923	6.454	10.41	0.00	0.00
66.440	285.940	1.968	7972.8	4912.7	174.900	0.698	1.62		Sand	0.0			270.26	0.76	206.17	206.17	0.76	0.619	0.762	2.724	4.565	7.37	0.00	0.00
66.600	284.070	2.045	7992.0	4921.9	173.571	0.730	1.64		Sand	0.0			268.50	0.76	204.27	204.27	0.76	0.619	0.767	2.424	4.089	6.60	0.00	0.00
66.770	290.640	1.853	8012.4	4931.7	177.460	0.647	1.60		Sand	0.0			274.71	0.77	210.23	210.23	0.76	0.619	0.748	3.537	5.823	9.41	0.00	0.00
66.930	276.790	2.230	8031.6	4940.9	168.722	0.818	1.68		Sand	0.0			261.62	0.75	197.21	197.21	0.76	0.618	0.784	1.621	2.796	4.52	0.00	0.00
67.090	261.490	1.802	8050.8	4950.1	159.104	0.700	1.66		Sand	0.0			247.16	0.74	183.14	183.14	0.76	0.618	0.814	0.826	1.442	2.33	0.00	0.00
67.260	220.720	1.746	8071.2	4959.9	133.771	0.806	1.75		Sand	3.3	247.16		247.16	0.74	182.99	182.99	0.76	0.618	0.814	0.821	1.431	2.32	0.00	0.00
67.420	123.080	2.229	8090.4	4969.2	73.418	1.873	2.19		Sand	38.3	247.16		247.16	0.80	197.32	284.91	0.76	0.618	0.744	23832.315	39002.624	63160.10	0.00	0.00
67.590	57.810	1.728	8110.8	4978.9	21.593	3.214	2.75		Clay	82.7			54.64	0.80	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	40.620	1.126	8130.0	4988.2	14.657	3.081	2.87		Clay	92.5			38.39	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	40.810	0.850	8149.2	4997.4	14.702	2.314	2.80		Clay	86.6			38.57	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	35.910	0.756	8169.6	5007.2	12.712	2.375	2.85		Clay	91.3			33.94	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	27.190	0.780	8188.8	5016.4	9.208	3.376	3.06		Clay	100.0			25.70	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	27.070	0.650	8209.2	5026.2	9.138	2.828	3.01		Clay	100.0			25.59	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	23.900	0.601	8228.4	5035.4	7.859	3.037	3.09		Clay	100.0			22.59	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	22.920	0.671	8247.6	5044.6	7.452	3.570	3.14		Clay	100.0			21.66	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	26.270	0.676	8268.0	5054.4	8.759	3.055	3.05		Clay	100.0			24.83	0.79	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	24.480	0.618	8287.2	5063.6	8.032	3.040	3.08		Clay	100.0			23.14	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	23.340	0.570	8307.6	5073.4	7.563	2.971	3.10		Clay	100.0			22.06	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	23.330	0.548	8326.8	5082.6	7.542	2.857	3.09		Clay	100.0			22.05	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	23.530	0.487	8346.0	5091.8	7.603	2.517	3.05		Clay	100.0			22.24	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	23.080	0.422	8366.4	5101.6	7.408	2.231	3.04		Clay	100.0			21.81	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	21.710	0.369	8385.6	5110.8	6.855	2.108	3.05		Clay	100.0			20.52	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	21.650	0.390	8406.0	5120.6	6.814	2.236	3.07		Clay	100.0			20.46	0.79	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	23.010	0.424	8425.2	5129.9	7.329	2.256	3.04		Clay	100.0			21.75	0.79	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	23.280	0.440	8444.4	5139.1	7.417	2.311	3.04		Clay	100.0			22.00	0.79	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	23.990	0.428	8464.8	5148.9	7.675	2.164	3.02		Clay	100.0			22.67	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	23.720	0.409	8484.0	5158.1	7.552	2.100	3.02		Clay	100.0			22.42	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	23.050	0.393	8504.4	5167.9	7.275	2.091	3.03		Clay	100.0			21.79	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	22.400	0.385	8523.6	5177.1	7.007	2.123	3.05		Clay	100.0			21.17	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	22.010	0.369	8542.8	5186.3	6.841	2.079	3.05		Clay	100.0			20.80	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	23.000	0.371	8563.2	5196.1	7.205	1.982	3.02		Clay	100.0			21.74	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	22.790	0.396	8582.4	5205.3	7.108	2.138	3.04		Clay	100.0			21.54	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	23.220	0.410	8602.8	5215.1	7.255	2.167	3.04		Clay	100.0			21.95	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	24.800	0.494	8622.0	5224.3	7.844	2.413	3.03		Clay	100.0			23.44	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	26.290	0.562	8641.2	5233.5	8.396	2.560	3.02		Clay	100.0			24.85	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	26.820	0.586	8661.6	5243.3	8.578	2.606	3.02		Clay	100.0			25.35	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	27.730	0.582	8680.8	5252.5	8.906	2.490	2.99		Clay	100.0			26.21	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	28.720	0.646	8701.2	5262.3	9.262	2.652	2.99		Clay	100.0			27.15	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	30.450	0.677	8720.4	5271.6	9.898	2.595	2.97		Clay	100.0			28.78	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	30.160	0.647	8739.6	5280.8	9.768	2.509	2.96		Clay	100.0			28.51	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	31.630	0.675	8760.0	5290.6	10.301	2.478	2.94		Clay	98.2			29.90	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	32.030	0.725	8779.2	5299.8	10.431	2.622	2.95		Clay	98.9			30.27	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	31.670	0.735	8799.6	5309.6	10.272	2.694	2.96		Clay	99.9			29.93	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	28.820	0.679	8818.8	5318.8	9.179	2.783	3.01		Clay	100.0			27.24	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	27.450	0.658	8838.0	5328.0	8.645	2.855	3.04		Clay	100.0			25.95	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	27.320	0.633	8858.4	5337.8	8.577	2.767	3.03		Clay	100.0			25.82	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	26.600	0.583	8877.6	5347.0																				

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ'vc (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
77.260	27.520	0.635	9271.2	5535.9	8.268	2.776	3.05		Clay	100.0			26.01	0.78	n.a.	n.a.	0.72	0.598	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	26.730	0.560	9291.6	5545.7	7.964	2.537	3.04		Clay	100.0			25.26	0.78	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	25.970	0.620	9310.8	5554.9	7.674	2.907	3.08		Clay	100.0			24.55	0.78	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	28.090	1.084	9331.2	5564.7	8.419	4.626	3.17		Clay	100.0			26.55	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	47.010	2.518	9350.4	5574.0	15.190	5.949	3.04		Clay	100.0			44.43	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	106.650	3.429	9369.6	5583.2	59.331	3.363	2.44		Sand	57.8			100.80	0.66	66.24	132.82	0.72	0.596	0.866	0.207	0.267	0.45	0.02	0.05
78.250	151.560	2.832	9390.0	5593.0	85.383	1.929	2.15		Sand	35.2			143.25	0.69	98.26	159.56	0.72	0.596	0.831	0.367	0.544	0.91	0.01	0.02
78.410	108.740	1.830	9409.2	5602.2	60.433	1.759	2.24		Sand	41.9			102.78	0.65	66.60	125.86	0.71	0.595	0.873	0.186	0.232	0.39	0.03	0.05
78.580	48.260	1.809	9429.6	5612.0	15.519	4.154	2.93		Clay	97.3			45.61	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	29.250	1.196	9448.8	5621.2	8.726	4.876	3.17		Clay	100.0			27.65	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	26.860	0.697	9468.0	5630.4	7.859	3.148	3.10		Clay	100.0			25.39	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	22.630	0.676	9488.4	5640.2	6.342	3.780	3.22		Clay	100.0			21.39	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	23.810	0.604	9507.6	5649.4	6.746	3.171	3.15		Clay	100.0			22.50	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	23.660	0.448	9528.0	5659.2	6.678	2.369	3.09		Clay	100.0			22.36	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	21.960	0.596	9547.2	5668.4	6.064	3.467	3.21		Clay	100.0			20.76	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	21.970	0.556	9566.4	5677.6	6.054	3.233	3.20		Clay	100.0			20.77	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	24.290	0.766	9586.8	5687.4	6.856	3.928	3.20		Clay	100.0			22.96	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	83.400	0.897	9606.0	5696.6	45.276	1.141	2.22		Sand	40.5			78.83	0.61	48.37	102.29	0.71	0.592	0.893	0.140	0.160	0.27	0.03	0.06
80.220	44.860	0.943	9626.4	5706.4	14.036	2.355	2.82		Clay	88.3			42.40	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	30.770	0.508	9645.6	5715.6	9.079	1.959	2.93		Clay	97.5			29.08	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	30.190	0.388	9664.8	5724.9	8.859	1.528	2.89		Clay	94.0			28.53	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	28.750	0.373	9685.2	5734.7	8.338	1.560	2.91		Clay	96.2			27.17	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	29.300	0.664	9704.4	5743.9	8.513	2.718	3.03		Clay	100.0			27.69	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	32.090	0.546	9724.8	5753.7	9.464	2.006	2.92		Clay	96.7			30.33	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	25.910	0.542	9744.0	5762.9	7.301	2.574	3.07		Clay	100.0			24.49	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	25.080	0.494	9763.2	5772.1	6.999	2.448	3.08		Clay	100.0			23.71	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	25.610	0.522	9783.6	5781.9	7.167	2.521	3.08		Clay	100.0			24.21	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	25.100	0.498	9802.8	5791.1	6.976	2.466	3.08		Clay	100.0			23.72	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	24.480	0.552	9823.2	5800.9	6.747	2.821	3.12		Clay	100.0			23.14	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	26.350	0.545	9842.4	5810.1	7.376	2.541	3.07		Clay	100.0			24.91	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	28.100	0.616	9862.8	5819.9	7.962	2.660	3.05		Clay	100.0			26.56	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	28.560	0.652	9882.0	5829.1	8.104	2.761	3.05		Clay	100.0			26.99	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	27.930	0.683	9901.2	5838.3	7.872	2.970	3.08		Clay	100.0			26.40	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	29.380	0.761	9921.6	5848.1	8.351	3.116	3.07		Clay	100.0			27.77	0.76	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	32.350	1.012	9940.8	5857.3	9.349	3.695	3.07		Clay	100.0			30.58	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	41.150	1.733	9961.2	5867.1	12.329	4.791	3.04		Clay	100.0			38.89	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	57.070	1.834	9980.4	5876.4	17.725	3.521	2.84		Clay	90.1			53.94	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	54.240	2.169	9999.6	5885.6	16.733	4.405	2.92		Clay	96.5			51.27	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	49.880	2.707	10020.0	5895.4	15.222	6.032	3.04		Clay	100.0			47.15	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	84.080	3.925	10039.2	5904.6	26.779	4.964	2.80		Clay	87.0			79.47	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	113.170	4.784	10059.6	5914.4	36.569	4.424	2.67		Clay	76.4			106.97	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	115.940	4.045	10078.8	5923.6	37.444	3.647	2.60		Clay	71.2			109.58	0.76	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	148.040	2.889	10098.0	5932.8	80.714	2.021	2.18		Sand	37.7			139.92	0.67	93.22	155.76	0.70	0.584	0.827	0.332	0.476	0.82	0.01	0.03
84.320	170.710	2.459	10118.4	5942.6	93.428	1.484	2.05		Sand	26.7			161.35	0.67	108.22	160.26	0.69	0.584	0.819	0.374	0.550	0.94	0.01	0.02
84.480	188.060	2.706	10137.6	5951.8	103.128	1.479	2.01		Sand	24.1			177.75	0.68	121.10	170.53	0.69	0.583	0.801	0.512	0.796	1.36	0.00	0.00
84.650	202.100	2.949	10158.0	5961.6	110.944	1.497	1.99		Sand	22.5			191.02	0.69	131.88	179.65	0.69	0.583	0.782	0.716	1.166	2.00	0.00	0.00
84.810	187.010	4.003	10177.2	5970.8	102.362	2.201	2.14		Sand	34.1			176.76	0.70	123.74	189.49	0.69	0.583	0.758	1.098	1.830	3.14	0.00	0.00
84.970	148.930	3.727	10196.4	5980.0	8																			

CPT No.

2

PGA (A_{max})

0.70

Total Settlement: 2.18 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{tN})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	CRRM=7.5, σ'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
88.250	23.730	0.638	10590.0	6169.0	5.977	3.459	3.22		Clay	100.0			22.43	0.75	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.420	24.800	0.708	10610.4	6178.8	6.310	3.630	3.21		Clay	100.0			23.44	0.75	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.580	26.120	0.696	10629.6	6188.0	6.724	3.344	3.17		Clay	100.0			24.69	0.75	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.750	26.510	0.678	10650.0	6197.8	6.836	3.201	3.15		Clay	100.0			25.06	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	26.320	0.666	10669.2	6207.0	6.762	3.174	3.15		Clay	100.0			24.88	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	26.150	0.681	10688.4	6216.2	6.694	3.271	3.16		Clay	100.0			24.72	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	26.130	0.687	10708.8	6226.0	6.674	3.309	3.17		Clay	100.0			24.70	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	26.870	0.598	10728.0	6235.2	6.898	2.780	3.11		Clay	100.0			25.40	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	25.640	0.572	10748.4	6245.0	6.490	2.823	3.14		Clay	100.0			24.23	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	24.080	0.544	10767.6	6254.2	5.979	2.911	3.18		Clay	100.0			22.76	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	22.110	0.522	10788.0	6264.0	5.337	3.120	3.23		Clay	100.0			20.90	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	22.590	0.505	10807.2	6273.2	5.479	2.940	3.21		Clay	100.0			21.35	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	23.000	0.513	10826.4	6282.4	5.599	2.917	3.20		Clay	100.0			21.74	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	23.960	0.503	10846.8	6292.2	5.892	2.712	3.17		Clay	100.0			22.65	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.560	24.520	0.510	10866.0	6301.4	6.058	2.670	3.15		Clay	100.0			23.18	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	24.650	0.546	10886.4	6311.2	6.087	2.845	3.16		Clay	100.0			23.30	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	24.900	0.587	10905.6	6320.4	6.154	3.016	3.17		Clay	100.0			23.53	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	26.650	0.627	10924.8	6329.7	6.695	2.961	3.14		Clay	100.0			25.19	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	27.820	0.662	10945.2	6339.5	7.050	2.963	3.12		Clay	100.0			26.29	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.370	29.420	0.714	10964.4	6348.7	7.541	2.984	3.10		Clay	100.0			27.81	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.540	31.830	0.707	10984.8	6358.5	8.284	2.682	3.04		Clay	100.0			30.09	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	31.060	0.613	11004.0	6367.7	8.027	2.397	3.02		Clay	100.0			29.36	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	32.280	0.796	11023.2	6376.9	8.395	2.975	3.06		Clay	100.0			30.51	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	31.760	0.770	11043.6	6386.7	8.217	2.936	3.06		Clay	100.0			30.02	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	47.360	1.054	11062.8	6395.9	13.080	2.519	2.86		Clay	91.6			44.76	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	37.960	1.135	11083.2	6405.7	10.122	3.501	3.03		Clay	100.0			35.88	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	28.540	0.767	11102.4	6414.9	7.167	3.334	3.14		Clay	100.0			26.98	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	27.090	0.613	11121.6	6424.1	6.703	2.847	3.13		Clay	100.0			25.60	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	28.900	0.602	11142.0	6433.9	7.252	2.581	3.08		Clay	100.0			27.32	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.010	27.010	0.607	11161.2	6443.1	6.652	2.831	3.13		Clay	100.0			25.53	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.180	27.290	0.618	11181.6	6452.9	6.725	2.848	3.13		Clay	100.0			25.79	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.340	28.980	0.705	11200.8	6462.1	7.236	3.015	3.11		Clay	100.0			27.39	0.74	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.500	30.080	0.805	11220.0	6471.4	7.563	3.288	3.12		Clay	100.0			28.43	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.670	32.460	0.772	11240.4	6481.2	8.282	2.877	3.05		Clay	100.0			30.68	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.830	29.790	0.808	11259.6	6490.4	7.445	3.344	3.13		Clay	100.0			28.16	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.000	29.440	1.015	11280.0	6500.2	7.323	4.265	3.20		Clay	100.0			27.83	0.74	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.160	41.060	2.076	11299.2	6509.4	10.880	5.861	3.14		Clay	100.0			38.81	0.74	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.320	48.650	2.426	11318.4	6518.6	13.190	5.644	3.07		Clay	100.0			45.98	0.74	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.490	307.040	7.854	11338.8	6528.4	162.170	2.606	2.06		Sand	28.2			290.21	0.74	215.59	290.92	0.67	0.566	0.662	74549.390	#####	191892.14	0.00	0.00
94.650	576.840	11.770	11358.0	6537.6	307.130	2.061	1.82		Sand	8.7			545.22	0.74	404.88	414.56	0.66	0.566	0.662	#####	#####	#####	0.00	0.00
94.820	477.870	12.138	11378.4	6547.4	253.715	2.571	1.95		Sand	18.8			451.67	0.74	335.28	398.41	0.66	0.565	0.661	#####	#####	#####	0.00	0.00
94.980	366.950	6.300	11397.6	6556.6	193.973	1.744	1.88		Sand	13.4			346.83	0.74	257.36	285.69	0.66	0.565	0.661	27496.302	39967.957	70732.98	0.00	0.00
95.140	356.210	4.016	11416.8	6565.8	188.069	1.146	1.75		Sand	3.1			336.68	0.74	247.75	247.75	0.66	0.565	0.660	100.206	145.564	257.72	0.00	0.00
95.310	358.900	2.784	11437.2	6575.6	189.366	0.788	1.63		Sand	0.0			339.22	0.74	250.36	250.36	0.66	0.565	0.660	135.894	197.273	349.43	0.00	0.00
95.470	348.430	2.432	11456.4	6584.8	183.618	0.710	1.61		Sand	0.0			329.33	0.73	239.58	239.58	0.66	0.564	0.659	41.190	59.756	105.89	0.00	0.00
95.640	389.850	2.949	11476.8	6594.6	205.653	0.768	1.60		Sand	0.0			368.48	0.74	273.00	273.00	0.66	0.564	0.659	3114.705	4515.574	8005.70	0.00	0.00
95.800	454.040	3.314	11496.0	6603.8	239.847	0.739	1.54		Sand	0.0			429.15	0.74	317.84	317.84	0.66	0.564	0.659	#####	#####	#####	0.00	0.00
95.960	449.880	3.289	11515.2	6613.1	237.451	0.740	1.54		Sand	0.0			425.22	0.74	314.81	314.81	0.66	0.564	0.658	#####	#####	#####	0.00	0.00
96.130	474.080	2.989	11535.6	6622.8	250.199	0.638	1.48		Sand	0.0			448.09	0.74	331.61	331.61	0.66	0.563	0.658	#####	#####	#####	0.00	0.00
96.290	469.330	2.742	11554.8	6632.1	247.484	0.591	1.46		Sand	0.0			443.60	0.74	328.17	328.17	0.66	0.563	0.657	#####	#####	#####	0.00	0.00
96.460	457.450	2.886	11575.2	6641.9	240.958	0.639	1.50		Sand	0.0			432.37	0.74	319.74	319.74	0.66	0.563	0.657	#####	#####	#####	0.00	0.00
96.620	593.140	3.065	11594.4	6651.1	313.125	0.522	1.35		Sand	0.0			560.62	0.74	414.43	414.43	0.66	0.563	0.656	#####	#####	#####	0.00	0.00
96.780	645.790	5.865	11613.6	6660.3	340.953	0.916	1.51		Sand	0.0			610.39	0.74	451.05	451.05	0.66	0.562	0.656	#####	#####	#####	0.00	0.00
96.950	598.050	5.477	11634.0	6670.1	315.282	0.925	1.53		Sand	0.0			565.26	0.74	417.55	417.55	0.66	0.562	0.656	#####	#####	#####	0.00	

CPT No.

2

PGA (A_{max})

0.70

Total Settlement:

2.18 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	CRRM=7.5, $\sigma'_{vc} = 1 \text{ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
99.250	554.830	3.671	11910.0	6802.6	289.341	0.669	1.45		Sand	0.0			524.41	0.73	385.37	385.37	0.65	0.559	0.650	#####	#####	#####	0.00	0.00
99.410	597.070	3.537	11929.2	6811.8	311.392	0.598	1.40		Sand	0.0			564.34	0.73	414.56	414.56	0.65	0.559	0.649	#####	#####	#####	0.00	0.00
99.570	529.660	3.675	11948.4	6821.0	275.689	0.702	1.48		Sand	0.0			500.62	0.73	367.62	367.62	0.65	0.558	0.649	#####	#####	#####	0.00	0.00
99.740	456.850	3.092	11968.8	6830.8	237.183	0.686	1.52		Sand	0.0			431.81	0.73	316.97	316.97	0.65	0.558	0.648	#####	#####	#####	0.00	0.00
99.900	345.350	1.879	11988.0	6840.0	178.402	0.554	1.55		Sand	0.0			326.42	0.71	232.73	232.73	0.65	0.558	0.648	21.066	30.033	53.82	0.00	0.00
100.070	249.510	1.568	12008.4	6849.8	127.921	0.644	1.71		Sand	0.0			235.83	0.62	145.59	145.59	0.65	0.558	0.819	0.262	0.347	0.62	0.02	0.00
100.230	208.410	0.982	12027.6	6859.0	106.254	0.485	1.70		Sand	0.0			196.98	0.58	113.35	113.35	0.65	0.558	0.861	0.158	0.182	0.33	0.03	0.00

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRR _{m=7.5,σ} σ _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	0.250	0.089	19.2	19.2	25.042	36.814	3.47		Unsaturated	100.0			0.24	1.70	0.40	54.46	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	1.250	0.494	39.6	39.6	62.131	40.148	3.28		Unsaturated	100.0			1.18	1.70	2.01	56.57	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	5.430	0.609	58.8	58.8	62.698	11.271	2.82		Unsaturated	88.7			5.13	1.70	8.72	64.35	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	3.230	1.749	79.2	79.2	80.566	54.833	3.35		Unsaturated	100.0			3.05	1.70	5.19	60.73	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	106.250	2.167	98.4	98.4	465.481	2.041	1.73		Unsaturated	1.2			100.43	1.70	170.72	170.72	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	56.390	1.913	117.6	117.6	225.849	3.396	2.08		Unsaturated	29.1			53.30	1.70	90.61	143.07	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	39.600	1.676	138.0	138.0	146.309	4.240	2.26		Unsaturated	43.9			37.43	1.70	63.63	123.41	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	29.050	1.162	157.2	157.2	100.465	4.010	2.34		Unsaturated	50.3			27.46	1.70	46.68	105.15	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	17.040	0.905	177.6	177.6	90.775	5.341	2.47		Unsaturated	60.3			16.11	1.70	27.38	83.84	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	27.700	0.884	196.8	196.8	85.545	3.203	2.31		Unsaturated	47.9			26.18	1.70	44.51	101.41	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	9.370	0.189	216.0	216.0	27.400	2.045	2.54		Unsaturated	66.5			8.86	1.70	15.06	69.42	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	11.180	0.119	236.4	236.4	31.281	1.072	2.34		Unsaturated	50.0			10.57	1.70	17.96	68.72	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	15.800	0.107	255.6	255.6	42.621	0.681	2.12		Unsaturated	32.6			14.93	1.70	25.39	68.23	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	10.810	0.057	276.0	276.0	27.930	0.531	2.23		Unsaturated	41.7			10.22	1.70	17.37	64.40	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	11.240	0.032	295.2	295.2	28.070	0.284	2.13		Unsaturated	33.5			10.62	1.70	18.06	60.00	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	6.240	0.031	334.8	334.8	14.430	0.512	2.49		Unsaturated	62.3			5.90	1.70	10.03	62.06	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	4.580	0.019	433.2	433.2	12.518	0.424	2.52		Unsaturated	64.5			4.33	1.70	7.36	59.12	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	7.300	0.028	452.4	452.4	14.460	0.393	2.45		Unsaturated	58.9			6.90	1.70	11.73	63.47	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	6.770	0.053	472.8	472.8	17.630	0.805	2.49		Unsaturated	62.4			6.40	1.70	10.88	63.19	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	8.180	0.094	492.0	492.0	20.821	1.189	2.51		Unsaturated	63.9			7.73	1.70	13.14	66.42	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	8.970	0.140	512.4	512.4	22.226	1.610	2.56		Unsaturated	67.6			8.48	1.70	14.41	68.80	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	9.200	0.158	531.6	531.6	22.209	1.766	2.58		Unsaturated	69.5			8.70	1.70	14.78	69.61	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	8.740	0.129	550.8	550.8	20.525	1.519	2.57		Unsaturated	68.8			8.26	1.70	14.04	68.54	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	7.960	0.081	571.2	571.2	18.141	1.055	2.54		Unsaturated	66.0			7.52	1.70	12.79	66.39	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	8.060	0.126	590.4	590.4	17.935	1.620	2.64		Unsaturated	74.0			7.62	1.70	12.95	67.99	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	7.730	0.110	610.8	610.8	16.746	1.482	2.64		Unsaturated	74.3			7.31	1.70	12.42	67.36	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	8.480	0.108	630.0	630.0	18.022	1.321	2.59		Unsaturated	70.1			8.02	1.70	13.63	68.23	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	8.320	0.076	649.2	649.2	17.280	0.949	2.53		Unsaturated	65.7			7.86	1.70	13.37	67.07	0.99	0.453	1.097	n.a.	n.a.	n.a.	0.00	0.00
5.740	10.480	0.093	688.8	688.8	16.791	0.917	2.54		Unsaturated	66.0			9.91	1.70	16.84	71.60	0.99	0.452	1.095	n.a.	n.a.	n.a.	0.00	0.00
5.910	10.430	0.126	709.2	709.2	20.469	1.246	2.53		Unsaturated	65.2			9.86	1.70	16.76	71.35	0.99	0.452	1.093	n.a.	n.a.	n.a.	0.00	0.00
6.070	4.670	0.138	728.4	728.4	11.823	3.196	2.95		Unsaturated	99.3			4.41	1.70	7.50	63.71	0.99	0.452	1.085	n.a.	n.a.	n.a.	0.00	0.00
6.230	6.230	0.129	747.6	747.6	15.667	2.199	2.76		Unsaturated	83.8			5.89	1.70	10.01	65.49	0.99	0.452	1.084	n.a.	n.a.	n.a.	0.00	0.00
6.400	8.800	0.083	768.0	768.0	16.171	0.990	2.57		Unsaturated	68.4			8.32	1.70	14.14	68.59	0.99	0.452	1.084	n.a.	n.a.	n.a.	0.00	0.00
6.560	10.170	0.106	787.2	787.2	18.463	1.084	2.54		Unsaturated	65.9			9.61	1.70	16.34	70.94	0.99	0.451	1.084	n.a.	n.a.	n.a.	0.00	0.00
6.730	12.790	0.137	807.6	807.6	18.950	1.104	2.53		Unsaturated	65.4			12.09	1.70	20.55	76.26	0.99	0.451	1.085	n.a.	n.a.	n.a.	0.00	0.00
6.890	10.450	0.086	826.8	826.8	15.176	0.860	2.56		Unsaturated	68.1			9.88	1.70	16.79	71.95	0.99	0.451	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.050	5.470	0.032	846.0	846.0	11.931	0.630	2.60		Unsaturated	71.1			5.17	1.70	8.79	62.15	0.99	0.451	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.550	4.620	0.047	906.0	906.0	9.199	1.130	2.81		Unsaturated	87.9			4.37	1.66	7.24	62.33	0.99	0.450	1.067	n.a.	n.a.	n.a.	0.00	0.00
7.710	10.730	0.215	925.2	925.2	22.195	2.092	2.62		Unsaturated	72.9			10.14	1.60	16.22	72.05	0.99	0.450	1.071	n.a.	n.a.	n.a.	0.00	0.00
7.870	30.640	0.497	944.4	944.4	42.681	1.647	2.33		Unsaturated	49.7			28.96	1.49	43.24	100.59	0.99	0.450	1.086	n.a.	n.a.	n.a.	0.00	0.00
8.040	20.370	0.577	964.8	964.8	32.573	2.903	2.58		Unsaturated	69.5			19.25	1.51	29.10	88.09	0.99	0.450	1.076	n.a.	n.a.	n.a.	0.00	0.00
8.200	16.280	0.554	984.0	984.0	32.089	3.507	2.64		Unsaturated	74.2			15.39	1.51	23.31	81.44	0.99	0.449	1.070	n.a.	n.a.	n.a.	0.00	0.00
8.370	15.450	0.461	1004.4	1004.4	29.765	3.083	2.63		Unsaturated	73.2			14.60	1.50	21.96	79.53	0.99	0.449	1.067	n.a.	n.a.	n.a.	0.00	0.00
8.530	13.510	0.400	1023.6	1023.6	25.397	3.074	2.68		Unsaturated	77.4			12.77	1.50	19.11	76.49	0.99	0.449	1.064	n.a.	n.a.	n.a.	0.00	0.00
8.690	12.030	0.302	1042.8	1042.8	22.072	2.624	2.68		Unsaturated	77.8			11.37	1.49	16.94	73.72	0.99	0.449	1.061	n.a.	n.a.	n.a.	0.00	0.00
8.860	14.340	0.288	1063.2	1063.2	21.129	2.085	2.64		Unsaturated	74.2			13.55	1.46	19.85	76.96	0.99	0.449	1.061	n.a.	n.a.	n.a.	0.00	0.00
9.020	22.040	0.444	1082.4	1082.4	28.411																			

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5,σ' 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
12.630	13.870	0.324	1515.6	1515.6	17.303	2.474	2.75	plastic plastic	Clay	83.3			13.11	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	10.700	0.286	1536.0	1536.0	12.932	2.884	2.90		Clay	94.6			10.11	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	12.770	0.362	1555.2	1555.2	15.422	3.021	2.85		Clay	90.6			12.07	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	22.010	0.478	1574.4	1574.4	24.672	2.253	2.61		Clay	71.5			20.80	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	22.950	0.520	1594.8	1594.8	25.521	2.347	2.61		Clay	71.4			21.69	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	21.230	0.566	1614.0	1614.0	25.307	2.769	2.65		Clay	75.2			20.07	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	12.710	0.375	1634.4	1634.4	14.553	3.157	2.88		Clay	93.2			12.01	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	8.380	0.198	1653.6	1653.6	9.135	2.620	3.00		Clay	100.0			7.92	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	11.290	0.153	1672.8	1672.8	12.498	1.460	2.75		Clay	82.8			10.67	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	28.560	0.239	1693.2	1693.2	29.282	0.861	2.31		Sand	48.0	32.9	1.8	59.22	1.10	65.35	127.73	0.97	0.521	1.030	0.191	0.284	0.55	0.02	0.05
14.270	34.810	0.239	1712.4	1712.4	35.675	0.705	2.20	Sand	38.6			1.8	59.22	1.10	65.18	121.83	0.97	0.523	1.027	0.175	0.252	0.48	0.03	0.05
14.440	27.370	0.421	1732.8	1732.8	27.682	1.588	2.48	Sand	61.1	32.9	1.8	59.22	1.09	64.59	131.75	0.97	0.525	1.027	0.203	0.309	0.59	0.02	0.05	
14.600	16.430	0.345	1752.0	1752.0	17.756	2.221	2.72	Clay	80.4			15.53	1.05	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.760	10.240	0.185	1771.2	1771.2	10.563	1.982	2.88	Clay	93.3			9.68	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.930	8.490	0.136	1791.6	1789.7	8.486	1.784	2.94	Clay	97.9			8.02	1.05	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.090	8.020	0.131	1810.8	1798.9	7.910	1.840	2.97	Clay	100.0			7.58	1.04	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.260	8.030	0.137	1831.2	1808.7	7.867	1.926	2.98	Clay	100.0			7.59	1.04	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.420	8.390	0.082	1850.4	1818.0	8.212	1.092	2.85	Clay	90.9			7.93	1.04	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.580	7.390	0.079	1869.6	1827.2	7.066	1.225	2.93	Clay	97.3			6.98	1.04	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.750	7.200	0.044	1890.0	1837.0	6.810	0.703	2.84	Clay	90.6			6.81	1.04	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.910	6.820	0.038	1909.2	1846.2	6.354	0.653	2.86	Clay	91.9			6.45	1.04	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.080	6.610	0.045	1929.6	1856.0	6.083	0.795	2.91	Clay	95.8			6.25	1.04	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.240	7.320	0.122	1948.8	1865.2	6.804	1.923	3.04	Clay	100.0			6.92	1.03	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.400	15.300	0.222	1968.0	1874.4	15.275	1.547	2.69	Clay	77.9			14.46	1.03	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.570	22.090	0.252	1988.4	1884.2	21.130	1.196	2.51	Sand	63.6		1.8	37.58	1.06	39.81	100.61	0.96	0.552	1.012	0.138	0.177	0.32	0.03	0.06	
16.730	16.780	0.229	2007.6	1893.4	16.664	1.453	2.64	Clay	74.1			15.86	1.03	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.900	10.250	0.253	2028.0	1903.2	9.706	2.739	2.99	Clay	100.0			9.69	1.03	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.060	8.360	0.151	2047.2	1912.4	7.672	2.060	3.01	Clay	100.0			7.90	1.03	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.220	10.110	0.141	2066.4	1921.6	9.447	1.557	2.87	Clay	92.3			9.56	1.03	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.390	7.750	0.113	2086.8	1931.4	6.945	1.682	3.00	Clay	100.0			7.33	1.02	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.550	7.810	0.054	2106.0	1940.6	6.964	0.799	2.86	Clay	91.6			7.38	1.02	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.720	10.130	0.118	2126.4	1950.4	9.297	1.297	2.83	Clay	89.8			9.57	1.02	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.880	10.090	0.123	2145.6	1959.6	9.203	1.362	2.85	Clay	90.9			9.54	1.02	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.040	9.760	0.175	2164.8	1968.9	8.815	2.018	2.95	Clay	99.0			9.22	1.02	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.210	13.680	0.200	2185.2	1978.7	12.723	1.589	2.76	Clay	83.8			12.93	1.02	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.370	14.650	0.313	2204.4	1987.9	13.630	2.310	2.82	Clay	88.7			13.85	1.02	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.540	14.170	0.301	2224.8	1997.7	13.073	2.302	2.84	Clay	89.9			13.39	1.02	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.700	15.530	0.311	2244.0	2006.9	14.359	2.161	2.79	Clay	85.9			14.68	1.01	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.860	17.290	0.276	2263.2	2016.1	16.029	1.709	2.69	Clay	78.3			16.34	1.01	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.030	19.800	0.298	2283.6	2025.9	18.420	1.595	2.62	Clay	72.9			18.71	1.01	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.190	16.750	0.316	2302.8	2035.1	15.330	2.024	2.75	Clay	82.8			15.83	1.01	n.a.	n.a.	0.95	0.578	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.360	13.160	0.294	2323.2	2044.9	11.735	2.454	2.89	Clay	94.2			12.44	1.01	n.a.	n.a.	0.95	0.580	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.520	10.640	0.228	2342.4	2054.1	9.219	2.408	2.97	Clay	100.0			10.06	1.01	n.a.	n.a.	0.95	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.690	10.390	0.188	2362.8	2063.9	8.923	2.042	2.95	Clay	98.8			9.82	1.01	n.a.	n.a.	0.95	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.850	9.960	0.159	2382.0	2073.1	8.460	1.808	2.94	Clay	98.2			9.41	1.01	n.a.	n.a.	0.95	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
20.010	8.310	0.149	2401.2	2082.3	6.828	2.093	3.05	Clay	100.0			7.85	1.00	n.a.	n.a.	0.95	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
20.180	6.520	0.115	2421.6	2092.1	5.075	2.157	3.17	Clay	100.0			6.16	1.00	n.a.	n.a.	0.95	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
20.340	12.220	0.078	2440.8	2101.3	10.469	0.707	2.67	Clay	76.9			11.55	1.00	n.a.	n.a.	0.95	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
20.510	15.160	0.107	2461.2	2111.1	13.181	0.767	2.60	Sand	70.7			14.33	1.00	14.35	69.27	0.95								

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
23.620	6.230	0.023	2834.4	2290.3	4.203	0.482	2.99		Clay	100.0			5.89	0.98	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	6.790	0.027	2854.8	2300.1	4.663	0.498	2.95		Clay	98.8			6.42	0.98	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	7.250	0.046	2874.0	2309.3	5.034	0.783	2.98		Clay	100.0			6.85	0.98	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	6.410	0.038	2893.2	2318.5	4.282	0.756	3.04		Clay	100.0			6.06	0.98	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	6.910	0.033	2913.6	2328.3	4.684	0.607	2.97		Clay	100.0			6.53	0.98	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	6.840	0.054	2932.8	2337.5	4.598	1.001	3.06		Clay	100.0			6.47	0.97	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	7.250	0.077	2953.2	2347.3	4.919	1.337	3.09		Clay	100.0			6.85	0.97	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	7.770	0.090	2972.4	2356.5	5.333	1.437	3.07		Clay	100.0			7.34	0.97	n.a.	n.a.	0.93	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	7.420	0.052	2991.6	2365.7	5.008	0.874	3.00		Clay	100.0			7.01	0.97	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	7.540	0.103	3012.0	2375.5	5.080	1.705	3.12		Clay	100.0			7.13	0.97	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	9.320	0.180	3031.2	2384.7	6.545	2.312	3.09		Clay	100.0			8.81	0.97	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	9.580	0.205	3051.6	2394.5	6.727	2.550	3.10		Clay	100.0			9.05	0.97	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	10.370	0.244	3070.8	2403.7	7.351	2.758	3.09		Clay	100.0			9.80	0.97	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	11.290	0.303	3090.0	2413.0	8.077	3.107	3.08		Clay	100.0			10.67	0.97	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	10.900	0.324	3110.4	2422.8	7.714	3.468	3.13		Clay	100.0			10.30	0.96	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	9.950	0.318	3129.6	2432.0	6.896	3.796	3.19		Clay	100.0			9.40	0.96	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	9.620	0.292	3150.0	2441.8	6.590	3.625	3.19		Clay	100.0			9.09	0.96	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	8.690	0.259	3169.2	2451.0	5.798	3.644	3.24		Clay	100.0			8.21	0.96	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	7.640	0.166	3188.4	2460.2	4.915	2.752	3.24		Clay	100.0			7.22	0.96	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	6.680	0.119	3208.8	2470.0	4.110	2.348	3.27		Clay	100.0			6.31	0.96	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	6.760	0.074	3228.0	2479.2	4.151	1.440	3.17		Clay	100.0			6.39	0.96	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	7.310	0.126	3248.4	2489.0	4.569	2.218	3.22		Clay	100.0			6.91	0.96	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	18.330	0.264	3267.6	2498.2	13.367	1.582	2.74		Clay	82.2			17.33	0.96	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	26.470	0.394	3288.0	2508.0	21.553	1.587	2.57		Sand	68.3			25.02	0.91	22.80	79.73	0.92	0.628	0.985	0.116	0.134	0.21	0.04	0.08
27.560	25.000	0.578	3307.2	2517.2	18.549	2.474	2.73		Sand	81.4			23.63	0.96	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	30.600	1.162	3326.4	2526.4	22.907	4.016	2.79		Clay	86.1			28.92	0.95	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	63.490	1.216	3346.8	2536.2	53.368	1.967	2.31		Sand	47.7			60.01	0.92	55.14	114.70	0.92	0.630	0.978	0.160	0.212	0.34	0.03	0.05
28.050	49.340	1.715	3366.0	2545.4	41.069	3.599	2.57		Sand	68.5			46.64	0.91	42.63	105.36	0.92	0.630	0.980	0.145	0.183	0.29	0.03	0.06
28.220	70.580	3.782	3386.4	2555.2	53.918	5.490	2.62		Clay	72.6			66.71	0.95	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	134.310	4.716	3405.6	2564.4	113.852	3.556	2.27		Sand	44.3		1.45	184.07	0.95	174.97	263.08	0.92	0.632	0.942	705.727	1463.068	2316.44	0.00	0.00
28.540	91.080	4.242	3424.8	2573.7	76.591	4.746	2.47		Sand	60.8		1.45	124.83	0.94	116.99	198.79	0.92	0.632	0.949	1.766	3.688	5.83	0.00	0.00
28.710	74.420	2.997	3445.2	2583.5	62.186	4.123	2.49		Sand	61.8		1.45	101.99	0.93	94.71	170.60	0.92	0.633	0.961	0.514	0.959	1.52	0.00	0.00
28.870	59.910	2.309	3464.4	2592.7	49.677	3.970	2.54		Sand	66.2		1.45	82.11	0.92	75.58	147.29	0.92	0.633	0.968	0.272	0.431	0.68	0.02	0.04
29.040	76.120	2.719	3484.8	2602.5	63.390	3.656	2.44		Sand	58.3		1.45	104.32	0.93	96.65	171.87	0.92	0.634	0.960	0.536	1.009	1.59	0.00	0.00
29.200	63.790	2.669	3504.0	2611.7	52.780	4.302	2.55		Sand	66.8		1.45	87.42	0.92	80.41	153.66	0.92	0.634	0.965	0.315	0.520	0.82	0.01	0.03
29.360	76.170	2.674	3523.2	2620.9	63.193	3.593	2.44		Sand	58.0		1.45	104.39	0.92	96.45	171.47	0.92	0.635	0.958	0.529	0.991	1.56	0.00	0.00
29.530	73.690	2.343	3543.6	2630.7	60.964	3.258	2.42		Sand	56.4		1.45	100.99	0.92	93.03	166.49	0.92	0.635	0.960	0.450	0.812	1.28	0.00	0.01
29.690	79.300	2.900	3562.8	2639.9	65.597	3.741	2.44		Sand	58.1		1.45	108.68	0.92	100.31	176.46	0.92	0.636	0.955	0.633	1.228	1.93	0.00	0.00
29.860	64.580	2.260	3583.2	2649.7	53.034	3.599	2.49		Sand	62.2	74.95	1.45	108.68	0.92	100.22	177.78	0.91	0.636	0.953	0.666	1.303	2.05	0.00	0.00
30.020	21.150	1.509	3602.4	2658.9	14.554	7.800	3.13		Clay	100.0			19.99	0.94	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	24.060	0.944	3621.6	2668.1	16.678	4.244	2.91		Clay	95.8			22.74	0.94	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	22.130	1.060	3642.0	2677.9	15.168	5.221	3.00		Clay	100.0			20.92	0.94	n.a.	n.a.	0.91	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	33.960	1.039	3661.2	2687.1	23.913	3.234	2.71		Clay	80.1			32.10	0.94	n.a.	n.a.	0.91	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	25.190	0.991	3681.6	2696.9	17.315	4.244	2.90		Clay	94.8			23.81	0.94	n.a.	n.a.	0.91	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	19.110	0.896	3700.8	2706.1	12.756	5.190	3.06		Clay	100.0			18.06	0.94	n.a.	n.a.	0.91	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	25.910	0.770	3720.0	2715.4	17.714	3.203	2.81		Clay	88.0			24.49	0.94	n.a.	n.a.	0.91	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	20.000	0.672	3740.4	2725.2	13.306	3.708	2.95		Clay	99.0														

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
34.610	31.180	1.058	4153.2	2923.3	19.911	3.635	2.81		Clay	87.6			29.47	0.92	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	36.760	0.761	4173.6	2933.1	23.643	2.193	2.61		Clay	72.1			34.74	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	41.100	0.631	4192.8	2942.3	31.263	1.618	2.44		Sand	58.0			38.85	0.84	32.72	90.06	0.89	0.647	0.968	0.126	0.148	0.23	0.04	0.07
35.100	24.770	0.642	4212.0	2951.5	15.358	2.834	2.83		Clay	89.4			23.41	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	13.620	0.394	4232.4	2961.3	7.769	3.421	3.12		Clay	100.0			12.87	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	10.500	0.184	4251.6	2970.5	5.638	2.200	3.14		Clay	100.0			9.92	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	10.500	0.192	4272.0	2980.3	5.613	2.300	3.15		Clay	100.0			9.92	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	10.190	0.205	4291.2	2989.5	5.382	2.553	3.19		Clay	100.0			9.63	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	10.240	0.210	4311.6	2999.3	5.391	2.591	3.19		Clay	100.0			9.68	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	10.160	0.205	4330.8	3008.5	5.315	2.559	3.19		Clay	100.0			9.60	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	9.540	0.169	4350.0	3017.8	4.881	2.300	3.20		Clay	100.0			9.02	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	9.410	0.111	4370.4	3027.6	4.773	1.538	3.13		Clay	100.0			8.89	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	9.380	0.104	4389.6	3036.8	4.732	1.453	3.12		Clay	100.0			8.87	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	9.880	0.140	4410.0	3046.6	5.038	1.829	3.14		Clay	100.0			9.34	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	9.860	0.186	4429.2	3055.8	5.004	2.434	3.20		Clay	100.0			9.32	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	10.250	0.386	4448.4	3065.0	5.237	4.812	3.34		Clay	100.0			9.69	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	17.100	0.346	4468.8	3074.8	9.669	2.324	2.95		Clay	98.8			16.16	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	14.030	0.165	4488.0	3084.0	7.643	1.403	2.93		Clay	97.1			13.26	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	11.650	0.454	4508.4	3093.8	6.074	4.832	3.29		Clay	100.0			11.01	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	29.150	0.548	4527.6	3103.0	17.329	2.039	2.71		Clay	79.4			27.55	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	70.100	0.627	4546.8	3112.2	52.861	0.924	2.11		Sand	31.9	74.01	1.62	119.90	0.86	103.39	162.11	0.88	0.650	0.931	0.394	0.668	1.03	0.01	0.02
38.060	67.960	0.870	4567.2	3122.0	51.105	1.324	2.21		Sand	40.2	74.01	1.62	119.90	0.87	103.81	170.90	0.88	0.650	0.925	0.519	0.934	1.44	0.00	0.00
38.220	70.950	0.774	4586.4	3131.2	53.346	1.127	2.16		Sand	35.6	74.01	1.62	119.90	0.86	103.41	166.30	0.88	0.650	0.927	0.447	0.778	1.20	0.01	0.01
38.390	76.330	0.654	4606.8	3141.0	57.428	0.884	2.07		Sand	28.6	74.01	1.62	119.90	0.86	102.69	156.85	0.88	0.650	0.933	0.341	0.558	0.86	0.01	0.02
38.550	78.300	0.586	4626.0	3150.2	58.863	0.772	2.03		Sand	25.3		1.62	119.89	0.85	102.17	150.78	0.88	0.650	0.936	0.294	0.461	0.71	0.02	0.04
38.710	70.820	0.504	4645.2	3159.5	52.983	0.736	2.06		Sand	27.5	74.01	1.62	119.90	0.85	102.31	154.68	0.88	0.651	0.933	0.323	0.519	0.80	0.01	0.03
38.880	55.440	0.737	4665.6	3169.2	41.015	1.388	2.30		Sand	47.3	74.01	1.62	119.90	0.86	103.51	175.42	0.88	0.651	0.918	0.609	1.127	1.73	0.00	0.00
39.040	40.590	0.884	4684.8	3178.5	24.067	2.310	2.62		Clay	72.7			38.36	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	24.400	0.542	4705.2	3188.3	13.830	2.457	2.83		Clay	89.5			23.06	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	14.660	0.374	4724.4	3197.5	7.692	3.044	3.09		Clay	100.0			13.86	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	13.940	0.216	4743.6	3206.7	7.215	1.869	3.01		Clay	100.0			13.18	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	16.820	0.267	4764.0	3216.5	8.978	1.849	2.92		Clay	96.9			15.90	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	11.970	0.260	4783.2	3225.7	5.939	2.711	3.16		Clay	100.0			11.31	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	10.360	0.196	4803.6	3235.5	4.919	2.465	3.21		Clay	100.0			9.79	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	10.310	0.211	4822.8	3244.7	4.869	2.673	3.23		Clay	100.0			9.74	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	10.320	0.185	4842.0	3253.9	4.855	2.342	3.21		Clay	100.0			9.75	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	10.270	0.074	4862.4	3263.7	4.804	0.943	3.03		Clay	100.0			9.71	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	10.420	0.144	4881.6	3272.9	4.876	1.800	3.15		Clay	100.0			9.85	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	15.220	0.116	4902.0	3282.7	7.780	0.908	2.84		Clay	89.8			14.39	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	13.150	0.252	4921.2	3291.9	6.494	2.355	3.10		Clay	100.0			12.43	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	21.990	0.379	4940.4	3301.2	11.826	1.944	2.83		Clay	89.6			20.78	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	19.410	0.367	4960.8	3310.9	10.226	2.167	2.91		Clay	95.9			18.35	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	16.100	0.317	4980.0	3320.2	8.198	2.328	3.01		Clay	100.0			15.22	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	11.580	0.250	5000.4	3330.0	5.453	2.752	3.20		Clay	100.0			10.95	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	10.310	0.176	5019.6	3339.2	4.672	2.258	3.21		Clay	100.0			9.74	0.89	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	10.610	0.169	5038.8	3348.4	4.833	2.086	3.18		Clay	100.0			10.03	0.89	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	10.680	0.192	5059.2	3358.2	4.854	2.359	3.21		Clay	100.0			10.09	0.89	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	11.590	0.252	5078.4	3367.4																				

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
45.600	15.730	0.542	5472.0	3556.3	7.308	4.172	3.19		Clay	100.0			14.87	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	16.430	0.575	5492.4	3566.1	7.674	4.201	3.17		Clay	100.0			15.53	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	16.820	0.608	5511.6	3575.3	7.867	4.321	3.17		Clay	100.0			15.90	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	16.670	0.602	5532.0	3585.1	7.757	4.329	3.18		Clay	100.0			15.76	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	17.320	0.624	5551.2	3594.3	8.093	4.292	3.16		Clay	100.0			16.37	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	17.800	0.662	5570.4	3603.6	8.333	4.407	3.16		Clay	100.0			16.82	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	17.960	0.619	5590.8	3613.3	8.394	4.085	3.14		Clay	100.0			16.98	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	17.550	0.620	5610.0	3622.6	8.141	4.203	3.15		Clay	100.0			16.59	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	18.100	0.684	5630.4	3632.4	8.416	4.474	3.16		Clay	100.0			17.11	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	18.890	0.722	5649.6	3641.6	8.823	4.495	3.14		Clay	100.0			17.85	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	18.980	0.675	5668.8	3650.8	8.845	4.181	3.12		Clay	100.0			17.94	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	18.030	0.581	5689.2	3660.6	8.297	3.827	3.12		Clay	100.0			17.04	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	17.380	0.507	5708.4	3669.8	7.916	3.491	3.12		Clay	100.0			16.43	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	17.210	0.481	5728.8	3679.6	7.797	3.352	3.11		Clay	100.0			16.27	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	17.760	0.493	5748.0	3688.8	8.071	3.309	3.10		Clay	100.0			16.79	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	18.730	0.470	5767.2	3698.0	8.570	2.967	3.05		Clay	100.0			17.70	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	17.090	0.443	5787.6	3707.8	7.657	3.121	3.10		Clay	100.0			16.15	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	17.320	0.472	5806.8	3717.0	7.757	3.273	3.11		Clay	100.0			16.37	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	18.130	0.474	5827.2	3726.8	8.166	3.118	3.08		Clay	100.0			17.14	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	16.970	0.404	5846.4	3736.0	7.520	2.875	3.09		Clay	100.0			16.04	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	16.990	0.358	5865.6	3745.2	7.507	2.549	3.06		Clay	100.0			16.06	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	16.760	0.376	5886.0	3755.0	7.359	2.722	3.08		Clay	100.0			15.84	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	16.600	0.338	5905.2	3764.3	7.251	2.480	3.07		Clay	100.0			15.69	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	16.140	0.318	5925.6	3774.0	6.983	2.413	3.08		Clay	100.0			15.26	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	17.160	0.324	5944.8	3783.3	7.500	2.285	3.04		Clay	100.0			16.22	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	17.770	0.338	5964.0	3792.5	7.799	2.288	3.02		Clay	100.0			16.80	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	18.650	0.363	5984.4	3802.3	8.236	2.321	3.01		Clay	100.0			17.63	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	19.800	0.362	6003.6	3811.5	8.815	2.155	2.96		Clay	100.0			18.71	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	19.900	0.354	6024.0	3821.3	8.839	2.095	2.96		Clay	99.6			18.81	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	19.370	0.337	6043.2	3830.5	8.536	2.061	2.97		Clay	100.0			18.31	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	17.950	0.318	6062.4	3839.7	7.771	2.133	3.01		Clay	100.0			16.97	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	17.220	0.310	6082.8	3849.5	7.366	2.189	3.03		Clay	100.0			16.28	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	17.260	0.273	6102.0	3858.7	7.365	1.919	3.01		Clay	100.0			16.31	0.85	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	16.680	0.274	6122.4	3868.5	7.041	2.011	3.03		Clay	100.0			15.77	0.85	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	17.770	0.284	6141.6	3877.7	7.581	1.932	3.00		Clay	100.0			16.80	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	17.960	0.358	6162.0	3887.5	7.655	2.404	3.04		Clay	100.0			16.98	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	20.580	0.466	6181.2	3896.7	8.976	2.665	3.01		Clay	100.0			19.45	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	35.950	0.538	6200.4	3906.0	16.820	1.639	2.66		Clay	76.1			33.98	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	25.980	0.490	6220.8	3915.7	11.681	2.143	2.86		Clay	91.8			24.56	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	19.960	0.364	6240.0	3925.0	8.581	2.160	2.97		Clay	100.0			18.87	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	20.690	0.456	6260.4	3934.8	8.925	2.596	3.00		Clay	100.0			19.56	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	26.010	0.494	6279.6	3944.0	11.598	2.159	2.86		Clay	92.1			24.58	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	29.130	0.487	6298.8	3953.2	13.144	1.875	2.79		Clay	85.8			27.53	0.85	n.a.	n.a.	0.82	0.643	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	19.000	0.382	6319.2	3963.0	7.994	2.412	3.03		Clay	100.0			17.96	0.85	n.a.	n.a.	0.82	0.643	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	15.760	0.167	6338.4	3972.2	6.339	1.326	2.99		Clay	100.0			14.90	0.85	n.a.	n.a.	0.82	0.643	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	15.460	0.133	6358.8	3982.0	6.168	1.081	2.96		Clay	99.7			14.61	0.85	n.a.	n.a.	0.82	0.643	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	14.700	0.187	6378.0	3991.2	5.768	1.621	3.06		Clay	100.0			13.89	0.85	n.a.	n.a.	0.82	0.642	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	16.710	0.241	6397.2	4000.4	6.755	1.782	3.02		Clay	100.0			15.79	0.85	n.a.	n.a.	0.82	0.642	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	17.330	0.365	6417.6	4010.2	7.043	2.587	3.09																	

CPT No.

