Appendix D: Geotechnical Investigation

CORNERSTONE EARTH GROUP

TYPE OF SERVICES	Geotechnical Investigation
PROJECT NAME	Coleman and Brokaw Residential Mixed-Use
LOCATION	Coleman Avenue and Brokaw Road Santa Clara, California
CLIENT	TOD Brokaw, LLC
PROJECT NUMBER	902-1-1
DATE	August 29, 2016

CORNERSTONE EARTH GROUP

Type of Services	**Geotechnical Investigation**
Project Name	**Coleman and Brokaw Residential Mixed-Use**
Location	**Coleman Avenue and Brokaw Road** **Santa Clara, California**
Client	**TOD Brokaw, LLC**
Client Address	**10121 Miller Avenue, Suite 200** **Cupertino, California**
Project Number	**902-1-1**
Date	**July 11, 2016; updated August 29, 2016**

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APPENDIX B: LABORATORY TEST PROGRAM
APPENDIX C: SITE CORROSIVITY EVALUATION

APPENDIX D: LIQUEFACTION ANALYSES CALCULATIONS

Type of Services	**Geotechnical Investigation**
Project Name	**Coleman and Brokaw Residential Mixed-Use**
Location	**Coleman Avenue and Brokaw Road** **Santa Clara, California**

SECTION 1: INTRODUCTION

This geotechnical report was prepared for the sole use of TOD Brokaw, LLC for the Coleman and Brokaw Residential Mixed-Use project in Santa Clara, California. The location of the site is shown on the Vicinity Map, Figure 1. For our use, we were provided with the following documents:

- A set of conceptual site plans titled "Coleman & Brokaw," prepared by MVE + Partners, dated December 21, 2015.
- A revised set of conceptual site plans titled "Coleman Brokaw," prepared by MVE + Partners, dated July 28, 2016.
- A set of demolition permit plans titled "BAE Systems, SW03 – Demoliton Permit, 1205 Coleman Avenue, Santa Clara, CA 95050," prepared by Nterra Group, dated January 15, 2016.
- A Site Management Plan titled "Site Management Plan, 238 West Brokaw Road, Santa Clara, California," prepared by Langan Treadwell Rollo, dated April 18, 2016.

1.1 PROJECT DESCRIPTION

The approximately 23.8-acre project site is located at Coleman Avenue and Brokaw Road in Santa Clara, California. We understand that a residential mixed-use development is currently planned for the site. Based on revised conceptual plans, we understand the planned development will be four, six- to eight-story podium structures with four to five levels of residential buildings over two to three levels of parking structure. The residential podium structures will have one level of partially below grade parking. There will also be two, one- and three-story mixed-use retail buildings over one level of below-grade parking totaling about 30,000 square feet. The project will include a central park area, and appurtenant parking, utilities, landscaping and other improvements necessary for site development.

Structural loads have not been provided to us at this time, however, structural loads are expected to be representative of similar type structures. We anticipate cuts on the order of 2 to 15 feet for the below-grade garage and/or basement levels. Grading on the remainder of the site is expected to be minor on the order of 1 to 2 feet.

1.2 SCOPE OF SERVICES

Our scope of services was presented in our proposal dated April 13, 2016 and 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 ten (10) borings drilled on May 24 and 25, 2016 with truck-mounted, hollow-stem auger drilling equipment and nine (9) Cone Penetration Tests (CPTs) advanced on May 19 and 20, 2016. The borings were drilled to depths of 10½ to 45 feet; the CPTs were advanced to depths of approximately 50 to 91 feet. Seismic shear wave velocity measurements were collected from CPT-8. Borings EB-6, EB-8, and EB-9 were advanced adjacent to CPT-6, CPT-8, and CPT-9, respectively, 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, and triaxial compression tests. Details regarding our laboratory program are included in Appendix B.

1.5 CORROSION EVALUATION

Four samples from our borings from depths from 2 to 6 feet were tested for saturated resistivity, pH, and soluble sulfates and chlorides. JDH Corrosion Consultants prepared a brief corrosion evaluation based on the laboratory data, which is attached to this report in Appendix C. In general, the on-site soils can be characterized as corrosive to buried metal, and generally non-corrosive to buried concrete.

1.6 ENVIRONMENTAL SERVICES

We understand that environmental services for the project are being provided by others and that environmental concerns exist at the site. The environmental consultant should review our geotechnical recommendations for compatibility with the environmental concerns.

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 thickness in the area is mapped to be on the order of 500 feet or greater (Rogers & Williams, 1974).

2.2 REGIONAL SEISMICITY

The San Francisco Bay area is one of the most seismically active areas in the Country. While seismologists cannot predict earthquake events, the U.S. Geological Survey's Working Group on California Earthquake Probabilities 2015 revised earlier estimates from their 2008 publication (UCERF2, 2008). Compared to the previous assessment issued in 2008, the estimated rate of earthquakes around magnitude 6.7 (the size of the destructive 1994 Northridge earthquake) has decreased by about 30 percent. The expected frequency of such events statewide has dropped from an average of one per 4.8 years to about one per 6.3 years.

However, in the new study, the estimate for the likelihood that California will experience a magnitude 8 or larger earthquake in the next 30 years has increased from about 4.7% for UCERF2 to about 7.0% for UCERF3.

UCERF3 estimates that each region of California will experience a magnitude 6.7 or larger earthquake in the next 30 years. Additionally, there is a 63 percent chance of at least one magnitude 6.7 or greater earthquake occurring in the Bay Area region between 2007 and 2036.

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)	6.5	10.4
Monte Vista-Shannon	7.1	11.4
Calaveras	9.2	14.8
Hayward (Total Length)	9.3	14.9
San Andreas (1906)	11.1	17.8
Sargent	14.9	24.0

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 SURFACE DESCRIPTION

The project site is located at Coleman Avenue and Brokaw Road in Santa Clara, California. The site is currently occupied by industrial development including several one- to two-story campus buildings and high-bay warehouse space, surrounding parking, and a paved storage yard. The site is bounded by the undeveloped former FMC site to the east, a storage yard to the south, Brokaw Road to the west, and Coleman road to the north. The site is relatively level, but graded to drain to storm drainage facilities.

Surface pavements generally consisted of 1 to 5 inches of asphalt concrete over 0 to 9 inches of aggregate base. Based on visual observations, the existing pavements are in generally fair condition with light to moderate cracking.

3.2 SUBSURFACE CONDITIONS

Below the surface pavements, our Exploratory Borings EB-1, 2, 3, 4, 9, and 10 encountered up to 4 feet of undocumented fill consisting of medium dense clayey sand with gravel and very stiff to hard lean clay with varying amounts of sand and gravel. Beneath the undocumented fill and surface pavements, we generally encountered stiff to hard lean clay with varying amounts of sand and gravel and thin interbedded layers of loose to medium dense sand to depths of 4½ to 12½ feet underlain by stiff to very stiff fat clay with varying amounts of sand to depths of approximately 10 to 20 feet below existing grade. Beneath the fat clay, we generally encountered interbedded layers of medium dense to very dense sands with varying amounts of clay, silt and gravel and medium stiff to very stiff lean clay with varying amounts of sand and gravel to the maximum depth explored of 45 feet.

3.2.1 Plasticity/Expansion Potential

We performed three Plasticity Index (PI) tests on representative samples. Test results were used to evaluate expansion potential of surficial soils, and the plasticity of the fines in potentially liquefiable layers. The results of the surficial PI tests indicated PIs ranging from 27 to 49, indicating moderate to very high 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 15 feet range from approximately optimum to approximately 10 percent over the estimated laboratory optimum moisture.

3.2.3 Sulfate Contents

Laboratory testing indicated that the soluble sulfate contents were 78 to 142 ppm, indicating negligible corrosion potential to buried concrete.

3.3 GROUND WATER

Ground water was encountered in our borings at depths of 12 to 30 feet below current grades. Ground water was estimated at depths of approximately 10¼ to 11½ feet below current grades based on pore pressure dissipation test at our CPTs. Historic high ground water levels are mapped at a depth of approximately 8 feet below current grades (CGS, San Jose West 7.5 Minute Quadrangle, 2002). All measurements were taken at the time of drilling and may not represent the stabilized levels that can be higher or lower than the initial levels encountered. Fluctuations in ground water 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 ground water depth of 8 feet below existing grade be used.

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. As shown 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) was estimated for

analysis using a value equal to F_{PGA} x PGA, as allowed in the 2013 edition of the California Building Code. For our liquefaction analysis we used a PGA of 0.500g.

4.3 LIQUEFACTION POTENTIAL

The site is within a State-designated Liquefaction Hazard Zone (CGS, San Jose West 7.5-minute 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 ground water depth of 8 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 ground water. The tip pressures are corrected for effective overburden stresses, taking into consideration both the ground water level at the time of exploration and the design ground water 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.

In estimating post-liquefaction settlement at the site, we have implemented a depth weighting factor proposed by Cetin (2009). Following evaluation of 49 high-quality, cyclically induced, ground settlement case histories from seven different earthquakes, Cetin proposed the use of a weighting factor based on the depth of layers. The weighting procedure was used to tune the surface observations at liquefaction sites to produce a better model fit with measured data. Aside from the better model fit it produced, the rationale behind the use of a depth weighting factor is based on the following: 1) upward seepage, triggering void ratio redistribution, and resulting in unfavorably higher void ratios for the shallower sublayers of soil layers; 2) reduced induced shear stresses and number of shear stress cycles transmitted to deeper soil layers due to initial liquefaction of surficial layers; and 3) possible arching effects due to nonliquefied soil layers. All these may significantly reduce the contribution of volumetric settlement of deeper soil layers to the overall ground surface settlement (Cetin, 2009).

The results of our CPT analyses (CPT-1 through CPT-9) are presented on Figures 4A and 4I 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 at the ground surface ranging up to approximately ¾-inch based on the Yoshimine (2006) method. 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. In our opinion, differential settlements are anticipated to be on the order of up to ½-inch between independent foundation elements or over a horizontal distance of 30 feet.

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 Garris (1995) indicates that the 8- to 18-foot thick layer of non-liquefiable cap is sufficient to prevent ground rupture; therefore the above total settlement estimates are reasonable.

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. As the soils encountered at the site were predominantly stiff to very stiff clays and medium dense to dense sands, in our opinion, the potential for significant differential seismic settlement affecting the proposed improvements is low.

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 8 miles inland from the San Francisco Bay shoreline, and is approximately 54 to 64 feet above mean sea level. 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 X, defined as “Areas of 0.2% annual chance flood; areas of 1% chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.”

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 liquefaction-induced settlements
- Potential for significant static settlements
- Shallow ground water
- Presence of moderately to very highly expansive soils
- Differential movement at on-grade to on-structure transitions
- Soil Corrosion Potential

5.1.1 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 low, our analysis indicates that liquefaction-induced settlement on the order of up to ¾-inch could occur, resulting in differential settlement up to about ½-inch. Foundations should be designed to tolerate the anticipated total and differential settlements. Detailed foundation recommendations are presented in the “Foundations” section.

5.1.2 Static Settlements

We evaluated immediate and consolidation settlement due to static building loads assuming preliminary average areal pressures of 270 to 510 psf for the commercial and retail buildings, and 780 to 1,050 psf for the partial-below-grade residential podium buildings. For a rigid mat foundation, total static settlement was estimated to be on the order of approximately 1 inch for commercial and retail buildings with one level below grade and on the order of approximately 1¾ to 2 inches for residential and parking garage structures with one level partially below grade.

5.1.3 Shallow Ground Water

The bottom of the below-grade basements and parking garage is anticipated to extend to approximately 2 to 15 feet below grade. Ground water was measured at depths of 12 to 30 feet in our borings and was estimated by pore pressure dissipation tests at depths of 10¼ to 11½ feet. Historic high ground water is mapped near the site at a depth of approximately 8 feet below the ground surface. Ground water could potentially be encountered in the excavations, and would likely be encountered in deeper excavations for utilities, elevators, or other deep

excavations. Impacts associated with high ground water typically consist of potentially wet and unstable subgrade, difficulty achieving compaction, and difficult underground utility installation. Shoring of the basement/garage excavations, and other excavations exceeding OSHA standards will be required to be shored. The contractor should include provisions for dewatering as needed. Detailed recommendations addressing this concern are presented in the “Earthwork” section of this report.

Because the garage and basement excavations will be below seasonal ground water levels, draining the walls and subfloor may require a significant full-time dewatering operation that is likely to be expensive to design and operate. We recommend waterproofing the below-grade walls and mat, and designing the basement mat foundations and garage walls, including construction joints, to resist hydrostatic pressure be considered. We recommend that a design ground water level of 8 feet below the existing ground surface be used to design the structure. In our opinion, it may make sense to drain the garage walls above the design ground water level for a more efficient wall design above that elevation, and as a precaution against higher than expected uplift forces for the structure.

5.1.4 Undocumented Fill

As discussed above, undocumented fill to a depth of up to 4 feet below the surface was encountered in several of our borings. We anticipate fills will be removed from within the footprint of the parking garages and any residential buildings with a below-grade basement level during excavation of the basements. However, undocumented fill may still remain in at-grade structure areas. We recommend fill be completely removed from within building areas. Please refer to Section 6.2 below for further recommendations.

5.1.5 Expansive Soils

Moderate to very highly expansive surficial soils generally blanket the site. Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wetted. To reduce the potential for damage to the planned structures, slabs-on-grade should have sufficient reinforcement and be supported on a layer of non-expansive fill; footings should extend below the zone of seasonal moisture fluctuation. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering. Detailed grading and foundation recommendations addressing this concern are presented in the following sections.

5.1.6 Differential Movement At On-grade to On-Structure Transitions

Some improvements will transition from on-grade support to the below-grade structure. Where the improvements transition from on-grade to the basement, varying amounts of settlement can be anticipated between the structure and the joining improvements supported on-grade due to difficulty in compacting retaining wall backfill, seasonal soil movement, differing response to vehicle loading, as well as other causes. We recommend consideration be given to including subslabs beneath flatwork or pavers that can cantilever at least 5 feet beyond the wall. If

surface improvements are included that are highly sensitive to differential movement, additional measures may be necessary. We also recommend that retaining wall backfill be compacted to 95 percent where surface improvements are planned.

5.1.7 Soil Corrosion Potential

A preliminary soil corrosion screening was performed by JDH Corrosion Consultants based on the results of analytical tests on samples of the near-surface soil. In general, the JDH report concludes that the corrosion potential for buried concrete does not warrants special consideration for sulfate resistance. In addition, the corrosion potential for buried metallic structures, such as metal pipes, is considered corrosive. JDH recommends that special requirements for corrosion control be made to protect metal pipes. A more detailed discussion of the site corrosion evaluation is presented in Appendix C. As the preliminary soil corrosion screening was based on the results of limited sampling, consideration may be given to collecting and testing additional samples to confirm the classification of native soil.

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, CLEARING AND PREPARATION

6.1.1 Site Stripping

The site should be stripped of all surface vegetation, and surface and subsurface improvements within the proposed development area. Demolition of existing improvements is discussed in detail below. A detailed discussion of removal of existing fills is provided later in this report. Surface vegetation and topsoil should be stripped to a sufficient depth to remove all material

greater than 3 percent organic content by weight. Based on our site observations, surficial stripping should extend about 6 to 8 inches below existing grade in vegetated areas.

6.1.2 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.

6.1.3 Demolition of Existing Slabs, Foundations and Pavements

All slabs, foundations, and pavements should be completely removed from within planned building areas. 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 provide subsurface drainage. A discussion of recycling existing improvements is provided later in this report.

6.1.4 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 risks 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. In general, the risk is relatively low for single utility lines less than 4 inches in diameter, and increases with increasing pipe diameter.

6.2 REMOVAL OF EXISTING FILLS

As previously discussed, we encountered undocumented fill to depths of up to 4 feet in several borings. The retail buildings are to be at-grade while the parking garages and residential buildings may have one-level below grade. In areas of the planned one-level below-grade basement excavation, undocumented fill will likely be completely removed, and no additional fill removal will be required. For structures constructed at-grade, the fills should be completely removed from within building areas and to a lateral distance of at least 5 feet beyond the building footprint or to a lateral distance equal to fill depth below the perimeter footing, whichever is greater. Provided the fills meet the "Material for Fill" requirements below, the fills may be reused when backfilling the 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 inches of fill below pavement subgrade is re-worked and compacted as discussed in the "Compaction" section below. In our opinion, the fills encountered at this site are acceptable to be left in place.

6.3 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 10 feet at the site may be classified as OSHA Site C materials. A Cornerstone representative should be retained to confirm the preliminary site classification. 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 to limit severe changes in fill thickness. Excavations extending more than 5 feet below building subgrade and excavations in pavement and flatwork areas should be sloped in accordance with the OSHA soil classification.

6.4 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 estimated to be up to 15 feet. 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.

6.4.1 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. We recommend that we be retained to observe and approve tie-back testing or other restraint methods as necessary. We can provide draft guideline specifications for tie-backs upon request. 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 the table below.

Table 2: Suggested Temporary Shoring Design Parameters

Design Parameter	Design Value
Minimum Lateral Wall Surcharge (upper 5 feet)	120 psf
Cantilever Wall – Triangular Earth Pressure	45 pcf(2)
Restrained Wall – Trapezoidal Earth Pressure	Increase from 0 to 25H(1)(3) psf
Passive Pressure – Starting below the bottom of the adjacent excavation (2)(3)	350 pcf up to 1,300 psf maximum uniform pressure

(1) H equals the height of the excavation; passive pressures are assumed to act over 2.5 times the soldier pile diameter
(2) The cantilever and restrained pressures are for drained designs with dewatering. If undrained shoring is designed, an additional 40 pcf should be added for hydrostatic pressures.
(3) Bottom of adjacent excavation is bottom or mass excavation of bottom of footing excavation, whichever is deeper directly adjacent to the shoring element.

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, as needed. 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 ground water) 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 agree 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.

6.4.2 Construction Dewatering

Historic high ground water levels are higher than the planned excavation bottom and seasonal groundwater levels may also be higher; therefore, temporary dewatering may be necessary during construction. 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 ground water 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. To limit settlement near well-points, we recommend that drawdown be limited to about 25 feet below grade.

Depending on the ground water 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.

6.5 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.

6.6 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 10 percent over the estimated laboratory optimum in the upper 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.

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.

6.6.1 Scarification and Drying

The subgrade may be scarified to a depth of 6 to 12 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.

6.6.2 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 geosynthethic (stabilization fabric or geogrid) is recommended, and what materials are recommended for backfill.

6.6.3 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.

6.6.4 Below-Grade Excavation Stabilization

As the planned basement excavation will extend near/below the current ground water level, we recommend that the contractor plan to excavate an additional 12 to 18 inches below subgrade, place a layer of stabilization fabric (Mirafi 500X, 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.

6.7 MATERIAL FOR FILL

6.7.1 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.

6.7.2 Re-Use of On-Site Site Improvements

We anticipate that significant quantities of asphalt concrete (AC) grindings and aggregate base (AB) will 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, including within below-grade parking garage slab-on-grade areas (provided crushed rock is not required due to the proximity to ground water). AC/AB grindings may not be reused within the proposed residential and mixed-use building areas. Laboratory testing will be required to confirm the grindings meet project specifications.

6.7.3 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 residential and mixed-use building areas. 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 3 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.

6.7.4 Non-Expansive Fill Using Lime Treatment

As discussed above, non-expansive fill should have a Plasticity Index (PI) of 15 or less. Due to the high clay content and PI of the on-site soil materials, it is not likely that sufficient quantities of non-expansive fill would be generated from cut materials. As an alternative to importing non-expansive fill, chemical treatment can be considered to create non-expansive fill. It has been our experience that high PI clayey soil will likely need to be mixed with at least 3½ to 4 percent quicklime (CaO) or approved equivalent to adequately reduce the PI of the on-site soils to 15 or less. If this option is considered, additional laboratory tests should be performed during initial site grading to further evaluate the optimum percentage of quicklime required.

6.8 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. Where the soil's PI is 20 or greater, the expansive soil criteria should be used.

Table 3: Compaction Requirements

Description	Material Description	Minimum Relative[1] Compaction (percent)	Moisture[2] Content (percent)
General Fill (within upper 5 feet)	On-Site Expansive Soils	87 – 92	>3
	Low Expansion Soils	90	>1
General Fill (below a depth of 5 feet)	On-Site Expansive Soils	95	>3
	Low Expansion Soils	95	>1
Basement Wall Backfill	Without Surface Improvements	90	>1
Basement Wall Backfill	With Surface Improvements	95[4]	>1
Trench Backfill	On-Site Expansive Soils	87 – 92	>3
Trench Backfill	Low Expansion Soils	90	>1
Trench Backfill (upper 6 inches of subgrade)	On-Site Low Expansion 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 Expansive Soils	87 - 92	>3
Flatwork Subgrade	Low Expansion Soils	90	>1
Flatwork Aggregate Base	Class 2 Aggregate Base[3]	90	Optimum
Pavement Subgrade	On-Site Expansive Soils	87 - 92	>3
Pavement Subgrade	Low Expansion Soils	95	>1
Pavement Aggregate Base	Class 2 Aggregate Base[3]	95	Optimum
Asphalt Concrete	Asphalt Concrete	95 (Marshall)	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

6.8.1 Construction Moisture Conditioning

Expansive soils can undergo significant volume change when dried then wetted. The contractor should keep all exposed expansive soil subgrade (and also trench excavation side walls) moist until protected by overlying improvements (or trenches are backfilled). If expansive soils are allowed to dry out significantly, re-moisture conditioning may require several days of re-wetting (flooding is not recommended), or deep scarification, moisture conditioning, and re-compaction.

6.9 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 (⅜-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.

On expansive soils sites it is desirable to reduce the potential for water migration into building and pavement areas through the granular shading materials. We recommend that a plug of low-permeability clay soil, sand-cement slurry, or lean concrete be placed within trenches just outside where the trenches pass into building and pavement areas.

6.10 SITE DRAINAGE

6.10.1 Surface 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. In addition, drainage facilities in close proximity to improvements may require special design considerations such as deepened footings, deepened curbs, etc.

6.11 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 is 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 ground water is mapped at a depth of less than 10 feet, and therefore is expected to be within 10 feet of the base of the infiltration measure.
- The site is known to have pollutants with the potential for mobilization as a result of infiltration.
- In our opinion, infiltration locations within 10 feet of the buildings would create a geotechnical hazard.
- Infiltration devices should be located at least 100 feet away from septic tanks and underground storage tanks with hazardous materials, as well as any other potential underground sources of pollution.
- 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.

6.11.1 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.

6.11.1.1 General Biotreatment Design Guidelines

- If possible, avoid placing biotreatments or basins within 10 feet of the building perimeter or within 5 feet of exterior flatwork or pavements. If biotreatments 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.

- Biotreatments constructed within 3 feet of proposed at-grade buildings may be within the foundation zone of influence for perimeter wall loads. Therefore, where biotreatments will parallel foundations and will extend below the “foundation plane of influence,” an imaginary 2:1 plane projected down from the bottom edge of the foundation, the foundation will need to be deepened so that the bottom edge of the biostreatment filter material is above the foundation plane of influence.

- The bottom of biotreatment 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.

6.11.1.2 Biotreatment Infiltration Material

- Gradation specifications for biotreatment filter material, if required, should be specified on the grading and improvement plans.

- Compaction requirements for biotreatment 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 biotreatment 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 biotreatment 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 biotreatments are to be planted.

- If biotreatments 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 biotreatment 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 biotreatment filter materials, long-term settlement of the biostreatment medium should be anticipated. To reduce initial volume loss, biotreatment 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 biotreatment materials.

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

6.11.1.3 Biotreatment 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 biotreatments may be susceptible to settlement or lateral movement, depending on the configuration of the biotreatment 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 biotreatment such that there is at least 1 foot of horizontal distance between the edge of improvements and the top edge of the biotreatment excavation for every 1 foot of vertical biotreatment depth, or

- Concrete curbs for pavements, or lateral restraint for exterior flatwork, located directly adjacent to a vertical biotreatment 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.

6.12 LANDSCAPE CONSIDERATIONS

Since the near-surface soils are generally very highly expansive, we recommend greatly reducing the amount of surface water infiltrating these soils near foundations and exterior slabs-on-grade. This can typically be achieved by:

- Using drip irrigation
- Avoiding open planting within 3 feet of the building perimeter or near the top of existing slopes
- Regulating the amount of water distributed to lawns or planter areas by using irrigation timers
- Selecting landscaping that requires little or no watering, especially near foundations.

We recommend that the landscape architect consider these items when developing landscaping plans.

SECTION 7: FOUNDATIONS

7.1 SUMMARY OF RECOMMENDATIONS

In our opinion, the proposed structures can all be supported on shallow foundations provided the recommendations in the “Earthwork” section and the foundation recommendations below are followed. Residential structures and parking garages bearing one partial level below grade and commercial buildings over a one level below grade parking structure can be supported on mat foundations. In our opinion, residential and commercial buildings extending one level below grade will extend below the design ground water depth of 8 feet, and will need to be designed to resist potential hydrostatic pressure.

7.2 SEISMIC DESIGN CRITERIA

The project structural design should be based on the 2013 California Building Code (CBC), which provides criteria for the seismic design of buildings in Chapter 16. The “Seismic Coefficients” used to design buildings are established based on a series of tables and figures addressing different site factors, including the soil profile in the upper 100 feet below grade and mapped spectral acceleration parameters based on distance to the controlling seismic source/fault system. Shear wave velocity measurements performed at CPT-8 to a depth of approximately 90 feet resulted in an average shear wave velocity of 712 feet per second (or 217 meters per second). Therefore, we have classified the site as Soil Classification D. The mapped spectral acceleration parameters S_S and S_1 were calculated using the USGS computer program *Design Maps*, located at http://geohazards.usgs.gov/designmaps/us/application.php, based on the site coordinates presented below and the site classification. The table below lists the various factors used to determine the seismic coefficients and other parameters.

Table 4: CBC Site Categorization and Site Coefficients

Classification/Coefficient	Design Value
Site Class	D
Site Latitude	37.35553°
Site Longitude	-121.93386°
0.2-second Period Mapped Spectral Acceleration[1], S_S	1.500g
1-second Period Mapped Spectral Acceleration[1], S_1	0.600g
Short-Period Site Coefficient – Fa	1.0
Long-Period Site Coefficient – Fv	1.5
0.2-second Period, Maximum Considered Earthquake Spectral Response Acceleration Adjusted for Site Effects - S_{MS}	1.500g
1-second Period, Maximum Considered Earthquake Spectral Response Acceleration Adjusted for Site Effects – S_{M1}	0.900g
0.2-second Period, Design Earthquake Spectral Response Acceleration – S_{DS}	1.000g
1-second Period, Design Earthquake Spectral Response Acceleration – S_{D1}	0.600g

[1]For Site Class B, 5 percent damped.

7.3 SHALLOW FOUNDATIONS

7.3.1 Reinforced Concrete Mat Foundations (Residential and Parking Garages)

In our opinion, residential (at-grade and up to one level below grade), and commercial structures (one level below grade) may be supported on mat foundations bearing on natural soil or engineered fill prepared in accordance with the “Earthwork” section of this report, and designed in accordance with the recommendations below.

Structural loads are not yet available; however, we estimated the average areal pressure for the structures. The structure, assumed average areal pressure, estimated settlement at the center of the mat, and preliminary soil subgrade modulus are indicated in Table 5.

Table 5: Assumed Structural Loading

Structure	Assumed Average Areal Pressure (psf)	Estimated Static Settlement (inches)	Preliminary Soil Subgrade Modulus (pci)
Residential and Parking (with Basement)	780 to 1050	1¾ to 2	5
Commercial over Parking Garage (One Level Below Grade)	270 to 510	1	5

To reduce potential differential movement, all mats should be designed for a maximum average areal bearing pressure indicated in the above table for dead plus live loads; at localized column or wall loading, the maximum localized bearing pressure should be limited to 3,000 psf. When evaluating wind and seismic conditions, allowable bearing pressures may be increased by one-third. These pressures are net values; the weight of the mat may be neglected for the portion of the mat extending below grade. Top and bottom mats of reinforcing steel should be included as required to help span irregularities and differential settlement.

7.3.1.1 Mat Foundation Settlement

In addition to estimated static settlements of 1 to 2 inches for structures supported up to one level below grade, the mats should also be designed to accommodate an estimated seismic movement of up to ¾ inch. Differential settlement can be assumed as the sum of half of the total static settlement, and ⅔ of the total seismic settlement, over a horizontal distance of 30 feet.

7.3.1.2 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 0.40 applied to the mat dead load, and an ultimate passive pressure based on an equivalent fluid pressure of 450 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.

7.3.1.3 Mat Foundation Construction Considerations

Due to the presence of very highly expansive soils, at-grade mat subgrade areas should be kept moist until concrete placement by regular sprinkling to prevent desiccation. If deep drying is allowed to occur, several days of moisture conditioning (flooding of the pads is not recommended) may be required to allow the moisture to re-penetrate the subgrade. If severe drying occurs, reworking and moisture conditioning of the pad may be required. 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 3 percent over optimum in the upper 12 inches.

7.3.1.4 Moisture Protection Considerations for Mat Foundations

The following general guidelines for concrete mat construction where floor coverings are planned are presented for the consideration by the developer, design team, and contractor. These guidelines are based on information obtained from a variety of sources, including the American Concrete Institute (ACI) and are intended to reduce the potential for moisture-related problems causing floor covering failures, and may be supplemented as necessary based on

project-specific requirements. The application of these guidelines or not will not affect the geotechnical aspects of the mat foundation performance.

- Place a 10-mil vapor retarder conforming to ASTM E 1745, Class C requirements or better directly below the concrete mat; the vapor retarder should extend to within 12 to 18 inches from the mat edges and be sealed at all seams and penetrations in accordance with manufacturer's recommendations and ASTM E 1643 requirements. For mats 12 inches thick or less, a 4-inch-thick capillary break, consisting of ½- to ¾-inch crushed rock with less than 5 percent passing the No. 200 sieve, should be placed below the vapor retarder and consolidated in place with vibratory equipment.

- The concrete water:cement ratio should be 0.45 or less. Mid-range plasticizers may be used to increase concrete workability and facilitate pumping and placement.

- Water should not be added after initial batching unless the slump is less than specified and/or the resulting water:cement ratio will not exceed 0.45.

- Where floor coverings are planned, all concrete surfaces should be properly cured.

- Water vapor emission levels and concrete pH should be determined in accordance with ASTM F1869-98 and F710-98 requirements and evaluated against the floor covering manufacturer's requirements prior to installation.
-

7.3.1.5 Mat Modulus of Soil Subgrade Reaction

The modulus value 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. Based on the assumed average areal loading indicated above, we developed preliminary soil subgrade modulus values. These values are preliminary and should be confirmed/finalized following initial analysis by the project structural engineer. Once contact pressures are available from the initial analysis (SAFE or equivalent), we should revise our model and provide contours of equal soil subgrade modulus values for design. Please forward contact pressures to scale and in color for our analysis.

7.3.1.6 Hydrostatic Uplift and Waterproofing

Where portions of the structures extend below the design ground water level, including mat foundations, they should be designed to resist potential hydrostatic uplift pressures. Retaining walls extending below design ground water should be designed to resist hydrostatic pressure for the full wall height if undrained. Where portions of the walls extend above the design ground water level, a drainage system may be added as discussed in the "Retaining Wall" section. If uplift anchors are desired for restraint to uplift, please contact our office for recommendations.

In addition, the portions of the structures extending below design ground water should be waterproofed to limit moisture infiltration, including mat foundations, all construction joints, and

any below-grade retaining walls. We recommend that a waterproof specialist design the waterproofing system.

SECTION 8: CONCRETE SLABS AND PEDESTRIAN PAVEMENTS

8.1 PARKING STRUCTURE SLAB-ON-GRADE

Garage structures will be supported on mat foundations; therefore, garage slab recommendations are not needed. Underlayment of the mat foundations is not required except to provide a working surface at the contractor's discretion, and where moisture protection is desired.

If there will be areas within the garage that are moisture sensitive, such as equipment and elevator rooms, the recommendations in the "Interior Slabs Moisture Protection Considerations" section below may be incorporated in the project design if desired.

8.2 INTERIOR SLABS MOISTURE PROTECTION CONSIDERATIONS

The following general guidelines for concrete slab-on-grade construction where floor coverings are planned are presented for the consideration by the developer, design team, and contractor. These guidelines are based on information obtained from a variety of sources, including the American Concrete Institute (ACI) and are intended to reduce the potential for moisture-related problems causing floor covering failures, and may be supplemented as necessary based on project-specific requirements. The application of these guidelines or not will not affect the geotechnical aspects of the slab-on-grade performance.

- Place a minimum 10-mil vapor retarder conforming to ASTM E 1745, Class C requirements or better directly below the concrete slab; the vapor retarder should extend to the slab edges and be sealed at all seams and penetrations in accordance with manufacturer's recommendations and ASTM E 1643 requirements. A 4-inch-thick capillary break, consisting of ½- to ¾-inch crushed rock with less than 5 percent passing the No. 200 sieve, should be placed below the vapor retarder and consolidated in place with vibratory equipment. The capillary break rock may be considered as the upper 4 inches of the non-expansive fill previously recommended.

- The concrete water:cement ratio should be 0.45 or less. Mid-range plasticizers may be used to increase concrete workability and facilitate pumping and placement.

- Water should not be added after initial batching unless the slump is less than specified and/or the resulting water:cement ratio will not exceed 0.45.

- Polishing the concrete surface with metal trowels is not recommended.

- Where floor coverings are planned, all concrete surfaces should be properly cured.

- Water vapor emission levels and concrete pH should be determined in accordance with ASTM F1869-98 and F710-98 requirements and evaluated against the floor covering manufacturer's requirements prior to installation.

8.3 EXTERIOR FLATWORK

Exterior concrete flatwork subject to pedestrian and/or occasional light pick up loading should be at least 4 inches thick and supported on at least 4 inches of Class 2 aggregate base overlying at least 12 inches of non-expansive fill 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 9: VEHICULAR PAVEMENTS

9.1 ASPHALT CONCRETE

The following asphalt concrete pavement recommendations tabulated below are generally based on the Procedure 608 of the Caltrans Highway Design Manual, estimated traffic indices for various pavement-loading conditions, an estimated design life of 20 years, and on a design R-value of 5. The design R-value was chosen based on engineering judgment considering the variable surface conditions. We have also included pavement structural section alternatives for lime-treated subgrade soil with an estimated design R-value of 50 for your consideration. If it is desired to lime-treat the proposed auto parking and truck parking/loading areas, we recommend that the upper 12 inches of expansive clay subgrade soil be treated, as discussed in the "Earthwork" section of this report.

Table 6: Asphalt Concrete Pavement Recommendations, Design R-value = 5 (Untreated Subgrade)

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

Table 7: Asphalt Concrete Pavement Recommendations (Lime-Treated Subgrade)

Design Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base* (inches)	Total Pavement Section Thickness (inches)
4.0	2.5	4.0	6.5
4.5	2.5	4.0	6.5
5.0	3.0	4.0	7.0
5.5	3.0	4.0	7.0
6.0	3.5	4.0	7.5
6.5	3.5	4.5	8.0

* Caltrans Class 2 aggregate base or recycled crushed concrete with a minimum R-value of 78; minimum lime-treated subgrade R-value assumed to be 50

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 use the pavements.

Asphalt concrete pavements constructed on expansive subgrade where the adjacent areas will not be irrigated for several months after the pavements are constructed may experience longitudinal cracking parallel to the pavement edge. These cracks typically form within a few feet of the pavement edge and are due to seasonal wetting and drying of the adjacent soil. The cracking may also occur during construction where the adjacent grade is allowed to significantly dry during the summer, pulling moisture out of the pavement subgrade. Any cracks that form should be sealed with bituminous sealant prior to the start of winter rains. One alternative to

reduce the potential for this type of cracking is to install a moisture barrier at least 24 inches deep behind the pavement curb.

9.2 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. PCC alternatives for lime treated subgrade are provided in Table 10 below.

Table 8: PCC Pavement Recommendations, Design R-value = 5 (Untreated Subgrade)

Allowable ADTT	Minimum PCC Thickness (inches)
13	5.5
130	6.0

Table 9: PCC Pavement Recommendations (Lime-Treated Subgrade)

Allowable ADTT	Minimum PCC Thickness (inches)
13	5.0
150	5.5

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. Due to the expansive surficial soils present, we recommend that continuous reinforcing or dowels at construction and expansion joints be used.

9.2.1 Stress Pads for Trash Enclosures

Pads where trash containers will be stored, and where garbage trucks will park while emptying trash containers, should be constructed on Portland Cement Concrete. We recommend that the trash enclosure pads and stress (landing) pads where garbage trucks will store, pick up, and empty trash be increased to a minimum PCC thickness of 7 inches. The compressive strength,

underlayment, and construction details should be consistent with the above recommendations for PCC pavements.

9.3 VEHICULAR TURF BLOCK OR GRASS PAVERS

We understand vehicular turf block or grass pavers may be used in emergency vehicle access (EVA) areas. Where the pavers will be used as an EVA, the pavers should be placed over at least 16 inches of Class 2 aggregate base and prepared subgrade as recommended in the "Earthwork" section. A maximum 1 inch thick sand setting bed may be used to level the pavers on the aggregate base.

9.4 PAVEMENT CUTOFF

Surface water penetration into the pavement section can significantly reduce the pavement life, due to the native expansive clays. While quantifying the life reduction is difficult, a normal 20-year pavement design could be reduced to less than 10 years; therefore, increased long-term maintenance may be required.

It would be beneficial to include a pavement cut-off, such as deepened curbs, redwood-headers, or "Deep-Root Moisture Barriers" that are keyed at least 4 inches into the pavement subgrade. This will help limit the additional long-term maintenance.

SECTION 10: RETAINING WALLS

10.1 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 10: 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.

10.2 SEISMIC LATERAL EARTH PRESSURES

The 2013 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 will be up to 12 feet in height, and peak ground accelerations are greater than 0.40g, we checked the result of the total seismic increment when added to the recommended active earth pressure against the recommended fixed (restrained) wall earth pressures. Because the wall is restrained, or will act as a restrained wall, and will be designed for 45 pcf (equivalent fluid pressure) plus a uniform earth pressure of 8H psf, based on current recommendations for seismic earth pressures, it appears that active earth pressures plus a seismic increment do not exceed the fixed wall earth pressures. Therefore, an additional seismic increment above the design earth pressures is not required as long as the walls are designed for the restrained wall earth pressures recommended above in accordance with the CBC.

10.3 WALL DRAINAGE

10.3.1 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.

10.3.2 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. In addition, where drainage panels will connect from a horizontal application for plaza areas to vertical basement wall drainage panels, the drainage path must be maintained. We are not aware of manufactured corner protection suitable for this situation; therefore, we recommend that a section of crushed rock be placed at the transitions. The crushed rock should be at least 3 inches thick, extend at least 12 inches horizontally over the top of the basement roof and 12 inches down from the top of the basement wall, and have a layer of filter fabric covering the crushed rock.

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.

10.4 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.

10.5 FOUNDATIONS

Below grade basement/garage walls should be supported on the mat foundations for those structures. At grade site retaining walls may be supported on a continuous spread footing designed in accordance with the recommendations presented in the "Foundations" section of this report.

SECTION 11: SWIMMING POOLS

11.1 EARTH PRESSURES

Swimming pools should be designed to resist at-rest earth pressures due to adjacent native or engineered backfill materials, hydrostatic pressures, as well as surcharge loads, where they are constructed in-ground. Pool walls should be designed to resist an equivalent fluid pressure of 100 pcf (at-rest plus hydrostatic pressures) in addition to one-half of any surcharge load applied at the surface. We anticipate that pools less than 5 feet deep will be able to be constructed with vertical cut slopes. Deeper excavations should be temporarily sloped.

11.2 SWIMMING POOL DECKS

Concrete flatwork and/or pavers around swimming pools should be at least 4 inches thick and supported on at least 16 inches of non-expansive fill overlying subgrade prepared in accordance with the “Earthwork” recommendations of this report. The upper 4 inches of the non-expansive fill should consist of Class 2 aggregate base.

Proper surface drainage should be provided to divert surface water to closed pipe storm drainage facilities. Flexible bituminous caulking or equivalent should be applied between the pool and deck and deck expansion joints to reduce surface water penetration into the native expansive soils.

11.3 POOL SUB-DRAINAGE

The pool should have pressure relief valves incorporated into the pool bottom to relieve pressure buildup and potential heave during pool draining for maintenance. Consideration should be given to placing at least 4 inches of Caltrans Class 2 Permeable Material below the pool bottom to allow for pressure relief across the pool. Alternatively, ¾-inch clean, crushed rock may be placed provided a layer of filter fabric is placed beneath the crushed rock.

SECTION 12: LIMITATIONS

This report, an instrument of professional service, has been prepared for the sole use of TOD Brokaw, LLC specifically to support the design of the Coleman and Brokaw Residential Mixed Use GI project in Santa Clara, 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 ground water 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.

TOD Brokaw, LLC may have provided Cornerstone with plans, reports and other documents prepared by others. TOD Brokaw 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.