3

PGA (A_{max})

0.70

Total Settlement: 1.30 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5,σ' 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
56.590	18.650	0.364	6790.8	4189.3	7.283	2.383	3.06		Clay	100.0			17.63	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	18.310	0.290	6811.2	4199.1	7.099	1.946	3.02		Clay	100.0			17.31	0.83	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	18.270	0.341	6830.4	4208.4	7.060	2.298	3.06		Clay	100.0			17.27	0.83	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	19.300	0.405	6850.8	4218.1	7.527	2.549	3.06		Clay	100.0			18.24	0.83	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	19.380	0.410	6870.0	4227.4	7.544	2.568	3.06		Clay	100.0			18.32	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	18.770	0.311	6889.2	4236.6	7.235	2.031	3.02		Clay	100.0			17.74	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	18.040	0.375	6909.6	4246.4	6.869	2.572	3.10		Clay	100.0			17.05	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	19.410	0.311	6928.8	4255.6	7.494	1.952	3.00		Clay	100.0			18.35	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	20.900	0.371	6949.2	4265.4	8.171	2.130	2.99		Clay	100.0			19.75	0.83	n.a.	n.a.	0.80	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	20.970	0.475	6968.4	4274.6	8.181	2.719	3.05		Clay	100.0			19.82	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	21.370	0.583	6987.6	4283.8	8.346	3.262	3.08		Clay	100.0			20.20	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	23.470	0.560	7008.0	4293.6	9.300	2.805	3.01		Clay	100.0			22.18	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	23.490	0.452	7027.2	4302.8	9.285	2.264	2.96		Clay	99.5			22.20	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	21.690	0.442	7047.6	4312.6	8.425	2.434	3.01		Clay	100.0			20.50	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	24.230	0.500	7066.8	4321.8	9.578	2.415	2.96		Clay	99.8			22.90	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	26.630	0.513	7087.2	4331.6	10.659	2.221	2.90		Clay	95.1			25.17	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	26.640	0.696	7106.4	4340.8	10.637	3.014	2.98		Clay	100.0			25.18	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	31.780	1.088	7125.6	4350.0	12.973	3.855	2.97		Clay	100.0			30.04	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	57.240	1.308	7146.0	4359.8	24.619	2.437	2.63		Clay	73.2			54.10	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	55.680	1.279	7165.2	4369.1	23.848	2.456	2.64		Clay	74.2			52.63	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	34.330	0.867	7185.6	4378.8	14.039	2.821	2.86		Clay	91.9			32.45	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	22.040	0.311	7204.8	4388.1	8.404	1.684	2.93		Clay	97.2			20.83	0.82	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	19.520	0.239	7224.0	4397.3	7.235	1.499	2.96		Clay	99.8			18.45	0.82	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	19.460	0.228	7244.4	4407.1	7.187	1.442	2.95		Clay	99.4			18.39	0.82	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	19.570	0.235	7263.6	4416.3	7.218	1.476	2.96		Clay	99.6			18.50	0.82	n.a.	n.a.	0.78	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	19.470	0.254	7284.0	4426.1	7.152	1.607	2.98		Clay	100.0			18.40	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	18.900	0.231	7303.2	4435.3	6.876	1.514	2.98		Clay	100.0			17.86	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	18.470	0.221	7322.4	4444.5	6.664	1.490	2.99		Clay	100.0			17.46	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	19.010	0.208	7342.8	4454.3	6.887	1.354	2.96		Clay	99.7			17.97	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	20.490	0.193	7362.0	4463.5	7.532	1.145	2.89		Clay	94.3			19.37	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	20.940	0.201	7382.4	4473.3	7.712	1.164	2.89		Clay	93.8			19.79	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	20.580	0.223	7401.6	4482.5	7.531	1.319	2.92		Clay	96.5			19.45	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	22.320	0.231	7420.8	4491.7	8.286	1.243	2.87		Clay	92.6			21.10	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	23.200	0.275	7441.2	4501.5	8.655	1.412	2.88		Clay	93.4			21.93	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	22.400	0.296	7460.4	4510.8	8.278	1.583	2.92		Clay	96.6			21.17	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	22.190	0.307	7480.8	4520.5	8.163	1.663	2.94		Clay	97.9			20.97	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	23.680	0.371	7500.0	4529.8	8.800	1.861	2.93		Clay	97.6			22.38	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	26.630	0.487	7519.2	4539.0	10.077	2.127	2.91		Clay	96.0			25.17	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	28.050	0.539	7539.6	4548.8	10.676	2.220	2.90		Clay	95.1			26.51	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	26.200	0.435	7558.8	4558.0	9.838	1.939	2.90		Clay	95.0			24.76	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	24.330	0.298	7579.2	4567.8	8.994	1.450	2.87		Clay	92.6			23.00	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.320	26.060	0.375	7598.4	4577.0	9.727	1.685	2.87		Clay	92.8			24.63	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	27.540	0.364	7617.6	4586.2	10.349	1.534	2.83		Clay	89.3			26.03	0.82	n.a.	n.a.	0.77	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.650	32.480	0.445	7638.0	4596.0	12.472	1.553	2.76		Clay	83.9			30.70	0.81	n.a.	n.a.	0.77	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.810	33.440	0.424	7657.2	4605.2	12.860	1.432	2.73		Clay	81.6			31.61	0.81	n.a.	n.a.	0.77	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	34.210	0.473	7677.6	4615.0	13.162	1.557	2.74		Clay	82.4			32.33	0.81	n.a.	n.a.	0.77	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	30.900	0.445	7696.8	4624.2	11.700	1.646	2.80		Clay	86.9			29.21	0.81	n.a.	n.a.	0.77	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	25.000	0.378	7716.0	4633.4	9.126	1.789	2.91		Clay	95.8			23.63	0.81	n.a.	n.a.	0.77	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	22.050	0.332																						

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5,r _d γ _c = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
67.590	17.530	0.106	8110.8	4822.9	5.588	0.786	2.94		Clay	98.4			16.57	0.80	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	17.880	0.102	8130.0	4832.2	5.718	0.740	2.92		Clay	96.9			16.90	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	18.350	0.109	8149.2	4841.4	5.897	0.762	2.82		Clay	96.3			17.34	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	18.900	0.134	8169.6	4851.2	6.108	0.907	2.93		Clay	97.5			17.86	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	19.880	0.121	8188.8	4860.4	6.496	0.766	2.88		Clay	93.2			18.79	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	20.140	0.083	8209.2	4870.2	6.585	0.519	2.81		Clay	87.9			19.04	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	19.180	0.040	8228.4	4879.4	6.175	0.265	2.76		Clay	83.4			18.13	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	17.310	0.157	8247.6	4888.6	5.395	1.190	3.03		Clay	100.0			16.36	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	25.640	0.523	8268.0	4898.4	8.781	2.430	2.99		Clay	100.0			24.23	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	35.230	0.646	8287.2	4907.6	12.669	2.077	2.82		Clay	88.8			33.30	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	25.840	0.600	8307.6	4917.4	8.820	2.764	3.02		Clay	100.0			24.42	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	24.200	0.388	8326.8	4926.6	8.134	1.934	2.97		Clay	100.0			22.87	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	21.410	0.316	8346.0	4935.8	6.984	1.834	3.02		Clay	100.0			20.24	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	20.500	0.287	8366.4	4945.6	6.598	1.756	3.03		Clay	100.0			19.38	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	20.230	0.325	8385.6	4954.8	6.473	2.027	3.07		Clay	100.0			19.12	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	20.860	0.335	8406.0	4964.6	6.710	2.009	3.05		Clay	100.0			19.72	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	20.450	0.317	8425.2	4973.9	6.529	1.952	3.05		Clay	100.0			19.33	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	20.090	0.300	8444.4	4983.1	6.369	1.893	3.06		Clay	100.0			18.99	0.80	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	19.960	0.272	8464.8	4992.9	6.300	1.726	3.04		Clay	100.0			18.87	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	19.030	0.234	8484.0	5002.1	5.913	1.583	3.05		Clay	100.0			17.99	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	18.940	0.196	8504.4	5011.9	5.861	1.335	3.02		Clay	100.0			17.90	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	18.870	0.198	8523.6	5021.1	5.819	1.352	3.02		Clay	100.0			17.84	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	19.010	0.182	8542.8	5030.3	5.860	1.231	3.00		Clay	100.0			17.97	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	18.850	0.169	8563.2	5040.1	5.781	1.160	3.00		Clay	100.0			17.82	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	18.840	0.164	8582.4	5049.3	5.763	1.124	2.99		Clay	100.0			17.81	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	18.790	0.205	8602.8	5059.1	5.728	1.122	3.04		Clay	100.0			17.76	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	19.620	0.261	8622.0	5068.3	6.041	1.702	3.06		Clay	100.0			18.54	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	20.200	0.315	8641.2	5077.5	6.255	1.986	3.07		Clay	100.0			19.09	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	21.080	0.384	8661.6	5087.3	6.585	2.294	3.09		Clay	100.0			19.92	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	22.430	0.393	8680.8	5096.5	7.099	2.173	3.05		Clay	100.0			21.20	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	22.470	0.478	8701.2	5106.3	7.097	2.636	3.09		Clay	100.0			21.24	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	24.350	0.424	8720.4	5115.6	7.815	2.123	3.01		Clay	100.0			23.02	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	23.350	0.487	8739.6	5124.8	7.407	2.564	3.07		Clay	100.0			22.07	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	23.210	0.427	8760.0	5134.6	7.335	2.267	3.04		Clay	100.0			21.94	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	21.620	0.425	8779.2	5143.8	6.700	2.468	3.10		Clay	100.0			20.43	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	22.220	0.479	8799.6	5153.6	6.916	2.685	3.10		Clay	100.0			21.00	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	23.690	0.415	8818.8	5162.8	7.469	2.151	3.03		Clay	100.0			22.39	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	28.470	0.341	8838.0	5172.0	9.300	1.418	2.85		Clay	91.2			26.91	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	23.560	0.390	8858.4	5181.8	7.384	2.039	3.02		Clay	100.0			22.27	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	22.410	0.383	8877.6	5191.0	6.924	2.131	3.05		Clay	100.0			21.18	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	24.350	0.308	8898.0	5200.8	7.653	1.546	2.95		Clay	98.6			23.02	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	23.710	0.361	8917.2	5210.0	7.390	1.876	3.00		Clay	100.0			22.41	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	23.470	0.372	8937.6	5219.8	7.280	1.959	3.01		Clay	100.0			22.18	0.79	n.a.	n.a.	0.73	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	25.940	0.297	8956.8	5229.0	8.209	1.382	2.90		Clay	94.6			24.52	0.79	n.a.	n.a.	0.73	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	22.060	0.320	8976.0	5238.2	6.709	1.821	3.03		Clay	100.0			20.85	0.79	n.a.	n.a.	0.73	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	23.110	0.365	8996.4	5248.0	7.093	1.959	3.02		Clay	100.0			21.84	0.79	n.a.	n.a.	0.73	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.130	24.130	0.443	9015.6	5257.2	7.465	2.260	3.04		Clay	100.0			22.81	0.79	n.a.	n.a.	0.73	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.300	24.420	0.494	9036.0	5267.0	7.557	2.481	3.05		Clay	100.0			23.08	0.79	n.a.	n.a.	0.73	0.601	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.460	24.400	0.531	9055.2	5276.3	7																			

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tt})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
78.580	25.530	1.162	9429.6	5456.0	7.630	5.583	3.25		Clay	100.0			24.13	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	74.630	1.409	9448.8	5465.2	41.113	2.016	2.40		Sand	55.1			70.54	0.63	44.33	103.99	0.71	0.595	0.896	0.143	0.164	0.28	0.03	0.06
78.900	140.080	1.481	9468.0	5474.4	79.533	1.095	2.01		Sand	24.0			132.40	0.66	87.49	131.11	0.71	0.594	0.870	0.201	0.258	0.43	0.02	0.05
79.070	105.790	2.603	9488.4	5484.2	59.325	2.576	2.35		Sand	51.3			99.99	0.66	65.88	129.90	0.71	0.594	0.872	0.197	0.252	0.42	0.02	0.05
79.230	53.080	2.515	9507.6	5493.4	17.594	5.205	2.95		Clay	98.9			50.17	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	31.830	1.513	9528.0	5503.2	9.836	5.591	3.16		Clay	100.0			30.09	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	27.190	0.802	9547.2	5512.4	8.133	3.576	3.11		Clay	100.0			25.70	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	25.360	0.712	9566.4	5521.6	7.453	3.462	3.14		Clay	100.0			23.97	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	24.190	0.621	9586.8	5531.4	7.013	3.202	3.14		Clay	100.0			22.86	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	21.700	0.489	9606.0	5540.6	6.099	2.892	3.17		Clay	100.0			20.51	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	20.890	0.297	9626.4	5550.4	5.793	1.848	3.09		Clay	100.0			19.74	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	21.370	0.380	9645.6	5559.6	5.953	2.297	3.12		Clay	100.0			20.20	0.78	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	26.460	0.770	9664.8	5568.9	7.767	3.560	3.13		Clay	100.0			25.01	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	38.520	1.020	9685.2	5578.7	12.074	3.028	2.93		Clay	97.6			36.41	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	41.510	1.474	9704.4	5587.9	13.120	4.020	2.98		Clay	100.0			39.23	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	52.710	1.847	9724.8	5597.7	17.096	3.860	2.88		Clay	93.0			49.82	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	103.240	2.136	9744.0	5606.9	57.117	2.171	2.31		Sand	48.2			97.58	0.65	63.11	124.99	0.71	0.590	0.874	0.183	0.228	0.39	0.03	0.05
81.360	91.890	2.922	9763.2	5616.1	30.985	3.359	2.64		Clay	74.1			86.85	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	64.660	2.664	9783.6	5625.9	21.248	4.456	2.84		Clay	90.5			61.12	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	53.380	2.003	9802.8	5635.1	17.206	4.131	2.89		Clay	94.4			50.45	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	55.460	1.559	9823.2	5644.9	17.909	3.084	2.80		Clay	86.9			52.42	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	35.160	1.233	9842.4	5654.1	10.696	4.077	3.05		Clay	100.0			33.23	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	24.090	0.601	9862.8	5663.9	6.765	3.136	3.15		Clay	100.0			22.77	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	23.150	0.367	9882.0	5673.1	6.419	2.018	3.07		Clay	100.0			21.88	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	23.140	0.379	9901.2	5682.3	6.402	2.083	3.08		Clay	100.0			21.87	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	25.080	0.611	9921.6	5692.1	7.069	3.037	3.13		Clay	100.0			23.71	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	35.390	0.799	9940.8	5701.3	10.671	2.628	2.94		Clay	98.3			33.45	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	29.510	1.056	9961.2	5711.1	8.590	4.304	3.14		Clay	100.0			27.89	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	22.450	0.689	9980.4	5720.4	6.104	3.944	3.24		Clay	100.0			21.22	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	19.920	0.467	9999.6	5729.6	5.208	3.127	3.24		Clay	100.0			18.83	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	19.200	0.426	10020.0	5739.4	4.945	3.000	3.25		Clay	100.0			18.15	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	19.810	0.373	10039.2	5748.6	5.146	2.523	3.20		Clay	100.0			18.72	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	21.400	0.404	10059.6	5758.4	5.686	2.467	3.16		Clay	100.0			20.23	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	27.770	0.442	10078.8	5767.6	7.882	1.945	2.98		Clay	100.0			26.25	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	29.160	0.499	10098.0	5776.8	8.348	2.069	2.98		Clay	100.0			27.56	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	28.160	0.482	10118.4	5786.6	7.984	2.088	2.99		Clay	100.0			26.62	0.77	n.a.	n.a.	0.69	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	27.660	0.585	10137.6	5795.8	7.796	2.591	3.05		Clay	100.0			26.14	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	35.250	0.742	10158.0	5805.6	10.394	2.458	2.93		Clay	97.8			33.32	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	35.550	0.892	10177.2	5814.8	10.477	2.927	2.97		Clay	100.0			33.60	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	34.690	1.009	10196.4	5824.0	10.162	3.408	3.02		Clay	100.0			32.79	0.77	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	37.330	1.244	10216.8	5833.8	11.046	3.860	3.03		Clay	100.0			35.28	0.77	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.300	40.900	1.349	10236.0	5843.0	12.248	3.770	2.98		Clay	100.0			38.66	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.470	42.360	1.434	10256.4	5852.8	12.723	3.850	2.98		Clay	100.0			40.04	0.76	n.a.	n.a.	0.69	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.630	38.950	2.000	10275.6	5862.0	11.536	5.916	3.13		Clay	100.0			36.81	0.76	n.a.	n.a.	0.69	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.790	60.210	2.445	10294.8	5871.3	18.757	4.441	2.88		Clay	93.7			56.91	0.76	n.a.	n.a.	0.69	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.960	101.160	2.364	10315.2	5881.1	54.429	2.463	2.37		Sand	52.4			95.61	0.63	60.34	123.32	0.69	0.580	0.869	0.179	0.220	0.38	0.03	0.00
86.120	120.380	3.008	10334.4	5890.3	65.269	2.611	2.33		Sand	49.2			113.78	0.65	73.89	139.10	0.69	0.580	0.851	0.230	0.304	0.52	0.02	0.00
86.290	128.920	3.883	10354.8	5900.1	70.043	3.138	2.36		Sand	52.1			121.85											

CPT No.

3

PGA (A_{max})

0.70

Total Settlement: 1.30 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5, 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
89.570	27.320	0.608	10748.4	6089.0	7.208	2.772	3.10		Clay	100.0			25.82	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	27.920	0.628	10767.6	6098.2	7.391	2.786	3.09		Clay	100.0			26.39	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	28.470	0.672	10788.0	6108.0	7.556	2.910	3.09		Clay	100.0			26.91	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	28.800	0.756	10807.2	6117.2	7.649	3.230	3.11		Clay	100.0			27.22	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	30.060	0.820	10826.4	6126.4	8.046	3.327	3.10		Clay	100.0			28.41	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	31.380	0.740	10846.8	6136.2	8.460	2.852	3.04		Clay	100.0			29.66	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.550	29.170	0.706	10866.0	6145.4	7.725	2.974	3.09		Clay	100.0			27.57	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	29.210	0.693	10886.4	6155.2	7.722	2.915	3.08		Clay	100.0			27.61	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	30.580	0.592	10905.6	6164.4	8.152	2.354	3.01		Clay	100.0			28.90	0.75	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	28.380	0.577	10924.8	6173.7	7.424	2.518	3.06		Clay	100.0			26.82	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	31.300	0.778	10945.2	6183.5	8.354	3.012	3.06		Clay	100.0			29.58	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.370	37.180	0.667	10964.4	6192.7	10.237	2.104	2.90		Clay	95.3			35.14	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.540	40.490	0.736	10984.8	6202.5	11.285	2.102	2.87		Clay	92.4			38.27	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	31.590	0.701	11004.0	6211.7	8.400	2.686	3.03		Clay	100.0			29.86	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	28.000	0.466	11023.2	6220.9	7.230	2.071	3.03		Clay	100.0			26.47	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	25.280	0.355	11043.6	6230.7	6.342	1.795	3.05		Clay	100.0			23.89	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	23.600	0.332	11062.8	6239.9	5.791	1.836	3.09		Clay	100.0			22.31	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	23.890	0.364	11083.2	6249.7	5.872	1.984	3.10		Clay	100.0			22.58	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	24.920	0.402	11102.4	6258.9	6.189	2.077	3.09		Clay	100.0			23.55	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	25.340	0.372	11121.6	6268.1	6.311	1.880	3.06		Clay	100.0			23.95	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	24.140	0.349	11142.0	6277.9	5.916	1.877	3.08		Clay	100.0			22.82	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.010	23.380	0.368	11161.2	6287.1	5.662	2.068	3.12		Clay	100.0			22.10	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.180	23.270	0.348	11181.6	6296.9	5.615	1.969	3.11		Clay	100.0			21.99	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.340	25.520	0.296	11200.8	6306.1	6.318	1.487	3.01		Clay	100.0			24.12	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.500	23.920	0.259	11220.0	6315.4	5.799	1.416	3.03		Clay	100.0			22.61	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.670	23.910	0.270	11240.4	6325.2	5.783	1.477	3.04		Clay	100.0			22.60	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.830	24.080	0.341	11259.6	6334.4	5.825	1.847	3.09		Clay	100.0			22.76	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.000	24.960	0.365	11280.0	6344.2	6.091	1.889	3.07		Clay	100.0			23.59	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.160	25.040	0.365	11299.2	6353.4	6.104	1.884	3.07		Clay	100.0			23.67	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.320	24.710	0.408	11318.4	6362.6	5.988	2.141	3.11		Clay	100.0			23.36	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.490	25.370	0.424	11338.8	6372.4	6.183	2.153	3.10		Clay	100.0			23.98	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.650	25.830	0.437	11358.0	6381.6	6.315	2.167	3.09		Clay	100.0			24.41	0.75	n.a.	n.a.	0.66	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.820	26.380	0.378	11378.4	6391.4	6.475	1.825	3.04		Clay	100.0			24.93	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.980	26.400	0.392	11397.6	6400.6	6.469	1.891	3.05		Clay	100.0			24.95	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.140	28.320	0.572	11416.8	6409.8	7.055	2.529	3.08		Clay	100.0			26.77	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.310	38.610	0.922	11437.2	6419.6	10.247	2.803	2.97		Clay	100.0			36.49	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.470	37.630	1.158	11456.4	6428.8	9.925	3.631	3.05		Clay	100.0			35.57	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.640	39.100	1.031	11476.8	6438.6	10.363	3.089	2.99		Clay	100.0			36.96	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.800	36.970	0.790	11496.0	6447.8	9.684	2.529	2.97		Clay	100.0			34.94	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.960	33.580	2.196	11515.2	6457.1	8.618	7.894	3.30		Clay	100.0			31.74	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.130	58.500	3.826	11535.6	6466.8	16.308	7.255	3.07		Clay	100.0			55.29	0.74	n.a.	n.a.	0.66	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.290	312.600	3.945	11554.8	6476.1	165.769	1.286	1.82		Sand	9.0			295.46	0.71	209.32	216.52	0.66	0.563	0.664	5.488	8.023	14.25	0.00	0.00
96.460	360.160	3.856	11575.2	6485.9	191.315	1.088	1.73		Sand	1.4			340.42	0.74	253.01	253.01	0.66	0.563	0.664	187.279	273.565	486.06	0.00	0.00
96.620	412.030	3.821	11594.4	6495.1	219.157	0.940	1.64		Sand	0.0			389.44	0.74	289.70	289.70	0.66	0.563	0.664	58741.676	85751.057	152424.22	0.00	0.00
96.780	474.290	3.910	11613.6	6504.3	252.561	0.835	1.56		Sand	0.0			448.29	0.74	333.35	333.35	0.66	0.562	0.663	#####	#####	#####	0.00	0.00
96.950	575.140	3.610	11634.0	6514.1	306.693	0.634	1.42		Sand	0.0			543.61	0.74	404.07	404.07	0.66	0.562	0.663	#####	#####	#####	0.00	0.00
97.110	629.150	4.903	11653.2	6523.3	335.546	0.787	1.46		Sand	0.0			594.66	0.74	441.85	441.85	0.66	0.562	0.662	#####	#####	#####	0.00	0.00
97.280	668.730.																							



CORNERSTONE EARTH GROUP

CPT No.

3

PGA (A_{max})

0.70

Total Settlement:

1.30 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	CRRM=7.5, $\gamma_{vc} = 1$ atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
100.560	516.070	1.856	12067.2	6722.0	270.473	0.364	1.30		Sand	0.0			487.78	0.74	359.57	359.57	0.65	0.557	0.653	#####	#####	#####	0.00	0.00
100.720	566.220	2.242	12086.4	6731.2	296.859	0.400	1.29		Sand	0.0			535.18	0.74	394.37	394.37	0.65	0.557	0.653	#####	#####	#####	0.00	0.00
100.890	591.690	2.779	12106.8	6741.0	310.125	0.475	1.33		Sand	0.0			559.25	0.74	411.95	411.95	0.65	0.557	0.652	#####	#####	#####	0.00	0.00
101.050	560.580	2.326	12126.0	6750.2	293.445	0.419	1.31		Sand	0.0			529.85	0.74	390.15	390.15	0.65	0.557	0.652	#####	#####	#####	0.00	0.00

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	0.150	0.374	19.2	19.2	14.625	266.311	4.31		Unsaturated	100.0			0.14	1.70	0.24	54.25	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	0.750	0.982	39.6	39.6	36.879	134.484	3.85		Unsaturated	100.0			0.71	1.70	1.21	55.51	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	2.090	1.749	58.8	58.8	70.088	84.859	3.54		Unsaturated	100.0			1.98	1.70	3.36	58.33	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	61.780	2.166	79.2	79.2	301.633	3.508	2.02		Unsaturated	24.9			58.39	1.70	99.27	146.64	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	101.560	2.376	98.4	98.4	444.925	2.340	1.79		Unsaturated	6.1			95.99	1.70	163.19	164.04	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	90.250	2.292	117.6	117.6	361.604	2.541	1.86		Unsaturated	12.1			85.30	1.70	145.01	161.10	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	70.620	1.962	138.0	138.0	261.117	2.781	1.97		Unsaturated	20.6			66.75	1.70	113.47	153.70	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	54.770	1.410	157.2	157.2	189.655	2.578	2.02		Unsaturated	24.6			51.77	1.70	88.00	132.90	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	43.800	1.166	177.6	177.6	142.608	2.667	2.11		Unsaturated	31.6			41.40	1.70	70.38	121.76	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	38.250	1.111	196.8	196.8	118.242	2.911	2.19		Unsaturated	38.1			36.15	1.70	61.46	116.81	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	32.330	1.053	216.0	216.0	95.323	3.267	2.29		Unsaturated	45.9			30.56	1.70	51.95	109.84	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	30.690	0.996	236.4	236.4	86.451	3.258	2.31		Unsaturated	48.1			29.01	1.70	49.31	107.56	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	38.320	1.166	255.6	255.6	103.864	3.053	2.24		Unsaturated	42.2			36.22	1.70	61.57	119.81	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	54.390	1.522	276.0	276.0	141.982	2.805	2.13		Unsaturated	33.1			51.41	1.70	87.39	144.03	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	51.660	2.097	295.2	295.2	130.354	4.070	2.28		Unsaturated	45.1			48.83	1.70	83.01	148.39	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	42.830	2.121	314.4	314.4	104.636	4.971	2.40		Unsaturated	55.3			40.48	1.70	68.82	135.22	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	31.690	1.858	334.8	334.8	74.903	5.895	2.55		Unsaturated	67.1			29.95	1.70	50.92	115.73	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	28.420	1.279	354.0	354.0	65.265	4.527	2.50		Unsaturated	63.1			26.86	1.70	45.67	108.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	24.510	1.187	374.4	374.4	54.653	4.879	2.58		Unsaturated	69.2			23.17	1.70	39.38	101.31	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	46.750	1.338	393.6	393.6	102.022	2.874	2.23		Unsaturated	41.0			44.19	1.70	75.12	135.91	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	41.360	1.533	412.8	412.8	88.066	3.725	2.35		Unsaturated	51.2			39.09	1.70	66.46	130.60	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	27.870	1.716	433.2	433.2	79.331	6.205	2.55		Unsaturated	67.2			26.34	1.70	44.78	107.86	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	32.950	1.515	452.4	452.4	66.892	4.629	2.50		Unsaturated	63.2			31.14	1.70	52.94	117.38	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	26.710	1.506	472.8	472.8	71.435	5.687	2.55		Unsaturated	67.1			25.25	1.70	42.92	105.44	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	36.370	1.861	492.0	492.0	70.809	5.150	2.52		Unsaturated	64.7			34.38	1.70	58.44	124.83	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	38.730	2.066	512.4	512.4	73.898	5.369	2.52		Unsaturated	64.9			36.61	1.70	62.23	129.75	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	31.690	1.900	531.6	531.6	78.114	6.047	2.55		Unsaturated	66.9			29.95	1.70	50.92	115.68	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	27.580	1.757	550.8	550.8	66.209	6.433	2.61		Unsaturated	72.1			26.07	1.70	44.32	108.26	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	32.130	1.715	571.2	571.2	57.931	5.386	2.59		Unsaturated	70.4			30.37	1.70	51.63	117.37	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	33.530	1.836	590.4	590.4	59.469	5.523	2.59		Unsaturated	70.5			31.69	1.70	53.88	120.29	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	34.640	1.896	610.8	610.8	60.402	5.522	2.59		Unsaturated	70.1			32.74	1.70	55.66	122.52	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	35.320	2.056	630.0	630.0	77.262	5.874	2.54		Unsaturated	66.3			33.38	1.70	56.75	123.06	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	34.750	2.320	649.2	649.2	74.403	6.740	2.60		Unsaturated	70.9			32.84	1.70	55.84	122.90	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	43.950	2.364	669.6	669.6	73.283	5.421	2.53		Unsaturated	65.3			41.54	1.63	67.77	136.99	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	34.170	2.221	688.8	688.8	70.138	6.565	2.61		Unsaturated	71.4			32.30	1.67	53.87	120.47	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	33.660	1.907	709.2	709.2	67.663	5.725	2.57		Unsaturated	68.5			31.81	1.65	52.61	118.24	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	32.820	1.853	728.4	728.4	64.716	5.709	2.58		Unsaturated	69.4			31.02	1.64	50.89	116.21	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	33.740	1.888	747.6	747.6	65.330	5.657	2.57		Unsaturated	69.0			31.89	1.62	51.60	117.03	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	36.160	2.203	768.0	768.0	68.741	6.158	2.59		Unsaturated	70.1			34.18	1.59	54.23	120.67	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	40.180	2.311	787.2	787.2	61.654	5.810	2.60		Unsaturated	71.0			37.98	1.55	58.89	126.88	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	42.410	2.379	807.6	807.6	64.267	5.662	2.58		Unsaturated	69.4			40.09	1.53	61.18	129.48	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	47.100	2.437	826.8	826.8	70.593	5.220	2.53		Unsaturated	65.1			44.52	1.50	66.57	135.40	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	46.510	2.540	846.0	846.0	68.891	5.511	2.55		Unsaturated	67.1			43.96	1.48	65.23	134.17	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	43.350	2.516	866.4	866.4	63.393	5.862	2.60		Unsaturated	70.6			40.97	1.48	60.67	129.09	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	38.650	2.350	885.6	885.6	66.444	6.150	2.60		Unsaturated	70.8			36.53	1.49	54.30	120.91	0.99	0.450	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	36.610	2.118	906.0	906.0	61.884	5.858	2.60		Unsaturated	71.1			34.60	1.48	51.23	117.00	0.99	0.450	1.100	n.a.	n.a.	n.a.	0.00	0

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	Qc (tsf)	<i>f</i> _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.320	27.200	1.168	1358.4	1358.4	39.047	4.404	2.65		Clay	74.7			25.71	1.12	n.a.	n.a.	0.98	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	23.230	1.133	1377.6	1377.6	32.725	5.026	2.74		Clay	82.3			21.96	1.12	n.a.	n.a.	0.98	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	32.300	1.239	1398.0	1398.0	39.923	3.919	2.60	plastic	Clay	71.3			30.53	1.12	n.a.	n.a.	0.98	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	44.500	1.591	1417.2	1417.2	50.576	3.633	2.51	plastic	Clay	63.6			42.06	1.11	n.a.	n.a.	0.98	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	47.700	1.695	1437.6	1437.6	53.874	3.607	2.49	plastic	Clay	61.9			45.09	1.11	n.a.	n.a.	0.98	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	46.000	1.690	1456.8	1456.8	51.570	3.733	2.51	plastic	Clay	63.8			43.48	1.10	n.a.	n.a.	0.98	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	41.410	1.652	1476.0	1476.0	46.028	4.062	2.57	plastic	Clay	68.7			39.14	1.10	n.a.	n.a.	0.98	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	36.900	1.443	1496.4	1496.4	43.548	3.992	2.58	plastic	Clay	69.6			34.88	1.10	n.a.	n.a.	0.98	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	34.910	1.268	1515.6	1515.6	40.774	3.713	2.58	plastic	Clay	69.5			33.00	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	33.000	1.203	1536.0	1536.0	38.123	3.732	2.60	plastic	Clay	71.3			31.19	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	30.370	1.155	1555.2	1555.2	38.056	3.903	2.62		Clay	72.4			28.71	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	25.820	0.971	1574.4	1574.4	31.800	3.877	2.67		Clay	76.8			24.40	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	19.140	0.744	1594.8	1594.8	23.003	4.056	2.79		Clay	86.2			18.09	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	18.950	0.663	1614.0	1614.0	22.482	3.655	2.77		Clay	84.5			17.91	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	16.600	0.629	1634.4	1634.4	19.313	3.988	2.84		Clay	90.5			15.69	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	13.850	0.557	1653.6	1653.6	15.751	4.280	2.93		Clay	97.5			13.09	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	19.450	0.573	1672.8	1672.8	22.254	3.079	2.72		Clay	81.0			18.38	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	21.600	0.755	1693.2	1693.2	24.514	3.638	2.74		Clay	82.1			20.42	1.06	n.a.	n.a.	0.97	0.521	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	18.290	0.676	1712.4	1712.4	20.362	3.880	2.82		Clay	88.5			17.29	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	13.120	0.503	1732.8	1732.8	14.143	4.103	2.96		Clay	99.5			12.40	1.05	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	13.900	0.350	1752.0	1752.0	14.868	2.687	2.83		Clay	89.3			13.14	1.05	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	10.730	0.272	1771.2	1771.2	11.116	2.759	2.94		Clay	98.1			10.14	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	9.440	0.278	1791.6	1791.6	9.538	3.249	3.03		Clay	100.0			8.92	1.04	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	8.460	0.273	1810.8	1810.8	8.344	3.618	3.11		Clay	100.0			8.00	1.04	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	9.800	0.313	1831.2	1831.2	9.703	3.521	3.05		Clay	100.0			9.26	1.04	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	13.710	0.394	1850.4	1850.4	13.818	3.082	2.89		Clay	94.1			12.96	1.04	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	15.340	0.460	1869.6	1869.6	15.410	3.195	2.86		Clay	91.8			14.50	1.03	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	16.140	0.469	1890.0	1890.0	16.079	3.089	2.84		Clay	90.0			15.26	1.03	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	15.860	0.380	1909.2	1909.2	15.614	2.547	2.80		Clay	86.8			14.99	1.03	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	9.410	0.244	1929.6	1929.6	8.753	2.886	3.04		Clay	100.0			8.89	1.02	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	8.220	0.190	1948.8	1948.8	7.436	2.615	3.07		Clay	100.0			7.77	1.02	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	7.710	0.169	1968.0	1968.0	6.835	2.514	3.09		Clay	100.0			7.29	1.02	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	8.080	0.378	1988.4	1988.4	7.127	5.335	3.26		Clay	100.0			7.64	1.02	n.a.	n.a.	0.96	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	11.280	0.602	2007.6	2007.6	10.237	5.857	3.16		Clay	100.0			10.66	1.01	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	28.650	0.646	2028.0	2028.0	26.682	2.339	2.59		Sand	70.1		1.8	48.74	1.02	49.72	114.84	0.96	0.556	1.005	0.161	0.218	0.39	0.03	0.05
17.060	23.210	0.626	2047.2	2047.2	21.675	2.821	2.71		Clay	79.8			21.94	1.01	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	13.490	0.494	2066.4	2066.4	12.057	3.967	3.00		Clay	100.0			12.75	1.01	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	10.790	0.325	2086.8	2086.8	9.341	3.331	3.05		Clay	100.0			10.20	1.00	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	10.910	0.324	2106.0	2106.0	9.361	3.282	3.04		Clay	100.0			10.31	1.00	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	11.610	0.410	2126.4	2126.4	9.920	3.889	3.06		Clay	100.0			10.97	1.00	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	12.080	0.553	2145.6	2145.6	10.260	5.023	3.12		Clay	100.0			11.42	1.00	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	17.450	0.630	2164.8	2164.8	15.122	3.850	2.92		Clay	96.3			16.49	0.99	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	19.130	0.638	2185.2	2185.2	16.509	3.537	2.86		Clay	92.1			18.08	0.99	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	15.230	0.547	2204.4	2204.4	12.818	3.870	2.97		Clay	100.0			14.40	0.99	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	11.210	0.445	2224.8	2224.8	9.077	4.403	3.13		Clay	100.0			10.60	0.99	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	9.890	0.346	2244.0	2244.0	7.815	3.950	3.15		Clay	100.0			9.35	0.98	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	10.920	0.326	2263.2	2263.2	8.650	3.334	3.07		Clay	100.0			10.32	0.98	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	8.880	0.234	2283.6	2283.6	6.777	3.028	3.14		Clay	100.0			8.39	0.98	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	12.170	0.201	2302.8	2302.8																				

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.310	7.900	0.227	2677.2	2677.2	4.902	3.463	3.29		Clay	100.0			7.47	0.94	n.a.	n.a.	0.94	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	7.970	0.270	2696.4	2696.4	4.912	4.083	3.33		Clay	100.0			7.53	0.94	n.a.	n.a.	0.94	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	9.010	0.354	2716.8	2716.8	5.633	4.628	3.31		Clay	100.0			8.52	0.94	n.a.	n.a.	0.94	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	9.500	0.453	2736.0	2736.0	5.944	5.576	3.34		Clay	100.0			8.98	0.93	n.a.	n.a.	0.94	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	9.820	0.537	2756.4	2756.4	6.125	6.361	3.36		Clay	100.0			9.28	0.93	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	10.340	0.577	2775.6	2775.6	6.451	6.443	3.35		Clay	100.0			9.77	0.93	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	10.120	0.579	2794.8	2794.8	6.242	6.637	3.37		Clay	100.0			9.57	0.93	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	10.430	0.601	2815.2	2815.2	6.410	6.659	3.36		Clay	100.0			9.86	0.93	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	12.120	0.716	2834.4	2826.9	7.572	6.685	3.30		Clay	100.0			11.46	0.93	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	13.210	0.849	2854.8	2836.7	8.307	7.205	3.29		Clay	100.0			12.49	0.93	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	13.490	0.788	2874.0	2845.9	8.470	6.539	3.26		Clay	100.0			12.75	0.92	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	14.240	0.812	2893.2	2855.1	8.962	6.346	3.23		Clay	100.0			13.46	0.92	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	16.300	0.869	2913.6	2864.9	10.362	5.856	3.16		Clay	100.0			15.41	0.92	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	15.660	0.889	2932.8	2874.1	9.877	6.264	3.19		Clay	100.0			14.80	0.92	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	12.600	0.816	2953.2	2883.9	7.714	7.339	3.32		Clay	100.0			11.91	0.92	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	10.990	0.741	2972.4	2893.2	6.570	7.794	3.39		Clay	100.0			10.39	0.92	n.a.	n.a.	0.93	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	16.820	0.883	2991.6	2902.4	10.560	5.763	3.15		Clay	100.0			15.90	0.92	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	26.220	0.937	3012.0	2912.2	16.973	3.792	2.87		Clay	92.8			24.78	0.92	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	19.690	0.826	3031.2	2921.4	12.442	4.544	3.03		Clay	100.0			18.61	0.92	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	19.200	0.574	3051.6	2931.2	12.059	3.245	2.95		Clay	99.0			18.15	0.92	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	16.620	0.489	3070.8	2940.4	10.260	3.240	3.01		Clay	100.0			15.71	0.92	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	16.110	0.468	3090.0	2949.6	9.876	3.212	3.02		Clay	100.0			15.23	0.92	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	16.120	0.432	3110.4	2959.4	9.843	2.968	3.00		Clay	100.0			15.24	0.92	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	15.290	0.408	3129.6	2968.6	9.247	2.973	3.02		Clay	100.0			14.45	0.91	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	14.280	0.396	3150.0	2978.4	8.531	3.113	3.06		Clay	100.0			13.50	0.91	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	13.440	0.393	3169.2	2987.6	7.936	3.317	3.10		Clay	100.0			12.70	0.91	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	13.790	0.365	3188.4	2996.8	8.139	2.993	3.07		Clay	100.0			13.03	0.91	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	14.390	0.454	3208.8	3006.6	8.505	3.548	3.10		Clay	100.0			13.60	0.91	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	14.460	0.479	3228.0	3015.8	8.519	3.726	3.11		Clay	100.0			13.67	0.91	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	16.800	0.561	3248.4	3025.6	10.031	3.697	3.05		Clay	100.0			15.88	0.91	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	19.340	0.650	3267.6	3034.8	11.669	3.670	2.99		Clay	100.0			18.28	0.91	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	19.430	0.710	3288.0	3044.6	11.683	3.994	3.01		Clay	100.0			18.36	0.91	n.a.	n.a.	0.92	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	19.430	0.655	3307.2	3053.9	11.642	3.682	2.99		Clay	100.0			18.36	0.91	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	21.090	0.687	3326.4	3063.1	12.685	3.534	2.95		Clay	99.3			19.93	0.91	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	19.900	0.791	3346.8	3072.9	11.863	4.341	3.03		Clay	100.0			18.81	0.91	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	19.750	0.997	3366.0	3082.1	11.724	5.519	3.10		Clay	100.0			18.67	0.91	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	21.800	0.916	3386.4	3091.9	13.006	4.556	3.01		Clay	100.0			20.60	0.90	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	18.070	0.694	3405.6	3101.1	10.556	4.242	3.07		Clay	100.0			17.08	0.90	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	16.080	0.547	3424.8	3110.3	9.239	3.806	3.08		Clay	100.0			15.20	0.90	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	15.720	0.593	3445.2	3120.1	8.972	4.237	3.12		Clay	100.0			14.86	0.90	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	16.150	0.603	3464.4	3129.3	9.215	4.180	3.11		Clay	100.0			15.26	0.90	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	16.050	0.571	3484.8	3139.1	9.116	3.987	3.10		Clay	100.0			15.17	0.90	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	16.210	1.225	3504.0	3148.3	9.185	8.474	3.30		Clay	100.0			15.32	0.90	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	23.420	1.293	3523.2	3157.5	13.719	5.972	3.07		Clay	100.0			22.14	0.90	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	36.790	0.910	3543.6	3167.3	22.112	2.598	2.68		Clay	77.5			34.77	0.90	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	37.820	0.900	3562.8	3176.5	22.690	2.498	2.66		Clay	76.0			35.75	0.90	n.a.	n.a.	0.92	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	34.180	0.867	3583.2	3186.3	20.330	2.678	2.72		Clay	80.5			32.31	0.90	n.a.	n.a.	0.91	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	27.280	0.558	3602.4	3195.6	15.946	2.191	2.75		Clay	83.2			25.78	0.90	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	19.070	0.403	3621.6	3204.8	10.771	2.334	2.91																	

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' 'σ' = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
33.300	9.070	0.101	3996.0	3384.5	4.179	1.430	3.16		Clay	100.0			8.57	0.88	n.a.	n.a.	0.90	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	12.100	0.276	4015.2	3393.7	5.948	2.730	3.15		Clay	100.0			11.44	0.88	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	16.670	0.663	4035.6	3403.5	8.610	4.524	3.16		Clay	100.0			15.76	0.88	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	19.320	1.069	4054.8	3412.7	10.134	6.180	3.18		Clay	100.0			18.26	0.88	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	30.350	0.841	4075.2	3422.5	16.545	2.970	2.82		Clay	88.3			28.69	0.88	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	19.150	1.000	4094.4	3431.7	9.968	5.844	3.17		Clay	100.0			18.10	0.88	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	30.950	1.178	4113.6	3440.9	16.794	4.075	2.90		Clay	94.7			29.25	0.88	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	34.580	1.574	4134.0	3450.7	18.844	4.842	2.91		Clay	95.5			32.68	0.88	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	39.970	1.489	4153.2	3459.9	21.904	3.930	2.80		Clay	86.8			37.78	0.88	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	61.260	0.829	4173.6	3469.7	43.677	1.401	2.28		Sand	45.7		1.8	104.22	0.82	85.51	151.87	0.89	0.647	0.920	0.301	0.469	0.72	0.02	0.03
34.940	47.250	0.829	4192.8	3478.9	33.284	1.835	2.45		Sand	58.9	57.9	1.8	104.22	0.82	85.85	158.25	0.89	0.647	0.914	0.354	0.573	0.89	0.01	0.02
35.100	30.520	0.453	4212.0	3488.2	16.292	1.595	2.67		Clay	76.5			28.85	0.88	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	19.480	0.373	4232.4	3498.0	9.928	2.150	2.92		Clay	96.6			18.41	0.88	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	11.450	0.415	4251.6	3507.2	5.317	4.446	3.32		Clay	100.0			10.82	0.88	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	9.710	0.314	4272.0	3517.0	4.307	4.139	3.38		Clay	100.0			9.18	0.87	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	10.770	0.329	4291.2	3526.2	4.892	3.811	3.31		Clay	100.0			10.18	0.87	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	11.190	0.255	4311.6	3536.0	5.110	2.827	3.23		Clay	100.0			10.58	0.87	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	11.680	0.212	4330.8	3545.2	5.368	2.226	3.16		Clay	100.0			11.04	0.87	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	9.580	0.211	4350.0	3554.4	4.167	2.851	3.31		Clay	100.0			9.05	0.87	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	9.700	0.255	4370.4	3564.2	4.217	3.388	3.34		Clay	100.0			9.17	0.87	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	10.970	0.246	4389.6	3573.4	4.911	2.804	3.24		Clay	100.0			10.37	0.87	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	11.560	0.475	4410.0	3583.2	5.222	5.081	3.36		Clay	100.0			10.93	0.87	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	22.900	0.492	4429.2	3592.4	11.516	2.378	2.89		Clay	94.2			21.64	0.87	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	49.190	0.702	4448.4	3601.6	34.025	1.494	2.39		Sand	54.0			46.49	0.76	35.33	92.16	0.89	0.649	0.947	0.128	0.148	0.23	0.03	0.07
37.240	51.340	1.302	4468.8	3611.4	27.195	2.652	2.62		Clay	72.3			48.53	0.87	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	49.290	1.336	4488.0	3620.6	25.988	2.840	2.65		Clay	75.0			46.59	0.87	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	63.840	0.878	4508.4	3630.4	44.440	1.425	2.28		Sand	45.6			60.34	0.77	46.25	102.50	0.88	0.650	0.941	0.141	0.169	0.26	0.03	0.06
37.730	61.700	0.829	4527.6	3639.6	42.834	1.394	2.29		Sand	46.1	60.34		60.34	0.77	46.20	102.71	0.88	0.650	0.941	0.141	0.169	0.26	0.03	0.06
37.890	55.470	0.839	4546.8	3648.9	38.289	1.576	2.36		Sand	51.8	60.34		60.34	0.77	46.28	105.27	0.88	0.650	0.940	0.145	0.175	0.27	0.03	0.06
38.060	50.420	0.886	4567.2	3658.7	34.601	1.425	2.37		Sand	52.6	60.34		60.34	0.77	46.24	105.50	0.88	0.650	0.939	0.145	0.176	0.27	0.03	0.06
38.220	44.360	1.007	4586.4	3667.9	22.938	2.394	2.65		Clay	74.8			41.93	0.86	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	38.190	1.137	4606.8	3677.7	19.516	3.169	2.78		Clay	85.2			36.10	0.86	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	40.640	0.891	4626.0	3686.9	20.791	2.326	2.67		Clay	76.9			38.41	0.86	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	47.020	0.910	4645.2	3696.1	31.966	2.035	2.49		Sand	62.2			44.44	0.75	33.32	91.93	0.88	0.651	0.944	0.128	0.147	0.23	0.03	0.07
38.880	45.240	1.194	4665.6	3705.9	23.156	2.784	2.68		Clay	77.7			42.76	0.86	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	33.350	1.238	4684.8	3715.1	16.693	3.992	2.89		Clay	94.4			31.52	0.86	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	18.580	0.940	4705.2	3724.9	8.713	5.795	3.21		Clay	100.0			17.56	0.86	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	22.120	0.770	4724.4	3734.1	10.582	3.898	3.04		Clay	100.0			20.91	0.86	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	21.350	0.705	4743.6	3743.3	10.140	3.716	3.05		Clay	100.0			20.18	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	15.120	0.553	4764.0	3753.1	6.788	4.344	3.23		Clay	100.0			14.29	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	10.740	0.317	4783.2	3762.3	4.438	3.794	3.35		Clay	100.0			10.15	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	10.690	0.260	4803.6	3772.1	4.394	3.132	3.31		Clay	100.0			10.10	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	10.920	0.309	4822.8	3781.3	4.500	3.633	3.33		Clay	100.0			10.32	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	11.000	0.325	4842.0	3790.6	4.527	3.791	3.34		Clay	100.0			10.40	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	10.910	0.293	4862.4	3800.4	4.462	3.454	3.32		Clay	100.0			10.31	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	10.570	0.240	4881.6	3809.6	4.268	2.949	3.30		Clay	100.0			9.99	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	11.140	0.217	4902.0	3819.4	4.550	2.501	3.24		Clay	100.0			10.53	0.86	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	10.960	0.243	4921.2	38																				

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5, r _d γ _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
44.290	13.550	0.458	5314.8	4017.5	5.423	4.205	3.30		Clay	100.0			12.81	0.84	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	14.020	0.500	5335.2	4027.3	5.638	4.403	3.30		Clay	100.0			13.25	0.84	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	13.920	0.542	5354.4	4036.5	5.571	4.824	3.32		Clay	100.0			13.16	0.84	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	16.320	0.643	5373.6	4045.7	6.740	4.719	3.25		Clay	100.0			15.43	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	38.670	0.782	5394.0	4055.5	17.740	2.174	2.71		Clay	80.0			36.55	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	36.670	0.887	5413.2	4064.7	16.711	2.612	2.78		Clay	85.4			34.66	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	19.850	0.664	5433.6	4074.5	8.410	3.876	3.12		Clay	100.0			18.76	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	12.860	0.321	5452.8	4083.7	4.963	3.170	3.26		Clay	100.0			12.16	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	11.880	0.258	5472.0	4093.0	4.468	2.816	3.28		Clay	100.0			11.23	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	12.490	0.273	5492.4	4102.8	4.750	2.803	3.25		Clay	100.0			11.81	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	13.040	0.310	5511.6	4112.0	5.002	3.017	3.25		Clay	100.0			12.33	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	14.850	0.463	5532.0	4121.8	5.864	3.832	3.25		Clay	100.0			14.04	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	16.010	0.579	5551.2	4131.0	6.407	4.373	3.25		Clay	100.0			15.13	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.660	0.630	5570.4	4140.2	6.219	4.893	3.29		Clay	100.0			14.80	0.84	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	15.750	0.590	5590.8	4150.0	6.243	4.554	3.27		Clay	100.0			14.89	0.84	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	15.950	0.638	5610.0	4159.2	6.321	4.857	3.28		Clay	100.0			15.08	0.84	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	16.030	0.646	5630.4	4169.0	6.340	4.891	3.28		Clay	100.0			15.15	0.84	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.390	0.660	5649.6	4178.2	6.493	4.866	3.27		Clay	100.0			15.49	0.84	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	17.240	0.669	5668.8	4187.4	6.880	4.643	3.24		Clay	100.0			16.29	0.84	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	17.240	0.657	5689.2	4197.2	6.859	4.564	3.24		Clay	100.0			16.29	0.83	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	17.310	0.658	5708.4	4206.4	6.873	4.555	3.23		Clay	100.0			16.36	0.83	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	18.660	0.660	5728.8	4216.2	7.493	4.179	3.18		Clay	100.0			17.64	0.83	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	18.090	0.674	5748.0	4225.4	7.202	4.429	3.21		Clay	100.0			17.10	0.83	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	17.170	0.662	5767.2	4234.7	6.747	4.633	3.25		Clay	100.0			16.23	0.83	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	15.630	0.653	5787.6	4244.4	6.001	5.123	3.31		Clay	100.0			14.77	0.83	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	15.100	0.624	5806.8	4253.7	5.735	5.115	3.33		Clay	100.0			14.27	0.83	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	15.160	0.560	5827.2	4263.5	5.745	4.569	3.30		Clay	100.0			14.33	0.83	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	15.310	0.505	5846.4	4272.7	5.798	4.073	3.27		Clay	100.0			14.47	0.83	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	14.910	0.465	5865.6	4281.9	5.594	3.883	3.27		Clay	100.0			14.09	0.83	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	16.850	0.503	5886.0	4291.7	6.481	3.618	3.20		Clay	100.0			15.93	0.83	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	16.630	0.558	5905.2	4300.9	6.360	4.076	3.23		Clay	100.0			15.72	0.83	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	16.610	0.510	5925.6	4310.7	6.332	3.736	3.21		Clay	100.0			15.70	0.83	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	17.340	0.507	5944.8	4319.9	6.652	3.529	3.18		Clay	100.0			16.39	0.83	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	17.220	0.550	5964.0	4329.1	6.578	3.864	3.21		Clay	100.0			16.28	0.83	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	17.320	0.562	5984.4	4338.9	6.604	3.924	3.21		Clay	100.0			16.37	0.83	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	18.790	0.555	6003.6	4348.1	7.262	3.518	3.15		Clay	100.0			17.76	0.83	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	19.010	0.503	6024.0	4357.9	7.342	3.146	3.12		Clay	100.0			17.97	0.83	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	18.160	0.458	6043.2	4367.1	6.933	3.028	3.13		Clay	100.0			17.16	0.83	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	16.890	0.397	6062.4	4376.4	6.333	2.863	3.15		Clay	100.0			15.96	0.83	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	15.760	0.365	6082.8	4386.1	5.799	2.871	3.18		Clay	100.0			14.90	0.83	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	15.380	0.376	6102.0	4395.4	5.610	3.047	3.21		Clay	100.0			14.54	0.82	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	15.290	0.332	6122.4	4405.2	5.552	2.716	3.19		Clay	100.0			14.45	0.82	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	15.160	0.314	6141.6	4414.4	5.477	2.597	3.18		Clay	100.0			14.33	0.82	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	16.740	0.273	6162.0	4424.2	6.175	2.000	3.08		Clay	100.0			15.82	0.82	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	16.420	0.258	6181.2	4433.4	6.013	1.936	3.08		Clay	100.0			15.52	0.82	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	15.940	0.270	6200.4	4442.6	5.780	2.099	3.12		Clay	100.0			15.07	0.82	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	16.330	0.345	6220.8	4452.4	5.938	2.608	3.15		Clay	100.0			15.43	0.82	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	17.840	0.622	6240.0	4461.6	6.599	4.224	3.23		Clay	100.0			16.86	0.82	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	35.670	1.108	6260.4</																					

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
55.280	17.470	0.324	6633.6	4650.5	6.087	2.287	3.12		Clay	100.0			16.51	0.81	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	18.870	0.344	6654.0	4660.3	6.670	2.214	3.07		Clay	100.0			17.84	0.81	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	17.360	0.378	6673.2	4669.5	6.006	2.698	3.16		Clay	100.0			16.41	0.81	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	18.080	0.306	6692.4	4678.8	6.298	2.075	3.08		Clay	100.0			17.09	0.81	n.a.	n.a.	0.80	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	15.350	0.252	6712.8	4688.5	5.116	2.097	3.16		Clay	100.0			14.51	0.81	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	14.420	0.219	6732.0	4697.8	4.706	1.981	3.18		Clay	100.0			13.63	0.81	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	14.390	0.215	6752.4	4707.6	4.679	1.954	3.18		Clay	100.0			13.60	0.81	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	15.340	0.228	6771.6	4716.8	5.069	1.911	3.15		Clay	100.0			14.50	0.81	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	16.460	0.239	6790.8	4726.0	5.529	1.831	3.10		Clay	100.0			15.56	0.81	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	16.380	0.297	6811.2	4735.8	5.479	2.289	3.16		Clay	100.0			15.48	0.81	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	16.870	0.360	6830.4	4745.0	5.671	2.677	3.18		Clay	100.0			15.95	0.81	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	18.090	0.356	6850.8	4754.8	6.168	2.430	3.12		Clay	100.0			17.10	0.81	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	16.890	0.332	6870.0	4764.0	5.649	2.470	3.16		Clay	100.0			15.96	0.81	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	16.630	0.329	6889.2	4773.2	5.525	2.498	3.17		Clay	100.0			15.72	0.81	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	17.090	0.431	6909.6	4783.0	5.702	3.163	3.21		Clay	100.0			16.15	0.81	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	18.250	0.551	6928.8	4792.2	6.171	3.724	3.22		Clay	100.0			17.25	0.81	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	18.690	0.581	6949.2	4802.0	6.337	3.818	3.22		Clay	100.0			17.67	0.81	n.a.	n.a.	0.80	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	18.120	0.530	6968.4	4811.2	6.084	3.623	3.22		Clay	100.0			17.13	0.81	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	17.290	0.445	6987.6	4820.4	5.724	3.226	3.22		Clay	100.0			16.34	0.80	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	17.460	0.435	7008.0	4830.2	5.779	3.116	3.20		Clay	100.0			16.50	0.80	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	18.260	0.491	7027.2	4839.5	6.094	3.328	3.20		Clay	100.0			17.26	0.80	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	18.550	0.536	7047.6	4849.2	6.197	3.570	3.21		Clay	100.0			17.53	0.80	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	19.120	0.541	7066.8	4858.5	6.416	3.470	3.19		Clay	100.0			18.07	0.80	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	19.580	0.531	7087.2	4868.3	6.588	3.314	3.17		Clay	100.0			18.51	0.80	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	20.330	0.563	7106.4	4877.5	6.879	3.354	3.16		Clay	100.0			19.22	0.80	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	23.020	0.772	7125.6	4886.7	7.963	3.968	3.15		Clay	100.0			21.76	0.80	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	37.070	1.016	7146.0	4896.5	13.682	3.034	2.89		Clay	94.1			35.04	0.80	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	45.950	1.431	7165.2	4905.7	17.273	3.377	2.84		Clay	89.9			43.43	0.80	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	44.940	1.482	7185.6	4915.5	16.823	3.584	2.86		Clay	91.9			42.48	0.80	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	42.730	1.941	7204.8	4924.7	15.890	4.960	2.97		Clay	100.0			40.39	0.80	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	38.110	1.848	7224.0	4933.9	13.984	5.355	3.03		Clay	100.0			36.02	0.80	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	41.280	1.684	7244.4	4943.7	15.235	4.472	2.95		Clay	99.4			39.02	0.80	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	40.380	1.938	7263.6	4952.9	14.839	5.273	3.01		Clay	100.0			38.17	0.80	n.a.	n.a.	0.78	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	43.810	1.593	7284.0	4962.7	16.188	3.965	2.90		Clay	95.1			41.41	0.80	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	47.830	1.502	7303.2	4971.9	17.771	3.399	2.83		Clay	89.2			45.21	0.80	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	28.900	0.961	7322.4	4981.2	10.134	3.808	3.05		Clay	100.0			27.32	0.80	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	23.750	0.690	7342.8	4990.9	8.046	3.435	3.11		Clay	100.0			22.45	0.80	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	22.060	0.589	7362.0	5000.2	7.351	3.206	3.12		Clay	100.0			20.85	0.80	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	20.220	0.515	7382.4	5010.0	6.598	3.117	3.16		Clay	100.0			19.11	0.80	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	18.830	0.425	7401.6	5019.2	6.029	2.806	3.17		Clay	100.0			17.80	0.80	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	18.140	0.371	7420.8	5028.4	5.739	2.569	3.16		Clay	100.0			17.15	0.80	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	18.070	0.388	7441.2	5038.2	5.696	2.703	3.18		Clay	100.0			17.08	0.80	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	17.860	0.370	7460.4	5047.4	5.599	2.616	3.18		Clay	100.0			16.88	0.80	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	17.110	0.275	7480.8	5057.2	5.287	2.058	3.15		Clay	100.0			16.17	0.79	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	15.610	0.287	7500.0	5066.4	4.682	2.418	3.23		Clay	100.0			14.75	0.79	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	17.300	0.269	7519.2	5075.6	5.335	1.990	3.14		Clay	100.0			16.35	0.79	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	21.000	0.275	7539.6	5085.4	6.776	1.594	3.00		Clay	100.0			19.85	0.79	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	17.600	0.286	7558.8	5094.6	5.426	2.066	3.14		Clay	100.0			16.64	0.79	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	17.720	0.297	7579.2	5104.4	5.458	2.134	3.14																	

CPT No.

4

PGA (A_{max})

0.70

Total Settlement: 1.46 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{m=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
66.270	79.530	1.571	7952.4	5283.6	45.192	2.079	2.38		Sand	53.3	85.25		85.25	0.66	55.94	118.10	0.76	0.620	0.888	0.167	0.204	0.33	0.03	0.06
66.440	73.250	1.843	7972.8	5293.3	26.170	2.661	2.63		Clay	73.4			69.23	0.79	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	53.080	1.645	7992.0	5302.6	18.513	3.351	2.81		Clay	87.8			50.17	0.78	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	57.000	1.325	8012.4	5312.4	19.951	2.500	2.71		Clay	79.5			53.88	0.78	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	59.040	1.322	8031.6	5321.6	20.680	2.402	2.68		Clay	77.7			55.80	0.78	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	59.530	1.275	8050.8	5330.8	20.824	2.298	2.67		Clay	76.6			56.27	0.78	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	61.090	1.302	8071.2	5340.6	21.366	2.282	2.66		Clay	75.7			57.74	0.78	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	57.630	1.439	8090.4	5349.8	20.032	2.685	2.72		Clay	80.9			54.47	0.78	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	52.650	1.566	8110.8	5359.6	18.134	3.222	2.81		Clay	87.5			49.76	0.78	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	61.190	1.054	8130.0	5368.8	21.280	1.845	2.61		Clay	71.6			57.84	0.78	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	61.900	1.714	8149.2	5378.0	21.504	2.963	2.73		Clay	81.1			58.51	0.78	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	44.010	1.596	8169.6	5387.8	14.821	3.997	2.93		Clay	97.7			41.60	0.78	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	43.780	1.653	8188.8	5397.0	14.706	4.165	2.95		Clay	98.8			41.38	0.78	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	79.870	1.534	8209.2	5406.8	44.799	2.025	2.37		Sand	53.0			75.49	0.64	48.08	107.98	0.75	0.616	0.894	0.149	0.174	0.28	0.03	0.06
68.570	80.170	2.408	8228.4	5416.0	28.085	3.167	2.65		Clay	75.4			75.78	0.78	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	60.840	2.170	8247.6	5425.2	20.908	3.826	2.81		Clay	87.4			57.50	0.78	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	119.230	2.300	8268.0	5435.0	67.878	1.998	2.24		Sand	41.8	170.07		170.07	0.73	124.27	197.71	0.75	0.615	0.759	1.665	2.778	4.52	0.00	0.00
69.060	179.930	3.139	8287.2	5444.3	103.583	1.786	2.07		Sand	28.6			170.07	0.71	121.14	178.77	0.75	0.614	0.802	0.692	1.149	1.87	0.00	0.00
69.230	115.140	2.778	8307.6	5454.0	65.340	2.503	2.31		Sand	48.2	170.07		170.07	0.73	124.96	203.00	0.75	0.614	0.742	2.247	3.669	5.98	0.00	0.00
69.390	60.260	3.404	8326.8	5463.3	20.536	6.069	2.94		Clay	98.5			56.96	0.78	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	93.400	3.227	8346.0	5472.5	32.609	3.617	2.64		Clay	74.5			88.28	0.78	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	54.010	3.414	8366.4	5482.3	18.177	6.852	3.02		Clay	100.0			51.05	0.78	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	98.730	3.336	8385.6	5491.5	34.430	3.529	2.62		Clay	72.6			93.32	0.78	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	73.270	3.461	8406.0	5501.3	25.109	5.012	2.82		Clay	88.9			69.25	0.78	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	72.410	3.355	8425.2	5510.5	24.752	4.920	2.82		Clay	88.8			68.44	0.78	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	79.360	3.024	8444.4	5519.7	27.225	4.025	2.73		Clay	81.7			75.01	0.78	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	62.370	2.433	8464.8	5529.5	21.028	4.184	2.83		Clay	89.3			58.95	0.78	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	101.570	2.130	8484.0	5538.7	56.860	2.188	2.32		Sand	48.5			96.00	0.65	62.34	124.16	0.74	0.611	0.876	0.181	0.225	0.37	0.03	0.05
70.870	116.020	1.662	8504.4	5548.5	65.238	1.487	2.16		Sand	36.1			109.66	0.65	71.60	127.67	0.74	0.611	0.872	0.190	0.240	0.39	0.02	0.05
71.030	115.150	1.383	8523.6	5557.7	64.671	1.247	2.12		Sand	32.4			108.84	0.65	70.37	122.65	0.74	0.610	0.877	0.177	0.219	0.36	0.03	0.05
71.190	101.190	1.780	8542.8	5566.9	56.477	1.837	2.27		Sand	44.6			95.64	0.64	61.64	121.30	0.74	0.610	0.878	0.174	0.214	0.35	0.03	0.05
71.360	83.820	1.862	8563.2	5576.7	46.308	2.340	2.40		Sand	55.4			79.22	0.63	50.05	111.34	0.74	0.610	0.887	0.154	0.182	0.30	0.03	0.06
71.520	73.280	2.656	8582.4	5586.0	24.701	3.849	2.75		Clay	83.2			69.26	0.77	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	60.800	2.625	8602.8	5595.7	20.193	4.645	2.87		Clay	92.7			57.47	0.77	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	75.340	1.841	8622.0	5605.0	25.345	2.591	2.63		Clay	73.7			71.21	0.77	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	81.940	1.895	8641.2	5614.2	45.040	2.441	2.43		Sand	57.0			77.45	0.63	48.65	110.11	0.74	0.608	0.888	0.152	0.178	0.29	0.03	0.06
72.180	83.300	1.716	8661.6	5624.0	45.783	2.173	2.39		Sand	54.0			78.73	0.63	49.41	110.04	0.74	0.608	0.888	0.152	0.178	0.29	0.03	0.06
72.340	69.710	2.642	8680.8	5633.2	23.209	4.041	2.79		Clay	85.9			65.89	0.77	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	41.510	1.807	8701.2	5643.0	13.170	4.863	3.03		Clay	100.0			39.23	0.77	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	26.850	1.092	8720.4	5652.2	7.958	4.857	3.20		Clay	100.0			25.38	0.77	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	20.350	0.628	8739.6	5661.4	5.645	3.927	3.27		Clay	100.0			19.23	0.77	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	17.850	0.503	8760.0	5671.2	4.750	3.737	3.32		Clay	100.0			16.87	0.77	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	20.550	0.517	8779.2	5680.4	5.690	3.201	3.22		Clay	100.0			19.42	0.77	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	22.430	0.540	8799.6	5690.2	6.337	2.995	3.16		Clay	100.0			21.20	0.77	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	21.980	0.554	8818.8	5699.4	6.166	3.155	3.18		Clay	100.0			20.78	0.77	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	21.760	0.520	8838.0	5708.6	6.075	2.996	3.18		Clay	100.0			20.57	0.77	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	20.980	0.489	8858.4	5718.4	5.789	2.952	3.19		Clay	100.0			19.83	0.77	n.a.	n.a.	0.73	0						

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{L1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
77.260	234.340	1.032	9271.2	5916.6	129.839	0.449	1.61		Sand	0.0			221.49	0.66	145.09	145.09	0.72	0.598	0.842	0.259	0.352	0.59	0.02	0.04
77.430	256.870	1.503	9291.6	5926.4	142.451	0.596	1.65		Sand	0.0			242.79	0.68	163.99	163.99	0.72	0.597	0.813	0.416	0.625	1.05	0.01	0.01
77.590	289.110	1.559	9310.8	5935.6	160.529	0.548	1.59		Sand	0.0			273.26	0.70	192.50	192.50	0.72	0.597	0.751	1.270	2.029	3.52	0.00	0.00
77.760	294.540	2.086	9331.2	5945.4	163.453	0.720	1.66		Sand	0.0			278.39	0.71	197.34	197.34	0.72	0.596	0.737	1.632	2.645	4.43	0.00	0.00
77.920	365.400	1.638	9350.4	5954.6	203.246	0.454	1.46		Sand	0.0			345.37	0.76	262.87	262.87	0.72	0.596	0.690	685.257	1039.632	1743.84	0.00	0.00
78.080	410.790	1.475	9369.6	5963.8	228.638	0.363	1.36		Sand	0.0			388.27	0.76	295.40	295.40	0.72	0.596	0.689	#####	#####	468243.96	0.00	0.00
78.250	396.940	2.131	9390.0	5973.6	220.654	0.543	1.48		Sand	0.0			375.18	0.76	285.32	285.32	0.72	0.596	0.689	25685.372	38914.297	65346.48	0.00	0.00
78.410	203.990	3.033	9409.2	5982.8	112.020	1.522	2.00		Sand	22.7			192.81	0.69	133.37	181.77	0.71	0.595	0.776	0.780	1.284	2.16	0.00	0.00
78.580	81.510	2.807	9429.6	5992.6	25.630	3.655	2.73		Clay	81.0			77.04	0.76	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	40.530	1.980	9448.8	6001.8	11.932	5.530	3.10		Clay	100.0			38.31	0.76	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	26.990	0.763	9468.0	6011.0	7.405	3.430	3.14		Clay	100.0			25.51	0.76	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	24.590	0.541	9488.4	6020.8	6.592	2.727	3.13		Clay	100.0			23.24	0.76	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	23.960	0.507	9507.6	6030.0	6.370	2.641	3.13		Clay	100.0			22.65	0.76	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	22.650	0.511	9528.0	6039.8	5.923	2.855	3.18		Clay	100.0			21.41	0.76	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	23.150	0.566	9547.2	6049.1	6.076	3.081	3.18		Clay	100.0			21.88	0.76	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	25.130	0.740	9566.4	6058.3	6.717	3.637	3.19		Clay	100.0			23.75	0.76	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	27.430	1.080	9586.8	6068.1	7.461	4.770	3.22		Clay	100.0			25.93	0.76	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	30.840	1.320	9606.0	6077.3	8.569	5.071	3.18		Clay	100.0			29.15	0.76	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	35.450	1.638	9626.4	6087.1	10.066	5.348	3.14		Clay	100.0			33.51	0.76	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	55.380	1.402	9645.6	6096.3	16.586	2.773	2.80		Clay	86.8			52.34	0.76	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	76.630	1.662	9664.8	6105.5	23.519	2.314	2.63		Clay	73.4			72.43	0.76	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	80.500	1.375	9685.2	6115.3	42.064	1.817	2.37		Sand	52.3			76.09	0.60	45.28	104.17	0.71	0.591	0.883	0.143	0.162	0.27	0.03	0.06
80.870	80.440	1.406	9704.4	6124.5	41.994	1.859	2.37		Sand	52.8			76.03	0.59	45.23	104.30	0.71	0.590	0.883	0.143	0.162	0.28	0.03	0.06
81.040	59.600	1.740	9724.8	6134.3	17.846	3.180	2.81		Clay	87.7			56.33	0.76	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	40.600	1.602	9744.0	6143.5	11.631	4.482	3.05		Clay	100.0			38.37	0.75	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	25.410	1.010	9763.2	6152.7	6.673	4.918	3.26		Clay	100.0			24.02	0.75	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	23.120	0.610	9783.6	6162.5	5.916	3.345	3.21		Clay	100.0			21.85	0.75	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	22.400	0.558	9802.8	6171.7	5.671	3.190	3.22		Clay	100.0			21.17	0.75	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	21.400	0.503	9823.2	6181.5	5.335	3.049	3.23		Clay	100.0			20.23	0.75	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	19.420	0.382	9842.4	6190.8	4.684	2.632	3.24		Clay	100.0			18.36	0.75	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	18.580	0.300	9862.8	6200.5	4.402	2.199	3.23		Clay	100.0			17.56	0.75	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	18.850	0.256	9882.0	6209.8	4.480	1.843	3.19		Clay	100.0			17.82	0.75	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	18.700	0.232	9901.2	6219.0	4.422	1.690	3.17		Clay	100.0			17.67	0.75	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	18.520	0.248	9921.6	6228.8	4.354	1.828	3.20		Clay	100.0			17.50	0.75	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	21.120	0.362	9940.8	6238.0	5.178	2.242	3.17		Clay	100.0			19.96	0.75	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	24.300	0.798	9961.2	6247.8	6.184	4.133	3.25		Clay	100.0			22.97	0.75	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	45.270	0.854	9980.4	6257.0	12.875	2.121	2.82		Clay	88.7			42.79	0.75	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	36.700	0.931	9999.6	6266.2	10.118	2.935	2.99		Clay	100.0			34.69	0.75	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	25.410	0.685	10020.0	6276.0	6.501	3.357	3.18		Clay	100.0			24.02	0.75	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	24.220	0.532	10039.2	6285.2	6.110	2.771	3.16		Clay	100.0			22.89	0.75	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	24.570	0.539	10059.6	6295.0	6.208	2.759	3.15		Clay	100.0			23.22	0.75	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	25.040	0.552	10078.8	6304.2	6.345	2.758	3.14		Clay	100.0			23.67	0.75	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	24.080	0.533	10098.0	6313.4	6.029	2.800	3.16		Clay	100.0			22.76	0.75	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	23.440	0.517	10118.4	6323.2	5.814	2.811	3.18		Clay	100.0			22.16	0.75	n.a.	n.a.	0.69	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	23.900	0.522	10137.6	6332.4	5.948	2.773	3.17		Clay	100.0			22.59	0.75	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	24.390	0.527	10158.0	6342.2	6.090	2.730	3.16		Clay	100.0			23.05	0.75	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	24.630	0.533	10177.2	6351.5	6.153	2.729	3.15		Clay	100.0			23.28	0.75	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970																								

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{L1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRR _{M=7.5, σ'vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
88.250	199.430	3.129	10590.0	6549.6	104.296	1.612	2.04		Sand	25.9			188.50	0.67	125.83	179.66	0.68	0.576	0.762	0.716	1.137	1.97	0.00	0.00
88.420	222.050	2.858	10610.4	6559.4	116.356	1.319	1.94		Sand	18.3			209.88	0.66	139.33	176.61	0.68	0.576	0.768	0.637	0.995	1.73	0.00	0.00
88.580	238.360	2.775	10629.6	6568.6	125.019	1.191	1.89		Sand	14.0			225.29	0.66	148.32	171.89	0.68	0.576	0.779	0.537	0.820	1.42	0.00	0.00
88.750	237.780	2.969	10650.0	6578.4	124.609	1.277	1.91		Sand	15.8			224.74	0.67	149.88	180.01	0.68	0.575	0.760	0.726	1.154	2.00	0.00	0.00
88.910	237.940	2.926	10669.2	6587.6	124.603	1.258	1.91		Sand	15.4			224.90	0.66	149.49	178.29	0.68	0.575	0.764	0.679	1.069	1.86	0.00	0.00
89.070	233.700	3.758	10688.4	6596.8	122.241	1.646	1.99		Sand	22.5			220.89	0.69	152.70	203.64	0.68	0.575	0.688	2.334	3.533	6.15	0.00	0.00
89.240	237.860	3.919	10708.8	6606.6	124.370	1.686	2.00		Sand	22.7			224.82	0.70	156.46	208.47	0.68	0.575	0.669	3.152	4.637	8.07	0.00	0.00
89.400	282.420	4.583	10728.0	6615.8	148.097	1.654	1.94		Sand	18.1			266.94	0.72	192.99	235.92	0.68	0.574	0.658	28.545	41.323	71.96	0.00	0.00
89.570	308.800	3.648	10748.4	6625.6	162.073	1.202	1.81		Sand	7.8			291.87	0.69	202.22	206.08	0.68	0.574	0.678	2.709	4.037	7.03	0.00	0.00
89.730	310.870	3.172	10767.6	6634.8	163.060	1.038	1.76		Sand	4.1			293.83	0.69	202.36	202.40	0.68	0.574	0.691	2.169	3.297	5.75	0.00	0.00
89.900	336.480	2.321	10788.0	6644.6	176.595	0.701	1.62		Sand	0.0			318.03	0.71	226.80	226.80	0.68	0.573	0.657	12.398	17.913	31.24	0.00	0.00
90.060	348.420	3.397	10807.2	6653.9	182.831	0.990	1.71		Sand	0.1			329.32	0.72	238.54	238.54	0.68	0.573	0.656	37.056	53.504	93.35	0.00	0.00
90.220	358.390	3.132	10826.4	6663.1	188.010	0.887	1.67		Sand	0.0			338.74	0.73	248.53	248.53	0.68	0.573	0.656	109.587	158.129	276.04	0.00	0.00
90.390	381.680	2.351	10846.8	6672.9	200.263	0.625	1.55		Sand	0.0			360.76	0.74	266.45	266.45	0.68	0.573	0.655	1145.345	1651.560	2884.55	0.00	0.00
90.550	376.370	1.853	10866.0	6682.1	197.295	0.500	1.49		Sand	0.0			355.74	0.74	262.65	262.65	0.68	0.572	0.655	664.667	957.828	1673.71	0.00	0.00
90.720	323.920	1.187	10886.4	6691.9	169.269	0.373	1.47		Sand	0.0			306.16	0.70	213.90	213.90	0.68	0.572	0.655	4.547	6.549	11.45	0.00	0.00
90.880	283.490	1.251	10905.6	6701.1	147.673	0.450	1.57		Sand	0.0			267.95	0.66	176.47	176.47	0.68	0.572	0.764	0.633	0.984	1.72	0.00	0.00
91.040	258.330	1.484	10924.8	6710.3	134.213	0.587	1.67		Sand	0.0			244.17	0.63	154.65	154.65	0.67	0.571	0.808	0.323	0.449	0.79	0.01	0.00
91.210	280.740	1.824	10945.2	6720.1	145.995	0.662	1.67		Sand	0.0			265.35	0.65	173.79	173.79	0.67	0.571	0.770	0.574	0.879	1.54	0.00	0.00
91.370	344.090	2.298	10964.4	6729.3	179.467	0.679	1.61		Sand	0.0			325.23	0.72	233.09	233.09	0.67	0.571	0.653	21.786	31.294	54.82	0.00	0.00
91.540	383.220	2.199	10984.8	6739.1	200.055	0.582	1.53		Sand	0.0			362.21	0.74	266.83	266.83	0.67	0.571	0.652	1210.892	1738.182	3046.24	0.00	0.00
91.700	424.030	2.427	11004.0	6748.3	221.513	0.580	1.49		Sand	0.0			400.78	0.74	295.14	295.14	0.67	0.570	0.652	#####	#####	438637.73	0.00	0.00
91.860	498.610	3.150	11023.2	6757.5	260.802	0.639	1.47		Sand	0.0			471.28	0.74	346.93	346.93	0.67	0.570	0.652	#####	#####	#####	0.00	0.00
92.030	519.370	3.195	11043.6	6767.3	271.580	0.622	1.45		Sand	0.0			490.90	0.74	361.23	361.23	0.67	0.570	0.651	#####	#####	#####	0.00	0.00
92.190	551.230	3.639	11062.8	6776.5	288.218	0.667	1.45		Sand	0.0			521.01	0.74	383.25	383.25	0.67	0.570	0.651	#####	#####	#####	0.00	0.00
92.360	610.530	3.794	11083.2	6786.3	319.302	0.627	1.40		Sand	0.0			577.06	0.74	424.32	424.32	0.67	0.569	0.650	#####	#####	#####	0.00	0.00
92.520	561.770	4.393	11102.4	6795.6	293.363	0.790	1.50		Sand	0.0			530.97	0.74	390.29	390.29	0.67	0.569	0.650	#####	#####	#####	0.00	0.00
92.680	568.350	3.983	11121.6	6804.8	296.627	0.708	1.46		Sand	0.0			537.19	0.73	394.72	394.72	0.67	0.569	0.650	#####	#####	#####	0.00	0.00
92.850	540.660	4.141	11142.0	6814.6	281.825	0.774	1.51		Sand	0.0			511.02	0.73	375.35	375.35	0.67	0.568	0.649	#####	#####	#####	0.00	0.00
93.010	565.120	3.447	11161.2	6823.8	294.503	0.616	1.42		Sand	0.0			534.14	0.73	392.19	392.19	0.67	0.568	0.649	#####	#####	#####	0.00	0.00
93.180	528.110	3.870	11181.6	6833.6	274.821	0.741	1.50		Sand	0.0			499.16	0.73	366.37	366.37	0.67	0.568	0.648	#####	#####	#####	0.00	0.00
93.340	490.050	4.032	11200.8	6842.8	254.627	0.832	1.56		Sand	0.0			463.19	0.73	339.84	339.84	0.67	0.568	0.648	#####	#####	#####	0.00	0.00
93.500	385.810	4.729	11220.0	6852.0	199.699	1.244	1.76		Sand	3.8			364.66	0.73	267.46	267.48	0.67	0.567	0.647	1332.318	1897.876	3344.97	0.00	0.00
93.670	422.730	3.627	11240.4	6861.8	218.929	0.869	1.62		Sand	0.0			399.56	0.73	292.94	292.94	0.67	0.567	0.647	#####	#####	279911.43	0.00	0.00
93.830	585.150	4.789	11259.6	6871.0	303.970	0.826	1.51		Sand	0.0			553.07	0.73	405.35	405.35	0.67	0.567	0.647	#####	#####	#####	0.00	0.00
94.000	722.820	4.957	11280.0	6880.8	375.907	0.691	1.39		Sand	0.0			683.19	0.73	500.53	500.53	0.67	0.567	0.646	#####	#####	#####	0.00	0.00
94.160	702.530	5.614	11299.2	6890.0	365.023	0.806	1.45		Sand	0.0			664.02	0.73	486.31	486.31	0.67	0.566	0.646	#####	#####	#####	0.00	0.00
94.320	640.830	3.390	11318.4	6899.2	332.478	0.534	1.34		Sand	0.0			605.70	0.73	443.45	443.45	0.67	0.566	0.645	#####	#####	#####	0.00	0.00
94.490	561.680	2.674	11338.8	6909.0	290.835	0.481	1.35		Sand	0.0			530.89	0.73	388.53	388.53	0.67	0.566	0.645	#####	#####	#####	0.00	0.00
94.650	513.460	2.171	11358.0	6918.2	265.430	0.427	1.35		Sand	0.0			485.31	0.73	355.05	355.05	0.66	0.566	0.645	#####	#####	#####	0.00	0.00
94.820	478.280	2.065	11378.4	6928.0	246.861	0.437	1.38		Sand	0.0			452.06	0.73	330.60	330.60	0.66	0.565	0.644	#####	#####	#####	0.00	0.00
94.980	373.080	2.266	11397.6	6937.2	191.777	0.617	1.56		Sand	0.0			352.63	0.73	257.79	257.79	0.66	0.565	0.644	344.274	487.606	862.94	0.00	0.00
95.140	331.420	2.057	11416.8	6946.5	169.912	0.632	1.61		Sand	0.0			313.25	0.69	217.49	217.49	0.66	0.565	0.643	5.895	8.344	14.77	0.00	0.00
95.310	387.060	1.954	11437.2	6956.3	198.792	0.512	1.50		Sand	0.0														

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46

(Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _u)	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5,σ' _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
99.250	285.040	2.634	11910.0	7183.2	143.169	0.944	1.78		Sand	5.1			269.41	0.64	171.58	171.81	0.65	0.559	0.761	0.535	0.799	1.43	0.00	0.00
99.410	272.890	2.695	11929.2	7192.4	136.844	1.010	1.81		Sand	7.8			257.93	0.63	162.38	165.79	0.65	0.559	0.774	0.440	0.637	1.14	0.01	0.00
99.570	274.960	2.681	11948.4	7201.6	137.812	0.997	1.80		Sand	7.4			259.89	0.63	163.63	166.13	0.65	0.558	0.773	0.444	0.645	1.15	0.01	0.00
99.740	280.600	3.161	11968.8	7211.4	140.600	1.151	1.84		Sand	10.3			265.22	0.65	171.95	182.62	0.65	0.558	0.733	0.808	1.266	2.27	0.00	0.00
99.900	326.220	5.362	11988.0	7220.6	163.848	1.675	1.91		Sand	16.1			308.34	0.72	223.04	261.18	0.65	0.558	0.632	542.572	754.124	1351.48	0.00	0.00
100.070	540.180	4.567	12008.4	7230.4	273.133	0.855	1.55		Sand	0.0			510.57	0.72	369.20	369.20	0.65	0.558	0.631	#####	#####	#####	0.00	0.00
100.230	737.560	6.351	12027.6	7239.6	373.814	0.868	1.47		Sand	0.0			697.13	0.72	503.94	503.94	0.65	0.558	0.631	#####	#####	#####	0.00	0.00
100.390	828.710	6.622	12046.8	7248.9	420.118	0.805	1.41		Sand	0.0			783.28	0.72	566.03	566.03	0.65	0.557	0.631	#####	#####	#####	0.00	0.00
100.560	753.140	7.213	12067.2	7258.7	381.265	0.965	1.50		Sand	0.0			711.85	0.72	514.23	514.23	0.65	0.557	0.630	#####	#####	#####	0.00	0.00
100.720	670.200	7.754	12086.4	7267.9	338.719	1.168	1.59		Sand	0.0			633.46	0.72	457.44	457.44	0.65	0.557	0.630	#####	#####	#####	0.00	0.00
100.890	563.280	7.251	12106.8	7277.7	283.993	1.301	1.68		Sand	0.0			532.40	0.72	384.33	384.33	0.65	0.557	0.629	#####	#####	#####	0.00	0.00
101.050	458.730	5.683	12126.0	7286.9	230.558	1.255	1.72		Sand	0.8			433.58	0.72	312.89	312.89	0.65	0.557	0.629	#####	#####	#####	0.00	0.00
101.210	423.510	3.955	12145.2	7296.1	212.480	0.947	1.65		Sand	0.0			400.29	0.72	288.77	288.77	0.65	0.556	0.629	49143.953	67968.257	122176.68	0.00	0.00
101.380	394.570	2.711	12165.6	7305.9	197.612	0.698	1.58		Sand	0.0			372.94	0.72	268.94	268.94	0.65	0.556	0.628	1659.393	2293.545	4124.35	0.00	0.00
101.540	411.360	3.225	12184.8	7315.1	206.017	0.796	1.61		Sand	0.0			388.81	0.72	280.29	280.29	0.65	0.556	0.628	10459.936	14448.592	25991.37	0.00	0.00
101.710	429.030	5.007	12205.2	7324.9	214.851	1.184	1.72		Sand	0.8			405.51	0.72	292.23	292.23	0.65	0.556	0.627	96671.491	#####	240151.31	0.00	0.00
101.870	426.880	4.699	12224.4	7334.1	213.619	1.117	1.71		Sand	0.0			403.48	0.72	290.67	290.67	0.65	0.555	0.627	71006.601	97961.714	176350.84	0.00	0.00
102.030	398.050	3.554	12243.6	7343.3	198.853	0.907	1.66		Sand	0.0			376.23	0.72	270.95	270.95	0.65	0.555	0.627	2256.002	3110.543	5601.57	0.00	0.00
102.200	373.630	3.259	12264.0	7353.1	186.334	0.887	1.67		Sand	0.0			353.15	0.72	254.24	254.24	0.65	0.555	0.626	218.222	300.689	541.69	0.00	0.00
102.360	350.140	1.942	12283.2	7362.3	174.309	0.565	1.57		Sand	0.0			330.95	0.70	230.10	230.10	0.65	0.555	0.626	16.561	22.806	41.10	0.00	0.00
102.530	330.870	2.103	12303.6	7372.1	164.430	0.647	1.62		Sand	0.0			312.73	0.67	211.04	211.04	0.65	0.555	0.626	3.734	5.139	9.26	0.00	0.00
102.690	286.660	1.700	12322.8	7381.3	141.950	0.606	1.66		Sand	0.0			270.95	0.63	170.37	170.37	0.65	0.555	0.759	0.510	0.750	1.35	0.00	0.00
102.850	287.550	1.469	12342.0	7390.6	142.307	0.522	1.62		Sand	0.0			271.79	0.63	171.04	171.04	0.65	0.554	0.758	0.521	0.769	1.39	0.00	0.00
103.020	338.570	3.133	12362.4	7400.4	167.993	0.943	1.72		Sand	1.0			320.01	0.68	218.12	218.12	0.65	0.554	0.624	6.181	8.490	15.32	0.00	0.00
103.180	338.190	2.127	12381.6	7409.6	167.692	0.641	1.61		Sand	0.0			319.65	0.68	217.62	217.62	0.65	0.554	0.624	5.955	8.175	14.76	0.00	0.00
103.350	247.300	1.707	12402.0	7419.4	121.698	0.708	1.75		Sand	3.0			233.74	0.59	137.11	137.12	0.65	0.554	0.820	0.222	0.279	0.50	0.02	0.00
103.510	141.340	2.045	12421.2	7428.6	68.166	1.514	2.15		Sand	35.3			133.59	0.58	77.91	134.71	0.65	0.554	0.824	0.213	0.265	0.48	0.02	0.00
103.670	132.870	1.671	12440.4	7437.8	63.849	1.319	2.14		Sand	34.0			125.59	0.57	71.74	125.92	0.64	0.553	0.836	0.186	0.222	0.40	0.03	0.00
103.840	128.880	2.164	12460.8	7447.6	61.792	1.764	2.23		Sand	41.3			121.81	0.58	70.21	130.01	0.64	0.553	0.830	0.197	0.240	0.43	0.02	0.00
104.000	197.760	3.203	12480.0	7456.8	96.430	1.672	2.07		Sand	28.7			186.92	0.63	118.23	175.54	0.64	0.553	0.745	0.612	0.919	1.66	0.00	0.00
104.170	406.180	2.801	12500.4	7466.6	201.231	0.700	1.58		Sand	0.0			383.91	0.72	275.27	275.27	0.64	0.553	0.622	4488.828	6139.813	11106.40	0.00	0.00
104.330	395.310	3.165	12519.6	7475.8	195.636	0.813	1.63		Sand	0.0			373.64	0.72	267.82	267.82	0.64	0.553	0.621	1401.495	1915.822	3466.66	0.00	0.00
104.490	375.900	2.997	12538.8	7485.0	185.756	0.811	1.65		Sand	0.0			355.29	0.72	254.58	254.58	0.64	0.552	0.621	227.959	311.431	563.71	0.00	0.00
104.660	367.250	3.609	12559.2	7494.8	181.286	1.000	1.72		Sand	0.5			347.12	0.71	245.71	245.71	0.64	0.552	0.621	79.512	108.558	196.56	0.00	0.00
104.820	394.280	4.125	12578.4	7504.0	194.736	1.063	1.72		Sand	0.3			372.67	0.72	266.85	266.85	0.64	0.552	0.620	1215.060	1657.946	3002.92	0.00	0.00
104.990	325.410	2.701	12598.8	7513.8	160.060	0.846	1.71		Sand	0.0			307.57	0.66	203.91	203.91	0.64	0.552	0.651	2.373	3.400	6.16	0.00	0.00
105.150	318.050	2.221	12618.0	7523.0	156.268	0.712	1.67		Sand	0.0			300.61	0.65	196.87	196.87	0.64	0.552	0.678	1.591	2.375	4.30	0.00	0.00
105.320	336.720	3.424	12638.4	7532.8	165.514	1.036	1.76		Sand	3.7			318.26	0.67	214.52	214.53	0.64	0.552	0.619	4.756	6.477	11.74	0.00	0.00
105.480	341.660	4.284	12657.6	7542.0	167.881	1.277	1.82		Sand	8.5			322.93	0.69	222.34	228.31	0.64	0.551	0.619	14.133	19.238	34.89	0.00	0.00
105.640	352.030	4.040	12676.8	7551.3	172.962	1.169	1.78		Sand	5.6			332.73	0.69	229.68	230.21	0.64	0.551	0.618	16.723	22.749	41.27	0.00	0.00
105.810	390.400	3.795	12697.2	7561.1	192.031	0.988	1.70		Sand	0.0			369.00	0.71	263.70	263.70	0.64	0.551	0.618	770.587	1047.613	1901.01	0.00	0.00
105.970	402.910	3.220	12716.4	7570.3	198.160	0.812	1.63		Sand	0.0			380.82	0.71	272.06	272.06	0.64	0.551	0.618	2684.653	3647.630	6620.98	0.00	0.00
106.140	334.120	2.417	12736.8	7580.1	163.674	0.737	1.66		Sand	0.0														

CPT No.

4

PGA (A_{max})

0.70

Total Settlement: 1.46 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
110.240	28.240	0.761	13228.8	7816.2	5.534	3.518	3.25		Clay	100.0			26.69	0.71	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.400	27.660	0.710	13248.0	7825.4	5.376	3.377	3.25		Clay	100.0			26.14	0.71	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.560	27.880	0.426	13267.2	7834.7	5.424	2.006	3.13		Clay	100.0			26.35	0.71	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.730	28.870	0.613	13287.6	7844.4	5.667	2.756	3.18		Clay	100.0			27.29	0.71	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.890	24.200	0.658	13306.8	7853.7	4.468	3.751	3.34		Clay	100.0			22.87	0.71	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.060	31.460	0.704	13327.2	7863.5	6.307	2.841	3.15		Clay	100.0			29.74	0.71	n.a.	n.a.	0.63	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.220	31.530	0.671	13346.4	7872.7	6.315	2.698	3.14		Clay	100.0			29.80	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.380	30.660	0.659	13365.6	7881.9	6.084	2.746	3.16		Clay	100.0			28.98	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.550	30.020	0.634	13386.0	7891.7	5.912	2.718	3.16		Clay	100.0			28.37	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.710	28.630	0.567	13405.2	7900.9	5.551	2.587	3.18		Clay	100.0			27.06	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.880	27.220	0.493	13425.6	7910.7	5.185	2.404	3.19		Clay	100.0			25.73	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.040	26.070	0.435	13444.8	7919.9	4.886	2.248	3.19		Clay	100.0			24.64	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.200	25.500	0.410	13464.0	7929.1	4.734	2.183	3.20		Clay	100.0			24.10	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.370	25.640	0.397	13484.4	7938.9	4.761	2.101	3.19		Clay	100.0			24.23	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.530	25.530	0.382	13503.6	7948.1	4.725	2.036	3.19		Clay	100.0			24.13	0.71	n.a.	n.a.	0.63	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.700	25.250	0.383	13524.0	7957.9	4.646	2.071	3.20		Clay	100.0			23.87	0.71	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.860	25.330	0.396	13543.2	7967.1	4.659	2.133	3.20		Clay	100.0			23.94	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.020	25.890	0.441	13562.4	7976.4	4.791	2.309	3.21		Clay	100.0			24.47	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.190	30.120	0.512	13582.8	7986.1	5.842	2.194	3.12		Clay	100.0			28.47	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.350	31.940	0.541	13602.0	7995.4	6.288	2.152	3.09		Clay	100.0			30.19	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.520	31.040	0.599	13622.4	8005.2	6.053	2.474	3.13		Clay	100.0			29.34	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.680	31.000	0.560	13641.6	8014.4	6.034	2.315	3.12		Clay	100.0			29.30	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.850	29.300	1.058	13662.0	8024.2	5.600	4.710	3.32		Clay	100.0			27.69	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.010	29.490	1.324	13681.2	8033.4	5.639	5.845	3.37		Clay	100.0			27.87	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.170	41.100	1.253	13700.4	8042.6	8.517	3.658	3.10		Clay	100.0			38.85	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.340	33.430	0.876	13720.8	8052.4	6.599	3.297	3.17		Clay	100.0			31.60	0.70	n.a.	n.a.	0.63	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.500	31.940	0.641	13740.0	8061.6	6.220	2.557	3.13		Clay	100.0			30.19	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.670	28.930	0.571	13760.4	8071.4	5.464	2.591	3.18		Clay	100.0			27.34	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.830	27.950	0.535	13779.6	8080.6	5.213	2.540	3.20		Clay	100.0			26.42	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.990	27.250	0.501	13798.8	8089.8	5.031	2.462	3.20		Clay	100.0			25.76	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.160	27.010	0.471	13819.2	8099.6	4.963	2.342	3.20		Clay	100.0			25.53	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.320	26.510	0.517	13838.4	8108.8	4.832	2.641	3.23		Clay	100.0			25.06	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.490	28.590	0.644	13858.8	8118.6	5.336	2.971	3.22		Clay	100.0			27.02	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.650	31.750	0.715	13878.0	8127.8	6.105	2.881	3.17		Clay	100.0			30.01	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.810	31.850	0.734	13897.2	8137.1	6.120	2.946	3.17		Clay	100.0			30.10	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.980	31.910	0.751	13917.6	8146.8	6.125	3.008	3.18		Clay	100.0			30.16	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.140	32.480	0.791	13936.8	8156.1	6.256	3.099	3.17		Clay	100.0			30.70	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.310	32.770	0.897	13957.2	8165.9	6.317	3.478	3.20		Clay	100.0			30.97	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.470	35.110	1.033	13976.4	8175.1	6.880	3.674	3.18		Clay	100.0			33.19	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.630	32.760	1.393	13995.6	8184.3	6.296	5.407	3.31		Clay	100.0			30.96	0.70	n.a.	n.a.	0.63	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.800	38.270	1.707	14016.0	8194.1	7.630	5.460	3.24		Clay	100.0			36.17	0.70	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.960	55.040	1.525	14035.2	8203.3	11.708	3.175	2.95		Clay	99.4			52.02	0.70	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.130	61.750	1.634	14055.6	8213.1	13.326	2.987	2.89		Clay	94.5			58.36	0.70	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.290	59.610	1.324	14074.8	8222.3	12.788	2.518	2.87		Clay	92.3			56.34	0.70	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.450	57.810	2.299	14094.0	8231.5	12.334	4.529	3.03		Clay	100.0			54.64	0.70	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.620	45.000	2.315	14114.4	8241.3	9.208	6.101	3.21		Clay	100.0			42.53	0.70	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.780	51.420	2.018	14133.6	8250.5	10.752	4.549	3.08		Clay	100.0			48.60	0.70	n.a.	n.a.	0.63	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.950	46.900	1.497	14154.0	8260.3	9.642	3.759	3.07		Clay	100.0			44.33	0.70	n.a.	n.a.	0.63	0.543	n.a.					

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
121.230	27.370	0.879	14547.6	8449.2	4.757	4.372	3.36		Clay	100.0			25.87	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.390	25.910	0.766	14566.8	8458.5	4.404	4.115	3.37		Clay	100.0			24.49	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.560	24.540	0.723	14587.2	8468.3	4.073	4.193	3.40		Clay	100.0			23.19	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.720	24.730	0.703	14606.4	8477.5	4.111	4.032	3.39		Clay	100.0			23.37	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.880	26.270	0.662	14625.6	8486.7	4.468	3.490	3.33		Clay	100.0			24.83	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.050	26.870	0.674	14646.0	8496.5	4.601	3.449	3.31		Clay	100.0			25.40	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.210	28.570	0.669	14665.2	8505.7	4.994	3.151	3.26		Clay	100.0			27.00	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.380	27.430	0.700	14685.6	8515.5	4.718	3.486	3.31		Clay	100.0			25.93	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.540	27.570	0.684	14704.8	8524.7	4.743	3.381	3.30		Clay	100.0			26.06	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.700	29.120	0.743	14724.0	8533.9	5.099	3.416	3.27		Clay	100.0			27.52	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.870	31.010	0.843	14744.4	8543.7	5.533	3.567	3.25		Clay	100.0			29.31	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.030	32.470	0.796	14763.6	8552.9	5.867	3.173	3.20		Clay	100.0			30.69	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.200	34.090	0.829	14784.0	8562.7	6.236	3.106	3.18		Clay	100.0			32.22	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.360	32.090	0.883	14803.2	8571.9	5.760	3.577	3.24		Clay	100.0			30.33	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.520	33.280	0.896	14822.4	8581.2	6.029	3.462	3.21		Clay	100.0			31.46	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.690	33.040	0.823	14842.8	8590.9	5.964	3.213	3.20		Clay	100.0			31.23	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.850	31.740	0.820	14862.0	8600.2	5.653	3.374	3.23		Clay	100.0			30.00	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.020	32.400	0.860	14882.4	8610.0	5.798	3.447	3.23		Clay	100.0			30.62	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.180	31.910	0.964	14901.6	8619.2	5.676	3.941	3.27		Clay	100.0			30.16	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.340	36.800	0.861	14920.8	8628.4	6.801	2.936	3.13		Clay	100.0			34.78	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.510	35.740	0.819	14941.2	8638.2	6.545	2.897	3.14		Clay	100.0			33.78	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.670	32.690	0.797	14960.4	8647.4	5.831	3.161	3.20		Clay	100.0			30.90	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.840	30.670	0.781	14980.8	8657.2	5.355	3.369	3.25		Clay	100.0			28.99	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.000	29.750	0.757	15000.0	8666.4	5.135	3.404	3.27		Clay	100.0			28.12	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.160	30.570	0.779	15019.2	8675.6	5.316	3.376	3.25		Clay	100.0			28.89	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.330	30.080	0.791	15039.6	8685.4	5.195	3.506	3.27		Clay	100.0			28.43	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.490	29.520	0.780	15058.8	8694.6	5.058	3.547	3.28		Clay	100.0			27.90	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.660	29.420	0.741	15079.2	8704.4	5.027	3.385	3.28		Clay	100.0			27.81	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.820	29.590	0.719	15098.4	8713.6	5.059	3.260	3.26		Clay	100.0			27.97	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.980	28.340	0.675	15117.6	8722.8	4.765	3.248	3.29		Clay	100.0			26.79	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.150	26.390	0.618	15138.0	8732.6	4.310	3.281	3.32		Clay	100.0			24.94	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.310	23.980	0.622	15157.2	8741.9	3.752	3.789	3.41		Clay	100.0			22.67	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.480	24.480	0.758	15177.6	8751.6	3.860	4.486	3.44		Clay	100.0			23.14	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.640	48.080	0.792	15196.8	8760.9	9.241	1.955	2.92		Clay	97.0			45.44	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.800	36.980	0.766	15216.0	8770.1	6.698	2.607	3.11		Clay	100.0			34.95	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.970	32.510	0.626	15236.4	8779.9	5.670	2.514	3.16		Clay	100.0			30.73	0.69	n.a.	n.a.	0.62	0.543	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.130	31.520	0.663	15255.6	8789.1	5.437	2.773	3.20		Clay	100.0			29.79	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.300	32.280	0.892	15276.0	8798.9	5.601	3.621	3.25		Clay	100.0			30.51	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.460	35.080	1.366	15295.2	8808.1	6.229	4.980	3.29		Clay	100.0			33.16	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.620	44.230	1.528	15314.4	8817.3	8.296	4.177	3.15		Clay	100.0			41.81	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.790	60.370	1.028	15334.8	8827.1	11.941	1.951	2.83		Clay	89.4			57.06	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.950	61.870	0.855	15354.0	8836.3	12.266	1.578	2.77		Clay	84.7			58.48	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.120	46.010	0.908	15374.4	8846.1	8.664	2.370	2.99		Clay	100.0			43.49	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.280	35.550	0.918	15393.6	8855.3	6.291	3.294	3.19		Clay	100.0			33.60	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.440	32.700	0.835	15412.8	8864.5	5.639	3.342	3.23		Clay	100.0			30.91	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.610	33.300	0.925	15433.2	8874.3	5.766	3.615	3.24		Clay	100.0			31.47	0.69	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.770	37.200	1.191	15452.4	8883.6	6.636	4.040	3.22		Clay	100.0			35.16	0.68	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.940	44.720	1.552	15472.8	8893.3	8.317	4.197	3.15		Clay	100.0			42.27	0.68	n.a.	n.a.	0.62	0.544	n.a.	n.a.	n.a.	n.a.		

CPT No.

4

PGA (A_{max})

0.70

Total Settlement:

1.46 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	$CRR_{M=7.5, \sigma'_{vc}=1 \text{ atm}}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
132.220	76.220	2.917	15866.4	9082.3	15.037	4.272	2.95		Clay	98.7			72.04	0.68	n.a.	n.a.	0.62	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.380	47.460	2.239	15885.6	9091.5	8.693	5.667	3.21		Clay	100.0			44.86	0.68	n.a.	n.a.	0.62	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.550	66.340	1.681	15906.0	9101.3	12.831	2.879	2.90		Clay	94.8			62.70	0.68	n.a.	n.a.	0.62	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.710	61.390	2.097	15925.2	9110.5	11.729	3.925	3.01		Clay	100.0			58.02	0.68	n.a.	n.a.	0.62	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.870	45.120	2.376	15944.4	9119.7	8.147	6.395	3.26		Clay	100.0			42.65	0.68	n.a.	n.a.	0.62	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.040	47.470	2.180	15964.8	9129.5	8.651	5.521	3.20		Clay	100.0			44.87	0.68	n.a.	n.a.	0.62	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.200	43.810	2.004	15984.0	9138.7	7.839	5.595	3.24		Clay	100.0			41.41	0.68	n.a.	n.a.	0.62	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.370	57.160	1.795	16004.4	9148.5	10.747	3.651	3.02		Clay	100.0			54.03	0.68	n.a.	n.a.	0.62	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.530	57.820	2.396	16023.6	9157.7	10.878	4.810	3.09		Clay	100.0			54.65	0.68	n.a.	n.a.	0.62	0.547	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.690	43.960	1.562	16042.8	9166.9	7.841	4.345	3.18		Clay	100.0			41.55	0.68	n.a.	n.a.	0.62	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.860	68.460	2.124	16063.2	9176.7	13.170	3.514	2.94		Clay	98.2			64.71	0.68	n.a.	n.a.	0.62	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.020	44.940	1.974	16082.4	9186.0	8.034	5.348	3.22		Clay	100.0			42.48	0.68	n.a.	n.a.	0.62	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.190	43.240	1.546	16102.8	9195.7	7.653	4.394	3.19		Clay	100.0			40.87	0.68	n.a.	n.a.	0.62	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.350	38.840	1.019	16122.0	9205.0	6.687	3.312	3.17		Clay	100.0			36.71	0.68	n.a.	n.a.	0.62	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.510	34.960	0.859	16141.2	9214.2	5.837	3.194	3.21		Clay	100.0			33.04	0.68	n.a.	n.a.	0.62	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.680	39.330	1.232	16161.6	9224.0	6.776	3.943	3.20		Clay	100.0			37.17	0.68	n.a.	n.a.	0.63	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.840	48.630	1.569	16180.8	9233.2	8.781	3.870	3.11		Clay	100.0			45.96	0.68	n.a.	n.a.	0.63	0.549	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.010	42.000	1.415	16201.2	9243.0	7.335	4.175	3.19		Clay	100.0			39.70	0.68	n.a.	n.a.	0.63	0.549	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.170	47.260	0.953	16220.4	9252.2	8.463	2.435	3.01		Clay	100.0			44.67	0.68	n.a.	n.a.	0.63	0.549	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.330	40.820	2.012	16239.6	9261.4	7.062	6.152	3.30		Clay	100.0			38.58	0.68	n.a.	n.a.	0.63	0.549	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.500	69.020	2.466	16260.0	9271.2	13.135	4.050	2.98		Clay	100.0			65.24	0.68	n.a.	n.a.	0.63	0.549	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.660	122.260	2.278	16279.2	9280.4	51.505	1.996	2.32		Sand	48.9			115.56	0.51	58.81	119.92	0.63	0.549	0.816	0.171	0.193	0.35	0.03	0.00
135.830	137.230	2.548	16299.6	9290.2	58.226	1.974	2.28		Sand	45.5			129.71	0.52	67.76	129.45	0.63	0.550	0.801	0.196	0.229	0.42	0.02	0.00
135.990	123.060	3.911	16318.8	9299.4	24.711	3.404	2.72		Clay	80.4			116.31	0.68	n.a.	n.a.	0.63	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.150	107.440	4.002	16338.0	9308.6	21.329	4.032	2.81		Clay	88.1			101.55	0.68	n.a.	n.a.	0.63	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.320	151.570	3.010	16358.4	9318.4	64.584	2.099	2.27		Sand	44.2			143.26	0.54	76.89	140.19	0.63	0.550	0.782	0.235	0.287	0.52	0.02	0.00
136.480	173.060	3.075	16377.6	9327.6	74.222	1.865	2.19		Sand	37.9			163.57	0.55	90.49	152.54	0.63	0.550	0.757	0.306	0.394	0.72	0.02	0.00
136.650	175.330	3.856	16398.0	9337.4	75.200	2.307	2.25		Sand	42.7			165.72	0.56	93.18	159.57	0.63	0.550	0.742	0.367	0.486	0.88	0.01	0.00
136.810	181.020	3.268	16417.2	9346.7	77.717	1.891	2.18		Sand	37.1			171.10	0.56	95.92	158.51	0.63	0.551	0.744	0.356	0.470	0.85	0.01	0.00
136.980	175.920	3.092	16437.6	9356.4	75.379	1.843	2.18		Sand	37.2			166.28	0.55	92.21	154.08	0.63	0.551	0.754	0.318	0.412	0.75	0.02	0.00
137.140	178.360	3.118	16456.8	9365.7	76.434	1.833	2.17		Sand	36.8			168.58	0.56	93.79	155.58	0.63	0.551	0.750	0.330	0.430	0.78	0.01	0.00
137.300	189.700	3.069	16476.0	9374.9	81.484	1.691	2.13		Sand	33.2			179.30	0.56	100.92	160.68	0.63	0.551	0.738	0.378	0.503	0.91	0.01	0.00
137.470	185.660	3.348	16496.4	9384.7	79.624	1.887	2.17		Sand	36.4			175.48	0.56	98.94	161.60	0.63	0.551	0.736	0.388	0.518	0.94	0.01	0.00
137.630	151.400	4.535	16515.6	9393.9	30.476	3.168	2.63		Clay	73.2			143.10	0.67	n.a.	n.a.	0.63	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.800	90.870	4.050	16536.0	9403.7	17.568	4.903	2.93		Clay	97.6			85.89	0.67	n.a.	n.a.	0.63	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.960	59.770	2.939	16555.2	9412.9	10.941	5.708	3.13		Clay	100.0			56.49	0.67	n.a.	n.a.	0.63	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.120	106.120	3.085	16574.4	9422.1	20.767	3.154	2.75		Clay	83.4			100.30	0.67	n.a.	n.a.	0.63	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.290	116.470	2.680	16594.8	9431.9	22.938	2.477	2.66		Clay	75.5			110.09	0.67	n.a.	n.a.	0.63	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.450	114.020	2.687	16614.0	9441.1	22.394	2.542	2.67		Clay	76.7			107.77	0.67	n.a.	n.a.	0.63	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.620	115.420	2.274	16634.4	9450.9	22.665	2.123	2.62		Clay	72.6			109.09	0.67	n.a.	n.a.	0.63	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.780	108.830	2.676	16653.6	9460.1	21.248	2.663	2.70		Clay	79.1			102.86	0.67	n.a.	n.a.	0.63	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.940	93.520	3.291	16672.8	9469.3	17.991	3.863	2.86		Clay	91.7			88.39	0.67	n.a.	n.a.	0.63	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.110	76.750	3.684	16693.2	9479.1	14.432	5.386	3.02		Clay	100.0			72.54	0.67	n.a.	n.a.	0.63	0.553	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.270	73.580	3.636	16712.4	9488.4	13.748	5.574	3.05		Clay	100.0			69.55	0.67	n.a.	n.a.	0.63	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.440	77.800	3.377	16732.8	9498.1	14.620	4.863	2.99		Clay	100.0			73.53	0.67	n.a.	n.a.	0.63	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.600	71.460	3.227	16752.0	9507.4	13.271	5.116	3.04		Clay	100.0			67.54	0.67	n.a.	n.a.	0.63	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.760	64.220	3.181	16771.2	9516.6	11.734	5.697	3.11		Clay	100.0			60.70	0.67	n.a.	n.a.	0.63	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.930	55.910	2.787	16791.6	9526.4	9.975	5.865	3.17		Clay	100.0			52.84	0.67	n.a.	n.a.	0.63	0.555	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.090	63.500	2.966	16810.8	9535.6	11.556	5.383	3.10		Clay	100.0			60.02	0.67	n.a.	n.a.	0.63	0.555	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.260	48.290	1.811	16831.2	9545.4	8.355	4.542	3.16		Clay	100.0			45.64	0.67	n.a.	n.a.	0.63	0.555	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CPT No.

5

PGA (A_{max})

0.70

Total Settlement:

3.90 (Inches)

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Depth (ft)	Qc (tsf)	fs (tsf)	σvc (psf)	Insitu σ'vc (psf)	Q	F (%)	lc	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	QcN near interfaces (soft layer)	Thin Layer Factor (Kt)	Interpreted qcN	CN	qc1N	qc1N-CS	Stress Reduction Coeff, fd	CSR	Kσ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain εv	Settlement (Inches)
0.160	0.230	0.264	19.2	19.2	22.958	119.601	3.91		Unsaturated	100.0			0.22	1.70	0.37	54.42	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	4.290	0.925	39.6	39.6	215.667	21.650	2.80		Unsaturated	86.7			4.05	1.70	6.89	61.76	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	25.260	1.010	58.8	58.8	143.058	4.002	2.25		Unsaturated	42.8			23.88	1.70	40.59	93.93	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	51.550	1.978	79.2	79.2	251.654	3.841	2.10		Unsaturated	30.8			48.72	1.70	82.83	135.89	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	151.530	3.415	98.4	98.4	663.945	2.254	1.70		Unsaturated	0.0			143.22	1.70	243.48	243.48	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	201.140	4.385	117.6	117.6	806.195	2.181	1.66		Unsaturated	0.0			190.11	1.70	323.19	323.19	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	213.180	4.008	138.0	138.0	788.748	1.881	1.60		Unsaturated	0.0			201.49	1.70	342.54	342.54	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	173.860	5.279	157.2	157.2	602.628	3.037	1.84		Unsaturated	10.0			164.33	1.70	279.36	291.92	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	125.960	5.569	177.6	177.6	410.655	4.425	2.05		Unsaturated	27.2			119.05	1.70	202.39	273.14	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	93.270	4.884	196.8	196.8	288.764	5.242	2.19		Unsaturated	37.9			88.16	1.70	149.87	225.87	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	73.440	4.267	216.0	216.0	216.940	5.819	2.29		Unsaturated	45.9			69.41	1.70	118.00	192.79	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	70.220	3.601	236.4	236.4	198.234	5.137	2.26		Unsaturated	43.7			66.37	1.70	112.83	184.85	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	52.500	2.926	255.6	255.6	142.427	5.587	2.37		Unsaturated	52.4			49.62	1.70	84.36	153.80	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	36.500	2.345	276.0	276.0	95.162	6.450	2.52		Unsaturated	64.5			34.50	1.70	58.65	125.05	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	33.840	2.014	295.2	295.2	85.260	5.979	2.52		Unsaturated	64.7			31.98	1.70	54.37	119.61	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	30.930	1.922	314.4	314.4	75.457	6.244	2.57		Unsaturated	68.5			29.23	1.70	49.70	114.47	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	29.110	1.803	334.8	334.8	68.773	6.231	2.59		Unsaturated	70.4			27.51	1.70	46.77	111.11	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	27.070	1.730	354.0	354.0	88.861	6.433	2.54		Unsaturated	65.8			25.59	1.70	43.50	105.89	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	25.050	1.706	374.4	374.4	78.993	6.862	2.59		Unsaturated	70.1			23.68	1.70	40.25	102.61	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	29.440	1.817	393.6	393.6	89.714	6.214	2.52		Unsaturated	64.7			27.83	1.70	47.30	110.51	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	26.400	1.618	412.8	412.8	77.724	6.176	2.56		Unsaturated	67.6			24.95	1.70	42.42	104.88	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	20.370	1.276	433.2	433.2	57.815	6.331	2.65		Unsaturated	74.7			19.25	1.70	32.73	93.73	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	17.490	1.169	452.4	452.4	48.045	6.771	2.72		Unsaturated	80.7			16.53	1.70	28.10	88.63	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	11.900	1.043	472.8	472.8	49.338	8.939	2.81		Unsaturated	87.5			11.25	1.70	19.12	77.78	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	10.980	0.799	492.0	492.0	43.634	7.446	2.78		Unsaturated	85.4			10.38	1.70	17.64	75.61	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	10.380	0.684	512.4	512.4	39.515	6.754	2.78		Unsaturated	85.1			9.81	1.70	16.68	74.33	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	11.220	0.830	531.6	531.6	41.212	7.580	2.80		Unsaturated	87.1			10.60	1.70	18.03	76.32	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	17.940	1.055	550.8	550.8	42.833	5.972	2.71		Unsaturated	80.1			16.96	1.70	28.83	89.49	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	21.100	1.207	571.2	571.2	49.203	5.800	2.66		Unsaturated	76.1			19.94	1.70	33.90	95.47	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	21.390	1.202	590.4	590.4	48.725	5.698	2.66		Unsaturated	75.9			20.22	1.70	34.37	96.04	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	26.360	1.476	610.8	610.8	58.767	5.666	2.61		Unsaturated	71.4			24.91	1.70	42.36	105.59	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	29.430	1.410	630.0	630.0	50.433	4.843	2.60		Unsaturated	70.9			27.82	1.70	47.29	111.86	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	49.350	1.884	649.2	649.2	83.657	3.843	2.38		Unsaturated	53.2			46.64	1.63	76.07	143.62	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	63.220	2.459	669.6	669.6	105.661	3.910	2.32		Unsaturated	48.5			59.75	1.55	92.85	162.66	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	46.570	2.332	688.8	688.8	76.579	5.045	2.49		Unsaturated	62.4			44.02	1.60	70.56	139.79	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	246.770	2.120	709.2	709.2	402.305	0.860	1.44		Unsaturated	0.0			233.24	1.33	311.21	311.21	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	136.630	2.488	728.4	728.4	219.520	1.826	1.86		Unsaturated	12.0			129.14	1.42	183.27	200.95	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	164.370	4.677	747.6	747.6	260.778	2.852	1.98		Unsaturated	21.3			155.36	1.32	204.43	259.86	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	34.260	4.321	768.0	768.0	88.219	12.755	2.78		Unsaturated	85.5			32.38	1.59	51.47	119.71	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	9.960	0.851	787.2	787.2	24.305	8.890	3.01		Unsaturated	100.0			9.41	1.70	16.00	74.91	0.99	0.451	1.086	n.a.	n.a.	n.a.	0.00	0.00
6.730	7.790	0.680	807.6	807.6	18.292	9.212	3.11		Unsaturated	100.0			7.36	1.70	12.52	70.34	0.99	0.451	1.081	n.a.	n.a.	n.a.	0.00	0.00
6.890	9.510	0.733	826.8	826.8	22.004	8.054	3.01		Unsaturated	100.0			8.99	1.70	15.25	73.92	0.99	0.451	1.081	n.a.	n.a.	n.a.	0.00	0.00
7.050	10.340	0.768	846.0	846.0	23.444	7.743	2.98		Unsaturated	100.0			9.77	1.67	16.31	75.31	0.99	0.451	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.220	10.380	0.807	866.4	866.4	22.961	8.111	3.00		Unsaturated	100.0			9.81	1.65	16.17	75.12	0.99	0.451	1.078	n.a.	n.a.	n.a.	0.00	0.00
7.380	11.550	0.827	885.6	885.6	25.084	7.445	2.94		Unsaturated	98.5			10.92	1.62	17.69	76.99	0.99	0.450	1.077	n.a.	n.a.	n.a.	0.00	0.00
7.550	12.210	0.833	906.0	906.0	25.954	7.086	2.92		Unsaturated	96.4			11.54	1.60	18.43	77.78	0.99	0.450	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.710	13.190	0.768	925.2	925.2	27.513																			

CPT No.