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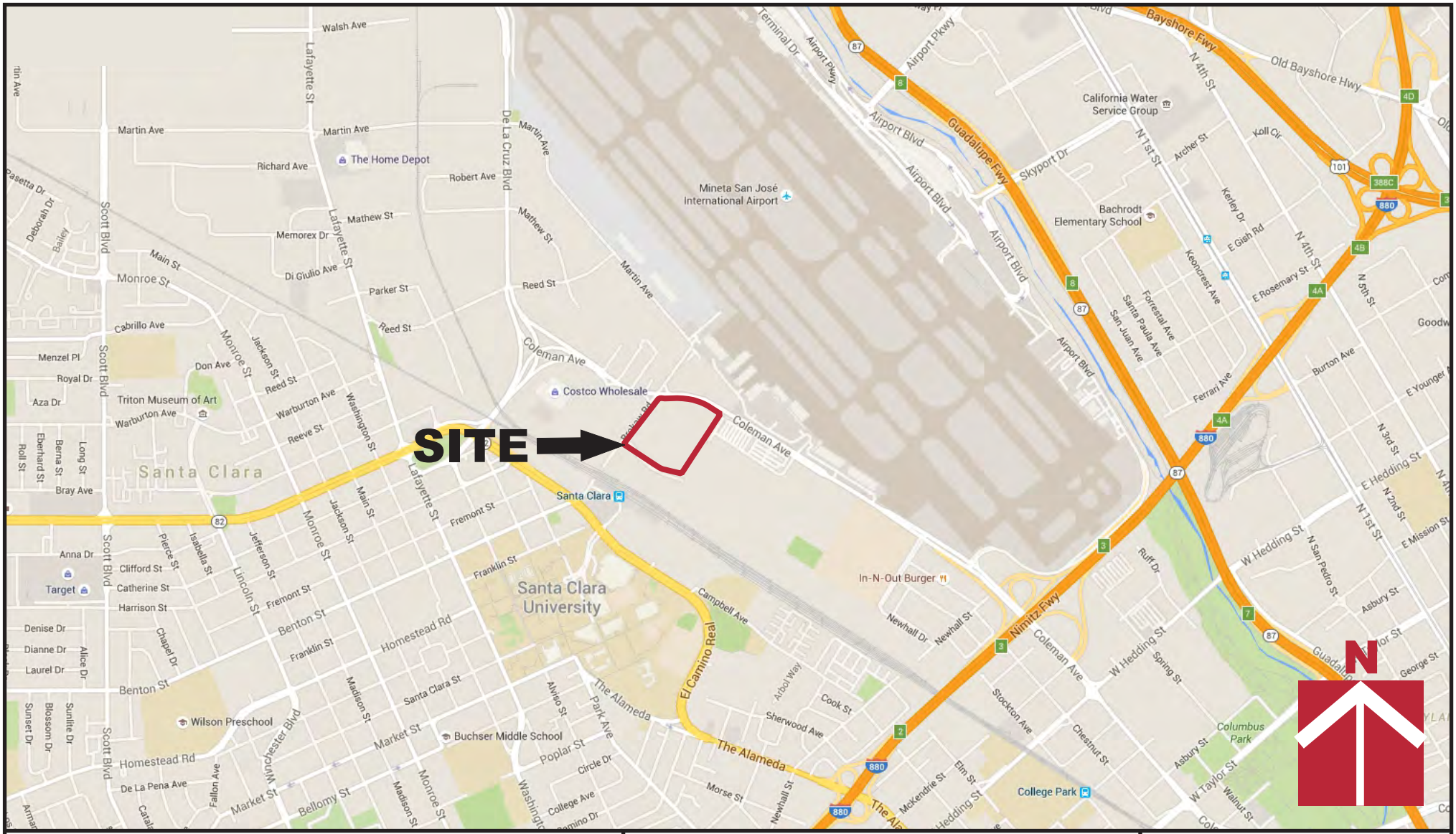

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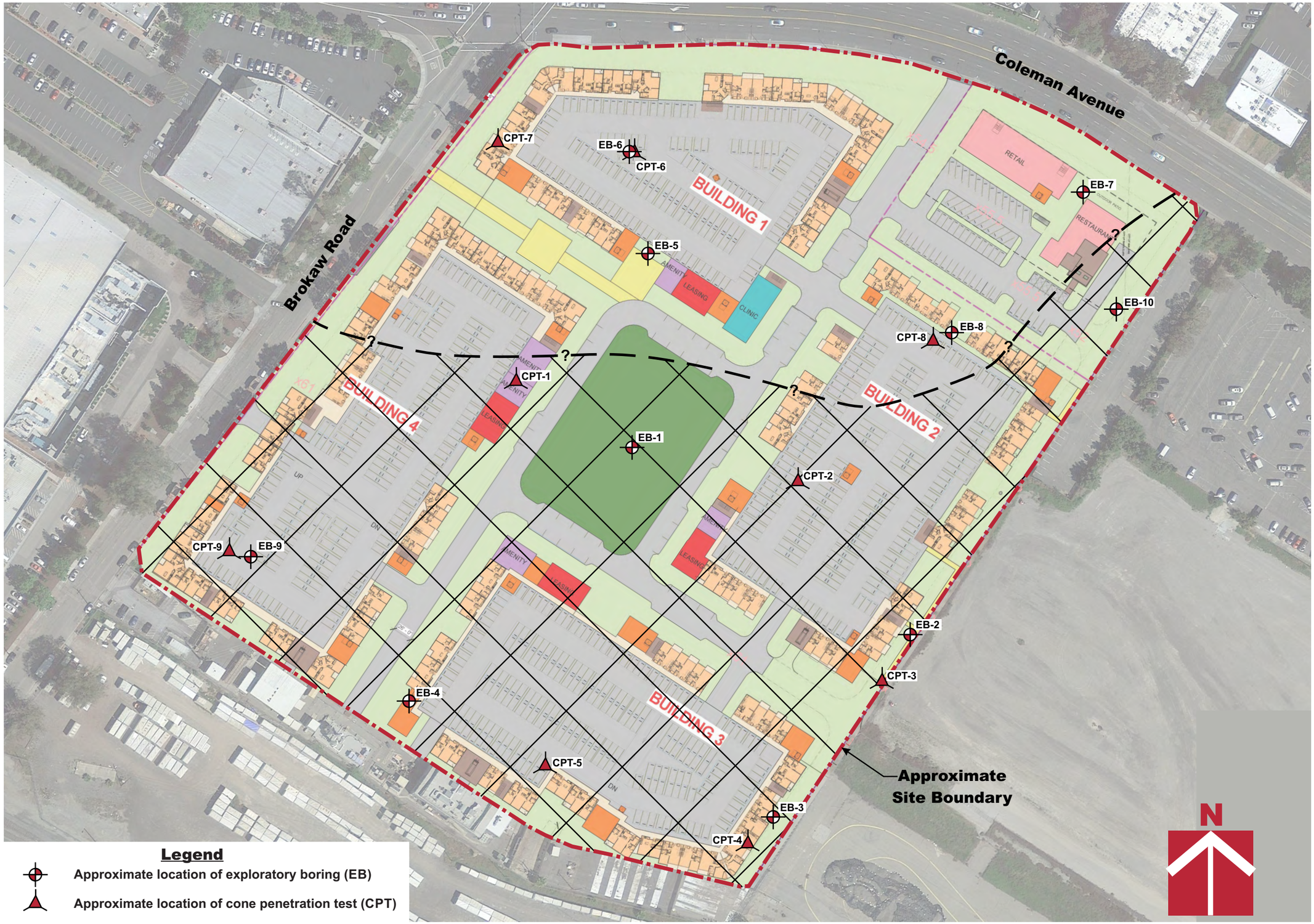
Vicinity Map

Coleman Avenue and Brokaw Road
Residential Mixed-Use
Santa Clara, CA

Project Number	902-1-1
Figure Number	Figure 1
Date	June 2016
Drawn By	RRN



Legend

- Approximate location of exploratory boring (EB)
- Approximate location of cone penetration test (CPT)
- —?— Approximate fill line

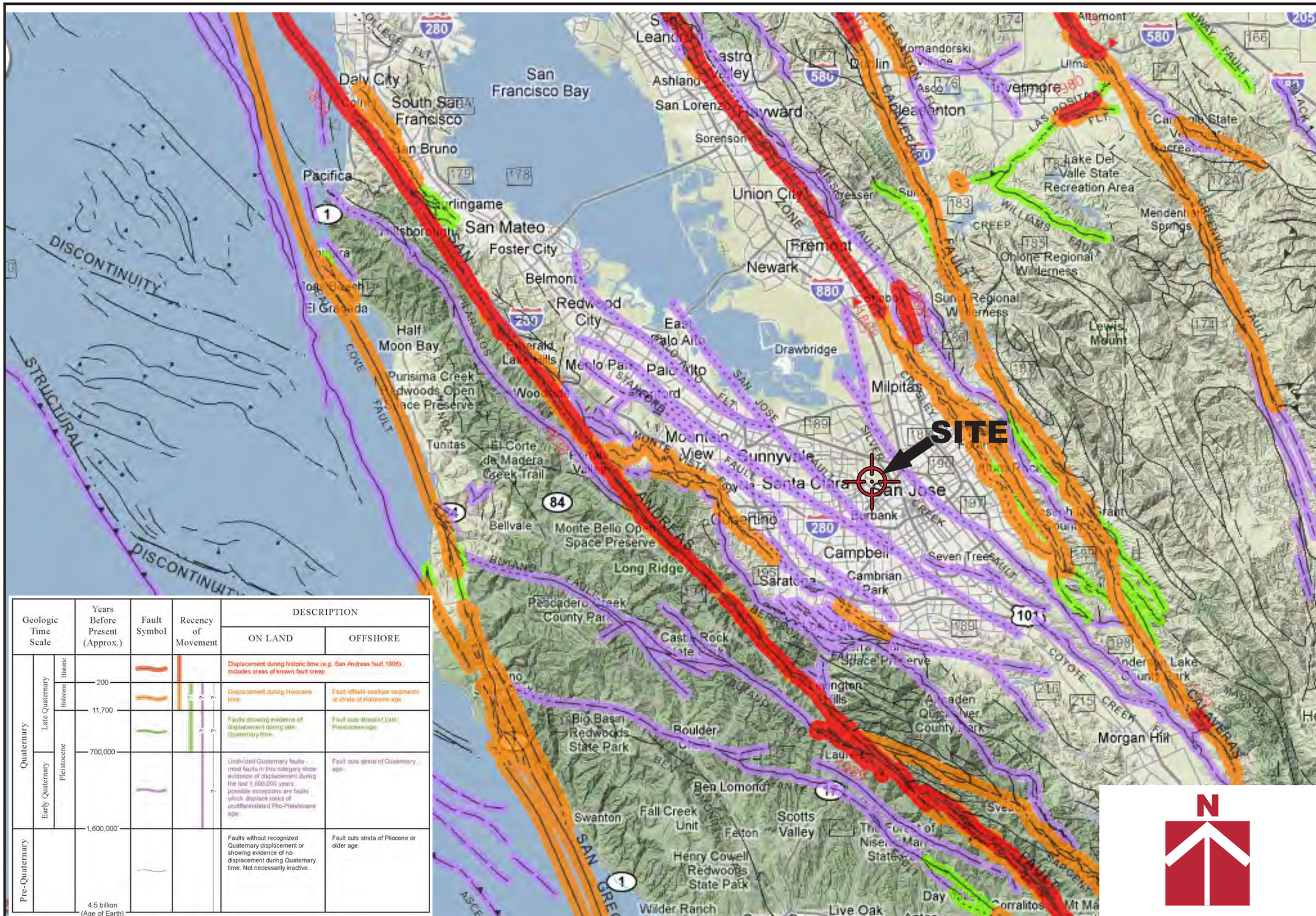
Base by Google Earth, dated 4/5/2016
Overlay by MVE + Partners, Ground Level, dated 7/28/2016

Project Number	902-1-1
Figure Number	Figure 2
Date	August 2016
Drawn By	RRN

Site Plan

Coleman Avenue and Brokaw Road
Residential Mixed-Use
Santa Clara, CA

CORNERSTONE EARTH GROUP



Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION: ON LAND	DESCRIPTION: OFFSHORE
Quaternary	Late Quaternary	Historic				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	200		? ?	Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
		Pleistocene	11,700		? ?	Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
	Early Quaternary		700,000		?	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			1,600,000			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.
			4.5 billion (Age of Earth)				

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

Project Number: 902-1-1

Figure Number: Figure 3

Drawn By: RRN

Date: June 2016

Regional Fault Map

Coleman Avenue and Brokaw Road Residential Mixed-Use Santa Clara, CA

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FIGURE 4A

CPT NO. 1

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	10
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.00	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.02	(Inches)
TOTAL SEISMIC SETTLEMENT	0.0	INCHES

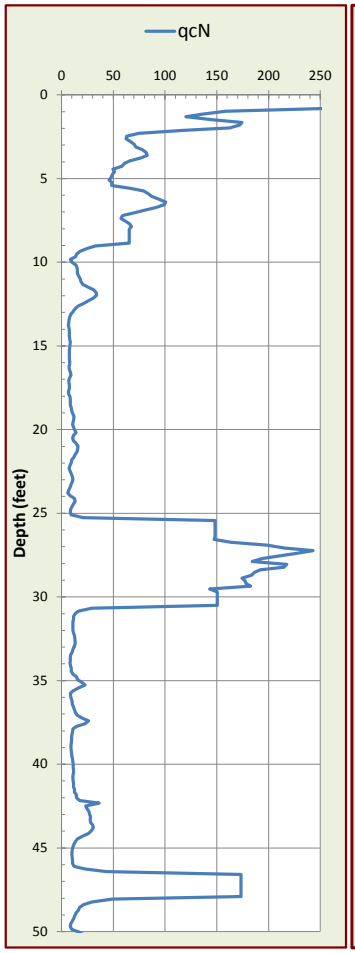
POTENTIAL LATERAL DISPLACEMENT

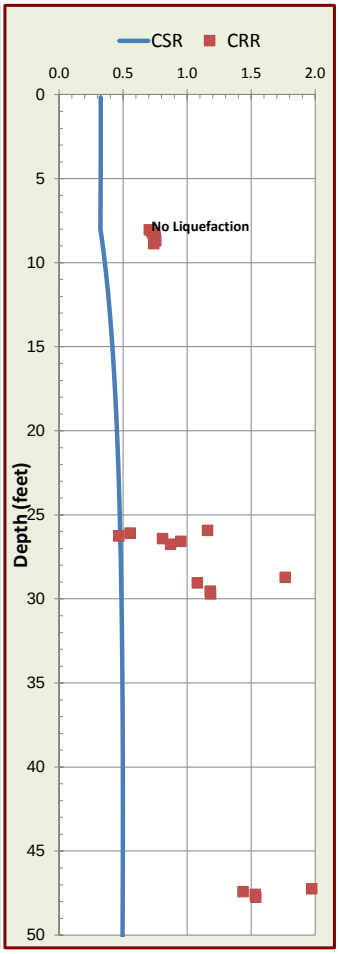
LDI[2]	0.00	L/H	80.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

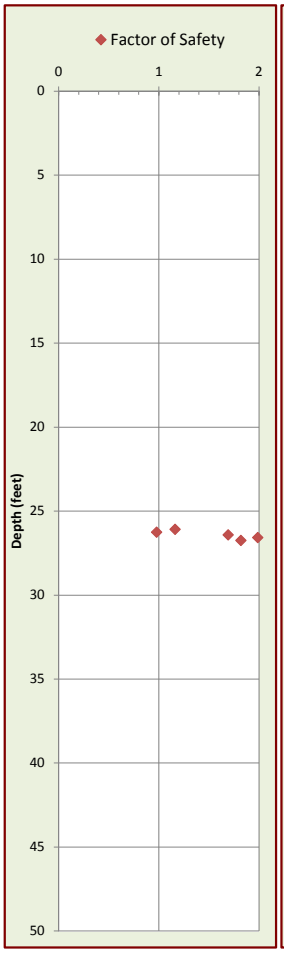
EXPECTED RANGE OF DISPLACEMENT

0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.







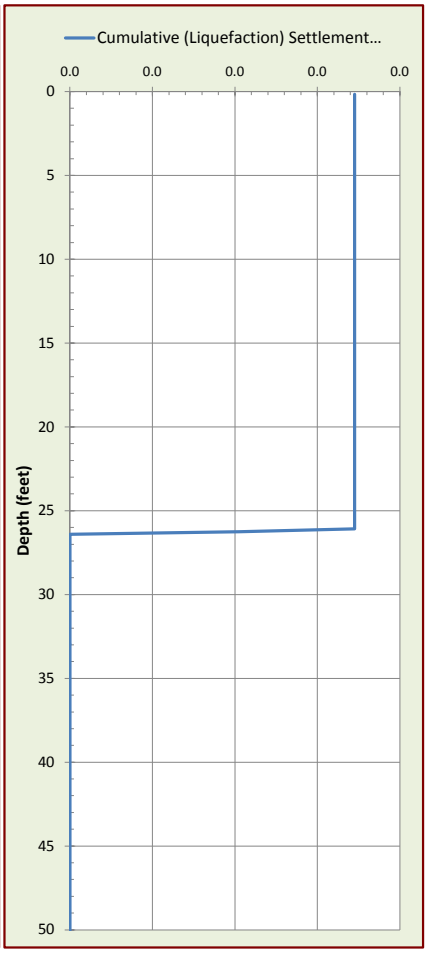


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FIGURE 4B

CPT NO. 2

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	11
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.00	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.58	(Inches)
TOTAL SEISMIC SETTLEMENT	0.6	INCHES

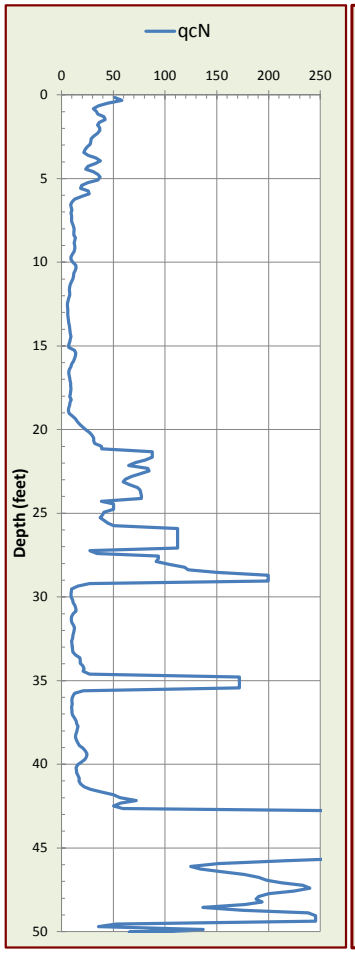
POTENTIAL LATERAL DISPLACEMENT

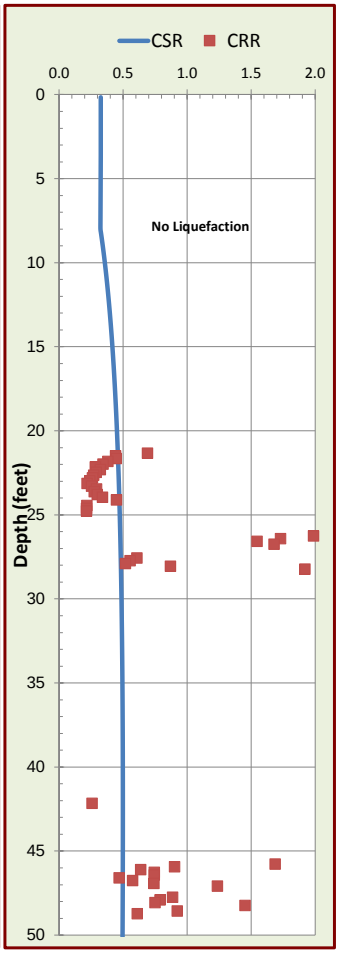
LDI[2]	0.00	L/H	80.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

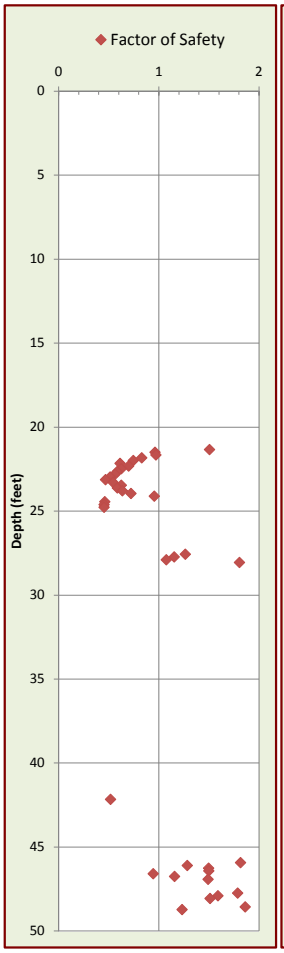
EXPECTED RANGE OF DISPLACEMENT

0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.







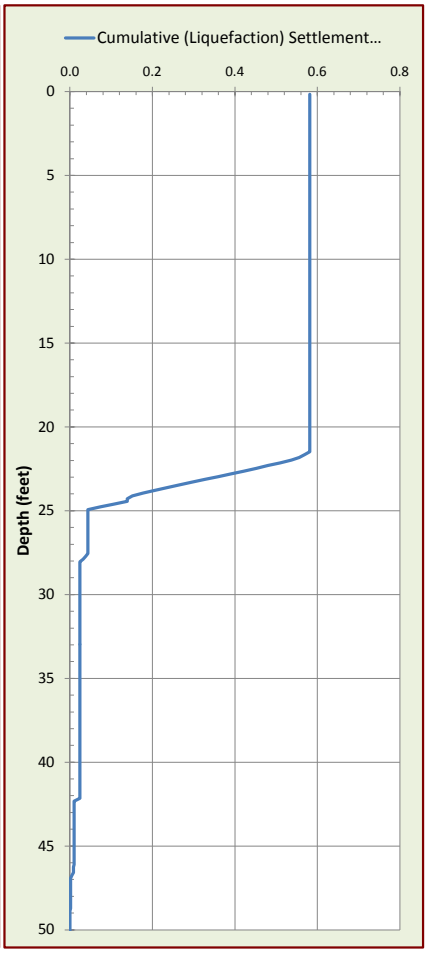


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FIGURE 4C

CPT NO. 3

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	10
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.00	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.01	(Inches)
TOTAL SEISMIC SETTLEMENT	0.0	INCHES

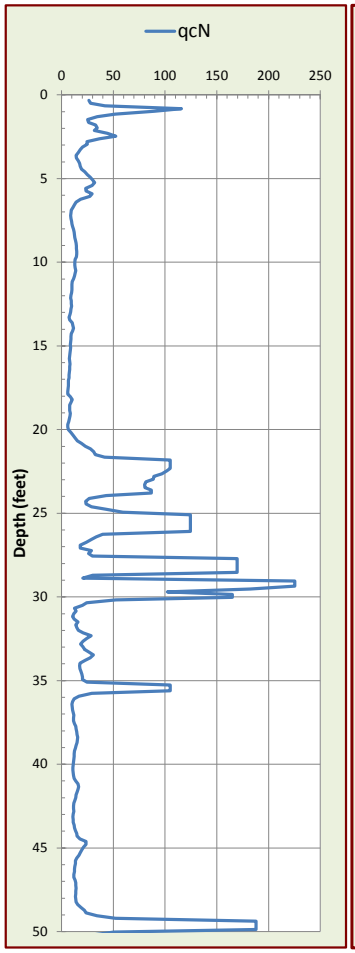
POTENTIAL LATERAL DISPLACEMENT

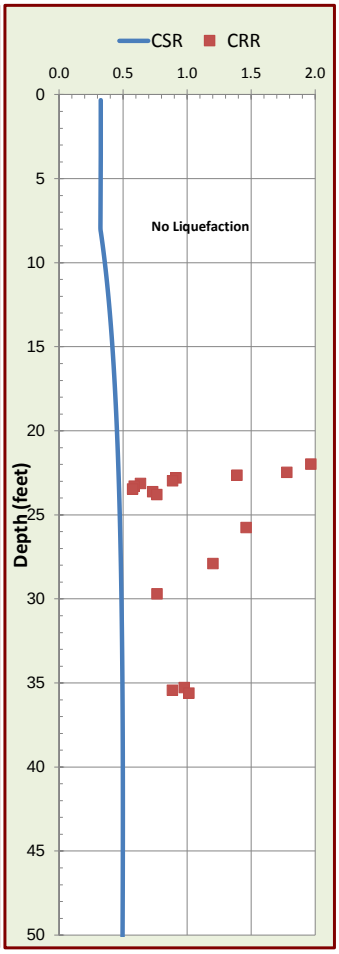
LDI[2]	0.00	L/H	80.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

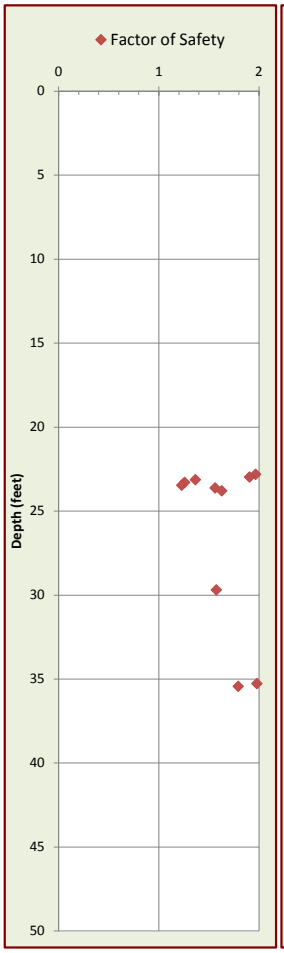
EXPECTED RANGE OF DISPLACEMENT

0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.







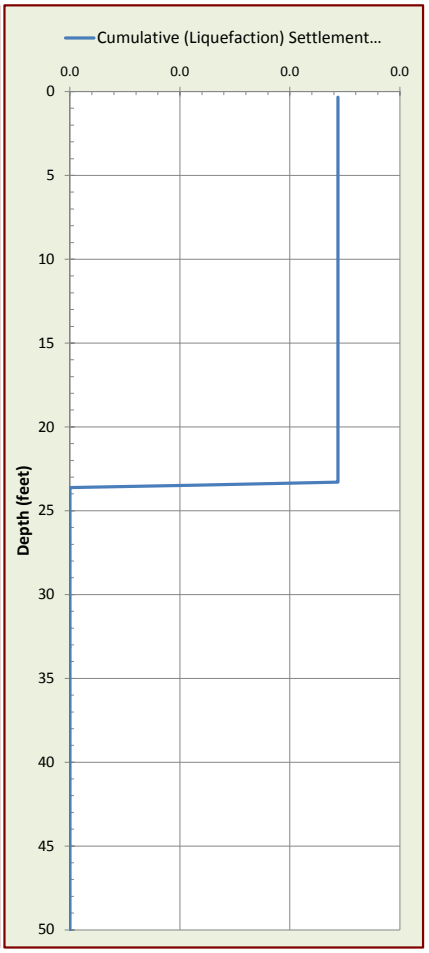


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FIGURE 4D

CPT NO. 4

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	10
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.00	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.06	(Inches)
TOTAL SEISMIC SETTLEMENT	0.1	INCHES

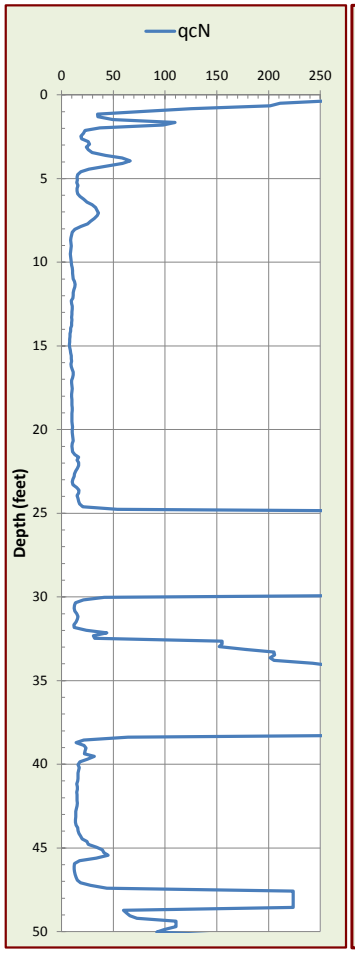
POTENTIAL LATERAL DISPLACEMENT

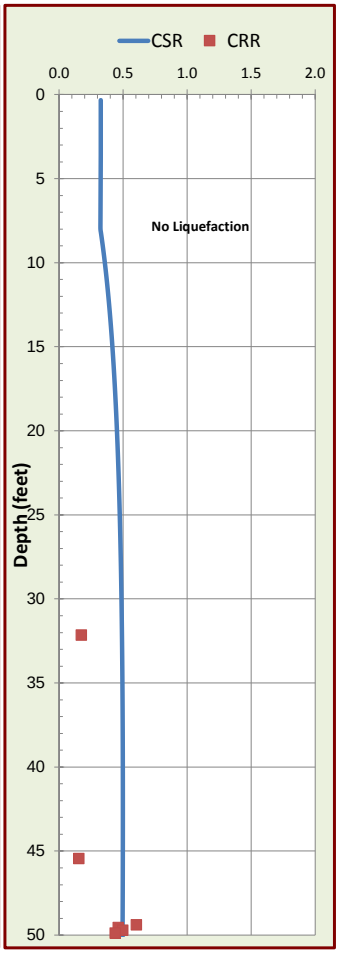
LDI[2]	0.00	L/H	80.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

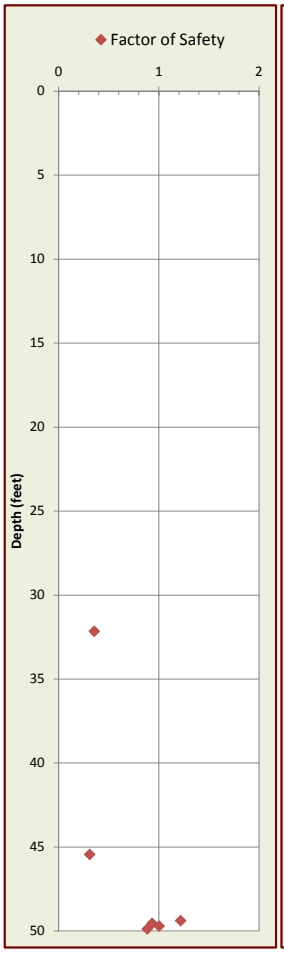
EXPECTED RANGE OF DISPLACEMENT

0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.







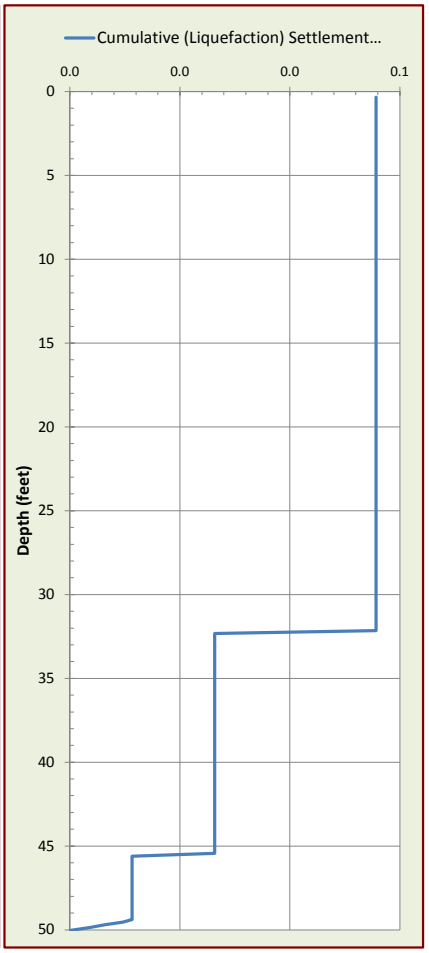


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FIGURE 4E

CPT NO. 5

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PROJECT/CPT DATA

Project Title	**Coleman And Brokaw Properties GI**
Project No.	**902-1-1**
Project Manager	**CBB**

SEISMIC PARAMETERS

Controlling Fault	**San Andreas**	
Earthquake Magnitude (Mw)	**7.9**	
PGA (Amax)	**0.5**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**10**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**125**
Ave. Unit Weight Below GW (pcf)	**120**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.00 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

0.12 **(Inches)**

TOTAL SEISMIC SETTLEMENT 0.1 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

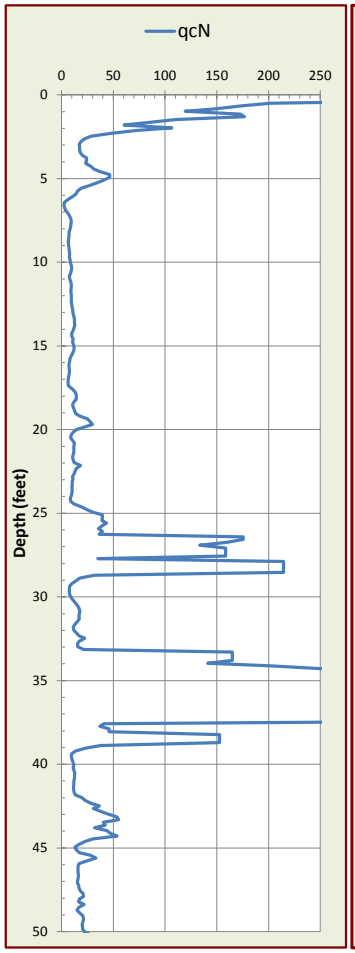
LDI[2] 0.00 **L/H** 80.0

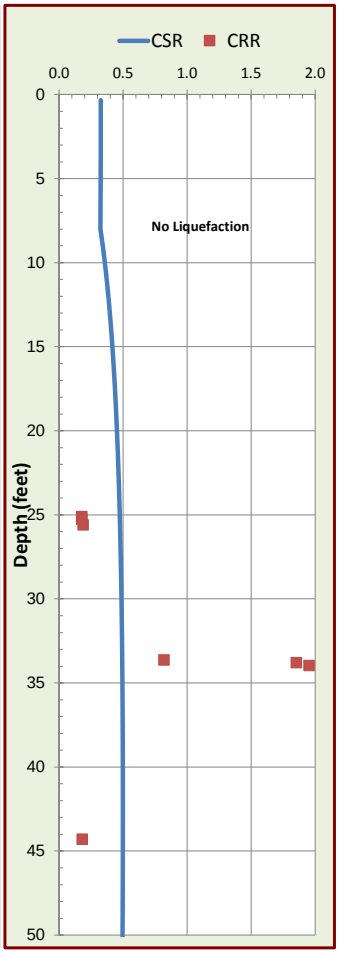
LDI[1] Corrected for Distance 0.00 (4 < L/H < 40)

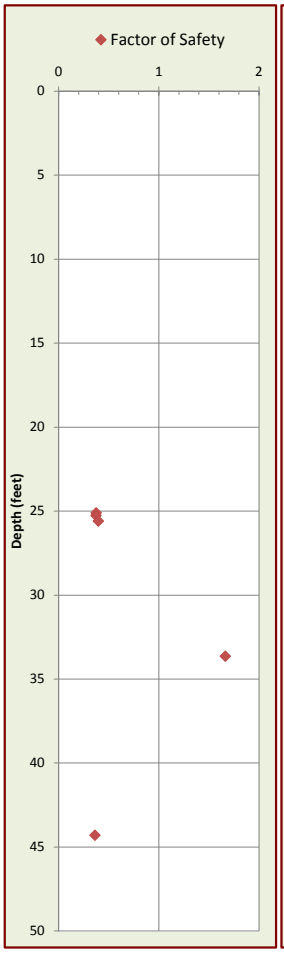
EXPECTED RANGE OF DISPLACEMENT

0.0 **to** 0.0 **feet**

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.







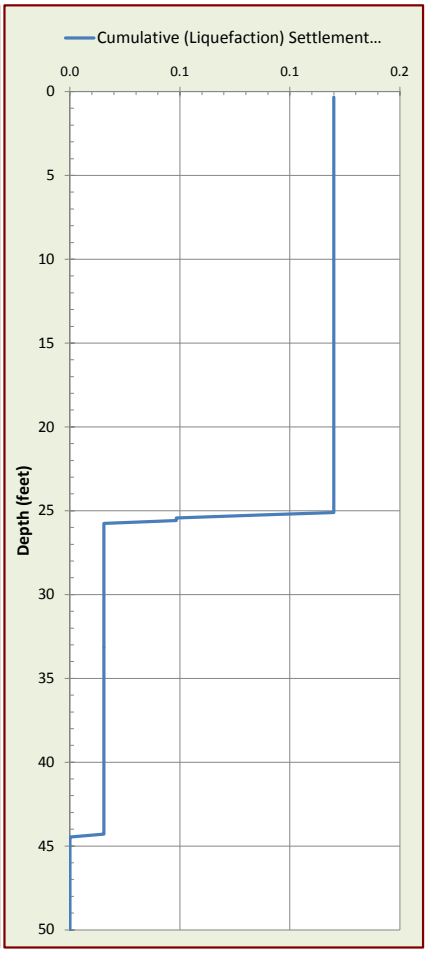


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FIGURE 4F

CPT NO. 6

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	8
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.00	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.02	(Inches)
TOTAL SEISMIC SETTLEMENT	0.0	INCHES

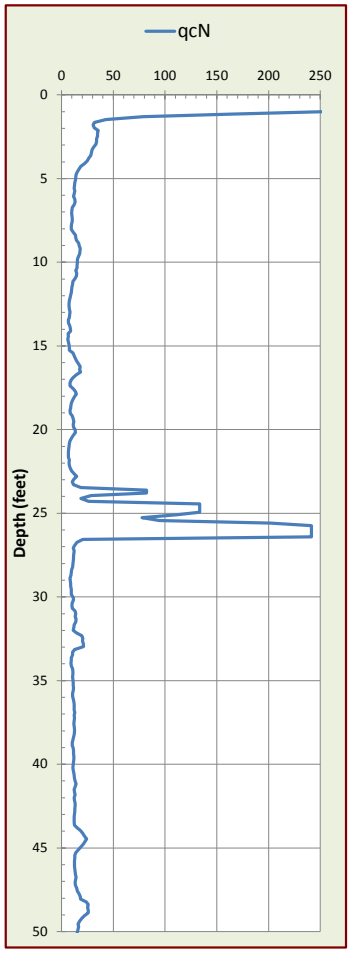
POTENTIAL LATERAL DISPLACEMENT

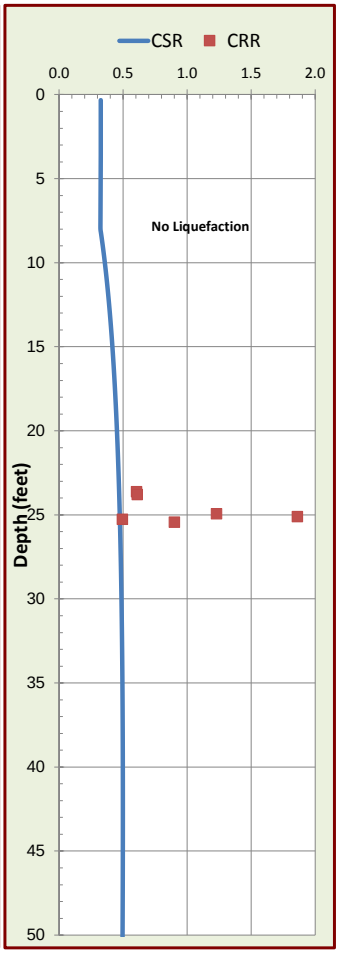
LDI[2]	0.00	L/H	80.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

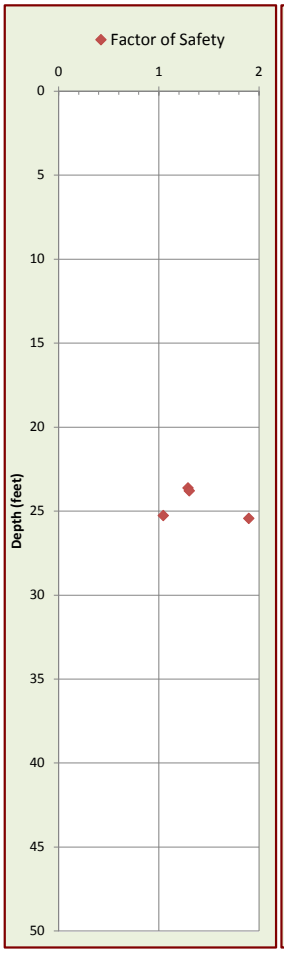
EXPECTED RANGE OF DISPLACEMENT

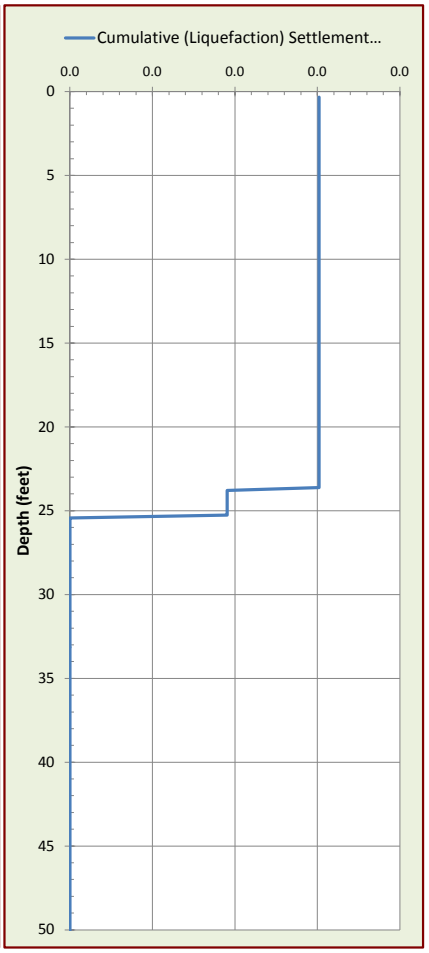
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4G

CPT NO. 7

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	10
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.00	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.36	(Inches)
TOTAL SEISMIC SETTLEMENT	0.4	INCHES

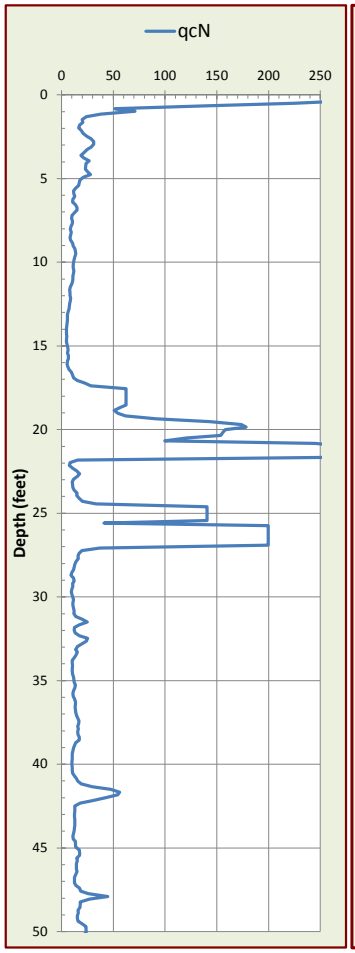
POTENTIAL LATERAL DISPLACEMENT

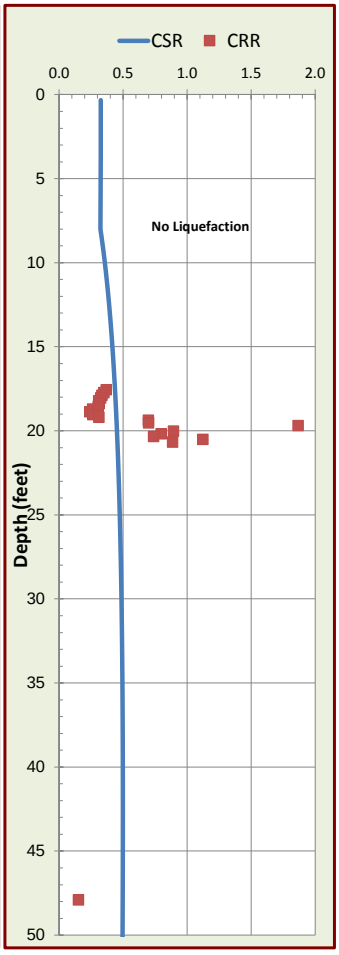
LDI[2]	0.00	L/H	80.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

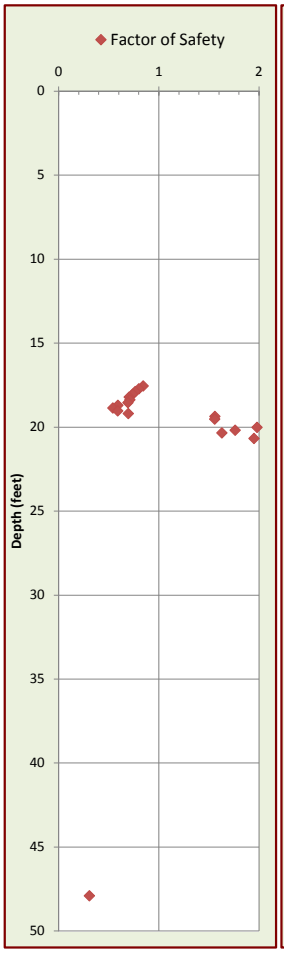
EXPECTED RANGE OF DISPLACEMENT

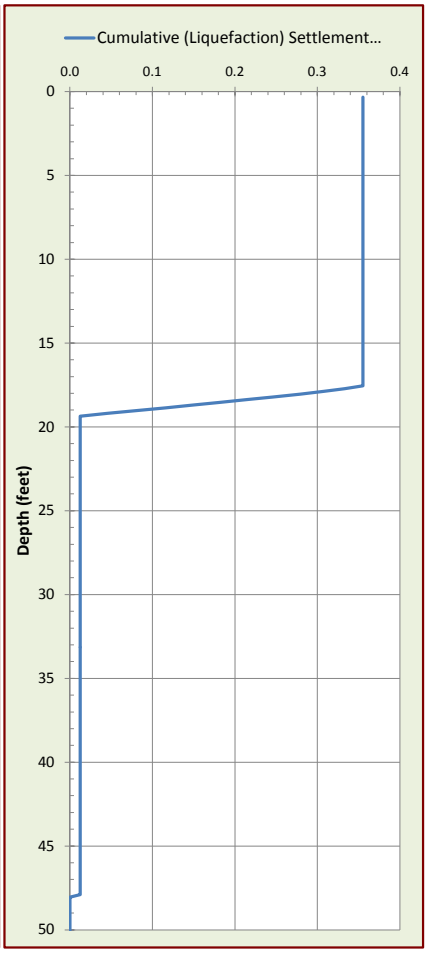
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4H

CPT NO. 8

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	10
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.00	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.80	(Inches)
TOTAL SEISMIC SETTLEMENT	0.8	INCHES

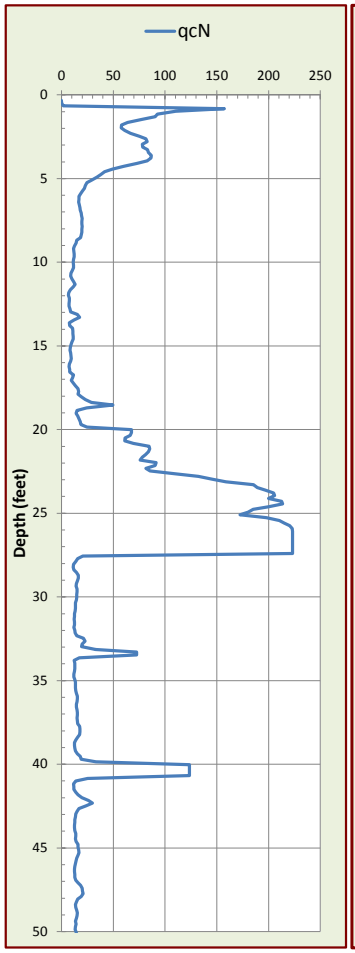
POTENTIAL LATERAL DISPLACEMENT

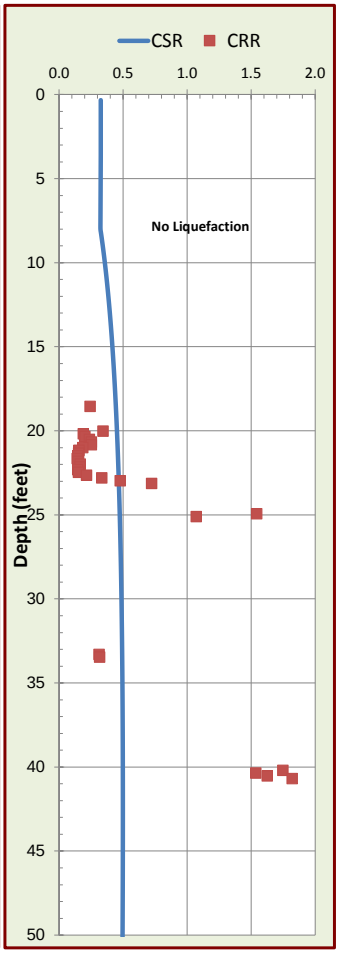
LDI[2]	0.00	L/H	80.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

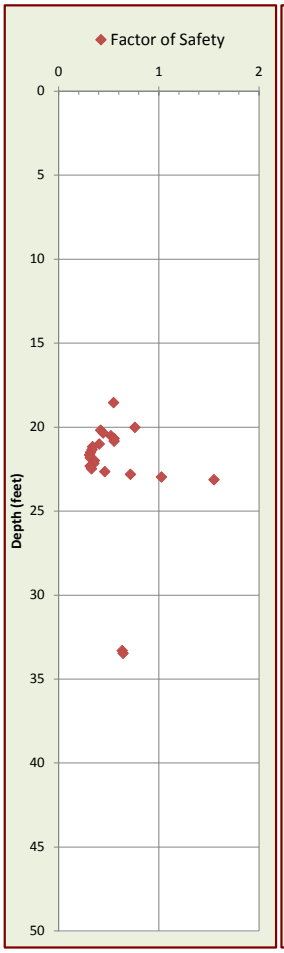
EXPECTED RANGE OF DISPLACEMENT

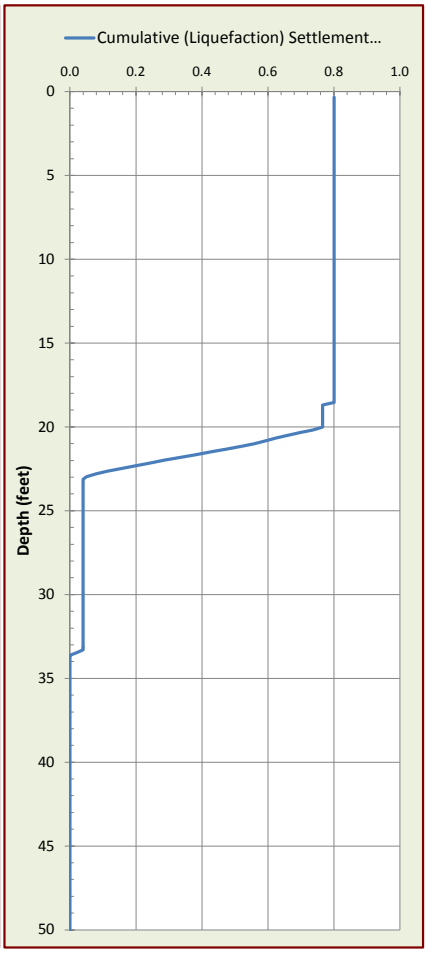
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4I

CPT NO. 9

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PROJECT/CPT DATA

Project Title	Coleman And Brokaw Properties GI
Project No.	902-1-1
Project Manager	CBB

SEISMIC PARAMETERS

Controlling Fault	San Andreas	
Earthquake Magnitude (Mw)	7.9	
PGA (Amax)	0.5	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	11
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	120

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM	8	FEET
	0.01	(Inches)
LIQUEFACTION SETTLEMENT FROM	50	FEET
	0.32	(Inches)
TOTAL SEISMIC SETTLEMENT	0.3	INCHES

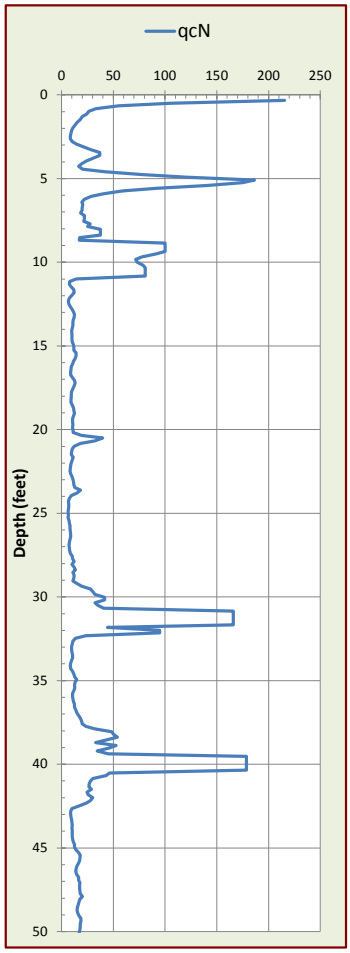
POTENTIAL LATERAL DISPLACEMENT

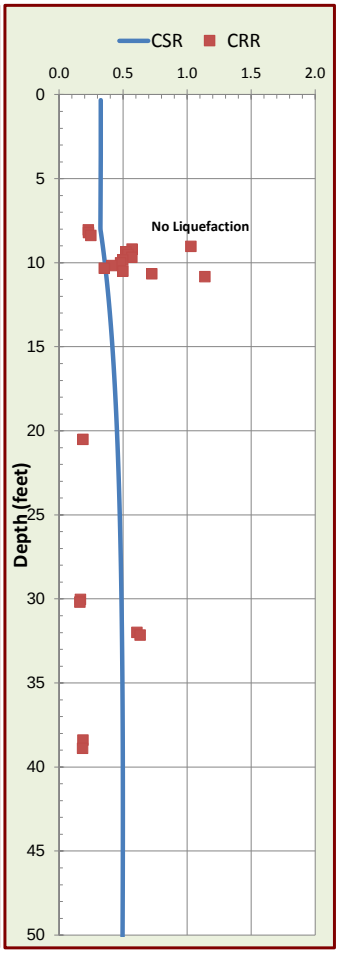
LDI[2]	0.10	L/H	80.0
LDI[1] Corrected for Distance	0.02	(4 < L/H < 40)	

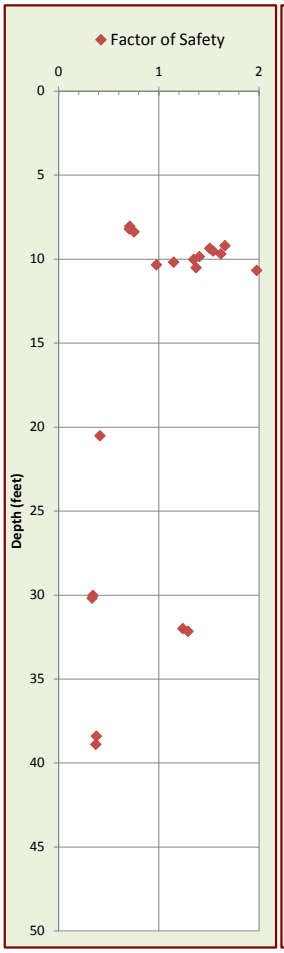
EXPECTED RANGE OF DISPLACEMENT

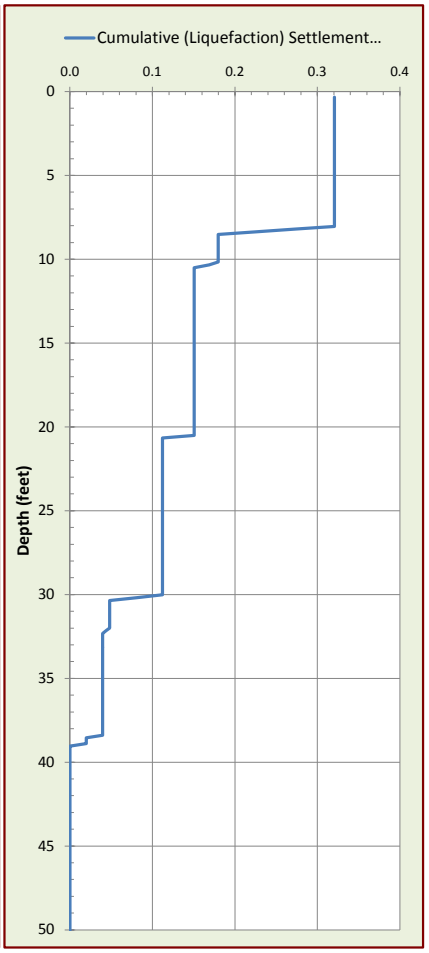
0.0 to 0.0 feet

[1]Not Valid for L/H Values < 4 and > 40.
[2]LDI Values Only Summed to 2H Below Grade.









APPENDIX A: 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. Ten 8-inch-diameter exploratory borings were drilled on May 24 and 25, 2016 to depths of 10½ to 45 feet. Nine CPT soundings were also performed in accordance with ASTM D 5778-95 (revised, 2002) on May 19 and 20, 2016, to depths ranging from approximately 50 to 91 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 and bedrock, 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.

UNIFIED SOIL CLASSIFICATION (ASTM D-2487-98)

MATERIAL TYPES	CRITERIA FOR ASSIGNING SOIL GROUP NAMES			GROUP SYMBOL	SOIL GROUP NAMES & LEGEND
COARSE-GRAINED SOILS >50% RETAINED ON NO. 200 SIEVE	GRAVELS >50% OF COARSE FRACTION RETAINED ON NO 4. SIEVE	CLEAN GRAVELS <5% FINES	Cu>4 AND 1<Cc<3	GW	WELL-GRADED GRAVEL
			Cu>4 AND 1>Cc>3	GP	POORLY-GRADED GRAVEL
		GRAVELS WITH FINES >12% FINES	FINES CLASSIFY AS ML OR CL	GM	SILTY GRAVEL
			FINES CLASSIFY AS CL OR CH	GC	CLAYEY GRAVEL
	SANDS >50% OF COARSE FRACTION PASSES ON NO 4. SIEVE	CLEAN SANDS <5% FINES	Cu>6 AND 1<Cc<3	SW	WELL-GRADED SAND
			Cu>6 AND 1>Cc>3	SP	POORLY-GRADED SAND
		SANDS AND FINES >12% FINES	FINES CLASSIFY AS ML OR CL	SM	SILTY SAND
			FINES CLASSIFY AS CL OR CH	SC	CLAYEY SAND
FINE-GRAINED SOILS >50% PASSES NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT<50	INORGANIC	PI>7 AND PLOTS>"A" LINE	CL	LEAN CLAY
			PI>4 AND PLOTS<"A" LINE	ML	SILT
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OL	ORGANIC CLAY OR SILT
	SILTS AND CLAYS LIQUID LIMIT>50	INORGANIC	PI PLOTS >"A" LINE	CH	FAT CLAY
			PI PLOTS <"A" LINE	MH	ELASTIC SILT
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OH	ORGANIC CLAY OR SILT
HIGHLY ORGANIC SOILS		PRIMARILY ORGANIC MATTER, DARK IN COLOR, AND ORGANIC ODOR		PT	PEAT

OTHER MATERIAL SYMBOLS

- Poorly-Graded Sand with Clay
- Clayey Sand
- Sandy Silt
- Artificial/Undocumented Fill
- Poorly-Graded Gravelly Sand
- Topsoil
- Well-Graded Gravel with Clay
- Well-Graded Gravel with Silt
- Sand
- Silt
- Well Graded Gravelly Sand
- Gravelly Silt
- Asphalt
- Boulders and Cobble

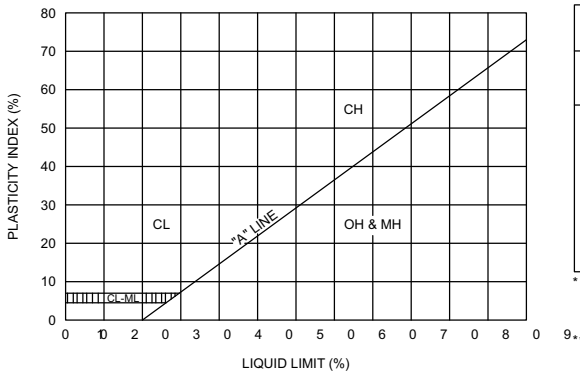
SAMPLER TYPES

- SPT
- Modified California (2.5" I.D.)
- Rock Core
- Shelby Tube
- No Recovery
- Grab Sample

ADDITIONAL TESTS

CA	-	CHEMICAL ANALYSIS (CORROSIVITY)	PI	-	PLASTICITY INDEX
CD	-	CONSOLIDATED DRAINED TRIAXIAL	SW		SWELL TEST
CN	-	CONSOLIDATION	TC	-	CYCLIC TRIAXIAL
CU	-	CONSOLIDATED UNDRAINED TRIAXIAL	TV	-	TORVANE SHEAR
DS	-	DIRECT SHEAR	UC	-	UNCONFINED COMPRESSION
PP	-	POCKET PENETROMETER (TSF)	(1.5)	-	(WITH SHEAR STRENGTH IN KSF)
(3.0)	-	(WITH SHEAR STRENGTH IN KSF)		-	
RV	-	R-VALUE	UU		UNCONSOLIDATED UNDRAINED TRIAXIAL
SA	-	SIEVE ANALYSIS: % PASSING #200 SIEVE		-	
	-	WATER LEVEL			

PLASTICITY CHART



PENETRATION RESISTANCE
(RECORDED AS BLOWS / FOOT)

SAND & GRAVEL		SILT & CLAY		
RELATIVE DENSITY	BLOWS/FOOT*	CONSISTENCY	BLOWS/FOOT*	STRENGTH** (KSF)
VERY LOOSE	0 - 4	VERY SOFT	0 - 2	0 - 0.25
LOOSE	4 - 10	SOFT	2 - 4	0.25 - 0.5
MEDIUM DENSE	10 - 30	MEDIUM STIFF	4 - 8	0.5 - 1.0
DENSE	30 - 50	STIFF	8 - 15	1.0 - 2.0
VERY DENSE	OVER 50	VERY STIFF	15 - 30	2.0 - 4.0
		HARD	OVER 30	OVER 4.0

* NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1-3/8 INCH I.D.) SPLIT-BARREL SAMPLER THE LAST 12 INCHES OF AN 18-INCH DRIVE (ASTM-1586 STANDARD PENETRATION TEST).

** UNDRAINED SHEAR STRENGTH IN KIPS/SQ. FT. AS DETERMINED BY LABORATORY TESTING OR APPROXIMATED BY THE STANDARD PENETRATION TEST, POCKET PENETROMETER, TORVANE, OR VISUAL OBSERVATION.

CORNERSTONE EARTH GROUP

LEGEND TO SOIL DESCRIPTIONS

Figure Number A-1

BORING NUMBER EB-1

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/25/16 **DATE COMPLETED** 5/25/16
GROUND ELEVATION **BORING DEPTH** 10.5 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING Not Encountered
NOTES
AT END OF DRILLING Not Encountered

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 (1.0 2.0 3.0 4.0)
	0		5 inches asphalt concrete over 1 inch aggregate base							
			Clayey Sand with Gravel (SC) [Fill] medium dense, greenish gray, fine to coarse sand, fine to coarse subangular gravel	25	MC-1B	111	17			>4.5
			Lean Clay with Sand (CL) hard, moist, dark gray brown, fine sand, moderate plasticity							
			Sandy Lean Clay (CL) hard, moist, brown, fine sand, low to moderate plasticity	30	MC-2B	110	16			>4.5
	5									
			Fat Clay (CH) stiff, moist, gray with brown mottles, trace fine sand, high plasticity	12	MC-3B	87	32			
	10		Bottom of Boring at 10.5 feet.							
	15									
	20									

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

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BORING NUMBER EB-2

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/25/16 **DATE COMPLETED** 5/25/16
GROUND ELEVATION **BORING DEPTH** 11.5 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING Not Encountered
NOTES
AT END OF DRILLING Not Encountered

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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)
	0		**Clayey Sand with Gravel (SC) [Fill]** medium dense, brown and gray mottled, fine to coarse sand, fine to coarse subangular gravel							
			Lean Clay with Sand (CL) hard, moist, dark gray brown, fine sand, moderate plasticity	38	MC-1A		18			○
			Sandy Lean Clay (CL) stiff, moist, brown, fine sand, low to moderate plasticity							
	5			10	NR					
			Lean Clay with Sand (CL) stiff, moist, gray and brown mottled, fine sand, moderate plasticity							
	10			20	NR-2		25			○
			Bottom of Boring at 11.5 feet.							
	15									
	20									

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BORING NUMBER EB-3

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/24/16 **DATE COMPLETED** 5/24/16
GROUND ELEVATION **BORING DEPTH** 31.5 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING 30 ft.
NOTES
AT END OF DRILLING 30 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 (○ HAND PENETROMETER, △ TORVANE, ● UNCONFINED COMPRESSION, ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL; 1.0 2.0 3.0 4.0)
	0		5 inches asphalt concrete over 2 inches aggregate base							
			Sandy Lean Clay (CL) [Fill] hard, moist, dark gray, fine sand, some fine subangular to subrounded gravel, moderate plasticity	36	MC-1B	112	16			>4.5
				29	MC-2B	108	16			>4.5
			Lean Clay with Sand (CL) hard to very stiff, moist, dark gray brown, fine sand, moderate plasticity							
	5			21	MC-3B	87	26			
			Fat Clay (CH) stiff, moist, gray with reddish brown mottles, trace fine sand, high plasticity							
				20	MC-4B	85	35			
	10									
			Lean Clay with Sand (CL) very stiff, moist, gray with brown mottles, fine sand, low to moderate plasticity							
				19	MC-5C	94	25			
	15									
			becomes stiff		ST-6	91	31			
	20									

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BORING NUMBER EB-3

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use

PROJECT NUMBER 902-1-1

PROJECT LOCATION Santa Clara, 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)
			Lean Clay (CL) stiff, moist, gray with brown mottles, some fine sand, moderate plasticity							
				13	SPT-7B		26			○
	25									
				66	MC-8B	100	25			○
	30		**Poorly Graded Sand with Silt (SP-SM)** very dense, wet, gray, fine to coarse sand, some fine to coarse subangular to subrounded gravel	56	SPT-9		14			
			Bottom of Boring at 31.5 feet.							
	35									
	40									
	45									

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BORING NUMBER EB-4

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/25/16 **DATE COMPLETED** 5/25/16
GROUND ELEVATION **BORING DEPTH** 10.5 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING Not Encountered
NOTES
AT END OF DRILLING Not Encountered

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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)
	0		2½ inches asphalt concrete over 9 inches aggregate base							
			Sandy Lean Clay (CL) [Fill] hard, moist, dark gray and brown mottled, fine to coarse sand, some fine subangular to subrounded gravel, moderate plasticity	53	MC-1B	108	18			>4.5 ○
			Lean Clay with Sand (CL) hard, moist, dark gray brown, fine sand, moderate plasticity							
	5		**Sandy Lean Clay (CL)** very stiff, moist, olive brown, fine sand, low plasticity	26	MC-2B	110	16			○
	10		**Fat Clay (CH)** stiff, moist, gray with reddish brown mottles, trace fine sand, high plasticity	17	MC-3B	85	33			○
			Bottom of Boring at 10.5 feet.							
	15									
	20									

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BORING NUMBER EB-5

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/25/16 **DATE COMPLETED** 5/25/16
GROUND ELEVATION **BORING DEPTH** 11.5 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING Not Encountered
NOTES
AT END OF DRILLING Not Encountered

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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)
	0		1 inch asphalt concrete							
			Clayey Sand (SC) medium dense, gray with brown mottles, fine to medium sand	22	MC-1B	108	17			○
			Sandy Lean Clay (CL) very stiff, gray with brown mottles, fine sand, low plasticity							
	5		**Lean Clay (CL)** very stiff, moist, brown with red brown mottles, trace fine sand, moderate plasticity	24	MC-2B	95	27			○
			Fat Clay (CH) stiff, moist, gray with reddish brown mottles, trace fine sand, high plasticity							
	10			17	MC-3B	90	34			○
			Bottom of Boring at 11.5 feet.							
	15									
	20									

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BORING NUMBER EB-6

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA
GROUND ELEVATION _____ **BORING DEPTH** 36.5 ft.
LATITUDE _____ **LONGITUDE** _____
GROUND WATER LEVELS:
AT TIME OF DRILLING 14 ft.
AT END OF DRILLING 14 ft.

DATE STARTED 5/25/16 **DATE COMPLETED** 5/25/16
DRILLING CONTRACTOR Exploration Geoservices, Inc.
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
LOGGED BY OL
NOTES _____

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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)
	0		1½ inches asphalt concrete							
			Lean Clay (CL) very stiff, moist, dark gray brown, some fine sand, moderate plasticity	24	MC-1B	105	18			○
			Sandy Lean Clay (CL) very stiff, moist, brown, fine to medium sand, low plasticity	20	MC-2B	108	17		67	○
	5									
			Fat Clay (CH) very stiff, moist, dark gray with reddish brown mottles, some fine sand, high plasticity	27	MC-3B	88	32			○
	10									
			Sandy Lean Clay (CL) medium stiff, moist, olive brown, fine to medium sand, low plasticity							
	15				ST-4	100	25			▲○
	20		becomes soft	13	MC-5B	96	26			○

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CORNERSTONE EARTH GROUP2 - CORNERSTONE 0812.GDT - 7/11/16 14:21 - P:\DRAFTING\GINT FILES\902-1-1 BAE PROPERTY.GPJ

BORING NUMBER EB-6

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use

PROJECT NUMBER 902-1-1

PROJECT LOCATION Santa Clara, 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)
			Sandy Lean Clay (CL) medium stiff, moist, olive brown, fine to medium sand, low plasticity							
				24	SPT-6A		26		56	○
	25		**Clayey Sand (SC)** medium dense to dense, wet, gray brown, fine to medium sand	31	SPT-7		28			
			Sandy Lean Clay (CL) medium stiff, moist, gray, fine sand, low plasticity							
	30			22	MC-8B	97	25			○
			Lean Clay with Sand (CL) medium stiff, moist, gray, fine sand, low to moderate plasticity							
	35			23	MC					○
			Bottom of Boring at 36.5 feet.							
	40									
	45									

CORNERSTONE EARTH GROUP2 - CORNERSTONE 0812.GDT - 7/11/16 14:21 - P:\DRAFTING\GINT FILES\902-1-1 BAE PROPERTY.GPJ

BORING NUMBER EB-7

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/24/16 **DATE COMPLETED** 5/24/16
GROUND ELEVATION **BORING DEPTH** 36.5 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING 12 ft.
NOTES
AT END OF DRILLING 12 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 (○ HAND PENETROMETER, △ TORVANE, ● UNCONFINED COMPRESSION, ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL; 1.0 2.0 3.0 4.0)
	0		**Lean Clay with Sand (CL)** hard, moist, dark gray brown, fine sand, moderate plasticity	26	MC-1A		25			>4.5
			Sandy Lean Clay (CL) very stiff, moist, brown, fine sand, low plasticity	13	MC-2B	103	17			
			Lean Clay with Sand (CL) very stiff, moist, brown with dark brown mottles, fine sand, moderate plasticity							
	5		**Fat Clay (CL)** stiff, moist, gray with brown mottles, some fine sand, high plasticity Liquid Limit = 75, Plastic Limit = 26	20	MC-3C	84	35	49		
				18	MC-4B	86	34			
	10									
			Sandy Lean Clay (CL) medium stiff, moist, gray, fine sand, low plasticity	9	MC					
	15									
			Lean Clay with Sand (CL) stiff, moist, gray with reddish brown mottles, fine sand, moderate plasticity	16	MC-6B	104	22			
	20		**Sandy Lean Clay (CL)** stiff, moist, brown, fine sand, low plasticity							

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BORING NUMBER EB-7

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use

PROJECT NUMBER 902-1-1

PROJECT LOCATION Santa Clara, 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) stiff, moist, brown, fine sand, low plasticity							
			Sandy Silt (ML) very stiff, moist, brown, fine sand, low plasticity	29	MC-7C	100	24			
	25		**Silty Sand (SM)** medium dense, moist, olive brown, fine sand							
			Lean Clay with Sand (CL) stiff, moist, gray, fine sand, moderate plasticity	37	MC-8C	101	24			
	30									
			Sandy Lean Clay (CL) stiff to very stiff, moist, gray, fine to coarse sand, some fine subrounded gravel, low plasticity	21	MC-9B	106	20			
	35			24	SPT					
			Bottom of Boring at 36.5 feet.							
	40									
	45									

UNDRAINED SHEAR STRENGTH, ksf: ○ HAND PENETROMETER; △ TORVANE; ● UNCONFINED COMPRESSION; ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL. Scale: 1.0, 2.0, 3.0, 4.0

CORNERSTONE EARTH GROUP2 - CORNERSTONE 0812.GDT - 7/11/16 14:21 - P:\DRAFTING\GINT FILES\902-1-1 BAE PROPERTY.GPJ

BORING NUMBER EB-8

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/24/16 **DATE COMPLETED** 5/24/16
GROUND ELEVATION **BORING DEPTH** 45 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING 12 ft.
NOTES
AT END OF DRILLING 12 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 (○ HAND PENETROMETER, △ TORVANE, ● UNCONFINED COMPRESSION, ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL; 1.0 2.0 3.0 4.0)
	0		1 inch asphalt concrete over 5 inches aggregate base							
			Sandy Lean Clay (CL) hard, moist, gray with brown mottles, fine to medium sand, low plasticity	28	MC-1B					>4.5
			Clayey Sand (SC) medium dense to loose, moist, gray with brown mottles, fine to medium sand							
	5		**Lean Clay with Sand (CL)** very stiff, moist, gray with brown mottles, fine sand, moderate plasticity	12	MC-2B	95	23			
			Fat Clay (CH) very stiff, moist, gray with reddish brown mottling, trace fine sand, high plasticity	31	MC-3B	91	28			
	10									
			Sandy Lean Clay (CL) very stiff, moist, gray, fine sand, moderate plasticity							
	15				ST-4	97	28			
			Lean Clay with Sand (CL) very stiff, moist, olive brown, fine sand, moderate plasticity	13	MC-5C	98	25			
	20			21	SPT-6B		17			

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BORING NUMBER EB-8

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use

PROJECT NUMBER 902-1-1

PROJECT LOCATION Santa Clara, 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
			Silty Sand (SM) medium dense, wet, gray, fine to coarse sand, trace fine subangular to subrounded gravel							
			Poorly Graded Sand with Silt (SP-SM) very dense, wet, gray, fine to coarse sand, trace fine subangular to subrounded gravel							
	25			50 / 6"	MC-7B	119	9			
	30			50 / 4"	MC-8B	116	12			
			Sandy Lean Clay (CL) medium stiff, moist, gray, fine to medium sand, low plasticity	18	SPT-9B		22		51	○
	35									
			Lean Clay with Sand (CL) stiff, moist, gray, fine sand, moderate plasticity							
				19	MC-10B	97	26			○
	40									
			Sandy Lean Clay (CL) medium stiff, moist, gray, fine to coarse sand, low plasticity	17	MC-11B	105	20			○
	45		Bottom of Boring at 45.0 feet.							

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BORING NUMBER EB-9

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA
GROUND ELEVATION _____ **BORING DEPTH** 45 ft.
LATITUDE _____ **LONGITUDE** _____
GROUND WATER LEVELS:
AT TIME OF DRILLING 22 ft.
AT END OF DRILLING 22 ft.

DATE STARTED 5/25/16 **DATE COMPLETED** 5/25/16
DRILLING CONTRACTOR Exploration Geoservices, Inc.
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
LOGGED BY OL
NOTES _____

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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)
	0		1 inch asphalt concrete over 4 inches aggregate base							
			Lean Clay with Sand (CL) [Fill] very stiff, moist, dark gray and brown mottled, fine to coarse sand, moderate plasticity							
			Lean Clay (CL) hard, moist, dark gray brown, some fine sand, moderate plasticity Liquid Limit = 43, Plastic Limit = 16	32	MC-1B	107	20	27		>4.5
	5		**Lean Clay with Sand (CL)** very stiff, moist, brown, fine sand, low plasticity	19	MC-2B	103	20			
			Silty Sand (SM) medium dense, moist, brown, fine sand							
			Poorly Graded Sand with Silt (SP-SM) loose, moist, brown, fine sand							
	10		**Fat Clay (CH)** stiff, moist, gray with reddish brown mottles, trace fine sand, high plasticity	13	MC-3C	82	38			
	15			19	MC-4B	88	34			
	20		**Sandy Lean Clay (CL)** stiff, moist, brown, fine sand, low plasticity Liquid Limit = 28, Plastic Limit = 17	20	MC-5A	105	20	11		

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BORING NUMBER EB-9

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use

PROJECT NUMBER 902-1-1

PROJECT LOCATION Santa Clara, 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)
			Lean Clay with Sand (CL) medium stiff, moist, brown, fine sand, low plasticity							
	25			17	MC-6B	101	22			
			Sandy Lean Clay (CL) stiff, moist, brown, fine sand, low plasticity							
	30			20	SPT-7		23			
				37	SPT-8B		24			
			Lean Clay (CL) stiff, moist, gray, trace fine sand, moderate plasticity	28	MC					
	35		**Sandy Lean Clay (CL)** stiff, moist, gray, fine sand, low plasticity							
			Silty Sand (SM) medium dense, moist, gray, fine sand	29	SPT-10		22			
	40		**Sandy Lean Clay (CL)** medium stiff, moist, gray, fine sand, low plasticity	16	MC-11B	104	22		59	
	45		Bottom of Boring at 45.0 feet.							

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BORING NUMBER EB-10

CORNERSTONE EARTH GROUP

PROJECT NAME Colemen Ave. and Brokaw Rd. Residential Mixed-Use
PROJECT NUMBER 902-1-1
PROJECT LOCATION Santa Clara, CA

DATE STARTED 5/24/16 **DATE COMPLETED** 5/24/16
GROUND ELEVATION **BORING DEPTH** 11.5 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE **LONGITUDE**
DRILLING METHOD Mobile B-61, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY OL
AT TIME OF DRILLING Not Encountered
NOTES
AT END OF DRILLING Not Encountered

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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)
	0		2 inches asphalt concrete over 4 inches aggregate base							
			Sandy Lean Clay (CL) [Fill] hard, moist, brown, fine to coarse sand, low to moderate plasticity							
			Sandy Lean Clay (CL) hard, moist, brown with light brown mottles, fine to medium sand, moderate plasticity	33	MC-1C	111	16			>4.5
	5		**Fat Clay (CH)** stiff to very stiff, moist, gray with reddish brown mottles, trace fine sand, high plasticity	21	MC-2B	86	34			
	10			27	MC-3B	85	33			
			Bottom of Boring at 11.5 feet.							
	15									
	20									

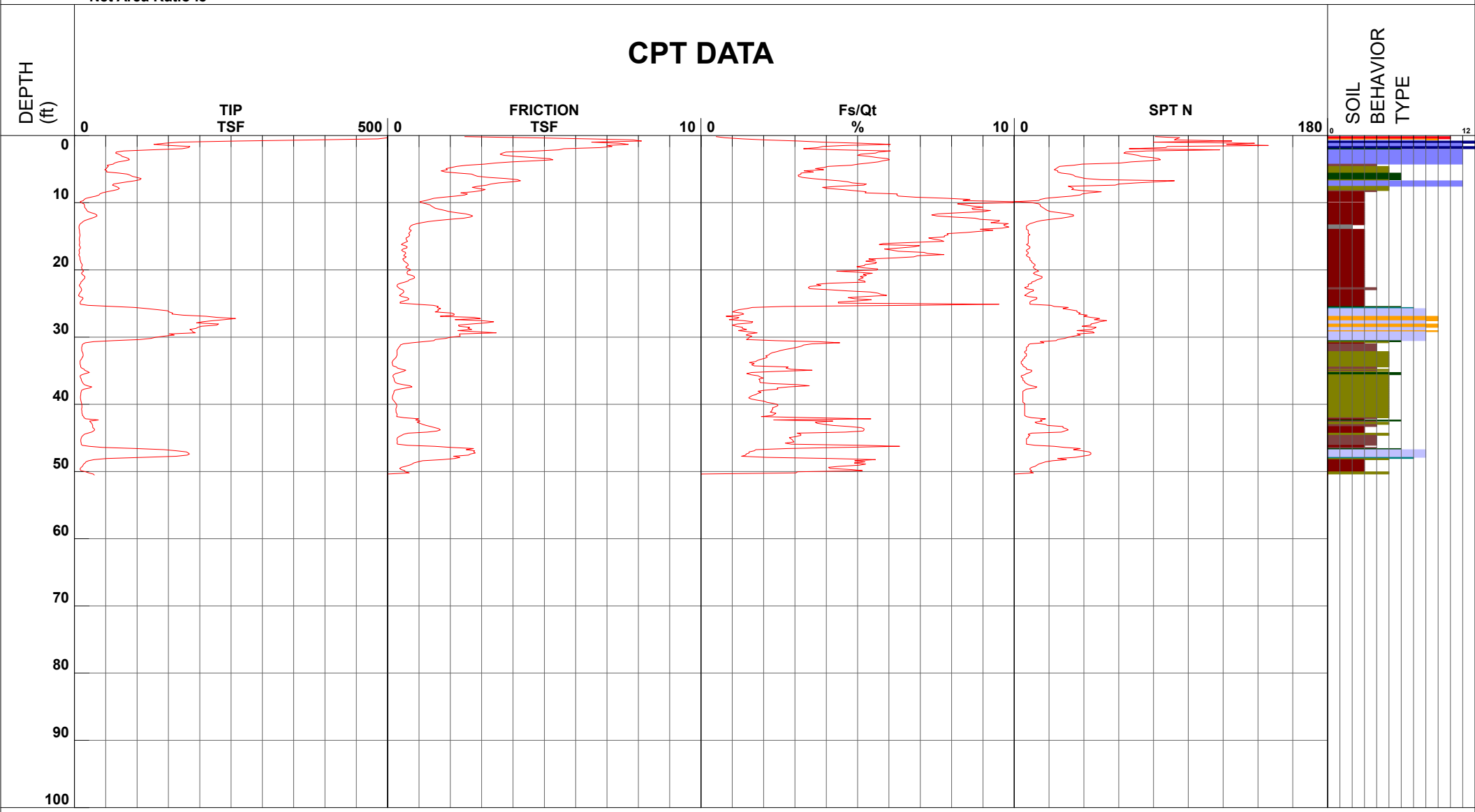
CORNERSTONE EARTH GROUP2 - CORNERSTONE 0812.GDT - 7/11/16 14:21 - P:\DRAFTING\GINT FILES\902-1-1 BAE PROPERTY.GPJ

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-JH	Filename	SDF(939).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-01	Date and Time	5/19/2016 3:02:52 PM	Maximum Depth	50.52 ft
EST GW Depth During Test		11.50 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 (*)

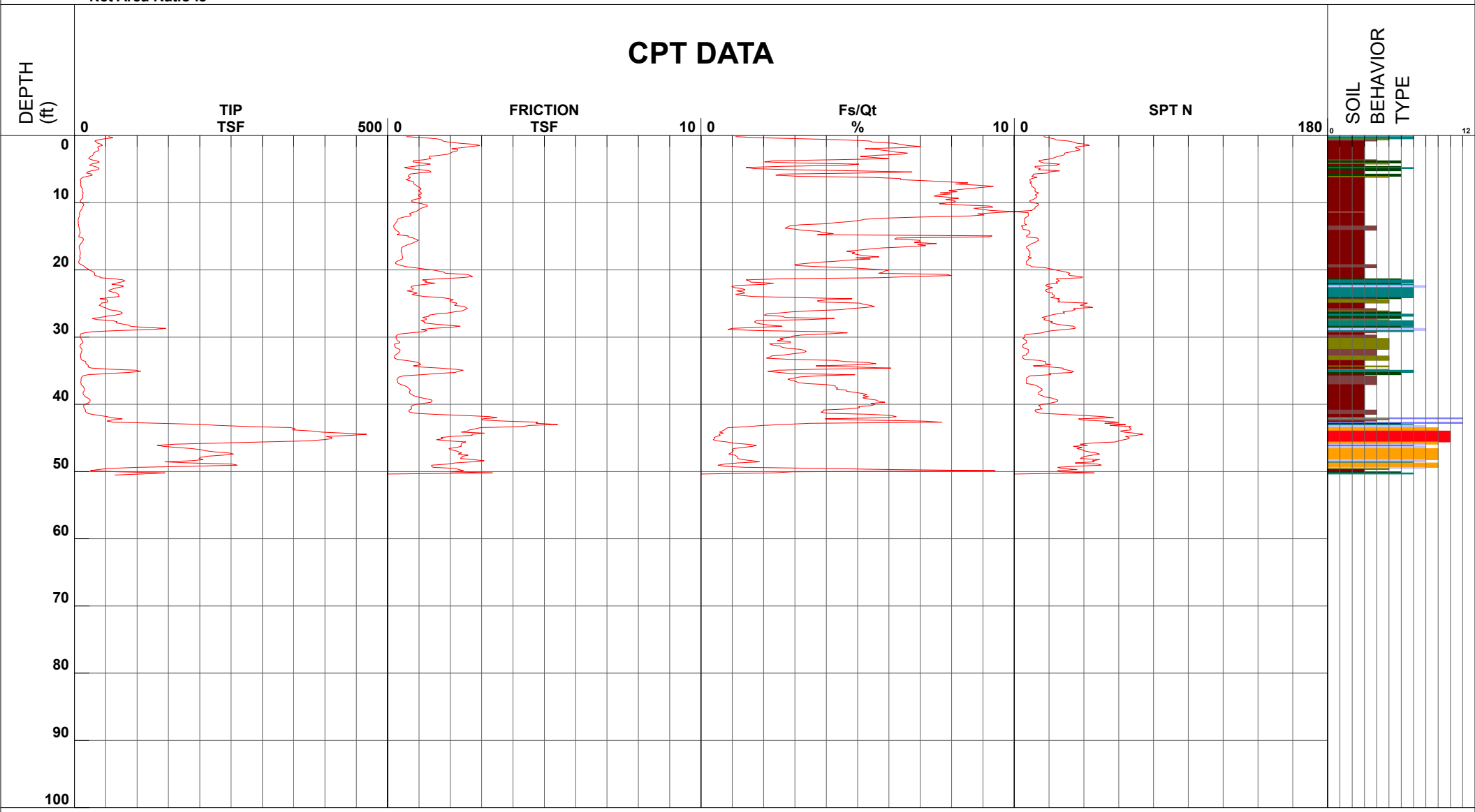
Cone Size 10cm squared

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

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-JH	Filename	SDF(934).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-02	Date and Time	5/19/2016 10:04:40 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		11.20 ft			

Net Area Ratio .8



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

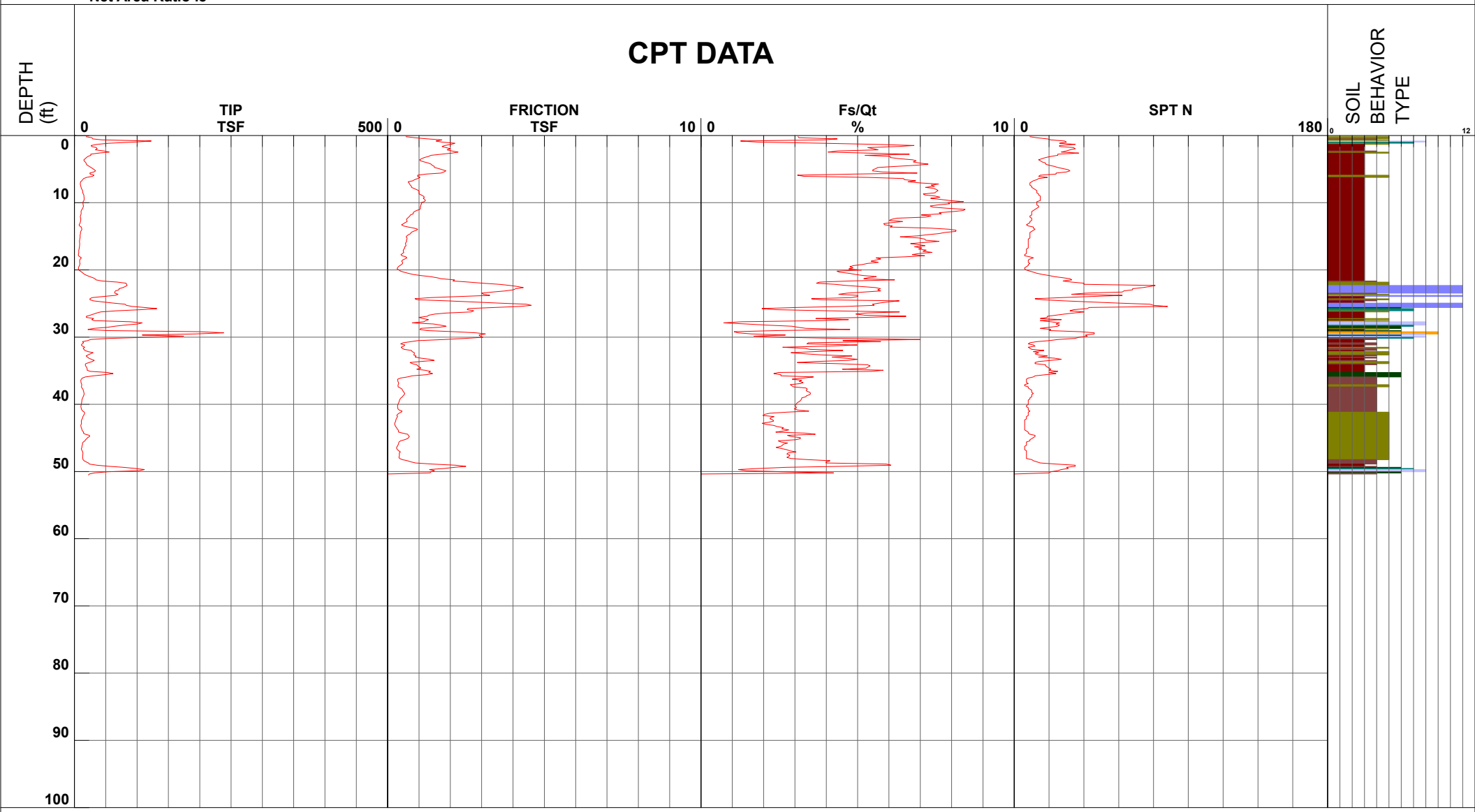
Cone Size 10cm squared Mixed-use S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-JH	Filename	SDF(935).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-03	Date and Time	5/19/2016 10:58:43 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		10.00 ft			

Net Area Ratio .8

CPT DATA



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

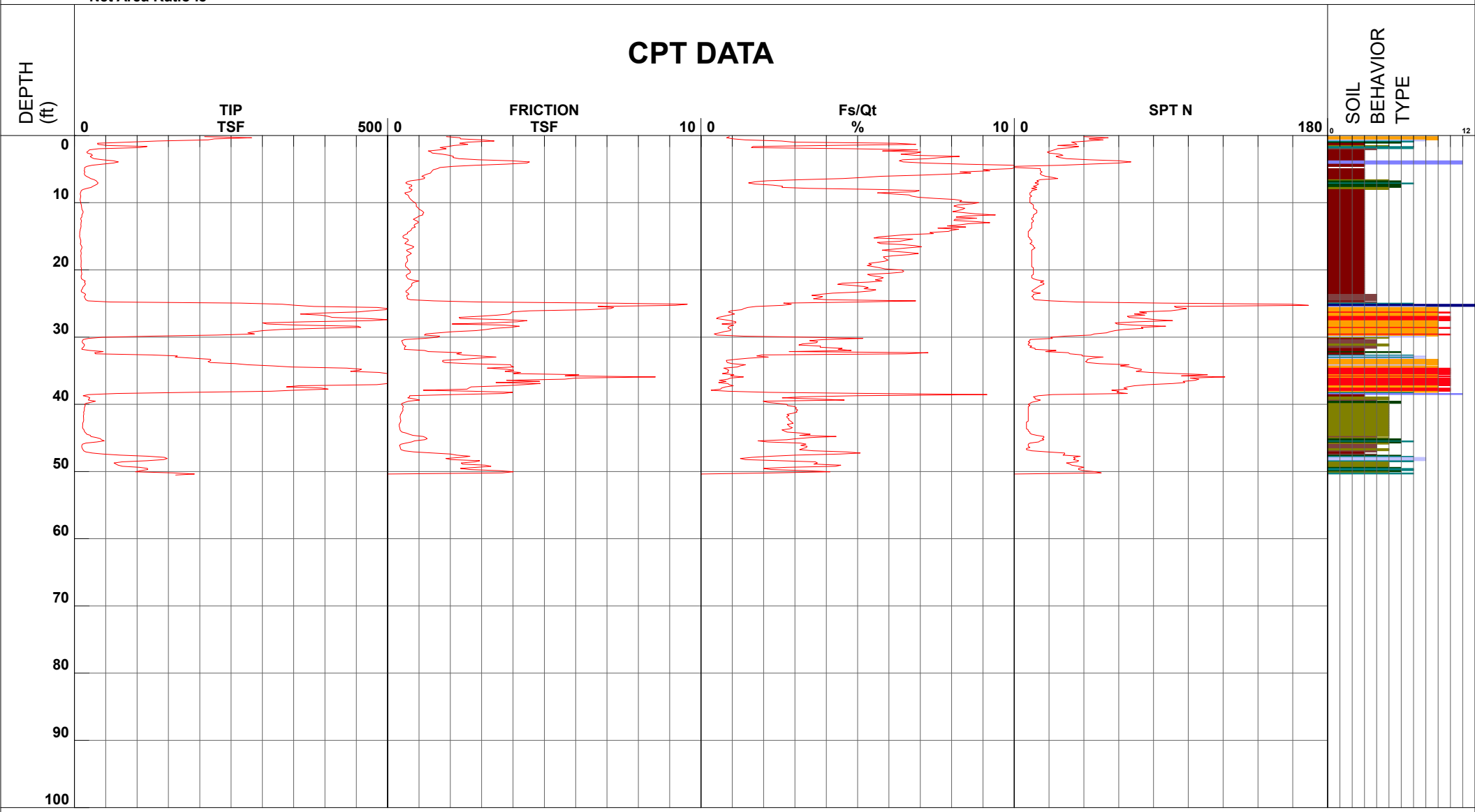
Cone Size 10cm squared

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

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-JH	Filename	SDF(936).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-04	Date and Time	5/19/2016 11:43:43 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		10.00 ft			