5

PGA (A_{max})

0.70

Total Settlement:

3.90 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.320	6.780	0.294	1358.4	1358.4	8.982	4.824	3.16		Clay	100.0			6.41	1.12	n.a.	n.a.	0.98	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	6.480	0.310	1377.6	1377.6	8.408	5.353	3.21		Clay	100.0			6.12	1.12	n.a.	n.a.	0.98	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	6.420	0.279	1398.0	1398.0	8.185	4.877	3.19		Clay	100.0			6.07	1.12	n.a.	n.a.	0.98	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	7.030	0.255	1417.2	1417.2	8.921	4.040	3.11		Clay	100.0			6.64	1.11	n.a.	n.a.	0.98	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	6.450	0.236	1437.6	1437.6	7.973	4.118	3.16		Clay	100.0			6.10	1.11	n.a.	n.a.	0.98	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	7.450	0.323	1456.8	1456.8	9.228	4.811	3.15		Clay	100.0			7.04	1.10	n.a.	n.a.	0.98	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	10.740	0.350	1476.0	1476.0	13.553	3.498	2.93		Clay	97.3			10.15	1.10	n.a.	n.a.	0.98	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	9.150	0.301	1496.4	1496.4	11.229	3.583	3.00		Clay	100.0			8.65	1.10	n.a.	n.a.	0.98	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	9.370	0.286	1515.6	1515.6	11.365	3.324	2.98		Clay	100.0			8.86	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	8.530	0.323	1536.0	1536.0	10.107	4.163	3.08		Clay	100.0			8.06	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	8.250	0.322	1555.2	1555.2	9.610	4.309	3.10		Clay	100.0			7.80	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	9.960	0.319	1574.4	1574.4	11.652	3.478	2.98		Clay	100.0			9.41	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	11.810	0.282	1594.8	1594.8	13.811	2.563	2.84		Clay	90.4			11.16	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	9.840	0.346	1614.0	1614.0	11.193	3.832	3.02		Clay	100.0			9.30	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	10.900	0.350	1634.4	1634.4	12.338	3.466	2.96		Clay	99.7			10.30	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	9.690	0.298	1653.6	1653.6	10.720	3.367	3.00		Clay	100.0			9.16	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	7.290	0.277	1672.8	1672.8	7.716	4.291	3.18		Clay	100.0			6.89	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	5.710	0.204	1693.2	1692.6	5.747	4.186	3.28		Clay	100.0			5.40	1.06	n.a.	n.a.	0.97	0.521	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	7.530	0.312	1712.4	1701.8	7.843	4.668	3.19		Clay	100.0			7.12	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	22.630	0.430	1732.8	1711.6	22.872	1.973	2.60		Clay	70.9			21.39	1.06	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	21.550	0.472	1752.0	1720.8	24.028	2.285	2.62		Clay	72.5			20.37	1.06	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	15.560	0.392	1771.2	1730.0	16.964	2.671	2.78		Clay	85.4			14.71	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	8.440	0.278	1791.6	1739.8	8.672	3.681	3.10		Clay	100.0			7.98	1.05	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	7.400	0.227	1810.8	1749.0	7.427	3.497	3.14		Clay	100.0			6.99	1.05	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	12.190	0.177	1831.2	1758.8	12.820	1.572	2.75		Clay	83.3			11.52	1.05	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	8.460	0.185	1850.4	1768.0	8.523	2.459	3.01		Clay	100.0			8.00	1.05	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	5.050	0.159	1869.6	1777.2	4.631	3.864	3.34		Clay	100.0			4.77	1.05	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	7.970	0.126	1890.0	1787.0	7.862	1.798	2.97		Clay	100.0			7.53	1.05	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	5.400	0.154	1909.2	1796.3	4.950	3.462	3.29		Clay	100.0			5.10	1.04	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	5.700	0.152	1929.6	1806.0	5.244	3.218	3.25		Clay	100.0			5.39	1.04	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	8.260	0.264	1948.8	1815.3	8.027	3.617	3.12		Clay	100.0			7.81	1.04	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	12.640	0.241	1968.0	1824.5	12.777	2.071	2.82		Clay	88.5			11.95	1.04	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	15.010	0.228	1988.4	1834.3	15.282	1.630	2.70		Clay	78.8			14.19	1.04	n.a.	n.a.	0.96	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	10.940	0.242	2007.6	1843.5	10.780	2.433	2.92		Clay	96.5			10.34	1.04	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	6.130	0.178	2028.0	1853.3	5.521	3.481	3.25		Clay	100.0			5.79	1.04	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	4.580	0.120	2047.2	1862.5	3.819	3.374	3.38		Clay	100.0			4.33	1.03	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	4.730	0.100	2066.4	1871.7	3.950	2.697	3.31		Clay	100.0			4.47	1.03	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	4.740	0.114	2086.8	1881.5	3.929	3.092	3.35		Clay	100.0			4.48	1.03	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	4.920	0.146	2106.0	1890.7	4.091	3.763	3.38		Clay	100.0			4.65	1.03	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	6.120	0.159	2126.4	1900.5	5.322	3.142	3.24		Clay	100.0			5.78	1.03	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	5.540	0.310	2145.6	1909.7	4.678	6.939	3.48		Clay	100.0			5.24	1.03	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	11.570	0.207	2164.8	1918.9	10.931	1.972	2.86		Clay	92.2			10.94	1.03	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	12.510	0.224	2185.2	1928.7	11.839	1.959	2.83		Clay	89.7			11.82	1.02	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	6.020	0.244	2204.4	1938.0	5.075	4.958	3.36		Clay	100.0			5.69	1.02	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	5.630	0.301	2224.8	1947.7	4.639	6.652	3.47		Clay	100.0			5.32	1.02	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	13.110	0.231	2244.0	1957.0	12.252	1.930	2.82		Clay	88.4			12.39	1.02	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	18.770	0.274	2263.2	1966.2	17.942	1.555	2.63		Clay	73.2			17.74	1.02	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	14.470	0.340	2283.6	1976.0	13.490	2.554	2.85		Clay	91.0			13.68	1.02	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	21.250	0.234	2302.8	1985.2	19.613	1.166	2.53		Sand	65.3	45.29	1.72	77.90	1.03	79.91									

CPT No.

5

PGA (A_{max})

0.70

Total Settlement:

3.90 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _{cs} for Sand	CRRM=7.5, γ _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.310	166.140	0.632	2677.2	2164.9	153.998	0.383	1.51		Sand	0.0			157.03	0.99	155.62	155.62	0.94	0.602	0.996	0.331	0.572	0.95	0.01	0.02
22.470	145.260	0.558	2696.4	2174.1	134.192	0.387	1.57		Sand	0.0			137.30	0.99	135.72	135.72	0.94	0.603	0.996	0.217	0.328	0.54	0.02	0.05
22.640	121.070	0.386	2716.8	2183.9	111.376	0.322	1.60		Sand	0.0			114.43	0.99	112.74	112.74	0.94	0.604	0.996	0.157	0.209	0.35	0.03	0.05
22.800	119.140	0.618	2736.0	2193.1	109.341	0.524	1.71		Sand	0.0			112.61	0.98	110.71	110.71	0.94	0.605	0.996	0.153	0.202	0.33	0.03	0.06
22.970	124.400	0.638	2756.4	2202.9	113.961	0.519	1.69		Sand	0.0			117.58	0.98	115.40	115.40	0.94	0.606	0.995	0.162	0.218	0.36	0.03	0.05
23.130	134.090	0.547	2775.6	2212.1	122.672	0.412	1.61		Sand	0.0			126.74	0.98	124.24	124.24	0.94	0.607	0.994	0.181	0.256	0.42	0.03	0.05
23.290	121.080	0.328	2794.8	2221.3	110.407	0.274	1.57		Sand	0.0			114.44	0.98	111.84	111.84	0.94	0.608	0.994	0.155	0.205	0.34	0.03	0.06
23.460	106.860	0.203	2815.2	2231.1	97.066	0.192	1.57		Sand	0.0			101.00	0.97	98.35	98.35	0.94	0.609	0.994	0.135	0.168	0.28	0.03	0.06
23.620	87.910	0.235	2834.4	2240.4	79.450	0.271	1.70		Sand	0.0			83.09	0.97	80.55	80.55	0.94	0.610	0.995	0.116	0.136	0.22	0.04	0.08
23.790	72.390	0.195	2854.8	2250.1	65.042	0.275	1.78		Sand	5.7			68.42	0.96	66.01	66.36	0.94	0.611	0.995	0.104	0.118	0.19	0.05	0.09
23.950	55.630	0.226	2874.0	2259.4	49.570	0.417	1.96		Sand	20.1			52.58	0.97	50.74	51.26	0.94	0.612	0.994	0.117	0.137	0.22	0.04	0.08
24.110	41.470	0.517	2893.2	2268.6	36.535	1.291	2.33		Sand	49.1			39.20	0.96	37.82	93.47	0.94	0.613	0.993	0.129	0.158	0.26	0.03	0.07
24.280	36.260	0.410	2913.6	2278.4	31.701	1.178	2.35		Sand	51.4			34.27	0.96	32.97	88.22	0.94	0.614	0.993	0.124	0.148	0.24	0.04	0.07
24.440	61.940	0.287	2932.8	2287.6	54.973	0.475	1.95		Sand	18.9			58.54	0.96	56.16	84.85	0.94	0.615	0.993	0.120	0.143	0.23	0.04	0.08
24.610	76.720	0.641	2953.2	2297.4	68.253	0.852	2.00		Sand	23.0			72.51	0.96	69.71	108.61	0.94	0.615	0.991	0.150	0.194	0.32	0.03	0.06
24.770	49.630	1.052	2972.4	2306.6	43.584	2.186	2.40		Sand	55.4	72.51		72.51	0.96	69.89	136.63	0.93	0.616	0.988	0.220	0.332	0.54	0.02	0.04
24.930	27.940	1.211	2991.6	2315.8	22.838	4.578	2.83		Clay	89.2			26.41	0.98	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	35.480	1.052	3012.0	2325.6	29.217	3.096	2.64		Clay	73.8			33.53	0.98	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	57.580	0.798	3031.2	2334.8	50.447	1.423	2.24		Sand	42.0	82.37		82.37	0.96	79.05	141.49	0.93	0.619	0.985	0.241	0.374	0.61	0.02	0.05
25.430	76.260	0.651	3051.6	2344.6	67.105	0.871	2.01		Sand	23.9	82.37		82.37	0.95	78.61	120.64	0.93	0.620	0.987	0.173	0.237	0.38	0.03	0.05
25.590	87.150	0.586	3070.8	2353.8	76.724	0.685	1.90		Sand	15.4			82.37	0.95	78.12	100.33	0.93	0.620	0.989	0.138	0.172	0.28	0.03	0.06
25.750	74.670	1.022	3090.0	2363.0	65.404	1.398	2.15		Sand	34.6			70.58	0.95	67.12	120.86	0.93	0.621	0.986	0.173	0.238	0.38	0.03	0.05
25.920	48.830	0.991	3110.4	2372.8	42.196	2.096	2.40		Sand	55.3			46.15	0.95	43.63	103.15	0.93	0.622	0.988	0.142	0.179	0.29	0.03	0.06
26.080	52.350	0.774	3129.6	2382.0	45.241	1.524	2.29		Sand	46.5			49.48	0.94	46.69	103.49	0.93	0.623	0.987	0.142	0.179	0.29	0.03	0.06
26.250	86.850	0.502	3150.0	2391.8	75.810	0.588	1.87		Sand	12.8			82.09	0.94	77.05	91.95	0.93	0.623	0.988	0.128	0.154	0.25	0.03	0.07
26.410	126.640	0.326	3169.2	2401.1	110.962	0.260	1.56		Sand	0.0			119.70	0.94	112.78	112.78	0.93	0.624	0.985	0.157	0.206	0.33	0.03	0.05
26.570	148.030	0.381	3188.4	2410.3	129.684	0.260	1.50		Sand	0.0			139.91	0.95	132.23	132.23	0.93	0.625	0.982	0.205	0.299	0.48	0.02	0.05
26.740	143.450	0.660	3208.8	2420.1	125.365	0.465	1.63		Sand	0.0			135.59	0.94	127.77	127.77	0.93	0.625	0.982	0.191	0.271	0.43	0.02	0.05
26.900	120.050	1.318	3228.0	2429.3	104.476	1.112	1.93		Sand	17.1			113.47	0.94	107.00	136.94	0.93	0.626	0.980	0.222	0.332	0.53	0.02	0.05
27.070	93.150	1.212	3248.4	2439.1	80.576	1.324	2.06		Sand	27.8			88.04	0.94	82.77	131.90	0.93	0.627	0.981	0.203	0.296	0.47	0.02	0.05
27.230	94.840	0.784	3267.6	2448.3	81.900	0.841	1.93		Sand	17.6			89.64	0.93	83.68	112.54	0.93	0.627	0.983	0.156	0.205	0.33	0.03	0.06
27.400	102.610	0.676	3288.0	2458.1	88.542	0.669	1.85		Sand	10.8			96.98	0.93	89.99	99.52	0.92	0.628	0.984	0.137	0.169	0.27	0.03	0.06
27.560	99.340	0.618	3307.2	2467.3	85.506	0.633	1.85		Sand	10.7			93.89	0.93	86.86	96.08	0.92	0.629	0.984	0.132	0.162	0.26	0.03	0.06
27.720	84.340	0.953	3326.4	2476.5	72.233	1.152	2.06		Sand	27.7			79.72	0.93	74.22	121.51	0.92	0.629	0.980	0.175	0.239	0.38	0.03	0.05
27.890	88.120	0.861	3346.8	2486.3	75.378	0.996	2.01		Sand	23.4			83.29	0.93	77.33	118.27	0.92	0.630	0.980	0.167	0.226	0.36	0.03	0.05
28.050	112.990	0.673	3366.0	2495.5	96.876	0.605	1.79		Sand	6.2			106.80	0.92	98.34	99.10	0.92	0.630	0.983	0.136	0.168	0.27	0.03	0.07
28.220	113.120	0.653	3386.4	2505.3	96.790	0.586	1.78		Sand	5.6			106.92	0.92	98.24	98.63	0.92	0.631	0.982	0.136	0.167	0.26	0.03	0.06
28.380	137.950	0.745	3405.6	2514.5	118.133	0.547	1.69		Sand	0.0			130.39	0.92	120.53	120.53	0.92	0.632	0.978	0.172	0.235	0.37	0.03	0.05
28.540	171.410	0.706	3424.8	2523.7	146.867	0.416	1.55		Sand	0.0			162.01	0.93	150.94	150.94	0.92	0.632	0.972	0.295	0.481	0.76	0.02	0.03
28.710	183.320	0.728	3445.2	2533.5	156.862	0.401	1.52		Sand	0.0			173.27	0.93	161.68	161.68	0.92	0.633	0.968	0.389	0.684	1.08	0.01	0.01
28.870	170.470	1.395	3464.4	2542.8	145.490	0.827	1.73		Sand	1.6			161.12	0.93	149.60	149.60	0.92	0.633	0.971	0.286	0.462	0.73	0.02	0.04
29.040	149.220	0.978	3484.8	2552.5	126.915	0.663	1.72		Sand	0.5			141.04	0.92	129.91	129.91	0.92	0.634	0.975	0.197	0.282	0.44	0.02	0.05
29.200	151.500	0.551	3504.0	2561.8	128.636	0.368	1.57		Sand	0.0			143.19	0.92	131.78	131.78	0.92	0.634	0.974	0.203	0.293	0.46	0.02	0.05
29.360	142.550	1.158	3523.2	2571.0	120.723	0.822	1.79																	

CPT No.

5

PGA (A_{max})

0.70

Total Settlement:

3.90 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5,σ' 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
33.300	13.060	0.337	3996.0	2797.9	7.907	3.042	3.08		Clay	100.0			12.34	0.93	n.a.	n.a.	0.90	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	13.690	0.392	4015.2	2807.1	8.323	3.357	3.09		Clay	100.0			12.94	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	19.040	0.377	4035.6	2816.9	12.086	2.215	2.86		Clay	91.4			18.00	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	25.350	0.392	4054.8	2826.1	16.505	1.679	2.68		Clay	77.1			23.96	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	27.080	0.379	4075.2	2835.9	17.661	1.513	2.63		Clay	73.2			25.60	0.93	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	27.520	0.377	4094.4	2845.2	17.906	1.482	2.62		Clay	72.4			26.01	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	27.140	0.349	4113.6	2854.4	17.575	1.391	2.61		Clay	71.8			25.65	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	27.960	0.593	4134.0	2864.2	18.081	2.292	2.72		Clay	80.5			26.43	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	25.180	0.574	4153.2	2873.4	16.081	2.483	2.78		Clay	85.5			23.80	0.92	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	18.410	0.449	4173.6	2883.2	11.323	2.748	2.93		Clay	97.5			17.40	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	10.730	0.345	4192.8	2892.4	5.970	3.998	3.25		Clay	100.0			10.14	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	9.690	0.257	4212.0	2901.6	5.227	3.391	3.26		Clay	100.0			9.16	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	10.760	0.467	4232.4	2911.4	5.938	5.398	3.33		Clay	100.0			10.17	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	16.320	0.770	4251.6	2920.6	9.720	5.427	3.16		Clay	100.0			15.43	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	51.340	1.036	4272.0	2930.4	39.519	2.105	2.43		Sand	57.2	69.4	1.78	123.53	0.89	110.43	189.01	0.89	0.648	0.924	1.073	2.182	3.37	0.00	0.00
35.760	73.420	0.988	4291.2	2939.6	57.156	1.386	2.19		Sand	38.1		1.78	123.52	0.89	109.65	176.34	0.89	0.648	0.933	0.630	1.193	1.84	0.00	0.00
35.930	73.240	1.353	4311.6	2949.4	56.909	1.904	2.28		Sand	45.2	69.4	1.78	123.53	0.89	109.83	182.12	0.89	0.648	0.928	0.791	1.562	2.41	0.00	0.00
36.090	48.270	1.288	4330.8	2958.6	36.853	2.793	2.53		Sand	65.4	69.4	1.78	123.53	0.89	110.19	191.60	0.89	0.648	0.920	1.215	2.458	3.79	0.00	0.00
36.250	16.690	1.075	4350.0	2967.8	9.782	7.406	3.24		Clay	100.0			15.78	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	12.770	0.477	4370.4	2977.6	7.110	4.508	3.22		Clay	100.0			12.07	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	12.720	0.357	4389.6	2986.8	7.048	3.387	3.15		Clay	100.0			12.02	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	8.390	0.339	4410.0	2996.6	4.128	5.478	3.46		Clay	100.0			7.93	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	8.640	0.338	4429.2	3005.9	4.275	5.254	3.44		Clay	100.0			8.17	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	8.470	0.326	4448.4	3015.1	4.143	5.221	3.45		Clay	100.0			8.01	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	8.890	0.297	4468.8	3024.9	4.401	4.464	3.39		Clay	100.0			8.40	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	9.590	0.306	4488.0	3034.1	4.842	4.168	3.34		Clay	100.0			9.06	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	9.990	0.275	4508.4	3043.9	5.083	3.552	3.28		Clay	100.0			9.44	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	10.230	0.267	4527.6	3053.1	5.218	3.347	3.26		Clay	100.0			9.67	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	9.990	0.520	4546.8	3062.3	5.040	6.735	3.44		Clay	100.0			9.44	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	18.090	0.813	4567.2	3072.1	10.290	5.145	3.13		Clay	100.0			17.10	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	30.940	0.975	4586.4	3081.3	18.594	3.403	2.81		Clay	88.0			29.24	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	31.580	0.775	4606.8	3091.1	18.942	2.648	2.74		Clay	82.2			29.85	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	18.680	0.630	4626.0	3100.3	10.558	3.846	3.04		Clay	100.0			17.66	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	14.310	0.671	4645.2	3109.5	7.710	5.594	3.25		Clay	100.0			13.53	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	19.670	0.690	4665.6	3119.3	11.116	3.979	3.03		Clay	100.0			18.59	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	32.020	0.693	4684.8	3128.5	18.972	2.335	2.71		Clay	79.5			30.26	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	22.170	0.396	4705.2	3138.3	12.629	1.997	2.81		Clay	88.2			20.95	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	15.950	0.369	4724.4	3147.6	8.634	2.719	3.03		Clay	100.0			15.08	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	12.600	0.359	4743.6	3156.8	6.480	3.511	3.19		Clay	100.0			11.91	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	17.620	0.320	4764.0	3166.6	9.624	2.097	2.93		Clay	97.1			16.65	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	12.250	0.340	4783.2	3175.8	6.208	3.451	3.20		Clay	100.0			11.58	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	7.940	0.315	4803.6	3185.6	3.477	5.679	3.53		Clay	100.0			7.50	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	8.180	0.253	4822.8	3194.8	3.611	4.388	3.46		Clay	100.0			7.73	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	8.550	0.258	4842.0	3204.0	3.826	4.201	3.43		Clay	100.0			8.08	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	8.800	0.251	4862.4	3213.8	3.963	3.941	3.40		Clay	100.0			8.32	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	9.600	0.192	4881.6	3223.0	4.443	2.676	3.27		Clay	100.0			9.07	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	9.810	0.215	4902.0	3232.8	4.553	2.924	3.28		Clay	100.0			9.27	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	11.110	0.217	4921.2	3242.0	5.336	2.511	3.19		Clay	100.0			10.50	0.89	n.a.	n.a.	0.87							

CPT No. 5

PGA (A_{max}) 0.70

Total Settlement: 3.90 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	CRRM= $7.5 \cdot \sigma'_{vc}$ $\sigma'_{vc} = 1 \text{ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
44.290	11.880	0.397	5314.8	3430.9	5.376	4.302	3.31		Clay	100.0			11.23	0.88	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	12.310	0.415	5335.2	3440.7	5.605	4.302	3.29		Clay	100.0			11.64	0.88	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	13.320	0.445	5354.4	3450.0	6.170	4.184	3.25		Clay	100.0			12.59	0.88	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	14.170	0.531	5373.6	3459.2	6.639	4.622	3.25		Clay	100.0			13.39	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	16.610	0.687	5394.0	3469.0	8.021	4.940	3.20		Clay	100.0			15.70	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	23.300	0.631	5413.2	3478.2	11.841	3.065	2.94		Clay	98.4			22.02	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	24.520	0.398	5433.6	3488.0	12.502	1.824	2.80		Clay	86.8			23.18	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	19.680	0.244	5452.8	3497.2	9.696	1.438	2.84		Clay	90.2			18.60	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	11.540	0.248	5472.0	3506.4	5.022	2.818	3.23		Clay	100.0			10.91	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	10.830	0.282	5492.4	3516.2	4.598	3.488	3.31		Clay	100.0			10.24	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	11.960	0.388	5511.6	3525.4	5.222	4.213	3.31		Clay	100.0			11.30	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	12.570	0.431	5532.0	3535.2	5.547	4.392	3.30		Clay	100.0			11.88	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	13.650	0.486	5551.2	3544.4	6.136	4.473	3.27		Clay	100.0			12.90	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	14.500	0.557	5570.4	3553.6	6.593	4.753	3.26		Clay	100.0			13.71	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	14.380	0.601	5590.8	3563.4	6.502	5.190	3.29		Clay	100.0			13.59	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	14.490	0.573	5610.0	3572.6	6.541	4.902	3.27		Clay	100.0			13.70	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.740	0.577	5630.4	3582.4	6.657	4.834	3.26		Clay	100.0			13.93	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	14.860	0.619	5649.6	3591.6	6.702	5.144	3.27		Clay	100.0			14.05	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	15.070	0.631	5668.8	3600.9	6.796	5.156	3.27		Clay	100.0			14.24	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	15.080	0.591	5689.2	3610.7	6.777	4.833	3.25		Clay	100.0			14.25	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	14.930	0.523	5708.4	3619.9	6.672	4.329	3.23		Clay	100.0			14.11	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	14.810	0.486	5728.8	3629.7	6.582	4.070	3.22		Clay	100.0			14.00	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	15.560	0.483	5748.0	3638.9	6.972	3.810	3.18		Clay	100.0			14.71	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	15.000	0.508	5767.2	3648.1	6.643	4.196	3.23		Clay	100.0			14.18	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	15.750	0.568	5787.6	3657.9	7.029	4.415	3.22		Clay	100.0			14.89	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	16.000	0.650	5806.8	3667.1	7.143	4.965	3.24		Clay	100.0			15.12	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	16.770	0.680	5827.2	3676.9	7.537	4.910	3.22		Clay	100.0			15.85	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	17.280	0.638	5846.4	3686.1	7.790	4.446	3.18		Clay	100.0			16.33	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	15.470	0.624	5865.6	3695.3	6.785	4.973	3.26		Clay	100.0			14.62	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	15.590	0.567	5886.0	3705.1	6.827	4.484	3.23		Clay	100.0			14.74	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	16.100	0.575	5905.2	3714.3	7.079	4.376	3.21		Clay	100.0			15.22	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	15.430	0.566	5925.6	3724.1	6.695	4.538	3.24		Clay	100.0			14.58	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	15.390	0.526	5944.8	3733.3	6.652	4.233	3.23		Clay	100.0			14.55	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	15.680	0.506	5964.0	3742.6	6.786	3.987	3.21		Clay	100.0			14.82	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	16.250	0.506	5984.4	3752.4	7.066	3.816	3.18		Clay	100.0			15.36	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	16.250	0.484	6003.6	3761.6	7.044	3.650	3.17		Clay	100.0			15.36	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	16.210	0.250	6024.0	3771.4	6.999	1.895	3.02		Clay	100.0			15.32	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	16.540	0.250	6043.2	3780.6	7.152	1.849	3.01		Clay	100.0			15.63	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CPT No.

6

PGA (A_{max})

0.70

Total Settlement: 1.08 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	0.240	0.001	19.2	19.2	5.855	0.477	2.85		Unsaturated	90.8			0.23	1.70	0.39	53.67	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	0.480	0.342	39.6	39.6	23.242	74.359	3.74		Unsaturated	100.0			0.45	1.70	0.77	54.94	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	2.930	1.287	58.8	58.8	98.660	44.374	3.22		Unsaturated	100.0			2.77	1.70	4.71	60.10	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	6.780	1.273	79.2	79.2	170.212	18.880	2.79		Unsaturated	85.9			6.41	1.70	10.89	66.88	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	4.920	2.477	98.4	98.4	99.000	50.854	3.28		Unsaturated	100.0			4.65	1.70	7.91	64.29	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	218.320	2.657	117.6	117.6	875.075	1.217	1.41		Unsaturated	0.0			206.35	1.70	350.80	350.80	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	343.520	4.978	138.0	138.0	1271.152	1.449	1.43		Unsaturated	0.0			324.69	1.70	551.97	551.97	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	464.620	4.544	157.2	157.2	1610.906	0.978	1.24		Unsaturated	0.0			439.15	1.70	746.55	746.55	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	293.160	3.798	177.6	177.6	956.145	1.296	1.42		Unsaturated	0.0			277.09	1.70	471.05	471.05	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	221.020	3.836	196.8	196.8	684.696	1.736	1.59		Unsaturated	0.0			208.90	1.70	355.14	355.14	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	147.330	3.238	216.0	216.0	435.530	2.199	1.77		Unsaturated	4.6			139.25	1.70	236.73	236.84	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	95.050	2.047	236.4	236.4	268.448	2.156	1.87		Unsaturated	12.6			89.84	1.70	152.73	171.27	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	64.340	1.453	255.6	255.6	174.626	2.263	2.00		Unsaturated	22.8			60.81	1.70	103.38	147.16	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	38.080	1.158	276.0	276.0	99.297	3.053	2.25		Unsaturated	43.2			35.99	1.70	61.19	119.94	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	21.900	1.017	295.2	295.2	55.045	4.674	2.56		Unsaturated	67.9			20.70	1.70	35.19	95.64	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	16.550	0.617	314.4	314.4	40.196	3.764	2.59		Unsaturated	70.2			15.64	1.70	26.59	84.99	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	14.670	0.492	334.8	334.8	49.828	3.395	2.49		Unsaturated	62.3			13.87	1.70	23.57	79.46	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	13.350	0.457	354.0	354.0	43.527	3.466	2.54		Unsaturated	66.2			12.62	1.70	21.45	77.58	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	13.180	0.417	374.4	374.4	41.280	3.213	2.53		Unsaturated	65.7			12.46	1.70	21.18	77.13	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	12.870	0.322	393.6	393.6	27.774	2.544	2.60		Unsaturated	70.8			12.16	1.70	20.68	77.47	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	12.050	0.294	412.8	412.8	35.143	2.482	2.51		Unsaturated	64.0			11.39	1.70	19.36	74.43	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	11.540	0.364	433.2	433.2	32.484	3.211	2.61		Unsaturated	71.9			10.91	1.70	18.54	74.88	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	11.950	0.399	452.4	452.4	32.627	3.400	2.63		Unsaturated	73.1			11.29	1.70	19.20	75.94	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	14.160	0.372	472.8	472.8	37.571	2.669	2.51		Unsaturated	63.8			13.38	1.70	22.75	78.75	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	14.320	0.366	492.0	492.0	36.933	2.598	2.51		Unsaturated	63.7			13.53	1.70	23.01	79.05	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	14.530	0.438	512.4	512.4	36.407	3.066	2.56		Unsaturated	67.8			13.73	1.70	23.35	80.36	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	16.140	0.614	531.6	531.6	39.460	3.870	2.60		Unsaturated	71.3			15.26	1.70	25.93	84.34	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	22.810	0.847	550.8	550.8	41.747	3.756	2.58		Unsaturated	69.2			21.56	1.70	36.65	97.78	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	29.440	1.047	571.2	571.2	53.037	3.591	2.49		Unsaturated	62.2			27.83	1.70	47.30	109.88	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	33.820	1.189	590.4	590.4	59.988	3.545	2.45		Unsaturated	58.9			31.97	1.70	54.34	117.95	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	38.310	1.350	610.8	610.8	66.859	3.552	2.42		Unsaturated	56.3			36.21	1.70	61.56	126.34	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	38.680	1.528	630.0	630.0	66.456	3.983	2.46		Unsaturated	59.4			36.56	1.70	62.15	128.11	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	39.920	1.387	649.2	649.2	67.566	3.503	2.41		Unsaturated	55.7			37.73	1.68	63.49	128.60	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	47.130	1.115	669.6	669.6	78.626	2.383	2.24		Unsaturated	42.4			44.55	1.64	73.08	134.29	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	48.550	0.833	688.8	688.8	79.859	1.728	2.14		Unsaturated	34.2			45.89	1.63	74.99	130.15	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	45.030	0.671	709.2	709.2	72.938	1.503	2.13		Unsaturated	33.3			42.56	1.64	69.71	122.81	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	40.320	0.545	728.4	728.4	64.368	1.365	2.14		Unsaturated	34.5			38.11	1.64	62.64	115.30	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	34.900	0.578	747.6	747.6	54.902	1.674	2.25		Unsaturated	43.3			32.99	1.64	54.05	111.04	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	31.340	0.582	768.0	768.0	48.566	1.880	2.33		Unsaturated	49.1			29.62	1.63	48.35	106.80	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	29.790	0.566	787.2	787.2	45.554	1.927	2.35		Unsaturated	51.4			28.16	1.62	45.65	104.31	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	28.120	0.531	807.6	807.6	42.404	1.917	2.38		Unsaturated	53.2			26.58	1.61	42.82	101.39	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	29.000	0.492	826.8	826.8	43.225	1.721	2.34		Unsaturated	50.3			27.41	1.59	43.65	101.36	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	30.060	0.399	846.0	846.0	44.302	1.347	2.27		Unsaturated	44.5			28.41	1.58	44.84	100.17	0.99	0.451	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.220	27.580	0.265	866.4	866.4	40.099	0.977	2.22		Unsaturated	41.0			26.07	1.58	41.20	93.66	0.99	0.451	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.380	25.860	0.297	885.6	885.6	37.135	1.167	2.30		Unsaturated	46.6			24.44	1.57	38.25	92.94	0.99	0.450	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.550	24.530	0.379	906.0	906.0	34.778	1.575	2.39		Unsaturated	54.5			23.19	1.55	35.86	92.98	0.99	0.450	1					

CPT No.

6

PGA (A_{max})

0.70

Total Settlement: 1.08 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tt})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' 'vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.320	44.810	0.515	1358.4	1358.4	52.060	1.168	2.18		Sand	37.0	50.99	1.36	69.35	1.20	83.35	142.97	0.98	0.474	1.067	0.248	0.421	0.89	0.01	0.02
11.480	46.280	0.655	1377.6	1377.6	53.406	1.438	2.22		Sand	40.7	50.99	1.36	69.35	1.19	82.74	145.14	0.98	0.477	1.066	0.259	0.446	0.94	0.01	0.02
11.650	42.690	0.713	1398.0	1398.0	48.829	1.698	2.30		Sand	46.7	50.99	1.36	69.35	1.18	82.07	148.14	0.98	0.481	1.065	0.277	0.486	1.01	0.01	0.02
11.810	45.170	0.697	1417.2	1417.2	51.350	1.568	2.26		Sand	43.7	50.99	1.36	69.35	1.18	81.74	145.89	0.98	0.483	1.062	0.264	0.454	0.94	0.01	0.02
11.980	44.520	0.702	1437.6	1437.6	50.227	1.603	2.27		Sand	44.7	50.99	1.36	69.35	1.17	81.26	145.95	0.98	0.487	1.060	0.264	0.454	0.93	0.01	0.02
12.140	53.950	0.704	1456.8	1456.8	60.626	1.324	2.16		Sand	35.5		1.36	69.35	1.17	81.18	138.89	0.98	0.489	1.054	0.230	0.375	0.77	0.02	0.04
12.300	54.550	0.697	1476.0	1476.0	60.899	1.296	2.15		Sand	34.9		1.36	70.12	1.16	81.63	138.89	0.98	0.492	1.052	0.230	0.374	0.76	0.02	0.04
12.470	47.650	0.652	1496.4	1496.4	52.715	1.391	2.22		Sand	40.3	51.56	1.36	70.12	1.15	80.98	142.70	0.98	0.495	1.052	0.247	0.413	0.83	0.01	0.03
12.630	41.850	0.624	1515.6	1515.6	45.892	1.519	2.29		Sand	46.0	51.56	1.36	70.12	1.15	80.42	145.66	0.98	0.498	1.051	0.262	0.447	0.90	0.01	0.02
12.800	35.460	0.575	1536.0	1536.0	38.486	1.656	2.37		Sand	52.7	51.56	1.36	70.12	1.14	79.87	148.25	0.97	0.501	1.050	0.277	0.480	0.96	0.01	0.02
12.960	30.700	0.534	1555.2	1555.2	32.989	1.784	2.44		Sand	58.5	51.56	1.36	70.12	1.13	79.40	149.88	0.97	0.503	1.049	0.288	0.503	1.00	0.01	0.02
13.120	25.530	0.537	1574.4	1574.4	27.112	2.169	2.56	plastic	Clay	68.1			24.13	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	19.930	0.460	1594.8	1594.8	23.994	2.403	2.63		Clay	73.6			18.84	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	28.470	0.433	1614.0	1614.0	29.938	1.567	2.44	plastic	Sand	58.6			26.91	1.15	31.03	88.06	0.97	0.511	1.026	0.124	0.153	0.30	0.04	0.07
13.620	21.790	0.455	1634.4	1634.4	23.751	2.169	2.61		Clay	71.7			20.60	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	12.350	0.360	1653.6	1653.6	13.937	3.124	2.89		Clay	94.2			11.67	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	8.930	0.220	1672.8	1672.8	9.677	2.713	2.98		Clay	100.0			8.44	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	7.340	0.199	1693.2	1692.6	7.673	3.057	3.10		Clay	100.0			6.94	1.06	n.a.	n.a.	0.97	0.521	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	7.020	0.200	1712.4	1701.8	7.244	3.240	3.13		Clay	100.0			6.64	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	7.490	0.234	1732.8	1711.6	7.740	3.539	3.13		Clay	100.0			7.08	1.06	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	10.590	0.286	1752.0	1720.8	11.290	2.946	2.95		Clay	98.9			10.01	1.06	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	7.700	0.268	1771.2	1730.0	7.878	3.934	3.15		Clay	100.0			7.28	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	10.400	0.203	1791.6	1739.8	10.926	2.133	2.88		Clay	93.6			9.83	1.05	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	8.810	0.213	1810.8	1749.0	9.039	2.697	3.01		Clay	100.0			8.33	1.05	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	7.610	0.176	1831.2	1758.8	7.612	2.632	3.06		Clay	100.0			7.19	1.05	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	7.640	0.160	1850.4	1768.0	7.596	2.380	3.04		Clay	100.0			7.22	1.05	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	7.340	0.144	1869.6	1777.2	7.208	2.247	3.05		Clay	100.0			6.94	1.05	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	7.180	0.139	1890.0	1787.0	6.978	2.226	3.06		Clay	100.0			6.79	1.05	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	6.730	0.146	1909.2	1796.3	6.430	2.535	3.12		Clay	100.0			6.36	1.04	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	7.610	0.140	1929.6	1806.0	7.359	2.111	3.03		Clay	100.0			7.19	1.04	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	7.320	0.134	1948.8	1815.3	6.991	2.118	3.05		Clay	100.0			6.92	1.04	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	6.620	0.119	1968.0	1824.5	6.178	2.119	3.09		Clay	100.0			6.26	1.04	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	6.890	0.187	1988.4	1834.3	6.428	3.167	3.17		Clay	100.0			6.51	1.04	n.a.	n.a.	0.96	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	10.180	0.214	2007.6	1843.5	9.955	2.327	2.94		Clay	98.0			9.62	1.04	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	16.900	0.196	2028.0	1853.3	16.475	1.236	2.61	plastic	Clay	71.6			15.97	1.04	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	13.050	0.170	2047.2	1862.5	12.914	1.414	2.73		Clay	81.2			12.33	1.03	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	9.410	0.203	2066.4	1871.7	8.951	2.428	2.99		Clay	100.0			8.89	1.03	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	10.480	0.216	2086.8	1881.5	10.031	2.290	2.93		Clay	97.5			9.91	1.03	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	17.560	0.288	2106.0	1890.7	17.461	1.745	2.66		Clay	76.2			16.60	1.03	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	16.900	0.437	2126.4	1900.5	16.666	2.761	2.80		Clay	86.6			15.97	1.03	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	17.060	0.503	2145.6	1909.7	16.743	3.148	2.83		Clay	89.2			16.12	1.03	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	18.080	0.850	2164.8	1918.9	17.716	5.003	2.94		Clay	97.9			17.09	1.03	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	16.280	0.800	2185.2	1928.7	15.749	5.269	2.99		Clay	100.0			15.39	1.02	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	23.780	0.558	2204.4	1938.0	23.404	2.460	2.65		Clay	74.8			22.48	1.02	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	22.920	0.438	2224.8	1947.7	22.393	2.010	2.61		Clay	71.8			21.66	1.02	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	16.900	0.433	2244.0	1957.0	16.125	2.742	2.80		Clay	87.4			15.97	1.02	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	12.790	0.564	2263.2	1966.2	11.859	4.840	3.																	

CPT No.

6

PGA (A_{max})

0.70

Total Settlement:

1.08 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.310	7.940	0.133	2677.2	2164.9	6.099	2.016	3.09		Clay	100.0			7.50	0.99	n.a.	n.a.	0.94	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	8.140	0.148	2696.4	2174.1	6.248	2.181	3.10		Clay	100.0			7.69	0.99	n.a.	n.a.	0.94	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	8.260	0.148	2716.8	2183.9	6.320	2.137	3.09		Clay	100.0			7.81	0.99	n.a.	n.a.	0.94	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	8.240	0.147	2736.0	2193.1	6.267	2.141	3.09		Clay	100.0			7.79	0.99	n.a.	n.a.	0.94	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	8.300	0.155	2756.4	2202.9	6.284	2.238	3.10		Clay	100.0			7.84	0.99	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	7.980	0.153	2775.6	2212.1	5.960	2.316	3.13		Clay	100.0			7.54	0.99	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	7.390	0.124	2794.8	2221.3	5.395	2.063	3.14		Clay	100.0			6.98	0.99	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	7.270	0.100	2815.2	2231.1	5.255	1.699	3.11		Clay	100.0			6.87	0.99	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	7.580	0.091	2834.4	2240.4	5.502	1.468	3.06		Clay	100.0			7.16	0.99	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	7.280	0.094	2854.8	2250.1	5.202	1.604	3.10		Clay	100.0			6.88	0.98	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	7.650	0.097	2874.0	2259.4	5.500	1.555	3.07		Clay	100.0			7.23	0.98	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	7.380	0.094	2893.2	2268.6	5.231	1.586	3.10		Clay	100.0			6.98	0.98	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	7.450	0.110	2913.6	2278.4	5.261	1.837	3.12		Clay	100.0			7.04	0.98	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	8.100	0.150	2932.8	2287.6	5.800	2.266	3.13		Clay	100.0			7.66	0.98	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	8.770	0.185	2953.2	2297.4	6.349	2.534	3.12		Clay	100.0			8.29	0.98	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	9.480	0.231	2972.4	2306.6	6.931	2.891	3.12		Clay	100.0			8.96	0.98	n.a.	n.a.	0.93	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	9.450	0.252	2991.6	2315.8	6.869	3.162	3.15		Clay	100.0			8.93	0.98	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	9.640	0.280	3012.0	2325.6	6.995	3.447	3.16		Clay	100.0			9.11	0.98	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	10.210	0.326	3031.2	2334.8	7.448	3.744	3.16		Clay	100.0			9.65	0.97	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	11.010	0.405	3051.6	2344.6	8.090	4.271	3.16		Clay	100.0			10.41	0.97	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	12.000	0.498	3070.8	2353.8	8.892	4.754	3.16		Clay	100.0			11.34	0.97	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	12.520	0.552	3090.0	2363.0	9.289	5.028	3.15		Clay	100.0			11.83	0.97	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	13.650	0.618	3110.4	2372.8	10.194	5.108	3.13		Clay	100.0			12.90	0.97	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	14.040	0.689	3129.6	2382.0	10.474	5.520	3.14		Clay	100.0			13.27	0.97	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	14.690	0.737	3150.0	2391.8	10.966	5.623	3.13		Clay	100.0			13.88	0.97	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	15.470	0.833	3169.2	2401.1	11.566	6.002	3.13		Clay	100.0			14.62	0.97	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	15.610	0.965	3188.4	2410.3	11.630	6.885	3.16		Clay	100.0			14.75	0.97	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	12.190	0.882	3208.8	2420.1	8.748	8.330	3.31		Clay	100.0			11.52	0.97	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	9.740	0.638	3228.0	2429.3	6.690	7.856	3.39		Clay	100.0			9.21	0.96	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	11.880	0.416	3248.4	2439.1	8.410	4.057	3.13		Clay	100.0			11.23	0.96	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	14.700	0.423	3267.6	2448.3	10.674	3.234	2.99		Clay	100.0			13.89	0.96	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	18.310	0.482	3288.0	2458.1	13.560	2.893	2.88		Clay	93.4			17.31	0.96	n.a.	n.a.	0.92	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	23.950	0.794	3307.2	2467.3	18.074	3.561	2.83		Clay	89.8			22.64	0.96	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	35.850	1.705	3326.4	2476.5	27.609	4.988	2.79		Clay	86.4			33.88	0.96	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	49.040	1.787	3346.8	2486.3	38.102	3.773	2.61		Clay	71.6			46.35	0.96	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	44.560	1.426	3366.0	2495.5	34.363	3.326	2.60		Clay	71.2			42.12	0.96	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	34.850	1.186	3386.4	2505.3	26.469	3.578	2.71		Clay	79.7			32.94	0.96	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	39.160	1.627	3405.6	2514.5	29.793	4.343	2.73		Clay	81.1			37.01	0.96	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	50.960	2.265	3424.8	2523.7	39.027	4.599	2.66		Clay	75.8			48.17	0.95	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	65.870	2.542	3445.2	2533.5	55.410	3.963	2.51		Sand	63.6	94.79	1.66	157.35	0.95	149.67	241.75	0.92	0.633	0.946	51.683	107.560	170.00	0.00	0.00
28.870	100.290	2.762	3464.4	2542.8	84.979	2.803	2.27		Sand	44.6		1.66	157.35	0.95	149.18	231.04	0.92	0.633	0.945	18.026	37.471	59.17	0.00	0.00
29.040	95.790	4.009	3484.8	2552.5	80.934	4.263	2.42		Sand	56.7		1.66	150.29	0.95	142.28	229.45	0.92	0.634	0.944	15.621	32.433	51.17	0.00	0.00
29.200	118.900	5.216	3504.0	2561.8	100.632	4.453	2.38		Sand	53.1		1.66	186.55	0.95	177.38	272.26	0.92	0.634	0.943	2770.273	5745.074	9057.16	0.00	0.00
29.360	121.010	5.936	3523.2	2571.0	102.253	4.978	2.41		Sand	55.8		1.66	189.86	0.95	180.36	277.57	0.92	0.635	0.942	6568.055	13605.460	21432.27	0.00	0.00
29.530	102.920	4.540	3543.6	2580.8	86.568	4.488	2.42		Sand	56.6	114.38	1.66	189.87	0.95	180.18	277.74	0.92	0.635	0.940	6763.678	13993.717	22025.83	0.00	0.00
29.690	53.410	3.206	3562.8	2590.0	39.868	6.209	2.75		Clay	82.8			50.48	0.95	n.a.	n.a.	0.92	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	39.860	2.089	3583.2	2599.8	29.286	5.488	2.80		Clay	87.2			37.67	0.95	n.a.	n.a.	0.91	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	31.470	1.675	3602.4	2609.0	22.743	5.646																		

CPT No.

6

PGA (A_{max})

0.70

Total Settlement:

1.08 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5,σ' 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
33.300	10.740	0.247	3996.0	2797.9	6.249	2.823	3.15		Clay	100.0			10.15	0.93	n.a.	n.a.	0.90	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	10.290	0.212	4015.2	2807.1	5.901	2.556	3.15		Clay	100.0			9.73	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	9.300	0.210	4035.6	2816.9	5.170	2.878	3.23		Clay	100.0			8.79	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	9.920	0.248	4054.8	2826.1	5.585	3.136	3.22		Clay	100.0			9.38	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	11.580	0.274	4075.2	2835.9	6.730	2.873	3.13		Clay	100.0			10.95	0.93	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	11.360	0.347	4094.4	2845.2	6.546	3.724	3.20		Clay	100.0			10.74	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	13.190	0.648	4113.6	2854.4	7.801	5.822	3.25		Clay	100.0			12.47	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	16.520	0.668	4134.0	2864.2	10.092	4.620	3.10		Clay	100.0			15.61	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	18.730	0.867	4153.2	2873.4	11.592	5.203	3.09		Clay	100.0			17.70	0.92	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	23.780	0.739	4173.6	2883.2	15.048	3.407	2.89		Clay	93.8			22.48	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	22.520	0.995	4192.8	2892.4	14.122	4.871	3.00		Clay	100.0			21.29	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	23.970	0.848	4212.0	2901.6	15.070	3.876	2.92		Clay	96.6			22.66	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	50.900	0.722	4232.4	2911.4	39.309	1.480	2.33		Sand	49.8	51.46	1.8	92.63	0.88	81.39	148.84	0.89	0.647	0.949	0.281	0.442	0.68	0.02	0.04
35.430	54.440	0.730	4251.6	2920.6	42.088	1.395	2.30		Sand	46.6		1.8	92.62	0.88	81.20	146.99	0.89	0.648	0.950	0.270	0.419	0.65	0.02	0.04
35.600	47.760	0.398	4272.0	2930.4	36.644	0.872	2.23		Sand	41.5	51.46	1.8	92.63	0.87	80.94	143.49	0.89	0.648	0.951	0.251	0.381	0.59	0.02	0.04
35.760	27.990	0.379	4291.2	2939.6	17.584	1.466	2.62		Clay	72.7			26.46	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	14.290	0.415	4311.6	2949.4	8.228	3.422	3.10		Clay	100.0			13.51	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	10.600	0.298	4330.8	2958.6	5.702	3.532	3.24		Clay	100.0			10.02	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	9.430	0.265	4350.0	2967.8	4.889	3.651	3.30		Clay	100.0			8.91	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	10.200	0.249	4370.4	2977.6	5.383	3.104	3.23		Clay	100.0			9.64	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	9.580	0.256	4389.6	2986.8	4.945	3.466	3.29		Clay	100.0			9.05	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	9.910	0.268	4410.0	2996.6	5.142	3.474	3.27		Clay	100.0			9.37	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	11.210	0.256	4429.2	3005.9	5.985	2.848	3.17		Clay	100.0			10.60	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	11.800	0.259	4448.4	3015.1	6.352	2.700	3.14		Clay	100.0			11.15	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	10.590	0.248	4468.8	3024.9	5.525	2.964	3.21		Clay	100.0			10.01	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	10.250	0.237	4488.0	3034.1	5.277	2.963	3.23		Clay	100.0			9.69	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	10.130	0.320	4508.4	3043.9	5.175	4.064	3.31		Clay	100.0			9.57	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	11.560	0.445	4527.6	3053.1	6.090	4.787	3.29		Clay	100.0			10.93	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	22.770	0.741	4546.8	3062.3	13.386	3.615	2.94		Clay	98.3			21.52	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	36.300	0.621	4567.2	3072.1	26.684	1.825	2.52		Sand	64.9	51.52	1.8	92.74	0.86	79.91	152.52	0.88	0.650	0.939	0.306	0.488	0.75	0.02	0.03
38.220	54.510	1.134	4586.4	3081.3	40.899	2.172	2.42		Sand	56.9		1.8	92.74	0.86	79.68	149.68	0.88	0.650	0.940	0.286	0.448	0.69	0.02	0.04
38.390	33.110	1.205	4606.8	3091.1	19.932	3.911	2.83		Clay	89.2			31.29	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	51.520	0.782	4626.0	3100.3	38.423	1.590	2.36		Sand	51.9	52.33		52.33	0.83	43.32	101.54	0.88	0.650	0.959	0.139	0.170	0.26	0.03	0.06
38.710	55.370	0.913	4645.2	3109.5	41.361	1.721	2.36		Sand	51.5			52.33	0.83	43.25	101.32	0.88	0.651	0.959	0.139	0.169	0.26	0.03	0.06
38.880	46.350	0.849	4665.6	3119.3	34.266	1.928	2.45		Sand	59.1	52.33		52.33	0.83	43.27	103.87	0.88	0.651	0.957	0.143	0.175	0.27	0.03	0.06
39.040	35.120	1.030	4684.8	3128.5	20.954	3.143	2.75		Clay	83.1			33.19	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	31.560	1.116	4705.2	3138.3	18.613	3.820	2.84		Clay	90.5			29.83	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	44.880	0.838	4724.4	3147.6	32.950	1.970	2.47		Sand	60.7	46.71	1.8	84.08	0.85	71.16	140.03	0.88	0.651	0.942	0.234	0.345	0.53	0.02	0.04
39.530	49.420	0.747	4743.6	3156.8	36.408	1.588	2.38		Sand	53.4		1.8	84.08	0.84	70.93	137.17	0.87	0.651	0.943	0.222	0.321	0.49	0.02	0.05
39.700	29.040	0.799	4764.0	3166.6	16.837	2.998	2.81		Clay	88.0			27.45	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	16.780	0.617	4783.2	3175.8	9.061	4.289	3.12		Clay	100.0			15.86	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	23.050	0.548	4803.6	3185.6	12.964	2.653	2.87		Clay	92.9			21.79	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	16.980	0.531	4822.8	3194.8	9.120	3.645	3.08		Clay	100.0			16.05	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	11.890	0.440	4842.0	3204.0	5.911	4.643	3.29		Clay	100.0			11.24	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	10.690	0.341	4862.4	3213.8	5.140	4.131	3.31		Clay	100.0			10.10	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	10.930	0.322	4881.6	3223.0	5.268	3.791	3.28		Clay	100.0			10.33	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	11.590	0.262	4902.0	3232.8	5.654	2.871	3.19		Clay	100.0			10.95	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.		

CPT No.

6

PGA (A_{max})

0.70

Total Settlement:

1.08 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
44.290	13.090	0.393	5314.8	3430.9	6.081	3.770	3.23		Clay	100.0			12.37	0.88	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	13.990	0.440	5335.2	3440.7	6.581	3.886	3.21		Clay	100.0			13.22	0.88	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	14.970	0.501	5354.4	3450.0	7.126	4.079	3.19		Clay	100.0			14.15	0.88	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	15.190	0.575	5373.6	3459.2	7.229	4.600	3.22		Clay	100.0			14.36	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	16.230	0.535	5394.0	3469.0	7.802	3.953	3.15		Clay	100.0			15.34	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	27.140	0.476	5413.2	3478.2	14.050	1.947	2.77		Clay	84.6			25.65	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	19.190	0.414	5433.6	3488.0	9.446	2.515	2.97		Clay	100.0			18.14	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	12.690	0.343	5452.8	3497.2	5.698	3.447	3.23		Clay	100.0			11.99	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	13.940	0.372	5472.0	3506.4	6.391	3.323	3.18		Clay	100.0			13.18	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	14.940	0.484	5492.4	3516.2	6.936	3.965	3.20		Clay	100.0			14.12	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	15.520	0.547	5511.6	3525.4	7.241	4.283	3.20		Clay	100.0			14.67	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	15.920	0.583	5532.0	3535.2	7.442	4.432	3.20		Clay	100.0			15.05	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	16.330	0.639	5551.2	3544.4	7.648	4.717	3.21		Clay	100.0			15.43	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	16.430	0.674	5570.4	3553.6	7.679	4.938	3.22		Clay	100.0			15.53	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	16.600	0.673	5590.8	3563.4	7.748	4.874	3.21		Clay	100.0			15.69	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	16.850	0.689	5610.0	3572.6	7.863	4.909	3.21		Clay	100.0			15.93	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	17.670	0.693	5630.4	3582.4	8.293	4.664	3.17		Clay	100.0			16.70	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	17.100	0.638	5649.6	3591.6	7.949	4.472	3.18		Clay	100.0			16.16	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	16.680	0.587	5668.8	3600.9	7.690	4.236	3.18		Clay	100.0			15.77	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	17.110	0.622	5689.2	3610.7	7.902	4.361	3.17		Clay	100.0			16.17	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	17.460	0.592	5708.4	3619.9	8.070	4.055	3.15		Clay	100.0			16.50	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	16.830	0.557	5728.8	3629.7	7.695	3.988	3.16		Clay	100.0			15.91	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	17.070	0.541	5748.0	3638.9	7.802	3.808	3.14		Clay	100.0			16.13	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	17.020	0.539	5767.2	3648.1	7.750	3.814	3.15		Clay	100.0			16.09	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	16.150	0.497	5787.6	3657.9	7.248	3.752	3.17		Clay	100.0			15.26	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	16.580	0.492	5806.8	3667.1	7.459	3.598	3.15		Clay	100.0			15.67	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	17.470	0.540	5827.2	3676.9	7.918	3.706	3.13		Clay	100.0			16.51	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	17.570	0.542	5846.4	3686.1	7.947	3.698	3.13		Clay	100.0			16.61	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	17.860	0.584	5865.6	3695.3	8.079	3.911	3.14		Clay	100.0			16.88	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	18.660	0.598	5886.0	3705.1	8.484	3.805	3.11		Clay	100.0			17.64	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	17.770	0.572	5905.2	3714.3	7.978	3.862	3.14		Clay	100.0			16.80	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	17.250	0.509	5925.6	3724.1	7.673	3.565	3.13		Clay	100.0			16.30	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	17.390	0.476	5944.8	3733.3	7.724	3.299	3.11		Clay	100.0			16.44	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	17.100	0.452	5964.0	3742.6	7.545	3.200	3.11		Clay	100.0			16.16	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	17.180	0.416	5984.4	3752.4	7.562	2.934	3.09		Clay	100.0			16.24	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	17.600	0.435	6003.6	3761.6	7.762	2.983	3.09		Clay	100.0			16.64	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	18.000	0.426	6024.0	3771.4	7.948	2.844	3.07		Clay	100.0			17.01	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	18.770	0.750	6043.2	3780.6	8.331	4.762	3.18		Clay	100.0			17.74	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	21.300	1.315	6062.4	3789.8	9.641	7.200	3.24		Clay	100.0			20.13	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	52.990	1.604	6082.8	3799.6	26.292	3.212	2.68		Clay	77.4			50.09	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	95.590	1.514	6102.0	3808.8	65.193	1.636	2.19		Sand	38.2	94.03	1.78	167.37	0.83	139.29	213.12	0.83	0.645	0.824	4.306	7.802	12.09	0.00	0.00
51.020	99.480	1.208	6122.4	3818.6	67.839	1.253	2.10		Sand	31.2		1.78	167.37	0.83	138.13	203.24	0.83	0.645	0.839	2.280	4.207	6.52	0.00	0.00
51.180	91.840	0.947	6141.6	3827.8	62.382	1.066	2.09		Sand	30.1	94.03	1.78	167.37	0.82	137.80	201.18	0.82	0.645	0.842	2.021	3.744	5.80	0.00	0.00
51.350	62.930	1.358	6162.0	3837.6	42.005	2.269	2.43		Sand	57.2	94.03	1.78	167.37	0.84	140.43	227.34	0.82	0.645	0.821	12.985	23.466	36.39	0.00	0.00
51.510	32.340	0.978	6181.2	3846.8	15.207	3.344	2.88		Clay	93.2			30.57	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	19.840	0.558	6200.4	3856.0	8.682	3.335	3.07		Clay	100.0			18.75	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	17.180	0.377	6220.8	3865.8	7.279	2.677	3.08		Clay	100.0			16.24	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	18.380	0.415	6240.0	3875.0	7.876	2.718	3.06		Clay	100.0			17.37	0.85	n.a.	n.a.	0.82							

CPT No.