Net Area Ratio .8



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

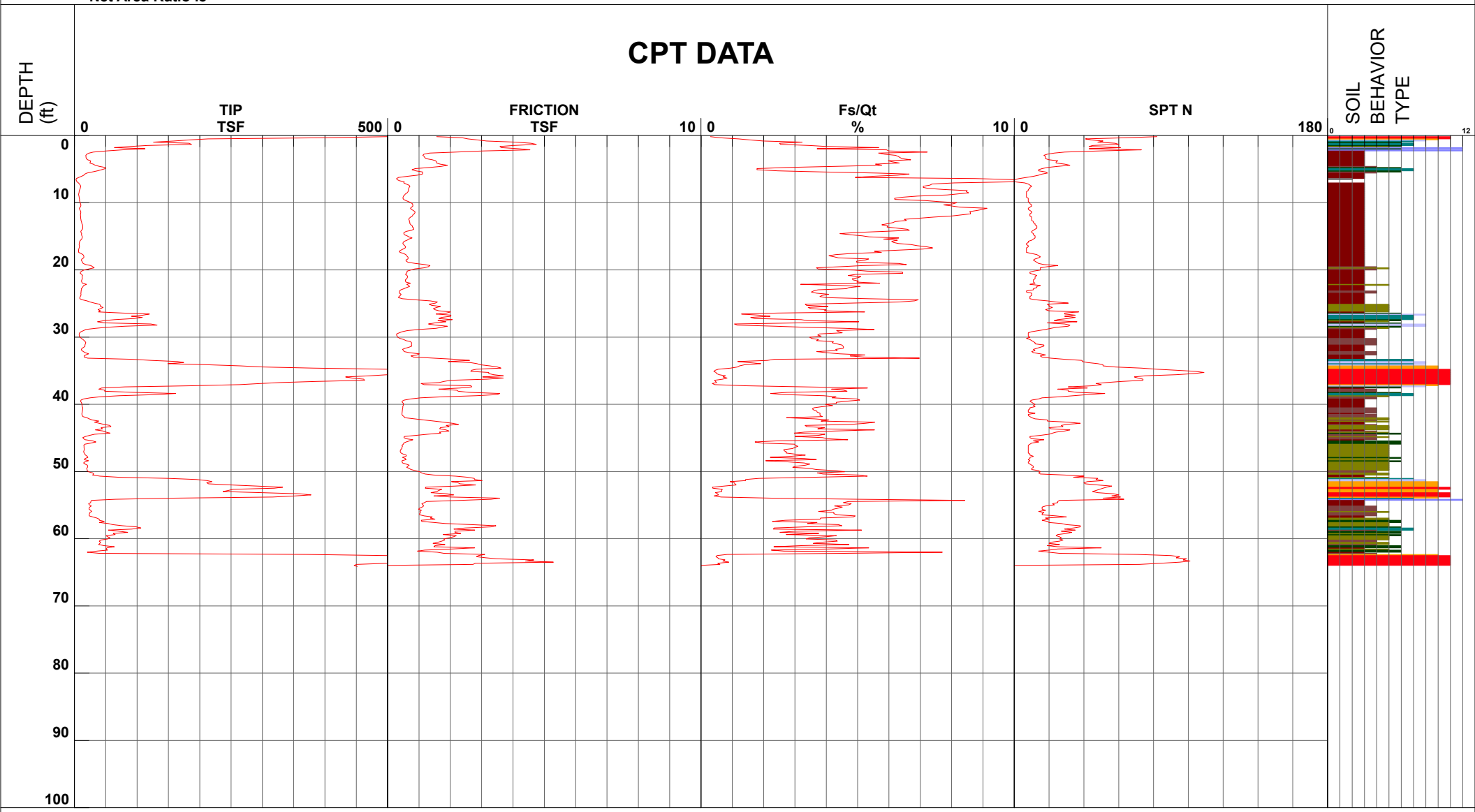
Cone Size 10cm squared

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

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-JH	Filename	SDF(937).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-05	Date and Time	5/19/2016 12:35:56 PM	Maximum Depth	64.14 ft
EST GW Depth During Test		10.30 ft			

Net Area Ratio .8



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

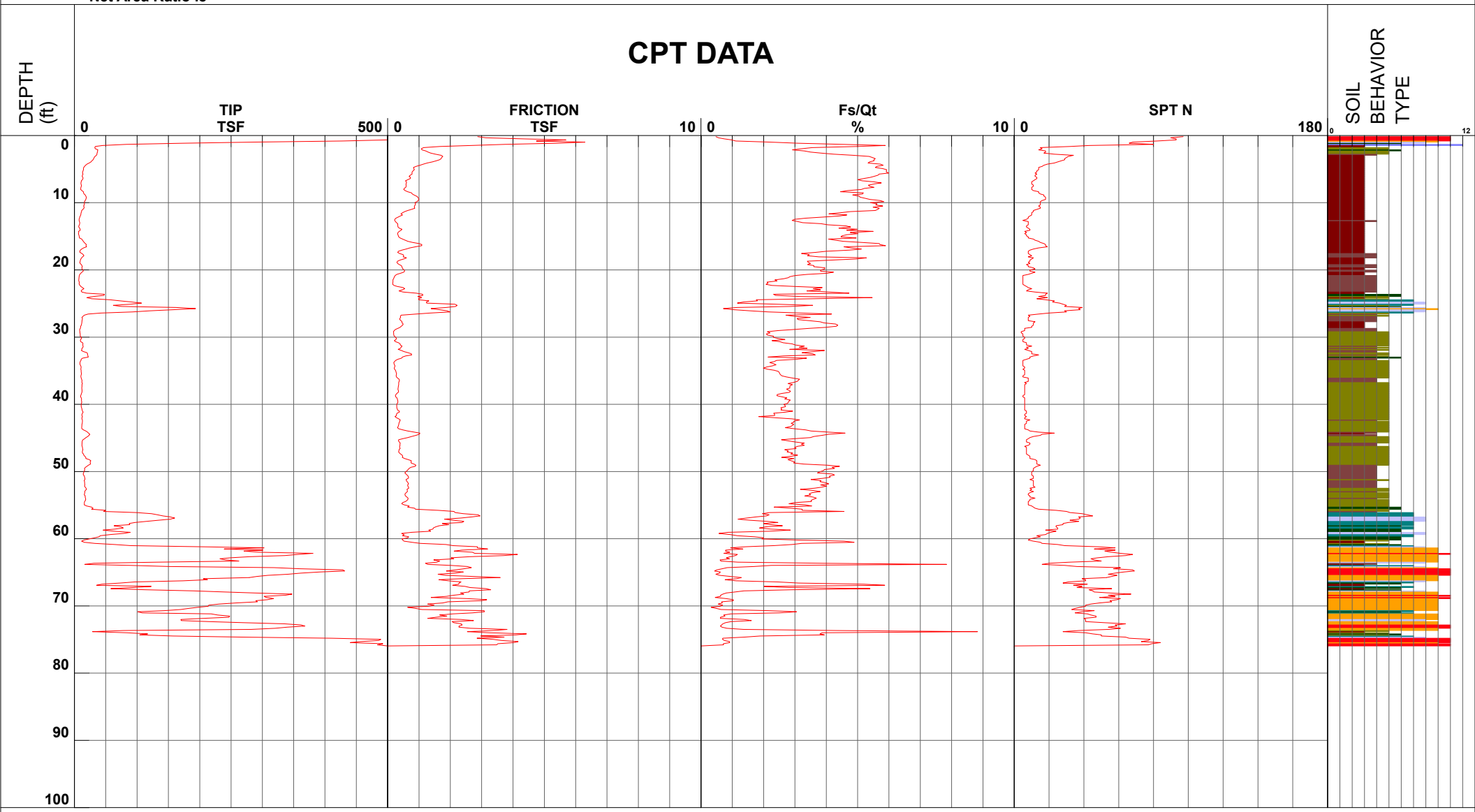
Cone Size 10cm squared

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

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-SF	Filename	SDF(941).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-06	Date and Time	5/20/2016 8:40:09 AM	Maximum Depth	76.11 ft
EST GW Depth During Test	8.60 ft				

Net Area Ratio .8



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

Cone Size 10cm squared

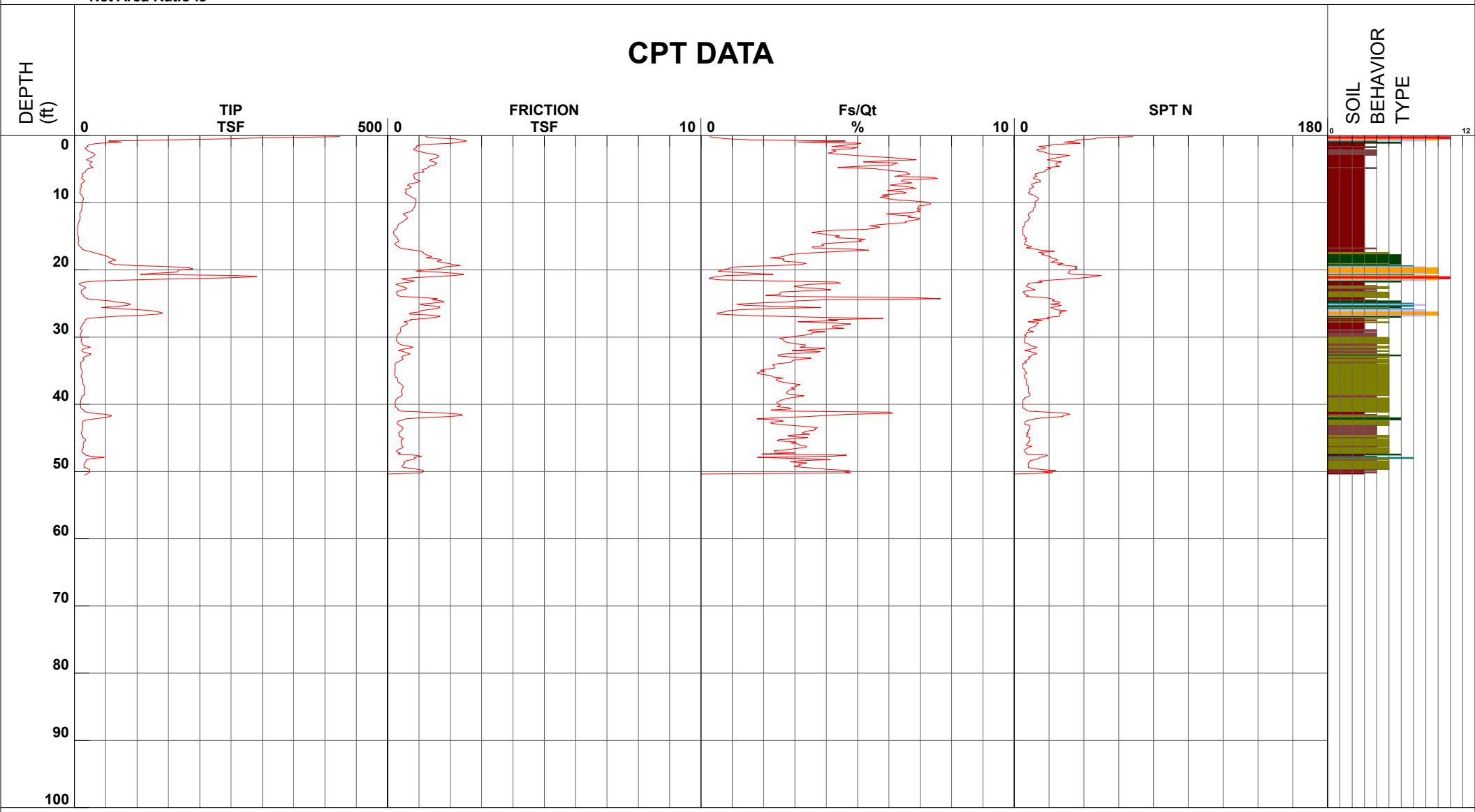
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-SF	Filename	SDF(940).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-07	Date and Time	5/20/2016 7:49:15 AM	Maximum Depth	50.52 ft
EST GW Depth During Test	13.80 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 (*)

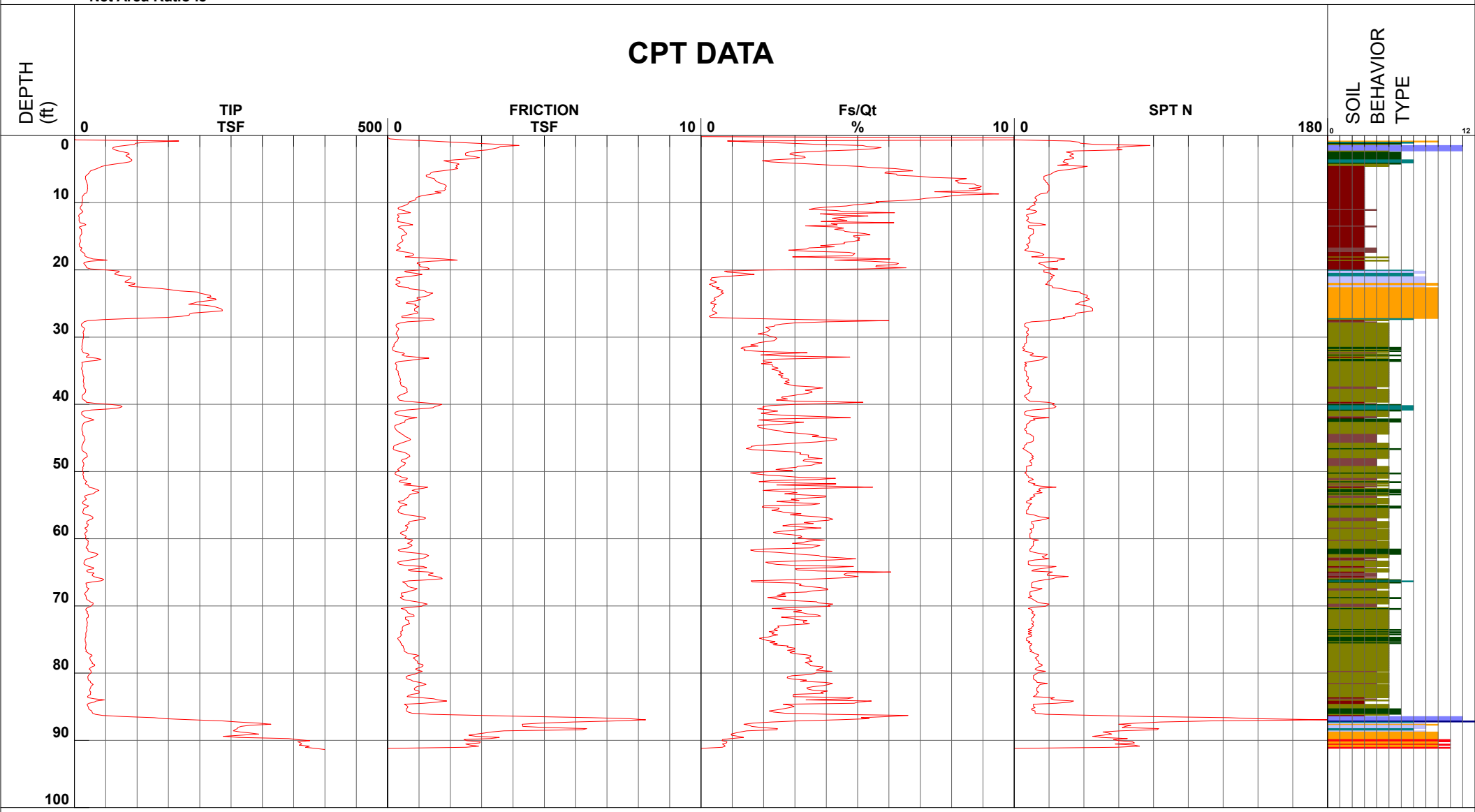
Cone Size 10cm squared

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

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-JH	Filename	SDF(933).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-08	Date and Time	5/19/2016 8:33:17 AM	Maximum Depth	91.37 ft
EST GW Depth During Test	9.80 ft				

Net Area Ratio .8



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

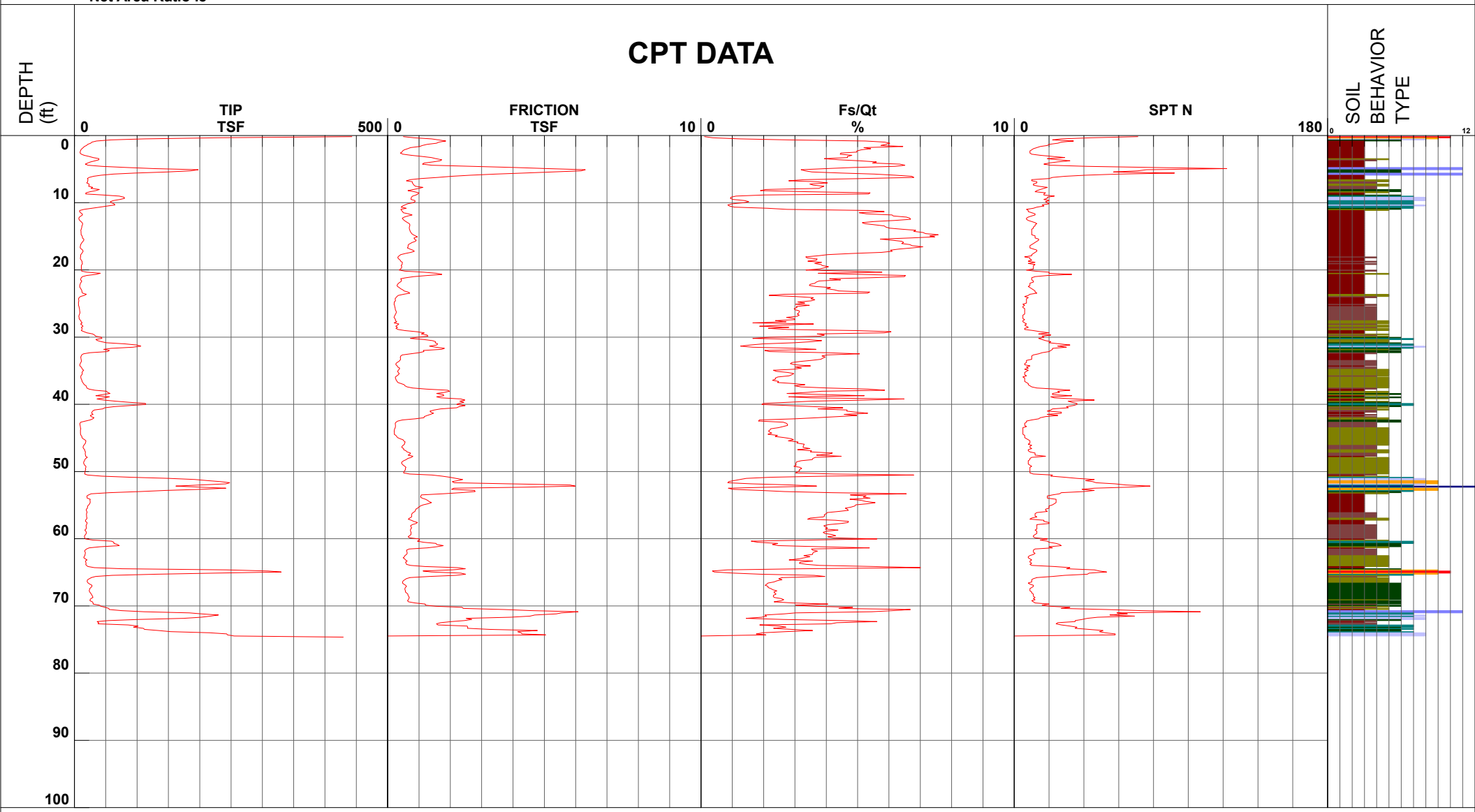
Cone Size 10cm squared

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

Cornerstone Earth Group

Project	Coleman and Brokaw Res. Mixed-use	Operator	BH-JH	Filename	SDF(938).cpt
Job Number	902-1-1	Cone Number	DDG1350	GPS	
Hole Number	CPT-09	Date and Time	5/19/2016 1:56:55 PM	Maximum Depth	74.64 ft
EST GW Depth During Test	11.90 ft				

Net Area Ratio .8



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

Cone Size 10cm squared

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

APPENDIX B: 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 59 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 47 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.

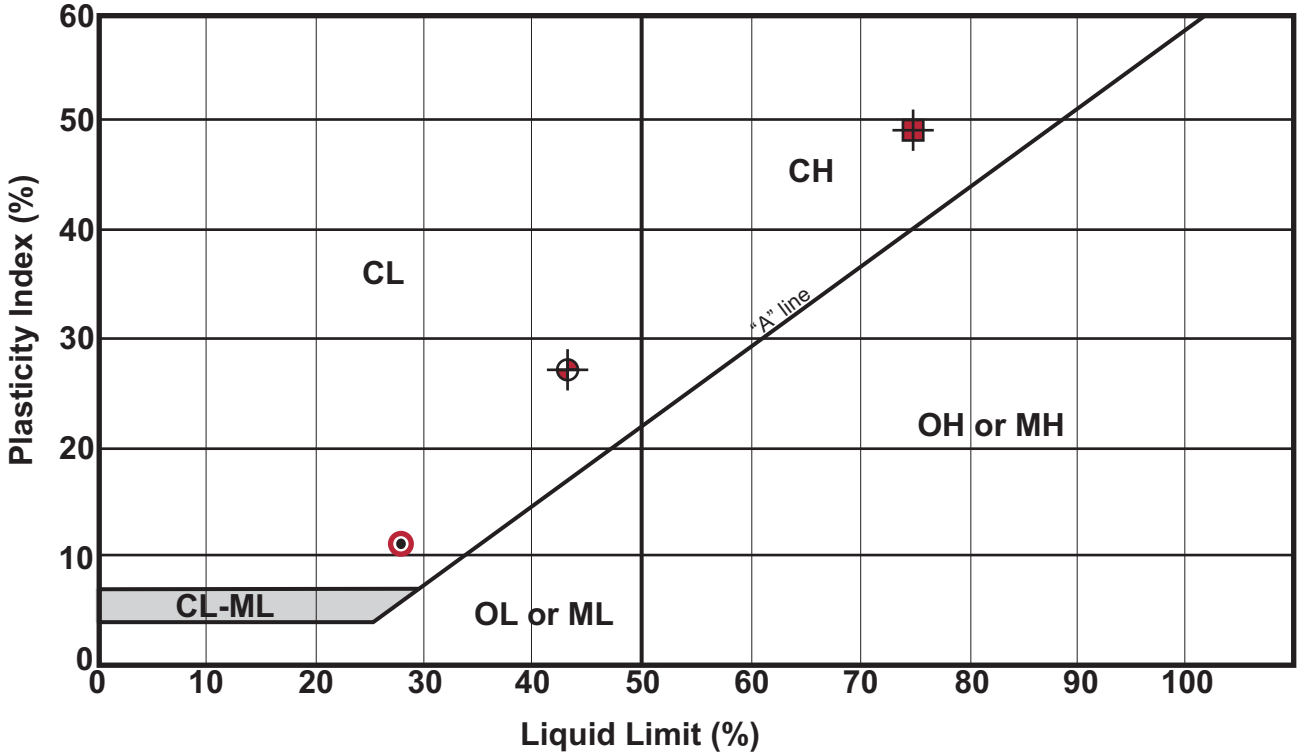
Plasticity Index: Three Plasticity Index determination (ASTM D4318) was performed on a sample of the subsurface soil to measure the range of water contents over which this material exhibits plasticity. The Plasticity Index was used to classify the soil in accordance with the Unified Soil Classification System and to evaluate the soil expansion potential. Results of this test are shown on the boring log at the appropriate sample depth.

Undrained-Unconsolidated Triaxial Shear Strength: The undrained shear strength was determined on three 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: Two 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.

Soluble Sulfate: Four soluble sulfate determinations (California Test Method No. 417-Modified) were performed on sample of the subsurface soils to measure the water soluble sulfate content. Results of these tests are attached is this appendix.

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-7	6.0	35	75	26	49	---	Fat Clay (CH)
⊕	EB-9	3.0	20	43	16	27	---	Lean Clay with Sand (CL)
⊙	EB-9	20.0	20	28	17	11	---	Sandy Lean Clay (CL)

CORNERSTONE EARTH GROUP

Plasticity Index Testing Summary

Coleman Avenue and Brokaw Road
Residential Mixed-Use
Santa Clara, CA

Project Number: 902-1-1

Figure Number: Figure B1

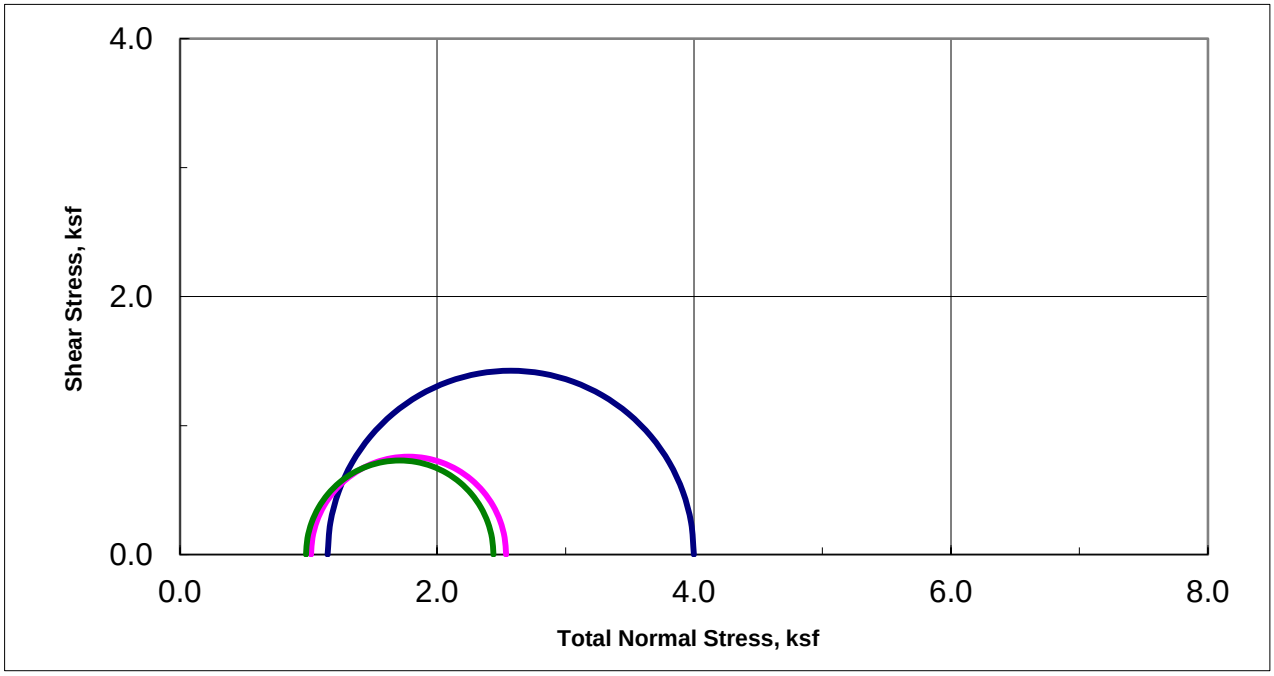
Date: June 2016

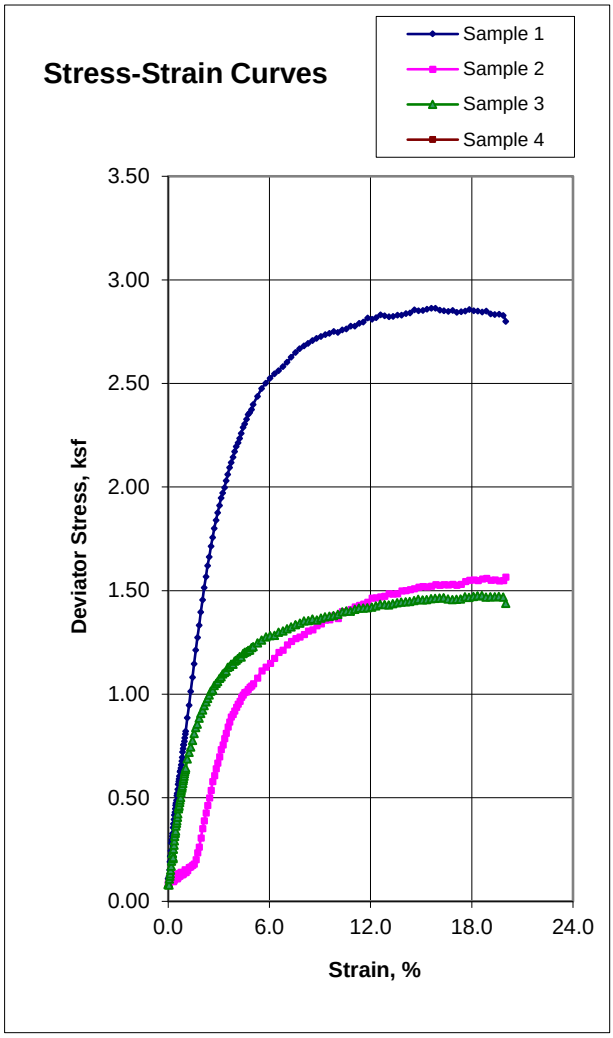
Drawn By: RRN

Cooper Testing Labs, Inc.
937 Commercial Street
Palo Alto, CA 94303

Unconsolidated-Undrained Triaxial Test

ASTM D2850





Sample Data	1	2	3	4
Moisture %	30.8	25.4	27.5	
Dry Den,pcf	91.0	99.9	97.4	
Void Ratio	0.852	0.688	0.763	
Saturation %	97.7	99.7	99.0	
Height in	6.10	6.10	6.09	
Diameter in	2.86	2.86	2.86	
Cell psi	8.0	7.1	6.8	
Strain %	15.00	15.00	15.00	
Deviator, ksf	2.851	1.518	1.459	
Rate %/min	1.00	1.00	1.00	
in/min	0.061	0.061	0.061	
Job No.:	640-994			
Client:	Cornerstone Earth Group			
Project:	BAE Property - 902-1-1			
Boring:	EB-3	EB-6	EB-8	
Sample:	6	4	4	
Depth ft:	18(Tip-5")	16(Tip-5")	14.5(Tip-1")	

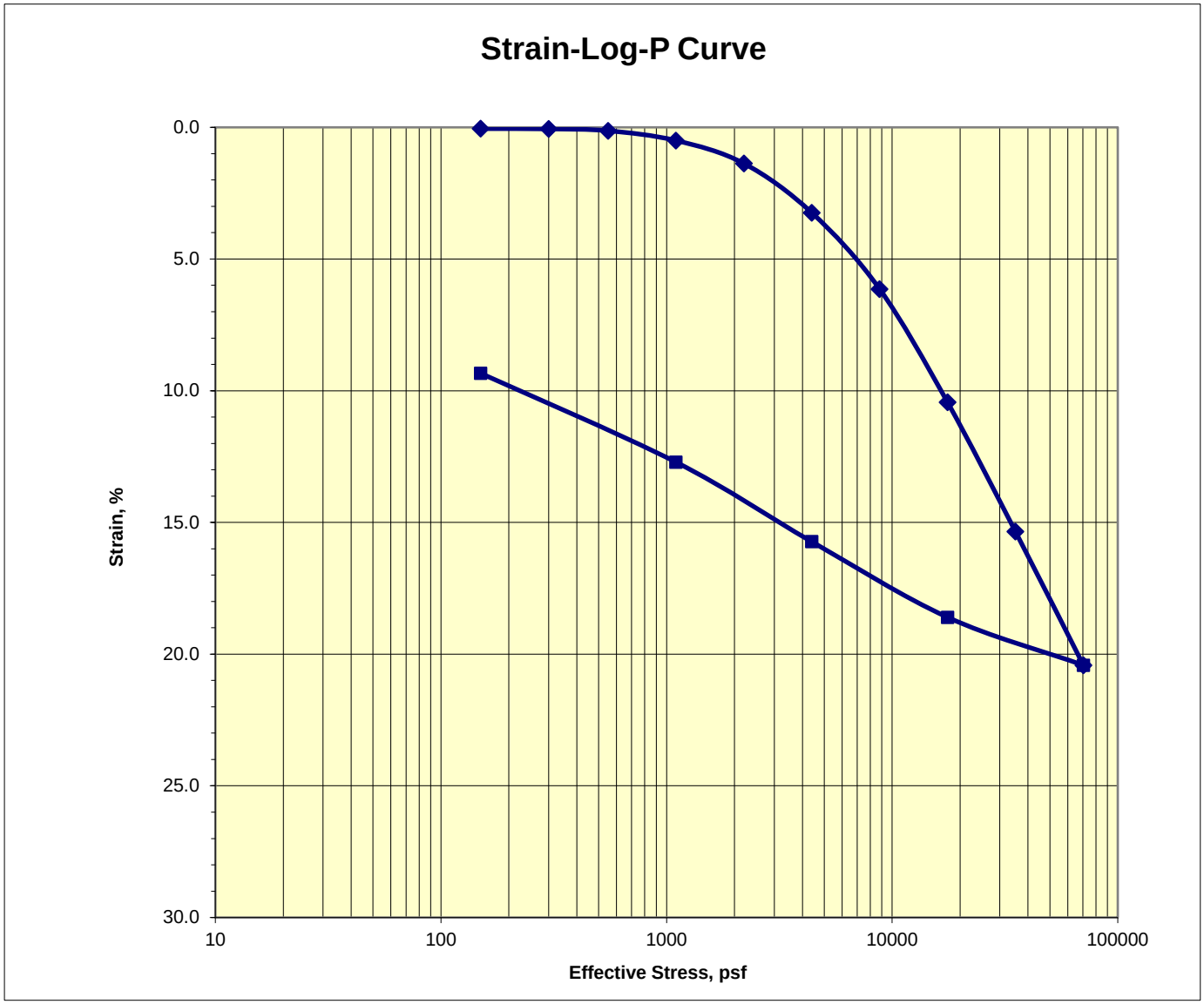
Visual Soil Description	
Sample #	
1	Grayish Brown CLAY w/ Sand
2	Olive Sandy CLAY
3	Olive Sandy CLAY
4	

Remarks:

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

Consolidation Test
ASTM D2435

Job No.:	640-994	**Boring:**	EB-3	**Run By:**	MD
Client:	Cornerstone Earth Group	**Sample:**	6	**Reduced:**	PJ
Project:	BAE Property - 902-1-1	**Depth, ft.:**	18(tip-3")	**Checked:**	PJ/DC
Soil Type:	Grayish Brown CLAY w/ Sand			**Date:**	6/15/2016

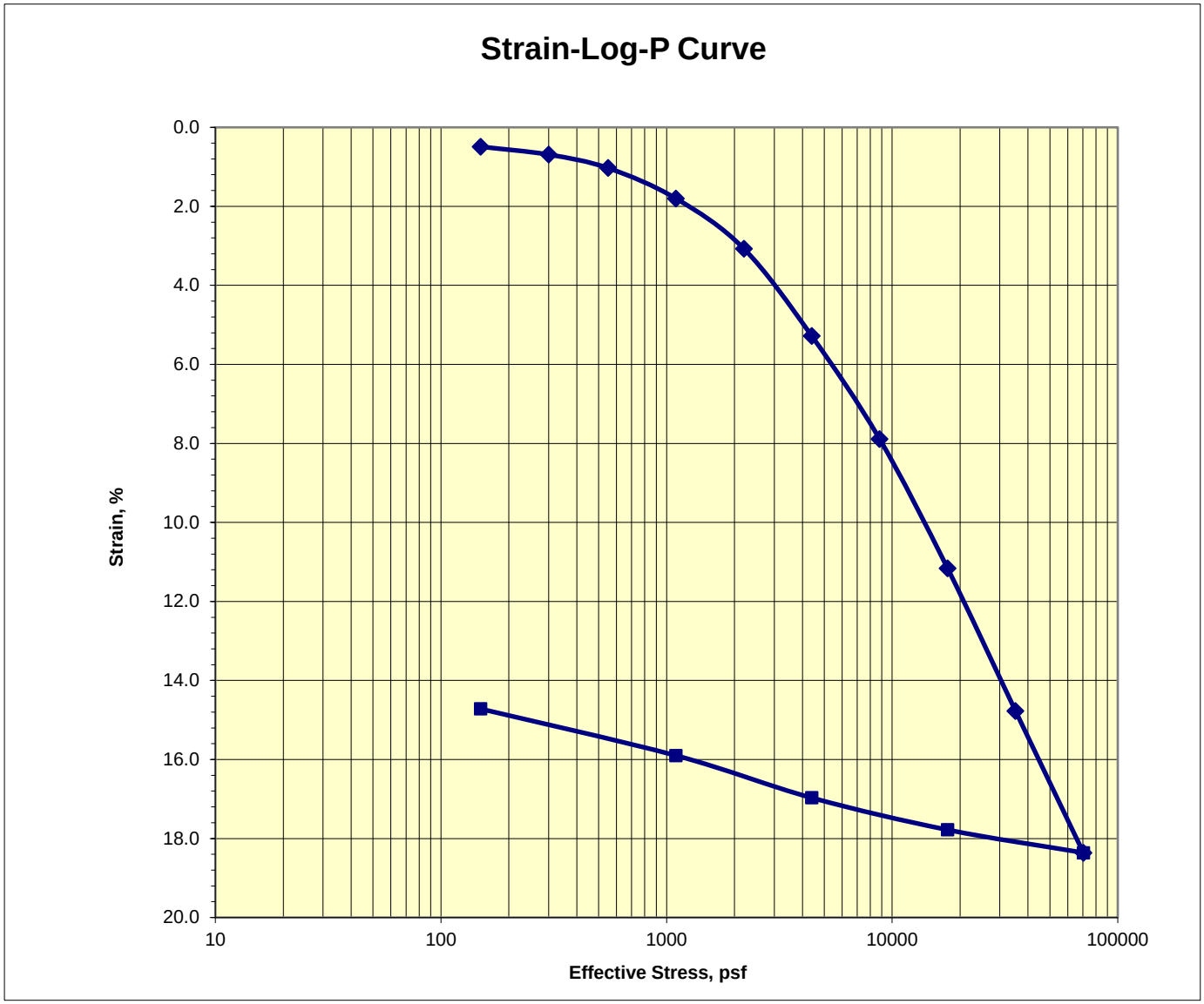


Assumed Gs 2.75	Initial	Final
Moisture %:	32.2	28.0
Dry Density, pcf:	88.1	97.0
Void Ratio:	0.948	0.770
% Saturation:	93.5	100.0

Remarks:

Consolidation Test
ASTM D2435

Job No.:	640-994	**Boring:**	EB-6	**Run By:**	MD
Client:	Cornerstone Earth Group	**Sample:**	4	**Reduced:**	PJ
Project:	BAE Property - 902-1-1	**Depth, ft.:**	16.0(Tip-3")	**Checked:**	PJ/DC
Soil Type:	Olive Clayey SAND			**Date:**	6/17/2016



Assumed Gs 2.7	Initial	Final
Moisture %:	24.6	17.6
Dry Density, pcf:	97.5	114.3
Void Ratio:	0.729	0.475
% Saturation:	90.9	100.0

Remarks:

Corrosivity Tests Summary

CTL # 640-994 **Date:** 6/9/2016 **Tested By:** PJ **Checked:** PJ
Client: Cornerstone Earth Group **Project:** BAE Property **Proj. No:** 902-1-1
Remarks:

Sample Location or ID			Resistivity @ 15.5 °C (Ohm-cm)			Chloride	Sulfate		pH	ORP (Redox)		Sulfide	Moisture	
			As Rec.	Min	Sat.	mg/kg	mg/kg	%				Qualitative	At Test	Soil Visual Description
						Dry Wt.	Dry Wt.	Dry Wt.		E_H (mv)	At Test	by Lead	%	
Boring	Sample, No.	Depth, ft.	ASTM G57	Cal 643	ASTM G57	ASTM D4327	ASTM D4327	ASTM D4327	ASTM G51	ASTM G200	Temp °C	Acetate Paper	ASTM D2216	
EB-3	2B	4.0	-	-	1,900	16	78	0.0078	7.8	-	-	-	20.3	Black Sandy CLAY
EB-6	1B	2.0	-	-	2,285	6	142	0.0142	7.9	-	-	-	13.4	Olive Sandy CLAY
EB-7	1B	2.0	-	-	2,916	6	98	0.0098	8.2	-	-	-	17.6	Black Sandy CLAY
EB-9	2A	5.5	-	-	2,027	5	93	0.0093	7.8	-	-	-	20.7	Olive Sandy CLAY

APPENDIX C: SITE CORROSIVITY EVALUATION

JDH CORROSION CONSULTANTS REPORT DATED JULY 11, 2016.

July 11, 2016

Cornerstone Earth Group
1259 Oakmead Parkway
Sunnyvale, California 94085

Attention: **Ms. Maura F. Ruffatto, P.E.**
Project Engineer

Subject: **Site Corrosivity Evaluation**
Coleman & Brokaw Residential Mixed Use
Santa Clara, CA
Job #: 902-1-1

Dear Maura,

In accordance with your request, we have reviewed the laboratory soils data for the above referenced project site. Our evaluation of these results and our corresponding recommendations for corrosion control for the above referenced project foundations and buried site utilities are presented herein for your consideration.

Soil Testing & Analysis

Soil Chemical Analysis

Four (4) soil samples from the project site were chemically analyzed for corrosivity by ***Cooper Testing Laboratories***. Each sample was analyzed for chloride and sulfate concentration, pH, resistivity at 100% saturation and moisture percentage. The test results are presented in Cooper Testing Laboratories *Corrosivity Test Summary* dated 6/9/2016. The results of the chemical analysis were as follows:

Soil Laboratory Analysis

Chemical Analysis	Range of Results	Corrosion Classification*
Chlorides	5 – 16 mg/kg	Non-corrosive*
Sulfates	78 – 142 mg/kg	Non-corrosive**
pH	7.8 – 8.2	Non-corrosive *
Moisture (%)	13.4 – 20.7 %	Not-applicable
Resistivity at 100% Saturation	1,900 – 2,916 ohm-cm	**Corrosive to Moderately Corrosive***

* With respect to bare steel or ductile iron.
** With respect to mortar coated steel

Discussion

Reinforced Concrete Foundations

Due to the low levels of water-soluble sulfates found in these soils, there is no special requirement for sulfate resistant concrete to be used at this site. The type of cement used should be in accordance with California Building Code (CBC) for soils which have less than 0.10 percent by weight of water soluble sulfate (SO_4) in soil and the minimum depth of cover for the reinforcing steel should be as specified in CBC as well.

Underground Metallic Pipelines

The soils at the project site are generally considered to be "corrosive" to ductile/cast iron, steel and dielectric coated steel based on the saturated resistivity measurements. Therefore, special requirements for corrosion control are required for buried metallic utilities at this site depending upon the critical nature of the piping. Pressure piping systems such as domestic and fire water should be provided with appropriate coating systems and cathodic protection, where warranted. In addition, all underground pipelines should be electrically isolated from above grade structures, reinforced concrete structures and copper lines in order to avoid potential galvanic corrosion problems.

LIMITATIONS

The conclusions and recommendations contained in this report are based on the information and assumptions referenced herein. All services provided herein were performed by persons who are experienced and skilled in providing these types of services and in accordance with the standards of workmanship in this profession. No other warrantees or guarantees, expressed or implied, is provided.

We thank you for the opportunity to be of service to ***Cornerstone Earth Group*** on this project and trust that you find the enclosed information satisfactory. If you have any questions, or if we can be of any additional assistance, please feel free to contact us at (925) 927-6630.