6

PGA (A_{max})

0.70

Total Settlement: 1.08 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
55.280	19.590	0.442	6633.6	4064.0	8.009	2.717	3.05		Clay	100.0			18.52	0.84	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	22.190	0.443	6654.0	4073.8	9.261	2.346	2.97		Clay	100.0			20.97	0.84	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	22.030	0.493	6673.2	4083.0	9.157	2.635	3.00		Clay	100.0			20.82	0.84	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	19.910	0.497	6692.4	4092.2	8.095	2.998	3.07		Clay	100.0			18.82	0.84	n.a.	n.a.	0.80	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	19.600	0.485	6712.8	4102.0	7.920	2.983	3.08		Clay	100.0			18.53	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	20.590	0.471	6732.0	4111.2	8.379	2.732	3.04		Clay	100.0			19.46	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	21.880	0.646	6752.4	4121.0	8.980	3.492	3.07		Clay	100.0			20.68	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	26.980	0.812	6771.6	4130.2	11.425	3.442	2.98		Clay	100.0			25.50	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	26.800	1.169	6790.8	4139.4	11.308	4.996	3.09		Clay	100.0			25.33	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	24.540	1.094	6811.2	4149.2	10.187	5.177	3.13		Clay	100.0			23.19	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	22.500	0.828	6830.4	4158.4	9.179	4.340	3.12		Clay	100.0			21.27	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	22.210	0.594	6850.8	4168.2	9.013	3.160	3.05		Clay	100.0			20.99	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	19.340	0.557	6870.0	4177.4	7.615	3.500	3.13		Clay	100.0			18.28	0.84	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	18.870	0.464	6889.2	4186.7	7.369	3.009	3.11		Clay	100.0			17.84	0.84	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	18.030	0.453	6909.6	4196.4	6.946	3.108	3.14		Clay	100.0			17.04	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	19.350	0.533	6928.8	4205.7	7.554	3.353	3.12		Clay	100.0			18.29	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	21.060	0.635	6949.2	4215.5	8.343	3.608	3.11		Clay	100.0			19.91	0.83	n.a.	n.a.	0.80	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	21.650	0.714	6968.4	4224.7	8.600	3.933	3.12		Clay	100.0			20.46	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	21.620	0.675	6987.6	4233.9	8.562	3.722	3.11		Clay	100.0			20.43	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	22.080	0.605	7008.0	4243.7	8.755	3.256	3.06		Clay	100.0			20.87	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	21.050	0.597	7027.2	4252.9	8.247	3.403	3.10		Clay	100.0			19.90	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	21.320	0.596	7047.6	4262.7	8.350	3.346	3.09		Clay	100.0			20.15	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	22.380	0.639	7066.8	4271.9	8.824	3.390	3.07		Clay	100.0			21.15	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	21.990	0.650	7087.2	4281.7	8.616	3.524	3.09		Clay	100.0			20.78	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	21.420	0.546	7106.4	4290.9	8.328	3.055	3.07		Clay	100.0			20.25	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	19.720	0.443	7125.6	4300.1	7.515	2.739	3.08		Clay	100.0			18.64	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	18.050	0.411	7146.0	4309.9	6.718	2.837	3.13		Clay	100.0			17.06	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	18.100	0.352	7165.2	4319.1	6.722	2.426	3.09		Clay	100.0			17.11	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	18.260	0.259	7185.6	4328.9	6.776	1.763	3.02		Clay	100.0			17.26	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	16.870	0.245	7204.8	4338.1	6.117	1.849	3.07		Clay	100.0			15.95	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	18.130	0.238	7224.0	4347.4	6.679	1.638	3.01		Clay	100.0			17.14	0.83	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	18.840	0.238	7244.4	4357.2	6.985	1.562	2.98		Clay	100.0			17.81	0.83	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	18.450	0.272	7263.6	4366.4	6.787	1.835	3.03		Clay	100.0			17.44	0.83	n.a.	n.a.	0.78	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	18.800	0.276	7284.0	4376.2	6.928	1.818	3.02		Clay	100.0			17.77	0.83	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	18.510	0.277	7303.2	4385.4	6.776	1.863	3.03		Clay	100.0			17.50	0.83	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	17.530	0.255	7322.4	4394.6	6.312	1.842	3.06		Clay	100.0			16.57	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	16.920	0.249	7342.8	4404.4	6.016	1.882	3.08		Clay	100.0			15.99	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	19.180	0.335	7362.0	4413.6	7.023	2.163	3.05		Clay	100.0			18.13	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	24.090	0.463	7382.4	4423.4	9.223	2.268	2.96		Clay	99.8			22.77	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	22.440	0.680	7401.6	4432.6	8.455	3.626	3.10		Clay	100.0			21.21	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	22.230	0.685	7420.8	4441.8	8.339	3.701	3.11		Clay	100.0			21.01	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	23.440	0.898	7441.2	4451.6	8.859	4.555	3.15		Clay	100.0			22.16	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	27.280	0.919	7460.4	4460.8	10.558	3.900	3.04		Clay	100.0			25.78	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	27.490	0.834	7480.8	4470.6	10.625	3.510	3.01		Clay	100.0			25.98	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	23.210	0.764	7500.0	4479.8	8.688	3.927	3.11		Clay	100.0			21.94	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	22.400	0.844	7519.2	4489.1	8.305	4.525	3.17		Clay	100.0			21.17	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	26.980	0.851	7539.6	4498.8	10.318	3.668	3.04		Clay	100.0			25.50	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	30.210	1.251	7558.8	4508.1	11.726	4.733	3.06		Clay	100.0			28.55	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	25.730	0.842	7579.2	45179																				

CPT No.

6

PGA (A_{max})

0.70

Total Settlement:

1.08 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
66.270	21.830	0.713	7952.4	4697.0	7.602	3.994	3.17		Clay	100.0			20.63	0.81	n.a.	n.a.	0.76	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	22.440	0.542	7972.8	4706.8	7.841	2.938	3.08		Clay	100.0			21.21	0.81	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	22.370	0.444	7992.0	4716.0	7.792	2.419	3.04		Clay	100.0			21.14	0.81	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	22.140	0.400	8012.4	4725.8	7.674	2.207	3.02		Clay	100.0			20.93	0.81	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	23.700	0.387	8031.6	4735.0	8.314	1.965	2.97		Clay	100.0			22.40	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	24.540	0.432	8050.8	4744.2	8.648	2.106	2.97		Clay	100.0			23.19	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	24.260	0.468	8071.2	4754.0	8.508	2.314	2.99		Clay	100.0			22.93	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	21.950	0.440	8090.4	4763.2	7.518	2.460	3.05		Clay	100.0			20.75	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	20.710	0.377	8110.8	4773.0	6.979	2.265	3.06		Clay	100.0			19.57	0.81	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	19.270	0.369	8130.0	4782.2	6.359	2.428	3.11		Clay	100.0			18.21	0.81	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	18.970	0.357	8149.2	4791.5	6.217	2.395	3.12		Clay	100.0			17.93	0.81	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	18.850	0.359	8169.6	4801.2	6.151	2.429	3.13		Clay	100.0			17.82	0.81	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	18.440	0.361	8188.8	4810.5	5.964	2.514	3.14		Clay	100.0			17.43	0.81	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	17.530	0.342	8209.2	4820.3	5.570	2.547	3.17		Clay	100.0			16.57	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	17.490	0.309	8228.4	4829.5	5.539	2.310	3.15		Clay	100.0			16.53	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	17.610	0.269	8247.6	4838.7	5.574	1.993	3.12		Clay	100.0			16.64	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	17.710	0.253	8268.0	4848.5	5.600	1.866	3.10		Clay	100.0			16.74	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	18.370	0.307	8287.2	4857.7	5.857	2.159	3.12		Clay	100.0			17.36	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	19.560	0.338	8307.6	4867.5	6.330	2.195	3.09		Clay	100.0			18.49	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	20.020	0.365	8326.8	4876.7	6.503	2.301	3.09		Clay	100.0			18.92	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	20.290	0.353	8346.0	4885.9	6.597	2.190	3.08		Clay	100.0			19.18	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	20.130	0.360	8366.4	4895.7	6.515	2.258	3.09		Clay	100.0			19.03	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	20.420	0.385	8385.6	4904.9	6.617	2.373	3.09		Clay	100.0			19.30	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	20.630	0.406	8406.0	4914.7	6.685	2.470	3.10		Clay	100.0			19.50	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	20.010	0.437	8425.2	4923.9	6.417	2.764	3.14		Clay	100.0			18.91	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	20.810	0.427	8444.4	4933.2	6.725	2.575	3.11		Clay	100.0			19.67	0.80	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	20.910	0.473	8464.8	4942.9	6.748	2.837	3.13		Clay	100.0			19.76	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	22.670	0.436	8484.0	4952.2	7.442	2.367	3.05		Clay	100.0			21.43	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	21.830	0.490	8504.4	4962.0	7.085	2.789	3.10		Clay	100.0			20.63	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	22.560	0.594	8523.6	4971.2	7.362	3.247	3.13		Clay	100.0			21.32	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	25.300	0.740	8542.8	4980.4	8.445	3.519	3.10		Clay	100.0			23.91	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	23.240	0.643	8563.2	4990.2	7.598	3.394	3.13		Clay	100.0			21.97	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	19.550	0.454	8582.4	4999.4	6.104	2.975	3.17		Clay	100.0			18.48	0.80	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	18.950	0.357	8602.8	5009.2	5.849	2.434	3.14		Clay	100.0			17.91	0.80	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	18.490	0.307	8622.0	5018.4	5.651	2.163	3.13		Clay	100.0			17.48	0.80	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	17.660	0.278	8641.2	5027.6	5.306	2.080	3.15		Clay	100.0			16.69	0.80	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	17.680	0.310	8661.6	5037.4	5.300	2.320	3.17		Clay	100.0			16.71	0.80	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	20.440	0.368	8680.8	5046.6	6.380	2.285	3.10		Clay	100.0			19.32	0.80	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	20.570	0.473	8701.2	5056.4	6.415	2.913	3.15		Clay	100.0			19.44	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	22.580	0.496	8720.4	5065.6	7.193	2.720	3.09		Clay	100.0			21.34	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	27.310	0.637	8739.6	5074.8	9.041	2.777	3.01		Clay	100.0			25.81	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	25.910	0.418	8760.0	5084.6	8.469	1.941	2.96		Clay	99.5			24.49	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	30.030	0.355	8779.2	5093.9	10.067	1.384	2.82		Clay	88.4			28.38	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	23.980	0.528	8799.6	5103.6	7.673	2.694	3.07		Clay	100.0			22.67	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	23.960	0.589	8818.8	5112.9	7.648	3.014	3.09		Clay	100.0			22.65	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	26.580	0.470	8838.0	5122.1	8.653	2.119	2.97		Clay	100.0			25.12	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	23.240	0.489	8858.4	5131.9	7.331	2.599	3.08		Clay	100.0			21.97	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	22.640	0.448	8877.6	5141.1	7.081	2.462	3.08		Clay	100.0			21.40	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	23.010	0.474	8898.0	5150.9	7.207	2.552	3.08		Clay															

CPT No.

6

PGA (A_{max})

0.70

Total Settlement: 1.08 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
77.260	26.160	0.499	9271.2	5330.0	8.077	2.316	3.01		Clay	100.0			24.73	0.78	n.a.	n.a.	0.72	0.598	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	26.340	0.418	9291.6	5339.8	8.125	1.926	2.97		Clay	100.0			24.90	0.78	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	23.250	0.360	9310.8	5349.0	6.953	1.935	3.03		Clay	100.0			21.98	0.78	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	21.690	0.321	9331.2	5358.8	6.354	1.888	3.06		Clay	100.0			20.50	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	21.710	0.338	9350.4	5368.0	6.347	1.986	3.07		Clay	100.0			20.52	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	23.430	0.441	9369.6	5377.2	6.972	2.350	3.07		Clay	100.0			22.15	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	25.750	0.623	9390.0	5387.0	7.817	2.958	3.08		Clay	100.0			24.34	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	27.510	0.949	9409.2	5396.3	8.452	4.163	3.14		Clay	100.0			26.00	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	38.570	0.954	9429.6	5406.0	12.525	2.818	2.90		Clay	95.1			36.46	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	48.000	0.660	9448.8	5415.3	15.983	1.524	2.67		Clay	76.2			45.37	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	40.760	0.567	9468.0	5424.5	13.283	1.574	2.74		Clay	82.3			38.53	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	23.620	0.583	9488.4	5434.3	6.947	3.086	3.14		Clay	100.0			22.33	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	21.980	0.496	9507.6	5443.5	6.329	2.876	3.15		Clay	100.0			20.78	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	22.170	0.497	9528.0	5453.3	6.384	2.854	3.15		Clay	100.0			20.95	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	22.260	0.517	9547.2	5462.5	6.402	2.954	3.15		Clay	100.0			21.04	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	21.970	0.508	9566.4	5471.7	6.282	2.955	3.16		Clay	100.0			20.77	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	21.560	0.425	9586.8	5481.5	6.118	2.534	3.14		Clay	100.0			20.38	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	20.090	0.365	9606.0	5490.7	5.568	2.386	3.16		Clay	100.0			18.99	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	19.470	0.386	9626.4	5500.5	5.329	2.632	3.20		Clay	100.0			18.40	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	20.840	0.420	9645.6	5509.7	5.814	2.623	3.16		Clay	100.0			19.70	0.78	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	25.380	0.547	9664.8	5518.9	7.446	2.660	3.07		Clay	100.0			23.99	0.78	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	25.260	0.578	9685.2	5528.7	7.386	2.829	3.09		Clay	100.0			23.88	0.78	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	24.320	0.545	9704.4	5538.0	7.031	2.797	3.11		Clay	100.0			22.99	0.78	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	24.610	0.522	9724.8	5547.7	7.119	2.643	3.09		Clay	100.0			23.26	0.78	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	24.730	0.553	9744.0	5557.0	7.147	2.786	3.10		Clay	100.0			23.37	0.78	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	23.970	0.540	9763.2	5566.2	6.859	2.828	3.12		Clay	100.0			22.66	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	23.350	0.531	9783.6	5576.0	6.621	2.875	3.14		Clay	100.0			22.07	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	23.270	0.514	9802.8	5585.2	6.578	2.797	3.13		Clay	100.0			21.99	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	22.800	0.505	9823.2	5595.0	6.394	2.823	3.14		Clay	100.0			21.55	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	22.370	0.470	9842.4	5604.2	6.227	2.693	3.14		Clay	100.0			21.14	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	23.060	0.439	9862.8	5614.0	6.458	2.422	3.11		Clay	100.0			21.80	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	22.760	0.423	9882.0	5623.2	6.338	2.374	3.11		Clay	100.0			21.51	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	22.970	0.414	9901.2	5632.4	6.398	2.298	3.10		Clay	100.0			21.71	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	23.680	0.407	9921.6	5642.2	6.635	2.176	3.07		Clay	100.0			22.38	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	23.830	0.422	9940.8	5651.4	6.674	2.237	3.08		Clay	100.0			22.52	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	24.070	0.441	9961.2	5661.2	6.744	2.312	3.08		Clay	100.0			22.75	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	23.930	0.424	9980.4	5670.4	6.680	2.236	3.08		Clay	100.0			22.62	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	23.560	0.433	9999.6	5679.6	6.536	2.331	3.09		Clay	100.0			22.27	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	22.930	0.413	10020.0	5689.4	6.299	2.306	3.10		Clay	100.0			21.67	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	22.510	0.430	10039.2	5698.7	6.138	2.460	3.13		Clay	100.0			21.28	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	23.160	0.418	10059.6	5708.4	6.352	2.303	3.10		Clay	100.0			21.89	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	22.960	0.417	10078.8	5717.7	6.269	2.329	3.11		Clay	100.0			21.70	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	22.770	0.382	10098.0	5726.9	6.189	2.153	3.10		Clay	100.0			21.52	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	22.580	0.391	10118.4	5736.7	6.108	2.233	3.11		Clay	100.0			21.34	0.77	n.a.	n.a.	0.69	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	23.060	0.398	10137.6	5745.9	6.262	2.213	3.10		Clay	100.0			21.80	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	24.580	0.477	10158.0	5755.7	6.776	2.448	3.09		Clay	100.0			23.23	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	26.380	0.599	10177.2	5764.9	7.387	2.815	3.09		Clay	100.0			24.93	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	28.650	0.692	10196.4	5774.1	8.158	2.936	3.06		Clay	100.0			27.08	0.77	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	27.790	0.687	10216.8																					

CPT No.

6

PGA (A_{max})

0.70

Total Settlement:

1.08 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
88.250	24.030	0.448	10590.0	5963.0	6.284	2.392	3.11		Clay	100.0			22.71	0.76	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.420	24.440	0.460	10610.4	5972.8	6.407	2.402	3.11		Clay	100.0			23.10	0.76	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.580	24.690	0.481	10629.6	5982.0	6.478	2.481	3.11		Clay	100.0			23.34	0.76	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.750	25.270	0.472	10650.0	5991.8	6.657	2.365	3.09		Clay	100.0			23.88	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	24.880	0.431	10669.2	6001.1	6.514	2.207	3.08		Clay	100.0			23.52	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	24.110	0.472	10688.4	6010.3	6.245	2.515	3.13		Clay	100.0			22.79	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	24.890	0.534	10708.8	6020.1	6.490	2.732	3.13		Clay	100.0			23.53	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	26.030	0.548	10728.0	6029.3	6.855	2.652	3.10		Clay	100.0			24.60	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	25.760	0.496	10748.4	6039.1	6.751	2.432	3.09		Clay	100.0			24.35	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	24.630	0.520	10767.6	6048.3	6.364	2.701	3.14		Clay	100.0			23.28	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	25.200	0.576	10788.0	6058.1	6.539	2.906	3.14		Clay	100.0			23.82	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	27.090	0.598	10807.2	6067.3	7.149	2.758	3.10		Clay	100.0			25.60	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	26.170	0.583	10826.4	6076.5	6.832	2.808	3.12		Clay	100.0			24.74	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	25.960	0.632	10846.8	6086.3	6.748	3.075	3.14		Clay	100.0			24.54	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.550	27.560	0.619	10866.0	6095.5	7.260	2.796	3.10		Clay	100.0			26.05	0.76	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	28.910	0.517	10886.4	6105.3	7.687	2.204	3.02		Clay	100.0			27.33	0.76	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	27.310	0.498	10905.6	6114.5	7.149	2.277	3.05		Clay	100.0			25.81	0.76	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	26.200	0.593	10924.8	6123.7	6.773	2.860	3.13		Clay	100.0			24.76	0.76	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	28.060	0.471	10945.2	6133.5	7.365	2.085	3.02		Clay	100.0			26.52	0.76	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.370	28.960	0.494	10964.4	6142.8	7.644	2.105	3.01		Clay	100.0			27.37	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.540	25.790	0.496	10984.8	6152.5	6.598	2.444	3.10		Clay	100.0			24.38	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	25.360	0.479	11004.0	6161.8	6.446	2.411	3.11		Clay	100.0			23.97	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	25.020	0.488	11023.2	6171.0	6.323	2.501	3.12		Clay	100.0			23.65	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	26.010	0.531	11043.6	6180.8	6.630	2.594	3.11		Clay	100.0			24.58	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	26.710	0.557	11062.8	6190.0	6.843	2.629	3.10		Clay	100.0			25.25	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	26.370	0.414	11083.2	6199.8	6.719	1.986	3.05		Clay	100.0			24.92	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	25.000	0.409	11102.4	6209.0	6.265	2.102	3.09		Clay	100.0			23.63	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	23.410	0.491	11121.6	6218.2	5.741	2.749	3.18		Clay	100.0			22.13	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	26.180	0.493	11142.0	6228.0	6.618	2.394	3.09		Clay	100.0			24.74	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.010	27.600	0.457	11161.2	6237.2	7.061	2.075	3.04		Clay	100.0			26.09	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.180	25.220	0.486	11181.6	6247.0	6.284	2.477	3.12		Clay	100.0			23.84	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.340	27.030	0.424	11200.8	6256.2	6.851	1.980	3.04		Clay	100.0			25.55	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.500	27.470	0.376	11220.0	6265.4	6.978	1.720	3.00		Clay	100.0			25.96	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.670	25.700	0.389	11240.4	6275.2	6.400	1.938	3.06		Clay	100.0			24.29	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.830	24.540	0.419	11259.6	6284.4	6.018	2.214	3.11		Clay	100.0			23.19	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.000	24.740	0.478	11280.0	6294.2	6.069	2.502	3.14		Clay	100.0			23.38	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.160	24.800	0.569	11299.2	6303.5	6.076	2.972	3.18		Clay	100.0			23.44	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.320	27.770	0.451	11318.4	6312.7	7.005	2.039	3.04		Clay	100.0			26.25	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.490	24.780	0.410	11338.8	6322.5	6.045	2.146	3.10		Clay	100.0			23.42	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.650	23.080	0.410	11358.0	6331.7	5.496	2.354	3.16		Clay	100.0			21.81	0.75	n.a.	n.a.	0.66	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.820	23.550	0.407	11378.4	6341.5	5.633	2.277	3.14		Clay	100.0			22.26	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.980	22.670	0.398	11397.6	6350.7	5.345	2.342	3.17		Clay	100.0			21.43	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.140	22.380	0.410	11416.8	6359.9	5.243	2.458	3.19		Clay	100.0			21.15	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.310	22.640	0.382	11437.2	6369.7	5.313	2.259	3.16		Clay	100.0			21.40	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.470	22.040	0.367	11456.4	6378.9	5.114	2.249	3.18		Clay	100.0			20.83	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.640	21.970	0.392	11476.8	6388.7	5.081	2.415	3.20		Clay	100.0			20.77	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.800	23.410	0.557	11496.0	6397.9	5.521	3.155	3.22		Clay	100.0			22.13	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.960	37.510	0.752	11515.2	6407.1	9.912	2.367	2.94		Clay	98.4			35.45	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.130	35.920	0.954	11535.6																					

CPT No. 6

PGA (A_{max}) 0.70

Total Settlement: 1.08 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" $PI > 7$	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{L1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	$CRR_{m=7.5, \sigma'_{vc}=1 \text{ atm}}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
99.250	404.980	4.602	11910.0	6596.6	213.605	1.153	1.72		Sand	0.3			382.78	0.74	283.58	283.58	0.65	0.559	0.659	18699.769	27106.405	48502.43	0.00	0.00
99.410	494.550	4.329	11929.2	6605.9	261.365	0.886	1.57		Sand	0.0			467.44	0.74	346.17	346.17	0.65	0.559	0.658	#####	#####	#####	0.00	0.00
99.570	571.150	4.188	11948.4	6615.1	302.126	0.741	1.47		Sand	0.0			539.84	0.74	399.64	399.64	0.65	0.558	0.658	#####	#####	#####	0.00	0.00
99.740	735.250	3.542	11968.8	6624.9	389.556	0.486	1.26		Sand	0.0			694.94	0.74	514.26	514.26	0.65	0.558	0.658	#####	#####	#####	0.00	0.00
99.900	697.320	3.890	11988.0	6634.1	369.033	0.563	1.33		Sand	0.0			659.09	0.74	487.55	487.55	0.65	0.558	0.657	#####	#####	#####	0.00	0.00
100.070	596.190	4.732	12008.4	6643.9	314.811	0.802	1.49		Sand	0.0			563.51	0.74	416.68	416.68	0.65	0.558	0.657	#####	#####	#####	0.00	0.00
100.230	455.130	5.308	12027.6	6653.1	239.397	1.182	1.69		Sand	0.0			430.18	0.74	317.98	317.98	0.65	0.558	0.656	#####	#####	#####	0.00	0.00
100.390	476.880	3.630	12046.8	6662.3	250.812	0.771	1.54		Sand	0.0			450.74	0.74	333.05	333.05	0.65	0.557	0.656	#####	#####	#####	0.00	0.00
100.560	503.190	4.625	12067.2	6672.1	264.627	0.930	1.58		Sand	0.0			475.60	0.74	351.29	351.29	0.65	0.557	0.655	#####	#####	#####	0.00	0.00
100.720	512.480	3.070	12086.4	6681.3	269.381	0.606	1.44		Sand	0.0			484.39	0.74	357.64	357.64	0.65	0.557	0.655	#####	#####	#####	0.00	0.00
100.890	465.640	3.723	12106.8	6691.1	244.282	0.810	1.56		Sand	0.0			440.11	0.74	324.83	324.83	0.65	0.557	0.655	#####	#####	#####	0.00	0.00

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tl})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.490	0.040	0.002	58.8	58.8	0.361	14.151	4.58		Unsaturated	100.0			0.04	1.70	0.06	54.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	0.050	0.002	79.2	79.2	0.263	18.269	4.75		Unsaturated	100.0			0.05	1.70	0.08	54.04	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	66.370	0.413	117.6	117.6	265.861	0.623	1.46		Unsaturated	0.0			62.73	1.70	106.64	106.64	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	8.760	0.308	138.0	138.0	55.530	3.546	2.47		Unsaturated	60.7			8.28	1.70	14.08	66.91	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	6.020	0.227	157.2	157.2	34.654	3.816	2.64		Unsaturated	74.2			5.69	1.70	9.67	63.78	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	4.320	0.211	177.6	177.6	47.649	4.982	2.62		Unsaturated	73.0			4.08	1.70	6.94	60.05	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	4.370	0.139	196.8	196.8	21.289	3.247	2.75		Unsaturated	83.3			4.13	1.70	7.02	61.55	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	4.230	0.156	216.0	216.0	38.167	3.794	2.61		Unsaturated	71.7			4.00	1.70	6.80	59.66	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	6.050	0.117	236.4	236.4	26.002	1.966	2.55		Unsaturated	67.2			5.72	1.70	9.72	62.67	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	4.390	0.094	255.6	255.6	17.690	2.215	2.72		Unsaturated	80.5			4.15	1.70	7.05	61.24	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	2.920	0.104	276.0	276.0	20.159	3.753	2.81		Unsaturated	88.0			2.76	1.70	4.69	59.01	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	3.050	0.138	295.2	295.2	19.664	4.762	2.89		Unsaturated	94.0			2.88	1.70	4.90	59.86	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	3.120	0.135	314.4	314.4	18.847	4.560	2.89		Unsaturated	94.1			2.95	1.70	5.01	60.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	3.240	0.137	334.8	334.8	18.355	4.472	2.89		Unsaturated	94.4			3.06	1.70	5.21	60.29	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	3.720	0.143	354.0	354.0	20.017	4.025	2.83		Unsaturated	89.7			3.52	1.70	5.98	60.87	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	3.830	0.157	374.4	374.4	19.459	4.302	2.86		Unsaturated	92.0			3.62	1.70	6.15	61.31	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	3.910	0.173	393.6	393.6	18.868	4.654	2.89		Unsaturated	94.6			3.70	1.70	6.28	61.72	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	4.100	0.197	412.8	412.8	18.864	5.070	2.92		Unsaturated	96.5			3.88	1.70	6.59	62.28	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	4.430	0.174	433.2	433.2	19.452	4.125	2.85		Unsaturated	91.0			4.19	1.70	7.12	62.48	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	5.260	0.234	452.4	452.4	22.254	4.653	2.84		Unsaturated	90.2			4.97	1.70	8.45	64.15	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	6.490	0.291	472.8	472.8	26.453	4.660	2.79		Unsaturated	85.8			6.13	1.70	10.43	66.26	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	8.570	0.401	492.0	492.0	33.837	4.820	2.72		Unsaturated	80.4			8.10	1.70	13.77	69.97	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	11.370	0.550	512.4	512.4	43.379	4.950	2.65		Unsaturated	75.0			10.75	1.70	18.27	75.04	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	15.990	0.640	531.6	531.6	39.087	4.069	2.62		Unsaturated	72.7			15.11	1.70	25.69	84.28	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	18.990	0.623	550.8	550.8	34.670	3.327	2.60		Unsaturated	71.0			17.95	1.70	30.51	90.21	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	20.820	0.456	571.2	571.2	37.356	2.220	2.46		Unsaturated	59.8			19.68	1.70	33.45	91.51	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	19.740	0.403	590.4	590.4	34.794	2.075	2.47		Unsaturated	60.3			18.66	1.70	31.72	89.40	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	18.980	0.383	610.8	610.8	32.853	2.053	2.48		Unsaturated	61.6			17.94	1.70	30.50	88.18	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	20.660	0.411	630.0	630.0	35.242	2.021	2.45		Unsaturated	59.4			19.53	1.70	33.20	91.05	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	21.220	0.443	649.2	649.2	35.656	2.120	2.46		Unsaturated	60.1			20.06	1.70	34.10	92.39	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	21.850	0.477	669.6	669.6	36.150	2.218	2.47		Unsaturated	60.7			20.65	1.70	35.11	93.85	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	21.550	0.518	688.8	688.8	35.130	2.444	2.51		Unsaturated	63.6			20.37	1.70	34.63	93.96	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	21.460	0.565	709.2	709.2	34.457	2.678	2.54		Unsaturated	66.2			20.28	1.70	34.48	94.36	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	16.080	0.594	728.4	728.4	31.337	3.782	2.67		Unsaturated	76.6			15.20	1.70	25.84	85.09	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	10.700	0.453	747.6	747.6	27.625	4.383	2.75		Unsaturated	83.3			10.11	1.70	17.19	74.78	0.99	0.452	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.400	15.080	0.350	768.0	768.0	28.237	2.380	2.57		Unsaturated	68.9			14.25	1.70	24.23	81.70	0.99	0.452	1.093	n.a.	n.a.	n.a.	0.00	0.00
6.560	21.020	0.348	787.2	787.2	31.963	1.686	2.44		Unsaturated	58.2			19.87	1.67	33.20	90.75	0.99	0.451	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.730	24.340	0.386	807.6	807.6	36.621	1.613	2.38		Unsaturated	53.5			23.01	1.63	37.59	94.86	0.99	0.451	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.890	24.610	0.413	826.8	826.8	36.587	1.705	2.40		Unsaturated	54.7			23.26	1.61	37.53	95.18	0.99	0.451	1.096	n.a.	n.a.	n.a.	0.00	0.00
7.050	23.620	0.538	846.0	846.0	34.675	2.320	2.50		Unsaturated	62.8			22.33	1.60	35.61	95.04	0.99	0.451	1.094	n.a.	n.a.	n.a.	0.00	0.00
7.220	22.960	0.617	866.4	866.4	33.275	2.739	2.56		Unsaturated	67.6			21.70	1.58	34.25	94.36	0.99	0.451	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.380	28.260	0.587	885.6	885.6	40.641	2.111	2.42		Unsaturated	56.5			26.71	1.54	41.19	100.41	0.99	0.450	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.550	35.430	0.453	906.0	906.0	50.523	1.296	2.21		Unsaturated	40.0			33.49	1.51	50.65	104.80	0.99	0.450	1.094	n.a.	n.a.	n.a.	0.00	0.00
7.710	35.560	0.446	925.2	925.2	50.168	1.270	2.21		Unsaturated	39.8			33.61	1.50	50.36	104.30	0.99	0.450	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.870	39.620	0.479	944.4	944.4	55.386	1.223	2.17		Unsaturated	36.3			37.45	1.47	55.22	107.72	0.99	0.450	1.091	n.a.	n.a.	n.a.	0.00	0.00
8.040	39.840	0.461	964.8	964.8	55.091	1.171	2.16		Unsaturated	35.5			37.66	1.46	55.04	106.86	0.99	0.450	1.088	n.a.	n.a.	n.a.	0.00	0.00
8.200	42.810	0.467	984.0	984.0	58.654	1.104	2.12																	

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{st})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.810	43.100	0.684	1417.2	1417.2	48.959	1.614	2.28		Sand	45.6			40.74	1.21	49.46	106.53	0.98	0.483	1.045	0.146	0.199	0.41	0.03	0.06
11.980	42.540	0.683	1437.6	1437.6	47.957	1.632	2.29		Sand	46.4			40.21	1.21	48.51	105.73	0.98	0.487	1.043	0.145	0.196	0.40	0.03	0.06
12.140	45.260	0.592	1456.8	1456.8	50.727	1.330	2.22		Sand	40.5			42.78	1.20	51.28	105.87	0.98	0.489	1.042	0.145	0.196	0.40	0.03	0.06
12.300	52.370	0.562	1476.0	1476.0	58.432	1.088	2.12		Sand	32.3			49.50	1.19	58.84	108.57	0.98	0.492	1.041	0.150	0.204	0.41	0.03	0.06
12.470	66.130	0.491	1496.4	1496.4	73.486	0.751	1.94		Sand	18.4			62.50	1.18	74.07	103.78	0.98	0.495	1.038	0.142	0.189	0.38	0.03	0.06
12.630	68.290	0.592	1515.6	1515.6	75.421	0.877	1.97		Sand	20.8			64.55	1.17	75.63	110.98	0.98	0.498	1.039	0.154	0.211	0.42	0.03	0.06
12.800	54.470	0.830	1536.0	1536.0	59.575	1.545	2.20		Sand	39.3	64.55		64.55	1.15	74.12	133.43	0.97	0.501	1.044	0.209	0.326	0.65	0.02	0.05
12.960	30.720	1.099	1555.2	1555.2	35.108	3.670	2.62	plastic	Clay	73.0			29.04	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	14.970	0.722	1574.4	1574.4	18.017	5.091	2.94		Clay	97.8			14.15	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	8.560	0.490	1594.8	1594.8	9.735	6.316	3.20		Clay	100.0			8.09	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	8.800	0.399	1614.0	1614.0	9.905	4.987	3.13	plastic	Clay	100.0			8.32	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	21.380	0.431	1634.4	1634.4	23.287	2.098	2.61		Clay	71.6			20.21	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	35.140	0.387	1653.6	1653.6	36.688	1.129	2.29		Sand	46.3	33.4	1.55	51.77	1.12	58.01	117.64	0.97	0.516	1.030	0.166	0.234	0.45	0.03	0.05
13.940	35.340	0.388	1672.8	1672.8	36.679	1.124	2.29		Sand	46.2		1.55	51.77	1.11	57.71	117.23	0.97	0.518	1.029	0.165	0.232	0.45	0.03	0.06
14.110	32.960	0.475	1693.2	1693.2	33.932	1.478	2.39		Sand	53.9		1.55	48.29	1.11	53.57	115.30	0.97	0.521	1.027	0.161	0.224	0.43	0.03	0.05
14.270	36.440	0.423	1712.4	1712.4	37.387	1.190	2.30		Sand	46.8		1.55	53.39	1.10	58.83	118.92	0.97	0.523	1.026	0.169	0.239	0.46	0.03	0.05
14.440	40.610	0.349	1732.8	1732.8	41.511	0.878	2.19		Sand	38.0		1.55	59.49	1.09	65.15	121.29	0.97	0.525	1.025	0.174	0.249	0.47	0.03	0.05
14.600	38.290	0.335	1752.0	1752.0	38.863	0.896	2.22		Sand	40.3	38.38	1.55	59.49	1.09	64.79	122.53	0.97	0.528	1.024	0.177	0.255	0.48	0.03	0.05
14.760	31.790	0.503	1771.2	1771.2	31.927	1.627	2.43		Sand	57.5	38.38	1.55	59.49	1.08	64.30	130.26	0.97	0.530	1.024	0.198	0.298	0.56	0.02	0.05
14.930	19.690	0.560	1791.6	1791.6	20.980	2.981	2.74		Clay	81.9			18.61	1.04	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	13.780	0.431	1810.8	1810.8	14.220	3.348	2.90		Clay	95.0			13.02	1.04	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	18.030	0.490	1831.2	1831.2	18.692	2.863	2.76		Clay	84.2			17.04	1.04	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	15.350	0.441	1850.4	1850.4	15.591	3.055	2.84		Clay	90.6			14.51	1.04	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	10.140	0.383	1869.6	1869.6	9.847	4.160	3.08		Clay	100.0			9.58	1.03	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	9.040	0.301	1890.0	1886.9	8.580	3.718	3.10		Clay	100.0			8.54	1.03	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	7.980	0.284	1909.2	1896.1	7.410	4.038	3.18		Clay	100.0			7.54	1.03	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	7.850	0.264	1929.6	1905.9	7.225	3.840	3.17		Clay	100.0			7.42	1.03	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	8.280	0.285	1948.8	1915.1	7.629	3.905	3.16		Clay	100.0			7.83	1.03	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	10.160	0.296	1968.0	1924.3	9.537	3.221	3.03		Clay	100.0			9.60	1.03	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	9.040	0.299	1988.4	1934.1	8.320	3.721	3.12		Clay	100.0			8.54	1.02	n.a.	n.a.	0.96	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	7.490	0.267	2007.6	1943.3	6.675	4.115	3.22		Clay	100.0			7.08	1.02	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	7.790	0.215	2028.0	1953.1	6.939	3.174	3.14		Clay	100.0			7.36	1.02	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	6.860	0.213	2047.2	1962.3	5.948	3.656	3.23		Clay	100.0			6.48	1.02	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	7.320	0.274	2066.4	1971.6	6.378	4.354	3.25		Clay	100.0			6.92	1.02	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	8.770	0.264	2086.8	1981.3	7.799	3.415	3.12		Clay	100.0			8.29	1.02	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	15.140	0.335	2106.0	1990.6	14.154	2.377	2.82		Clay	88.2			14.31	1.02	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	10.100	0.366	2126.4	2000.4	9.035	4.055	3.11		Clay	100.0			9.55	1.01	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	8.400	0.387	2145.6	2009.6	7.292	5.278	3.25		Clay	100.0			7.94	1.01	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	7.760	0.401	2164.8	2018.8	6.615	6.005	3.32		Clay	100.0			7.33	1.01	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	9.130	0.409	2185.2	2028.6	7.924	5.091	3.21		Clay	100.0			8.63	1.01	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	12.810	0.514	2204.4	2037.8	11.491	4.388	3.05		Clay	100.0			12.11	1.01	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	13.100	0.619	2224.8	2047.6	11.709	5.167	3.08		Clay	100.0			12.38	1.01	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	11.270	0.597	2244.0	2056.8	9.868	5.887	3.18		Clay	100.0			10.65	1.01	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	10.020	0.573	2263.2	2066.0	8.604	6.441	3.25		Clay	100.0			9.47	1.01	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	20.450	0.569	2283.6	2075.8	18.603	2.947	2.77		Clay	84.9			19.33	1.01	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	17.910	0.612	2302.8	2085.0	16.075	3.652	2.88		Clay	93.5			16.93	1.00	n.a.	n.a.	0.95	0.578	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	15.740	0.500	2323.2	2094.8	13.919	3.428	2.91		Clay	96.1			14.88	1.00	n.a.	n.a.	0.95	0.580						

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{st})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.800	5.940	0.130	2736.0	2293.0	3.988	2.835	3.32		Clay	100.0			5.61	0.98	n.a.	n.a.	0.94	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	6.120	0.104	2756.4	2302.8	4.118	2.202	3.25		Clay	100.0			5.78	0.98	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	6.020	0.114	2775.6	2312.0	4.007	2.455	3.29		Clay	100.0			5.69	0.98	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	6.400	0.089	2794.8	2321.2	4.310	1.781	3.19		Clay	100.0			6.05	0.98	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	6.380	0.097	2815.2	2331.0	4.266	1.953	3.22		Clay	100.0			6.03	0.97	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	6.380	0.096	2834.4	2340.2	4.241	1.930	3.22		Clay	100.0			6.03	0.97	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	7.090	0.103	2854.8	2350.0	4.819	1.826	3.16		Clay	100.0			6.70	0.97	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	7.150	0.133	2874.0	2359.2	4.843	2.323	3.20		Clay	100.0			6.76	0.97	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	7.650	0.181	2893.2	2368.4	5.238	2.921	3.23		Clay	100.0			7.23	0.97	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	8.110	0.217	2913.6	2378.2	5.595	3.262	3.23		Clay	100.0			7.67	0.97	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	8.310	0.246	2932.8	2387.4	5.733	3.587	3.24		Clay	100.0			7.85	0.97	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	8.680	0.330	2953.2	2397.2	6.010	4.578	3.28		Clay	100.0			8.20	0.97	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	10.350	0.431	2972.4	2406.4	7.367	4.858	3.23		Clay	100.0			9.78	0.97	n.a.	n.a.	0.93	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	12.860	0.625	2991.6	2415.6	9.409	5.502	3.17		Clay	100.0			12.16	0.97	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	15.510	0.792	3012.0	2425.4	11.548	5.657	3.11		Clay	100.0			14.66	0.96	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	15.730	0.827	3031.2	2434.7	11.677	5.819	3.12		Clay	100.0			14.87	0.96	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	16.600	0.805	3051.6	2444.4	12.333	5.340	3.07		Clay	100.0			15.69	0.96	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	18.780	0.818	3070.8	2453.7	14.056	4.742	3.00		Clay	100.0			17.75	0.96	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	19.000	0.912	3090.0	2462.9	14.174	5.225	3.02		Clay	100.0			17.96	0.96	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	18.270	1.007	3110.4	2472.7	13.520	6.022	3.08		Clay	100.0			17.27	0.96	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	16.020	0.988	3129.6	2481.9	11.649	6.835	3.16		Clay	100.0			15.14	0.96	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	14.560	0.877	3150.0	2491.7	10.423	6.755	3.20		Clay	100.0			13.76	0.96	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	15.080	0.849	3169.2	2500.9	10.792	6.294	3.16		Clay	100.0			14.25	0.96	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	16.210	0.910	3188.4	2510.1	11.646	6.226	3.14		Clay	100.0			15.32	0.96	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	17.660	0.942	3208.8	2519.9	12.743	5.864	3.09		Clay	100.0			16.69	0.95	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	19.310	0.915	3228.0	2529.1	13.994	5.168	3.02		Clay	100.0			18.25	0.95	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	15.300	0.731	3248.4	2538.9	10.773	5.346	3.12		Clay	100.0			14.46	0.95	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	12.580	0.537	3267.6	2548.1	8.592	4.905	3.18		Clay	100.0			11.89	0.95	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	14.110	0.691	3288.0	2557.9	9.747	5.541	3.16		Clay	100.0			13.34	0.95	n.a.	n.a.	0.92	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	20.580	0.987	3307.2	2567.1	14.745	5.216	3.01		Clay	100.0			19.45	0.95	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	28.210	1.246	3326.4	2576.4	20.608	4.694	2.87		Clay	92.4			26.66	0.95	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	30.730	1.370	3346.8	2586.1	22.471	4.715	2.84		Clay	90.3			29.05	0.95	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	29.990	1.452	3366.0	2595.4	21.814	5.130	2.88		Clay	93.0			28.35	0.95	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	28.800	1.400	3386.4	2605.2	20.810	5.166	2.89		Clay	94.4			27.22	0.95	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	25.690	1.376	3405.6	2614.4	18.350	5.734	2.96		Clay	100.0			24.28	0.95	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	20.910	1.380	3424.8	2623.6	14.635	7.186	3.10		Clay	100.0			19.76	0.94	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	18.460	1.103	3445.2	2633.4	12.712	6.588	3.12		Clay	100.0			17.45	0.94	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	16.210	0.831	3464.4	2642.6	10.957	5.741	3.13		Clay	100.0			15.32	0.94	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	16.050	0.695	3484.8	2652.4	10.788	4.855	3.09		Clay	100.0			15.17	0.94	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	15.840	0.600	3504.0	2661.6	10.586	4.261	3.07		Clay	100.0			14.97	0.94	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	15.360	0.641	3523.2	2670.8	10.183	4.715	3.11		Clay	100.0			14.52	0.94	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	15.150	0.678	3543.6	2680.6	9.981	5.065	3.13		Clay	100.0			14.32	0.94	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	18.090	0.804	3562.8	2689.8	12.126	4.927	3.06		Clay	100.0			17.10	0.94	n.a.	n.a.	0.92	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	22.350	0.964	3583.2	2699.6	15.231	4.691	2.97		Clay	100.0			21.12	0.94	n.a.	n.a.	0.91	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	24.900	1.254	3602.4	2708.8	17.054	5.429	2.97		Clay	100.0			23.53	0.94	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	23.550	1.355	3621.6	2718.0	15.996	6.234	3.03		Clay	100.0			22.26	0.94	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	21.990	1.434	3642.0	2727.8	14.788	7.110	3.10		Clay	100.0			20.78	0.94	n.a.	n.a.	0.91	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	26.630	1.362	3661.2	2737.1	18.121	5.491	2.96		Clay	99.4			25.17	0.93	n.a.	n.a.	0.91	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	24.780	1.134	3681.6	2746.8	16.702	4.944	2.95																	

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	CRRM=7.5, $\sigma'_{vc} = 1$ atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
33.790	48.540	0.442	4054.8	2926.0	37.386	0.950	2.24		Sand	42.5	46.8		46.80	0.85	39.60	92.56	0.90	0.645	0.967	0.128	0.152	0.24	0.03	0.07
33.960	45.410	0.515	4075.2	2935.8	34.804	1.186	2.32		Sand	48.8	46.8		46.80	0.85	39.63	95.64	0.90	0.646	0.966	0.132	0.158	0.24	0.03	0.06
34.120	41.210	0.611	4094.4	2945.0	31.376	1.561	2.43		Sand	57.2	46.8		46.80	0.85	39.66	98.68	0.90	0.646	0.965	0.136	0.164	0.25	0.03	0.06
34.280	37.210	0.589	4113.6	2954.2	28.120	1.676	2.48		Sand	61.7	46.8		46.80	0.85	39.63	99.91	0.90	0.646	0.965	0.137	0.167	0.26	0.03	0.07
34.450	27.560	0.693	4134.0	2964.0	17.202	2.716	2.78		Clay	85.4			26.05	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	15.220	0.634	4153.2	2973.2	8.841	4.821	3.16		Clay	100.0			14.39	0.91	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	10.160	0.481	4173.6	2983.0	5.413	5.958	3.39		Clay	100.0			9.60	0.91	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	9.310	0.377	4192.8	2992.2	4.822	5.219	3.39		Clay	100.0			8.80	0.91	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	8.620	0.331	4212.0	3001.4	4.341	5.088	3.43		Clay	100.0			8.15	0.91	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	8.550	0.326	4232.4	3011.2	4.273	5.067	3.43		Clay	100.0			8.08	0.91	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	8.500	0.325	4251.6	3020.4	4.221	5.102	3.44		Clay	100.0			8.03	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	8.220	0.310	4272.0	3030.2	4.016	5.095	3.45		Clay	100.0			7.77	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	8.580	0.380	4291.2	3039.5	4.234	5.910	3.47		Clay	100.0			8.11	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	9.600	0.320	4311.6	3049.2	4.883	4.295	3.34		Clay	100.0			9.07	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	8.720	0.297	4330.8	3058.5	4.286	4.524	3.40		Clay	100.0			8.24	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	8.430	0.251	4350.0	3067.7	4.078	4.014	3.39		Clay	100.0			7.97	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	7.890	0.192	4370.4	3077.5	3.707	3.366	3.39		Clay	100.0			7.46	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	7.250	0.158	4389.6	3086.7	3.275	3.127	3.42		Clay	100.0			6.85	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	7.240	0.145	4410.0	3096.5	3.252	2.888	3.40		Clay	100.0			6.84	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	8.040	0.172	4429.2	3105.7	3.751	2.956	3.35		Clay	100.0			7.60	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	8.930	0.199	4448.4	3114.9	4.306	2.966	3.30		Clay	100.0			8.44	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	9.610	0.216	4468.8	3124.7	4.721	2.922	3.26		Clay	100.0			9.08	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	9.940	0.257	4488.0	3133.9	4.911	3.337	3.28		Clay	100.0			9.40	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	10.020	0.288	4508.4	3143.7	4.941	3.711	3.30		Clay	100.0			9.47	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	10.570	0.291	4527.6	3152.9	5.269	3.508	3.27		Clay	100.0			9.99	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	10.310	0.313	4546.8	3162.1	5.083	3.896	3.30		Clay	100.0			9.74	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	10.810	0.530	4567.2	3171.9	5.376	6.210	3.40		Clay	100.0			10.22	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	20.710	0.719	4586.4	3181.2	11.579	3.903	3.01		Clay	100.0			19.57	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	15.360	0.639	4606.8	3190.9	8.184	4.896	3.19		Clay	100.0			14.52	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	10.930	0.404	4626.0	3200.2	5.385	4.690	3.33		Clay	100.0			10.33	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	10.130	0.351	4645.2	3209.4	4.865	4.498	3.35		Clay	100.0			9.57	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	10.200	0.357	4665.6	3219.2	4.888	4.535	3.35		Clay	100.0			9.64	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	10.140	0.318	4684.8	3228.4	4.831	4.078	3.33		Clay	100.0			9.58	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	10.540	0.413	4705.2	3238.2	5.057	5.043	3.37		Clay	100.0			9.96	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	11.900	0.622	4724.4	3247.4	5.874	6.524	3.38		Clay	100.0			11.25	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	36.680	0.624	4743.6	3256.6	21.070	1.819	2.61		Clay	71.6			34.67	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	52.300	0.746	4764.0	3266.4	37.975	1.494	2.35		Sand	50.9		1.8	88.98	0.83	74.16	140.23	0.87	0.651	0.936	0.235	0.344	0.53	0.02	0.04
39.860	49.020	0.947	4783.2	3275.6	35.422	2.030	2.45		Sand	59.3	49.43	1.8	88.97	0.83	74.25	143.56	0.87	0.651	0.934	0.251	0.375	0.58	0.02	0.04
40.030	35.380	0.783	4803.6	3285.4	20.076	2.374	2.69		Clay	78.3			33.44	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	28.080	0.610	4822.8	3294.6	15.582	2.377	2.78		Clay	85.5			26.54	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	25.680	0.577	4842.0	3303.8	14.080	2.482	2.83		Clay	89.2			24.27	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	22.360	0.809	4862.4	3313.6	12.028	4.060	3.01		Clay	100.0			21.13	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	26.380	0.878	4881.6	3322.8	14.409	3.668	2.92		Clay	96.6			24.93	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	48.200	0.917	4902.0	3332.6	34.456	2.005	2.46		Sand	59.8		1.8	82.00	0.82	67.49	135.07	0.87	0.651	0.936	0.214	0.304	0.47	0.02	0.04
41.010	31.670	0.779	4921.2	3341.9	17.481	2.666	2.77		Clay	84.6			29.93	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	15.120	0.605	4940.4	3351.1	7.550	4.786	3.21		Clay	100.0			14.29	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	11.150	0.379	4960.8	3360.9	5.159	4.375	3.33		Clay	100.0			10.54	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	10.690	0.355	4980.0	3370.1	4.866	4.327	3.35		Clay	100.0			10.10	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	10.490	0.389	5000.4	3379.9	4.728	4.870	3.38		Clay	100.0			9.91	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	10.990	0.366	5019.6	3389.1	5.004	4.318	3.33		Clay	100.0			10.39	0.88	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	10.690	0.353	5038.8	3398.3	4.809	4.317	3.35		Clay	100.0			10.10	0.88	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	12.260	0.289	5059.2	3408.1	5.710	2.974	3.20		Clay	100.0			11.59	0.88	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	11.690	0.300	5078.4	3417.3	5.356	3.279	3.24		Clay	100.0			11.05	0.88	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	11.910	0.303	5098.8	3427.1	5.463	3.240	3.23		Clay	100.0			11.26	0.88	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	13.030	0.273	5118.0	3436.3	6.094	2.604	3.14		Clay	100.0			12.32	0.88	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CPT No.

7

PGA (A_{max})

0.70

Total Settlement: 2.15 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
44.780	12.050	0.438	5373.6	3559.0	5.262	4.682	3.34		Clay	100.0			11.39	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	12.490	0.437	5394.0	3568.8	5.488	4.466	3.31		Clay	100.0			11.81	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.020	0.484	5413.2	3578.0	5.765	4.697	3.30		Clay	100.0			12.31	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	13.480	0.487	5433.6	3587.8	6.000	4.522	3.28		Clay	100.0			12.74	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	13.320	0.502	5452.8	3597.0	5.890	4.734	3.30		Clay	100.0			12.59	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	13.750	0.507	5472.0	3606.2	6.108	4.599	3.28		Clay	100.0			13.00	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	13.970	0.550	5492.4	3616.0	6.208	4.898	3.29		Clay	100.0			13.20	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	13.380	0.479	5511.6	3625.2	5.861	4.507	3.29		Clay	100.0			12.65	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	12.650	0.439	5532.0	3635.0	5.438	4.446	3.31		Clay	100.0			11.96	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	14.460	0.514	5551.2	3644.3	6.413	4.395	3.25		Clay	100.0			13.67	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.290	0.683	5570.4	3653.5	6.845	5.465	3.28		Clay	100.0			14.45	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	15.790	0.720	5590.8	3663.3	7.095	5.544	3.27		Clay	100.0			14.92	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	15.750	0.715	5610.0	3672.5	7.050	5.521	3.27		Clay	100.0			14.89	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	16.100	0.781	5630.4	3682.3	7.216	5.876	3.28		Clay	100.0			15.22	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.100	0.826	5649.6	3691.5	7.192	6.219	3.30		Clay	100.0			15.22	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	17.030	0.830	5668.8	3700.7	7.672	5.845	3.26		Clay	100.0			16.10	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	16.430	0.736	5689.2	3710.5	7.323	5.415	3.26		Clay	100.0			15.53	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	15.830	0.682	5708.4	3719.7	6.977	5.253	3.27		Clay	100.0			14.96	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	15.250	0.670	5728.8	3729.5	6.642	5.405	3.29		Clay	100.0			14.41	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	15.950	0.696	5748.0	3738.7	6.995	5.326	3.27		Clay	100.0			15.08	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	16.890	0.789	5767.2	3747.9	7.474	5.632	3.26		Clay	100.0			15.96	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	16.510	0.779	5787.6	3757.7	7.247	5.724	3.27		Clay	100.0			15.60	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	16.310	0.709	5806.8	3766.9	7.118	5.288	3.26		Clay	100.0			15.42	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	16.060	0.653	5827.2	3776.7	6.962	4.964	3.25		Clay	100.0			15.18	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	15.960	0.636	5846.4	3786.0	6.887	4.878	3.25		Clay	100.0			15.09	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	16.580	0.697	5865.6	3795.2	7.192	5.109	3.25		Clay	100.0			15.67	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	17.070	0.754	5886.0	3805.0	7.426	5.338	3.25		Clay	100.0			16.13	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	17.290	0.729	5905.2	3814.2	7.518	5.083	3.23		Clay	100.0			16.34	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	16.460	0.687	5925.6	3824.0	7.059	5.089	3.25		Clay	100.0			15.56	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	16.150	0.673	5944.8	3833.2	6.876	5.110	3.26		Clay	100.0			15.26	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	17.290	0.735	5964.0	3842.4	7.447	5.134	3.24		Clay	100.0			16.34	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	17.830	0.774	5984.4	3852.2	7.704	5.216	3.23		Clay	100.0			16.85	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	16.930	0.695	6003.6	3861.4	7.214	4.993	3.24		Clay	100.0			16.00	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	15.830	0.570	6024.0	3871.2	6.622	4.443	3.24		Clay	100.0			14.96	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	15.590	0.539	6043.2	3880.4	6.478	4.292	3.24		Clay	100.0			14.74	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	15.790	0.532	6062.4	3889.6	6.560	4.168	3.23		Clay	100.0			14.92	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	16.280	0.515	6082.8	3899.4	6.790	3.893	3.20		Clay	100.0			15.39	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	16.270	0.524	6102.0	3908.6	6.764	3.966	3.21		Clay	100.0			15.38	0.85	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	17.070	0.533	6122.4	3918.4	7.150	3.807	3.18		Clay	100.0			16.13	0.85	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	18.020	0.601	6141.6	3927.6	7.612	4.021	3.17		Clay	100.0			17.03	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	19.070	0.741	6162.0	3937.4	8.122	4.634	3.18		Clay	100.0			18.02	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	22.730	0.822	6181.2	3946.7	9.952	4.184	3.08		Clay	100.0			21.48	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	26.860	1.020	6200.4	3955.9	12.012	4.291	3.02		Clay	100.0			25.39	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	29.880	0.934	6220.8	3965.7	13.501	3.489	2.93		Clay	97.3			28.24	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	27.440	1.619	6240.0	3974.9	12.237	6.657	3.14		Clay	100.0			25.94	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	45.210	2.100	6260.4	3984.7	21.121	4.991	2.88		Clay	93.2			42.73	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	119.730	1.670	6279.6	3993.9	80.211	1.433	2.08		Sand	29.8	130.09	1.78	231.56	0.85	195.83	270.40	0.82	0.644	0.809	2071.273	3688.405	5731.21	0.00	0.00
52.490	137.640	1.601	6298.8	4003.1	92.420	1.190	1.99		Sand	21.8		1.78	231.57	0.84	195.28	250.89	0.82	0.643	0.809	144.741	257.526			

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5,σ' 'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
55.770	22.690	0.771	6692.4	4192.0	9.229	3.986	3.10		Clay	100.0			21.45	0.83	n.a.	n.a.	0.80	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	23.160	0.818	6712.8	4201.8	9.426	4.131	3.10		Clay	100.0			21.89	0.83	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	23.310	0.864	6732.0	4211.0	9.472	4.334	3.11		Clay	100.0			22.03	0.83	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	23.010	0.899	6752.4	4220.8	9.303	4.580	3.13		Clay	100.0			21.75	0.83	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	23.150	0.950	6771.6	4230.0	9.345	4.808	3.14		Clay	100.0			21.88	0.83	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	23.130	0.888	6790.8	4239.3	9.310	4.499	3.12		Clay	100.0			21.86	0.83	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	22.190	0.820	6811.2	4249.1	8.842	4.365	3.13		Clay	100.0			20.97	0.83	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	21.860	0.808	6830.4	4258.3	8.663	4.382	3.14		Clay	100.0			20.66	0.83	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	22.290	0.872	6850.8	4268.1	8.840	4.621	3.15		Clay	100.0			21.07	0.83	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	21.800	0.881	6870.0	4277.3	8.587	4.799	3.17		Clay	100.0			20.60	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	22.140	0.878	6889.2	4286.5	8.723	4.697	3.16		Clay	100.0			20.93	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	21.410	0.920	6909.6	4296.3	8.358	5.125	3.20		Clay	100.0			20.24	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	21.420	0.943	6928.8	4305.5	8.341	5.251	3.20		Clay	100.0			20.25	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	21.630	1.007	6949.2	4315.3	8.414	5.545	3.21		Clay	100.0			20.44	0.83	n.a.	n.a.	0.80	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	22.080	1.010	6968.4	4324.5	8.600	5.433	3.20		Clay	100.0			20.87	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	22.500	1.006	6987.6	4333.7	8.771	5.290	3.19		Clay	100.0			21.27	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	21.910	0.902	7008.0	4343.5	8.475	4.901	3.18		Clay	100.0			20.71	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	20.810	0.802	7027.2	4352.7	7.947	4.638	3.19		Clay	100.0			19.67	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	19.790	0.731	7047.6	4362.5	7.457	4.492	3.20		Clay	100.0			18.71	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	20.320	0.716	7066.8	4371.7	7.680	4.266	3.18		Clay	100.0			19.21	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	20.740	0.679	7087.2	4381.5	7.849	3.948	3.15		Clay	100.0			19.60	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	20.420	0.664	7106.4	4390.8	7.683	3.938	3.16		Clay	100.0			19.30	0.82	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	21.260	0.624	7125.6	4400.0	8.044	3.526	3.11		Clay	100.0			20.09	0.82	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	21.070	0.377	7146.0	4409.8	7.936	2.157	3.00		Clay	100.0			19.91	0.82	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	19.940	0.425	7165.2	4419.0	7.403	2.595	3.07		Clay	100.0			18.85	0.82	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	13.890	0.378	7185.6	4428.8	4.650	3.671	3.32		Clay	100.0			13.13	0.82	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	19.060	0.307	7204.8	4438.0	6.966	1.988	3.03		Clay	100.0			18.02	0.82	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	19.050	0.321	7224.0	4447.2	6.943	2.081	3.05		Clay	100.0			18.01	0.82	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	19.440	0.379	7244.4	4457.0	7.098	2.393	3.07		Clay	100.0			18.37	0.82	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	19.010	0.405	7263.6	4466.2	6.886	2.634	3.10		Clay	100.0			17.97	0.82	n.a.	n.a.	0.78	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	18.590	0.333	7284.0	4476.0	6.679	2.226	3.07		Clay	100.0			17.57	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	17.680	0.291	7303.2	4485.2	6.255	2.073	3.08		Clay	100.0			16.71	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	17.930	0.319	7322.4	4494.4	6.350	2.236	3.09		Clay	100.0			16.95	0.82	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	17.880	0.313	7342.8	4504.2	6.309	2.202	3.09		Clay	100.0			16.90	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	16.750	0.267	7362.0	4513.4	5.791	2.039	3.11		Clay	100.0			15.83	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	16.890	0.339	7382.4	4523.2	5.836	2.569	3.16		Clay	100.0			15.96	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	20.530	0.522	7401.6	4532.4	7.426	3.102	3.11		Clay	100.0			19.40	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	24.110	0.691	7420.8	4541.7	8.983	3.387	3.07		Clay	100.0			22.79	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	27.290	0.858	7441.2	4551.5	10.357	3.642	3.03		Clay	100.0			25.79	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	29.970	1.131	7460.4	4560.7	11.507	4.311	3.04		Clay	100.0			28.33	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	35.600	1.899	7480.8	4570.5	13.942	5.959	3.06		Clay	100.0			33.65	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	47.770	2.539	7500.0	4579.7	19.224	5.769	2.95		Clay	99.0			45.15	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	48.050	2.786	7519.2	4588.9	19.303	6.290	2.97		Clay	100.0			45.42	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	47.020	2.609	7539.6	4598.7	18.810	6.031	2.97		Clay	100.0			44.44	0.81	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	45.620	1.849	7558.8	4607.9	18.160	4.419	2.89		Clay	94.4			43.12	0.81	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	45.180	1.704	7579.2	4617.7	17.927	4.117	2.88		Clay	93.2			42.70	0.81	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.320	38.970	1.541	7598.4	4626.9	15.203	4.382	2.95		Clay	99.0			36.83	0.81	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	33.790	1.291	7617.6	4636.1	12.934	4.306	3.00		Clay	100.0			31.94	0.81	n.a.	n.a.	0.77	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.650	34.450	1.006	7638.0	4645.9</																				

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5,r _s γ _c = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
66.770	20.160	0.354	8012.4	4825.6	6.695	2.191	3.07		Clay	100.0			19.05	0.80	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	19.690	0.345	8031.6	4834.8	6.484	2.201	3.08		Clay	100.0			18.61	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	18.140	0.343	8050.8	4844.1	5.828	2.427	3.14		Clay	100.0			17.15	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	17.970	0.378	8071.2	4853.9	5.742	2.715	3.18		Clay	100.0			16.98	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	19.200	0.615	8090.4	4863.1	6.233	4.061	3.24		Clay	100.0			18.15	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	24.390	0.852	8110.8	4872.9	8.346	4.189	3.14		Clay	100.0			23.05	0.80	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	40.520	1.039	8130.0	4882.1	14.934	2.851	2.84		Clay	90.3			38.30	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	34.090	1.097	8149.2	4891.3	12.273	3.653	2.97		Clay	100.0			32.22	0.80	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	25.450	1.061	8169.6	4901.1	8.719	4.966	3.17		Clay	100.0			24.05	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	23.540	0.879	8188.8	4910.3	7.920	4.518	3.18		Clay	100.0			22.25	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	22.810	0.713	8209.2	4920.1	7.604	3.810	3.15		Clay	100.0			21.56	0.80	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	20.360	0.568	8228.4	4929.3	6.592	3.493	3.18		Clay	100.0			19.24	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	19.470	0.439	8247.6	4938.5	6.215	2.861	3.16		Clay	100.0			18.40	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	18.610	0.384	8268.0	4948.3	5.851	2.653	3.16		Clay	100.0			17.59	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	18.680	0.375	8287.2	4957.5	5.864	2.579	3.16		Clay	100.0			17.66	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	19.270	0.375	8307.6	4967.3	6.086	2.477	3.13		Clay	100.0			18.21	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	19.490	0.389	8326.8	4976.5	6.160	2.541	3.13		Clay	100.0			18.42	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	19.460	0.398	8346.0	4985.8	6.132	2.606	3.14		Clay	100.0			18.39	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	18.960	0.401	8366.4	4995.6	5.916	2.711	3.16		Clay	100.0			17.92	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	18.880	0.391	8385.6	5004.8	5.869	2.659	3.16		Clay	100.0			17.84	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	19.120	0.372	8406.0	5014.6	5.949	2.496	3.14		Clay	100.0			18.07	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	19.960	0.437	8425.2	5023.8	6.269	2.778	3.15		Clay	100.0			18.87	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	23.420	0.496	8444.4	5033.0	7.629	2.586	3.06		Clay	100.0			22.14	0.80	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	28.010	0.571	8464.8	5042.8	9.430	2.400	2.96		Clay	100.0			26.47	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	27.040	0.717	8484.0	5052.0	9.025	3.146	3.05		Clay	100.0			25.56	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	26.070	0.807	8504.4	5061.8	8.621	3.700	3.10		Clay	100.0			24.64	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	24.250	0.731	8523.6	5071.0	7.883	3.659	3.13		Clay	100.0			22.92	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	23.790	0.678	8542.8	5080.2	7.684	3.473	3.13		Clay	100.0			22.49	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	23.780	0.732	8563.2	5090.0	7.661	3.753	3.15		Clay	100.0			22.48	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	25.160	0.800	8582.4	5099.2	8.185	3.832	3.13		Clay	100.0			23.78	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	25.080	0.939	8602.8	5109.0	8.134	4.521	3.17		Clay	100.0			23.71	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	25.830	0.946	8622.0	5118.2	8.409	4.397	3.15		Clay	100.0			24.41	0.79	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	24.260	0.868	8641.2	5127.5	7.778	4.355	3.18		Clay	100.0			22.93	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	23.590	0.776	8661.6	5137.2	7.498	4.030	3.17		Clay	100.0			22.30	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	23.010	0.703	8680.8	5146.5	7.255	3.763	3.17		Clay	100.0			21.75	0.79	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	22.560	0.667	8701.2	5156.3	7.063	3.663	3.17		Clay	100.0			21.32	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	22.520	0.648	8720.4	5165.5	7.031	3.566	3.17		Clay	100.0			21.29	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	23.150	0.605	8739.6	5174.7	7.258	3.221	3.13		Clay	100.0			21.88	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	26.030	0.639	8760.0	5184.5	8.352	2.950	3.06		Clay	100.0			24.60	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	25.030	0.705	8779.2	5193.7	7.948	3.415	3.11		Clay	100.0			23.66	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	27.980	0.812	8799.6	5203.5	9.063	3.443	3.07		Clay	100.0			26.45	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	26.100	0.902	8818.8	5212.7	8.322	4.159	3.14		Clay	100.0			24.67	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	25.130	0.853	8838.0	5221.9	7.932	4.121	3.16		Clay	100.0			23.75	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	24.390	0.809	8858.4	5231.7	7.631	4.053	3.17		Clay	100.0			23.05	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	24.220	0.758	8877.6	5240.9	7.549	3.834	3.16		Clay	100.0			22.89	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	23.430	0.682	8898.0	5250.7	7.230	3.591	3.16		Clay	100.0			22.15	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	23.430	0.734	8917.2	5259.9	7.214	3.870	3.18		Clay	100.0			22.15	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	24.370	0.799	8937.6	5269.7	7.553	4.015	3.17		Clay	100.0			23.03	0.79	n.a.	n.a.	0.73	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	24.730	0.801	8956.8																					

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
77.760	30.010	0.849	9331.2	5458.7	9.286	3.349	3.05		Clay	100.0			28.36	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	30.250	0.974	9350.4	5467.9	9.355	3.809	3.08		Clay	100.0			28.59	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	32.910	0.874	9369.6	5477.1	10.307	3.098	2.99		Clay	100.0			31.11	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	30.590	0.843	9390.0	5486.9	9.439	3.256	3.04		Clay	100.0			28.91	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	30.050	0.669	9409.2	5496.1	9.223	2.641	3.00		Clay	100.0			28.40	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	30.990	0.644	9429.6	5505.9	9.544	2.450	2.96		Clay	100.0			29.29	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	26.670	0.622	9448.8	5515.1	7.958	2.836	3.07		Clay	100.0			25.21	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	26.900	0.589	9468.0	5524.3	8.025	2.655	3.05		Clay	100.0			25.43	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	26.110	0.527	9488.4	5534.1	7.721	2.464	3.04		Clay	100.0			24.68	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	24.620	0.491	9507.6	5543.3	7.168	2.472	3.07		Clay	100.0			23.27	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	24.100	0.460	9528.0	5553.1	6.964	2.381	3.07		Clay	100.0			22.78	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	23.810	0.456	9547.2	5562.3	6.845	2.395	3.08		Clay	100.0			22.50	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	24.570	0.673	9566.4	5571.6	7.103	3.400	3.15		Clay	100.0			23.22	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	34.490	0.513	9586.8	5581.3	10.641	1.726	2.84		Clay	90.6			32.60	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	27.400	0.578	9606.0	5590.6	8.084	2.557	3.04		Clay	100.0			25.90	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	28.630	0.638	9626.4	5600.4	8.505	2.680	3.03		Clay	100.0			27.06	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	35.890	0.906	9645.6	5609.6	11.077	2.917	2.95		Clay	99.3			33.92	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	36.510	0.991	9664.8	5618.8	11.276	3.128	2.96		Clay	100.0			34.51	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	32.610	1.003	9685.2	5628.6	9.867	3.611	3.05		Clay	100.0			30.82	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	30.560	0.923	9704.4	5637.8	9.120	3.588	3.07		Clay	100.0			28.88	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	29.940	0.854	9724.8	5647.6	8.881	3.406	3.07		Clay	100.0			28.30	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	30.610	0.809	9744.0	5656.8	9.100	3.145	3.04		Clay	100.0			28.93	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	29.480	0.857	9763.2	5666.0	8.683	3.485	3.08		Clay	100.0			27.86	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	29.810	0.992	9783.6	5675.8	8.780	3.982	3.11		Clay	100.0			28.18	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	29.240	1.143	9802.8	5685.0	8.562	4.697	3.17		Clay	100.0			27.64	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	31.670	1.155	9823.2	5694.8	9.397	4.317	3.11		Clay	100.0			29.93	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	27.080	1.147	9842.4	5704.0	7.770	5.174	3.22		Clay	100.0			25.60	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	34.910	1.159	9862.8	5713.8	10.493	3.867	3.04		Clay	100.0			33.00	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	27.850	1.152	9882.0	5723.0	8.006	5.029	3.21		Clay	100.0			26.32	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	27.750	1.184	9901.2	5732.3	7.955	5.192	3.22		Clay	100.0			26.23	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	27.810	1.490	9921.6	5742.0	7.959	6.519	3.28		Clay	100.0			26.29	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	31.880	1.216	9940.8	5751.3	9.358	4.520	3.12		Clay	100.0			30.13	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	33.330	0.789	9961.2	5761.1	9.842	2.782	2.98		Clay	100.0			31.50	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	22.520	0.753	9980.4	5770.3	6.076	4.298	3.26		Clay	100.0			21.29	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	23.650	0.704	9999.6	5779.5	6.454	3.776	3.21		Clay	100.0			22.35	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	23.770	0.734	10020.0	5789.3	6.481	3.912	3.22		Clay	100.0			22.47	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	23.930	0.663	10039.2	5798.5	6.523	3.505	3.19		Clay	100.0			22.62	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	23.960	0.572	10059.6	5808.3	6.518	3.020	3.15		Clay	100.0			22.65	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	24.480	0.627	10078.8	5817.5	6.683	3.223	3.16		Clay	100.0			23.14	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	25.610	0.684	10098.0	5826.7	7.057	3.329	3.15		Clay	100.0			24.21	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	26.580	0.752	10118.4	5836.5	7.375	3.496	3.14		Clay	100.0			25.12	0.77	n.a.	n.a.	0.69	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	27.390	0.763	10137.6	5845.7	7.637	3.416	3.13		Clay	100.0			25.89	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	26.970	0.748	10158.0	5855.5	7.477	3.416	3.13		Clay	100.0			25.49	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	27.010	0.716	10177.2	5864.7	7.476	3.266	3.12		Clay	100.0			25.53	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	25.880	0.732	10196.4	5874.0	7.076	3.520	3.16		Clay	100.0			24.46	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	25.910	0.685	10216.8	5883.7	7.071	3.291	3.14		Clay	100.0			24.49	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.300	25.750	0.670	10236.0	5893.0	7.002	3.245	3.14		Clay	100.0			24.34	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.470	26.390	0.666	10256.4	5902.8	7.204	3.132	3.13		Clay	100.0			24.94	0.76	n.a.	n.a.	0.69	0.581	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.630	27.750	0.727	10275.6	5912.0	7.650	3.214																		

CPT No.

7

PGA (A_{max})

0.70

Total Settlement:

2.15 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	CRRM=7.5, $\sigma'_{vc} = 1 \text{ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
88.750	25.350	0.697	10650.0	6091.7	6.575	3.480	3.18		Clay	100.0			23.96	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	27.130	0.852	10669.2	6100.9	7.145	3.909	3.18		Clay	100.0			25.64	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	31.400	1.071	10688.4	6110.1	8.529	4.111	3.13		Clay	100.0			29.68	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	33.030	1.365	10708.8	6119.9	9.044	4.930	3.16		Clay	100.0			31.22	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	36.120	1.703	10728.0	6129.1	10.036	5.537	3.15		Clay	100.0			34.14	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	38.460	1.875	10748.4	6138.9	10.779	5.666	3.14		Clay	100.0			36.35	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	37.580	1.871	10767.6	6148.1	10.473	5.811	3.15		Clay	100.0			35.52	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	37.660	1.976	10788.0	6157.9	10.480	6.125	3.17		Clay	100.0			35.60	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	36.830	2.159	10807.2	6167.1	10.192	6.870	3.21		Clay	100.0			34.81	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	50.950	2.838	10826.4	6176.4	14.746	6.233	3.06		Clay	100.0			48.16	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	164.350	4.207	10846.8	6186.1	87.853	2.647	2.24		Sand	42.4			155.34	0.68	104.90	173.98	0.68	0.573	0.786	0.578	0.905	1.58	0.00	0.00
90.550	352.360	6.015	10866.0	6195.4	191.636	1.734	1.88		Sand	13.5			333.04	0.75	250.85	279.28	0.68	0.572	0.678	8774.998	13083.345	22861.84	0.00	0.00
90.720	414.840	6.905	10886.4	6205.2	225.965	1.687	1.83		Sand	9.2			392.10	0.75	295.21	304.82	0.68	0.572	0.677	#####	#####	3732386.33	0.00	0.00
90.880	413.540	5.088	10905.6	6214.4	225.075	1.247	1.73		Sand	1.1			390.87	0.75	294.17	294.17	0.68	0.572	0.677	#####	#####	372023.96	0.00	0.00
91.040	372.820	3.229	10924.8	6223.6	202.461	0.879	1.65		Sand	0.0			352.38	0.75	265.10	265.10	0.67	0.571	0.676	940.660	1399.684	2449.38	0.00	0.00
91.210	418.300	2.827	10945.2	6233.4	227.342	0.685	1.53		Sand	0.0			395.37	0.75	297.31	297.31	0.67	0.571	0.676	#####	#####	714466.04	0.00	0.00
91.370	488.670	3.246	10964.4	6242.6	265.892	0.672	1.48		Sand	0.0			461.88	0.75	347.19	347.19	0.67	0.571	0.675	#####	#####	#####	0.00	0.00
91.540	504.830	3.383	10984.8	6252.4	274.564	0.677	1.47		Sand	0.0			477.16	0.75	358.53	358.53	0.67	0.571	0.675	#####	#####	#####	0.00	0.00
91.700	509.400	3.739	11004.0	6261.6	276.868	0.742	1.50		Sand	0.0			481.47	0.75	361.63	361.63	0.67	0.570	0.675	#####	#####	#####	0.00	0.00
91.860	521.360	3.961	11023.2	6270.8	283.225	0.768	1.50		Sand	0.0			492.78	0.75	369.98	369.98	0.67	0.570	0.674	#####	#####	#####	0.00	0.00
92.030	544.040	3.552	11043.6	6280.6	295.442	0.659	1.44		Sand	0.0			514.22	0.75	385.92	385.92	0.67	0.570	0.674	#####	#####	#####	0.00	0.00
92.190	537.260	3.724	11062.8	6289.8	291.503	0.700	1.46		Sand	0.0			507.81	0.75	380.96	380.96	0.67	0.570	0.673	#####	#####	#####	0.00	0.00
92.360	464.800	2.977	11083.2	6299.6	251.578	0.648	1.49		Sand	0.0			439.32	0.75	329.44	329.44	0.67	0.569	0.673	#####	#####	#####	0.00	0.00
92.520	422.050	3.962	11102.4	6308.8	227.988	0.951	1.63		Sand	0.0			398.91	0.75	299.03	299.03	0.67	0.569	0.672	#####	#####	1028289.85	0.00	0.00
92.680	449.730	3.371	11121.6	6318.0	242.957	0.759	1.54		Sand	0.0			425.08	0.75	318.52	318.52	0.67	0.569	0.672	#####	#####	#####	0.00	0.00
92.850	469.680	5.239	11142.0	6327.8	253.667	1.129	1.66		Sand	0.0			443.93	0.75	332.51	332.51	0.67	0.568	0.671	#####	#####	#####	0.00	0.00
93.010	439.800	5.836	11161.2	6337.1	237.158	1.344	1.74		Sand	2.0			415.69	0.75	311.24	311.24	0.67	0.568	0.671	#####	#####	#####	0.00	0.00
93.180	416.670	5.450	11181.6	6346.8	224.346	1.326	1.75		Sand	2.8			393.83	0.75	294.75	294.75	0.67	0.568	0.670	#####	#####	417937.62	0.00	0.00
93.340	442.730	4.876	11200.8	6356.1	238.390	1.115	1.67		Sand	0.0			418.46	0.75	313.06	313.06	0.67	0.568	0.670	#####	#####	#####	0.00	0.00
93.500	475.080	4.870	11220.0	6365.3	255.842	1.037	1.63		Sand	0.0			449.04	0.75	335.81	335.81	0.67	0.567	0.670	#####	#####	#####	0.00	0.00
93.670	556.460	5.987	11240.4	6375.1	299.954	1.087	1.60		Sand	0.0			525.95	0.75	393.17	393.17	0.67	0.567	0.669	#####	#####	#####	0.00	0.00
93.830	693.070	4.410	11259.6	6384.3	374.068	0.641	1.36		Sand	0.0			655.08	0.75	489.51	489.51	0.67	0.567	0.669	#####	#####	#####	0.00	0.00
94.000	734.070	5.523	11280.0	6394.1	396.069	0.758	1.40		Sand	0.0			693.83	0.75	518.26	518.26	0.67	0.567	0.668	#####	#####	#####	0.00	0.00
94.160	726.990	5.310	11299.2	6403.3	391.932	0.736	1.40		Sand	0.0			687.14	0.75	513.07	513.07	0.67	0.566	0.668	#####	#####	#####	0.00	0.00
94.320	678.110	6.040	11318.4	6412.5	365.106	0.898	1.48		Sand	0.0			640.94	0.75	478.39	478.39	0.67	0.566	0.667	#####	#####	#####	0.00	0.00
94.490	583.820	4.119	11338.8	6422.3	313.666	0.712	1.45		Sand	0.0			551.81	0.75	411.70	411.70	0.67	0.566	0.667	#####	#####	#####	0.00	0.00
94.650	588.010	3.296	11358.0	6431.5	315.708	0.566	1.37		Sand	0.0			555.78	0.75	414.50	414.50	0.66	0.566	0.666	#####	#####	#####	0.00	0.00
94.820	665.090	3.250	11378.4	6441.3	357.219	0.493	1.29		Sand	0.0			628.63	0.75	468.65	468.65	0.66	0.565	0.666	#####	#####	#####	0.00	0.00

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tl})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	0.090	0.101	19.2	19.2	8.375	125.373	4.18		Unsaturated	100.0			0.09	1.70	0.14	54.12	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	0.840	0.246	39.6	39.6	41.424	29.968	3.27		Unsaturated	100.0			0.79	1.70	1.35	55.70	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	1.710	0.828	58.8	58.8	57.163	49.280	3.38		Unsaturated	100.0			1.62	1.70	2.75	57.53	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	95.750	1.430	79.2	79.2	467.594	1.494	1.61		Unsaturated	0.0			90.50	1.70	153.85	153.85	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	100.870	1.051	98.4	98.4	441.901	1.042	1.49		Unsaturated	0.0			95.34	1.70	162.08	162.08	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	132.530	1.635	117.6	117.6	531.117	1.234	1.51		Unsaturated	0.0			125.26	1.70	212.95	212.95	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	59.510	0.548	138.0	138.0	219.998	0.922	1.64		Unsaturated	0.0			56.25	1.70	95.62	95.62	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	9.980	0.254	157.2	157.2	34.335	2.563	2.53		Unsaturated	65.3			9.43	1.70	16.04	70.43	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	12.260	0.175	177.6	177.6	39.709	1.439	2.32		Unsaturated	48.9			11.59	1.70	19.70	70.52	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	8.290	0.173	196.8	196.8	25.388	2.112	2.58		Unsaturated	69.3			7.84	1.70	13.32	67.70	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	7.540	0.078	216.0	216.0	21.986	1.044	2.46		Unsaturated	60.0			7.13	1.70	12.12	64.22	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	6.420	0.086	236.4	236.4	17.820	1.358	2.60		Unsaturated	70.9			6.07	1.70	10.32	64.09	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	5.590	0.080	255.6	255.6	22.670	1.461	2.53		Unsaturated	65.2			5.28	1.70	8.98	61.34	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	4.800	0.077	276.0	276.0	18.336	1.641	2.63		Unsaturated	73.6			4.54	1.70	7.71	61.15	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	4.300	0.040	295.2	295.2	15.581	0.963	2.58		Unsaturated	69.1			4.06	1.70	6.91	59.38	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	3.920	0.042	314.4	314.4	13.510	1.114	2.66		Unsaturated	75.8			3.71	1.70	6.30	59.65	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	4.730	0.070	334.8	334.8	15.676	1.528	2.67		Unsaturated	76.9			4.47	1.70	7.60	61.48	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	4.950	0.077	354.0	354.0	15.771	1.611	2.68		Unsaturated	77.7			4.68	1.70	7.95	62.04	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	4.230	0.057	374.4	374.4	12.845	1.412	2.73		Unsaturated	81.4			4.00	1.70	6.80	61.02	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	3.840	0.046	393.6	393.6	11.177	1.249	2.76		Unsaturated	83.5			3.63	1.70	6.17	60.46	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	3.530	0.033	412.8	412.8	9.862	1.002	2.76		Unsaturated	83.9			3.34	1.70	5.67	59.85	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	3.670	0.024	433.2	433.2	9.907	0.704	2.69		Unsaturated	78.6			3.47	1.70	5.90	59.50	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	3.600	0.044	452.4	452.4	14.915	1.301	2.66		Unsaturated	75.5			3.40	1.70	5.78	58.93	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	4.690	0.057	472.8	472.8	12.017	1.273	2.73		Unsaturated	81.6			4.43	1.70	7.54	62.01	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	5.550	0.079	492.0	492.0	13.919	1.493	2.71		Unsaturated	80.0			5.25	1.70	8.92	63.60	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	6.170	0.094	512.4	512.4	15.084	1.596	2.70		Unsaturated	78.8			5.83	1.70	9.91	64.74	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	7.960	0.161	531.6	531.6	19.126	2.091	2.68		Unsaturated	77.1			7.52	1.70	12.79	68.24	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	10.510	0.240	550.8	550.8	24.817	2.343	2.61		Unsaturated	72.1			9.93	1.70	16.89	72.79	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	10.810	0.170	571.2	571.2	24.878	1.616	2.52		Unsaturated	64.5			10.22	1.70	17.37	71.98	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	11.370	0.247	590.4	590.4	25.580	2.227	2.59		Unsaturated	70.2			10.75	1.70	18.27	74.25	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	14.790	0.300	610.8	610.8	25.482	2.068	2.57		Unsaturated	68.8			13.98	1.70	23.76	81.08	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	12.190	0.309	630.0	630.0	26.210	2.603	2.62		Unsaturated	72.9			11.52	1.70	19.59	76.41	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	15.970	0.372	649.2	649.2	26.697	2.376	2.59		Unsaturated	70.4			15.09	1.70	25.66	83.83	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	20.590	0.514	669.6	669.6	34.033	2.536	2.53		Unsaturated	65.3			19.46	1.70	33.08	92.36	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	19.930	0.500	688.8	688.8	32.446	2.555	2.55		Unsaturated	66.7			18.84	1.70	32.02	91.31	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	24.230	0.413	709.2	709.2	38.980	1.731	2.38		Unsaturated	53.3			22.90	1.70	38.93	96.48	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	26.450	0.396	728.4	728.4	42.023	1.517	2.32		Unsaturated	48.4			25.00	1.70	42.50	99.11	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	30.620	0.432	747.6	747.6	48.096	1.427	2.26		Unsaturated	43.4			28.94	1.66	48.18	103.78	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	31.290	0.670	768.0	768.0	48.488	2.166	2.37		Unsaturated	52.4			29.57	1.63	48.16	107.87	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	24.560	0.714	787.2	787.2	37.449	2.952	2.54		Unsaturated	66.2			23.21	1.64	38.07	98.99	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	19.890	0.812	807.6	807.6	36.146	4.166	2.65		Unsaturated	75.3			18.80	1.65	30.95	91.51	0.99	0.451	1.096	n.a.	n.a.	n.a.	0.00	0.00
6.890	22.820	0.769	826.8	826.8	40.886	3.431	2.56		Unsaturated	67.5			21.57	1.61	34.81	95.06	0.99	0.451	1.096	n.a.	n.a.	n.a.	0.00	0.00
7.050	21.870	0.863	846.0	846.0	38.511	4.022	2.62		Unsaturated	72.8			20.67	1.60	33.06	93.83	0.99	0.451	1.093	n.a.	n.a.	n.a.	0.00	0.00
7.220	32.360	0.800	866.4	866.4	47.159	2.505	2.42		Unsaturated	56.5			30.59	1.54	47.01	107.83	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	46.610	0.787	885.6	885.6	67.451	1.705	2.19		Unsaturated	38.3			44.05	1.48	65.38	121.82	0.99	0.450	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	51.260	0.727	906.0	906.0	73.389	1.430	2.11		Unsaturated	32.1			48.45	1.47	71.02	123.05	0.99	0.450	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.710	49.430	0.628	925.2	925.2	69.994	1.283	2.10		Unsaturated	30														

CPT No.

8

PGA (A_{max})

0.70

Total Settlement: 0.47 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ'vc (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{st})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.320	15.410	0.455	1358.4	1358.4	21.688	3.091	2.73	plastic	Clay	81.8			14.57	1.12	n.a.	n.a.	0.98	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	16.250	0.479	1377.6	1377.6	22.592	3.078	2.72		Clay	80.6			15.36	1.12	n.a.	n.a.	0.98	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	16.820	0.509	1398.0	1398.0	23.063	3.159	2.72		Clay	80.6			15.90	1.12	n.a.	n.a.	0.98	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	25.570	0.588	1417.2	1417.2	28.713	2.366	2.57		Clay	68.3			24.17	1.11	n.a.	n.a.	0.98	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	22.120	0.639	1437.6	1437.6	29.774	2.983	2.62	plastic plastic	Clay	72.5			20.91	1.11	n.a.	n.a.	0.98	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	21.900	0.653	1456.8	1456.8	29.066	3.084	2.64		Clay	73.9			20.70	1.10	n.a.	n.a.	0.98	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	24.770	0.653	1476.0	1476.0	29.228	2.717	2.60		Clay	70.9			23.41	1.10	n.a.	n.a.	0.98	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	25.280	0.663	1496.4	1496.4	29.551	2.704	2.59		Clay	70.5			23.89	1.10	n.a.	n.a.	0.98	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	20.220	0.608	1515.6	1515.6	25.683	3.125	2.68	Clay	77.5			19.11	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
12.800	15.800	0.494	1536.0	1536.0	19.573	3.288	2.79	Clay	85.9			14.93	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
12.960	12.730	0.372	1555.2	1555.2	15.371	3.115	2.85	Clay	91.4			12.03	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.120	14.350	0.321	1574.4	1574.4	17.229	2.364	2.74	Clay	82.5			13.56	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.290	15.870	0.348	1594.8	1594.8	18.902	2.310	2.71	Clay	79.4			15.00	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.450	15.970	0.369	1614.0	1614.0	18.789	2.436	2.72	Clay	80.7			15.09	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.620	12.120	0.320	1634.4	1634.4	13.831	2.828	2.87	Clay	92.3			11.46	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.780	8.020	0.212	1653.6	1653.6	8.700	2.949	3.04	Clay	100.0			7.58	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.940	6.030	0.083	1672.8	1672.8	6.209	1.592	3.03	Clay	100.0			5.70	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.110	5.270	0.055	1693.2	1693.2	5.225	1.252	3.05	Clay	100.0			4.98	1.06	n.a.	n.a.	0.97	0.521	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.270	5.950	0.112	1712.4	1712.4	5.949	2.203	3.12	Clay	100.0			5.62	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.440	11.120	0.174	1732.8	1732.8	11.835	1.697	2.80	Clay	87.1			10.51	1.05	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.600	15.320	0.235	1752.0	1752.0	16.489	1.627	2.67	Clay	76.5			14.48	1.05	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.760	11.290	0.306	1771.2	1771.2	11.748	2.938	2.93	Clay	97.7			10.67	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.930	10.080	0.287	1791.6	1791.6	10.253	3.124	3.00	Clay	100.0			9.53	1.04	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.090	17.720	0.278	1810.8	1810.8	18.571	1.652	2.63	Clay	73.3			16.75	1.04	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.260	17.810	0.413	1831.2	1831.2	18.452	2.445	2.73	Clay	81.3			16.83	1.04	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.420	17.160	0.396	1850.4	1850.4	17.547	2.439	2.75	Clay	82.6			16.22	1.04	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.580	21.080	0.400	1869.6	1869.6	21.550	1.984	2.62	Clay	72.6			19.92	1.03	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.750	15.590	0.336	1890.0	1890.0	15.497	2.296	2.77	Clay	84.9			14.74	1.03	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.910	9.260	0.213	1909.2	1909.2	8.700	2.565	3.01	Clay	100.0			8.75	1.03	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.080	7.240	0.113	1929.6	1929.6	6.504	1.804	3.04	Clay	100.0			6.84	1.02	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.240	8.150	0.092	1948.8	1948.8	7.364	1.275	2.92	Clay	96.7			7.70	1.02	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.400	7.180	0.132	1968.0	1968.0	6.297	2.132	3.09	Clay	100.0			6.79	1.02	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.570	8.020	0.202	1988.4	1988.4	7.067	2.872	3.11	Clay	100.0			7.58	1.02	n.a.	n.a.	0.96	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.730	8.920	0.203	2007.6	2007.6	7.886	2.562	3.05	Clay	100.0			8.43	1.01	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.900	7.670	0.130	2028.0	2028.0	6.564	1.959	3.05	Clay	100.0			7.25	1.01	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.060	8.040	0.115	2047.2	2047.2	6.855	1.638	3.00	Clay	100.0			7.60	1.01	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.220	6.670	0.130	2066.4	2066.4	5.456	2.306	3.16	Clay	100.0			6.30	1.01	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.390	7.150	0.171	2086.8	2086.8	5.853	2.807	3.18	Clay	100.0			6.76	1.00	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.550	7.630	0.227	2106.0	2106.0	6.246	3.447	3.20	Clay	100.0			7.21	1.00	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.720	7.920	0.240	2126.4	2126.4	6.449	3.503	3.19	Clay	100.0			7.49	1.00	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.880	9.380	0.312	2145.6	2145.6	7.743	3.753	3.14	Clay	100.0			8.87	1.00	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.040	13.750	0.325	2164.8	2164.8	11.703	2.563	2.90	Clay	95.2			13.00	0.99	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.210	18.850	0.355	2185.2	2185.2	16.252	2.000	2.72	Clay	80.9			17.82	0.99	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.370	19.100	0.423	2204.4	2204.4	16.329	2.348	2.76	Clay	83.9			18.05	0.99	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.540	15.650	0.450	2224.8	2224.8	13.069	3.093	2.91	Clay	95.8			14.79	0.99	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.700	12.000	0.390	2244.0	2244.0	9.695	3.581	3.05	Clay	100.0			11.34	0.98	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.860	15.980	0.416	2263.2	2263.2	13.122	2.801	2.88	Clay	93.6			15.10	0.98	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.030	11.840	0.336	2283.6	2283.6	9.403	3.139	3.03	Clay	100.0			11.19	0.98	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.190	7.330	0.187	2302.8	2284.7	5.409	3.031	3.22	Clay	100.0			6.93	0.98	n.a.	n.a.	0.95	0.578	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.360	7.440	0.140	2323.2	2294.5	5.473.																			

CPT No.

8

PGA (A_{max})

0.70

Total Settlement:

0.47 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.310	22.060	0.976	2677.2	2464.4	16.816	4.709	2.94		Clay	97.9			20.85	0.96	n.a.	n.a.	0.94	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	20.800	1.040	2696.4	2473.6	15.727	5.349	2.99		Clay	100.0			19.66	0.96	n.a.	n.a.	0.94	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	20.660	1.053	2716.8	2483.4	15.544	5.456	3.00		Clay	100.0			19.53	0.96	n.a.	n.a.	0.94	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	20.200	1.027	2736.0	2492.6	15.110	5.454	3.01		Clay	100.0			19.09	0.96	n.a.	n.a.	0.94	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	20.050	0.941	2756.4	2502.4	14.923	5.038	2.99		Clay	100.0			18.95	0.96	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	19.200	0.961	2775.6	2511.6	14.184	5.395	3.03		Clay	100.0			18.15	0.96	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	15.020	0.876	2794.8	2520.9	10.808	6.429	3.17		Clay	100.0			14.20	0.95	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	11.810	0.541	2815.2	2530.7	8.221	5.202	3.21		Clay	100.0			11.16	0.95	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	9.480	0.291	2834.4	2539.9	6.349	3.614	3.21		Clay	100.0			8.96	0.95	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	9.540	0.257	2854.8	2549.7	6.364	3.168	3.17		Clay	100.0			9.02	0.95	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	10.760	0.377	2874.0	2558.9	7.287	4.042	3.18		Clay	100.0			10.17	0.95	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	13.280	0.386	2893.2	2568.1	9.216	3.258	3.05		Clay	100.0			12.55	0.95	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	18.560	0.578	2913.6	2577.9	13.269	3.377	2.93		Clay	97.1			17.54	0.95	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	19.110	0.685	2932.8	2587.1	13.640	3.885	2.95		Clay	99.3			18.06	0.95	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	17.610	0.652	2953.2	2596.9	12.425	4.039	3.00		Clay	100.0			16.64	0.95	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	16.440	0.635	2972.4	2606.1	11.476	4.249	3.04		Clay	100.0			15.54	0.95	n.a.	n.a.	0.93	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	14.520	0.642	2991.6	2615.3	9.960	4.932	3.13		Clay	100.0			13.72	0.95	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	13.940	0.658	3012.0	2625.1	9.473	5.292	3.16		Clay	100.0			13.18	0.94	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	18.040	0.656	3031.2	2634.3	12.545	3.967	2.99		Clay	100.0			17.05	0.94	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	15.920	0.619	3051.6	2644.1	10.888	4.302	3.06		Clay	100.0			15.05	0.94	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	14.320	0.594	3070.8	2653.3	9.637	4.647	3.12		Clay	100.0			13.53	0.94	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	25.070	0.409	3090.0	2662.6	17.671	1.737	2.66		Clay	75.7			23.70	0.94	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	32.690	0.660	3110.4	2672.4	23.301	2.121	2.61		Clay	71.8			30.90	0.94	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	29.380	0.613	3129.6	2681.6	20.745	2.202	2.66		Clay	75.8			27.77	0.94	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	21.490	0.752	3150.0	2691.4	14.799	3.776	2.92		Clay	96.5			20.31	0.94	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	16.840	0.831	3169.2	2700.6	11.298	5.445	3.11		Clay	100.0			15.92	0.94	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	19.500	0.866	3188.4	2709.8	13.216	4.837	3.02		Clay	100.0			18.43	0.94	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	22.420	0.953	3208.8	2719.6	15.308	4.576	2.96		Clay	99.8			21.19	0.94	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	22.020	0.939	3228.0	2728.8	14.956	4.603	2.97		Clay	100.0			20.81	0.94	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	22.360	0.891	3248.4	2738.6	15.143	4.298	2.95		Clay	98.7			21.13	0.93	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	22.970	0.912	3267.6	2747.8	15.530	4.276	2.94		Clay	97.9			21.71	0.93	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	21.690	0.919	3288.0	2757.6	14.539	4.584	2.98		Clay	100.0			20.50	0.93	n.a.	n.a.	0.92	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	18.560	0.820	3307.2	2766.8	12.221	4.850	3.05		Clay	100.0			17.54	0.93	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	16.620	0.870	3326.4	2776.0	10.776	5.815	3.14		Clay	100.0			15.71	0.93	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	15.020	0.787	3346.8	2785.8	9.582	5.900	3.19		Clay	100.0			14.20	0.93	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	18.330	0.760	3366.0	2795.0	11.912	4.567	3.04		Clay	100.0			17.33	0.93	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	17.810	0.647	3386.4	2804.8	11.492	4.016	3.02		Clay	100.0			16.83	0.93	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	16.980	0.539	3405.6	2814.0	10.858	3.528	3.01		Clay	100.0			16.05	0.93	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	14.810	0.532	3424.8	2823.3	9.278	4.059	3.10		Clay	100.0			14.00	0.93	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	13.180	0.409	3445.2	2833.1	8.088	3.570	3.12		Clay	100.0			12.46	0.93	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	14.110	0.324	3464.4	2842.3	8.710	2.617	3.01		Clay	100.0			13.34	0.93	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	13.660	0.456	3484.8	2852.1	8.357	3.826	3.12		Clay	100.0			12.91	0.92	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	16.700	0.433	3504.0	2861.3	10.448	2.899	2.97		Clay	100.0			15.78	0.92	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	13.970	0.407	3523.2	2870.5	8.506	3.334	3.08		Clay	100.0			13.20	0.92	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	13.970	0.373	3543.6	2880.3	8.470	3.059	3.06		Clay	100.0			13.20	0.92	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	14.470	0.408	3562.8	2889.5	8.783	3.215	3.06		Clay	100.0			13.68	0.92	n.a.	n.a.	0.92	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	14.440	0.398	3583.2	2899.3	8.725	3.150	3.06		Clay	100.0			13.65	0.92	n.a.	n.a.	0.91	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	16.060	0.463	3602.4	2908.5	9.805	3.245	3.02		Clay	100.0			15.18	0.92	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	18.620	0.548	3621.6	2917.7	11.522	3.2																		

CPT No.

8

PGA (A_{max})

0.70

Total Settlement: 0.47 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _{cs} for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
33.300	8.940	0.245	3996.0	3097.4	4.482	3.522	3.33		Clay	100.0			8.45	0.90	n.a.	n.a.	0.90	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	15.830	0.559	4015.2	3106.7	8.899	4.042	3.11		Clay	100.0			14.96	0.90	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	33.610	0.563	4035.6	3116.4	20.274	1.781	2.62		Clay	72.3			31.77	0.90	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	43.590	0.526	4054.8	3125.7	32.322	1.265	2.36		Sand	52.2	45.1	1.72	77.57	0.84	65.37	129.62	0.90	0.645	0.947	0.196	0.272	0.42	0.02	0.05
33.960	43.790	0.770	4075.2	3135.5	32.419	1.843	2.46		Sand	59.7	45.1	1.72	77.57	0.84	65.41	132.37	0.90	0.646	0.946	0.205	0.288	0.45	0.02	0.05
34.120	43.780	0.861	4094.4	3144.7	32.357	2.064	2.49		Sand	62.1	45.1	1.72	77.57	0.84	65.36	133.04	0.90	0.646	0.945	0.207	0.293	0.45	0.02	0.05
34.280	44.070	0.562	4113.6	3153.9	32.526	1.339	2.38		Sand	53.1	45.1	1.72	77.57	0.84	65.12	129.68	0.90	0.646	0.946	0.196	0.272	0.42	0.02	0.05
34.450	47.720	0.638	4134.0	3163.7	35.289	1.398	2.36		Sand	51.6		1.72	77.58	0.84	65.00	128.93	0.90	0.646	0.946	0.194	0.268	0.41	0.02	0.05
34.610	40.420	0.921	4153.2	3172.9	24.169	2.402	2.63		Clay	73.4			38.20	0.90	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	30.420	0.995	4173.6	3182.7	17.805	3.511	2.84		Clay	89.9			28.75	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	21.130	0.960	4192.8	3191.9	11.926	5.042	3.07		Clay	100.0			19.97	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	18.480	0.894	4212.0	3201.1	10.230	5.462	3.14		Clay	100.0			17.47	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	34.180	0.684	4232.4	3210.9	19.972	2.133	2.67		Clay	76.3			32.31	0.90	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	59.570	0.365	4251.6	3220.1	44.013	0.636	2.09		Sand	30.5	59.71	1.8	107.48	0.84	90.40	144.62	0.89	0.648	0.936	0.257	0.387	0.60	0.02	0.04
35.600	63.170	0.562	4272.0	3229.9	46.693	0.921	2.16		Sand	35.4		1.8	107.47	0.84	90.65	150.46	0.89	0.648	0.932	0.292	0.455	0.70	0.02	0.04
35.760	49.510	1.018	4291.2	3239.1	36.183	2.150	2.46		Sand	60.0	59.71	1.8	107.48	0.85	91.50	165.86	0.89	0.648	0.921	0.441	0.760	1.17	0.01	0.01
35.930	25.470	1.033	4311.6	3248.9	14.352	4.429	2.97		Clay	100.0			24.07	0.89	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	16.010	0.559	4330.8	3258.1	8.498	4.038	3.13		Clay	100.0			15.13	0.89	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	12.640	0.310	4350.0	3267.4	6.406	2.961	3.16		Clay	100.0			11.95	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	12.750	0.276	4370.4	3277.2	6.448	2.615	3.12		Clay	100.0			12.05	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	12.360	0.255	4389.6	3286.4	6.186	2.505	3.13		Clay	100.0			11.68	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	11.050	0.200	4410.0	3296.2	5.367	2.258	3.16		Clay	100.0			10.44	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	9.860	0.153	4429.2	3305.4	4.626	1.996	3.19		Clay	100.0			9.32	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	8.990	0.110	4448.4	3314.6	4.082	1.621	3.20		Clay	100.0			8.50	0.89	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	8.510	0.081	4468.8	3324.4	3.775	1.295	3.19		Clay	100.0			8.04	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	8.320	0.075	4488.0	3333.6	3.645	1.234	3.19		Clay	100.0			7.86	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	8.660	0.086	4508.4	3343.4	3.832	1.338	3.19		Clay	100.0			8.19	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	8.840	0.065	4527.6	3352.6	3.923	0.985	3.12		Clay	100.0			8.36	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	9.800	0.104	4546.8	3361.8	4.478	1.387	3.13		Clay	100.0			9.26	0.89	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	9.450	0.112	4567.2	3371.6	4.251	1.559	3.17		Clay	100.0			8.93	0.88	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	9.230	0.119	4586.4	3380.8	4.104	1.717	3.21		Clay	100.0			8.72	0.88	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	10.000	0.131	4606.8	3390.6	4.540	1.706	3.17		Clay	100.0			9.45	0.88	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	10.350	0.205	4626.0	3399.8	4.728	2.549	3.23		Clay	100.0			9.78	0.88	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	11.410	0.219	4645.2	3409.1	5.331	2.404	3.18		Clay	100.0			10.78	0.88	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	10.560	0.160	4665.6	3418.8	4.813	1.946	3.17		Clay	100.0			9.98	0.88	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	9.690	0.117	4684.8	3428.1	4.287	1.595	3.17		Clay	100.0			9.16	0.88	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	10.290	0.160	4705.2	3437.9	4.618	2.021	3.19		Clay	100.0			9.73	0.88	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	12.070	0.252	4724.4	3447.1	5.632	2.594	3.17		Clay	100.0			11.41	0.88	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	15.940	0.329	4743.6	3456.3	7.851	2.421	3.03		Clay	100.0			15.07	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	16.090	0.526	4764.0	3466.1	7.910	3.837	3.14		Clay	100.0			15.21	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	22.560	0.703	4783.2	3475.3	11.607	3.483	2.98		Clay	100.0			21.32	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	24.740	0.513	4803.6	3485.1	12.819	2.297	2.84		Clay	90.4			23.38	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	21.450	0.345	4822.8	3494.3	10.897	1.809	2.85		Clay	90.7			20.27	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	13.520	0.304	4842.0	3503.5	6.336	2.739	3.14		Clay	100.0			12.78	0.88	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	12.540	0.307	4862.4	3513.3	5.755	3.041	3.20		Clay	100.0			11.85	0.87	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	13.350	0.331	4881.6	3522.5	6.194	3.037	3.17		Clay	100.0			12.62	0.87	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	14.070	0.382	4902.0	3532.3	6.579	3.289	3.17		Clay	100.0			13.30	0.87	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.		

CPT No.

8

PGA (A_{max})

0.70

Total Settlement:

0.47 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
44.290	12.040	0.272	5314.8	3730.5	5.030	2.903	3.24		Clay	100.0			11.38	0.86	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	12.420	0.296	5335.2	3740.3	5.215	3.034	3.24		Clay	100.0			11.74	0.86	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	12.590	0.300	5354.4	3749.5	5.288	3.027	3.23		Clay	100.0			11.90	0.86	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	12.600	0.303	5373.6	3758.7	5.275	3.057	3.23		Clay	100.0			11.91	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	12.520	0.332	5394.0	3768.5	5.213	3.382	3.26		Clay	100.0			11.83	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.430	0.369	5413.2	3777.7	5.677	3.445	3.23		Clay	100.0			12.69	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	14.210	0.429	5433.6	3787.5	6.069	3.735	3.23		Clay	100.0			13.43	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	15.400	0.524	5452.8	3796.7	6.676	4.134	3.22		Clay	100.0			14.56	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	15.130	0.463	5472.0	3805.9	6.513	3.733	3.20		Clay	100.0			14.30	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	13.390	0.330	5492.4	3815.7	5.579	3.099	3.22		Clay	100.0			12.66	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	13.510	0.325	5511.6	3824.9	5.623	3.019	3.21		Clay	100.0			12.77	0.86	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	13.670	0.316	5532.0	3834.7	5.687	2.900	3.19		Clay	100.0			12.92	0.85	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	13.380	0.299	5551.2	3843.9	5.517	2.821	3.20		Clay	100.0			12.65	0.85	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.120	0.397	5570.4	3853.2	6.402	3.221	3.18		Clay	100.0			14.29	0.85	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	15.410	0.471	5590.8	3862.9	6.531	3.734	3.20		Clay	100.0			14.57	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	14.900	0.437	5610.0	3872.2	6.247	3.611	3.21		Clay	100.0			14.08	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.860	0.426	5630.4	3882.0	6.206	3.533	3.21		Clay	100.0			14.05	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	14.840	0.416	5649.6	3891.2	6.176	3.459	3.21		Clay	100.0			14.03	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.900	0.437	5668.8	3900.4	6.187	3.624	3.22		Clay	100.0			14.08	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	15.570	0.493	5689.2	3910.2	6.509	3.877	3.21		Clay	100.0			14.72	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	16.090	0.514	5708.4	3919.4	6.754	3.881	3.20		Clay	100.0			15.21	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	16.150	0.504	5728.8	3929.2	6.763	3.794	3.19		Clay	100.0			15.26	0.85	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	16.640	0.555	5748.0	3938.4	6.991	4.033	3.20		Clay	100.0			15.73	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	16.500	0.572	5767.2	3947.6	6.899	4.199	3.21		Clay	100.0			15.60	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	16.490	0.598	5787.6	3957.4	6.871	4.401	3.23		Clay	100.0			15.59	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	17.010	0.596	5806.8	3966.6	7.113	4.226	3.20		Clay	100.0			16.08	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	16.670	0.578	5827.2	3976.4	6.919	4.199	3.21		Clay	100.0			15.76	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	16.390	0.612	5846.4	3985.6	6.758	4.545	3.24		Clay	100.0			15.49	0.85	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	15.780	0.556	5865.6	3994.8	6.432	4.324	3.24		Clay	100.0			14.91	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	16.250	0.500	5886.0	4004.6	6.646	3.758	3.20		Clay	100.0			15.36	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	16.520	0.472	5905.2	4013.9	6.760	3.479	3.17		Clay	100.0			15.61	0.84	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	17.410	0.552	5925.6	4023.6	7.181	3.819	3.17		Clay	100.0			16.46	0.84	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	17.100	0.558	5944.8	4032.9	7.006	3.952	3.19		Clay	100.0			16.16	0.84	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	16.130	0.515	5964.0	4042.1	6.506	3.918	3.22		Clay	100.0			15.25	0.84	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	16.430	0.436	5984.4	4051.9	6.633	3.246	3.16		Clay	100.0			15.53	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	16.510	0.514	6003.6	4061.1	6.653	3.805	3.20		Clay	100.0			15.60	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	18.030	0.635	6024.0	4070.9	7.378	4.225	3.19		Clay	100.0			17.04	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	18.180	0.628	6043.2	4080.1	7.430	4.143	3.18		Clay	100.0			17.18	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	18.400	0.547	6062.4	4089.3	7.517	3.560	3.14		Clay	100.0			17.39	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	17.830	0.499	6082.8	4099.1	7.216	3.371	3.14		Clay	100.0			16.85	0.84	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	16.700	0.417	6102.0	4108.3	6.645	3.054	3.15		Clay	100.0			15.78	0.84	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	16.010	0.400	6122.4	4118.1	6.289	3.087	3.17		Clay	100.0			15.13	0.84	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	15.940	0.361	6141.6	4127.3	6.236	2.803	3.15		Clay	100.0			15.07	0.84	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	16.230	0.356	6162.0	4137.1	6.357	2.704	3.14		Clay	100.0			15.34	0.84	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	16.350	0.352	6181.2	4146.3	6.396	2.658	3.13		Clay	100.0			15.45	0.84	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	15.910	0.358	6200.4	4155.6	6.165	2.796	3.16		Clay	100.0			15.04	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	16.000	0.334	6220.8	4165.3	6.189	2.590	3.14		Clay	100.0			15.12	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	16.320	0.281	6240.0	4174.6	6.324	2.128	3.09		Clay	100.0			15.43	0.84	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	18.400	0.657	6260.4	4184.4	7.299	4.304	3.20																	

CPT No.

8

PGA (A_{max})

0.70

Total Settlement: 0.47 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tt})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' _{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
55.280	19.510	0.368	6633.6	4363.5	7.422	2.271	3.04		Clay	100.0			18.44	0.83	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	17.570	0.360	6654.0	4373.3	6.514	2.525	3.11		Clay	100.0			16.61	0.83	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	16.230	0.308	6673.2	4382.5	5.884	2.386	3.14		Clay	100.0			15.34	0.83	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	15.300	0.236	6692.4	4391.7	5.444	1.972	3.13		Clay	100.0			14.46	0.82	n.a.	n.a.	0.80	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	14.760	0.203	6712.8	4401.5	5.182	1.777	3.12		Clay	100.0			13.95	0.82	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	14.910	0.217	6732.0	4410.7	5.235	1.875	3.13		Clay	100.0			14.09	0.82	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	15.030	0.164	6752.4	4420.5	5.273	1.410	3.07		Clay	100.0			14.21	0.82	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	14.910	0.235	6771.6	4429.7	5.203	2.037	3.15		Clay	100.0			14.09	0.82	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	14.960	0.253	6790.8	4438.9	5.211	2.183	3.16		Clay	100.0			14.14	0.82	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	14.570	0.224	6811.2	4448.7	5.019	2.008	3.16		Clay	100.0			13.77	0.82	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	15.540	0.252	6830.4	4458.0	5.440	2.077	3.14		Clay	100.0			14.69	0.82	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	18.530	0.374	6850.8	4467.7	6.762	2.473	3.09		Clay	100.0			17.51	0.82	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	22.590	0.510	6870.0	4477.0	8.557	2.664	3.02		Clay	100.0			21.35	0.82	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	21.900	0.599	6889.2	4486.2	8.228	3.247	3.09		Clay	100.0			20.70	0.82	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	21.140	0.601	6909.6	4496.0	7.867	3.396	3.11		Clay	100.0			19.98	0.82	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	20.160	0.563	6928.8	4505.2	7.412	3.370	3.13		Clay	100.0			19.05	0.82	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	19.670	0.515	6949.2	4515.0	7.174	3.177	3.13		Clay	100.0			18.59	0.82	n.a.	n.a.	0.80	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	18.690	0.434	6968.4	4524.2	6.722	2.854	3.13		Clay	100.0			17.67	0.82	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	19.750	0.364	6987.6	4533.4	7.172	2.237	3.05		Clay	100.0			18.67	0.82	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	18.380	0.380	7008.0	4543.2	6.549	2.551	3.11		Clay	100.0			17.37	0.82	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	19.230	0.402	7027.2	4552.4	6.905	2.559	3.09		Clay	100.0			18.18	0.82	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	19.450	0.461	7047.6	4562.2	6.982	2.897	3.12		Clay	100.0			18.38	0.82	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	20.980	0.500	7066.8	4571.4	7.633	2.868	3.08		Clay	100.0			19.83	0.82	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	21.030	0.523	7087.2	4581.2	7.634	2.991	3.09		Clay	100.0			19.88	0.82	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	20.620	0.652	7106.4	4590.4	7.436	3.819	3.16		Clay	100.0			19.49	0.82	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	22.660	0.704	7125.6	4599.6	8.304	3.687	3.11		Clay	100.0			21.42	0.81	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	24.710	0.612	7146.0	4609.4	9.171	2.894	3.02		Clay	100.0			23.36	0.81	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	24.120	0.694	7165.2	4618.7	8.893	3.380	3.07		Clay	100.0			22.80	0.81	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	28.920	0.860	7185.6	4628.4	10.944	3.394	3.00		Clay	100.0			27.33	0.81	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	25.990	0.851	7204.8	4637.7	9.655	3.802	3.07		Clay	100.0			24.57	0.81	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	23.790	0.659	7224.0	4646.9	8.685	3.268	3.07		Clay	100.0			22.49	0.81	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	21.130	0.458	7244.4	4656.7	7.519	2.615	3.07		Clay	100.0			19.97	0.81	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	20.860	0.390	7263.6	4665.9	7.385	2.265	3.04		Clay	100.0			19.72	0.81	n.a.	n.a.	0.78	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	21.310	0.362	7284.0	4675.7	7.557	2.051	3.01		Clay	100.0			20.14	0.81	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	20.540	0.352	7303.2	4684.9	7.210	2.082	3.03		Clay	100.0			19.41	0.81	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	20.580	0.334	7322.4	4694.1	7.209	1.976	3.02		Clay	100.0			19.45	0.81	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	20.570	0.333	7342.8	4703.9	7.185	1.970	3.02		Clay	100.0			19.44	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	19.870	0.327	7362.0	4713.1	6.870	2.020	3.04		Clay	100.0			18.78	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	18.760	0.304	7382.4	4722.9	6.381	2.017	3.07		Clay	100.0			17.73	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	18.820	0.275	7401.6	4732.1	6.390	1.820	3.05		Clay	100.0			17.79	0.81	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	18.410	0.246	7420.8	4741.3	6.201	1.675	3.04		Clay	100.0			17.40	0.81	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	18.240	0.207	7441.2	4751.1	6.112	1.422	3.01		Clay	100.0			17.24	0.81	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	18.070	0.169	7460.4	4760.4	6.025	1.176	2.98		Clay	100.0			17.08	0.81	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	18.380	0.173	7480.8	4770.1	6.138	1.184	2.98		Clay	100.0			17.37	0.81	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	20.940	0.215	7500.0	4779.4	7.193	1.249	2.93		Clay	97.1			19.79	0.81	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	22.970	0.318	7519.2	4788.6	8.023	1.656	2.94		Clay	98.3			21.71	0.81	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	25.600	0.950	7539.6	4798.4	9.099	4.351	3.12		Clay	100.0			24.20	0.81	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	29.970	0.993	7558.8	4807.6	10.896	3.793	3.03		Clay	100.0			28.33	0.81	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	36.390	0.953	7579.2	48171																				

CPT No.