Respectfully submitted,

Brendon Hurley

Brendon Hurley
JDH Corrosion Consultants, Inc.
Field Technician

Mohammed Ali

Mohammed Ali, P.E.
JDH Corrosion Consultants, Inc.
Principal

REGISTERED PROFESSIONAL ENGINEER
MOHAMMED ALI
No. CR 1035
Exp. June 30, 2017
CORROSION
STATE OF CALIFORNIA

CC: File 16148

APPENDIX D: LIQUEFACTION ANALYSES CALCULATIONS

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	509.420	2.460	20.0	20.0	4952.502	0.483	0.93		Unsaturated	0.0			481.49	1.70	818.54	818.54	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	594.670	4.570	41.3	41.3	4025.512	0.769	1.11		Unsaturated	0.0			562.07	1.70	955.52	955.52	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	484.670	6.430	61.3	61.3	2692.389	1.327	1.34		Unsaturated	0.0			458.10	1.70	778.77	778.77	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	385.690	7.840	82.5	82.5	1846.023	2.033	1.54		Unsaturated	0.0			364.55	1.70	619.73	619.73	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	261.470	8.100	102.5	102.5	1122.657	3.098	1.76		Unsaturated	4.0			247.14	1.70	420.13	420.17	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	167.730	6.510	122.5	122.5	658.652	3.883	1.92		Unsaturated	16.8			158.53	1.70	269.51	315.68	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	144.200	7.380	143.8	143.8	522.657	5.120	2.07		Unsaturated	28.6			136.29	1.70	231.70	311.15	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	127.090	7.680	163.8	163.8	431.532	6.047	2.17		Unsaturated	36.5			120.12	1.70	204.21	291.17	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	152.620	7.010	185.0	185.0	487.567	4.596	2.04		Unsaturated	26.1			144.25	1.70	245.23	321.04	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	184.290	7.160	205.0	205.0	559.314	3.887	1.95		Unsaturated	18.9			174.19	1.70	296.12	354.76	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	181.980	6.790	225.0	225.0	527.152	3.733	1.94		Unsaturated	18.4			172.00	1.70	292.41	348.23	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	171.860	5.620	246.3	246.3	475.825	3.272	1.91		Unsaturated	15.6			162.44	1.70	276.15	316.98	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	123.380	5.450	266.3	266.3	328.400	4.422	2.10		Unsaturated	30.6			116.62	1.70	198.25	274.86	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	78.990	4.770	287.5	287.5	202.178	6.050	2.32		Unsaturated	48.3			74.66	1.70	126.92	205.52	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	66.760	3.780	307.5	307.5	165.145	5.675	2.34		Unsaturated	50.0			63.10	1.70	107.27	181.69	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	65.840	3.670	327.5	327.5	157.788	5.588	2.34		Unsaturated	50.4			62.23	1.70	105.79	180.03	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	70.400	3.590	348.8	348.8	163.497	5.112	2.30		Unsaturated	47.1			66.54	1.70	113.12	187.45	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	74.260	3.710	368.8	368.8	167.719	5.008	2.29		Unsaturated	46.1			70.19	1.70	119.32	194.57	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	76.210	4.090	390.0	390.0	167.355	5.381	2.31		Unsaturated	48.2			72.03	1.70	122.45	199.85	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	82.500	4.630	410.0	410.0	176.707	5.626	2.32		Unsaturated	48.5			77.98	1.68	130.88	210.67	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	86.720	5.170	430.0	430.0	181.376	5.977	2.34		Unsaturated	49.8			81.97	1.64	134.18	215.61	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	87.670	5.270	451.3	451.3	178.976	6.027	2.34		Unsaturated	50.3			82.86	1.61	133.72	215.31	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	81.170	4.710	471.3	471.3	162.099	5.820	2.35		Unsaturated	51.1			76.72	1.63	124.75	204.40	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	70.000	3.950	492.5	492.5	136.658	5.663	2.38		Unsaturated	53.6			66.16	1.66	109.83	186.69	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	64.200	3.430	512.5	512.5	122.807	5.364	2.39		Unsaturated	54.1			60.68	1.67	101.46	176.30	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	61.670	3.090	533.8	533.8	115.556	5.032	2.38		Unsaturated	53.6			58.29	1.67	97.16	170.59	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	52.470	2.520	553.8	553.8	96.434	4.828	2.41		Unsaturated	56.2			49.59	1.70	84.20	155.17	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	54.260	2.210	573.8	573.8	97.969	4.095	2.35		Unsaturated	51.4			51.29	1.67	85.85	155.24	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	51.970	2.040	595.0	595.0	92.103	3.948	2.36		Unsaturated	51.7			49.12	1.67	81.87	150.37	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	51.020	1.860	615.0	615.0	88.910	3.668	2.34		Unsaturated	50.6			48.22	1.66	79.82	147.24	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	48.670	1.900	636.3	636.3	83.343	3.930	2.39		Unsaturated	53.9			46.00	1.65	75.68	143.41	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	51.800	1.700	656.3	656.3	87.359	3.303	2.32		Unsaturated	48.2			48.96	1.62	79.22	145.33	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	51.380	1.840	676.3	676.3	85.339	3.605	2.35		Unsaturated	51.0			48.56	1.60	77.70	144.77	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	70.700	2.250	697.5	697.5	115.817	3.198	2.23		Unsaturated	41.0			66.82	1.51	101.23	168.40	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	83.980	2.680	717.5	717.5	135.731	3.205	2.18		Unsaturated	37.7			79.38	1.46	116.10	183.93	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	89.030	2.760	738.8	738.8	141.825	3.113	2.16		Unsaturated	35.9			84.15	1.44	121.04	188.28	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	92.210	2.870	758.8	758.8	144.947	3.125	2.16		Unsaturated	35.6			87.16	1.42	123.70	191.17	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	99.740	3.230	778.8	778.8	154.790	3.251	2.15		Unsaturated	35.3			94.27	1.39	131.07	199.89	1.00	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	106.410	3.770	800.0	800.0	162.957	3.556	2.17		Unsaturated	36.8			100.58	1.36	137.03	208.84	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	104.990	4.140	820.0	820.0	158.787	3.959	2.22		Unsaturated	40.3			99.23	1.35	134.15	208.76	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	96.310	4.240	841.3	841.3	143.741	4.422	2.28		Unsaturated	45.5			91.03	1.36	123.46	199.38	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	85.160	3.990	861.3	861.3	125.528	4.709	2.34		Unsaturated	50.0			80.49	1.37	110.20	185.39	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	73.390	3.540	881.3	881.3	106.843	4.853	2.39		Unsaturated	54.2			69.37	1.39	96.13	169.55	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	62.370	3.290	902.5	902.5	89.613	5.313	2.47		Unsaturated	60.4			58.95	1.40	82.60	154.60	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	60.810	3.160	922.5	922.5	86.389	5.236	2.47		Unsaturated	60.8			57.48	1.39	80.16	151.60	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	65.770	2.880	943.8	943.8	92.415	4.411	2.40		Unsaturated	54.7			62.16	1.37	85.41	156.10	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.710	69.610	2.700	963.8	963.8	96.815	3.906	2.34		Unsaturated	50.4			65.79	1.36	89.31	159.14	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.870	71.620	2.880	983.8	983.8	98.599	4.049	2.35		Unsaturated	50.9			67.69	1.34	90.91	161.44	0.99	0.322	1.100	n.a.	n.a.	n.a.	0.00	0.00
8.040	69.300	3.120	1005.0	1005.0	94.354	4.535	2.40		Sand	55.0	65.5		65.50	1.34	87.50	158.89	0.99	0.323	1.100	0.360	0.704	2.18	0.00	0.00
8.200	61.350	2.990	1025.0	1025.0	82.619	4.915	2.46		Sand	60.0	65.5		65.50	1.32	86.74	159.79	0.99	0.326	1.100	0.369	0.727	2.23	0.00	0.00
8.370	52.050	2.740	1046.3	1046.3	69.261	5.318	2.54		Sand	66.0	65.5		65.50	1.31	85.98	160.62	0.99	0.329	1.100	0.378	0.748	2.27	0.00	0.00
8.530	44.570	2.340	1066.3	1066.3	58.635	5.314	2.58		Sand	69.8	65.5		65.50	1.30	85.34	160.76	0.99	0.332	1.100	0.379	0.752	2.26	0.00	0.00
8.690	40.580	2.540	1086.3	1086.3	60.351	6.344	2.64		Mixed	73.8	65.5		65.50	1.29	84.72	160.88	0.99	0.335	1.100	0.381	0.755	2.25	0.00	0.00
8.860	39.410	2.460	1107.5	1107.5	57.782	6.331	2.65		Mixed	74.7	65.5		65.50	1.28	84.13	160.32	0.99	0.338	1.100	0.375	0.740	2.19	0.00	0.00
9.020	34.530	2.180	1127.5	1127.5	60.251	6.418	2.64		Clay	74.2			32.64	1.18	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	26.180	1.790	1148.8	1148.8	44.580	6.991	2.75		Clay	83.2			24.74	1.17	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	18.720	1.470	1168.8	1168.8	31.034	8.106	2.91		Clay	95.5			17.69	1.17	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	15.610	1.340	1188.8	1188.8	25.263	8.924	3.00		Clay	100.0			14.75	1.16	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	14.430	1.210	1210.0	1210.0	22.851	8.752	3.02		Clay	100.0			13.64	1.16	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	9.020	1.030	1230.0	1230.0	13.667	12.255	3.28		Clay	100.0			8.53	1.15	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	10.740	1.070	1251.2	1250.6	16.176	10.579	3.19		Clay	100.0			10.15	1.15	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	15.030	1.230	1270.4	1259.8	22.853	8.545	3.01		Clay	100.0			14.21	1.15	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	16.060	1.350	1289.6	1269.0	24.295	8.758	3.00		Clay	100.0			15.18	1.14	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	16.120	1.400	1310.0	1278.8	24.187	9.053	3.02		Clay	100.0			15.24	1.14	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.660	16.190	1.460	1329.2	1288.0	24.107	9.404	3.03		Clay	100.0			15.30	1.14	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	17.540	1.520	1349.6	1297.8	25.990	9.013	2.99		Clay	100.0			16.58	1.14	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	19.240	1.670	1368.8	1307.0	28.394	9.000	2.97		Clay	100.0			18.19	1.14	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	19.750	1.830	1388.0	1316.2	28.955	9.603	2.98		Clay	100.0			18.67	1.13	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	21.720	1.960	1408.4	1326.0	31.697	9.326	2.94		Clay	98.6			20.53	1.13	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	26.690	2.210	1427.6	1335.2	38.908	8.508	2.86		Clay	91.5			25.23	1.13	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	32.850	2.490	1448.0	1345.0	47.770	7.751	2.77		Clay	84.4			31.05	1.13	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	35.680	2.630	1467.2	1354.3	51.610	7.526	2.74		Clay	81.8			33.72	1.12	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	35.990	2.710	1487.6	1364.0	51.679	7.689	2.74		Clay	82.4			34.02	1.12	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	32.620	2.640	1506.8	1373.3	46.410	8.285	2.80		Clay	86.8			30.83	1.12	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	27.700	2.420	1526.0	1382.5	38.969	8.984	2.87		Clay	92.9			26.18	1.12	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	22.340	1.990	1546.4	1392.3	30.981	9.227	2.95		Clay	98.8			21.12	1.12	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	16.900	1.610	1565.6	1401.5	23.000	9.989	3.06		Clay	100.0			15.97	1.11	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	13.660	1.300	1586.0	1411.3	18.235	10.103	3.14		Clay	100.0			12.91	1.11	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	11.800	1.090	1605.2	1420.5	15.484	9.911	3.18		Clay	100.0			11.15	1.11	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	9.480	0.930	1624.4	1429.7	12.125	10.729	3.28		Clay	100.0			8.96	1.11	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	8.300	0.800	1644.8	1439.5	10.389	10.699	3.33		Clay	100.0			7.84	1.11	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	7.600	0.740	1664.0	1448.7	9.343	10.934	3.37		Clay	100.0			7.18	1.11	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	7.240	0.710	1684.4	1458.5	8.773	11.098	3.39		Clay	100.0			6.84	1.10	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	7.220	0.700	1703.6	1467.7	8.678	10.992	3.39		Clay	100.0			6.82	1.10	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	7.730	0.690	1722.8	1476.9	9.301	10.046	3.35		Clay	100.0			7.31	1.10	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	8.050	0.750	1743.2	1486.7	9.657	10.448	3.35		Clay	100.0			7.61	1.10	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	8.210	0.730	1762.4	1496.0	9.798	9.961	3.33		Clay	100.0			7.76	1.10	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	8.210	0.700	1782.8	1505.7	9.721	9.565	3.32		Clay	100.0			7.76	1.09	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	8.540	0.670	1802.0	1515.0	10.085	8.771	3.28		Clay	100.0			8.07	1.09	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	8.920	0.710	1821.2	1524.2	10.510	8.865	3.27		Clay	100.0			8.43	1.09	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	8.860	0.690	1841.6	1534.0	10.351	8.691	3.27		Clay	100.0			8.37	1.09	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	8.420	0.660	1860.8	1543.2	9.707	8.812	3.29		Clay	100.0			7.96	1.09	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	8.090	0.590	1881.2	1553.0	9.207	8.252	3.29		Clay	100.0			7.65	1.09	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	7.910	0.590	1900.4	1562.2	8.910	8.477	3.31		Clay	100.0			7.48	1.08	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	7.920	0.610	1919.6	1571.4	8.859	8.764	3.32		Clay	100.0			7.49	1.08	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	8.210	0.640	1940.0	1581.2	9.158	8.840	3.31		Clay	100.0			7.76	1.08	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	8.310	0.560	1959.2	1590.4	9.218	7.639	3.27		Clay	100.0			7.85	1.08	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	8.250	0.480	1979.6	1600.2	9.074	6.611	3.24		Clay	100.0			7.80	1.08	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	7.660	0.440	1998.8	1609.4	8.277	6.606	3.27		Clay	100.0			7.24	1.07	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	7.970	0.560	2018.0	1618.6	8.601	8.045	3.31		Clay	100.0			7.53	1.07	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	9.180	0.620	2038.4	1628.4	10.023	7.597	3.24		Clay	100.0			8.68	1.07	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	9.610	0.610	2057.6	1637.6	10.480	7.109	3.21		Clay	100.0			9.08	1.07	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	8.370	0.490	2078.0	1647.4	8.900	6.684	3.25		Clay	100.0			7.91	1.07	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	7.310	0.450	2097.2	1656.7	7.559	7.187	3.32		Clay	100.0			6.91	1.07	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	7.680	0.480	2116.4	1665.9	7.950	7.249	3.31		Clay	100.0			7.26	1.07	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	8.000	0.570	2136.8	1675.7	8.273	8.223	3.33		Clay	100.0			7.56	1.06	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	7.980	0.580	2156.0	1684.9	8.193	8.403	3.34		Clay	100.0			7.54	1.06	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	6.920	0.540	2176.4	1694.7	6.883	9.260	3.42		Clay	100.0			6.54	1.06	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	7.420	0.510	2195.6	1703.9	7.421	8.067	3.36		Clay	100.0			7.01	1.06	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	8.710	0.590	2214.8	1713.1	8.876	7.761	3.29		Clay	100.0			8.23	1.06	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	8.910	0.550	2235.2	1722.9	9.046	7.058	3.26		Clay	100.0			8.42	1.06	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	9.000	0.480	2254.4	1732.1	9.090	6.097	3.21		Clay	100.0			8.51	1.05	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	9.080	0.500	2274.8	1741.9	9.119	6.295	3.22		Clay	100.0			8.58	1.05	n.a.	n.a.	0.97	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	10.030	0.530	2294.0	1751.1	10.146	5.966	3.17		Clay	100.0			9.48	1.05	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	10.290	0.580	2313.2	1760.3	10.377	6.350	3.18		Clay	100.0			9.73	1.05	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	11.250	0.630	2333.6	1770.1	11.393	6.248	3.14		Clay	100.0			10.63	1.05	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	12.570	0.660	2352.8	1779.3	12.807	5.793	3.08		Clay	100.0			11.88	1.05	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	12.520	0.650	2373.2	1789.1	12.669	5.735	3.09		Clay	100.0			11.83	1.05	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	11.820	0.590	2392.4	1798.4	11.815	5.554	3.10		Clay	100.0			11.17	1.04	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	11.370	0.590	2412.8	1808.1	11.242	5.805	3.13		Clay	100.0			10.75	1.04	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	12.240	0.690	2432.0	1817.4	12.132	6.259	3.12		Clay	100.0			11.57	1.04	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	13.150	0.740	2451.2	1826.6	13.057	6.206	3.10		Clay	100.0			12.43	1.04	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	14.820	0.640	2471.6	1836.4	14.795	4.711	2.98		Clay	100.0			14.01	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	12.450	0.620	2490.8	1845.6	12.142	5.533	3.09		Clay	100.0			11.77	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	11.370	0.620	2511.2	1855.4	10.903	6.130	3.15		Clay	100.0			10.75	1.04	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	12.450	0.640	2530.4	1864.6	11.997	5.722	3.10		Clay	100.0			11.77	1.03	n.a.	n.a.	0.96	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	14.950	0.790	2549.6	1873.8	14.596	5.777	3.04		Clay	100.0			14.13	1.03	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	16.810	0.850	2570.0	1883.6	16.484	5.475	2.99		Clay	100.0			15.89	1.03	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ $s'vc = 1$ atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.160	16.670	0.860	2589.2	1892.8	16.246	5.593	3.00		Clay	100.0			15.76	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	15.890	0.810	2609.6	1902.6	15.332	5.554	3.01		Clay	100.0			15.02	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	13.830	0.690	2628.8	1911.8	13.093	5.513	3.06		Clay	100.0			13.07	1.03	n.a.	n.a.	0.96	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	12.550	0.650	2648.0	1921.0	11.687	5.790	3.11		Clay	100.0			11.86	1.03	n.a.	n.a.	0.96	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	10.440	0.550	2668.4	1930.8	9.432	6.040	3.20		Clay	100.0			9.87	1.02	n.a.	n.a.	0.96	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	10.160	0.410	2687.6	1940.0	9.089	4.651	3.14		Clay	100.0			9.60	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	8.740	0.320	2708.0	1949.8	7.576	4.333	3.19		Clay	100.0			8.26	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	7.860	0.300	2727.2	1959.1	6.632	4.618	3.25		Clay	100.0			7.43	1.02	n.a.	n.a.	0.96	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	8.800	0.300	2746.4	1968.3	7.547	4.039	3.17		Clay	100.0			8.32	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	10.130	0.340	2766.8	1978.1	8.844	3.887	3.11		Clay	100.0			9.57	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	11.160	0.380	2786.0	1987.3	9.830	3.891	3.07		Clay	100.0			10.55	1.02	n.a.	n.a.	0.96	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	11.650	0.480	2806.4	1997.1	10.262	4.684	3.10		Clay	100.0			11.01	1.02	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	11.020	0.510	2825.6	2006.3	9.577	5.309	3.16		Clay	100.0			10.42	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	9.650	0.520	2844.8	2015.5	8.164	6.320	3.26		Clay	100.0			9.12	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	8.560	0.480	2865.2	2025.3	7.038	6.735	3.33		Clay	100.0			8.09	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	7.520	0.430	2884.4	2034.5	5.975	7.075	3.40		Clay	100.0			7.11	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	6.450	0.380	2904.8	2044.3	4.889	7.604	3.49		Clay	100.0			6.10	1.01	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	8.630	0.450	2924.0	2053.5	6.981	6.278	3.31		Clay	100.0			8.16	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	13.400	0.630	2943.2	2062.7	11.566	5.282	3.09		Clay	100.0			12.67	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	13.940	0.680	2963.6	2072.5	12.022	5.458	3.09		Clay	100.0			13.18	1.01	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	12.210	0.660	2982.8	2081.7	10.298	6.158	3.17		Clay	100.0			11.54	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	10.780	0.540	3003.2	2091.5	8.872	5.820	3.21		Clay	100.0			10.19	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	9.260	0.400	3022.4	2100.8	7.377	5.162	3.24		Clay	100.0			8.75	1.00	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	9.130	0.400	3041.6	2110.0	7.213	5.257	3.25		Clay	100.0			8.63	1.00	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	9.600	0.900	3062.0	2119.8	7.613	11.154	3.44		Clay	100.0			9.07	1.00	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	22.010	1.450	3081.2	2129.0	19.229	7.084	3.01		Clay	100.0			20.80	1.00	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	61.000	1.610	3101.6	2138.8	55.890	2.708	2.39		Sand	54.0	148.25		148.25	1.00	147.80	235.17	0.95	0.475	0.997	26.549	58.219	122.58	0.00	0.00
25.590	95.990	1.570	3120.8	2148.0	88.586	1.663	2.10		Sand	30.7	148.25		148.25	1.00	147.56	213.86	0.95	0.475	0.995	4.534	9.931	20.89	0.00	0.00
25.750	115.230	1.690	3140.0	2157.2	106.398	1.487	2.01		Sand	23.4	148.25		148.25	0.99	147.31	199.63	0.95	0.476	0.995	1.851	4.051	8.51	0.00	0.00
25.920	132.860	1.600	3160.4	2167.0	122.614	1.219	1.90		Sand	15.1	148.25		148.25	0.99	146.97	174.26	0.95	0.477	0.995	0.584	1.161	2.44	0.00	0.00
26.080	149.110	1.620	3179.6	2176.2	137.491	1.098	1.83		Sand	9.7	148.25		148.25	0.99	146.61	154.70	0.95	0.477	0.995	0.323	0.554	1.16	0.01	0.01
26.250	151.070	1.520	3200.0	2186.0	138.996	1.017	1.81		Sand	7.6	148.25		148.25	0.99	146.31	149.12	0.94	0.478	0.995	0.283	0.467	0.98	0.01	0.01
26.410	156.850	2.040	3219.2	2195.2	144.058	1.314	1.87		Sand	12.9	148.25		148.25	0.99	146.20	165.49	0.94	0.478	0.993	0.436	0.808	1.69	0.00	0.00
26.570	155.800	2.130	3238.4	2204.4	142.776	1.381	1.89		Sand	14.4			147.26	0.98	145.03	169.63	0.94	0.478	0.992	0.497	0.951	1.99	0.00	0.00
26.740	173.320	2.120	3258.8	2214.2	158.638	1.235	1.83		Sand	9.0			163.82	0.98	161.05	167.46	0.94	0.479	0.992	0.463	0.871	1.82	0.00	0.00
26.900	210.130	1.680	3278.0	2223.4	192.241	0.806	1.64		Sand	0.0			198.61	0.98	195.33	195.33	0.94	0.479	0.988	1.467	3.188	6.65	0.00	0.00
27.070	227.940	2.770	3298.4	2233.2	208.196	1.224	1.74		Sand	2.4			215.44	0.98	211.83	211.83	0.94	0.480	0.984	3.939	8.525	17.76	0.00	0.00
27.230	257.140	2.960	3317.6	2242.4	234.569	1.159	1.69		Sand	0.0			243.04	0.98	239.11	239.11	0.94	0.480	0.983	39.281	84.912	176.78	0.00	0.00
27.400	239.290	2.150	3338.0	2252.2	217.696	0.905	1.63		Sand	0.0			226.17	0.98	221.96	221.96	0.94	0.481	0.981	8.316	17.954	37.34	0.00	0.00
27.560	221.590	3.000	3357.2	2261.5	201.060	1.364	1.79		Sand	6.0			209.44	0.98	205.01	205.88	0.94	0.481	0.981	2.676	5.776	12.00	0.00	0.00
27.720	204.710	3.380	3376.4	2270.7	185.241	1.665	1.88		Sand	13.2			193.49	0.98	189.25	212.14	0.94	0.482	0.979	4.024	8.664	17.99	0.00	0.00
27.890	194.750	3.140	3396.8	2280.5	175.766	1.627	1.88		Sand	13.7			184.07	0.98	179.66	204.23	0.94	0.482	0.979	2.419	5.212	10.81	0.00	0.00
28.050	230.200	2.660	3416.0	2289.7	207.614	1.164	1.73		Sand	1.2			217.58	0.98	212.26	212.26	0.94	0.482	0.976	4.059	8.718	18.07	0.00	0.00
28.220	227.310	2.260	3436.4	2299.5	204.541	1.002	1.68		Sand	0.0			214.85	0.97	209.25	209.25	0.94	0.483	0.976	3.317	7.119	14.74	0.00	0.00
28.380	203.150	2.280	3455.6	2308.7	182.262	1.132	1.76		Sand	3.5			192.01	0.97	186.27	186.28	0.94	0.483	0.980	0.947	2.041	4.22	0.00	0.00
28.540	197.050	2.620	3474.8	2317.9	176.382	1.341	1.82		Sand	8.6			186.25	0.97	180.42	185.99	0.94	0.484	0.979	0.935	2.008	4.15	0.00	0.00
28.710	194.180	2.560	3495.2	2327.7	173.415	1.330	1.82		Sand	8.8			183.53	0.97	177.47	183.51	0.94	0.484	0.979	0.839	1.766	3.65	0.00	0.00
28.870	184.310	2.680	3514.4	2336.9	164.187	1.468	1.87		Sand	12.6			174.21	0.97	168.32	187.71	0.94	0.484	0.977	1.010	2.172	4.48	0.00	0.00
29.040	187.540	2.240	3534.8	2346.7	166.734	1.206	1.80		Sand	7.2			177.26	0.96	170.65	172.99	0.94	0.485	0.980	0.558	1.081	2.23	0.00	0.00
29.200	188.600	2.820	3554.0	2355.9	167.349	1.509	1.87		Sand	12.9			178.26	0.96	171.88	192.57	0.94	0.485	0.974	1.274	2.731	5.63	0.00	0.00
29.360	193.210	3.470	3573.2	2365.1	171.135	1.813	1.93		Sand	17.2			182.62	0.97	176.40	214.21	0.94	0.486	0.967	4.649	9.886	20.36	0.00	0.00
29.530	151.250	2.290	3593.6	2374.9	133.337	1.532	1.95		Sand	18.6			142.96	0.96	137.07	175.09	0.93	0.486	0.977	0.602	1.182	2.43	0.00	0.00
29.690	159.260	2.300	3612.8	2384.1	140.203	1.461	1.92		Sand	16.2	150.53		150.53	0.96	144.13	175.17	0.93	0.486	0.976	0.603	1.185	2.44	0.00	0.00
29.860	142.940	2.320	3633.2	2393.9	125.405	1.644	1.99		Sand	21.9	150.53		150.53	0.96	144.35	192.38	0.93	0.487	0.970	1.263	2.695	5.54	0.00	0.00
30.020	129.550	1.990	3652.4	2403.2	113.280	1.558	2.00		Sand	23.0	150.53		150.53	0.96	144.23	195.06	0.93	0.487	0.968	1.446	3.081	6.33	0.00	0.00
30.180	122.190	1.860	3671.6	2412.4	106.540	1.545	2.02		Sand	24.3	150.53		150.53	0.96	144.12	197.96	0.93	0.487	0.966	1.688	3.588	7.37	0.00	0.00
30.350	104.700	1.520	3692.0	2422.2	90.864	1.478	2.05		Sand	27.3	150.53		150.53	0.96	144.07	203.88	0.93	0.488	0.963	2.368	5.017	10.29	0.00	0.00
30.510	61.840	1.470	3711.2	2431.4	52.891	2.451	2.37		Sand	53.0	150.53		150.53	0.96	144.57	230.55	0.93	0.488	0.958	17.242	36.352	74.52	0.00	0.00
30.680	30.840	1.160	3731.6	2441.2	23.738	4.004	2.78		Clay	85.1			29.15	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	17.530	0.780	3750.8	2450.4	12.777	4.983	3.04		Clay	100.0			16.57	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	13.930	0.500	3770.0	2459.6	9.794	4.151	3.09		Clay	100.0			13.17	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	12.320	0.410	3790.4	2469.4	8.443	3.933	3.12		Clay	100.0			11.64	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	12.310	0.400	3809.6	2478.6	8.396	3.844	3.12		Clay	100.0			11.64	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	11.620	0.360	3830.0	2488.4	7.800	3.709	3.14		Clay	100.0			10.98	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.660	11.620	0.340	3849.2	2497.6	7.764	3.507	3.13		Clay	100.0			10.98	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	11.680	0.320	3868.4	2506.8	7.775	3.283	3.11		Clay	100.0			11.04	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	11.500	0.290	3888.8	2516.6	7.594	3.035	3.10		Clay	100.0			10.87	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	12.240	0.300	3908.0	2525.8	8.145	2.917	3.06		Clay	100.0			11.57	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	13.160	0.300	3928.4	2535.6	8.831	2.680	3.01		Clay	100.0			12.44	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	13.620	0.300	3947.6	2544.8	9.153	2.576	2.99		Clay	100.0			12.87	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	13.960	0.300	3966.8	2554.1	9.378	2.505	2.98		Clay	100.0			13.19	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	13.960	0.290	3987.2	2563.9	9.335	2.423	2.97		Clay	100.0			13.19	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	12.850	0.270	4006.4	2573.1	8.431	2.489	3.01		Clay	100.0			12.15	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	11.810	0.240	4026.8	2582.9	7.586	2.450	3.05		Clay	100.0			11.16	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	11.070	0.210	4046.0	2592.1	6.980	2.321	3.07		Clay	100.0			10.46	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	9.430	0.170	4065.2	2601.3	5.687	2.298	3.14		Clay	100.0			8.91	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	8.940	0.160	4085.6	2611.1	5.283	2.320	3.17		Clay	100.0			8.45	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	9.100	0.140	4104.8	2620.3	5.379	1.986	3.13		Clay	100.0			8.60	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	8.850	0.150	4125.2	2630.1	5.161	2.210	3.17		Clay	100.0			8.36	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	9.520	0.150	4144.4	2639.3	5.644	2.014	3.12		Clay	100.0			9.00	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	10.020	0.170	4163.6	2648.5	5.994	2.142	3.11		Clay	100.0			9.47	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	10.020	0.280	4184.0	2658.3	5.965	3.532	3.22		Clay	100.0			9.47	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	11.740	0.320	4203.2	2667.5	7.226	3.320	3.14		Clay	100.0			11.10	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	15.530	0.450	4223.6	2677.3	10.024	3.354	3.02		Clay	100.0			14.68	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	16.340	0.580	4242.8	2686.5	10.585	4.079	3.05		Clay	100.0			15.44	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	20.510	0.500	4262.0	2695.8	13.635	2.720	2.86		Clay	92.0			19.39	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	24.000	0.390	4282.4	2705.6	16.158	1.784	2.70		Clay	78.9			22.68	0.94	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	17.650	0.260	4301.6	2714.8	11.418	1.678	2.81		Clay	88.0			16.68	0.94	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	11.920	0.190	4322.0	2724.6	7.164	1.947	3.02		Clay	100.0			11.27	0.94	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	9.080	0.170	4341.2	2733.8	5.055	2.460	3.20		Clay	100.0			8.58	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	9.200	0.170	4361.6	2743.6	5.117	2.422	3.19		Clay	100.0			8.70	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	10.070	0.200	4380.8	2752.8	5.725	2.538	3.16		Clay	100.0			9.52	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	11.150	0.200	4400.0	2762.0	6.481	2.235	3.09		Clay	100.0			10.54	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	11.100	0.210	4420.4	2771.8	6.414	2.362	3.10		Clay	100.0			10.49	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	12.180	0.230	4439.6	2781.0	7.163	2.309	3.06		Clay	100.0			11.51	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	13.190	0.250	4460.0	2790.8	7.854	2.281	3.02		Clay	100.0			12.47	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	14.180	0.320	4479.2	2800.0	8.529	2.680	3.03		Clay	100.0			13.40	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	16.010	0.490	4498.4	2809.2	9.797	3.561	3.05		Clay	100.0			15.13	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	20.800	0.720	4518.8	2819.0	13.154	3.883	2.97		Clay	100.0			19.66	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	27.760	0.770	4538.0	2828.2	18.026	3.021	2.79		Clay	86.3			26.24	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	24.150	0.590	4558.4	2838.0	15.413	2.698	2.82		Clay	88.3			22.83	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	15.540	0.380	4577.6	2847.2	9.308	2.868	3.01		Clay	100.0			14.69	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	11.620	0.230	4596.8	2856.5	6.527	2.467	3.11		Clay	100.0			10.98	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	11.190	0.200	4617.2	2866.3	6.197	2.252	3.11		Clay	100.0			10.58	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	10.640	0.200	4636.4	2875.5	5.788	2.403	3.15		Clay	100.0			10.06	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	10.400	0.190	4656.8	2885.3	5.595	2.354	3.15		Clay	100.0			9.83	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	10.200	0.180	4676.0	2894.5	5.432	2.289	3.16		Clay	100.0			9.64	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	9.980	0.160	4695.2	2903.7	5.257	2.096	3.15		Clay	100.0			9.43	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	9.720	0.150	4715.6	2913.5	5.054	2.037	3.16		Clay	100.0			9.19	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	9.800	0.150	4734.8	2922.7	5.086	2.018	3.16		Clay	100.0			9.26	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	9.980	0.160	4755.2	2932.5	5.185	2.105	3.16		Clay	100.0			9.43	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	10.210	0.180	4774.4	2941.7	5.319	2.301	3.17		Clay	100.0			9.65	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	10.630	0.210	4793.6	2950.9	5.580	2.551	3.17		Clay	100.0			10.05	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	11.310	0.230	4814.0	2960.7	6.014	2.583	3.15		Clay	100.0			10.69	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	11.650	0.270	4833.2	2969.9	6.218	2.924	3.16		Clay	100.0			11.01	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	11.870	0.290	4853.6	2979.7	6.338	3.071	3.17		Clay	100.0			11.22	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	12.060	0.290	4872.8	2988.9	6.439	3.013	3.16		Clay	100.0			11.40	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	12.270	0.290	4892.0	2998.2	6.553	2.952	3.15		Clay	100.0			11.60	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	12.170	0.270	4912.4	3008.0	6.459	2.780	3.14		Clay	100.0			11.50	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	11.680	0.260	4931.6	3017.2	6.108	2.822	3.16		Clay	100.0			11.04	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	11.800	0.260	4952.0	3027.0	6.161	2.789	3.16		Clay	100.0			11.15	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	12.090	0.270	4971.2	3036.2	6.327	2.811	3.15		Clay	100.0			11.43	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	12.310	0.270	4990.4	3045.4	6.446	2.751	3.14		Clay	100.0			11.64	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	12.260	0.290	5010.8	3055.2	6.386	2.973	3.16		Clay	100.0			11.59	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	13.170	0.300	5030.0	3064.4	6.954	2.816	3.11		Clay	100.0			12.45	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	13.220	0.290	5050.4	3074.2	6.958	2.712	3.10		Clay	100.0			12.50	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	15.150	0.290	5069.6	3083.4	8.183	2.299	3.01		Clay	100.0			14.32	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	15.360	0.530	5088.8	3092.6	8.288	4.136	3.14		Clay	100.0			14.52	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.160	18.430	0.990	5109.2	3102.4	10.234	6.236	3.18		Clay	100.0			17.42	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	38.640	0.890	5128.4	3111.6	23.188	2.467	2.65		Clay	75.1			36.52	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	24.730	1.030	5148.8	3121.4	14.196	4.649	2.99		Clay	100.0			23.37	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	26.020	0.940	5168.0	3130.6	14.972	4.011	2.93		Clay	97.5			24.59	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	28.030	1.030	5187.2	3139.9	16.202	4.049	2.91		Clay	95.5			26.49	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	28.660	1.120	5207.6	3149.6	16.545	4.298	2.92		Clay	96.3			27.09	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	29.500	1.230	5226.8	3158.9	17.023	4.575	2.92		Clay	96.9			27.88	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	29.380	1.370	5247.2	3168.7	16.888	5.120	2.96		Clay	99.7			27.77	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	29.710	1.510	5266.4	3177.9	17.041	5.577	2.98		Clay	100.0			28.08	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	31.840	1.640	5286.8	3187.7	18.318	5.617	2.96		Clay	99.6			30.09	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	32.580	1.680	5306.0	3196.9	18.723	5.614	2.95		Clay	99.1			30.79	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	30.750	1.570	5325.2	3206.1	17.521	5.590	2.97		Clay	100.0			29.06	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	27.690	1.260	5345.6	3215.9	15.559	5.037	2.98		Clay	100.0			26.17	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	21.920	0.660	5364.8	3225.1	11.930	3.431	2.97		Clay	100.0			20.72	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	16.300	0.510	5385.2	3234.9	8.413	3.748	3.11		Clay	100.0			15.41	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	14.430	0.450	5404.4	3244.1	7.230	3.837	3.17		Clay	100.0			13.64	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	12.510	0.370	5423.6	3253.3	6.023	3.776	3.24		Clay	100.0			11.82	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	11.770	0.320	5444.0	3263.1	5.546	3.537	3.25		Clay	100.0			11.12	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	10.940	0.300	5463.2	3272.3	5.017	3.655	3.29		Clay	100.0			10.34	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	10.640	0.300	5483.6	3282.1	4.813	3.798	3.32		Clay	100.0			10.06	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	10.760	0.300	5502.8	3291.3	4.866	3.746	3.31		Clay	100.0			10.17	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	10.950	0.310	5522.0	3300.6	4.962	3.786	3.31		Clay	100.0			10.35	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	11.370	0.290	5542.4	3310.4	5.195	3.373	3.26		Clay	100.0			10.75	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	11.410	0.320	5561.6	3319.6	5.199	3.708	3.28		Clay	100.0			10.78	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	12.810	0.640	5582.0	3329.4	6.019	6.388	3.37		Clay	100.0			12.11	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	24.300	1.500	5601.2	3338.6	12.879	6.977	3.14		Clay	100.0			22.97	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	45.830	2.030	5620.4	3347.8	25.700	4.719	2.80		Clay	86.9			43.32	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	99.970	2.740	5640.8	3357.6	72.895	2.820	2.32		Sand	48.4	173.49		173.49	0.88	152.27	237.62	0.88	0.497	0.861	33.778	64.020	128.80	0.00	0.00
46.750	143.430	2.510	5660.0	3366.8	105.353	1.785	2.06		Sand	28.1	173.49		173.49	0.86	150.00	212.52	0.87	0.497	0.861	4.132	7.824	15.74	0.00	0.00
46.920	163.050	2.770	5680.4	3376.6	119.873	1.729	2.02		Sand	24.2	173.49		173.49	0.86	149.05	203.49	0.87	0.497	0.872	2.314	4.439	8.93	0.00	0.00
47.080	178.670	2.750	5699.6	3385.8	131.374	1.564	1.96		Sand	19.5	173.49		173.49	0.85	147.61	189.57	0.87	0.497	0.890	1.102	2.157	4.34	0.00	0.00
47.240	182.000	2.790	5718.8	3395.0	133.673	1.557	1.95		Sand	19.0	173.49		173.49	0.85	147.28	187.63	0.87	0.497	0.892	1.007	1.975	3.98	0.00	0.00
47.410	183.550	2.640	5739.2	3404.8	134.628	1.461	1.93		Sand	17.2			173.49	0.84	146.49	181.10	0.87	0.497	0.898	0.759	1.438	2.89	0.00	0.00
47.570	180.100	2.580	5758.4	3414.0	131.872	1.456	1.93		Sand	17.6	173.49		173.49	0.84	146.49	182.45	0.87	0.497	0.896	0.803	1.533	3.09	0.00	0.00
47.740	162.740	2.100	5778.8	3423.8	118.777	1.314	1.93		Sand	17.7	173.49		173.49	0.84	146.34	182.51	0.87	0.497	0.895	0.805	1.537	3.09	0.00	0.00
47.900	109.490	2.300	5798.0	3433.0	79.096	2.158	2.21		Sand	39.8	173.49		173.49	0.87	150.54	228.62	0.87	0.496	0.855	14.521	27.309	55.01	0.00	0.00
48.060	51.880	2.150	5817.2	3442.3	28.453	4.390	2.74		Clay	82.6			49.04	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	31.340	1.740	5837.6	3452.0	16.466	6.122	3.02		Clay	100.0			29.62	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	22.770	1.120	5856.8	3461.3	11.465	5.645	3.11		Clay	100.0			21.52	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	18.490	0.970	5877.2	3471.1	8.961	6.237	3.22		Clay	100.0			17.48	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	17.080	0.830	5896.4	3480.3	8.121	5.873	3.24		Clay	100.0			16.14	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	14.850	0.780	5915.6	3489.5	6.816	6.559	3.33		Clay	100.0			14.04	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	13.760	0.690	5936.0	3499.3	6.168	6.394	3.36		Clay	100.0			13.01	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	12.770	0.560	5955.2	3508.5	5.582	5.719	3.37		Clay	100.0			12.07	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	10.910	0.440	5975.6	3518.3	4.503	5.554	3.43		Clay	100.0			10.31	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	9.380	0.380	5994.8	3527.5	3.619	5.954	3.53		Clay	100.0			8.87	0.87	n.a.	n.a.	0.86	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	9.060	0.430	6014.0	3536.7	3.423	7.104	3.59		Clay	100.0			8.56	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	10.690	0.550	6034.4	3546.5	4.327	7.168	3.51		Clay	100.0			10.10	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	18.010	0.550	6053.6	3555.7	8.428	3.671	3.11		Clay	100.0			17.02	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	22.930	0.690	6074.0	3565.5	11.159	3.469	2.99		Clay	100.0			21.67	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	0.50

Total Settlement:	0.58	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	54.640	0.606	20.0	20.0	531.115	1.110	1.47		Unsaturated	0.0			51.64	1.70	87.80	87.80	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	61.590	1.183	41.3	41.3	416.797	1.922	1.73		Unsaturated	1.2			58.21	1.70	98.96	98.96	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	47.050	1.580	61.3	61.3	261.214	3.360	2.04		Unsaturated	26.1			44.47	1.70	75.60	120.84	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	37.780	1.729	82.5	82.5	180.648	4.582	2.24		Unsaturated	42.1			35.71	1.70	60.71	118.63	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	32.680	1.759	102.5	102.5	140.123	5.390	2.36		Unsaturated	51.6			30.89	1.70	52.51	113.10	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	35.400	1.937	122.5	122.5	138.821	5.482	2.37		Unsaturated	52.3			33.46	1.70	56.88	118.91	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	37.330	2.306	143.8	143.8	135.111	6.190	2.42		Unsaturated	56.3			35.28	1.70	59.98	124.34	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	43.420	2.766	163.8	163.8	147.249	6.383	2.41		Unsaturated	55.6			41.04	1.70	69.77	136.55	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	44.580	2.935	185.0	185.0	142.208	6.597	2.43		Unsaturated	57.2			42.14	1.70	71.63	139.50	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	38.340	2.690	205.0	205.0	116.114	7.034	2.50		Unsaturated	63.0			36.24	1.70	61.60	128.45	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	36.840	2.394	225.0	225.0	106.457	6.517	2.49		Unsaturated	62.5			34.82	1.70	59.19	125.23	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	38.980	2.044	246.3	246.3	107.659	5.259	2.42		Unsaturated	56.2			36.84	1.70	62.63	127.69	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	39.250	2.238	266.3	266.3	104.230	5.720	2.45		Unsaturated	59.3			37.10	1.70	63.07	129.24	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	36.830	2.215	287.5	287.5	94.071	6.038	2.50		Unsaturated	62.9			34.81	1.70	59.18	125.31	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	33.060	2.059	307.5	307.5	81.588	6.257	2.55		Unsaturated	66.9			31.25	1.70	53.12	118.52	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	30.360	2.006	327.5	327.5	105.361	6.644	2.50		Unsaturated	63.3			28.70	1.70	48.78	112.06	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	29.910	1.921	348.8	348.8	99.287	6.460	2.51		Unsaturated	63.7			28.27	1.70	48.06	111.23	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	29.430	1.649	368.8	368.8	66.217	5.639	2.57		Unsaturated	68.6			27.82	1.70	47.29	111.39	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	25.980	1.322	390.0	390.0	56.768	5.128	2.58		Unsaturated	69.6			24.56	1.70	41.74	104.44	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	23.970	1.328	410.0	410.0	70.854	5.590	2.55		Unsaturated	66.9			22.66	1.70	38.52	99.70	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	22.940	1.374	430.0	430.0	65.532	6.047	2.60		Unsaturated	70.7			21.68	1.70	36.86	98.35	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	27.350	1.151	451.3	451.3	55.517	4.245	2.53		Unsaturated	65.3			25.85	1.70	43.95	106.33	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	35.360	0.818	471.3	471.3	70.349	2.327	2.27		Unsaturated	44.6			33.42	1.70	56.82	115.23	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	39.740	0.808	492.5	492.5	77.374	2.046	2.20		Unsaturated	39.1			37.56	1.70	63.85	120.53	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	35.010	1.100	512.5	512.5	66.746	3.166	2.38		Unsaturated	53.5			33.09	1.70	56.25	118.56	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	27.010	1.360	533.8	533.8	66.290	5.085	2.54		Unsaturated	65.8			25.53	1.70	43.40	105.76	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	24.590	1.136	553.8	553.8	58.735	4.670	2.54		Unsaturated	66.4			23.24	1.70	39.51	100.88	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	32.510	0.835	573.8	573.8	58.490	2.592	2.36		Unsaturated	51.8			30.73	1.70	52.24	112.81	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	37.620	0.542	595.0	595.0	66.525	1.451	2.15		Unsaturated	35.0			35.56	1.70	60.45	113.05	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	39.390	0.665	615.0	615.0	68.520	1.700	2.19		Unsaturated	37.8			37.23	1.70	63.29	118.88	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	37.280	1.054	636.3	636.3	63.711	2.852	2.36		Unsaturated	52.0			35.24	1.70	59.90	122.61	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	26.950	1.328	656.3	656.3	57.104	4.988	2.57		Unsaturated	68.7			25.47	1.70	43.30	106.28	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	20.640	1.389	676.3	676.3	60.043	6.841	2.66		Unsaturated	75.9			19.51	1.70	33.16	94.49	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	19.400	0.972	697.5	697.5	39.158	5.102	2.69		Unsaturated	78.3			18.34	1.70	31.17	92.27	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	27.440	0.705	717.5	717.5	43.957	2.603	2.45		Unsaturated	59.2			25.94	1.69	43.96	104.75	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	28.480	0.681	738.8	738.8	44.967	2.423	2.42		Unsaturated	56.9			26.92	1.67	44.92	105.31	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	20.900	0.650	758.8	758.8	39.765	3.168	2.54		Unsaturated	66.3			19.75	1.69	33.46	93.08	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	13.230	0.725	778.8	778.8	32.978	5.646	2.77		Unsaturated	85.0			12.50	1.70	21.26	80.27	1.00	0.323	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.400	10.710	0.679	800.0	800.0	25.775	6.584	2.90		Unsaturated	94.8			10.12	1.70	17.21	76.03	0.99	0.323	1.086	n.a.	n.a.	n.a.	0.00	0.00
6.560	9.240	0.585	820.0	820.0	21.537	6.625	2.96		Unsaturated	99.4			8.73	1.70	14.85	73.34	0.99	0.323	1.082	n.a.	n.a.	n.a.	0.00	0.00
6.730	9.900	0.708	841.3	841.3	22.536	7.471	2.98		Unsaturated	100.0			9.36	1.68	15.70	74.50	0.99	0.323	1.080	n.a.	n.a.	n.a.	0.00	0.00
6.890	10.580	0.829	861.3	861.3	23.569	8.167	2.99		Unsaturated	100.0			10.00	1.65	16.51	75.57	0.99	0.323	1.079	n.a.	n.a.	n.a.	0.00	0.00
7.050	9.790	0.831	881.3	881.3	21.218	8.887	3.05		Unsaturated	100.0			9.25	1.64	15.15	73.79	0.99	0.323	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.220	10.400	0.842	902.5	902.5	22.047	8.458	3.02		Unsaturated	100.0			9.83	1.61	15.85	74.70	0.99	0.323	1.074	n.a.	n.a.	n.a.	0.00	0.00
7.380	10.270	0.901	922.5	922.5	21.266	9.186	3.06		Unsaturated	100.0			9.71	1.59	15.47	74.21	0.99	0.323	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.550	10.180	0.948	943.8	943.8	20.574	9.763	3.09		Unsaturated	100.0			9.62	1.58	15.16	73.80	0.99	0.323	1.070	n.a.	n.a.	n.a.	0.00	0.00
7.710	11.350	1.017	963.8	963.8	22.554	9.357	3.05		Unsaturated	100.0			10.73	1.55	16.63	75.73	0.99	0.323	1.069	n.a.	n.a.	n.a.	0.00	0.00
7.870	12.400	1.067	983.8	983.8	24.210	8.959	3.01		Unsaturated	100.0			11.72	1.53	17.90	77.39	0.99	0.322	1.068	n.a.	n.a.	n.a.	0.00	0.00
8.040	12.810	1.056	1005.0	1005.0	24.493	8.583	2.99		Clay	100.0			12.11	1.22	n.a.	n.a.	0.99	0.323	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	12.520	0.984	1025.0	1025.0	23.429	8.198	2.99		Clay	100.0			11.83	1.21	n.a.	n.a.	0.99	0.326	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	12.670	1.027	1046.3	1046.3	23.220	8.457	3.01		Clay	100.0			11.98	1.20	n.a.	n.a.	0.99	0.329	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	14.160	1.076	1066.3	1066.3	25.560	7.896	2.96		Clay	99.5			13.38	1.20	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	13.520	1.069	1086.3	1086.3	23.893	8.236	2.99		Clay	100.0			12.78	1.19	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	13.030	0.975	1107.5	1107.5	22.530	7.815	2.99		Clay	100.0			12.32	1.19	n.a.	n.a.	0.99	0.338	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	13.580	0.998	1127.5	1127.5	23.089	7.670	2.98		Clay	100.0			12.84	1.18	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	13.680	1.070	1148.8	1148.8	22.817	8.164	3.00		Clay	100.0			12.93	1.17	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	12.860	1.049	1168.8	1168.8	21.006	8.541	3.04		Clay	100.0			12.16	1.17	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	11.180	0.866	1188.8	1188.8	17.810	8.182	3.08		Clay	100.0			10.57	1.16	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	9.550	0.759	1210.0	1210.0	14.785	8.483	3.15		Clay	100.0			9.03	1.16	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	9.780	0.780	1230.0	1230.0	14.902	8.513	3.15		Clay	100.0			9.24	1.15	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	11.670	0.913	1251.3	1251.3	17.653	8.266	3.08		Clay	100.0			11.03	1.15	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	14.450	1.091	1271.3	1271.3	21.734	7.898	3.01		Clay	100.0			13.66	1.14	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	15.070	1.242	1291.3	1291.3	22.342	8.612	3.02		Clay	100.0			14.24	1.14	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	13.840	1.271	1312.5	1312.5	20.090	9.643	3.09		Clay	100.0			13.08	1.13	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	0.50