8

PGA (A_{max})

0.70

Total Settlement: 0.47 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
66.270	22.770	0.400	7952.4	4996.5	7.523	2.126	3.02		Clay	100.0			21.52	0.80	n.a.	n.a.	0.76	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	21.250	0.363	7972.8	5006.3	6.897	2.102	3.05		Clay	100.0			20.09	0.80	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	20.320	0.440	7992.0	5015.5	6.509	2.694	3.13		Clay	100.0			19.21	0.80	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	22.790	0.670	8012.4	5025.3	7.476	3.569	3.14		Clay	100.0			21.54	0.80	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	30.570	0.762	8031.6	5034.5	10.549	2.870	2.97		Clay	100.0			28.89	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	26.730	0.772	8050.8	5043.7	9.003	3.398	3.07		Clay	100.0			25.26	0.80	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	19.840	0.516	8071.2	5053.5	6.255	3.265	3.19		Clay	100.0			18.75	0.79	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	22.720	0.580	8090.4	5062.8	7.377	3.103	3.11		Clay	100.0			21.47	0.79	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	24.260	0.651	8110.8	5072.5	7.966	3.220	3.10		Clay	100.0			22.93	0.79	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	22.370	0.630	8130.0	5081.8	7.204	3.440	3.15		Clay	100.0			21.14	0.79	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	27.650	0.696	8149.2	5091.0	9.262	2.953	3.02		Clay	100.0			26.13	0.79	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	25.360	0.600	8169.6	5100.8	8.342	2.819	3.05		Clay	100.0			23.97	0.79	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	23.490	0.316	8188.8	5110.0	7.591	1.631	2.96		Clay	99.8			22.20	0.79	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	22.830	0.262	8209.2	5119.8	7.315	1.400	2.94		Clay	98.4			21.58	0.79	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	24.680	0.293	8228.4	5129.0	8.019	1.426	2.91		Clay	95.8			23.33	0.79	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	24.950	0.361	8247.6	5138.2	8.106	1.735	2.95		Clay	98.8			23.58	0.79	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	24.120	0.408	8268.0	5148.0	7.765	2.040	3.00		Clay	100.0			22.80	0.79	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	20.940	0.401	8287.2	5157.2	6.514	2.386	3.10		Clay	100.0			19.79	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	18.030	0.284	8307.6	5167.0	5.371	2.044	3.14		Clay	100.0			17.04	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	15.640	0.223	8326.8	5176.2	4.434	1.945	3.20		Clay	100.0			14.78	0.79	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	14.900	0.193	8346.0	5185.4	4.137	1.800	3.21		Clay	100.0			14.08	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	16.220	0.197	8366.4	5195.2	4.634	1.635	3.15		Clay	100.0			15.33	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	17.340	0.194	8385.6	5204.4	5.052	1.478	3.10		Clay	100.0			16.39	0.79	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	18.020	0.219	8406.0	5214.2	5.300	1.581	3.09		Clay	100.0			17.03	0.79	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	19.260	0.232	8425.2	5223.5	5.761	1.540	3.05		Clay	100.0			18.20	0.79	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	19.820	0.249	8444.4	5232.7	5.962	1.598	3.05		Clay	100.0			18.73	0.79	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	20.620	0.266	8464.8	5242.5	6.252	1.624	3.03		Clay	100.0			19.49	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	20.230	0.276	8484.0	5251.7	6.089	1.724	3.06		Clay	100.0			19.12	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	20.660	0.312	8504.4	5261.5	6.237	1.903	3.07		Clay	100.0			19.53	0.79	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	21.070	0.304	8523.6	5270.7	6.378	1.806	3.05		Clay	100.0			19.91	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	20.810	0.305	8542.8	5279.9	6.265	1.847	3.06		Clay	100.0			19.67	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	21.800	0.321	8563.2	5289.7	6.624	1.831	3.04		Clay	100.0			20.60	0.79	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	22.360	0.338	8582.4	5298.9	6.820	1.868	3.03		Clay	100.0			21.13	0.78	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	21.860	0.327	8602.8	5308.7	6.615	1.864	3.04		Clay	100.0			20.66	0.78	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	22.240	0.381	8622.0	5317.9	6.743	2.122	3.06		Clay	100.0			21.02	0.78	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	22.050	0.416	8641.2	5327.1	6.656	2.349	3.09		Clay	100.0			20.84	0.78	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	20.820	0.375	8661.6	5336.9	6.179	2.274	3.11		Clay	100.0			19.68	0.78	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	20.940	0.335	8680.8	5346.1	6.210	2.019	3.08		Clay	100.0			19.79	0.78	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	20.500	0.279	8701.2	5355.9	6.030	1.725	3.06		Clay	100.0			19.38	0.78	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	19.600	0.225	8720.4	5365.2	5.681	1.475	3.05		Clay	100.0			18.53	0.78	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	20.160	0.258	8739.6	5374.4	5.876	1.635	3.06		Clay	100.0			19.05	0.78	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	21.650	0.257	8760.0	5384.2	6.415	1.486	3.00		Clay	100.0			20.46	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	20.930	0.241	8779.2	5393.4	6.134	1.454	3.02		Clay	100.0			19.78	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	20.900	0.244	8799.6	5403.2	6.108	1.481	3.02		Clay	100.0			19.75	0.78	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	21.340	0.276	8818.8	5412.4	6.256	1.632	3.03		Clay	100.0			20.17	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	21.090	0.318	8838.0	5421.6	6.150	1.905	3.07		Clay	100.0			19.93	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	21.660	0.316	8858.4	5431.4	6.345	1.833	3.05		Clay	100.0			20.47	0.78	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	21.930	0.254	8877.6	5440.6	6.430	1.450	3.00		Clay	100.0			20.73	0.78	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	21.270	0.181	8898.0	5450.4	6																			

CPT No.

8

PGA (A_{max})

0.70

Total Settlement: 0.47 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tl})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
77.260	26.280	0.631	9271.2	5629.5	7.690	2.915	3.08		Clay	100.0			24.84	0.77	n.a.	n.a.	0.72	0.598	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	30.010	0.728	9291.6	5639.3	8.995	2.869	3.02		Clay	100.0			28.36	0.77	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	29.070	0.565	9310.8	5648.5	8.645	2.315	2.99		Clay	100.0			27.48	0.77	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	26.300	0.486	9331.2	5658.3	7.647	2.246	3.03		Clay	100.0			24.86	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	25.260	0.399	9350.4	5667.6	7.264	1.937	3.01		Clay	100.0			23.88	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	23.850	0.383	9369.6	5676.8	6.752	2.000	3.05		Clay	100.0			22.54	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	23.640	0.332	9390.0	5686.6	6.663	1.752	3.02		Clay	100.0			22.34	0.77	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	23.570	0.337	9409.2	5695.8	6.624	1.784	3.03		Clay	100.0			22.28	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	23.900	0.297	9429.6	5705.6	6.725	1.550	3.00		Clay	100.0			22.59	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	22.880	0.319	9448.8	5714.8	6.354	1.755	3.04		Clay	100.0			21.63	0.77	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	23.490	0.311	9468.0	5724.0	6.553	1.660	3.02		Clay	100.0			22.20	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	22.980	0.297	9488.4	5733.8	6.361	1.629	3.03		Clay	100.0			21.72	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	23.070	0.370	9507.6	5743.0	6.379	2.022	3.07		Clay	100.0			21.81	0.77	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	24.790	0.554	9528.0	5752.8	6.962	2.768	3.11		Clay	100.0			23.43	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	26.230	0.706	9547.2	5762.0	7.448	3.292	3.13		Clay	100.0			24.79	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	28.660	0.713	9566.4	5771.2	8.274	2.987	3.06		Clay	100.0			27.09	0.77	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	28.940	0.601	9586.8	5781.0	8.354	2.487	3.02		Clay	100.0			27.35	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	25.730	0.701	9606.0	5790.2	7.228	3.347	3.14		Clay	100.0			24.32	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	26.080	0.673	9626.4	5800.0	7.333	3.165	3.12		Clay	100.0			24.65	0.77	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	25.400	0.583	9646.8	5809.2	7.084	2.832	3.11		Clay	100.0			24.01	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	25.570	0.519	9664.8	5818.5	7.128	2.505	3.08		Clay	100.0			24.17	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	26.010	0.504	9685.2	5828.3	7.264	2.382	3.06		Clay	100.0			24.58	0.77	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	25.950	0.479	9704.4	5837.5	7.228	2.269	3.05		Clay	100.0			24.53	0.77	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	24.120	0.506	9724.8	5847.3	6.587	2.629	3.12		Clay	100.0			22.80	0.76	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	23.560	0.453	9744.0	5856.5	6.382	2.424	3.11		Clay	100.0			22.27	0.76	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	22.720	0.387	9763.2	5865.7	6.082	2.170	3.10		Clay	100.0			21.47	0.76	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	21.090	0.366	9783.6	5875.5	5.514	2.258	3.15		Clay	100.0			19.93	0.76	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	23.170	0.493	9802.8	5884.7	6.209	2.701	3.15		Clay	100.0			21.90	0.76	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	25.580	1.144	9823.2	5894.5	7.013	5.536	3.28		Clay	100.0			24.18	0.76	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	54.580	1.253	9842.4	5903.7	16.823	2.524	2.77		Clay	84.5			51.59	0.76	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	89.540	1.617	9862.8	5913.5	47.837	1.911	2.34		Sand	49.9			84.63	0.61	52.05	111.80	0.70	0.588	0.880	0.155	0.181	0.31	0.03	0.05
82.350	58.770	1.282	9882.0	5922.7	18.177	2.382	2.73		Clay	81.2			55.55	0.76	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	33.380	0.921	9901.2	5931.9	9.585	3.241	3.03		Clay	100.0			31.55	0.76	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	27.980	0.557	9921.6	5941.7	7.748	2.418	3.04		Clay	100.0			26.45	0.76	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	22.740	0.427	9940.8	5950.9	5.972	2.404	3.13		Clay	100.0			21.49	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	22.670	0.378	9961.2	5960.7	5.935	2.139	3.11		Clay	100.0			21.43	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	23.090	0.415	9980.4	5970.0	6.064	2.291	3.12		Clay	100.0			21.82	0.76	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	24.310	0.438	9999.6	5979.2	6.459	2.267	3.09		Clay	100.0			22.98	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	25.300	0.449	10020.0	5989.0	6.776	2.215	3.07		Clay	100.0			23.91	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	25.430	0.440	10039.2	5998.2	6.806	2.155	3.06		Clay	100.0			24.04	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	25.550	0.446	10059.6	6008.0	6.831	2.174	3.06		Clay	100.0			24.15	0.76	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	24.080	0.402	10078.8	6017.2	6.329	2.111	3.08		Clay	100.0			22.76	0.76	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	22.280	0.362	10098.0	6026.4	5.719	2.103	3.12		Clay	100.0			21.06	0.76	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	22.540	0.353	10118.4	6036.2	5.792	2.019	3.11		Clay	100.0			21.30	0.76	n.a.	n.a.	0.69	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	23.920	0.378	10137.6	6045.4	6.237	2.005	3.08		Clay	100.0			22.61	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	24.990	0.440	10158.0	6055.2	6.576	2.210	3.08		Clay	100.0			23.62	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	25.780	0.428	10177.2	6064.4	6.824	2.068	3.05		Clay	100.0			24.37	0.76	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	25.780	0.408	10196.4	6073.6	6.810	1.972	3.04		Clay	100.0			24.37	0.76	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	26.530																							

CPT No. 8

PGA (A_{max}) 0.70

Total Settlement: 0.47 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	CRRM=7.5, σ'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
88.250	26.220	0.563	10590.0	6262.6	6.683	2.690	3.12		Clay	100.0			24.78	0.75	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.420	27.450	0.663	10610.4	6272.4	7.061	2.993	3.12		Clay	100.0			25.95	0.75	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.580	29.250	0.740	10629.6	6281.6	7.621	3.091	3.10		Clay	100.0			27.65	0.75	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.750	29.690	0.772	10650.0	6291.4	7.746	3.169	3.10		Clay	100.0			28.06	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	30.060	0.793	10669.2	6300.6	7.849	3.206	3.10		Clay	100.0			28.41	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	30.550	0.806	10688.4	6309.8	7.989	3.196	3.09		Clay	100.0			28.88	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	31.230	0.774	10708.8	6319.6	8.189	2.992	3.07		Clay	100.0			29.52	0.75	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	30.500	0.775	10728.0	6328.8	7.943	3.084	3.09		Clay	100.0			28.83	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	27.560	1.281	10748.4	6338.6	7.000	5.773	3.29		Clay	100.0			26.05	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	27.460	1.976	10767.6	6347.8	6.956	8.949	3.41		Clay	100.0			25.95	0.75	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	53.410	2.971	10788.0	6357.6	15.105	6.187	3.05		Clay	100.0			50.48	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	81.690	2.805	10807.2	6366.8	23.964	3.677	2.75		Clay	82.9			77.21	0.75	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	128.150	2.399	10826.4	6376.0	66.830	1.954	2.23		Sand	41.7			121.12	0.63	75.79	137.19	0.68	0.573	0.842	0.223	0.287	0.50	0.02	0.00
90.390	158.300	2.120	10846.8	6385.8	83.177	1.387	2.06		Sand	28.1			149.62	0.64	95.36	147.24	0.68	0.573	0.828	0.271	0.368	0.64	0.02	0.00
90.550	183.380	2.221	10866.0	6395.0	96.748	1.248	1.98		Sand	21.7			173.33	0.65	111.90	154.69	0.68	0.572	0.816	0.323	0.454	0.79	0.01	0.00
90.720	193.680	2.013	10886.4	6404.8	102.264	1.069	1.92		Sand	16.7			183.06	0.64	116.31	146.22	0.68	0.572	0.829	0.265	0.358	0.63	0.02	0.00
90.880	188.650	1.719	10905.6	6414.0	99.455	0.938	1.89		Sand	14.6			178.31	0.62	110.35	132.87	0.68	0.572	0.847	0.207	0.261	0.46	0.02	0.00
91.040	195.970	1.383	10924.8	6423.3	103.349	0.726	1.81		Sand	8.1			185.23	0.59	109.88	113.18	0.67	0.571	0.869	0.158	0.183	0.32	0.03	0.00
91.210	193.220	1.508	10945.2	6433.1	101.774	0.803	1.84		Sand	10.6			182.63	0.60	109.78	119.49	0.67	0.571	0.862	0.170	0.203	0.35	0.03	0.00
91.370	154.020	2.665	10964.4	6442.3	80.462	1.794	2.15		Sand	35.0			145.58	0.64	93.51	153.50	0.67	0.571	0.816	0.313	0.438	0.77	0.02	0.00
91.540	110.150	3.511	10984.8	6452.1	32.442	3.355	2.62		Clay	72.9			104.11	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	64.860	2.494	11004.0	6461.3	18.373	4.201	2.87		Clay	93.0			61.30	0.74	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	41.820	1.860	11023.2	6470.5	11.223	5.124	3.10		Clay	100.0			39.53	0.74	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	40.320	1.640	11043.6	6480.3	10.740	4.714	3.09		Clay	100.0			38.11	0.74	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	47.120	1.293	11062.8	6489.5	12.817	3.109	2.92		Clay	96.4			44.54	0.74	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	42.910	1.741	11083.2	6499.3	11.499	4.660	3.06		Clay	100.0			40.56	0.74	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	39.570	2.460	11102.4	6508.5	10.454	7.232	3.21		Clay	100.0			37.40	0.74	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	82.030	3.418	11121.6	6517.7	23.465	4.470	2.81		Clay	87.9			77.53	0.74	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	228.890	3.612	11142.0	6527.5	120.178	1.617	1.99		Sand	22.5			216.34	0.69	149.14	199.47	0.67	0.568	0.706	1.834	2.848	5.01	0.00	0.00
93.010	451.340	3.588	11161.2	6536.7	239.713	0.805	1.57		Sand	0.0			426.60	0.74	316.80	316.80	0.67	0.568	0.662	#####	#####	#####	0.00	0.00
93.180	464.160	5.142	11181.6	6546.5	246.417	1.121	1.67		Sand	0.0			438.71	0.74	325.67	325.67	0.67	0.568	0.661	#####	#####	#####	0.00	0.00
93.340	305.440	4.969	11200.8	6555.7	161.009	1.657	1.92		Sand	16.2			288.70	0.74	213.48	251.23	0.67	0.568	0.661	150.915	219.379	386.48	0.00	0.00
93.500	267.830	4.764	11220.0	6565.0	140.709	1.817	1.98		Sand	21.7			253.15	0.73	183.75	237.27	0.67	0.567	0.660	32.612	47.377	83.50	0.00	0.00
93.670	295.640	4.056	11240.4	6574.8	155.511	1.398	1.87		Sand	12.6			279.43	0.71	197.71	218.90	0.67	0.567	0.660	6.558	9.520	16.79	0.00	0.00
93.830	379.680	4.167	11259.6	6584.0	200.428	1.114	1.72		Sand	0.9			358.87	0.74	266.00	266.00	0.67	0.567	0.659	1071.395	1554.410	2742.16	0.00	0.00
94.000	522.780	5.424	11280.0	6593.8	276.894	1.049	1.61		Sand	0.0			494.12	0.74	366.10	366.10	0.67	0.567	0.659	#####	#####	#####	0.00	0.00
94.160	684.130	6.263	11299.2	6603.0	363.028	0.923	1.49		Sand	0.0			646.63	0.74	478.92	478.92	0.67	0.566	0.659	#####	#####	#####	0.00	0.00
94.320	670.420	6.168	11318.4	6612.2	355.439	0.928	1.50		Sand	0.0			633.67	0.74	469.15	469.15	0.67	0.566	0.658	#####	#####	#####	0.00	0.00
94.490	661.590	3.839	11338.8	6622.0	350.453	0.585	1.35		Sand	0.0			625.32	0.74	462.79	462.79	0.67	0.566	0.658	#####	#####	#####	0.00	0.00
94.650	626.220	4.342	11358.0	6631.2	331.319	0.700	1.43		Sand	0.0			591.89	0.74	437.89	437.89	0.66	0.566	0.657	#####	#####	#####	0.00	0.00
94.820	520.820	3.100	11378.4	6641.0	274.836	0.602	1.44		Sand	0.0			492.27	0.74	364.05	364.05	0.66	0.565	0.657	#####	#####	#####	0.00	0.00
94.980	547.480	1.898	11397.6	6650.2	288.854	0.350	1.27		Sand	0.0			517.47	0.74	382.54	382.54	0.66	0.565	0.656	#####	#####	#####	0.00	0.00
95.140	548.010	2.543	11416.8	6659.4	288.931	0.469	1.35		Sand	0.0			517.97	0.74	382.77	382.77	0.66	0.565	0.656	#####	#####	#####	0.00	0.00
95.310	551.260	2.257	11437.2	6669.2	290.444	0.414	1.31		Sand	0.0			521.04	0.74	384.89	384.89	0.66	0.565	0.656	#####	#####	#####	0.00	0.00
95.470	484.130	3.545	11456.4	6678.4	254.523	0.741	1.52		Sand	0.0			457.59	0.74	337.90	337.90	0.66	0.564	0.655	#####	#####	#####	0.00	0.00
95.640	469.760	4.051	11476.8	6688.2	246.692	0.873	1.58		Sand	0.0			444.01	0.74	327.74	327.74	0.66	0.564	0.655	#####	#####	#####	0.00	0.00
95.800	449.920	3.744	11496.0	6697.4	235.977	0.843	1.59		Sand	0.0			425.26	0.74	313.79	313.79	0.66	0.564	0.654	#####	#####	#####	0.00	0.00
95.960	520.930	3.547	11515.2	6706.7	273.509	0.689	1.48		Sand	0.0			492.37	0.74	363.18	363.18	0.66	0.564	0.654	#####	#####	#####	0.00	0.00

CPT No.

9

PGA (A_{max})

0.70

Total Settlement: 0.75 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	0.120	0.149	19.2	19.2	11.500	134.511	4.13		Unsaturated	100.0			0.11	1.70	0.19	54.19	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	1.280	0.498	39.6	39.6	63.646	39.518	3.27		Unsaturated	100.0			1.21	1.70	2.06	56.63	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	46.120	0.744	58.8	58.8	261.334	1.615	1.77		Unsaturated	4.9			43.59	1.70	74.11	74.23	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	22.890	0.699	79.2	79.2	111.636	3.060	2.22		Unsaturated	40.7			21.64	1.70	36.78	87.98	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	11.460	0.401	98.4	98.4	50.014	3.516	2.50		Unsaturated	63.1			10.83	1.70	18.41	73.01	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	8.680	0.221	117.6	117.6	34.565	2.560	2.53		Unsaturated	65.1			8.20	1.70	13.95	67.70	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	8.220	0.216	138.0	138.0	30.168	2.648	2.58		Unsaturated	69.5			7.77	1.70	13.21	67.58	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	7.890	0.201	157.2	157.2	45.560	2.568	2.44		Unsaturated	57.9			7.46	1.70	12.68	64.43	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	7.040	0.173	177.6	177.6	37.224	2.490	2.49		Unsaturated	62.5			6.65	1.70	11.31	63.77	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	5.630	0.142	196.8	196.8	27.568	2.558	2.60		Unsaturated	71.1			5.32	1.70	9.05	62.49	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	5.380	0.143	216.0	216.0	24.617	2.709	2.66		Unsaturated	75.5			5.09	1.70	8.64	62.63	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	5.070	0.151	236.4	236.4	21.706	3.055	2.73		Unsaturated	81.5			4.79	1.70	8.15	62.79	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	4.670	0.150	255.6	255.6	18.852	3.307	2.80		Unsaturated	87.0			4.41	1.70	7.50	62.58	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	4.660	0.149	276.0	276.0	32.768	3.302	2.62		Unsaturated	72.3			4.40	1.70	7.49	60.66	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	4.560	0.164	295.2	295.2	29.894	3.726	2.68		Unsaturated	77.5			4.31	1.70	7.33	61.21	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	6.040	0.269	314.4	314.4	37.422	4.571	2.67		Unsaturated	76.7			5.71	1.70	9.71	64.18	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	14.580	0.744	334.8	334.8	49.519	5.159	2.62		Unsaturated	72.9			13.78	1.70	23.43	81.38	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	39.390	1.759	354.0	354.0	90.615	4.486	2.41		Unsaturated	55.5			37.23	1.70	63.29	128.28	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	91.470	3.011	374.4	374.4	205.113	3.299	2.09		Unsaturated	30.1			86.46	1.70	146.97	212.21	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	111.850	4.385	393.6	393.6	244.690	3.928	2.11		Unsaturated	32.0			105.72	1.60	168.77	241.44	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	115.650	4.945	412.8	412.8	247.043	4.283	2.14		Unsaturated	34.4			109.31	1.56	170.44	246.94	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	92.890	4.561	433.2	433.2	193.590	4.922	2.25		Unsaturated	42.9			87.80	1.62	141.97	220.65	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	74.360	3.607	452.4	452.4	151.540	4.865	2.30		Unsaturated	47.2			70.28	1.68	118.31	194.01	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	67.230	3.142	472.8	472.8	133.957	4.690	2.32		Unsaturated	48.6			63.54	1.70	108.03	181.86	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	65.410	3.167	492.0	492.0	127.731	4.861	2.34		Unsaturated	50.5			61.82	1.69	104.45	178.40	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	62.440	3.100	512.4	512.4	119.439	4.985	2.37		Unsaturated	52.6			59.02	1.68	99.38	172.97	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	57.420	2.991	531.6	531.6	107.777	5.234	2.41		Unsaturated	56.1			54.27	1.69	91.72	164.72	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	52.610	2.726	550.8	550.8	96.954	5.209	2.44		Unsaturated	58.2			49.73	1.70	84.42	156.18	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	46.120	2.363	571.2	571.2	83.381	5.154	2.48		Unsaturated	61.1			43.59	1.70	74.11	143.95	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	45.110	1.827	590.4	590.4	80.190	4.076	2.41		Unsaturated	55.7			42.64	1.70	72.48	140.05	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	47.820	2.031	610.8	610.8	83.589	4.275	2.41		Unsaturated	56.0			45.20	1.67	75.53	144.05	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	47.280	2.234	630.0	630.0	81.353	4.756	2.46		Unsaturated	59.5			44.69	1.65	73.86	143.12	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	45.920	2.372	649.2	649.2	77.804	5.202	2.50		Unsaturated	62.9			43.40	1.64	71.20	140.73	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	43.950	2.265	669.6	669.6	73.283	5.194	2.51		Unsaturated	64.1			41.54	1.63	67.81	136.73	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	42.440	2.099	688.8	688.8	69.737	4.987	2.51		Unsaturated	64.2			40.11	1.62	65.14	133.31	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	42.760	1.965	709.2	709.2	69.232	4.634	2.49		Unsaturated	62.4			40.42	1.61	64.90	132.53	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	41.430	1.829	728.4	728.4	66.156	4.453	2.49		Unsaturated	62.4			39.16	1.60	62.53	129.48	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	42.340	1.322	747.6	747.6	66.732	3.150	2.38		Unsaturated	53.3			40.02	1.58	63.41	127.60	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	44.070	0.880	768.0	768.0	68.538	2.015	2.23		Unsaturated	41.8			41.65	1.57	65.60	124.54	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	36.940	0.754	787.2	787.2	56.634	2.063	2.30		Unsaturated	47.2			34.91	1.59	55.40	114.81	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	31.760	0.953	807.6	807.6	47.973	3.038	2.47		Unsaturated	60.6			30.02	1.58	47.54	109.74	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	29.450	1.142	826.8	826.8	43.905	3.934	2.58		Unsaturated	69.0			27.84	1.57	43.82	107.01	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	25.960	1.175	846.0	846.0	45.855	4.602	2.61		Unsaturated	71.9			24.54	1.58	38.67	100.91	0.99	0.451	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.220	22.670	1.076	866.4	866.4	39.269	4.839	2.67		Unsaturated	76.9			21.43	1.57	33.74	95.39	0.99	0.451	1.092	n.a.	n.a.	n.a.	0.00	0.00
7.380	21.630	0.974	885.6	885.6	36.845	4.595	2.68		Unsaturated	77.2			20.44	1.56	31.98	93.15	0.99	0.450	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.550	17.120	0.944	906.0	906.0	36.792	5.661	2.74		Unsaturated	82.4			16.18	1.57	25.42	85.37	0.99	0.450	1.080	n.a.	n.a.	n.a.	0.00	0.00

CPT No.

9

PGA (A_{max})

0.70

Total Settlement:

0.75 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5, r _d 'σ _c ' = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.320	35.140	0.656	1358.4	1358.4	40.652	1.903	2.39		Sand	54.2	35.86	1.72	61.68	1.20	74.21	141.67	0.98	0.474	1.066	0.242	0.407	0.86	0.01	0.03
11.480	37.940	0.707	1377.6	1377.6	43.637	1.898	2.37		Sand	52.2		1.72	61.68	1.20	73.85	140.40	0.98	0.477	1.063	0.236	0.393	0.82	0.02	0.03
11.650	34.240	0.712	1398.0	1398.0	39.003	2.122	2.43		Sand	57.7	35.86	1.72	61.68	1.19	73.32	141.82	0.98	0.481	1.062	0.243	0.407	0.85	0.01	0.03
11.810	27.590	0.797	1417.2	1417.2	33.638	2.966	2.58		plastic	Clay	69.1		26.08	1.11	n.a.	n.a.	0.98	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	17.100	0.691	1437.6	1437.6	22.790	4.219	2.80	Clay		87.4			16.16	1.11	n.a.	n.a.	0.98	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	12.330	0.517	1456.8	1456.8	15.928	4.458	2.94	Clay		98.1			11.65	1.10	n.a.	n.a.	0.98	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	15.150	0.503	1476.0	1476.0	19.528	3.493	2.80	Clay		87.3			14.32	1.10	n.a.	n.a.	0.98	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	15.100	0.484	1496.4	1496.4	19.182	3.372	2.80	Clay		87.0			14.27	1.10	n.a.	n.a.	0.98	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	14.790	0.511	1515.6	1515.6	18.517	3.642	2.83	Clay		89.6			13.98	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	12.950	0.496	1536.0	1536.0	15.862	4.069	2.92	Clay		96.2			12.24	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	12.830	0.469	1555.2	1555.2	15.499	3.891	2.91	Clay		95.9			12.13	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	9.250	0.339	1574.4	1574.4	10.751	4.001	3.04	Clay		100.0			8.74	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	7.290	0.217	1594.8	1594.8	8.142	3.336	3.10	Clay		100.0			6.89	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	6.170	0.167	1614.0	1614.0	6.646	3.114	3.15	Clay	100.0			5.83	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.620	6.450	0.140	1634.4	1634.4	6.893	2.491	3.09	Clay	100.0			6.10	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.780	6.390	0.102	1653.6	1653.6	6.729	1.826	3.03	Clay	100.0			6.04	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.940	6.440	0.102	1672.8	1670.3	6.710	1.824	3.03	Clay	100.0			6.09	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.110	6.320	0.121	1693.2	1680.1	6.516	2.209	3.08	Clay	100.0			5.97	1.06	n.a.	n.a.	0.97	0.521	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.270	6.280	0.126	1712.4	1689.3	6.421	2.323	3.10	Clay	100.0			5.94	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.440	6.710	0.154	1732.8	1699.1	6.878	2.637	3.10	Clay	100.0			6.34	1.06	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.600	7.000	0.172	1752.0	1708.3	7.170	2.815	3.10	Clay	100.0			6.62	1.06	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.760	6.590	0.184	1771.2	1717.5	6.643	3.226	3.16	Clay	100.0			6.23	1.06	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.930	6.770	0.169	1791.6	1727.3	6.801	2.879	3.13	Clay	100.0			6.40	1.06	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.090	5.950	0.145	1810.8	1736.5	5.810	2.866	3.18	Clay	100.0			5.62	1.05	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.260	5.770	0.175	1831.2	1746.3	5.560	3.601	3.25	Clay	100.0			5.45	1.05	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.420	8.570	0.226	1850.4	1755.6	8.709	2.960	3.04	Clay	100.0			8.10	1.05	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.580	11.580	0.337	1869.6	1764.8	12.064	3.163	2.94	Clay	98.5			10.95	1.05	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.750	9.930	0.401	1890.0	1774.6	10.126	4.457	3.09	Clay	100.0			9.39	1.05	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.910	9.620	0.353	1909.2	1783.8	9.716	4.069	3.08	Clay	100.0			9.09	1.05	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.080	11.910	0.358	1929.6	1793.6	12.205	3.266	2.95	Clay	98.8			11.26	1.04	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.240	10.480	0.385	1948.8	1802.8	10.545	4.049	3.05	Clay	100.0			9.91	1.04	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.400	7.840	0.312	1968.0	1812.0	7.567	4.549	3.20	Clay	100.0			7.41	1.04	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.570	6.530	0.201	1988.4	1821.8	6.077	3.625	3.22	Clay	100.0			6.17	1.04	n.a.	n.a.	0.96	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.730	6.350	0.150	2007.6	1831.0	5.840	2.804	3.18	Clay	100.0			6.00	1.04	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.900	6.330	0.146	2028.0	1840.8	5.776	2.745	3.18	Clay	100.0			5.98	1.04	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.060	5.560	0.128	2047.2	1850.0	4.904	2.822	3.24	Clay	100.0			5.26	1.04	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.220	6.280	0.130	2066.4	1859.2	5.644	2.472	3.16	Clay	100.0			5.94	1.03	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.390	6.490	0.226	2086.8	1869.0	5.828	4.155	3.27	Clay	100.0			6.13	1.03	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.550	12.390	0.270	2106.0	1878.2	12.072	2.379	2.87	Clay	92.8			11.71	1.03	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.720	15.830	0.409	2126.4	1888.0	15.643	2.772	2.82	Clay	88.5			14.96	1.03	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.880	12.790	0.481	2145.6	1897.2	12.352	4.105	3.00	Clay	100.0			12.09	1.03	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.040	10.370	0.369	2164.8	1906.5	9.743	3.969	3.08	Clay	100.0			9.80	1.03	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.210	9.720	0.289	2185.2	1916.3	9.004	3.351	3.06	Clay	100.0			9.19	1.03	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.370	6.630	0.235	2204.4	1925.5	5.742	4.249	3.28	Clay	100.0			6.27	1.03	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.540	5.790	0.170	2224.8	1935.3	4.834	3.632	3.31	Clay	100.0			5.47	1.02	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.700	6.030	0.161	2244.0	1944.5	5.048	3.272	3.27	Clay	100.0			5.70	1.02	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
18.860	6.220	0.180	2263.2	1953.7	5.209	3.537	3.27	Clay	100.0			5.88	1.02	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.030	6.360	0.196	2283.6	1963.5	5.315	3.748	3.28	Clay	100.0			6.01	1.02	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
19.190	6.070	0.196	2302.8	1972.7	4.987	3.981	3.32	Clay	100.0			5.74	1.02	n.a.	n.a.	0.95	0.578	n.a.	n.a.	n.a.	n.a.			

CPT No.

9

PGA (A_{max})

0.70

Total Settlement:

0.75 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5·σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.310	10.030	0.614	2677.2	2152.4	8.076	7.059	3.29		Clay	100.0			9.48	1.00	n.a.	n.a.	0.94	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	7.640	0.363	2696.4	2161.6	5.821	5.769	3.35		Clay	100.0			7.22	0.99	n.a.	n.a.	0.94	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	6.920	0.291	2716.8	2171.4	5.123	5.239	3.37		Clay	100.0			6.54	0.99	n.a.	n.a.	0.94	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	7.680	0.263	2736.0	2180.6	5.789	4.160	3.27		Clay	100.0			7.26	0.99	n.a.	n.a.	0.94	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	8.050	0.248	2756.4	2190.4	6.092	3.716	3.23		Clay	100.0			7.61	0.99	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	9.090	0.287	2775.6	2199.6	7.003	3.728	3.18		Clay	100.0			8.59	0.99	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	10.440	0.314	2794.8	2208.9	8.188	3.476	3.10		Clay	100.0			9.87	0.99	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	10.690	0.408	2815.2	2218.7	8.368	4.395	3.16		Clay	100.0			10.10	0.99	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	10.640	0.480	2834.4	2227.9	8.279	5.208	3.20		Clay	100.0			10.06	0.99	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	11.800	0.553	2854.8	2237.7	9.271	5.330	3.17		Clay	100.0			11.15	0.99	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	12.810	0.662	2874.0	2246.9	10.123	5.824	3.16		Clay	100.0			12.11	0.98	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	15.250	0.869	2893.2	2256.1	12.237	6.293	3.12		Clay	100.0			14.41	0.98	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	14.140	0.896	2913.6	2265.9	11.195	7.067	3.18		Clay	100.0			13.36	0.98	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	16.450	0.939	2932.8	2275.1	13.172	6.267	3.10		Clay	100.0			15.55	0.98	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	17.210	0.951	2953.2	2284.9	13.772	6.043	3.07		Clay	100.0			16.27	0.98	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	18.740	0.932	2972.4	2294.1	15.042	5.401	3.01		Clay	100.0			17.71	0.98	n.a.	n.a.	0.93	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	16.330	0.917	2991.6	2303.3	12.881	6.184	3.10		Clay	100.0			15.43	0.98	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	19.210	0.935	3012.0	2313.1	15.307	5.278	3.00		Clay	100.0			18.16	0.98	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	17.760	0.940	3031.2	2322.3	13.990	5.784	3.05		Clay	100.0			16.79	0.98	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	16.600	0.855	3051.6	2332.1	12.927	5.675	3.08		Clay	100.0			15.69	0.97	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	17.730	0.839	3070.8	2341.3	13.834	5.180	3.03		Clay	100.0			16.76	0.97	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	21.680	0.924	3090.0	2350.6	17.132	4.587	2.92		Clay	96.8			20.49	0.97	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	17.160	1.040	3110.4	2360.4	13.222	6.662	3.11		Clay	100.0			16.22	0.97	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	24.150	1.105	3129.6	2369.6	19.063	4.892	2.91		Clay	95.4			22.83	0.97	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	23.130	1.240	3150.0	2379.4	18.118	5.751	2.97		Clay	100.0			21.86	0.97	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	18.710	1.082	3169.2	2388.6	14.339	6.317	3.07		Clay	100.0			17.68	0.97	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	13.350	0.752	3188.4	2397.8	9.806	6.393	3.20		Clay	100.0			12.62	0.97	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	10.030	0.450	3208.8	2407.6	6.999	5.342	3.27		Clay	100.0			9.48	0.97	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	9.430	0.301	3228.0	2416.8	6.468	3.854	3.21		Clay	100.0			8.91	0.97	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	9.880	0.287	3248.4	2426.6	6.804	3.480	3.17		Clay	100.0			9.34	0.96	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	10.510	0.337	3267.6	2435.8	7.288	3.791	3.17		Clay	100.0			9.93	0.96	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	12.280	0.332	3288.0	2445.6	8.698	3.123	3.06		Clay	100.0			11.61	0.96	n.a.	n.a.	0.92	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	11.680	0.333	3307.2	2454.8	8.169	3.319	3.09		Clay	100.0			11.04	0.96	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	11.870	0.287	3326.4	2464.0	8.285	2.807	3.05		Clay	100.0			11.22	0.96	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	11.410	0.287	3346.8	2473.8	7.872	2.948	3.08		Clay	100.0			10.78	0.96	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	13.210	0.287	3366.0	2483.0	9.285	2.493	2.98		Clay	100.0			12.49	0.96	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	13.150	0.285	3386.4	2492.8	9.192	2.488	2.98		Clay	100.0			12.43	0.96	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	12.900	0.256	3405.6	2502.0	8.950	2.288	2.97		Clay	100.0			12.19	0.96	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	12.590	0.265	3424.8	2511.3	8.663	2.433	3.00		Clay	100.0			11.90	0.96	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	13.140	0.286	3445.2	2521.1	9.058	2.505	2.99		Clay	100.0			12.42	0.95	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	13.360	0.291	3464.4	2530.3	9.191	2.500	2.98		Clay	100.0			12.63	0.95	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	14.300	0.336	3484.8	2540.1	9.888	2.679	2.97		Clay	100.0			13.52	0.95	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	16.350	0.477	3504.0	2549.3	11.453	3.266	2.97		Clay	100.0			15.45	0.95	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	18.960	0.554	3523.2	2558.5	13.444	3.220	2.91		Clay	95.8			17.92	0.95	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	17.390	0.736	3543.6	2568.3	12.162	4.709	3.04		Clay	100.0			16.44	0.95	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	36.010	0.836	3562.8	2577.5	26.559	2.442	2.60		Clay	71.2			34.04	0.95	n.a.	n.a.	0.92	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	47.940	0.743	3583.2	2587.3	39.446	1.609	2.36		Sand	51.4	47.92	1.78	85.30	0.92	78.55	146.01	0.91	0.636	0.969	0.264	0.416	0.65	0.02	0.04
30.020	50.700	0.624	3602.4	2596.5	41.723	1.276	2.28		Sand	45.1			85.30	0.92	78.34	142.50	0.91	0.637	0.969	0.246	0.378	0.59	0.02	0.04
30.180	45.930	0.643	3621.6																					

CPT No.

9

PGA (A_{max})

0.70

Total Settlement:

0.75 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{tN})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	CRRM=7.5, σ'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
33.300	7.330	0.128	3996.0	2785.4	3.828	2.402	3.30		Clay	100.0			6.93	0.93	n.a.	n.a.	0.90	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	7.470	0.288	4015.2	2794.7	3.909	5.278	3.47		Clay	100.0			7.06	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	12.560	0.829	4035.6	2804.4	7.518	7.866	3.35		Clay	100.0			11.87	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	29.240	1.078	4054.8	2813.7	19.343	3.961	2.84		Clay	90.3			27.64	0.93	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	23.370	1.152	4075.2	2823.5	15.111	5.400	3.01		Clay	100.0			22.09	0.93	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	24.730	1.076	4094.4	2832.7	16.015	4.744	2.95		Clay	99.3			23.37	0.93	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	37.410	1.026	4113.6	2841.9	24.880	2.901	2.67		Clay	76.7			35.36	0.93	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	66.220	1.458	4134.0	2851.7	52.232	2.273	2.36		Sand	51.6	76.47	1.72	131.53	0.91	119.09	197.47	0.90	0.646	0.924	1.643	3.339	5.17	0.00	0.00
34.610	80.900	1.571	4153.2	2860.9	64.073	1.993	2.25		Sand	43.2		1.72	131.52	0.90	118.68	191.81	0.90	0.647	0.928	1.228	2.505	3.88	0.00	0.00
34.780	68.410	1.118	4173.6	2870.7	53.820	1.685	2.26		Sand	44.0	76.47	1.72	131.53	0.90	118.57	192.20	0.89	0.647	0.927	1.251	2.551	3.94	0.00	0.00
34.940	55.920	0.674	4192.8	2879.9	43.607	1.253	2.26		Sand	43.4	76.47	1.72	131.53	0.90	118.41	191.63	0.89	0.647	0.926	1.217	2.479	3.83	0.00	0.00
35.100	39.650	0.592	4212.0	2889.1	30.369	1.575	2.44		Sand	58.3	76.47	1.72	131.53	0.90	118.70	200.04	0.89	0.647	0.918	1.894	3.825	5.91	0.00	0.00
35.270	21.830	0.565	4232.4	2898.9	13.601	2.868	2.88		Clay	93.1			20.63	0.92	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	11.820	0.499	4251.6	2908.1	6.667	5.146	3.28		Clay	100.0			11.17	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	8.780	0.310	4272.0	2917.9	4.554	4.670	3.39		Clay	100.0			8.30	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	8.690	0.271	4291.2	2927.1	4.472	4.133	3.36		Clay	100.0			8.21	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	8.320	0.309	4311.6	2936.9	4.198	5.008	3.43		Clay	100.0			7.86	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	9.080	0.369	4330.8	2946.1	4.694	5.331	3.41		Clay	100.0			8.58	0.92	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	10.350	0.406	4350.0	2955.4	5.532	4.960	3.33		Clay	100.0			9.78	0.92	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	17.460	0.298	4370.4	2965.2	10.303	1.954	2.88		Clay	93.8			16.50	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	15.120	0.301	4389.6	2974.4	8.691	2.330	2.99		Clay	100.0			14.29	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	9.630	0.327	4410.0	2984.2	4.976	4.404	3.34		Clay	100.0			9.10	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	10.290	0.515	4429.2	2993.4	5.396	6.382	3.41		Clay	100.0			9.73	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	38.430	0.745	4448.4	3002.6	28.728	2.057	2.53		Sand	65.4		1.8	65.38	0.85	55.78	121.58	0.89	0.649	0.956	0.175	0.234	0.36	0.03	0.05
37.240	44.490	1.167	4468.8	3012.4	28.055	2.762	2.62		Clay	72.3			42.05	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	30.690	1.409	4488.0	3021.6	18.828	4.954	2.91		Clay	96.0			29.01	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	58.080	0.833	4508.4	3031.4	44.085	1.492	2.30		Sand	46.8	75.28		75.28	0.85	64.12	125.56	0.88	0.650	0.953	0.185	0.252	0.39	0.03	0.05
37.730	79.650	1.130	4527.6	3040.6	61.018	1.460	2.18		Sand	37.4			75.28	0.85	63.76	119.15	0.88	0.650	0.955	0.169	0.223	0.34	0.03	0.05
37.890	50.570	1.560	4546.8	3049.8	31.672	3.230	2.62		Clay	72.7			47.80	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	45.710	1.412	4567.2	3059.6	28.387	3.251	2.66		Clay	75.7			43.20	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	62.830	0.873	4586.4	3068.8	47.512	1.442	2.26		Sand	44.0			59.39	0.83	49.58	105.84	0.88	0.650	0.959	0.145	0.180	0.28	0.03	0.06
38.390	56.640	0.897	4606.8	3078.6	42.578	1.651	2.34		Sand	49.9	59.39		59.39	0.84	49.62	108.71	0.88	0.650	0.957	0.150	0.188	0.29	0.03	0.06
38.550	46.420	1.172	4626.0	3087.8	28.568	2.658	2.60		Clay	71.0			43.88	0.91	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	46.820	1.165	4645.2	3097.1	34.764	2.618	2.53		Sand	65.4	52.27	1.8	94.09	0.86	80.88	153.91	0.88	0.651	0.937	0.317	0.509	0.78	0.01	0.03
38.880	55.300	0.804	4665.6	3106.8	41.316	1.518	2.32		Sand	48.9		1.8	94.08	0.85	80.44	147.22	0.88	0.651	0.940	0.271	0.417	0.64	0.02	0.04
39.040	52.700	0.808	4684.8	3116.1	39.222	1.605	2.36		Sand	51.5	52.27	1.8	94.09	0.85	80.41	148.42	0.88	0.651	0.939	0.278	0.431	0.66	0.02	0.04
39.210	34.030	0.944	4705.2	3125.9	20.268	2.981	2.75		Clay	82.8			32.16	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	19.800	0.843	4724.4	3135.1	11.124	4.833	3.08		Clay	100.0			18.71	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	12.980	0.590	4743.6	3144.3	6.748	5.565	3.29		Clay	100.0			12.27	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	13.000	0.465	4764.0	3154.1	6.733	4.383	3.23		Clay	100.0			12.29	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	9.870	0.408	4783.2	3163.3	4.728	5.460	3.41		Clay	100.0			9.33	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	9.160	0.359	4803.6	3173.1	4.260	5.311	3.44		Clay	100.0			8.66	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	9.250	0.375	4822.8	3182.3	4.298	5.485	3.45		Clay	100.0			8.74	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	10.070	0.440	4842.0	3191.5	4.793	5.755	3.42		Clay	100.0			9.52	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	13.880	0.351	4862.4	3201.3	7.153	3.063	3.12		Clay	100.0			13.12	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	14.890	0.367	4881.6	3210.5	7.755	2.950	3.08		Clay	100.0			14.07	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	11.850	0.506	4902.0	3220.3	5.837	5.378	3.33		Clay	100.0			11.20	0.90	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	12.390	0.447	4921.2	3229.5	6.149	4.505	3.27		Clay	100.0			11.71	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	12.970	0.398	4940.4	3238.8	6.484	3.789	3.21		Clay	100.0			12.26	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	11.120	0.365	4960.8	3248.5	5.319	4.229	3.31		Clay	100.0			10.51	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	10.850	0.367	4980.0	3257.8	5.132	4.394	3.33		Clay	100.0			10.26	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	11.150	0.408	5000.4	3267.6	5.294	4.721	3.34		Clay	100.0			10.54	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	11.670	0.455	5019.6	3276.8	5.591	4.965	3.33		Clay	100.0			11.03	0.89	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	11.840	0.448	5038.8	3286.0	5.673	4.804	3.32		Clay	100.0			11.19	0.89	n.a.	n.a.	0.86	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CPT No.

9

PGA (A_{max})

0.70

Total Settlement:

0.75 (Inches)

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Depth (ft)	Qc (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5, γ _c = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
44.290	37.740	0.679	5314.8	3418.5	20.525	1.934	2.63		Clay	73.5			35.67	0.88	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	49.440	0.590	5335.2	3428.3	34.732	1.261	2.34		Sand	50.0		1.8	84.11	0.81	68.23	132.33	0.85	0.651	0.934	0.205	0.284	0.44	0.02	0.05
44.620	43.330	0.709	5354.4	3437.5	30.147	1.743	2.47		Sand	60.6	46.73	1.8	84.11	0.81	68.40	136.46	0.85	0.651	0.931	0.220	0.312	0.48	0.02	0.04
44.780	24.360	0.679	5373.6	3446.7	12.576	3.131	2.93		Clay	97.1			23.02	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	12.930	0.601	5394.0	3456.5	5.921	5.876	3.35		Clay	100.0			12.22	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.810	0.571	5413.2	3465.7	6.408	5.141	3.29		Clay	100.0			13.05	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	14.540	0.678	5433.6	3475.5	6.804	5.736	3.30		Clay	100.0			13.74	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	14.760	0.699	5452.8	3484.7	6.907	5.808	3.30		Clay	100.0			13.95	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	15.330	0.731	5472.0	3493.9	7.209	5.808	3.28		Clay	100.0			14.49	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	15.800	0.762	5492.4	3503.7	7.451	5.837	3.27		Clay	100.0			14.93	0.88	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	15.870	0.757	5511.6	3512.9	7.466	5.773	3.27		Clay	100.0			15.00	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	15.270	0.757	5532.0	3522.7	7.099	6.052	3.30		Clay	100.0			14.43	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	15.380	0.734	5551.2	3531.9	7.137	5.821	3.28		Clay	100.0			14.54	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.550	0.741	5570.4	3541.2	7.209	5.803	3.28		Clay	100.0			14.70	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	15.630	0.691	5590.8	3550.9	7.229	5.385	3.26		Clay	100.0			14.77	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	15.030	0.723	5610.0	3560.2	6.868	5.917	3.30		Clay	100.0			14.21	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	15.380	0.737	5630.4	3570.0	7.039	5.869	3.29		Clay	100.0			14.54	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	14.590	0.676	5649.6	3579.2	6.574	5.742	3.31		Clay	100.0			13.79	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.220	0.581	5668.8	3588.4	6.346	5.100	3.29		Clay	100.0			13.44	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	14.430	0.571	5689.2	3598.2	6.440	4.930	3.28		Clay	100.0			13.64	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	15.670	0.609	5708.4	3607.4	7.105	4.754	3.23		Clay	100.0			14.81	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	14.490	0.527	5728.8	3617.2	6.428	4.531	3.26		Clay	100.0			13.70	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	14.160	0.511	5748.0	3626.4	6.224	4.530	3.27		Clay	100.0			13.38	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	14.590	0.445	5767.2	3635.6	6.440	3.797	3.21		Clay	100.0			13.79	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	14.520	0.428	5787.6	3645.4	6.379	3.681	3.21		Clay	100.0			13.72	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	14.370	0.417	5806.8	3654.6	6.275	3.634	3.21		Clay	100.0			13.58	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	14.780	0.469	5827.2	3664.4	6.477	3.951	3.22		Clay	100.0			13.97	0.87	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	14.990	0.464	5846.4	3673.6	6.569	3.844	3.21		Clay	100.0			14.17	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	15.050	0.465	5865.6	3682.8	6.580	3.840	3.21		Clay	100.0			14.22	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	15.230	0.487	5886.0	3692.6	6.655	3.962	3.21		Clay	100.0			14.40	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	15.760	0.472	5905.2	3701.9	6.919	3.686	3.18		Clay	100.0			14.90	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	17.310	0.626	5925.6	3711.6	7.731	4.363	3.18		Clay	100.0			16.36	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	21.030	0.753	5944.8	3720.9	9.706	4.172	3.09		Clay	100.0			19.88	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	22.910	0.897	5964.0	3730.1	10.685	4.502	3.08		Clay	100.0			21.65	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	21.160	1.004	5984.4	3739.9	9.716	5.526	3.16		Clay	100.0			20.00	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	25.810	0.951	6003.6	3749.1	12.167	4.171	3.01		Clay	100.0			24.40	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	21.840	0.837	6024.0	3758.9	10.018	4.446	3.10		Clay	100.0			20.64	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	19.670	0.876	6043.2	3768.1	8.837	5.263	3.18		Clay	100.0			18.59	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	23.250	0.683	6062.4	3777.3	10.705	3.376	3.00		Clay	100.0			21.98	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	20.390	0.483	6082.8	3787.1	9.162	2.782	3.01		Clay	100.0			19.27	0.86	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	14.990	0.363	6102.0	3796.3	6.290	3.044	3.17		Clay	100.0			14.17	0.86	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	13.390	0.271	6122.4	3806.1	5.427	2.620	3.19		Clay	100.0			12.66	0.86	n.a.	n.a.	0.83	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	12.830	0.235	6141.6	3815.3	5.116	2.406	3.19		Clay	100.0			12.13	0.86	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	14.210	0.251	6162.0	3825.1	5.819	2.254	3.13		Clay	100.0			13.43	0.86	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	15.650	0.293	6181.2	3834.3	6.551	2.336	3.09		Clay	100.0			14.79	0.85	n.a.	n.a.	0.82	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	16.300	0.363	6200.4	3843.6	6.869	2.749	3.11		Clay	100.0			15.41	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	17.330	0.405	6220.8	3853.3	7.380	2.845	3.09		Clay	100.0			16.38	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	16.890	0.451	6240.0	3862.6	7.130	3.275	3.14		Clay	100.0			15.96	0.85	n.a.	n.a.	0.82	0.644	n.a.	n.a.	n.a.	n.a.	0.00	

CPT No.

9

PGA (A_{max})

0.70

Total Settlement:

0.75 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5, γ _c = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
55.280	18.190	0.555	6633.6	4051.5	7.342	3.729	3.16		Clay	100.0			17.19	0.84	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	18.300	0.543	6654.0	4061.3	7.374	3.627	3.15		Clay	100.0			17.30	0.84	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	17.530	0.515	6673.2	4070.5	6.974	3.625	3.17		Clay	100.0			16.57	0.84	n.a.	n.a.	0.81	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	17.370	0.508	6692.4	4079.7	6.875	3.625	3.18		Clay	100.0			16.42	0.84	n.a.	n.a.	0.80	0.639	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	17.320	0.502	6712.8	4089.5	6.829	3.598	3.18		Clay	100.0			16.37	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	18.590	0.532	6732.0	4098.7	7.429	3.494	3.14		Clay	100.0			17.57	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	20.980	0.604	6752.4	4108.5	8.569	3.429	3.09		Clay	100.0			19.83	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	22.260	0.919	6771.6	4117.7	9.167	4.866	3.15		Clay	100.0			21.04	0.84	n.a.	n.a.	0.80	0.638	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	25.440	1.036	6790.8	4126.9	10.683	4.698	3.09		Clay	100.0			24.05	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	22.160	0.894	6811.2	4136.7	9.067	4.766	3.15		Clay	100.0			20.95	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	17.460	0.647	6830.4	4146.0	6.775	4.607	3.24		Clay	100.0			16.50	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	19.960	0.496	6850.8	4155.7	7.957	2.998	3.08		Clay	100.0			18.87	0.84	n.a.	n.a.	0.80	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	18.080	0.489	6870.0	4165.0	7.032	3.336	3.15		Clay	100.0			17.09	0.84	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	17.310	0.457	6889.2	4174.2	6.643	3.295	3.17		Clay	100.0			16.36	0.84	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	16.660	0.446	6909.6	4184.0	6.312	3.378	3.19		Clay	100.0			15.75	0.84	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	16.980	0.473	6928.8	4193.2	6.446	3.496	3.19		Clay	100.0			16.05	0.83	n.a.	n.a.	0.80	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	17.190	0.512	6949.2	4203.0	6.527	3.732	3.20		Clay	100.0			16.25	0.83	n.a.	n.a.	0.80	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	20.100	0.591	6968.4	4212.2	7.889	3.554	3.12		Clay	100.0			19.00	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	19.740	0.605	6987.6	4221.4	7.697	3.722	3.14		Clay	100.0			18.66	0.83	n.a.	n.a.	0.79	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	19.420	0.471	7008.0	4231.2	7.523	2.961	3.10		Clay	100.0			18.36	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	17.200	0.373	7027.2	4240.4	6.455	2.722	3.13		Clay	100.0			16.26	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	16.060	0.286	7047.6	4250.2	5.899	2.281	3.13		Clay	100.0			15.18	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	16.110	0.234	7066.8	4259.4	5.905	1.860	3.08		Clay	100.0			15.23	0.83	n.a.	n.a.	0.79	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	15.670	0.232	7087.2	4269.2	5.681	1.911	3.10		Clay	100.0			14.81	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	16.450	0.242	7106.4	4278.4	6.029	1.873	3.08		Clay	100.0			15.55	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	18.120	0.280	7125.6	4287.6	6.790	1.923	3.04		Clay	100.0			17.13	0.83	n.a.	n.a.	0.79	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	17.890	0.299	7146.0	4297.4	6.663	2.086	3.06		Clay	100.0			16.91	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	16.310	0.305	7165.2	4306.7	5.911	2.399	3.14		Clay	100.0			15.42	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	16.430	0.307	7185.6	4316.4	5.948	2.395	3.13		Clay	100.0			15.53	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	17.310	0.313	7204.8	4325.7	6.338	2.284	3.10		Clay	100.0			16.36	0.83	n.a.	n.a.	0.79	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	17.340	0.302	7224.0	4334.9	6.334	2.198	3.09		Clay	100.0			16.39	0.83	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	17.360	0.312	7244.4	4344.7	6.324	2.270	3.10		Clay	100.0			16.41	0.83	n.a.	n.a.	0.79	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	18.000	0.305	7263.6	4353.9	6.600	2.122	3.07		Clay	100.0			17.01	0.83	n.a.	n.a.	0.78	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	18.000	0.313	7284.0	4363.7	6.581	2.181	3.08		Clay	100.0			17.01	0.83	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	20.470	0.556	7303.2	4372.9	7.692	3.308	3.11		Clay	100.0			19.35	0.83	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	28.620	0.671	7322.4	4382.1	11.391	2.690	2.92		Clay	96.9			27.05	0.83	n.a.	n.a.	0.78	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	27.610	1.184	7342.8	4391.9	10.901	4.946	3.10		Clay	100.0			26.10	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	33.660	1.426	7362.0	4401.1	13.623	4.755	3.01		Clay	100.0			31.81	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	31.680	1.420	7382.4	4410.9	12.691	5.073	3.05		Clay	100.0			29.94	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	21.240	1.052	7401.6	4420.1	7.936	5.996	3.26		Clay	100.0			20.08	0.82	n.a.	n.a.	0.78	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	18.230	0.793	7420.8	4429.3	6.556	5.460	3.30		Clay	100.0			17.23	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	21.830	1.000	7441.2	4439.1	8.159	5.519	3.22		Clay	100.0			20.63	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	27.030	1.181	7460.4	4448.4	10.476	5.068	3.12		Clay	100.0			25.55	0.82	n.a.	n.a.	0.78	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	32.180	1.151	7480.8	4458.1	12.758	4.048	2.99		Clay	100.0			30.42	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	26.280	1.032	7500.0	4467.4	10.086	4.579	3.10		Clay	100.0			24.84	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	20.850	0.730	7519.2	4476.6	7.635	4.270	3.18		Clay	100.0			19.71	0.82	n.a.	n.a.	0.78	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	18.730	0.413	7539.6	4486.4	6.669	2.761	3.12		Clay	100.0			17.70	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	16.730	0.558	7558.8	4495.6	5.761	4.306	3.28		Clay	100.0			15.81	0.82	n.a.	n.a.	0.77	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	16.180	0.400	7579.2																					

CPT No.