Total Settlement:	0.58	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.660	12.700	1.180	1332.5	1332.5	18.062	9.804	3.13		Clay	100.0			12.00	1.13	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	12.340	1.069	1353.8	1353.8	17.231	9.166	3.12		Clay	100.0			11.66	1.13	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	11.490	1.018	1373.8	1373.8	15.728	9.423	3.16		Clay	100.0			10.86	1.12	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	10.330	0.954	1393.0	1383.6	13.925	9.899	3.21		Clay	100.0			9.76	1.12	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	8.940	0.909	1413.4	1393.4	11.817	11.036	3.30		Clay	100.0			8.45	1.12	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	8.270	0.770	1432.6	1402.6	10.771	10.188	3.30		Clay	100.0			7.82	1.11	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	7.950	0.692	1453.0	1412.4	10.228	9.585	3.30		Clay	100.0			7.51	1.11	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	8.410	0.751	1472.2	1421.7	10.796	9.786	3.29		Clay	100.0			7.95	1.11	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	8.530	0.725	1492.6	1431.4	10.875	9.317	3.27		Clay	100.0			8.06	1.11	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	7.520	0.514	1511.8	1440.7	9.390	7.603	3.26		Clay	100.0			7.11	1.11	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	6.720	0.382	1531.0	1449.9	8.214	6.419	3.26		Clay	100.0			6.35	1.10	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	6.240	0.317	1551.4	1459.7	7.487	5.807	3.27		Clay	100.0			5.90	1.10	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	6.110	0.302	1570.6	1468.9	7.250	5.664	3.27		Clay	100.0			5.78	1.10	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	6.450	0.300	1591.0	1478.7	7.648	5.298	3.24		Clay	100.0			6.10	1.10	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	6.320	0.263	1610.2	1487.9	7.413	4.776	3.22		Clay	100.0			5.97	1.10	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	6.300	0.247	1629.4	1497.1	7.328	4.499	3.21		Clay	100.0			5.95	1.10	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	6.800	0.210	1649.8	1506.9	7.930	3.506	3.12		Clay	100.0			6.43	1.09	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	7.020	0.194	1669.0	1516.1	8.160	3.135	3.08		Clay	100.0			6.64	1.09	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	7.280	0.195	1689.4	1525.9	8.435	3.035	3.06		Clay	100.0			6.88	1.09	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	8.020	0.209	1708.6	1535.1	9.336	2.917	3.01		Clay	100.0			7.58	1.09	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	8.280	0.243	1727.8	1544.3	9.604	3.278	3.03		Clay	100.0			7.83	1.09	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	8.590	0.270	1748.2	1554.1	9.930	3.504	3.04		Clay	100.0			8.12	1.08	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	8.980	0.328	1767.4	1563.4	10.358	4.052	3.06		Clay	100.0			8.49	1.08	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	9.650	0.365	1787.8	1573.1	11.132	4.164	3.04		Clay	100.0			9.12	1.08	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	9.020	0.369	1807.0	1582.4	10.259	4.540	3.09		Clay	100.0			8.53	1.08	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	8.310	0.298	1826.2	1591.6	9.295	4.023	3.10		Clay	100.0			7.85	1.08	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	7.390	0.657	1846.6	1601.4	8.076	10.161	3.40		Clay	100.0			6.98	1.08	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	7.380	0.646	1865.8	1610.6	8.006	10.020	3.39		Clay	100.0			6.98	1.07	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	13.250	0.815	1886.2	1620.4	15.190	6.619	3.07		Clay	100.0			12.52	1.07	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	14.540	0.887	1905.4	1629.6	16.676	6.530	3.03		Clay	100.0			13.74	1.07	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	14.170	0.978	1924.6	1638.8	16.119	7.403	3.08		Clay	100.0			13.39	1.07	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	13.210	0.920	1945.0	1648.6	14.846	7.515	3.11		Clay	100.0			12.49	1.07	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	12.320	0.832	1964.2	1657.8	13.678	7.342	3.13		Clay	100.0			11.64	1.07	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	10.290	0.767	1984.6	1667.6	11.151	8.248	3.23		Clay	100.0			9.73	1.06	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	9.600	0.660	2003.8	1676.8	10.255	7.681	3.24		Clay	100.0			9.07	1.06	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	7.930	0.564	2023.0	1686.0	8.207	8.158	3.33		Clay	100.0			7.50	1.06	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	7.420	0.484	2043.4	1695.8	7.546	7.558	3.34		Clay	100.0			7.01	1.06	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	7.760	0.444	2062.6	1705.0	7.893	6.594	3.28		Clay	100.0			7.33	1.06	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	8.260	0.439	2083.0	1714.8	8.419	6.082	3.24		Clay	100.0			7.81	1.06	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	8.840	0.439	2102.2	1724.1	9.036	5.641	3.19		Clay	100.0			8.36	1.06	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	9.230	0.424	2121.4	1733.3	9.426	5.190	3.16		Clay	100.0			8.72	1.05	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	9.280	0.449	2141.8	1743.1	9.419	5.471	3.17		Clay	100.0			8.77	1.05	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	9.570	0.456	2161.0	1752.3	9.690	5.367	3.16		Clay	100.0			9.05	1.05	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	9.400	0.465	2181.4	1762.1	9.431	5.594	3.18		Clay	100.0			8.88	1.05	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	8.900	0.453	2200.6	1771.3	8.807	5.812	3.21		Clay	100.0			8.41	1.05	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	8.530	0.477	2219.8	1780.5	8.335	6.431	3.26		Clay	100.0			8.06	1.05	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	10.050	0.488	2240.2	1790.3	9.976	5.461	3.15		Clay	100.0			9.50	1.05	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	8.730	0.464	2259.4	1799.5	8.447	6.098	3.24		Clay	100.0			8.25	1.04	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	8.310	0.385	2279.8	1809.3	7.926	5.363	3.23		Clay	100.0			7.85	1.04	n.a.	n.a.	0.97	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	7.310	0.309	2299.0	1818.5	6.775	5.016	3.26		Clay	100.0			6.91	1.04	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	6.950	0.253	2318.2	1827.7	6.337	4.371	3.25		Clay	100.0			6.57	1.04	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	7.740	0.253	2338.6	1837.5	7.152	3.849	3.18		Clay	100.0			7.32	1.04	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	10.900	0.320	2357.8	1846.7	10.528	3.293	3.00		Clay	100.0			10.30	1.04	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	14.400	0.431	2378.2	1856.5	14.232	3.260	2.89		Clay	94.5			13.61	1.04	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	16.260	0.603	2397.4	1865.8	16.145	4.000	2.90		Clay	95.4			15.37	1.03	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	18.690	0.879	2417.8	1875.5	18.641	5.027	2.92		Clay	96.6			17.67	1.03	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	21.910	1.155	2437.0	1884.8	21.957	5.581	2.90		Clay	94.8			20.71	1.03	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	24.850	1.462	2456.2	1894.0	24.944	6.190	2.89		Clay	94.1			23.49	1.03	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	28.600	1.644	2476.6	1903.8	28.745	6.008	2.84		Clay	89.8			27.03	1.03	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	31.370	1.794	2495.8	1913.0	31.492	5.956	2.80		Clay	87.4			29.65	1.03	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	33.010	1.839	2516.2	1922.8	33.027	5.792	2.78		Clay	85.5			31.20	1.03	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	32.780	2.521	2535.4	1932.0	32.622	7.999	2.89		Clay	94.0			30.98	1.02	n.a.	n.a.	0.96	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	33.810	2.642	2554.6	1941.2	33.518	8.121	2.88		Clay	93.7			31.96	1.02	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	40.800	2.707	2575.0	1951.0	40.505	6.851	2.77		Clay	84.9			38.56	1.02	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	0.50

Total Settlement:	0.58	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.160	41.090	2.329	2594.2	1960.2	40.601	5.854	2.72		Clay	80.8			38.84	1.02	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	63.440	1.648	2614.6	1970.0	60.864	2.652	2.35		Sand	51.3	76.26	1.15	87.70	1.03	90.15	160.68	0.96	0.458	1.013	0.378	0.690	1.51	0.00	0.00
21.490	77.100	1.112	2633.8	1979.2	74.062	1.467	2.12		Sand	32.4	76.26	1.15	87.70	1.03	90.13	146.61	0.96	0.459	1.010	0.268	0.441	0.96	0.01	0.01
21.650	80.680	1.254	2653.0	1988.4	77.372	1.580	2.12		Sand	33.0	76.26	1.15	87.70	1.03	89.95	147.05	0.96	0.460	1.010	0.270	0.446	0.97	0.01	0.01
21.820	74.560	1.185	2673.4	1998.2	71.219	1.619	2.16		Sand	35.7		1.15	81.04	1.02	83.01	141.32	0.96	0.461	1.008	0.240	0.381	0.83	0.02	0.02
21.980	65.540	1.515	2692.6	2007.4	62.293	2.360	2.31		Sand	47.9		1.15	71.24	1.02	72.85	137.16	0.96	0.462	1.008	0.222	0.343	0.74	0.02	0.03
22.150	59.680	1.215	2713.0	2017.2	56.459	2.083	2.31		Sand	47.5		1.15	64.87	1.02	66.25	128.63	0.96	0.462	1.006	0.193	0.283	0.61	0.02	0.03
22.310	76.620	0.886	2732.2	2026.5	72.683	1.177	2.06		Sand	28.0		1.15	83.28	1.02	84.84	134.59	0.96	0.463	1.006	0.213	0.323	0.70	0.02	0.03
22.470	77.760	0.766	2751.4	2035.7	73.608	1.003	2.02		Sand	24.2		1.15	84.52	1.02	85.97	129.79	0.96	0.464	1.005	0.197	0.290	0.62	0.02	0.03
22.640	69.780	0.741	2771.8	2045.5	65.750	1.083	2.07		Sand	29.0		1.15	75.85	1.02	77.00	126.55	0.96	0.464	1.004	0.187	0.271	0.58	0.03	0.03
22.800	62.390	0.823	2791.0	2054.7	58.505	1.348	2.17		Sand	36.8		1.15	67.82	1.01	68.71	124.78	0.96	0.465	1.004	0.183	0.261	0.56	0.03	0.03
22.970	56.890	0.800	2811.4	2064.5	53.093	1.441	2.22		Sand	40.9		1.15	61.84	1.01	62.54	120.17	0.95	0.466	1.003	0.172	0.239	0.51	0.03	0.03
23.130	54.830	0.628	2830.6	2073.7	50.999	1.175	2.18		Sand	37.7		1.15	59.60	1.01	60.16	114.95	0.95	0.467	1.002	0.161	0.218	0.47	0.03	0.03
23.290	60.580	0.827	2849.8	2082.9	56.355	1.398	2.20		Sand	38.6		1.15	65.85	1.01	66.32	123.25	0.95	0.467	1.002	0.179	0.253	0.54	0.03	0.03
23.460	67.560	0.940	2870.2	2092.7	62.847	1.422	2.16		Sand	36.1		1.15	73.43	1.00	73.79	130.36	0.95	0.468	1.001	0.199	0.292	0.62	0.02	0.03
23.620	69.970	0.777	2889.4	2101.9	64.985	1.134	2.09		Sand	30.3		1.15	76.05	1.00	76.28	127.34	0.95	0.468	1.001	0.190	0.274	0.58	0.02	0.03
23.790	70.570	0.907	2909.8	2111.7	65.393	1.312	2.13		Sand	33.2		1.15	76.71	1.00	76.77	131.28	0.95	0.469	1.000	0.201	0.298	0.63	0.02	0.03
23.950	71.120	1.184	2929.0	2120.9	65.761	1.699	2.20		Sand	38.9		1.15	77.30	1.00	77.23	136.93	0.95	0.470	1.000	0.222	0.339	0.72	0.02	0.03
24.110	55.430	1.745	2948.2	2130.1	50.829	3.234	2.47		Sand	60.6	67.22	1.15	77.30	1.00	77.09	147.63	0.95	0.470	0.999	0.274	0.449	0.95	0.01	0.01
24.280	40.840	1.975	2968.6	2139.9	36.782	5.018	2.70		Clay	79.4			38.60	1.00	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	51.640	2.093	2987.8	2149.1	47.030	4.173	2.57		Sand	68.8	50.34		50.34	0.99	49.98	114.90	0.95	0.472	0.998	0.161	0.217	0.46	0.03	0.03
24.610	53.260	1.982	3008.2	2158.9	48.430	3.830	2.54		Sand	66.0	50.34		50.34	0.99	49.87	114.12	0.95	0.472	0.998	0.159	0.214	0.45	0.03	0.03
24.770	52.860	2.006	3027.4	2168.2	47.944	3.906	2.55		Sand	66.7	50.34		50.34	0.99	49.77	114.16	0.95	0.473	0.997	0.159	0.214	0.45	0.03	0.03
24.930	43.410	2.206	3046.6	2177.4	38.475	5.266	2.71		Clay	79.5			41.03	0.99	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	42.160	2.187	3067.0	2187.2	37.150	5.384	2.72		Clay	80.9			39.85	0.99	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	39.520	2.137	3086.2	2196.4	34.581	5.627	2.76		Clay	83.7			37.35	0.99	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	43.820	2.430	3106.6	2206.2	38.317	5.750	2.73		Clay	81.8			41.42	0.99	n.a.	n.a.	0.95	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	47.440	2.500	3125.8	2215.4	41.417	5.449	2.69		Clay	78.6			44.84	0.99	n.a.	n.a.	0.95	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	53.140	2.543	3145.0	2224.6	46.361	4.932	2.63		Clay	73.3			50.23	0.99	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	55.020	2.458	3165.4	2234.4	49.152	4.600	2.59		Sand	70.2	72.33	1.55	112.11	0.98	110.06	192.79	0.95	0.477	0.987	1.288	2.797	5.87	0.00	0.00
26.080	68.320	2.393	3184.6	2243.6	61.250	3.586	2.45		Sand	58.7	72.33	1.55	112.11	0.98	109.87	188.89	0.95	0.477	0.986	1.067	2.316	4.85	0.00	0.00
26.250	73.740	2.119	3205.0	2253.4	66.071	2.938	2.36		Sand	51.8	72.33	1.55	112.11	0.98	109.68	185.67	0.94	0.478	0.986	0.922	1.988	4.16	0.00	0.00
26.410	76.530	1.897	3224.2	2262.6	68.478	2.531	2.30		Sand	47.3	72.33	1.55	112.12	0.98	109.50	182.98	0.94	0.478	0.985	0.821	1.731	3.62	0.00	0.00
26.570	73.900	1.542	3243.4	2271.8	65.931	2.133	2.26		Sand	44.1	72.33	1.55	112.11	0.98	109.31	180.71	0.94	0.478	0.985	0.747	1.546	3.23	0.00	0.00
26.740	64.700	1.313	3263.8	2281.6	57.406	2.081	2.30		Sand	47.1	72.33	1.55	112.11	0.97	109.16	182.42	0.94	0.479	0.984	0.802	1.681	3.51	0.00	0.00
26.900	50.800	1.320	3283.0	2290.8	44.655	2.684	2.46		Sand	59.5	72.33	1.55	112.11	0.97	109.08	188.18	0.94	0.479	0.982	1.032	2.230	4.65	0.00	0.00
27.070	41.490	1.119	3303.4	2300.6	36.112	2.810	2.54		Sand	66.0	72.33	1.55	112.11	0.97	108.94	190.19	0.94	0.480	0.980	1.135	2.447	5.10	0.00	0.00
27.230	28.880	1.235	3322.6	2309.8	23.568	4.537	2.81		Clay	88.2			27.30	0.98	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	36.120	1.231	3343.0	2319.6	29.702	3.574	2.67		Clay	76.7			34.14	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	60.610	1.070	3362.2	2328.9	53.092	1.816	2.29		Sand	46.0	64.53	1.45	93.57	0.96	90.13	157.85	0.94	0.481	0.984	0.350	0.608	1.26	0.00	0.00
27.720	68.270	1.171	3381.4	2338.1	59.866	1.759	2.24		Sand	42.1		1.45	93.56	0.96	89.95	155.13	0.94	0.482	0.983	0.326	0.555	1.15	0.01	0.01
27.890	66.610	1.163	3401.8	2347.9	58.243	1.792	2.25		Sand	43.3		1.45	91.29	0.96	87.58	152.95	0.94	0.482	0.983	0.309	0.518	1.07	0.01	0.01
28.050	76.070	1.468	3421.0	2357.1	66.592	1.974	2.24		Sand	42.0		1.45	104.25	0.96	100.12	167.74	0.94	0.482	0.980	0.468	0.870	1.80	0.00	0.00
28.220	86.880	1.889	3441.4	2366.9	76.106	2.218	2.23		Sand	41.5		1.45	119.07	0.96	114.49	185.23	0.94	0.483	0.975	0.904	1.922	3.98	0.00	0.00
28.380	89.250	2.314	3460.6	2376.1	78.063	2.644	2.28		Sand	45.2		1.45	122.32	0.96	117.58	191.80	0.94	0.483	0.972	1.227	2.624	5.43	0.00	0.00
28.540	109.470	2.010	3479.8	2385.3	95.904	1.866	2.11		Sand	31.5		1.45	150.03	0.96	144.48	211.36	0.94	0.484	0.964	3.817	8.096	16.74	0.00	0.00
28.710	145.700	1.447	3500.2	2395.1	127.886	1.005	1.83		Sand	9.5		1.45	199.68	0.96	191.70	200.10	0.94	0.484	0.967	1.900	4.044	8.35	0.00	0.00
28.870	125.840	1.079	3519.4	2404.3	110.022	0.870	1.84		Sand	10.2	137.71	1.45	199.68	0.96	191.53	202.47	0.94	0.484	0.965	2.178	4.626	9.55	0.00	0.00
29.040	68.050	1.252	3539.8	2414.1	58.651	1.889	2.27		Sand	44.3	137.71	1.45	199.68	0.97	192.86	285.47	0.94	0.485	0.960	26437.606	########	115226.81	0.00	0.00
29.200	28.600	1.149	3559.0	2423.3	22.135	4.282	2.82		Clay	88.5			27.03	0.96	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	16.520	0.763	3578.2	2432.5	12.112	5.178	3.07		Clay	100.0			15.61	0.96	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	10.330	0.405	3598.6	2442.3	6.986	4.742	3.24		Clay	100.0			9.76	0.96	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	9.980	0.306	3617.8	2451.5	6.666	3.742	3.20		Clay	100.0			9.43	0.96	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	9.700	0.267	3638.2	2461.3	6.404	3.382	3.19		Clay	100.0			9.17	0.96	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	10.070	0.270	3657.4	2470.6	6.672	3.270	3.16		Clay	100.0			9.52	0.96	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	11.270	0.266	3676.6	2479.8	7.607	2.825	3.08		Clay	100.0			10.65	0.96	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	12.020	0.295	3697.0	2489.6	8.171	2.901	3.06		Clay	100.0			11.36	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	13.610	0.307	3716.2	2498.8	9.406	2.611	2.99		Clay	100.0			12.86	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	14.520	0.380	3736.6	2508.6	10.087	3.004	2.99		Clay	100.0			13.72	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	14.770	0.387	3755.8	2517.8	10.241	3.000	2.99		Clay	100.0			13.96	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	12.120	0.241	3775.0	2527.0	8.099	2.359	3.02		Clay	100.0			11.46	0.95	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	10.400	0.214	3795.4	2536.8	6.703	2.511	3.10		Clay	100.0			9.83	0.95	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	9.980	0.227	3814.6	2546.0	6.341	2.808	3.15		Clay	100.0			9.43	0.95	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	10.440	0.242	3835.0	2555.8	6.669	2.842	3.13		Clay	100.0			9.87	0.95	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	0.50

Total Settlement:	0.58	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.660	11.820	0.296	3854.2	2565.0	7.714	2.988	3.09		Clay	100.0			11.17	0.95	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	13.220	0.386	3873.4	2574.2	8.766	3.417	3.08		Clay	100.0			12.50	0.95	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	12.940	0.399	3893.8	2584.0	8.509	3.625	3.10		Clay	100.0			12.23	0.95	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	12.290	0.383	3913.0	2593.2	7.970	3.707	3.13		Clay	100.0			11.62	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	11.800	0.353	3933.4	2603.0	7.555	3.591	3.14		Clay	100.0			11.15	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	11.240	0.303	3952.6	2612.2	7.093	3.270	3.14		Clay	100.0			10.62	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	10.400	0.253	3971.8	2621.5	6.419	3.012	3.16		Clay	100.0			9.83	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	10.800	0.223	3992.2	2631.3	6.692	2.528	3.10		Clay	100.0			10.21	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	10.960	0.221	4011.4	2640.5	6.782	2.473	3.09		Clay	100.0			10.36	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	11.420	0.218	4031.8	2650.3	7.097	2.314	3.06		Clay	100.0			10.79	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	11.760	0.297	4051.0	2659.5	7.321	3.050	3.11		Clay	100.0			11.12	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	14.200	0.561	4070.2	2668.7	9.117	4.614	3.14		Clay	100.0			13.42	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	18.860	0.828	4090.6	2678.5	12.555	4.927	3.05		Clay	100.0			17.83	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	19.120	0.977	4109.8	2687.7	12.699	5.725	3.08		Clay	100.0			18.07	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	19.170	1.025	4130.2	2697.5	12.682	5.992	3.10		Clay	100.0			18.12	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	21.700	1.055	4149.4	2706.7	14.501	5.375	3.02		Clay	100.0			20.51	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	23.230	0.825	4168.6	2715.9	15.572	3.902	2.91		Clay	95.8			21.96	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	22.280	1.054	4189.0	2725.7	14.811	5.221	3.01		Clay	100.0			21.06	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	28.740	1.667	4208.2	2734.9	19.478	6.259	2.97		Clay	100.0			27.16	0.93	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	58.790	2.155	4228.6	2744.7	47.035	3.802	2.54		Sand	66.5	99.87	1.72	171.78	0.93	160.38	256.58	0.92	0.494	0.922	293.891	596.099	1206.63	0.00	0.00
34.940	98.030	2.410	4247.8	2753.9	79.459	2.513	2.26		Sand	43.5	99.87	1.72	171.78	0.93	159.73	243.33	0.92	0.494	0.921	61.203	124.003	250.92	0.00	0.00
35.100	105.660	2.259	4267.0	2763.2	85.629	2.182	2.19		Sand	38.2	99.87	1.72	171.78	0.93	159.31	237.78	0.92	0.494	0.920	34.335	69.491	140.57	0.00	0.00
35.270	86.470	2.153	4287.4	2773.0	69.625	2.553	2.30		Sand	47.1	99.87	1.72	171.78	0.93	159.55	245.88	0.92	0.495	0.919	80.979	163.704	331.04	0.00	0.00
35.430	53.100	1.538	4306.6	2782.2	41.995	3.019	2.51		Sand	63.8	99.87	1.72	171.78	0.93	159.81	254.86	0.92	0.495	0.918	236.102	476.774	963.83	0.00	0.00
35.600	22.080	1.090	4327.0	2792.0	14.267	5.473	3.03		Clay	100.0			20.87	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	13.450	0.508	4346.2	2801.2	8.052	4.507	3.18		Clay	100.0			12.71	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	11.770	0.372	4366.6	2811.0	6.821	3.879	3.20		Clay	100.0			11.12	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	10.780	0.321	4385.8	2820.2	6.090	3.738	3.23		Clay	100.0			10.19	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	10.600	0.293	4405.0	2829.4	5.936	3.493	3.22		Clay	100.0			10.02	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	10.870	0.310	4425.4	2839.2	6.098	3.584	3.22		Clay	100.0			10.27	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	10.480	0.314	4444.6	2848.4	5.798	3.798	3.25		Clay	100.0			9.91	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	10.620	0.321	4465.0	2858.2	5.869	3.832	3.25		Clay	100.0			10.04	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	10.830	0.355	4484.2	2867.4	5.990	4.131	3.26		Clay	100.0			10.24	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	11.270	0.438	4503.4	2876.6	6.270	4.856	3.28		Clay	100.0			10.65	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	13.230	0.547	4523.8	2886.4	7.600	4.988	3.22		Clay	100.0			12.50	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	14.930	0.622	4543.0	2895.6	8.743	4.914	3.17		Clay	100.0			14.11	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	15.550	0.658	4563.4	2905.4	9.133	4.962	3.16		Clay	100.0			14.70	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	16.750	0.698	4582.6	2914.6	9.921	4.826	3.12		Clay	100.0			15.83	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	16.290	0.730	4601.8	2923.9	9.569	5.220	3.15		Clay	100.0			15.40	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	15.570	0.699	4622.2	2933.7	9.039	5.273	3.18		Clay	100.0			14.72	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	14.550	0.689	4641.4	2942.9	8.311	5.630	3.22		Clay	100.0			13.75	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	14.400	0.713	4661.8	2952.7	8.175	5.910	3.24		Clay	100.0			13.61	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	15.130	0.767	4681.0	2961.9	8.636	5.998	3.23		Clay	100.0			14.30	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	16.590	0.828	4700.2	2971.1	9.586	5.817	3.18		Clay	100.0			15.68	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	18.220	0.944	4720.6	2980.9	10.641	5.952	3.15		Clay	100.0			17.22	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	21.750	1.085	4739.8	2990.1	12.963	5.600	3.07		Clay	100.0			20.56	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	24.420	1.265	4760.2	2999.9	14.694	5.739	3.04		Clay	100.0			23.08	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	25.920	1.409	4779.4	3009.1	15.639	5.988	3.03		Clay	100.0			24.50	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	25.610	1.417	4798.6	3018.3	15.380	6.106	3.04		Clay	100.0			24.21	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	24.070	1.381	4819.0	3028.1	14.306	6.374	3.07		Clay	100.0			22.75	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	20.820	1.111	4838.2	3037.3	12.116	6.038	3.11		Clay	100.0			19.68	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	16.680	0.904	4858.6	3047.1	9.354	6.343	3.21		Clay	100.0			15.77	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	15.060	0.791	4877.8	3056.3	8.259	6.268	3.25		Clay	100.0			14.23	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	15.380	0.747	4897.0	3065.6	8.437	5.773	3.22		Clay	100.0			14.54	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	15.630	0.766	4917.4	3075.4	8.566	5.813	3.22		Clay	100.0			14.77	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	16.730	0.764	4936.6	3084.6	9.247	5.353	3.17		Clay	100.0			15.81	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	18.290	0.693	4957.0	3094.4	10.220	4.384	3.09		Clay	100.0			17.29	0.90	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	18.010	0.675	4976.2	3103.6	10.003	4.350	3.09		Clay	100.0			17.02	0.90	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	19.620	0.707	4995.4	3112.8	11.001	4.130	3.04		Clay	100.0			18.54	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	23.110	0.875	5015.8	3122.6	13.196	4.245	2.99		Clay	100.0			21.84	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	29.500	1.517	5035.0	3131.8	17.231	5.620	2.98		Clay	100.0			27.88	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	41.810	2.443	5055.4	3141.6	25.008	6.219	2.89		Clay	94.1			39.52	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	53.110	3.241	5074.6	3150.8	32.101	6.409	2.82		Clay	88.8			50.20	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	59.810	3.489	5093.8	3160.0	36.242	6.092	2.77		Clay	84.6			56.53	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	0.50

Total Settlement:	0.58	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.160	76.360	3.023	5114.2	3169.8	56.994	4.095	2.51		Sand	63.7			72.17	0.84	60.33	127.02	0.89	0.498	0.947	0.189	0.257	0.52	0.02	0.01
42.320	60.480	3.008	5133.4	3179.0	36.435	5.194	2.72		Clay	80.5			57.16	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	53.120	3.697	5153.8	3188.8	31.700	7.314	2.87		Clay	92.4			50.21	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	62.650	4.791	5173.0	3198.0	37.563	7.976	2.84		Clay	90.6			59.22	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	135.700	4.734	5192.2	3207.3	102.187	3.557	2.30		Sand	46.7	332.93		332.93	0.90	298.33	420.16	0.89	0.498	0.875	########	########	##########	0.00	0.00
42.980	201.640	5.424	5212.6	3217.0	152.570	2.725	2.10		Sand	30.7	332.93		332.93	0.90	298.09	395.50	0.89	0.498	0.874	########	########	##########	0.00	0.00
43.140	229.800	4.534	5231.8	3226.3	173.900	1.996	1.96		Sand	19.4	332.93		332.93	0.89	297.87	359.11	0.89	0.498	0.873	########	########	##########	0.00	0.00
43.310	278.590	4.294	5252.2	3236.1	210.919	1.556	1.82		Sand	8.5	332.93		332.93	0.89	297.63	304.55	0.89	0.498	0.873	########	########	5198030.41	0.00	0.00
43.470	345.680	2.957	5271.4	3245.3	261.816	0.862	1.56		Sand	0.0	332.93		332.93	0.89	297.41	297.41	0.89	0.498	0.872	########	########	1078547.38	0.00	0.00
43.640	352.240	2.807	5291.8	3255.1	266.414	0.803	1.53		Sand	0.0	332.93		332.93	0.89	297.17	297.17	0.89	0.498	0.871	########	########	1025033.13	0.00	0.00
43.800	348.130	2.618	5311.0	3264.3	262.902	0.758	1.52		Sand	0.0			329.05	0.89	293.48	293.48	0.89	0.498	0.870	########	########	478200.96	0.00	0.00
43.960	379.030	2.554	5330.2	3273.5	286.006	0.679	1.46		Sand	0.0			358.25	0.89	319.30	319.30	0.88	0.498	0.869	########	########	##########	0.00	0.00
44.130	394.700	2.357	5350.6	3283.3	297.462	0.601	1.41		Sand	0.0			373.06	0.89	332.24	332.24	0.88	0.498	0.868	########	########	##########	0.00	0.00
44.290	429.600	3.078	5369.8	3292.5	323.482	0.721	1.44		Sand	0.0			406.05	0.89	361.34	361.34	0.88	0.498	0.867	########	########	##########	0.00	0.00
44.460	466.320	2.689	5390.2	3302.3	350.777	0.580	1.35		Sand	0.0			440.76	0.89	391.92	391.92	0.88	0.498	0.866	########	########	##########	0.00	0.00
44.620	440.390	2.700	5409.4	3311.5	330.690	0.617	1.39		Sand	0.0			416.25	0.89	369.86	369.86	0.88	0.498	0.866	########	########	##########	0.00	0.00
44.780	402.300	2.000	5428.6	3320.7	301.485	0.501	1.35		Sand	0.0			380.25	0.89	337.62	337.62	0.88	0.498	0.865	########	########	##########	0.00	0.00
44.950	410.860	1.705	5449.0	3330.5	307.483	0.418	1.29		Sand	0.0			388.34	0.89	344.54	344.54	0.88	0.498	0.864	########	########	##########	0.00	0.00
45.110	410.450	1.755	5468.2	3339.7	306.742	0.430	1.30		Sand	0.0			387.95	0.89	343.94	343.94	0.88	0.497	0.863	########	########	##########	0.00	0.00
45.280	397.480	1.566	5488.6	3349.5	296.542	0.397	1.29		Sand	0.0			375.69	0.89	332.82	332.82	0.88	0.497	0.862	########	########	##########	0.00	0.00
45.440	374.050	1.933	5507.8	3358.7	278.551	0.521	1.39		Sand	0.0			353.54	0.89	312.97	312.97	0.88	0.497	0.861	########	########	##########	0.00	0.00
45.600	301.600	2.494	5527.0	3368.0	223.884	0.834	1.60		Sand	0.0			285.07	0.88	251.89	251.89	0.88	0.497	0.861	163.422	309.398	622.07	0.00	0.00
45.770	229.830	2.364	5547.4	3377.8	169.860	1.041	1.75		Sand	3.1			217.23	0.85	184.35	184.35	0.88	0.497	0.896	0.870	1.688	3.39	0.00	0.00
45.930	160.570	2.346	5566.6	3387.0	117.879	1.487	1.97		Sand	20.9			151.77	0.84	127.45	170.48	0.88	0.497	0.909	0.512	0.902	1.81	0.00	0.00
46.100	132.160	2.338	5587.0	3396.8	96.508	1.807	2.09		Sand	30.6			124.91	0.83	104.10	161.27	0.88	0.497	0.916	0.385	0.638	1.28	0.00	0.00
46.260	141.750	2.347	5606.2	3406.0	103.514	1.689	2.05		Sand	27.2			133.98	0.84	111.88	165.53	0.88	0.497	0.912	0.436	0.743	1.50	0.00	0.00
46.420	162.590	2.198	5625.4	3415.2	118.872	1.376	1.95		Sand	18.8			153.68	0.83	128.20	165.58	0.88	0.497	0.912	0.437	0.744	1.50	0.00	0.00
46.590	186.870	1.955	5645.8	3425.0	136.733	1.062	1.83		Sand	9.1			176.63	0.82	145.66	151.83	0.88	0.497	0.922	0.301	0.469	0.94	0.01	0.00
46.750	201.380	2.001	5665.0	3434.2	147.307	1.008	1.79		Sand	5.9			190.34	0.83	157.59	158.25	0.87	0.497	0.917	0.354	0.574	1.16	0.01	0.00
46.920	209.750	2.170	5685.4	3444.0	153.291	1.049	1.79		Sand	5.9			198.25	0.83	164.86	165.50	0.87	0.497	0.910	0.436	0.741	1.49	0.00	0.00
47.080	224.560	2.273	5704.6	3453.2	164.037	1.025	1.76		Sand	3.6			212.25	0.84	177.93	177.93	0.87	0.497	0.898	0.669	1.237	2.49	0.00	0.00
47.240	246.810	2.358	5723.8	3462.4	180.252	0.967	1.71		Sand	0.0			233.28	0.85	198.09	198.09	0.87	0.497	0.873	1.700	3.266	6.57	0.00	0.00
47.410	253.830	2.249	5744.2	3472.2	185.170	0.896	1.68		Sand	0.0			239.91	0.85	204.37	204.37	0.87	0.497	0.863	2.440	4.632	9.32	0.00	0.00
47.570	237.300	2.567	5763.4	3481.4	172.737	1.095	1.76		Sand	4.0			224.29	0.84	188.94	188.96	0.87	0.497	0.884	1.071	2.083	4.19	0.00	0.00
47.740	211.950	2.404	5783.8	3491.2	153.833	1.150	1.81		Sand	8.0			200.33	0.83	166.32	170.20	0.87	0.497	0.904	0.507	0.887	1.79	0.00	0.00
47.900	201.280	2.357	5803.0	3500.4	145.783	1.188	1.84		Sand	10.1			190.25	0.83	157.44	167.25	0.87	0.496	0.906	0.460	0.789	1.59	0.00	0.00
48.060	198.860	2.323	5822.2	3509.7	143.808	1.185	1.84		Sand	10.4			187.96	0.83	155.23	165.91	0.87	0.496	0.907	0.441	0.750	1.51	0.00	0.00
48.230	205.110	2.715	5842.6	3519.4	148.181	1.343	1.87		Sand	12.8			193.87	0.83	161.83	181.48	0.87	0.496	0.891	0.771	1.452	2.93	0.00	0.00
48.390	187.330	3.075	5861.8	3528.7	134.966	1.668	1.97		Sand	20.5			177.06	0.84	148.98	193.96	0.87	0.496	0.875	1.367	2.630	5.30	0.00	0.00
48.560	144.400	2.694	5882.2	3538.5	103.394	1.905	2.09		Sand	30.2			136.48	0.83	112.84	171.28	0.87	0.496	0.900	0.526	0.923	1.86	0.00	0.00
48.720	184.940	2.156	5901.4	3547.7	132.845	1.184	1.87		Sand	12.4			174.80	0.82	143.13	160.27	0.87	0.496	0.909	0.374	0.611	1.23	0.01	0.00
48.880	252.080	1.901	5920.6	3556.9	181.612	0.763	1.64		Sand	0.0			238.26	0.84	200.91	200.91	0.87	0.496	0.862	1.990	3.774	7.61	0.00	0.00
49.050	259.780	1.402	5941.0	3566.7	186.961	0.546	1.53		Sand	0.0			245.54	0.85	207.84	207.84	0.87	0.496	0.849	3.028	5.657	11.41	0.00	0.00
49.210	183.010	1.401	5960.2	3575.9	130.895	0.778	1.75		Sand	3.1	245.54		245.54	0.85	207.65	207.65	0.87	0.496	0.849	2.990	5.584	11.26	0.00	0.00
49.380	102.880	1.449	5980.6	3585.7	72.528	1.450	2.12		Sand	32.7	245.54		245.54	0.87	213.64	297.06	0.87	0.496	0.842	########	########	972703.87	0.00	0.00
49.540	55.670	2.156	5999.8	3594.9	29.303	4.094	2.71		Clay	80.2			52.62	0.87	n.a.	n.a.	0.86	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	37.860	2.276	6019.0	3604.1	19.339	6.531	2.98		Clay	100.0			35.78	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	26.020	2.416	6039.4	3613.9	12.729	10.505	3.26		Clay	100.0	136.96		136.96	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	69.260	2.012	6058.6	3623.1	47.840	3.038	2.47		Sand	60.6			65.46	0.78	50.88	114.05	0.86	0.495	0.936	0.159	0.200	0.40	0.03	0.00
50.200	144.820	3.345	6079.0	3632.9	102.273	2.359	2.16		Sand	35.9			136.88	0.82	112.67	177.93	0.86	0.495	0.888	0.669	1.222	2.47	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.50

Total Settlement:	0.01	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.330	27.990	0.875	41.3	41.3	189.340	3.130	2.09		Unsaturated	30.2			26.46	1.70	44.97	89.53	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	29.500	1.281	61.3	61.3	163.716	4.348	2.24		Unsaturated	42.4			27.88	1.70	47.40	102.25	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	44.300	1.734	82.5	82.5	211.858	3.917	2.14		Unsaturated	34.5			41.87	1.70	71.18	125.73	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	122.600	1.550	102.5	102.5	526.283	1.265	1.52		Unsaturated	0.0			115.88	1.70	196.99	196.99	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	94.670	1.739	122.5	122.5	371.651	1.838	1.74		Unsaturated	1.9			89.48	1.70	152.12	152.12	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	54.910	2.147	143.8	143.8	198.862	3.915	2.16		Unsaturated	35.7			51.90	1.70	88.23	147.72	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	36.500	2.023	163.8	163.8	123.737	5.555	2.40		Unsaturated	55.0			34.50	1.70	58.65	122.15	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	26.860	1.824	185.0	185.0	85.565	6.816	2.57		Unsaturated	68.2			25.39	1.70	43.16	105.98	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	27.600	1.735	205.0	205.0	83.500	6.311	2.55		Unsaturated	66.6			26.09	1.70	44.35	107.16	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	35.030	1.863	225.0	225.0	101.210	5.335	2.44		Unsaturated	57.9			33.11	1.70	56.29	120.15	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	36.400	2.002	246.3	246.3	100.511	5.519	2.45		Unsaturated	59.0			34.40	1.70	58.49	123.30	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	33.540	1.897	266.3	266.3	89.015	5.677	2.49		Unsaturated	62.3			31.70	1.70	53.89	118.38	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	47.050	2.045	287.5	287.5	120.277	4.360	2.32		Unsaturated	48.7			44.47	1.70	75.60	141.01	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	55.420	2.250	307.5	307.5	137.028	4.071	2.26		Unsaturated	44.1			52.38	1.70	89.05	155.34	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	38.910	2.060	327.5	327.5	93.089	5.317	2.46		Unsaturated	59.6			36.78	1.70	62.52	128.64	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	25.920	1.727	348.8	348.8	85.964	6.709	2.56		Unsaturated	67.7			24.50	1.70	41.65	103.92	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	26.330	1.382	368.8	368.8	59.198	5.285	2.58		Unsaturated	69.4			24.89	1.70	42.31	105.13	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	21.570	1.305	390.0	390.0	65.999	6.106	2.60		Unsaturated	70.8			20.39	1.70	34.66	95.53	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	19.310	1.169	410.0	410.0	56.960	6.120	2.64		Unsaturated	74.2			18.25	1.70	31.03	91.43	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	17.160	1.088	430.0	430.0	48.864	6.420	2.70		Unsaturated	78.9			16.22	1.70	27.57	87.69	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	15.070	1.020	451.3	451.3	65.792	6.873	2.64		Unsaturated	74.1			14.24	1.70	24.21	82.59	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	15.230	1.048	471.3	471.3	63.637	6.987	2.65		Unsaturated	75.2			14.40	1.70	24.47	83.11	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	17.090	1.161	492.5	492.5	68.401	6.893	2.63		Unsaturated	73.3			16.15	1.70	27.46	86.66	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	18.560	1.296	512.5	512.5	71.429	7.083	2.63		Unsaturated	73.1			17.54	1.70	29.82	89.69	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	19.050	1.384	533.8	533.8	70.382	7.370	2.64		Unsaturated	74.5			18.01	1.70	30.61	90.95	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	20.570	1.419	553.8	553.8	73.293	6.991	2.61		Unsaturated	72.2			19.44	1.70	33.05	93.71	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	23.790	1.486	573.8	573.8	55.385	6.320	2.66		Unsaturated	75.6			22.49	1.70	38.23	101.00	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	26.430	1.492	595.0	595.0	60.034	5.711	2.60		Unsaturated	71.1			24.98	1.70	42.47	105.68	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	29.210	1.631	615.0	615.0	64.878	5.641	2.58		Unsaturated	69.1			27.61	1.70	46.93	111.03	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	31.860	1.748	636.3	636.3	69.139	5.541	2.55		Unsaturated	67.2			30.11	1.70	51.19	116.10	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	33.870	1.857	656.3	656.3	71.947	5.535	2.54		Unsaturated	66.3			32.01	1.70	54.42	120.05	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	31.130	1.799	676.3	676.3	64.675	5.841	2.59		Unsaturated	70.1			29.42	1.70	50.02	115.22	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	24.700	1.702	697.5	697.5	69.824	6.989	2.63		Unsaturated	73.2			23.35	1.70	39.69	102.48	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	25.210	1.232	717.5	717.5	50.078	4.955	2.61		Unsaturated	71.6			23.83	1.70	40.51	103.24	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	31.160	0.960	738.8	738.8	49.254	3.116	2.47		Unsaturated	60.5			29.45	1.65	48.53	111.01	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	29.000	0.953	758.8	758.8	45.175	3.330	2.52		Unsaturated	64.3			27.41	1.64	44.95	107.39	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	19.360	1.035	778.8	778.8	48.721	5.456	2.65		Unsaturated	74.7			18.30	1.68	30.73	91.14	1.00	0.323	1.099	n.a.	n.a.	n.a.	0.00	0.00
6.400	14.930	0.961	800.0	800.0	36.325	6.615	2.79		Unsaturated	86.6			14.11	1.69	23.78	83.75	0.99	0.323	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.560	13.300	0.858	820.0	820.0	31.439	6.659	2.84		Unsaturated	90.2			12.57	1.68	21.07	80.61	0.99	0.323	1.087	n.a.	n.a.	n.a.	0.00	0.00
6.730	11.800	0.804	841.3	841.3	27.053	7.065	2.90		Unsaturated	95.3			11.15	1.66	18.56	77.84	0.99	0.323	1.082	n.a.	n.a.	n.a.	0.00	0.00
6.890	9.930	0.653	861.3	861.3	22.060	6.872	2.96		Unsaturated	99.7			9.39	1.66	15.55	74.28	0.99	0.323	1.078	n.a.	n.a.	n.a.	0.00	0.00
7.050	9.760	0.677	881.3	881.3	21.150	7.267	2.99		Unsaturated	100.0			9.22	1.64	15.11	73.73	0.99	0.323	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.220	9.240	0.700	902.5	902.5	19.476	7.964	3.04		Unsaturated	100.0			8.73	1.62	14.15	72.48	0.99	0.323	1.073	n.a.	n.a.	n.a.	0.00	0.00
7.380	9.840	0.719	922.5	922.5	20.333	7.667	3.02		Unsaturated	100.0			9.30	1.60	14.85	73.40	0.99	0.323	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.550	10.210	0.758	943.8	943.8	20.637	7.788	3.02		Unsaturated	100.0			9.65	1.58	15.20	73.85	0.99	0.323	1.070	n.a.	n.a.	n.a.	0.00	0.00
7.710	10.690	0.763	963.8	963.8	21.184	7.472	3.00		Unsaturated	100.0			10.10	1.55	15.71	74.52	0.99	0.323	1.068	n.a.	n.a.	n.a.	0.00	0.00
7.870	11.240	0.831	983.8	983.8	21.851	7.729	3.00		Unsaturated	100.0			10.62	1.53	16.30	75.29	0.99	0.322	1.067	n.a.	n.a.	n.a.	0.00	0.00
8.040	12.200	0.915	1005.0	1005.0	23.279	7.820	2.98		Clay	100.0			11.53	1.22	n.a.	n.a.	0.99	0.323	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	13.090	0.988	1025.0	1025.0	24.541	7.858	2.97		Clay	100.0			12.37	1.21	n.a.	n.a.	0.99	0.326	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	13.370	1.002	1046.3	1046.3	24.558	7.800	2.96		Clay	100.0			12.64	1.20	n.a.	n.a.	0.99	0.329	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	13.460	1.002	1066.3	1066.3	24.247	7.752	2.97		Clay	100.0			12.72	1.20	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	14.210	1.005	1086.3	1086.3	25.163	7.350	2.94		Clay	98.1			13.43	1.19	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	15.040	1.072	1107.5	1107.5	26.160	7.402	2.93		Clay	97.3			14.22	1.19	n.a.	n.a.	0.99	0.338	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	15.270	1.139	1127.5	1127.5	26.086	7.744	2.94		Clay	98.5			14.43	1.18	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	15.410	1.172	1148.8	1148.8	25.829	7.898	2.95		Clay	99.2			14.57	1.17	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	15.550	1.136	1168.8	1168.8	25.610	7.591	2.94		Clay	98.4			14.70	1.17	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	15.510	1.182	1188.8	1188.8	25.095	7.927	2.96		Clay	100.0			14.66	1.16	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	15.220	1.205	1210.0	1210.0	24.157	8.242	2.99		Clay	100.0			14.39	1.16	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	14.010	1.169	1230.0	1230.0	21.780	8.725	3.04		Clay	100.0			13.24	1.15	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	13.610	1.069	1251.2	1250.6	20.765	8.234	3.03		Clay	100.0			12.86	1.15	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	13.720	1.082	1270.4	1259.8	20.773	8.270	3.03		Clay	100.0			12.97	1.15	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	14.090	1.058	1289.6	1269.0	21.190	7.869	3.01		Clay	100.0			13.32	1.14	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	14.560	1.058	1310.0	1278.8	21.747	7.609	2.99		Clay	100.0			13.76	1.14	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	14.100	1.037	1329.2	1288.0	20.862	7.716	3.01		Clay	100.0			13.33	1.14	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.50

Total Settlement:	0.01	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.830	13.410	1.045	1349.6	1297.8	19.626	8.208	3.05		Clay	100.0			12.67	1.14	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	12.250	1.026	1368.8	1307.0	17.698	8.867	3.10		Clay	100.0			11.58	1.14	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	11.140	0.929	1388.0	1316.2	15.872	8.889	3.14		Clay	100.0			10.53	1.13	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	10.660	0.849	1408.4	1326.0	15.016	8.531	3.14		Clay	100.0			10.08	1.13	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	10.790	0.813	1427.6	1335.2	15.093	8.067	3.13		Clay	100.0			10.20	1.13	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	10.750	0.817	1448.0	1345.0	14.908	8.148	3.13		Clay	100.0			10.16	1.13	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	10.420	0.726	1467.2	1354.3	14.305	7.497	3.12		Clay	100.0			9.85	1.12	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	9.780	0.708	1487.6	1364.0	13.249	7.835	3.16		Clay	100.0			9.24	1.12	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.480	0.674	1506.8	1373.3	12.709	7.719	3.17		Clay	100.0			8.96	1.12	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	10.170	0.632	1526.0	1382.5	13.609	6.721	3.11		Clay	100.0			9.61	1.12	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	10.000	0.602	1546.4	1392.3	13.254	6.522	3.11		Clay	100.0			9.45	1.12	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	10.330	0.613	1565.6	1401.5	13.624	6.425	3.09		Clay	100.0			9.76	1.11	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	9.820	0.624	1586.0	1411.3	12.793	6.911	3.13		Clay	100.0			9.28	1.11	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	9.290	0.556	1605.2	1420.5	11.950	6.553	3.14		Clay	100.0			8.78	1.11	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	8.780	0.504	1624.4	1429.7	11.146	6.325	3.16		Clay	100.0			8.30	1.11	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	7.750	0.447	1644.8	1439.5	9.625	6.450	3.21		Clay	100.0			7.33	1.11	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	8.370	0.503	1664.0	1448.7	10.406	6.672	3.19		Clay	100.0			7.91	1.11	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	11.040	0.658	1684.4	1458.5	13.984	6.453	3.09		Clay	100.0			10.43	1.10	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	11.640	0.845	1703.6	1467.7	14.701	7.829	3.13		Clay	100.0			11.00	1.10	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	12.170	0.959	1722.8	1476.9	15.314	8.478	3.14		Clay	100.0			11.50	1.10	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	11.320	0.918	1743.2	1486.7	14.055	8.781	3.17		Clay	100.0			10.70	1.10	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	10.110	0.816	1762.4	1496.0	12.338	8.840	3.22		Clay	100.0			9.56	1.10	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	9.720	0.750	1782.8	1505.7	11.727	8.496	3.22		Clay	100.0			9.19	1.09	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	9.720	0.734	1802.0	1515.0	11.643	8.322	3.22		Clay	100.0			9.19	1.09	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	9.270	0.664	1821.2	1524.2	10.969	7.943	3.22		Clay	100.0			8.76	1.09	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	9.000	0.615	1841.6	1534.0	10.534	7.613	3.23		Clay	100.0			8.51	1.09	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	9.390	0.591	1860.8	1543.2	10.964	6.989	3.19		Clay	100.0			8.88	1.09	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	8.970	0.615	1881.2	1553.0	10.341	7.664	3.23		Clay	100.0			8.48	1.09	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	8.740	0.619	1900.4	1562.2	9.973	7.941	3.26		Clay	100.0			8.26	1.08	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	8.430	0.597	1919.6	1571.4	9.508	7.986	3.27		Clay	100.0			7.97	1.08	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	8.120	0.610	1940.0	1581.2	9.044	8.526	3.31		Clay	100.0			7.67	1.08	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	8.280	0.586	1959.2	1590.4	9.180	8.023	3.29		Clay	100.0			7.83	1.08	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	8.620	0.569	1979.6	1600.2	9.537	7.452	3.25		Clay	100.0			8.15	1.08	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	8.430	0.576	1998.8	1609.4	9.234	7.750	3.27		Clay	100.0			7.97	1.07	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	8.320	0.588	2018.0	1618.6	9.034	8.045	3.29		Clay	100.0			7.86	1.07	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	8.070	0.543	2038.4	1628.4	8.660	7.703	3.29		Clay	100.0			7.63	1.07	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	7.880	0.547	2057.6	1637.6	8.367	7.983	3.32		Clay	100.0			7.45	1.07	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	7.610	0.521	2078.0	1647.4	7.977	7.929	3.33		Clay	100.0			7.19	1.07	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	7.070	0.500	2097.2	1656.7	7.269	8.297	3.37		Clay	100.0			6.68	1.07	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	7.170	0.499	2116.4	1665.9	7.338	8.168	3.37		Clay	100.0			6.78	1.07	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	7.100	0.517	2136.8	1675.7	7.199	8.572	3.39		Clay	100.0			6.71	1.06	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	6.900	0.474	2156.0	1684.9	6.911	8.148	3.39		Clay	100.0			6.52	1.06	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	6.340	0.422	2176.4	1694.7	6.198	8.032	3.42		Clay	100.0			5.99	1.06	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	6.540	0.459	2195.6	1703.9	6.388	8.434	3.42		Clay	100.0			6.18	1.06	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	9.010	0.580	2214.8	1713.1	9.226	7.333	3.26		Clay	100.0			8.52	1.06	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	11.020	0.612	2235.2	1722.9	11.495	6.184	3.14		Clay	100.0			10.42	1.06	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	9.600	0.547	2254.4	1732.1	9.783	6.450	3.20		Clay	100.0			9.07	1.05	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	8.540	0.472	2274.8	1741.9	8.499	6.375	3.25		Clay	100.0			8.07	1.05	n.a.	n.a.	0.97	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	8.370	0.449	2294.0	1751.1	8.250	6.220	3.25		Clay	100.0			7.91	1.05	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	8.420	0.472	2313.2	1760.3	8.252	6.494	3.26		Clay	100.0			7.96	1.05	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	9.010	0.474	2333.6	1770.1	8.862	6.046	3.22		Clay	100.0			8.52	1.05	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	8.640	0.441	2352.8	1779.3	8.389	5.911	3.23		Clay	100.0			8.17	1.05	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	8.140	0.392	2373.2	1789.1	7.773	5.636	3.25		Clay	100.0			7.69	1.05	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	7.250	0.341	2392.4	1798.4	6.733	5.626	3.30		Clay	100.0			6.85	1.04	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	6.510	0.311	2412.8	1808.1	5.866	5.871	3.35		Clay	100.0			6.15	1.04	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	6.490	0.302	2432.0	1817.4	5.804	5.724	3.35		Clay	100.0			6.13	1.04	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	7.170	0.362	2451.2	1826.6	6.509	6.095	3.33		Clay	100.0			6.78	1.04	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	9.630	0.414	2471.6	1836.4	9.142	4.928	3.15		Clay	100.0			9.10	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	11.850	0.518	2490.8	1845.6	11.492	4.888	3.07		Clay	100.0			11.20	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	14.010	0.656	2511.2	1855.4	13.749	5.144	3.03		Clay	100.0			13.24	1.04	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	16.340	0.798	2530.4	1864.6	16.170	5.296	2.98		Clay	100.0			15.44	1.03	n.a.	n.a.	0.96	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	20.380	1.047	2549.6	1873.8	20.392	5.478	2.92		Clay	96.3			19.26	1.03	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	24.500	1.362	2570.0	1883.6	24.650	5.869	2.88		Clay	93.1			23.16	1.03	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	29.720	1.575	2589.2	1892.8	30.035	5.540	2.80		Clay	86.8			28.09	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.50

Total Settlement:	0.01	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.330	33.020	1.706	2609.6	1902.6	33.339	5.380	2.76		Clay	83.5			31.21	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	34.670	2.131	2628.8	1911.8	34.894	6.388	2.80		Clay	86.7			32.77	1.03	n.a.	n.a.	0.96	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	44.040	2.086	2648.0	1921.0	44.472	4.882	2.64		Clay	74.1			41.63	1.03	n.a.	n.a.	0.96	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	68.640	2.593	2668.4	1930.8	66.597	3.853	2.44		Sand	58.5	79.67	1.32	105.16	1.03	108.56	187.15	0.96	0.461	1.021	0.985	2.212	4.80	0.00	0.00
21.980	82.520	3.035	2687.6	1940.0	80.130	3.739	2.38		Sand	53.4	79.67	1.32	105.16	1.03	108.41	184.83	0.96	0.462	1.019	0.888	1.968	4.26	0.00	0.00
22.150	83.440	3.567	2708.0	1949.8	80.824	4.345	2.43		Sand	57.2	79.67	1.32	105.16	1.03	108.20	186.19	0.96	0.462	1.018	0.943	2.111	4.57	0.00	0.00
22.310	84.290	3.899	2727.2	1959.1	81.459	4.702	2.45		Sand	59.1		1.32	105.16	1.03	108.02	186.71	0.96	0.463	1.017	0.965	2.161	4.67	0.00	0.00
22.470	81.360	4.137	2746.4	1968.3	78.388	5.172	2.49		Sand	62.6		1.32	101.51	1.03	104.13	182.92	0.96	0.464	1.016	0.819	1.779	3.84	0.00	0.00
22.640	77.710	4.326	2766.8	1978.1	74.615	5.668	2.54		Sand	66.1		1.32	96.95	1.02	99.34	177.84	0.96	0.464	1.014	0.667	1.390	2.99	0.00	0.00
22.800	71.440	4.089	2786.0	1987.3	68.318	5.837	2.57		Sand	68.8		1.32	89.13	1.02	91.25	168.16	0.96	0.465	1.012	0.474	0.914	1.96	0.00	0.00
22.970	71.170	4.012	2806.4	1997.1	67.877	5.750	2.57		Sand	68.6		1.32	88.79	1.02	90.75	167.44	0.95	0.466	1.011	0.463	0.887	1.90	0.00	0.00
23.130	65.440	3.751	2825.6	2006.3	62.815	5.858	2.60		Mixed	70.8		1.32	81.65	1.02	83.36	158.44	0.95	0.467	1.009	0.356	0.636	1.36	0.00	0.00
23.290	64.370	3.349	2844.8	2015.5	60.962	5.320	2.57		Sand	68.9		1.32	80.31	1.02	81.86	156.07	0.95	0.467	1.008	0.334	0.587	1.26	0.00	0.01
23.460	64.560	3.005	2865.2	2025.3	60.988	4.761	2.54		Sand	66.0		1.32	80.55	1.02	81.95	155.43	0.95	0.468	1.007	0.329	0.574	1.23	0.01	0.01
23.620	69.580	3.057	2884.4	2034.5	65.680	4.486	2.50		Sand	62.8		1.32	86.81	1.02	88.13	162.44	0.95	0.468	1.007	0.398	0.731	1.56	0.00	0.00
23.790	65.220	3.259	2904.8	2044.3	61.320	5.110	2.56		Sand	67.7	65.77	1.32	86.82	1.01	87.97	163.64	0.95	0.469	1.006	0.412	0.763	1.63	0.00	0.00
23.950	45.840	2.292	2924.0	2053.5	43.221	5.164	2.66		Clay	76.2			43.33	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	28.370	1.357	2943.2	2062.7	26.080	5.045	2.81		Clay	88.1			26.81	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	24.880	0.873	2963.6	2072.5	22.579	3.731	2.77		Clay	84.8			23.52	1.01	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	24.990	0.954	2982.8	2081.7	22.576	4.058	2.80		Clay	86.7			23.62	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	30.610	1.924	3003.2	2091.5	27.834	6.610	2.87		Clay	93.0			28.93	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	46.120	2.730	3022.4	2100.8	42.469	6.119	2.72		Clay	80.9			43.59	1.00	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	62.670	3.542	3041.6	2110.0	57.962	5.793	2.62		Clay	72.3			59.23	1.00	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	81.140	4.429	3062.0	2119.8	75.178	5.564	2.53		Sand	65.4	124.37		124.37	1.00	124.30	209.77	0.95	0.474	0.999	3.432	7.546	15.92	0.00	0.00
25.260	83.040	4.582	3081.2	2129.0	76.796	5.623	2.53		Sand	65.3	124.37		124.37	1.00	124.13	209.49	0.95	0.474	0.998	3.369	7.399	15.60	0.00	0.00
25.430	92.170	4.220	3101.6	2138.8	85.194	4.657	2.44		Sand	57.9	124.37		124.37	1.00	123.94	206.57	0.95	0.475	0.997	2.794	6.127	12.90	0.00	0.00
25.590	111.790	3.425	3120.8	2148.0	103.408	3.107	2.25		Sand	42.8	124.37		124.37	1.00	123.75	197.81	0.95	0.475	0.996	1.674	3.669	7.72	0.00	0.00
25.750	131.580	2.562	3140.0	2157.2	121.704	1.971	2.05		Sand	27.2			124.37	0.99	123.51	179.29	0.95	0.476	0.996	0.706	1.461	3.07	0.00	0.00
25.920	105.890	2.539	3160.4	2167.0	97.425	2.434	2.19		Sand	37.8	124.37		124.37	0.99	123.37	193.05	0.95	0.477	0.994	1.305	2.855	5.99	0.00	0.00
26.080	67.120	2.745	3179.6	2176.2	61.075	4.190	2.50		Sand	62.7	124.37		124.37	0.99	123.26	207.51	0.95	0.477	0.992	2.964	6.469	13.56	0.00	0.00
26.250	42.030	2.659	3200.0	2186.0	36.990	6.578	2.79		Clay	86.0			39.73	0.99	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	35.490	1.864	3219.2	2195.2	30.867	5.501	2.79		Clay	85.9			33.54	0.99	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	30.660	1.514	3238.4	2204.4	26.348	5.212	2.82		Clay	88.6			28.98	0.99	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	25.370	1.320	3258.8	2214.2	21.444	5.558	2.90		Clay	95.3			23.98	0.99	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	19.330	1.259	3278.0	2223.4	15.913	7.117	3.07		Clay	100.0			18.27	0.99	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	19.340	0.998	3298.4	2233.2	15.843	5.640	3.01		Clay	100.0			18.28	0.99	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	30.780	1.126	3317.6	2242.4	25.973	3.865	2.74		Clay	82.0			29.09	0.98	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	27.720	1.302	3338.0	2252.2	23.133	4.998	2.85		Clay	90.9			26.20	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	31.750	1.214	3357.2	2261.5	26.595	4.038	2.74		Clay	82.3			30.01	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	89.100	1.155	3376.4	2270.7	79.756	1.322	2.06		Sand	28.1	102.26	1.66	169.75	0.98	166.32	231.90	0.94	0.482	0.979	19.505	42.003	87.21	0.00	0.00
27.890	108.190	0.786	3396.8	2280.5	96.956	0.738	1.84		Sand	10.2		1.66	169.75	0.97	165.19	175.29	0.94	0.482	0.985	0.606	1.202	2.49	0.00	0.00
28.050	101.050	1.463	3416.0	2289.7	90.265	1.473	2.05		Sand	27.4	102.26	1.66	169.75	0.98	165.89	229.99	0.94	0.482	0.976	16.394	35.213	72.99	0.00	0.00
28.220	80.410	1.684	3436.4	2299.5	71.349	2.140	2.24		Sand	42.2	102.26	1.66	169.75	0.98	166.01	250.06	0.94	0.483	0.975	131.140	281.311	582.56	0.00	0.00
28.380	64.510	1.869	3455.6	2308.7	56.810	2.977	2.41		Sand	55.9	102.26	1.66	169.75	0.98	165.89	259.17	0.94	0.483	0.974	413.400	885.700	1832.69	0.00	0.00
28.540	52.520	1.631	3474.8	2317.9	45.861	3.211	2.50		Sand	63.0	102.26	1.66	169.75	0.98	165.72	262.16	0.94	0.484	0.973	620.687	1328.177	2746.10	0.00	0.00
28.710	31.880	1.065	3495.2	2327.7	25.890	3.536	2.71		Clay	80.0			30.13	0.98	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	21.670	1.025	3514.4	2336.9	17.042	5.149	2.96		Clay	99.5			20.48	0.97	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	52.030	1.256	3534.8	2346.7	45.112	2.498	2.43		Sand	57.5	225.33		225.33	0.97	219.26	328.15	0.94	0.485	0.969	########	########	##########	0.00	0.00
29.200	200.750	2.126	3554.0	2355.9	178.232	1.069	1.75		Sand	2.6	225.33		225.33	0.97	218.04	218.04	0.94	0.485	0.968	6.143	13.079	26.96	0.00	0.00
29.360	238.400	2.818	3573.2	2365.1	211.536	1.191	1.73		Sand	1.3			225.33	0.97	217.77	217.77	0.94	0.486	0.967	6.021	12.804	26.37	0.00	0.00
29.530	193.040	3.119	3593.6	2374.9	170.621	1.631	1.89		Sand	14.5			182.46	0.96	175.73	203.01	0.93	0.486	0.969	2.249	4.792	9.86	0.00	0.00
29.690	108.280	2.915	3612.8	2384.1	94.809	2.738	2.23		Sand	41.5			102.34	0.96	97.80	164.45	0.93	0.486	0.978	0.422	0.765	1.57	0.00	0.00
29.860	174.550	2.958	3633.2	2393.9	153.494	1.712	1.94		Sand	18.2			164.98	0.96	158.34	197.45	0.93	0.487	0.969	1.641	3.497	7.19	0.00	0.00
30.020	115.030	3.037	3652.4	2403.2	100.402	2.683	2.21		Sand	39.6	164.98		164.98	0.96	159.19	239.14	0.93	0.487	0.962	39.403	83.376	171.25	0.00	0.00
30.180	55.480	2.463	3671.6	2412.4	44.474	4.591	2.62		Clay	72.5			52.44	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	25.860	1.806	3692.0	2422.2	19.829	7.519	3.02		Clay	100.0			24.44	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	21.400	0.958	3711.2	2431.4	16.077	4.901	2.96		Clay	100.0			20.23	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	13.160	0.742	3731.6	2441.2	9.253	6.568	3.23		Clay	100.0			12.44	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	14.800	0.499	3750.8	2450.4	10.549	3.863	3.04		Clay	100.0			13.99	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	12.540	0.416	3770.0	2459.6	8.664	3.901	3.11		Clay	100.0			11.85	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	11.290	0.549	3790.4	2469.4	7.609	5.847	3.26		Clay	100.0			10.67	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	12.930	0.514	3809.6	2478.6	8.896	4.659	3.15		Clay	100.0			12.22	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	16.910	0.432	3830.0	2488.4	12.052	2.881	2.92		Clay	96.6			15.98	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	14.590	0.468	3849.2	2497.6	10.142	3.695	3.04		Clay	100.0			13.79	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.50

Total Settlement:	0.01	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.820	15.660	0.527	3868.4	2506.8	10.951	3.837	3.03		Clay	100.0			14.80	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	17.310	0.758	3888.8	2516.6	12.211	4.936	3.06		Clay	100.0			16.36	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	22.190	0.782	3908.0	2525.8	16.023	3.864	2.90		Clay	94.8			20.97	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	30.240	0.853	3928.4	2535.6	22.303	3.015	2.72		Clay	80.5			28.58	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	26.070	0.849	3947.6	2544.8	18.937	3.525	2.82		Clay	88.3			24.64	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	22.150	0.831	3966.8	2554.1	15.792	4.119	2.92		Clay	96.6			20.94	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	19.480	0.904	3987.2	2563.9	13.641	5.167	3.03		Clay	100.0			18.41	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	21.870	0.880	4006.4	2573.1	15.442	4.429	2.95		Clay	98.8			20.67	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	23.870	1.060	4026.8	2582.9	16.924	4.848	2.94		Clay	98.4			22.56	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	27.950	1.346	4046.0	2592.1	20.005	5.190	2.91		Clay	95.5			26.42	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	32.710	1.487	4065.2	2601.3	23.586	4.848	2.83		Clay	89.7			30.92	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	29.290	1.038	4085.6	2611.1	20.870	3.810	2.80		Clay	87.4			27.68	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	24.060	0.717	4104.8	2620.3	16.798	3.260	2.84		Clay	89.9			22.74	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	19.000	0.788	4125.2	2630.1	12.880	4.651	3.02		Clay	100.0			17.96	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	18.410	0.926	4144.4	2639.3	12.380	5.668	3.09		Clay	100.0			17.40	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	18.750	0.962	4163.6	2648.5	12.587	5.773	3.09		Clay	100.0			17.72	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	19.810	1.014	4184.0	2658.3	13.330	5.723	3.07		Clay	100.0			18.72	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	20.830	1.061	4203.2	2667.5	14.042	5.667	3.05		Clay	100.0			19.69	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	21.410	0.929	4223.6	2677.3	14.416	4.814	2.99		Clay	100.0			20.24	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	21.330	1.188	4242.8	2686.5	14.300	6.185	3.07		Clay	100.0			20.16	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	26.180	1.364	4262.0	2695.8	17.842	5.672	2.97		Clay	100.0			24.74	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	53.040	1.307	4282.4	2705.6	42.545	2.568	2.46		Sand	59.7	58.3	1.8	104.94	0.91	95.82	171.29	0.92	0.495	0.952	0.526	0.978	1.98	0.00	0.00
35.430	61.680	1.432	4301.6	2714.8	49.675	2.406	2.39		Sand	54.2		1.8	104.94	0.91	95.61	168.89	0.92	0.495	0.953	0.485	0.886	1.79	0.00	0.00
35.600	48.220	1.229	4322.0	2724.6	38.365	2.668	2.50		Sand	63.3	58.3	1.8	104.94	0.91	95.60	172.20	0.91	0.495	0.950	0.543	1.014	2.05	0.00	0.00
35.760	30.920	0.784	4341.2	2733.8	21.033	2.728	2.71		Clay	79.9			29.22	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	17.800	0.631	4361.6	2743.6	11.386	4.042	3.03		Clay	100.0			16.82	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	12.940	0.412	4380.8	2752.8	7.810	3.835	3.15		Clay	100.0			12.23	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	11.470	0.322	4400.0	2762.0	6.713	3.471	3.18		Clay	100.0			10.84	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	10.600	0.324	4420.4	2771.8	6.054	3.857	3.24		Clay	100.0			10.02	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	11.080	0.328	4439.6	2781.0	6.372	3.702	3.21		Clay	100.0			10.47	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	11.310	0.345	4460.0	2790.8	6.507	3.801	3.21		Clay	100.0			10.69	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	11.890	0.353	4479.2	2800.0	6.893	3.656	3.18		Clay	100.0			11.24	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	12.690	0.337	4498.4	2809.2	7.433	3.226	3.12		Clay	100.0			11.99	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	12.320	0.330	4518.8	2819.0	7.138	3.275	3.14		Clay	100.0			11.64	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	12.320	0.333	4538.0	2828.2	7.108	3.315	3.14		Clay	100.0			11.64	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	13.150	0.405	4558.4	2838.0	7.661	3.726	3.15		Clay	100.0			12.43	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	14.520	0.460	4577.6	2847.2	8.592	3.757	3.11		Clay	100.0			13.72	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	15.070	0.473	4596.8	2856.5	8.942	3.706	3.09		Clay	100.0			14.24	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	15.680	0.495	4617.2	2866.3	9.330	3.700	3.07		Clay	100.0			14.82	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	16.000	0.521	4636.4	2875.5	9.516	3.806	3.07		Clay	100.0			15.12	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	16.570	0.544	4656.8	2885.3	9.872	3.823	3.06		Clay	100.0			15.66	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	16.240	0.533	4676.0	2894.5	9.606	3.835	3.07		Clay	100.0			15.35	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	15.750	0.498	4695.2	2903.7	9.231	3.714	3.08		Clay	100.0			14.89	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	14.990	0.470	4715.6	2913.5	8.672	3.717	3.10		Clay	100.0			14.17	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	14.240	0.428	4734.8	2922.7	8.124	3.605	3.12		Clay	100.0			13.46	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	13.420	0.398	4755.2	2932.5	7.531	3.608	3.14		Clay	100.0			12.68	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	12.990	0.379	4774.4	2941.7	7.209	3.576	3.16		Clay	100.0			12.28	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	12.850	0.371	4793.6	2950.9	7.085	3.547	3.16		Clay	100.0			12.15	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	12.720	0.359	4814.0	2960.7	6.967	3.477	3.16		Clay	100.0			12.02	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	12.410	0.343	4833.2	2969.9	6.730	3.432	3.17		Clay	100.0			11.73	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	12.010	0.328	4853.6	2979.7	6.432	3.424	3.19		Clay	100.0			11.35	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	11.740	0.315	4872.8	2988.9	6.225	3.389	3.20		Clay	100.0			11.10	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	11.630	0.315	4892.0	2998.2	6.126	3.424	3.21		Clay	100.0			10.99	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	11.840	0.324	4912.4	3008.0	6.239	3.456	3.20		Clay	100.0			11.19	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	12.190	0.328	4931.6	3017.2	6.446	3.369	3.18		Clay	100.0			11.52	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	13.030	0.365	4952.0	3027.0	6.973	3.460	3.16		Clay	100.0			12.32	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	14.540	0.462	4971.2	3036.2	7.941	3.828	3.14		Clay	100.0			13.74	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	16.900	0.438	4990.4	3045.4	9.460	3.040	3.02		Clay	100.0			15.97	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	17.400	0.359	5010.8	3055.2	9.750	2.408	2.95		Clay	99.2			16.45	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	16.740	0.316	5030.0	3064.4	9.284	2.223	2.95		Clay	99.2			15.82	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	16.030	0.291	5050.4	3074.2	8.786	2.152	2.97		Clay	100.0			15.15	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	14.860	0.317	5069.6	3083.4	7.995	2.569	3.04		Clay	100.0			14.05	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	14.600	0.294	5088.8	3092.6	7.796	2.438	3.04		Clay	100.0			13.80	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	13.630	0.274	5109.2	3102.4	7.140	2.476	3.07		Clay	100.0			12.88	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.50

Total Settlement:	0.01	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.320	12.720	0.262	5128.4	3111.6	6.528	2.578	3.12		Clay	100.0			12.02	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	12.410	0.255	5148.8	3121.4	6.302	2.597	3.13		Clay	100.0			11.73	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	12.400	0.240	5168.0	3130.6	6.271	2.447	3.12		Clay	100.0			11.72	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	12.730	0.224	5187.2	3139.9	6.457	2.207	3.09		Clay	100.0			12.03	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	12.040	0.223	5207.6	3149.6	5.992	2.365	3.13		Clay	100.0			11.38	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	11.680	0.239	5226.8	3158.9	5.740	2.635	3.17		Clay	100.0			11.04	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	11.830	0.255	5247.2	3168.7	5.811	2.770	3.18		Clay	100.0			11.18	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	12.140	0.284	5266.4	3177.9	5.983	2.988	3.18		Clay	100.0			11.47	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	12.910	0.302	5286.8	3187.7	6.441	2.941	3.15		Clay	100.0			12.20	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	13.160	0.333	5306.0	3196.9	6.573	3.171	3.16		Clay	100.0			12.44	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	14.290	0.343	5325.2	3206.1	7.253	2.953	3.11		Clay	100.0			13.51	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	15.670	0.347	5345.6	3215.9	8.083	2.672	3.05		Clay	100.0			14.81	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	15.840	0.482	5364.8	3225.1	8.159	3.660	3.12		Clay	100.0			14.97	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	18.930	0.636	5385.2	3234.9	10.039	3.916	3.06		Clay	100.0			17.89	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	25.110	0.664	5404.4	3244.1	13.814	2.964	2.88		Clay	93.3			23.73	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	25.150	0.693	5423.6	3253.3	13.794	3.089	2.89		Clay	94.2			23.77	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	22.430	0.675	5444.0	3263.1	12.079	3.423	2.96		Clay	100.0			21.20	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	20.740	0.623	5463.2	3272.3	11.006	3.458	3.00		Clay	100.0			19.60	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	19.040	0.540	5483.6	3282.1	9.931	3.313	3.02		Clay	100.0			18.00	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	17.850	0.414	5502.8	3291.3	9.175	2.743	3.01		Clay	100.0			16.87	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	15.440	0.362	5522.0	3300.6	7.683	2.854	3.08		Clay	100.0			14.59	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	14.280	0.355	5542.4	3310.4	6.953	3.083	3.13		Clay	100.0			13.50	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	14.370	0.345	5561.6	3319.6	6.982	2.973	3.12		Clay	100.0			13.58	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	13.700	0.324	5582.0	3329.4	6.553	2.965	3.15		Clay	100.0			12.95	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	13.440	0.308	5601.2	3338.6	6.374	2.896	3.15		Clay	100.0			12.70	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	13.180	0.285	5620.4	3347.8	6.195	2.747	3.15		Clay	100.0			12.46	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	12.560	0.288	5640.8	3357.6	5.802	2.959	3.19		Clay	100.0			11.87	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	12.740	0.311	5660.0	3366.8	5.887	3.142	3.20		Clay	100.0			12.04	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	13.790	0.351	5680.4	3376.6	6.486	3.203	3.17		Clay	100.0			13.03	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	14.460	0.404	5699.6	3385.8	6.858	3.476	3.17		Clay	100.0			13.67	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.670	0.374	5718.8	3395.0	6.958	3.166	3.14		Clay	100.0			13.87	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	14.870	0.373	5739.2	3404.8	7.049	3.105	3.13		Clay	100.0			14.05	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	14.620	0.378	5758.4	3414.0	6.878	3.221	3.15		Clay	100.0			13.82	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	14.530	0.373	5778.8	3423.8	6.800	3.203	3.15		Clay	100.0			13.73	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	14.420	0.360	5798.0	3433.0	6.712	3.123	3.15		Clay	100.0			13.63	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	14.660	0.382	5817.2	3442.3	6.828	3.249	3.15		Clay	100.0			13.86	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	15.060	0.466	5837.6	3452.0	7.034	3.837	3.18		Clay	100.0			14.23	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	16.640	0.631	5856.8	3461.3	7.923	4.603	3.19		Clay	100.0			15.73	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	19.810	0.741	5877.2	3471.1	9.721	4.390	3.10		Clay	100.0			18.72	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	23.460	0.892	5896.4	3480.3	11.787	4.350	3.03		Clay	100.0			22.17	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	25.170	1.422	5915.6	3489.5	12.731	6.400	3.11		Clay	100.0			23.79	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	36.290	2.162	5936.0	3499.3	19.045	6.489	2.99		Clay	100.0			34.30	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	55.220	2.498	5955.2	3508.5	29.781	4.781	2.76		Clay	83.4			52.19	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	78.320	2.137	5975.6	3518.3	55.219	2.836	2.40		Sand	55.4	105.55	1.78	187.88	0.87	164.29	256.89	0.87	0.496	0.847	306.233	570.948	1151.84	0.00	0.00
49.540	96.650	1.820	5994.8	3527.5	68.558	1.943	2.22		Sand	40.9	105.55	1.78	187.88	0.87	163.39	245.61	0.86	0.496	0.847	78.619	146.444	295.49	0.00	0.00
49.700	111.670	1.335	6014.0	3536.7	79.443	1.229	2.04		Sand	26.6		1.78	187.88	0.86	160.99	222.56	0.86	0.495	0.846	8.729	16.245	32.79	0.00	0.00
49.870	103.260	1.493	6034.4	3546.5	73.185	1.489	2.13		Sand	33.1	105.55	1.78	187.88	0.86	162.11	234.94	0.86	0.495	0.845	25.983	48.306	97.51	0.00	0.00
50.030	53.590	1.385	6053.6	3555.7	28.440	2.739	2.61		Clay	71.8			50.65	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	31.860	1.351	6074.0	3565.5	16.168	4.687	2.95		Clay	98.8			30.11	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.50

Total Settlement:	0.06	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.330	282.910	2.314	41.3	41.3	1915.035	0.818	1.15		Unsaturated	0.0			267.40	1.70	454.58	454.58	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	223.410	2.323	61.3	61.3	1240.973	1.040	1.29		Unsaturated	0.0			211.16	1.70	358.98	358.98	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	213.360	3.021	82.5	82.5	1021.114	1.416	1.45		Unsaturated	0.0			201.66	1.70	342.83	342.83	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	132.400	3.396	102.5	102.5	568.369	2.566	1.78		Unsaturated	5.4			125.14	1.70	212.74	213.12	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	86.570	2.549	122.5	122.5	339.832	2.946	1.93		Unsaturated	17.6			81.82	1.70	139.10	174.21	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	36.880	2.299	143.8	143.8	133.479	6.246	2.42		Unsaturated	56.8			34.86	1.70	59.26	123.58	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	37.310	2.558	163.8	163.8	126.489	6.872	2.47		Unsaturated	60.6			35.26	1.70	59.95	125.66	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	52.420	2.114	185.0	185.0	167.269	4.041	2.21		Unsaturated	39.9			49.55	1.70	84.23	146.41	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	115.910	1.928	205.0	205.0	351.667	1.664	1.71		Unsaturated	0.0			109.56	1.70	186.24	186.24	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	104.030	1.671	225.0	225.0	301.210	1.608	1.74		Unsaturated	2.0			98.33	1.70	167.16	167.16	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	39.140	1.869	246.3	246.3	108.103	4.790	2.38		Unsaturated	53.6			36.99	1.70	62.89	127.03	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	24.150	1.669	266.3	266.3	96.870	6.948	2.54		Unsaturated	66.2			22.83	1.70	38.80	99.93	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	22.360	1.293	287.5	287.5	84.918	5.819	2.51		Unsaturated	64.0			21.13	1.70	35.93	95.73	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	19.810	1.390	307.5	307.5	71.678	7.069	2.62		Unsaturated	73.0			18.72	1.70	31.83	92.26	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	20.640	1.422	327.5	327.5	71.446	6.943	2.62		Unsaturated	72.6			19.51	1.70	33.16	93.92	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	27.370	1.746	348.8	348.8	90.806	6.422	2.53		Unsaturated	65.3			25.87	1.70	43.98	106.39	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	28.710	1.969	368.8	368.8	91.601	6.901	2.55		Unsaturated	67.2			27.14	1.70	46.13	109.58	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	25.440	2.102	390.0	390.0	77.948	8.326	2.66		Unsaturated	75.7			24.05	1.70	40.88	104.46	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	27.270	2.086	410.0	410.0	80.693	7.708	2.62		Unsaturated	72.9			25.78	1.70	43.82	107.76	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	31.320	2.275	430.0	430.0	89.697	7.313	2.58		Unsaturated	69.2			29.60	1.70	50.33	115.44	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	44.990	2.901	451.3	451.3	91.621	6.480	2.53		Unsaturated	65.4			42.52	1.70	72.29	142.84	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	62.200	3.941	471.3	471.3	124.105	6.360	2.45		Unsaturated	58.8			58.79	1.70	99.94	176.24	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	70.070	4.527	492.5	492.5	136.796	6.483	2.43		Unsaturated	57.4			66.23	1.66	109.63	188.10	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	62.460	4.444	512.5	512.5	119.465	7.145	2.50		Unsaturated	62.9			59.04	1.67	98.75	176.11	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	45.060	3.782	533.8	533.8	111.033	8.443	2.58		Unsaturated	69.1			42.59	1.70	72.40	143.90	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	28.110	2.811	553.8	553.8	100.526	10.098	2.66		Unsaturated	76.2			26.57	1.70	45.17	110.09	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	19.840	2.087	573.8	573.8	68.159	10.673	2.78		Unsaturated	85.5			18.75	1.70	31.88	94.17	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	16.450	1.670	595.0	595.0	54.294	10.336	2.83		Unsaturated	89.3			15.55	1.70	26.43	87.52	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	16.000	1.594	615.0	615.0	51.033	10.155	2.84		Unsaturated	90.2			15.12	1.70	25.71	86.67	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	16.100	1.456	636.3	636.3	49.609	9.228	2.81		Unsaturated	88.2			15.22	1.70	25.87	86.66	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	15.420	1.424	656.3	656.3	45.994	9.436	2.84		Unsaturated	90.5			14.57	1.70	24.78	85.49	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	16.810	1.394	676.3	676.3	48.715	8.465	2.79		Unsaturated	86.3			15.89	1.70	27.01	87.93	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	15.870	1.370	697.5	697.5	44.505	8.827	2.83		Unsaturated	89.4			15.00	1.70	25.50	86.32	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	15.840	1.259	717.5	717.5	43.153	8.131	2.81		Unsaturated	87.9			14.97	1.70	25.45	86.09	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	16.710	1.169	738.8	738.8	44.239	7.152	2.76		Unsaturated	84.0			15.79	1.70	26.85	87.44	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	19.010	1.091	758.8	758.8	49.109	5.854	2.67		Unsaturated	76.4			17.97	1.70	30.55	91.16	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	22.810	1.183	778.8	778.8	42.662	5.278	2.68		Unsaturated	77.0			21.56	1.65	35.64	97.88	1.00	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	25.930	1.174	800.0	800.0	47.672	4.599	2.60		Unsaturated	70.9			24.51	1.62	39.62	101.96	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	31.420	1.018	820.0	820.0	47.083	3.282	2.50		Unsaturated	62.9			29.70	1.57	46.73	109.33	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	34.780	0.737	841.3	841.3	51.506	2.144	2.34		Unsaturated	50.6			32.87	1.55	50.96	110.71	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	36.120	0.624	861.3	861.3	52.875	1.749	2.28		Unsaturated	45.3			34.14	1.53	52.40	110.06	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	37.860	0.575	881.3	881.3	54.805	1.537	2.23		Unsaturated	41.4			35.78	1.52	54.31	110.27	0.99	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	36.610	0.629	902.5	902.5	52.331	1.739	2.28		Unsaturated	45.4			34.60	1.50	51.98	109.61	0.99	0.323	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.380	33.510	0.771	922.5	922.5	47.309	2.333	2.40		Unsaturated	54.7			31.67	1.49	47.25	107.56	0.99	0.323	1.094	n.a.	n.a.	n.a.	0.00	0.00
7.550	29.620	0.770	943.8	943.8	41.253	2.643	2.48		Unsaturated	61.2			28.00	1.49	41.68	102.40	0.99	0.323	1.087	n.a.	n.a.	n.a.	0.00	0.00
7.710	26.790	0.693	963.8	963.8	36.845	2.635	2.51		Unsaturated	64.1			25.32	1.49	37.60	97.89	0.99	0.323	1.082	n.a.	n.a.	n.a.	0.00	0.00
7.870	19.920	0.687	983.8	983.8	31.390	3.538	2.65		Unsaturated	75.0			18.83	1.50	28.18	87.87	0.99	0.322	1.074	n.a.	n.a.	n.a.	0.00	0.00
8.040	13.630	0.779	1005.0	1005.0	26.124	5.936	2.86		Clay	91.9			12.88	1.22	n.a.	n.a.	0.99	0.323	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	10.950	0.759	1025.0	1025.0	20.366	7.274	3.00		Clay	100.0			10.35	1.21	n.a.	n.a.	0.99	0.326	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	10.470	0.711	1046.3	1046.3	19.014	7.150	3.02		Clay	100.0			9.90	1.20	n.a.	n.a.	0.99	0.329	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	9.720	0.547	1066.3	1066.3	17.232	5.955	2.99		Clay	100.0			9.19	1.20	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	9.340	0.571	1086.3	1086.3	16.197	6.494	3.04		Clay	100.0			8.83	1.19	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	9.650	0.641	1107.5	1107.5	16.427	7.051	3.06		Clay	100.0			9.12	1.19	n.a.	n.a.	0.99	0.338	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	10.030	0.675	1127.5	1127.5	16.792	7.127	3.06		Clay	100.0			9.48	1.18	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	9.780	0.679	1148.8	1148.8	16.027	7.378	3.08		Clay	100.0			9.24	1.17	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	9.470	0.706	1168.8	1168.8	15.205	7.940	3.12		Clay	100.0			8.95	1.17	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	9.080	0.738	1188.8	1188.8	14.277	8.696	3.17		Clay	100.0			8.58	1.16	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	9.350	0.781	1210.0	1210.0	14.455	8.934	3.17		Clay	100.0			8.84	1.16	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	9.840	0.815	1230.0	1230.0	15.000	8.833	3.15		Clay	100.0			9.30	1.15	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	9.890	0.877	1251.2	1250.6	14.816	9.469	3.18		Clay	100.0			9.35	1.15	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	10.450	0.905	1270.4	1259.8	15.582	9.219	3.16		Clay	100.0			9.88	1.15	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	11.160	0.917	1289.6	1269.0	16.572	8.724	3.12		Clay	100.0			10.55	1.14	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	11.270	0.910	1310.0	1278.8	16.602	8.575	3.11		Clay	100.0			10.65	1.14	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	11.410	0.939	1329.2	1288.0	16.685	8.742	3.12		Clay	100.0			10.78	1.14	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.50