9

PGA (A_{max})

0.70

Total Settlement:

0.75 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	q _{c1N}	q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _σ for Sand	CRRM=7.5, γ _c = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
66.270	29.340	0.655	7952.4	4684.5	10.829	2.583	2.93		Clay	97.5			27.73	0.81	n.a.	n.a.	0.76	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	32.250	0.670	7972.8	4694.3	12.042	2.372	2.87		Clay	92.8			30.48	0.81	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	27.360	0.619	7992.0	4703.5	9.935	2.649	2.97		Clay	100.0			25.86	0.81	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	24.260	0.541	8012.4	4713.3	8.594	2.673	3.02		Clay	100.0			22.93	0.81	n.a.	n.a.	0.76	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	20.800	0.485	8031.6	4722.5	7.108	2.887	3.11		Clay	100.0			19.66	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	19.070	0.432	8050.8	4731.7	6.359	2.871	3.15		Clay	100.0			18.02	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	18.150	0.403	8071.2	4741.5	5.954	2.857	3.17		Clay	100.0			17.16	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	17.480	0.350	8090.4	4750.8	5.656	2.603	3.17		Clay	100.0			16.52	0.81	n.a.	n.a.	0.76	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	17.590	0.322	8110.8	4760.5	5.686	2.382	3.15		Clay	100.0			16.63	0.81	n.a.	n.a.	0.76	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	17.870	0.304	8130.0	4769.8	5.789	2.201	3.13		Clay	100.0			16.89	0.81	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	17.860	0.268	8149.2	4779.0	5.769	1.946	3.10		Clay	100.0			16.88	0.81	n.a.	n.a.	0.75	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	18.310	0.247	8169.6	4788.8	5.941	1.737	3.07		Clay	100.0			17.31	0.81	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	18.980	0.250	8188.8	4798.0	6.205	1.681	3.04		Clay	100.0			17.94	0.81	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	20.210	0.300	8209.2	4807.8	6.700	1.863	3.04		Clay	100.0			19.10	0.81	n.a.	n.a.	0.75	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	20.690	0.497	8228.4	4817.0	6.882	3.001	3.13		Clay	100.0			19.56	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	24.860	0.696	8247.6	4826.2	8.593	3.357	3.08		Clay	100.0			23.50	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	25.110	0.837	8268.0	4836.0	8.675	3.992	3.12		Clay	100.0			23.73	0.80	n.a.	n.a.	0.75	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	27.690	0.868	8287.2	4845.2	9.719	3.686	3.06		Clay	100.0			26.17	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	26.720	0.878	8307.6	4855.0	9.296	3.890	3.09		Clay	100.0			25.26	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	23.490	0.701	8326.8	4864.2	7.946	3.626	3.13		Clay	100.0			22.20	0.80	n.a.	n.a.	0.75	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	21.040	0.676	8346.0	4873.4	6.922	4.007	3.20		Clay	100.0			19.89	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	22.070	0.632	8366.4	4883.2	7.326	3.533	3.15		Clay	100.0			20.86	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	20.360	0.586	8385.6	4892.4	6.609	3.627	3.19		Clay	100.0			19.24	0.80	n.a.	n.a.	0.75	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	18.660	0.482	8406.0	4902.2	5.898	3.335	3.21		Clay	100.0			17.64	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	18.710	0.411	8425.2	4911.5	5.904	2.836	3.18		Clay	100.0			17.68	0.80	n.a.	n.a.	0.75	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	18.570	0.410	8444.4	4920.7	5.832	2.854	3.18		Clay	100.0			17.55	0.80	n.a.	n.a.	0.74	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	18.900	0.408	8464.8	4930.5	5.950	2.780	3.17		Clay	100.0			17.86	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	19.550	0.493	8484.0	4939.7	6.198	3.220	3.19		Clay	100.0			18.48	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	21.260	0.528	8504.4	4949.5	6.873	3.106	3.14		Clay	100.0			20.09	0.80	n.a.	n.a.	0.74	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	20.370	0.480	8523.6	4958.7	6.497	2.977	3.15		Clay	100.0			19.25	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	19.690	0.417	8542.8	4967.9	6.207	2.703	3.15		Clay	100.0			18.61	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	19.300	0.405	8563.2	4977.7	6.034	2.697	3.16		Clay	100.0			18.24	0.80	n.a.	n.a.	0.74	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	19.710	0.442	8582.4	4986.9	6.184	2.868	3.16		Clay	100.0			18.63	0.80	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	20.680	0.505	8602.8	4996.7	6.556	3.083	3.16		Clay	100.0			19.55	0.80	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	20.760	0.629	8622.0	5005.9	6.572	3.826	3.21		Clay	100.0			19.62	0.80	n.a.	n.a.	0.74	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	20.440	0.572	8641.2	5015.1	6.428	3.548	3.20		Clay	100.0			19.32	0.80	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	22.150	0.507	8661.6	5024.9	7.092	2.842	3.11		Clay	100.0			20.94	0.80	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	20.980	0.618	8680.8	5034.1	6.611	3.712	3.20		Clay	100.0			19.83	0.80	n.a.	n.a.	0.74	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	22.740	0.747	8701.2	5043.9	7.292	4.060	3.18		Clay	100.0			21.49	0.80	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	24.010	0.715	8720.4	5053.2	7.777	3.638	3.13		Clay	100.0			22.69	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	24.380	0.676	8739.6	5062.4	7.905	3.378	3.11		Clay	100.0			23.04	0.79	n.a.	n.a.	0.74	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	23.580	0.740	8760.0	5072.2	7.571	3.855	3.16		Clay	100.0			22.29	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	25.100	0.696	8779.2	5081.4	8.151	3.362	3.10		Clay	100.0			23.72	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	24.160	0.681	8799.6	5091.2	7.763	3.445	3.12		Clay	100.0			22.84	0.79	n.a.	n.a.	0.73	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	21.930	0.647	8818.8	5100.4	6.870	3.694	3.18		Clay	100.0			20.73	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	21.480	0.531	8838.0	5109.6	6.678	3.114	3.15		Clay	100.0			20.30	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	21.140	0.539	8858.4	5119.4	6.528	3.223	3.17		Clay	100.0			19.98	0.79	n.a.	n.a.	0.73	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	22.250	0.533	8877.6	5128.6	6.946	2.990	3.13		Clay	100.0			21.03	0.79	n.a.	n.a.	0.73	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	21.690	0.558	8898.0																					

CPT No.

9

PGA (A_{max})

0.70

Total Settlement: 0.75 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{st})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
77.260	21.860	0.409	9271.2	5317.5	6.478	2.373	3.10		Clay	100.0			20.66	0.78	n.a.	n.a.	0.72	0.598	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	22.050	0.491	9291.6	5327.3	6.534	2.822	3.14		Clay	100.0			20.84	0.78	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	24.850	0.715	9310.8	5336.5	7.568	3.541	3.14		Clay	100.0			23.49	0.78	n.a.	n.a.	0.72	0.597	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	27.920	0.884	9331.2	5346.3	8.699	3.803	3.11		Clay	100.0			26.39	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	24.320	1.260	9350.4	5355.6	7.336	6.411	3.30		Clay	100.0			22.99	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	19.970	0.781	9369.6	5364.8	5.698	5.109	3.33		Clay	100.0			18.88	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	20.710	0.518	9390.0	5374.6	5.960	3.233	3.20		Clay	100.0			19.57	0.78	n.a.	n.a.	0.72	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	20.990	0.505	9409.2	5383.8	6.050	3.101	3.19		Clay	100.0			19.84	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	22.010	0.553	9429.6	5393.6	6.413	3.199	3.17		Clay	100.0			20.80	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	22.750	0.603	9448.8	5402.8	6.673	3.346	3.17		Clay	100.0			21.50	0.78	n.a.	n.a.	0.71	0.595	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	22.470	0.590	9468.0	5412.0	6.554	3.328	3.17		Clay	100.0			21.24	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	22.300	0.516	9488.4	5421.8	6.476	2.939	3.15		Clay	100.0			21.08	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	22.810	0.501	9507.6	5431.0	6.649	2.776	3.13		Clay	100.0			21.56	0.78	n.a.	n.a.	0.71	0.594	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	22.810	0.522	9528.0	5440.8	6.634	2.893	3.14		Clay	100.0			21.56	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	23.460	0.551	9547.2	5450.0	6.857	2.947	3.13		Clay	100.0			22.17	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	23.780	0.568	9566.4	5459.2	6.960	2.989	3.13		Clay	100.0			22.48	0.78	n.a.	n.a.	0.71	0.593	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	23.910	0.601	9586.8	5469.0	6.991	3.142	3.14		Clay	100.0			22.60	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	24.130	0.622	9606.0	5478.2	7.056	3.216	3.14		Clay	100.0			22.81	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	24.370	0.636	9626.4	5488.0	7.127	3.253	3.14		Clay	100.0			23.03	0.78	n.a.	n.a.	0.71	0.592	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	24.390	0.644	9645.6	5497.2	7.119	3.293	3.14		Clay	100.0			23.05	0.78	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	24.150	0.621	9664.8	5506.5	7.016	3.214	3.14		Clay	100.0			22.83	0.78	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	23.940	0.589	9685.2	5516.3	6.924	3.085	3.14		Clay	100.0			22.63	0.78	n.a.	n.a.	0.71	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	23.980	0.556	9704.4	5525.5	6.923	2.908	3.12		Clay	100.0			22.67	0.78	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	23.810	0.558	9724.8	5535.3	6.846	2.944	3.13		Clay	100.0			22.50	0.78	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	24.060	0.538	9744.0	5544.5	6.921	2.805	3.11		Clay	100.0			22.74	0.78	n.a.	n.a.	0.71	0.590	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	24.300	0.487	9763.2	5553.7	6.993	2.510	3.08		Clay	100.0			22.97	0.78	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	22.550	0.424	9783.6	5563.5	6.348	2.402	3.11		Clay	100.0			21.31	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	21.100	0.355	9802.8	5572.7	5.814	2.194	3.12		Clay	100.0			19.94	0.77	n.a.	n.a.	0.70	0.589	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	20.840	0.330	9823.2	5582.5	5.707	2.070	3.12		Clay	100.0			19.70	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	20.640	0.341	9842.4	5591.7	5.622	2.167	3.13		Clay	100.0			19.51	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	20.860	0.342	9862.8	5601.5	5.687	2.146	3.13		Clay	100.0			19.72	0.77	n.a.	n.a.	0.70	0.588	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	21.040	0.368	9882.0	5610.7	5.739	2.288	3.14		Clay	100.0			19.89	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	21.990	0.396	9901.2	5619.9	6.064	2.324	3.12		Clay	100.0			20.78	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	21.620	0.413	9921.6	5629.7	5.918	2.480	3.14		Clay	100.0			20.43	0.77	n.a.	n.a.	0.70	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	22.180	0.445	9940.8	5638.9	6.104	2.588	3.14		Clay	100.0			20.96	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	22.990	0.456	9961.2	5648.7	6.376	2.530	3.12		Clay	100.0			21.73	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	22.860	0.455	9980.4	5658.0	6.317	2.547	3.13		Clay	100.0			21.61	0.77	n.a.	n.a.	0.70	0.586	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	23.110	0.444	9999.6	5667.2	6.391	2.453	3.11		Clay	100.0			21.84	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	23.290	0.466	10020.0	5677.0	6.440	2.551	3.12		Clay	100.0			22.01	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	23.390	0.464	10039.2	5686.2	6.461	2.524	3.12		Clay	100.0			22.11	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	22.980	0.458	10059.6	5696.0	6.303	2.553	3.13		Clay	100.0			21.72	0.77	n.a.	n.a.	0.70	0.585	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	22.950	0.440	10078.8	5705.2	6.279	2.457	3.12		Clay	100.0			21.69	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	22.400	0.439	10098.0	5714.4	6.073	2.528	3.14		Clay	100.0			21.17	0.77	n.a.	n.a.	0.70	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	22.080	0.446	10118.4	5724.2	5.947	2.617	3.15		Clay	100.0			20.87	0.77	n.a.	n.a.	0.69	0.584	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	22.660	0.478	10137.6	5733.4	6.136	2.719	3.15		Clay	100.0			21.42	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	24.140	0.530	10158.0	5743.2	6.638	2.779	3.13		Clay	100.0			22.82	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	25.010	0.615	10177.2	5752.4	6.926	3.086	3.14		Clay	100.0			23.64	0.77	n.a.	n.a.	0.69	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	25.540	0.639	10196.4	5761.6	7.096	3.124	3.13		Clay	100.0			24.14	0.77	n.a.	n.a.	0.69	0.582	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	24.440	0.585	10216.8	5																				

CPT No.

9

PGA (A_{max})

0.70

Total Settlement:

0.75 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
88.250	34.070	1.162	10590.0	5950.6	9.671	4.040	3.08		Clay	100.0			32.20	0.76	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.420	35.340	1.123	10610.4	5960.4	10.078	3.739	3.05		Clay	100.0			33.40	0.76	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.580	32.720	1.064	10629.6	5969.6	9.182	3.882	3.09		Clay	100.0			30.93	0.76	n.a.	n.a.	0.68	0.576	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.750	32.470	0.975	10650.0	5979.4	9.080	3.592	3.08		Clay	100.0			30.69	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	33.220	1.356	10669.2	5988.6	9.313	4.863	3.14		Clay	100.0			31.40	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	39.640	1.593	10688.4	5997.8	11.436	4.645	3.06		Clay	100.0			37.47	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	40.160	1.597	10708.8	6007.6	11.587	4.589	3.05		Clay	100.0			37.96	0.76	n.a.	n.a.	0.68	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	35.850	1.370	10728.0	6016.8	10.134	4.495	3.10		Clay	100.0			33.88	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	35.620	1.281	10748.4	6026.6	10.037	4.236	3.08		Clay	100.0			33.67	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	36.290	1.306	10767.6	6035.8	10.241	4.225	3.08		Clay	100.0			34.30	0.76	n.a.	n.a.	0.68	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	37.830	1.481	10788.0	6045.6	10.730	4.565	3.08		Clay	100.0			35.76	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	38.230	1.431	10807.2	6054.8	10.843	4.358	3.06		Clay	100.0			36.13	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	36.120	1.316	10826.4	6064.0	10.128	4.285	3.08		Clay	100.0			34.14	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	35.340	1.266	10846.8	6073.8	9.851	4.233	3.09		Clay	100.0			33.40	0.76	n.a.	n.a.	0.68	0.573	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.550	34.230	1.331	10866.0	6083.0	9.468	4.621	3.13		Clay	100.0			32.35	0.76	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	36.160	1.347	10886.4	6092.8	10.083	4.386	3.09		Clay	100.0			34.18	0.76	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	34.580	1.216	10905.6	6102.0	9.547	4.174	3.10		Clay	100.0			32.68	0.76	n.a.	n.a.	0.68	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	32.820	1.145	10924.8	6111.3	8.953	4.186	3.12		Clay	100.0			31.02	0.76	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	32.830	1.111	10945.2	6121.1	8.939	4.060	3.11		Clay	100.0			31.03	0.76	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.370	31.000	1.066	10964.4	6130.3	8.325	4.177	3.14		Clay	100.0			29.30	0.76	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.540	30.310	0.953	10984.8	6140.1	8.084	3.842	3.13		Clay	100.0			28.65	0.75	n.a.	n.a.	0.67	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	29.330	0.979	11004.0	6149.3	7.750	4.109	3.17		Clay	100.0			27.72	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	30.480	0.986	11023.2	6158.5	8.109	3.951	3.14		Clay	100.0			28.81	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	33.240	0.885	11043.6	6168.3	8.987	3.194	3.05		Clay	100.0			31.42	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	31.570	0.768	11062.8	6177.5	8.430	2.949	3.05		Clay	100.0			29.84	0.75	n.a.	n.a.	0.67	0.570	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	29.610	0.720	11083.2	6187.3	7.780	2.993	3.09		Clay	100.0			27.99	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	29.500	0.791	11102.4	6196.5	7.730	3.301	3.11		Clay	100.0			27.88	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	30.580	0.832	11121.6	6205.7	8.063	3.323	3.10		Clay	100.0			28.90	0.75	n.a.	n.a.	0.67	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	29.770	0.978	11142.0	6215.5	7.787	4.040	3.16		Clay	100.0			28.14	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.010	30.580	0.981	11161.2	6224.7	8.032	3.924	3.14		Clay	100.0			28.90	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.180	32.390	1.021	11181.6	6234.5	8.597	3.811	3.11		Clay	100.0			30.61	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.340	33.270	1.026	11200.8	6243.7	8.863	3.709	3.09		Clay	100.0			31.45	0.75	n.a.	n.a.	0.67	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.500	32.180	1.060	11220.0	6253.0	8.498	3.988	3.13		Clay	100.0			30.42	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.670	32.750	1.088	11240.4	6262.8	8.664	4.010	3.12		Clay	100.0			30.95	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.830	32.820	0.978	11259.6	6272.0	8.670	3.596	3.09		Clay	100.0			31.02	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.000	30.180	0.780	11280.0	6281.8	7.813	3.180	3.10		Clay	100.0			28.53	0.75	n.a.	n.a.	0.67	0.567	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.160	27.340	0.691	11299.2	6291.0	6.896	3.185	3.15		Clay	100.0			25.84	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.320	27.280	0.683	11318.4	6300.2	6.864	3.158	3.15		Clay	100.0			25.78	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.490	27.100	0.752	11338.8	6310.0	6.793	3.510	3.17		Clay	100.0			25.61	0.75	n.a.	n.a.	0.67	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.650	28.160	0.849	11358.0	6319.2	7.115	3.777	3.18		Clay	100.0			26.62	0.75	n.a.	n.a.	0.66	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.820	29.360	0.958	11378.4	6329.0	7.480	4.045	3.17		Clay	100.0			27.75	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.980	29.430	0.993	11397.6	6338.2	7.488	4.184	3.18		Clay	100.0			27.82	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.140	29.500	0.928	11416.8	6347.4	7.496	3.899	3.16		Clay	100.0			27.88	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.310	28.590	0.877	11437.2	6357.2	7.195	3.836	3.18		Clay	100.0			27.02	0.75	n.a.	n.a.	0.66	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.470	29.210	0.858	11456.4	6366.4	7.377	3.653	3.15		Clay	100.0			27.61	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.640	29.670	0.895	11476.8	6376.2	7.507	3.739	3.15		Clay	100.0			28.04	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.800	29.770	0.827	11496.0	6385.4	7.524	3.441	3.13		Clay	100.0			28.14	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.960	30.780	1.079	11515.2	6394.7	7.826	4.310	3.17		Clay	100.0			29.09	0.75	n.a.	n.a.	0.66	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.130	37.000	1.415																						

CPT No. 9

PGA (A_{max}) 0.70

Total Settlement: 0.75 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	CRRM=7.5, $\gamma_{vc} = 1 \text{ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
99.250	606.970	4.657	11910.0	6584.2	322.038	0.775	1.47		Sand	0.0			573.70	0.74	425.23	425.23	0.65	0.559	0.659	#####	#####	#####	0.00	0.00
99.410	653.790	3.922	11929.2	6593.4	346.878	0.605	1.37		Sand	0.0			617.95	0.74	457.86	457.86	0.65	0.559	0.659	#####	#####	#####	0.00	0.00
99.570	612.230	5.175	11948.4	6602.6	324.393	0.854	1.50		Sand	0.0			578.67	0.74	428.60	428.60	0.65	0.558	0.659	#####	#####	#####	0.00	0.00
99.740	548.010	5.068	11968.8	6612.4	289.810	0.935	1.56		Sand	0.0			517.97	0.74	383.49	383.49	0.65	0.558	0.658	#####	#####	#####	0.00	0.00
99.900	534.940	4.166	11988.0	6621.6	282.619	0.788	1.51		Sand	0.0			505.61	0.74	374.20	374.20	0.65	0.558	0.658	#####	#####	#####	0.00	0.00
100.070	541.530	3.854	12008.4	6631.4	285.924	0.720	1.48		Sand	0.0			511.84	0.74	378.67	378.67	0.65	0.558	0.657	#####	#####	#####	0.00	0.00
100.230	575.360	4.133	12027.6	6640.6	303.770	0.726	1.46		Sand	0.0			543.82	0.74	402.17	402.17	0.65	0.558	0.657	#####	#####	#####	0.00	0.00
100.390	621.630	4.991	12046.8	6649.8	328.224	0.811	1.48		Sand	0.0			587.55	0.74	434.36	434.36	0.65	0.557	0.656	#####	#####	#####	0.00	0.00
100.560	531.670	6.166	12067.2	6659.6	280.048	1.173	1.65		Sand	0.0			502.52	0.74	371.36	371.36	0.65	0.557	0.656	#####	#####	#####	0.00	0.00
100.720	439.370	5.001	12086.4	6668.8	230.708	1.154	1.69		Sand	0.0			415.28	0.74	306.77	306.77	0.65	0.557	0.656	#####	#####	5843675.99	0.00	0.00
100.890	492.480	3.317	12106.8	6678.6	258.789	0.682	1.49		Sand	0.0			465.48	0.74	343.72	343.72	0.65	0.557	0.655	#####	#####	#####	0.00	0.00
101.050	450.970	2.439	12126.0	6687.8	236.537	0.548	1.46		Sand	0.0			426.25	0.74	314.64	314.64	0.65	0.557	0.655	#####	#####	#####	0.00	0.00
101.210	427.960	4.409	12145.2	6697.1	224.144	1.045	1.67		Sand	0.0			404.50	0.74	298.48	298.48	0.65	0.556	0.654	#####	#####	909219.31	0.00	0.00
101.380	375.920	3.539	12165.6	6706.8	196.347	0.957	1.68		Sand	0.0			355.31	0.74	262.08	262.08	0.65	0.556	0.654	613.976	883.280	1588.35	0.00	0.00
101.540	291.830	5.581	12184.8	6716.1	151.594	1.953	1.99		Sand	21.9			275.83	0.74	203.38	260.41	0.65	0.556	0.654	488.062	701.694	1262.27	0.00	0.00
101.710	226.260	8.206	12205.2	6725.9	116.716	3.727	2.28		Sand	45.0			213.86	0.72	154.27	237.72	0.65	0.556	0.653	34.108	49.006	88.19	0.00	0.00
101.870	294.640	8.145	12224.4	6735.1	152.858	2.823	2.11		Sand	31.7			278.49	0.74	205.19	285.06	0.65	0.555	0.653	24490.497	35164.714	63303.58	0.00	0.00
102.030	321.520	8.890	12243.6	6744.3	166.980	2.819	2.08		Sand	29.8			303.89	0.74	223.82	304.02	0.65	0.555	0.652	#####	#####	3083938.16	0.00	0.00
102.200	440.970	5.970	12264.0	6754.1	230.047	1.373	1.75		Sand	3.2			416.80	0.74	306.86	306.86	0.65	0.555	0.652	#####	#####	5953262.33	0.00	0.00
102.360	581.680	5.928	12283.2	6763.3	304.276	1.030	1.58		Sand	0.0			549.79	0.74	404.63	404.63	0.65	0.555	0.651	#####	#####	#####	0.00	0.00
102.530	637.940	7.788	12303.6	6773.1	333.772	1.233	1.62		Sand	0.0			602.97	0.74	443.60	443.60	0.65	0.555	0.651	#####	#####	#####	0.00	0.00
102.690	617.170	5.977	12322.8	6782.3	322.575	0.978	1.55		Sand	0.0			583.34	0.74	429.00	429.00	0.65	0.555	0.651	#####	#####	#####	0.00	0.00
102.850	732.430	3.958	12342.0	6791.5	383.160	0.545	1.30		Sand	0.0			692.28	0.74	508.94	508.94	0.65	0.554	0.650	#####	#####	#####	0.00	0.00
103.020	682.740	4.176	12362.4	6801.3	356.682	0.617	1.36		Sand	0.0			645.31	0.73	474.23	474.23	0.65	0.554	0.650	#####	#####	#####	0.00	0.00
103.180	671.080	3.734	12381.6	6810.5	350.293	0.562	1.34		Sand	0.0			634.29	0.73	465.97	465.97	0.65	0.554	0.649	#####	#####	#####	0.00	0.00
103.350	634.950	4.900	12402.0	6820.3	331.015	0.779	1.46		Sand	0.0			600.14	0.73	440.71	440.71	0.65	0.554	0.649	#####	#####	#####	0.00	0.00
103.510	577.260	4.975	12421.2	6829.5	300.435	0.871	1.53		Sand	0.0			545.61	0.73	400.53	400.53	0.65	0.554	0.648	#####	#####	#####	0.00	0.00
103.670	512.590	5.303	12440.4	6838.8	266.227	1.047	1.62		Sand	0.0			484.49	0.73	355.53	355.53	0.64	0.553	0.648	#####	#####	#####	0.00	0.00
103.840	530.030	3.835	12460.8	6848.5	275.194	0.732	1.50		Sand	0.0			500.97	0.73	367.49	367.49	0.64	0.553	0.648	#####	#####	#####	0.00	0.00
104.000	508.480	3.504	12480.0	6857.8	263.689	0.698	1.49		Sand	0.0			480.60	0.73	352.42	352.42	0.64	0.553	0.647	#####	#####	#####	0.00	0.00
104.170	516.260	3.923	12500.4	6867.6	267.578	0.769	1.52		Sand	0.0			487.96	0.73	357.68	357.68	0.64	0.553	0.647	#####	#####	#####	0.00	0.00

CPT No.

10

PGA (A_{max})

0.70

Total Settlement: 0.84 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{tN})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
0.160	1.000	0.297	19.2	19.2	103.167	29.937	3.06		Unsaturated	100.0			0.95	1.70	1.61	56.04	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	0.980	0.605	39.6	39.6	48.495	63.018	3.51		Unsaturated	100.0			0.93	1.70	1.57	56.00	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	1.310	0.619	58.8	58.8	43.558	48.368	3.43		Unsaturated	100.0			1.24	1.70	2.10	56.69	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	1.370	0.921	79.2	79.2	33.596	69.235	3.63		Unsaturated	100.0			1.29	1.70	2.20	56.82	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	67.530	1.320	98.4	98.4	295.770	1.957	1.81		Unsaturated	7.9			63.83	1.70	108.51	111.59	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	46.410	1.583	117.6	117.6	185.836	3.416	2.13		Unsaturated	33.0			43.87	1.70	74.57	128.40	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	25.950	0.981	138.0	138.0	95.789	3.792	2.33		Unsaturated	49.8			24.53	1.70	41.70	98.67	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	20.320	0.839	157.2	157.2	70.192	4.145	2.45		Unsaturated	59.2			19.21	1.70	32.65	90.30	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	26.710	0.689	177.6	177.6	86.852	2.588	2.24		Unsaturated	42.1			25.25	1.70	42.92	96.46	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	22.680	0.869	196.8	196.8	69.987	3.846	2.43		Unsaturated	57.3			21.44	1.70	36.44	94.61	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	26.760	0.797	216.0	216.0	78.845	2.989	2.31		Unsaturated	48.0			25.29	1.70	43.00	99.56	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	23.710	0.781	236.4	236.4	66.713	3.312	2.40		Unsaturated	54.6			22.41	1.70	38.10	95.87	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	19.870	0.588	255.6	255.6	53.689	2.979	2.43		Unsaturated	57.3			18.78	1.70	31.93	88.84	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	19.430	0.399	276.0	276.0	50.489	2.069	2.34		Unsaturated	50.3			18.36	1.70	31.22	85.60	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	14.950	0.332	295.2	295.2	37.458	2.246	2.46		Unsaturated	60.0			14.13	1.70	24.02	79.48	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	12.140	0.341	314.4	314.4	43.023	2.845	2.48		Unsaturated	61.8			11.47	1.70	19.51	74.12	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	10.290	0.404	334.8	334.8	34.779	3.988	2.65		Unsaturated	75.2			9.73	1.70	16.53	72.82	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	10.930	0.454	354.0	354.0	35.531	4.220	2.66		Unsaturated	76.0			10.33	1.70	17.56	74.27	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	14.930	0.499	374.4	374.4	46.840	3.383	2.51		Unsaturated	63.8			14.11	1.70	23.99	80.33	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	23.560	0.665	393.6	393.6	51.201	2.847	2.43		Unsaturated	57.4			22.27	1.70	37.86	96.44	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	40.480	1.324	412.8	412.8	86.183	3.289	2.32		Unsaturated	48.4			38.26	1.70	65.04	127.55	1.00	0.455	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	69.450	2.285	433.2	433.2	144.625	3.300	2.18		Unsaturated	37.1			65.64	1.70	111.59	177.87	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	83.120	3.116	452.4	452.4	169.447	3.759	2.18		Unsaturated	37.6			78.56	1.66	130.26	201.32	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	81.810	3.652	472.8	472.8	163.111	4.477	2.25		Unsaturated	43.3			77.33	1.63	126.33	201.46	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	78.880	3.699	492.0	492.0	154.135	4.704	2.29		Unsaturated	45.9			74.56	1.63	121.30	196.93	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	71.420	3.584	512.4	512.4	136.687	5.036	2.34		Unsaturated	50.2			67.50	1.64	110.66	186.08	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	65.830	3.186	531.6	531.6	123.636	4.859	2.35		Unsaturated	51.2			62.22	1.65	102.64	176.43	1.00	0.454	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	64.520	3.007	550.8	550.8	119.018	4.681	2.35		Unsaturated	50.9			60.98	1.64	100.00	172.95	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	61.500	2.875	571.2	571.2	111.361	4.696	2.37		Unsaturated	52.4			58.13	1.64	95.08	167.42	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	56.500	2.720	590.4	590.4	100.571	4.839	2.40		Unsaturated	55.4			53.40	1.64	87.67	159.27	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	55.090	2.342	610.8	610.8	96.379	4.276	2.37		Unsaturated	52.9			52.07	1.63	85.08	154.95	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	54.160	2.648	630.0	630.0	93.271	4.917	2.43		Unsaturated	57.4			51.19	1.62	82.81	153.85	1.00	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	50.100	2.664	649.2	649.2	84.937	5.351	2.48		Unsaturated	61.7			47.35	1.62	76.65	147.39	0.99	0.453	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	48.640	2.613	669.6	669.6	81.163	5.410	2.50		Unsaturated	63.0			45.97	1.61	73.93	144.28	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	49.700	2.521	688.8	688.8	81.764	5.109	2.48		Unsaturated	61.3			46.98	1.59	74.61	144.65	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	51.090	2.551	709.2	709.2	82.832	5.027	2.47		Unsaturated	60.6			48.29	1.57	75.63	145.73	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	50.870	2.280	728.4	728.4	81.363	4.514	2.44		Unsaturated	58.1			48.08	1.55	74.74	143.78	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	50.670	1.901	747.6	747.6	79.978	3.780	2.38		Unsaturated	53.8			47.89	1.54	73.99	141.22	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	45.830	1.830	768.0	768.0	71.300	4.026	2.44		Unsaturated	58.1			43.32	1.55	67.03	133.92	0.99	0.452	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	37.790	1.910	787.2	787.2	57.951	5.106	2.58		Unsaturated	69.0			35.72	1.56	55.84	122.51	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	34.900	1.874	807.6	807.6	63.990	5.431	2.57		Unsaturated	68.4			32.99	1.56	51.53	116.80	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	42.440	1.652	826.8	826.8	63.547	3.930	2.46		Unsaturated	60.1			40.11	1.52	60.88	126.70	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	47.030	1.703	846.0	846.0	69.669	3.654	2.41		Unsaturated	56.1			44.45	1.49	66.18	132.14	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	56.090	1.609	866.4	866.4	82.211	2.892	2.29		Unsaturated	46.2			53.02	1.45	76.98	141.44	0.99	0.451	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	52.710	1.561	885.6	885.6	76.363	2.987	2.32		Unsaturated	48.8			49.82	1.45	72.19	136.74	0.99	0.450	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	49.380	1.816	906.0	906.0	70.674	3.712	2.41		Unsaturated	56.2			46.67	1.44	67.30	133.60	0.99	0.450	1.100	n.a.	n.a.			

CPT No.

10

PGA (A_{max})

0.70

Total Settlement: 0.84 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRR _{M=7.5,σ' vc = 1 atm}	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
11.320	26.300	0.710	1358.4	1358.4	30.224	2.771	2.59	plastic	Sand	70.4	43.09		43.09	1.23	52.81	118.90	0.98	0.474	1.055	0.169	0.245	0.52	0.03	0.05
11.480	24.100	0.592	1377.6	1377.6	29.882	2.528	2.57		Clay	68.7			22.78	1.12	n.a.	n.a.	0.98	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	19.500	0.590	1398.0	1398.0	26.897	3.138	2.67		Clay	76.3			18.43	1.12	n.a.	n.a.	0.98	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	12.200	0.435	1417.2	1417.2	16.217	3.784	2.89		Clay	94.0			11.53	1.11	n.a.	n.a.	0.98	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	7.860	0.295	1437.6	1437.6	9.935	4.130	3.08		Clay	100.0			7.43	1.11	n.a.	n.a.	0.98	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	7.240	0.305	1456.8	1456.8	8.940	4.687	3.15		Clay	100.0			6.84	1.10	n.a.	n.a.	0.98	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	8.650	0.373	1476.0	1476.0	10.721	4.719	3.09		Clay	100.0			8.18	1.10	n.a.	n.a.	0.98	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	9.430	0.381	1496.4	1496.4	11.604	4.386	3.04		Clay	100.0			8.91	1.10	n.a.	n.a.	0.98	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	11.330	0.416	1515.6	1515.6	13.951	3.937	2.95		Clay	99.0			10.71	1.09	n.a.	n.a.	0.98	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	11.640	0.426	1536.0	1536.0	14.156	3.922	2.94		Clay	98.5			11.00	1.09	n.a.	n.a.	0.97	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	15.580	0.436	1555.2	1555.2	19.036	2.945	2.77		Clay	84.3			14.73	1.08	n.a.	n.a.	0.97	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	10.750	0.409	1574.4	1574.4	12.656	4.101	2.99		Clay	100.0			10.16	1.08	n.a.	n.a.	0.97	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	8.650	0.294	1594.8	1594.8	9.848	3.749	3.06		Clay	100.0			8.18	1.08	n.a.	n.a.	0.97	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	6.650	0.252	1614.0	1614.0	7.240	4.304	3.20		Clay	100.0			6.29	1.07	n.a.	n.a.	0.97	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	6.740	0.272	1634.4	1634.4	7.248	4.599	3.22		Clay	100.0			6.37	1.07	n.a.	n.a.	0.97	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	6.940	0.308	1653.6	1653.6	7.394	5.042	3.23	Clay	100.0			6.56	1.07	n.a.	n.a.	0.97	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
13.940	7.730	0.323	1672.8	1672.8	8.242	4.691	3.18	Clay	100.0			7.31	1.06	n.a.	n.a.	0.97	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.110	7.290	0.324	1693.2	1693.2	7.611	5.024	3.22	Clay	100.0			6.89	1.06	n.a.	n.a.	0.97	0.521	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.270	6.510	0.300	1712.4	1712.4	6.603	5.306	3.29	Clay	100.0			6.15	1.06	n.a.	n.a.	0.97	0.523	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.440	6.800	0.238	1732.8	1732.8	6.849	4.014	3.20	Clay	100.0			6.43	1.05	n.a.	n.a.	0.97	0.525	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.600	5.930	0.187	1752.0	1752.0	5.769	3.708	3.25	Clay	100.0			5.60	1.05	n.a.	n.a.	0.97	0.528	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.760	5.310	0.156	1771.2	1771.2	4.996	3.515	3.29	Clay	100.0			5.02	1.05	n.a.	n.a.	0.97	0.530	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
14.930	5.420	0.142	1791.6	1791.6	5.050	3.139	3.26	Clay	100.0			5.12	1.04	n.a.	n.a.	0.97	0.532	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.090	5.530	0.173	1810.8	1810.8	5.108	3.737	3.29	Clay	100.0			5.23	1.04	n.a.	n.a.	0.97	0.534	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.260	6.330	0.296	1831.2	1831.2	5.913	5.463	3.33	Clay	100.0			5.98	1.04	n.a.	n.a.	0.97	0.536	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.420	15.750	0.416	1850.4	1850.4	16.023	2.807	2.81	plastic	Clay	88.1		14.89	1.04	n.a.	n.a.	0.97	0.538	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.580	21.500	0.349	1869.6	1869.6	20.679	1.697	2.60		Clay	70.7		20.32	1.03	n.a.	n.a.	0.97	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.750	20.790	0.395	1890.0	1886.9	21.035	1.989	2.63		Clay	73.4		19.65	1.03	n.a.	n.a.	0.97	0.542	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
15.910	13.180	0.433	1909.2	1896.1	12.895	3.541	2.95		Clay	98.9		12.46	1.03	n.a.	n.a.	0.97	0.544	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.080	9.410	0.343	1929.6	1905.9	8.862	4.057	3.12		Clay	100.0		8.89	1.03	n.a.	n.a.	0.96	0.546	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.240	9.700	0.295	1948.8	1915.1	9.112	3.382	3.06		Clay	100.0		9.17	1.03	n.a.	n.a.	0.96	0.548	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.400	10.710	0.312	1968.0	1924.3	10.109	3.211	3.01		Clay	100.0		10.12	1.03	n.a.	n.a.	0.96	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.570	10.440	0.381	1988.4	1934.1	9.768	4.030	3.08		Clay	100.0		9.87	1.02	n.a.	n.a.	0.96	0.552	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.730	9.030	0.378	2007.6	1943.3	8.260	4.710	3.18		Clay	100.0		8.53	1.02	n.a.	n.a.	0.96	0.554	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
16.900	11.470	0.384	2028.0	1953.1	10.707	3.673	3.02		Clay	100.0		10.84	1.02	n.a.	n.a.	0.96	0.556	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.060	18.480	0.445	2047.2	1962.3	17.791	2.547	2.75		Clay	83.1		17.47	1.02	n.a.	n.a.	0.96	0.557	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.220	19.510	0.320	2066.4	1971.6	18.743	1.731	2.64		Clay	74.0		18.44	1.02	n.a.	n.a.	0.96	0.559	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.390	17.240	0.421	2086.8	1981.3	16.349	2.597	2.79		Clay	85.9		16.29	1.02	n.a.	n.a.	0.96	0.561	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.550	14.530	0.477	2106.0	1990.6	13.541	3.539	2.93		Clay	97.6		13.73	1.02	n.a.	n.a.	0.96	0.563	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.720	12.960	0.490	2126.4	2000.4	11.895	4.121	3.02		Clay	100.0		12.25	1.01	n.a.	n.a.	0.96	0.564	n.a.	n.a.	n.a.	n.a.	0.00	0.00	
17.880	12.850	0.447	2145.6	2009.6	11.721	3.794	3.00	Clay	100.0		12.15	1.01	n.a.	n.a.	0.96	0.566	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
18.040	17.440	0.498	2164.8	2018.8	16.205	3.041	2.83	Clay	89.4		16.48	1.01	n.a.	n.a.	0.96	0.568	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
18.210	19.930	0.431	2185.2	2028.6	18.572	2.290	2.71	Clay	79.7		18.84	1.01	n.a.	n.a.	0.96	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
18.370	21.210	0.533	2204.4	2037.8	19.735	2.651	2.73	Clay	81.1		20.05	1.01	n.a.	n.a.	0.96	0.571	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
18.540	19.770	0.556	2224.8	2047.6	18.224	2.982	2.78	Clay	85.7		18.69	1.01	n.a.	n.a.	0.96	0.572	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
18.700	21.410	0.478	2244.0	2056.8	19.728	2.358	2.70	Clay	78.7		20.24	1.01	n.a.	n.a.	0.96	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
18.860	19.790	0.466	2263.2	2066.0	18.062	2.496	2.74	Clay	82.3		18.71	1.01	n.a.	n.a.	0.96	0.575	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
19.030	14.510	0.549	2283.6	2075.8	12.880	4.108	2.99	Clay	100.0		13.71	1.01	n.a.	n.a.	0.96	0.577	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
19.190	12.740	0.566	2302.8	2085.0	11.116	4.884	3.09	Clay	100.0		12.04	1.00	n.a.	n.a.	0.95	0.578	n.a.	n.a.	n.a.	n.a.	0.00	0.00		
19.360	11.330	0.541	2323.2	2094.8	9.708	5.315	3.15	Clay	100.0		10.71	1.00												

CPT No.

10

PGA (A_{max})

0.70

Total Settlement: 0.84 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	In situ σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, f _d	CSR	K _σ for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
22.310	7.040	0.180	2677.2	2264.7	5.035	3.152	3.26		Clay	100.0			6.65	0.98	n.a.	n.a.	0.94	0.602	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	7.410	0.209	2696.4	2274.0	5.332	3.445	3.26		Clay	100.0			7.00	0.98	n.a.	n.a.	0.94	0.603	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	7.190	0.185	2716.8	2283.7	5.107	3.178	3.25		Clay	100.0			6.80	0.98	n.a.	n.a.	0.94	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	6.340	0.136	2736.0	2293.0	4.337	2.733	3.28		Clay	100.0			5.99	0.98	n.a.	n.a.	0.94	0.605	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	6.410	0.122	2756.4	2302.8	4.370	2.423	3.25		Clay	100.0			6.06	0.98	n.a.	n.a.	0.94	0.606	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	6.910	0.144	2775.6	2312.0	4.777	2.600	3.23		Clay	100.0			6.53	0.98	n.a.	n.a.	0.94	0.607	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	6.870	0.147	2794.8	2321.2	4.715	2.688	3.25		Clay	100.0			6.49	0.98	n.a.	n.a.	0.94	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	6.650	0.115	2815.2	2331.0	4.498	2.190	3.22		Clay	100.0			6.29	0.97	n.a.	n.a.	0.94	0.609	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	6.850	0.116	2834.4	2340.2	4.643	2.126	3.20		Clay	100.0			6.47	0.97	n.a.	n.a.	0.94	0.610	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	6.700	0.144	2854.8	2350.0	4.487	2.733	3.27		Clay	100.0			6.33	0.97	n.a.	n.a.	0.94	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	6.420	0.143	2874.0	2359.2	4.224	2.866	3.30		Clay	100.0			6.07	0.97	n.a.	n.a.	0.94	0.612	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	6.800	0.143	2893.2	2368.4	4.521	2.671	3.26		Clay	100.0			6.43	0.97	n.a.	n.a.	0.94	0.613	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	6.860	0.111	2913.6	2378.2	4.544	2.047	3.20		Clay	100.0			6.48	0.97	n.a.	n.a.	0.94	0.614	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	6.530	0.118	2932.8	2387.4	4.242	2.336	3.26		Clay	100.0			6.17	0.97	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	7.340	0.159	2953.2	2397.2	4.892	2.712	3.23		Clay	100.0			6.94	0.97	n.a.	n.a.	0.94	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	8.070	0.252	2972.4	2406.4	5.472	3.832	3.27		Clay	100.0			7.63	0.97	n.a.	n.a.	0.93	0.616	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	8.750	0.297	2991.6	2415.6	6.006	4.093	3.26		Clay	100.0			8.27	0.97	n.a.	n.a.	0.93	0.617	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	8.920	0.335	3012.0	2425.4	6.114	4.512	3.27		Clay	100.0			8.43	0.96	n.a.	n.a.	0.93	0.618	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	10.960	0.431	3031.2	2434.7	7.758	4.561	3.19		Clay	100.0			10.36	0.96	n.a.	n.a.	0.93	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	10.690	0.485	3051.6	2444.4	7.498	5.293	3.24		Clay	100.0			10.10	0.96	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	10.290	0.474	3070.8	2453.7	7.136	5.418	3.27		Clay	100.0			9.73	0.96	n.a.	n.a.	0.93	0.620	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	10.500	0.433	3090.0	2462.9	7.272	4.839	3.23		Clay	100.0			9.92	0.96	n.a.	n.a.	0.93	0.621	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	10.620	0.412	3110.4	2472.7	7.332	4.545	3.21		Clay	100.0			10.04	0.96	n.a.	n.a.	0.93	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	12.350	0.487	3129.6	2481.9	8.691	4.513	3.15		Clay	100.0			11.67	0.96	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	18.480	0.577	3150.0	2491.7	13.569	3.413	2.92		Clay	96.7			17.47	0.96	n.a.	n.a.	0.93	0.623	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	20.690	0.628	3169.2	2500.9	15.279	3.285	2.87		Clay	92.7			19.56	0.96	n.a.	n.a.	0.93	0.624	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	22.150	0.626	3188.4	2510.1	16.378	3.043	2.83		Clay	89.1			20.94	0.96	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	22.490	0.572	3208.8	2519.9	16.577	2.740	2.80		Clay	86.6			21.26	0.95	n.a.	n.a.	0.93	0.625	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	24.300	0.613	3228.0	2529.1	17.940	2.703	2.76		Clay	84.1			22.97	0.95	n.a.	n.a.	0.93	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	25.670	0.756	3248.4	2538.9	18.942	3.144	2.79		Clay	85.8			24.26	0.95	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	28.100	0.852	3267.6	2548.1	20.773	3.220	2.76		Clay	83.8			26.56	0.95	n.a.	n.a.	0.93	0.627	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	30.120	0.979	3288.0	2557.9	22.265	3.437	2.75		Clay	83.4			28.47	0.95	n.a.	n.a.	0.92	0.628	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	32.510	1.133	3307.2	2567.1	24.040	3.672	2.75		Clay	82.8			30.73	0.95	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	32.840	1.500	3326.4	2576.4	24.202	4.810	2.82		Clay	88.9			31.04	0.95	n.a.	n.a.	0.92	0.629	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	29.310	1.442	3346.8	2586.1	21.373	5.217	2.89		Clay	93.9			27.70	0.95	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	30.550	1.280	3366.0	2595.4	22.245	4.435	2.83		Clay	89.2			28.88	0.95	n.a.	n.a.	0.92	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	27.140	1.051	3386.4	2605.2	19.536	4.129	2.85		Clay	91.0			25.65	0.95	n.a.	n.a.	0.92	0.631	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	23.680	0.915	3405.6	2614.4	16.813	4.162	2.90		Clay	95.1			22.38	0.95	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	22.990	0.963	3424.8	2623.6	16.220	4.524	2.94		Clay	97.9			21.73	0.94	n.a.	n.a.	0.92	0.632	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	24.190	1.041	3445.2	2633.4	17.064	4.633	2.93		Clay	97.1			22.86	0.94	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	27.330	1.128	3464.4	2642.6	19.373	4.408	2.87		Clay	92.6			25.83	0.94	n.a.	n.a.	0.92	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	28.800	1.334	3484.8	2652.4	20.402	4.931	2.89		Clay	93.8			27.22	0.94	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	26.340	1.383	3504.0	2661.6	18.476	5.625	2.96		Clay	99.5			24.90	0.94	n.a.	n.a.	0.92	0.634	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	23.670	1.185	3523.2	2670.8	16.406	5.409	2.98		Clay	100.0			22.37	0.94	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	21.200	0.855	3543.6	2680.6	14.495	4.399	2.97		Clay	100.0			20.04	0.94	n.a.	n.a.	0.92	0.635	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	18.600	0.709	3562.8	2689.8	12.505	4.217	3.01		Clay	100.0			17.58	0.94	n.a.	n.a.	0.92	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	18.870	0.743	3583.2	2699.6	12.652	4.350	3.01		Clay	100.0			17.84	0.94	n.a.	n.a.	0.91	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	18.470	0.761	3602.4	2708.8	12.307	4.566	3.03		Clay	100.0			17.46	0.94	n.a.	n.a.	0.91	0.637	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	18.530	0.759	3621.6	2718.0	12.302	4.537	3.03		Clay															

CPT No.

10

PGA (A_{max})

0.70

Total Settlement: 0.84 (Inches)

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Depth (ft)	Q _c (tsf)	f _s (tsf)	σ _{vc} (psf)	Insitu σ' _{vc} (psf)	Q	F (%)	I _c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	Q _{cN} near interfaces (soft layer)	Thin Layer Factor (K _{t1})	Interpreted q _{cN}	C _N	Q _{c1N}	Q _{c1N-CS}	Stress Reduction Coeff, r _d	CSR	K _s for Sand	CRRM=7.5,σ' vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε _v	Settlement (Inches)
33.300	23.510	0.714	3996.0	2897.8	14.847	3.320	2.88		Clay	93.7			22.22	0.92	n.a.	n.a.	0.90	0.644	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	33.650	0.770	4015.2	2907.0	21.770	2.432	2.67		Clay	76.5			31.81	0.92	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	27.490	0.852	4035.6	2916.8	17.466	3.345	2.83		Clay	89.4			25.98	0.92	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	24.390	0.749	4054.8	2926.0	15.286	3.350	2.88		Clay	93.1			23.05	0.92	n.a.	n.a.	0.90	0.645	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	27.230	0.765	4075.2	2935.8	17.162	3.036	2.81		Clay	87.8			25.74	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	30.400	0.612	4094.4	2945.0	19.255	2.157	2.68		Clay	77.5			28.73	0.92	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	37.210	0.492	4113.6	2954.2	28.120	1.399	2.44		Sand	58.1			35.17	0.84	29.46	85.93	0.90	0.646	0.968	0.121	0.141	0.22	0.04	0.08
34.450	32.850	1.198	4134.0	2964.0	20.771	3.893	2.81		Clay	88.0			31.05	0.91	n.a.	n.a.	0.90	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	29.240	1.200	4153.2	2973.2	18.272	4.417	2.89		Clay	94.2			27.64	0.91	n.a.	n.a.	0.90	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	55.480	1.005	4173.6	2983.0	42.504	1.882	2.37		Sand	52.7	53.69	1.8	96.64	0.87	84.33	153.93	0.89	0.647	0.943	0.317	0.513	0.79	0.01	0.03
34.940	56.800	0.829	4192.8	2992.2	43.480	1.516	2.31		Sand	47.5		1.8	96.64	0.87	84.08	151.07	0.89	0.647	0.944	0.296	0.469	0.73	0.02	0.03
35.100	55.360	0.929	4212.0	3001.4	42.263	1.745	2.35		Sand	51.3	53.69	1.8	96.64	0.87	84.08	152.94	0.89	0.647	0.943	0.309	0.497	0.77	0.02	0.03
35.270	36.020	0.662	4232.4	3011.2	22.518	1.951	2.60		Clay	71.1			34.05	0.91	n.a.	n.a.	0.89	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	19.600	0.635	4251.6	3020.4	11.571	3.635	2.99		Clay	100.0			18.53	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	14.480	0.427	4272.0	3030.2	8.147	3.458	3.11		Clay	100.0			13.69	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	13.130	0.386	4291.2	3039.5	7.228	3.516	3.15		Clay	100.0			12.41	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	11.850	0.393	4311.6	3049.2	6.358	4.052	3.23		Clay	100.0			11.20	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	11.500	0.361	4330.8	3058.5	6.104	3.863	3.24		Clay	100.0			10.87	0.91	n.a.	n.a.	0.89	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	10.960	0.307	4350.0	3067.7	5.727	3.491	3.23		Clay	100.0			10.36	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	10.430	0.230	4370.4	3077.5	5.358	2.785	3.21		Clay	100.0			9.86	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	9.790	0.195	4389.6	3086.7	4.921	2.571	3.22		Clay	100.0			9.25	0.91	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	9.550	0.202	4410.0	3096.5	4.744	2.754	3.25		Clay	100.0			9.03	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	9.490	0.200	4429.2	3105.7	4.685	2.749	3.25		Clay	100.0			8.97	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	9.650	0.284	4448.4	3114.9	4.768	3.822	3.32		Clay	100.0			9.12	0.90	n.a.	n.a.	0.89	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	14.180	0.379	4468.8	3124.7	7.646	3.175	3.11		Clay	100.0			13.40	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	33.650	0.623	4488.0	3133.9	20.043	1.983	2.65		Clay	74.7			31.81	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	40.220	0.999	4508.4	3143.7	24.153	2.631	2.65		Clay	75.3			38.02	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	41.040	0.965	4527.6	3152.9	24.597	2.488	2.63		Clay	73.7			38.79	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	44.370	1.012	4546.8	3162.1	32.548	2.403	2.53		Sand	65.3	46.3	1.8	83.34	0.84	70.42	140.40	0.88	0.650	0.941	0.236	0.348	0.53	0.02	0.05
38.060	48.990	0.796	4567.2	3171.9	36.057	1.705	2.40		Sand	55.1		1.8	83.35	0.84	70.16	136.87	0.88	0.650	0.942	0.221	0.319	0.49	0.02	0.04
38.220	46.520	1.122	4586.4	3181.2	34.093	2.536	2.53		Sand	65.2	46.3	1.8	83.34	0.84	70.23	140.14	0.88	0.650	0.940	0.235	0.345	0.53	0.02	0.05
38.390	36.690	0.730	4606.8	3190.9	21.553	2.124	2.64		Clay	74.0			34.68	0.90	n.a.	n.a.	0.88	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	36.370	0.584	4626.0	3200.2	26.175	1.714	2.51		Sand	64.2		1.8	61.88	0.82	51.02	115.17	0.88	0.650	0.950	0.161	0.207	0.32	0.03	0.05
38.710	21.210	0.735	4645.2	3209.4	11.770	3.891	3.01		Clay	100.0			20.05	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	14.230	0.665	4665.6	3219.2	7.391	5.589	3.26		Clay	100.0			13.45	0.90	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	28.850	0.599	4684.8	3228.4	16.422	2.258	2.75		Clay	83.0			27.27	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	34.260	0.613	4705.2	3238.2	19.707	1.922	2.64		Clay	74.6			32.38	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	37.160	0.665	4724.4	3247.4	21.431	1.910	2.61		Clay	72.0			35.12	0.89	n.a.	n.a.	0.88	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	32.140	0.671	4743.6	3256.6	18.282	2.253	2.71		Clay	79.9			30.38	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	25.880	0.551	4764.0	3266.4	14.388	2.347	2.81		Clay	87.5			24.46	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	21.130	0.523	4783.2	3275.6	11.441	2.788	2.93		Clay	97.5			19.97	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	14.420	0.471	4803.6	3285.4	7.316	3.919	3.17		Clay	100.0			13.63	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	10.820	0.378	4822.8	3294.6	5.104	4.489	3.34		Clay	100.0			10.23	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	10.260	0.311	4842.0	3303.8	4.745	3.964	3.33		Clay	100.0			9.70	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	10.200	0.292	4862.4	3313.6	4.689	3.755	3.32		Clay	100.0			9.64	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	10.050	0.259	4881.6	3322.8	4.580	3.408	3.31		Clay	100.0			9.50	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	10.500	0.228	4902.0	3332.6	4.830	2.829	3.25		Clay	100.0			9.92	0.89	n.a.	n.a.	0.87	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	12.500	0.236	4921.2																					

CPT No.

10

PGA (A_{max})

0.70

Total Settlement:

0.84 (Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	In situ σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_{t1})	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_{σ} for Sand	CRRM=7.5, $\sigma'_{vc} = 1 \text{ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ϵ_v	Settlement (Inches)
44.290	13.230	0.538	5314.8	3530.8	5.989	5.091	3.31		Clay	100.0			12.50	0.87	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	12.830	0.489	5335.2	3540.6	5.741	4.814	3.31		Clay	100.0			12.13	0.87	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	13.330	0.454	5354.4	3549.8	6.002	4.262	3.27		Clay	100.0			12.60	0.87	n.a.	n.a.	0.85	0.651	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	13.860	0.383	5373.6	3559.0	6.279	3.431	3.20		Clay	100.0			13.10	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	12.190	0.301	5394.0	3568.8	5.320	3.165	3.24		Clay	100.0			11.52	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.390	0.387	5413.2	3578.0	5.972	3.623	3.23		Clay	100.0			12.66	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	15.530	0.585	5433.6	3587.8	7.143	4.562	3.22		Clay	100.0			14.68	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	15.940	0.709	5452.8	3597.0	7.347	5.365	3.25		Clay	100.0			15.07	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	15.990	0.702	5472.0	3606.2	7.351	5.296	3.25		Clay	100.0			15.11	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	15.960	0.675	5492.4	3616.0	7.308	5.105	3.24		Clay	100.0			15.09	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	15.820	0.671	5511.6	3625.2	7.207	5.132	3.25		Clay	100.0			14.95	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	15.810	0.654	5532.0	3635.0	7.177	5.015	3.24		Clay	100.0			14.94	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	15.740	0.681	5551.2	3644.3	7.115	5.256	3.26		Clay	100.0			14.88	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.720	0.692	5570.4	3653.5	7.081	5.351	3.27		Clay	100.0			14.86	0.87	n.a.	n.a.	0.85	0.650	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	16.910	0.699	5590.8	3663.3	7.706	4.953	3.22		Clay	100.0			15.98	0.87	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	17.790	0.776	5610.0	3672.5	8.161	5.175	3.21		Clay	100.0			16.81	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	17.840	0.745	5630.4	3682.3	8.161	4.957	3.20		Clay	100.0			16.86	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.120	0.714	5649.6	3691.5	7.203	5.367	3.26		Clay	100.0			15.24	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	15.740	0.663	5668.8	3700.7	6.975	5.134	3.26		Clay	100.0			14.88	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	14.850	0.612	5689.2	3710.5	6.471	5.099	3.28		Clay	100.0			14.04	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	14.110	0.518	5708.4	3719.7	6.052	4.601	3.28		Clay	100.0			13.34	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	14.480	0.452	5728.8	3729.5	6.229	3.890	3.23		Clay	100.0			13.69	0.86	n.a.	n.a.	0.84	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	14.230	0.476	5748.0	3738.7	6.075	4.187	3.26		Clay	100.0			13.45	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	16.760	0.596	5767.2	3747.9	7.405	4.293	3.19		Clay	100.0			15.84	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	17.780	0.642	5787.6	3757.7	7.923	4.310	3.17		Clay	100.0			16.81	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	16.550	0.573	5806.8	3766.9	7.245	4.200	3.20		Clay	100.0			15.64	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	15.510	0.446	5827.2	3776.7	6.671	3.543	3.18		Clay	100.0			14.66	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	13.960	0.358	5846.4	3786.0	5.830	3.246	3.21		Clay	100.0			13.19	0.86	n.a.	n.a.	0.84	0.648	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	13.640	0.317	5865.6	3795.2	5.643	2.960	3.20		Clay	100.0			12.89	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	13.670	0.293	5886.0	3805.0	5.638	2.727	3.18		Clay	100.0			12.92	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	13.770	0.303	5905.2	3814.2	5.672	2.798	3.19		Clay	100.0			13.02	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	14.150	0.302	5925.6	3824.0	5.851	2.699	3.17		Clay	100.0			13.37	0.86	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	14.390	0.301	5944.8	3833.2	5.957	2.634	3.16		Clay	100.0			13.60	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	14.440	0.312	5964.0	3842.4	5.964	2.721	3.16		Clay	100.0			13.65	0.85	n.a.	n.a.	0.83	0.647	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	14.620	0.326	5984.4	3852.2	6.037	2.804	3.16		Clay	100.0			13.82	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	14.240	0.287	6003.6	3861.4	5.821	2.556	3.16		Clay	100.0			13.46	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	13.740	0.221	6024.0	3871.2	5.542	2.056	3.13		Clay	100.0			12.99	0.85	n.a.	n.a.	0.83	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00