Total Settlement:	0.06	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.830	11.640	0.983	1349.6	1297.8	16.898	8.961	3.12		Clay	100.0			11.00	1.14	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	12.070	1.009	1368.8	1307.0	17.422	8.859	3.11		Clay	100.0			11.41	1.14	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	13.150	1.078	1388.0	1316.2	18.927	8.653	3.08		Clay	100.0			12.43	1.13	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	14.050	1.127	1408.4	1326.0	20.129	8.444	3.05		Clay	100.0			13.28	1.13	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	13.730	1.154	1427.6	1335.2	19.496	8.867	3.07		Clay	100.0			12.98	1.13	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	12.740	1.118	1448.0	1345.0	17.867	9.302	3.12		Clay	100.0			12.04	1.13	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	11.950	1.122	1467.2	1354.3	16.565	10.004	3.16		Clay	100.0			11.29	1.12	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	11.890	1.004	1487.6	1364.0	16.343	9.005	3.13		Clay	100.0			11.24	1.12	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	11.700	0.953	1506.8	1373.3	15.942	8.702	3.13		Clay	100.0			11.06	1.12	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	10.080	0.883	1526.0	1382.5	13.479	9.482	3.21		Clay	100.0			9.53	1.12	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	10.180	0.819	1546.4	1392.3	13.513	8.711	3.18		Clay	100.0			9.62	1.12	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	11.160	0.896	1565.6	1401.5	14.809	8.633	3.15		Clay	100.0			10.55	1.11	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	11.110	0.972	1586.0	1411.3	14.621	9.424	3.18		Clay	100.0			10.50	1.11	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	10.620	0.979	1605.2	1420.5	13.822	9.975	3.22		Clay	100.0			10.04	1.11	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	10.620	0.908	1624.4	1429.7	13.720	9.258	3.20		Clay	100.0			10.04	1.11	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	10.350	0.853	1644.8	1439.5	13.237	8.956	3.20		Clay	100.0			9.78	1.11	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	10.790	0.844	1664.0	1448.7	13.747	8.472	3.17		Clay	100.0			10.20	1.11	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	10.470	0.882	1684.4	1458.5	13.202	9.160	3.21		Clay	100.0			9.90	1.10	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	10.330	0.780	1703.6	1467.7	12.915	8.224	3.18		Clay	100.0			9.76	1.10	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	9.300	0.761	1722.8	1476.9	11.427	9.016	3.25		Clay	100.0			8.79	1.10	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	9.330	0.750	1743.2	1486.7	11.378	8.862	3.24		Clay	100.0			8.82	1.10	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	8.750	0.696	1762.4	1496.0	10.520	8.845	3.27		Clay	100.0			8.27	1.10	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	8.580	0.630	1782.8	1505.7	10.212	8.193	3.26		Clay	100.0			8.11	1.09	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	8.500	0.633	1802.0	1515.0	10.032	8.333	3.27		Clay	100.0			8.03	1.09	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	8.530	0.557	1821.2	1524.2	9.998	7.304	3.23		Clay	100.0			8.06	1.09	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	8.080	0.495	1841.6	1534.0	9.334	6.907	3.24		Clay	100.0			7.64	1.09	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	8.490	0.485	1860.8	1543.2	9.797	6.409	3.20		Clay	100.0			8.02	1.09	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	9.130	0.505	1881.2	1553.0	10.547	6.163	3.17		Clay	100.0			8.63	1.09	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	9.450	0.639	1900.4	1562.2	10.882	7.519	3.21		Clay	100.0			8.93	1.08	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	10.080	0.660	1919.6	1571.4	11.608	7.236	3.18		Clay	100.0			9.53	1.08	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	10.090	0.639	1940.0	1581.2	11.536	7.009	3.17		Clay	100.0			9.54	1.08	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	10.310	0.580	1959.2	1590.4	11.733	6.215	3.13		Clay	100.0			9.74	1.08	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	9.570	0.548	1979.6	1600.2	10.724	6.388	3.17		Clay	100.0			9.05	1.08	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	9.980	0.640	1998.8	1609.4	11.160	7.123	3.19		Clay	100.0			9.43	1.07	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	11.140	0.760	2018.0	1618.6	12.518	7.500	3.17		Clay	100.0			10.53	1.07	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	11.880	0.835	2038.4	1628.4	13.339	7.691	3.15		Clay	100.0			11.23	1.07	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	12.070	0.792	2057.6	1637.6	13.484	7.175	3.13		Clay	100.0			11.41	1.07	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	11.320	0.699	2078.0	1647.4	12.481	6.798	3.14		Clay	100.0			10.70	1.07	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	10.460	0.603	2097.2	1656.7	11.362	6.403	3.15		Clay	100.0			9.89	1.07	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	10.300	0.627	2116.4	1665.9	11.095	6.785	3.18		Clay	100.0			9.74	1.07	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	10.790	0.707	2136.8	1675.7	11.603	7.277	3.18		Clay	100.0			10.20	1.06	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	10.930	0.756	2156.0	1684.9	11.695	7.673	3.19		Clay	100.0			10.33	1.06	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	10.530	0.698	2176.4	1694.7	11.143	7.387	3.20		Clay	100.0			9.95	1.06	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	10.250	0.627	2195.6	1703.9	10.743	6.850	3.19		Clay	100.0			9.69	1.06	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	10.410	0.603	2214.8	1713.1	10.861	6.477	3.17		Clay	100.0			9.84	1.06	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	10.680	0.621	2235.2	1722.9	11.100	6.497	3.16		Clay	100.0			10.09	1.06	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	10.630	0.624	2254.4	1732.1	10.973	6.565	3.17		Clay	100.0			10.05	1.05	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	10.740	0.637	2274.8	1741.9	11.025	6.636	3.17		Clay	100.0			10.15	1.05	n.a.	n.a.	0.97	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	10.940	0.637	2294.0	1751.1	11.185	6.502	3.16		Clay	100.0			10.34	1.05	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	10.860	0.606	2313.2	1760.3	11.024	6.243	3.16		Clay	100.0			10.26	1.05	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	10.800	0.573	2333.6	1770.1	10.884	5.947	3.15		Clay	100.0			10.21	1.05	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	10.660	0.575	2352.8	1779.3	10.660	6.058	3.16		Clay	100.0			10.08	1.05	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	10.800	0.568	2373.2	1789.1	10.746	5.904	3.15		Clay	100.0			10.21	1.05	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	10.560	0.576	2392.4	1798.4	10.414	6.148	3.17		Clay	100.0			9.98	1.04	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	11.080	0.627	2412.8	1808.1	10.921	6.348	3.16		Clay	100.0			10.47	1.04	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	11.300	0.658	2432.0	1817.4	11.097	6.526	3.17		Clay	100.0			10.68	1.04	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	11.090	0.704	2451.2	1826.6	10.801	7.133	3.20		Clay	100.0			10.48	1.04	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	11.120	0.714	2471.6	1836.4	10.765	7.222	3.20		Clay	100.0			10.51	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	11.480	0.732	2490.8	1845.6	11.091	7.148	3.19		Clay	100.0			10.85	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	11.720	0.699	2511.2	1855.4	11.280	6.680	3.17		Clay	100.0			11.08	1.04	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	11.850	0.625	2530.4	1864.6	11.353	5.904	3.13		Clay	100.0			11.20	1.03	n.a.	n.a.	0.96	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	10.960	0.587	2549.6	1873.8	10.337	6.064	3.17		Clay	100.0			10.36	1.03	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	10.770	0.605	2570.0	1883.6	10.071	6.375	3.19		Clay	100.0			10.18	1.03	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	10.880	0.627	2589.2	1892.8	10.128	6.540	3.20		Clay	100.0			10.28	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.50

Total Settlement:	0.06	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ $s'vc = 1$ atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.330	11.400	0.647	2609.6	1902.6	10.612	6.404	3.18		Clay	100.0			10.78	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	13.760	0.758	2628.8	1911.8	13.020	6.092	3.09		Clay	100.0			13.01	1.03	n.a.	n.a.	0.96	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	17.480	1.001	2648.0	1921.0	16.820	6.198	3.01		Clay	100.0			16.52	1.03	n.a.	n.a.	0.96	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	16.000	0.849	2668.4	1930.8	15.191	5.790	3.03		Clay	100.0			15.12	1.02	n.a.	n.a.	0.96	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	17.580	0.785	2687.6	1940.0	16.738	4.837	2.95		Clay	98.6			16.62	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	17.580	0.760	2708.0	1949.8	16.643	4.685	2.94		Clay	98.0			16.62	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	16.150	0.776	2727.2	1959.1	15.095	5.248	3.00		Clay	100.0			15.26	1.02	n.a.	n.a.	0.96	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	14.520	0.744	2746.4	1968.3	13.359	5.660	3.06		Clay	100.0			13.72	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	13.400	0.707	2766.8	1978.1	12.150	5.884	3.11		Clay	100.0			12.67	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	13.040	0.670	2786.0	1987.3	11.722	5.753	3.11		Clay	100.0			12.33	1.02	n.a.	n.a.	0.96	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	11.740	0.646	2806.4	1997.1	10.352	6.251	3.18		Clay	100.0			11.10	1.02	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	10.880	0.582	2825.6	2006.3	9.438	6.144	3.20		Clay	100.0			10.28	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	11.780	0.583	2844.8	2015.5	10.278	5.627	3.15		Clay	100.0			11.13	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	15.640	0.650	2865.2	2025.3	14.030	4.572	2.99		Clay	100.0			14.78	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	17.950	0.680	2884.4	2034.5	16.228	4.118	2.91		Clay	95.9			16.97	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	17.390	0.608	2904.8	2044.3	15.592	3.816	2.90		Clay	95.3			16.44	1.01	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	15.990	0.612	2924.0	2053.5	14.149	4.215	2.96		Clay	100.0			15.11	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	16.800	0.629	2943.2	2062.7	14.862	4.106	2.94		Clay	98.2			15.88	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	17.610	0.624	2963.6	2072.5	15.564	3.867	2.91		Clay	95.6			16.64	1.01	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	18.460	0.732	2982.8	2081.7	16.302	4.316	2.92		Clay	96.8			17.45	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	21.670	1.469	3003.2	2091.5	19.286	7.285	3.02		Clay	100.0			20.48	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	56.990	2.907	3022.4	2100.8	52.818	5.240	2.61		Clay	71.8			53.87	1.00	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	265.030	6.995	3041.6	2110.0	249.419	2.654	1.96		Sand	20.1	490.52		490.52	1.00	490.89	581.05	0.95	0.473	1.001	########	########	##########	0.00	0.00
25.100	331.470	9.564	3062.0	2119.8	311.575	2.899	1.95		Sand	18.6	490.52		490.52	1.00	490.29	571.41	0.95	0.474	0.999	########	########	##########	0.00	0.00
25.260	353.360	9.187	3081.2	2129.0	331.518	2.611	1.89		Sand	14.4	490.52		490.52	1.00	489.73	540.94	0.95	0.474	0.998	########	########	##########	0.00	0.00
25.430	382.360	6.709	3101.6	2138.8	358.012	1.762	1.73		Sand	1.3	490.52		490.52	1.00	489.14	489.14	0.95	0.475	0.997	########	########	##########	0.00	0.00
25.590	483.440	7.219	3120.8	2148.0	452.059	1.498	1.62		Sand	0.0	490.52		490.52	1.00	488.58	488.58	0.95	0.475	0.995	########	########	##########	0.00	0.00
25.750	518.970	7.108	3140.0	2157.2	484.343	1.374	1.57		Sand	0.0			490.52	0.99	488.03	488.03	0.95	0.476	0.994	########	########	##########	0.00	0.00
25.920	496.790	6.426	3160.4	2167.0	462.522	1.298	1.56		Sand	0.0			469.56	0.99	466.62	466.62	0.95	0.477	0.993	########	########	##########	0.00	0.00
26.080	472.220	4.533	3179.6	2176.2	438.633	0.963	1.46		Sand	0.0			446.33	0.99	443.04	443.04	0.95	0.477	0.992	########	########	##########	0.00	0.00
26.250	452.580	3.950	3200.0	2186.0	419.377	0.876	1.44		Sand	0.0			427.77	0.99	424.11	424.11	0.94	0.478	0.990	########	########	##########	0.00	0.00
26.410	395.030	3.943	3219.2	2195.2	365.082	1.002	1.52		Sand	0.0			373.37	0.99	369.77	369.77	0.94	0.478	0.989	########	########	##########	0.00	0.00
26.570	360.810	3.866	3238.4	2204.4	332.621	1.076	1.57		Sand	0.0			341.03	0.99	337.37	337.37	0.94	0.478	0.988	########	########	##########	0.00	0.00
26.740	393.990	3.495	3258.8	2214.2	362.532	0.891	1.48		Sand	0.0			372.39	0.99	367.96	367.96	0.94	0.479	0.986	########	########	##########	0.00	0.00
26.900	404.860	2.926	3278.0	2223.4	371.794	0.726	1.41		Sand	0.0			382.67	0.99	377.70	377.70	0.94	0.479	0.985	########	########	##########	0.00	0.00
27.070	411.580	2.281	3298.4	2233.2	377.151	0.556	1.32		Sand	0.0			389.02	0.99	383.52	383.52	0.94	0.480	0.984	########	########	##########	0.00	0.00
27.230	467.360	2.309	3317.6	2242.4	427.581	0.496	1.24		Sand	0.0			441.74	0.98	435.03	435.03	0.94	0.480	0.983	########	########	##########	0.00	0.00
27.400	507.510	3.731	3338.0	2252.2	463.424	0.737	1.35		Sand	0.0			479.69	0.98	471.86	471.86	0.94	0.481	0.981	########	########	##########	0.00	0.00
27.560	473.850	4.445	3357.2	2261.5	431.696	0.941	1.46		Sand	0.0			447.87	0.98	440.09	440.09	0.94	0.481	0.980	########	########	##########	0.00	0.00
27.720	371.210	4.130	3376.4	2270.7	337.159	1.118	1.58		Sand	0.0			350.86	0.98	344.39	344.39	0.94	0.482	0.979	########	########	##########	0.00	0.00
27.890	300.580	3.343	3396.8	2280.5	272.120	1.118	1.64		Sand	0.0			284.10	0.98	278.55	278.55	0.94	0.482	0.978	7748.621	########	34567.99	0.00	0.00
28.050	307.140	2.058	3416.0	2289.7	277.523	0.674	1.47		Sand	0.0			290.30	0.98	284.32	284.32	0.94	0.482	0.976	21410.790	########	95319.67	0.00	0.00
28.220	356.970	3.719	3436.4	2299.5	322.103	1.047	1.57		Sand	0.0			337.40	0.98	330.08	330.08	0.94	0.483	0.975	########	########	##########	0.00	0.00
28.380	452.660	4.200	3455.6	2308.7	408.038	0.931	1.47		Sand	0.0			427.84	0.98	418.12	418.12	0.94	0.483	0.974	########	########	##########	0.00	0.00
28.540	457.310	3.937	3474.8	2317.9	411.417	0.864	1.44		Sand	0.0			432.24	0.98	421.97	421.97	0.94	0.484	0.973	########	########	##########	0.00	0.00
28.710	388.210	3.389	3495.2	2327.7	348.270	0.877	1.49		Sand	0.0	432.24		432.24	0.98	421.50	421.50	0.94	0.484	0.971	########	########	##########	0.00	0.00
28.870	329.980	3.154	3514.4	2336.9	295.202	0.961	1.56		Sand	0.0	432.24		432.24	0.97	421.06	421.06	0.94	0.484	0.970	########	########	##########	0.00	0.00
29.040	301.510	2.827	3534.8	2346.7	269.024	0.943	1.58		Sand	0.0	432.24		432.24	0.97	420.60	420.60	0.94	0.485	0.969	########	########	##########	0.00	0.00
29.200	286.550	2.085	3554.0	2355.9	255.088	0.732	1.52		Sand	0.0	432.24		432.24	0.97	420.16	420.16	0.94	0.485	0.968	########	########	##########	0.00	0.00
29.360	276.860	1.642	3573.2	2365.1	245.919	0.597	1.47		Sand	0.0	432.24		432.24	0.97	419.73	419.73	0.94	0.486	0.967	########	########	##########	0.00	0.00
29.530	287.410	1.217	3593.6	2374.9	254.815	0.426	1.36		Sand	0.0	432.24		432.24	0.97	419.27	419.27	0.93	0.486	0.965	########	########	##########	0.00	0.00
29.690	228.710	1.171	3612.8	2384.1	202.045	0.516	1.49		Sand	0.0	432.24		432.24	0.97	418.85	418.85	0.93	0.486	0.964	########	########	##########	0.00	0.00
29.860	122.890	1.660	3633.2	2393.9	107.588	1.371	1.98		Sand	21.2	432.24		432.24	0.97	418.39	504.53	0.93	0.487	0.963	########	########	##########	0.00	0.00
30.020	43.840	1.584	3652.4	2403.2	34.966	3.769	2.63		Clay	73.7			41.44	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	22.580	1.159	3671.6	2412.4	17.198	5.588	2.98		Clay	100.0			21.34	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	14.360	0.551	3692.0	2422.2	10.333	4.405	3.08		Clay	100.0			13.57	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	13.420	0.450	3711.2	2431.4	9.513	3.893	3.08		Clay	100.0			12.68	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	12.910	0.462	3731.6	2441.2	9.048	4.179	3.12		Clay	100.0			12.20	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	13.510	0.474	3750.8	2450.4	9.496	4.077	3.09		Clay	100.0			12.77	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	15.710	0.488	3770.0	2459.6	11.242	3.528	3.00		Clay	100.0			14.85	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	16.970	0.506	3790.4	2469.4	12.209	3.355	2.95		Clay	99.3			16.04	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	16.130	0.583	3809.6	2478.6	11.478	4.100	3.03		Clay	100.0			15.25	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	14.800	0.544	3830.0	2488.4	10.356	4.221	3.07		Clay	100.0			13.99	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	12.640	0.541	3849.2	2497.6	8.581	5.052	3.18		Clay	100.0			11.95	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.50

Total Settlement:	0.06	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.820	12.890	0.528	3868.4	2506.8	8.741	4.820	3.16		Clay	100.0			12.18	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	25.440	1.176	3888.8	2516.6	18.672	5.004	2.92		Clay	96.5			24.05	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	46.350	1.297	3908.0	2525.8	38.407	2.922	2.53		Sand	65.3			43.81	0.92	40.13	101.44	0.93	0.491	0.981	0.139	0.173	0.35	0.03	0.03
32.320	32.520	2.358	3928.4	2535.6	24.101	7.718	2.97		Clay	100.0			30.74	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	33.860	2.203	3947.6	2544.8	25.059	6.908	2.92		Clay	96.7			32.00	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	123.350	2.396	3966.8	2554.1	104.413	1.974	2.10		Sand	30.9	155.21		155.21	0.94	146.33	212.61	0.92	0.491	0.944	4.156	8.628	17.56	0.00	0.00
32.810	164.210	2.931	3987.2	2563.9	139.290	1.807	1.98		Sand	21.8			155.21	0.94	145.45	193.47	0.92	0.492	0.953	1.333	2.796	5.69	0.00	0.00
32.970	161.030	3.457	4006.4	2573.1	136.306	2.174	2.05		Sand	27.1			152.20	0.94	142.78	202.07	0.92	0.492	0.947	2.128	4.434	9.02	0.00	0.00
33.140	188.720	2.876	4026.8	2582.9	159.728	1.540	1.89		Sand	14.5			178.37	0.93	166.74	193.43	0.92	0.492	0.951	1.331	2.785	5.66	0.00	0.00
33.300	217.050	2.443	4046.0	2592.1	183.629	1.136	1.76		Sand	3.4			205.15	0.93	191.43	191.44	0.92	0.492	0.952	1.205	2.523	5.12	0.00	0.00
33.460	217.800	1.763	4065.2	2601.3	183.934	0.817	1.65		Sand	0.0			205.86	0.93	191.88	191.88	0.92	0.492	0.950	1.232	2.576	5.23	0.00	0.00
33.630	213.370	1.749	4085.6	2611.1	179.811	0.828	1.66		Sand	0.0			201.67	0.93	187.50	187.50	0.92	0.493	0.952	1.001	2.096	4.25	0.00	0.00
33.790	217.200	1.828	4104.8	2620.3	182.740	0.850	1.67		Sand	0.0			205.29	0.93	190.82	190.82	0.92	0.493	0.949	1.170	2.443	4.96	0.00	0.00
33.960	256.850	2.549	4125.2	2630.1	216.005	1.000	1.67		Sand	0.0			242.77	0.94	227.71	227.71	0.92	0.493	0.935	13.417	27.592	55.96	0.00	0.00
34.120	276.950	3.927	4144.4	2639.3	232.630	1.429	1.76		Sand	4.0			261.77	0.94	246.48	246.51	0.92	0.493	0.934	87.010	178.732	362.33	0.00	0.00
34.280	316.420	3.945	4163.6	2648.5	265.563	1.255	1.68		Sand	0.0			299.07	0.94	281.88	281.88	0.92	0.493	0.933	13802.166	########	57389.01	0.00	0.00
34.450	346.980	4.022	4184.0	2658.3	290.835	1.166	1.63		Sand	0.0			327.96	0.94	308.80	308.80	0.92	0.494	0.932	########	########	#########	0.00	0.00
34.610	434.650	3.180	4203.2	2667.5	364.126	0.735	1.42		Sand	0.0			410.82	0.94	386.47	386.47	0.92	0.494	0.931	########	########	#########	0.00	0.00
34.780	458.360	3.786	4223.6	2677.3	383.374	0.830	1.44		Sand	0.0			433.23	0.94	407.16	407.16	0.92	0.494	0.929	########	########	#########	0.00	0.00
34.940	455.110	4.026	4242.8	2686.5	379.982	0.889	1.47		Sand	0.0			430.16	0.94	403.90	403.90	0.92	0.494	0.928	########	########	#########	0.00	0.00
35.100	440.910	3.746	4262.0	2695.8	367.432	0.854	1.46		Sand	0.0			416.74	0.94	390.95	390.95	0.92	0.494	0.927	########	########	#########	0.00	0.00
35.270	486.540	4.241	4282.4	2705.6	404.900	0.875	1.45		Sand	0.0			459.87	0.94	431.00	431.00	0.92	0.495	0.926	########	########	#########	0.00	0.00
35.430	588.240	4.021	4301.6	2714.8	489.068	0.686	1.31		Sand	0.0			555.99	0.94	520.62	520.62	0.92	0.495	0.925	########	########	#########	0.00	0.00
35.600	580.350	6.105	4322.0	2724.6	481.608	1.056	1.47		Sand	0.0			548.53	0.94	513.15	513.15	0.91	0.495	0.924	########	########	#########	0.00	0.00
35.760	602.580	5.661	4341.2	2733.8	499.273	0.943	1.42		Sand	0.0			569.55	0.93	532.33	532.33	0.91	0.495	0.923	########	########	#########	0.00	0.00
35.930	631.410	8.544	4361.6	2743.6	522.304	1.358	1.55		Sand	0.0			596.80	0.93	557.27	557.27	0.91	0.495	0.922	########	########	#########	0.00	0.00
36.090	632.400	5.993	4380.8	2752.8	522.241	0.951	1.41		Sand	0.0			597.73	0.93	557.65	557.65	0.91	0.495	0.921	########	########	#########	0.00	0.00
36.250	665.070	5.650	4400.0	2762.0	548.389	0.852	1.36		Sand	0.0			628.61	0.93	585.94	585.94	0.91	0.495	0.920	########	########	#########	0.00	0.00
36.420	652.730	3.792	4420.4	2771.8	537.220	0.583	1.23		Sand	0.0			616.95	0.93	574.53	574.53	0.91	0.496	0.919	########	########	#########	0.00	0.00
36.580	608.160	4.851	4439.6	2781.0	499.575	0.801	1.36		Sand	0.0			574.82	0.93	534.83	534.83	0.91	0.496	0.918	########	########	#########	0.00	0.00
36.750	615.380	3.456	4460.0	2790.8	504.632	0.564	1.24		Sand	0.0			581.64	0.93	540.68	540.68	0.91	0.496	0.917	########	########	#########	0.00	0.00
36.910	567.060	4.868	4479.2	2800.0	464.090	0.862	1.41		Sand	0.0			535.97	0.93	497.79	497.79	0.91	0.496	0.916	########	########	#########	0.00	0.00
37.070	482.580	4.345	4498.4	2809.2	394.020	0.905	1.47		Sand	0.0			456.12	0.93	423.27	423.27	0.91	0.496	0.915	########	########	#########	0.00	0.00
37.240	358.190	3.700	4518.8	2819.0	291.466	1.040	1.59		Sand	0.0			338.55	0.93	313.88	313.88	0.91	0.496	0.914	########	########	#########	0.00	0.00
37.400	338.420	2.664	4538.0	2828.2	274.820	0.793	1.52		Sand	0.0			319.87	0.93	296.30	296.30	0.91	0.496	0.913	########	########	897499.45	0.00	0.00
37.570	393.960	2.590	4558.4	2838.0	319.666	0.661	1.42		Sand	0.0			372.36	0.93	344.61	344.61	0.91	0.496	0.912	########	########	#########	0.00	0.00
37.730	405.070	2.535	4577.6	2847.2	328.193	0.629	1.40		Sand	0.0			382.86	0.92	354.03	354.03	0.91	0.496	0.911	########	########	#########	0.00	0.00
37.890	351.050	1.137	4596.8	2856.5	283.710	0.326	1.25		Sand	0.0	382.86		382.86	0.92	353.72	353.72	0.91	0.497	0.910	########	########	#########	0.00	0.00
38.060	314.180	2.719	4617.2	2866.3	253.274	0.872	1.58		Sand	0.0	382.86		382.86	0.92	353.40	353.40	0.91	0.497	0.909	########	########	#########	0.00	0.00
38.220	183.470	3.985	4636.4	2875.5	146.879	2.200	2.03		Sand	25.8	382.86		382.86	0.92	353.10	447.40	0.91	0.497	0.908	########	########	#########	0.00	0.00
38.390	67.860	3.680	4656.8	2885.3	45.425	5.616	2.68		Clay	77.1			64.14	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	22.810	2.070	4676.0	2894.5	14.146	10.112	3.21		Clay	100.0			21.56	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	14.830	0.702	4695.2	2903.7	8.598	5.623	3.21		Clay	100.0			14.02	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	23.020	0.702	4715.6	2913.5	14.184	3.398	2.91		Clay	95.4			21.76	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	25.140	0.641	4734.8	2922.7	15.583	2.816	2.82		Clay	88.9			23.76	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	24.060	0.851	4755.2	2932.5	14.788	3.925	2.93		Clay	97.3			22.74	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	23.570	1.020	4774.4	2941.7	14.402	4.817	2.99		Clay	100.0			22.28	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	33.630	0.666	4793.6	2950.9	21.168	2.132	2.65		Clay	74.6			31.79	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	26.260	0.554	4814.0	2960.7	16.113	2.324	2.76		Clay	84.1			24.82	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	18.760	0.454	4833.2	2969.9	11.006	2.777	2.94		Clay	98.5			17.73	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	16.920	0.442	4853.6	2979.7	9.728	3.052	3.01		Clay	100.0			15.99	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	18.120	0.475	4872.8	2988.9	10.494	3.025	2.98		Clay	100.0			17.13	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	17.690	0.502	4892.0	2998.2	10.169	3.290	3.01		Clay	100.0			16.72	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	16.970	0.485	4912.4	3008.0	9.650	3.342	3.04		Clay	100.0			16.04	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	17.030	0.483	4931.6	3017.2	9.654	3.313	3.03		Clay	100.0			16.10	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	16.930	0.491	4952.0	3027.0	9.550	3.398	3.04		Clay	100.0			16.00	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	16.700	0.476	4971.2	3036.2	9.363	3.352	3.05		Clay	100.0			15.78	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	15.720	0.448	4990.4	3045.4	8.685	3.389	3.08		Clay	100.0			14.86	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	16.150	0.438	5010.8	3055.2	8.932	3.213	3.05		Clay	100.0			15.26	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	16.190	0.412	5030.0	3064.4	8.925	3.009	3.04		Clay	100.0			15.30	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	15.690	0.407	5050.4	3074.2	8.565	3.092	3.06		Clay	100.0			14.83	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	15.750	0.396	5069.6	3083.4	8.572	2.997	3.05		Clay	100.0			14.89	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	15.830	0.400	5088.8	3092.6	8.592	3.009	3.05		Clay	100.0			14.96	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	15.840	0.408	5109.2	3102.4	8.565	3.068	3.06		Clay	100.0			14.97	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.50

Total Settlement:	0.06	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.320	16.100	0.417	5128.4	3111.6	8.700	3.081	3.05		Clay	100.0			15.22	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	15.860	0.419	5148.8	3121.4	8.513	3.152	3.07		Clay	100.0			14.99	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	15.130	0.404	5168.0	3130.6	8.015	3.219	3.09		Clay	100.0			14.30	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	14.570	0.390	5187.2	3139.9	7.629	3.253	3.11		Clay	100.0			13.77	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	14.600	0.366	5207.6	3149.6	7.617	3.051	3.10		Clay	100.0			13.80	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	14.460	0.369	5226.8	3158.9	7.501	3.116	3.11		Clay	100.0			13.67	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	14.410	0.370	5247.2	3168.7	7.439	3.142	3.11		Clay	100.0			13.62	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	14.340	0.382	5266.4	3177.9	7.368	3.265	3.13		Clay	100.0			13.55	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	15.020	0.392	5286.8	3187.7	7.765	3.164	3.10		Clay	100.0			14.20	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	16.430	0.395	5306.0	3196.9	8.619	2.870	3.04		Clay	100.0			15.53	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	16.930	0.419	5325.2	3206.1	8.900	2.938	3.03		Clay	100.0			16.00	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	18.030	0.464	5345.6	3215.9	9.551	3.020	3.01		Clay	100.0			17.04	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	19.570	0.594	5364.8	3225.1	10.473	3.517	3.02		Clay	100.0			18.50	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	21.070	0.691	5385.2	3234.9	11.362	3.760	3.01		Clay	100.0			19.91	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	26.110	0.805	5404.4	3244.1	14.431	3.437	2.90		Clay	95.2			24.68	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	27.380	1.132	5423.6	3253.3	15.165	4.588	2.96		Clay	100.0			25.88	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	35.900	1.217	5444.0	3263.1	20.335	3.668	2.80		Clay	87.3			33.93	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	41.830	1.263	5463.2	3272.3	23.896	3.231	2.71		Clay	80.1			39.54	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	43.250	1.181	5483.6	3282.1	24.684	2.915	2.67		Clay	77.0			40.88	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	47.570	0.863	5502.8	3291.3	33.966	1.925	2.45		Sand	59.3			44.96	0.80	35.88	94.47	0.88	0.497	0.955	0.131	0.154	0.31	0.03	0.02
45.600	35.690	0.760	5522.0	3300.6	19.954	2.307	2.69		Clay	77.9			33.73	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	18.380	0.583	5542.4	3310.4	9.430	3.737	3.07		Clay	100.0			17.37	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	13.300	0.428	5561.6	3319.6	6.338	4.068	3.23		Clay	100.0			12.57	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	13.000	0.379	5582.0	3329.4	6.133	3.709	3.22		Clay	100.0			12.29	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	12.960	0.392	5601.2	3338.6	6.086	3.862	3.24		Clay	100.0			12.25	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	13.320	0.401	5620.4	3347.8	6.279	3.815	3.22		Clay	100.0			12.59	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	14.100	0.411	5640.8	3357.6	6.719	3.647	3.19		Clay	100.0			13.33	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	14.990	0.428	5660.0	3366.8	7.223	3.521	3.15		Clay	100.0			14.17	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	16.340	0.534	5680.4	3376.6	7.996	3.959	3.15		Clay	100.0			15.44	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	19.360	0.835	5699.6	3385.8	9.753	5.054	3.14		Clay	100.0			18.30	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	29.760	1.444	5718.8	3395.0	15.847	5.367	2.99		Clay	100.0			28.13	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	46.190	2.003	5739.2	3404.8	25.447	4.624	2.80		Clay	86.6			43.66	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	73.740	2.202	5758.4	3414.0	52.728	3.107	2.45		Sand	58.8	139.81	1.6	223.70	0.88	197.17	300.56	0.87	0.497	0.856	########	########	2095564.38	0.00	0.00
47.740	118.420	2.628	5778.8	3423.8	85.845	2.275	2.20		Sand	39.1	139.81	1.6	223.70	0.88	197.02	285.52	0.87	0.497	0.856	26650.644	########	101030.03	0.00	0.00
47.900	143.630	2.326	5798.0	3433.0	104.429	1.653	2.04		Sand	26.5	139.81	1.6	223.70	0.88	196.88	264.84	0.87	0.496	0.855	906.152	1704.122	3432.42	0.00	0.00
48.060	147.920	1.857	5817.2	3442.3	107.461	1.281	1.96		Sand	19.6		1.6	223.70	0.87	195.70	244.32	0.87	0.496	0.854	68.117	127.981	257.82	0.00	0.00
48.230	142.350	2.020	5837.6	3452.0	103.180	1.449	2.01		Sand	23.6	139.81	1.6	223.70	0.88	196.60	257.36	0.87	0.496	0.853	325.162	610.320	1229.70	0.00	0.00
48.390	115.750	2.939	5856.8	3461.3	83.377	2.605	2.25		Sand	43.2	139.81	1.6	223.70	0.88	196.46	289.04	0.87	0.496	0.852	51731.522	########	195487.44	0.00	0.00
48.560	76.110	2.778	5877.2	3471.1	53.999	3.796	2.50		Sand	63.1	139.81	1.6	223.70	0.88	196.31	301.48	0.87	0.496	0.852	########	########	2548566.83	0.00	0.00
48.720	63.370	2.350	5896.4	3480.3	34.722	3.889	2.65		Clay	74.6			59.90	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	66.410	2.387	5915.6	3489.5	36.368	3.761	2.62		Clay	72.7			62.77	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	69.920	3.112	5936.0	3499.3	38.266	4.649	2.67		Clay	76.5			66.09	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	77.000	3.297	5955.2	3508.5	42.196	4.455	2.63		Clay	73.1			72.78	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	103.920	2.844	5975.6	3518.3	73.984	2.818	2.31		Sand	48.1	110.58		110.58	0.82	90.81	159.87	0.87	0.496	0.911	0.370	0.604	1.22	0.01	0.00
49.540	116.610	2.323	5994.8	3527.5	83.170	2.044	2.18		Sand	37.3	110.58		110.58	0.81	90.10	151.50	0.86	0.496	0.917	0.299	0.462	0.93	0.01	0.00
49.700	116.990	2.615	6014.0	3536.7	83.332	2.294	2.21		Sand	40.1			110.58	0.82	90.18	153.91	0.86	0.495	0.915	0.317	0.497	1.00	0.01	0.00
49.870	105.370	3.564	6034.4	3546.5	74.726	3.482	2.38		Sand	53.2			99.59	0.81	80.85	149.71	0.86	0.495	0.918	0.287	0.438	0.88	0.01	0.00
50.030	97.250	4.011	6053.6	3555.7	68.701	4.257	2.47		Sand	60.4			91.92	0.81	74.16	143.78	0.86	0.495	0.921	0.252	0.372	0.75	0.02	0.00
50.200	158.140	3.655	6074.0	3565.5	112.936	2.357	2.13		Sand	33.5			149.47	0.84	125.01	190.39	0.86	0.495	0.877	1.146	2.210	4.46	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.50

Total Settlement:	0.12	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.330	398.800	2.382	41.3	41.3	2699.559	0.597	1.00		Unsaturated	0.0			376.94	1.70	640.79	640.79	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	213.460	2.560	61.3	61.3	1185.696	1.199	1.36		Unsaturated	0.0			201.76	1.70	342.99	342.99	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	184.270	2.847	82.5	82.5	881.866	1.545	1.50		Unsaturated	0.0			174.17	1.70	296.09	296.09	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	158.830	3.160	102.5	102.5	681.872	1.990	1.65		Unsaturated	0.0			150.12	1.70	255.21	255.21	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	126.420	4.076	122.5	122.5	496.374	3.225	1.89		Unsaturated	14.5			119.49	1.70	203.13	232.83	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	182.830	4.579	143.8	143.8	662.743	2.506	1.74		Unsaturated	2.5			172.81	1.70	293.77	293.77	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	187.090	4.746	163.8	163.8	635.392	2.538	1.76		Unsaturated	3.5			176.83	1.70	300.62	300.63	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	116.290	4.021	185.0	185.0	371.435	3.461	1.98		Unsaturated	21.1			109.91	1.70	186.86	239.00	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	89.330	3.583	205.0	205.0	270.953	4.015	2.10		Unsaturated	30.8			84.43	1.70	143.54	209.21	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	64.020	3.628	225.0	225.0	185.239	5.676	2.31		Unsaturated	47.9			60.51	1.70	102.87	174.98	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	112.900	4.178	246.3	246.3	312.467	3.705	2.04		Unsaturated	26.0			106.71	1.70	181.41	245.49	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	76.690	4.543	266.3	266.3	203.991	5.935	2.31		Unsaturated	47.5			72.49	1.70	123.23	200.41	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	50.840	3.048	287.5	287.5	129.996	6.011	2.42		Unsaturated	56.2			48.05	1.70	81.69	151.99	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	30.260	2.184	307.5	307.5	109.784	7.253	2.52		Unsaturated	64.9			28.60	1.70	48.62	112.27	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	23.650	1.340	327.5	327.5	81.949	5.704	2.52		Unsaturated	64.2			22.35	1.70	38.00	98.45	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	19.830	1.159	348.8	348.8	65.630	5.894	2.59		Unsaturated	70.0			18.74	1.70	31.86	91.76	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	18.130	1.122	368.8	368.8	57.626	6.254	2.64		Unsaturated	74.5			17.14	1.70	29.13	89.02	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	18.520	1.164	390.0	390.0	56.581	6.349	2.65		Unsaturated	75.3			17.50	1.70	29.76	89.97	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	18.670	1.183	410.0	410.0	55.052	6.408	2.66		Unsaturated	76.1			17.65	1.70	30.00	90.42	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	19.210	1.230	430.0	430.0	54.776	6.476	2.67		Unsaturated	76.5			18.16	1.70	30.87	91.60	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	21.360	1.428	451.3	451.3	58.921	6.754	2.66		Unsaturated	76.0			20.19	1.70	34.32	96.00	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	25.610	1.530	471.3	471.3	68.627	6.029	2.58		Unsaturated	69.6			24.21	1.70	41.15	103.67	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	25.510	1.559	492.5	492.5	66.250	6.172	2.60		Unsaturated	71.0			24.11	1.70	40.99	103.74	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	24.670	1.560	512.5	512.5	62.262	6.391	2.63		Unsaturated	73.3			23.32	1.70	39.64	102.43	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	30.080	1.675	533.8	533.8	73.900	5.617	2.54		Unsaturated	66.1			28.43	1.70	48.33	112.17	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	33.110	1.909	553.8	553.8	79.317	5.815	2.53		Unsaturated	65.5			31.29	1.70	53.20	118.29	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	39.910	1.712	573.8	573.8	71.922	4.321	2.46		Unsaturated	59.7			37.72	1.70	64.13	130.73	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	49.160	1.340	595.0	595.0	87.094	2.741	2.26		Unsaturated	43.5			46.47	1.70	78.81	142.13	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	49.170	0.879	615.0	615.0	85.666	1.798	2.13		Unsaturated	33.4			46.47	1.70	79.01	134.21	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	43.470	0.776	636.3	636.3	74.380	1.799	2.18		Unsaturated	37.0			41.09	1.70	69.85	126.32	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	36.720	0.899	656.3	656.3	61.765	2.470	2.33		Unsaturated	49.3			34.71	1.70	59.00	120.30	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	28.520	1.111	676.3	676.3	47.118	3.943	2.55		Unsaturated	67.4			26.96	1.70	45.83	109.23	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	19.910	1.121	697.5	697.5	56.090	5.728	2.62		Unsaturated	72.8			18.82	1.70	31.99	92.43	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	16.720	1.109	717.5	717.5	45.606	6.779	2.74		Unsaturated	81.9			15.80	1.70	26.87	87.19	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	15.060	0.944	738.8	738.8	39.772	6.424	2.76		Unsaturated	83.7			14.23	1.70	24.20	83.95	1.00	0.324	1.099	n.a.	n.a.	n.a.	0.00	0.00
6.070	11.510	0.629	758.8	758.8	29.339	5.653	2.81		Unsaturated	87.9			10.88	1.70	18.49	77.01	1.00	0.324	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.230	7.050	0.348	778.8	778.8	17.106	5.220	2.96		Unsaturated	99.8			6.66	1.70	11.33	68.76	1.00	0.323	1.083	n.a.	n.a.	n.a.	0.00	0.00
6.400	3.260	0.285	800.0	800.0	7.150	9.972	3.43		Unsaturated	100.0			3.08	1.70	5.24	60.80	0.99	0.323	1.076	n.a.	n.a.	n.a.	0.00	0.00
6.560	2.520	0.302	820.0	820.0	5.146	14.327	3.64		Unsaturated	100.0			2.38	1.70	4.05	59.24	0.99	0.323	1.073	n.a.	n.a.	n.a.	0.00	0.00
6.730	3.230	0.381	841.3	841.3	6.679	13.555	3.54		Unsaturated	100.0			3.05	1.70	5.19	60.73	0.99	0.323	1.072	n.a.	n.a.	n.a.	0.00	0.00
6.890	4.190	0.528	861.3	861.3	8.730	14.050	3.46		Unsaturated	100.0			3.96	1.70	6.73	62.76	0.99	0.323	1.071	n.a.	n.a.	n.a.	0.00	0.00
7.050	6.360	0.514	881.3	881.3	13.434	8.683	3.18		Unsaturated	100.0			6.01	1.67	10.01	67.05	0.99	0.323	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.220	8.040	0.591	902.5	902.5	16.817	7.787	3.08		Unsaturated	100.0			7.60	1.63	12.38	70.16	0.99	0.323	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.380	9.300	0.677	922.5	922.5	19.163	7.655	3.04		Unsaturated	100.0			8.79	1.60	14.07	72.37	0.99	0.323	1.071	n.a.	n.a.	n.a.	0.00	0.00
7.550	10.070	0.713	943.8	943.8	20.340	7.425	3.01		Unsaturated	100.0			9.52	1.58	15.00	73.59	0.99	0.323	1.070	n.a.	n.a.	n.a.	0.00	0.00
7.710	9.680	0.685	963.8	963.8	19.088	7.450	3.03		Unsaturated	100.0			9.15	1.56	14.28	72.65	0.99	0.323	1.067	n.a.	n.a.	n.a.	0.00	0.00
7.870	9.270	0.670	983.8	983.8	17.846	7.636	3.06		Unsaturated	100.0			8.76	1.55	13.55	71.68	0.99	0.322	1.065	n.a.	n.a.	n.a.	0.00	0.00
8.040	8.610	0.664	1005.0	1005.0	16.134	8.192	3.11		Clay	100.0			8.14	1.22	n.a.	n.a.	0.99	0.323	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	7.860	0.666	1025.0	1025.0	14.337	9.058	3.18		Clay	100.0			7.43	1.21	n.a.	n.a.	0.99	0.326	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	7.680	0.647	1046.3	1046.3	13.681	9.044	3.19		Clay	100.0			7.26	1.20	n.a.	n.a.	0.99	0.329	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	7.290	0.620	1066.3	1066.3	12.674	9.182	3.22		Clay	100.0			6.89	1.20	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	6.960	0.566	1086.3	1086.3	11.815	8.817	3.23		Clay	100.0			6.58	1.19	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	6.960	0.541	1107.5	1107.5	11.569	8.439	3.22		Clay	100.0			6.58	1.19	n.a.	n.a.	0.99	0.338	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	7.410	0.507	1127.5	1127.5	12.144	7.398	3.17		Clay	100.0			7.00	1.18	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	7.710	0.492	1148.8	1148.8	12.423	6.888	3.14		Clay	100.0			7.29	1.17	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	7.990	0.487	1168.8	1168.8	12.673	6.581	3.12		Clay	100.0			7.55	1.17	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	8.310	0.509	1188.8	1188.8	12.981	6.598	3.12		Clay	100.0			7.85	1.16	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	8.160	0.576	1210.0	1210.0	12.488	7.620	3.17		Clay	100.0			7.71	1.16	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	8.860	0.670	1230.0	1230.0	13.407	8.127	3.17		Clay	100.0			8.37	1.15	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	9.130	0.740	1251.2	1250.6	13.601	8.695	3.18		Clay	100.0			8.63	1.15	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	9.890	0.791	1270.4	1259.8	14.693	8.542	3.15		Clay	100.0			9.35	1.15	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	10.420	0.803	1289.6	1269.0	15.406	8.217	3.13		Clay	100.0			9.85	1.14	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	10.080	0.804	1310.0	1278.8	14.740	8.534	3.15		Clay	100.0			9.53	1.14	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	9.320	0.767	1329.2	1288.0	13.440	8.857	3.19		Clay	100.0			8.81	1.14	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.50

Total Settlement:	0.12	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.830	7.970	0.724	1349.6	1297.8	11.242	9.926	3.28		Clay	100.0			7.53	1.14	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	8.410	0.753	1368.8	1307.0	11.822	9.752	3.26		Clay	100.0			7.95	1.14	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	9.320	0.819	1388.0	1316.2	13.107	9.492	3.22		Clay	100.0			8.81	1.13	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	10.110	0.867	1408.4	1326.0	14.186	9.212	3.19		Clay	100.0			9.56	1.13	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	10.170	0.873	1427.6	1335.2	14.164	9.235	3.19		Clay	100.0			9.61	1.13	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	9.830	0.844	1448.0	1345.0	13.540	9.265	3.20		Clay	100.0			9.29	1.13	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	9.700	0.801	1467.2	1354.3	13.242	8.938	3.20		Clay	100.0			9.17	1.12	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	9.910	0.789	1487.6	1364.0	13.440	8.610	3.18		Clay	100.0			9.37	1.12	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.960	0.735	1506.8	1373.3	13.408	7.983	3.16		Clay	100.0			9.41	1.12	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	9.990	0.691	1526.0	1382.5	13.348	7.491	3.14		Clay	100.0			9.44	1.12	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	10.440	0.671	1546.4	1392.3	13.886	6.941	3.11		Clay	100.0			9.87	1.12	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	10.620	0.689	1565.6	1401.5	14.038	7.005	3.11		Clay	100.0			10.04	1.11	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	11.340	0.697	1586.0	1411.3	14.947	6.607	3.07		Clay	100.0			10.72	1.11	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	11.670	0.707	1605.2	1420.5	15.301	6.509	3.06		Clay	100.0			11.03	1.11	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	12.040	0.709	1624.4	1429.7	15.706	6.310	3.04		Clay	100.0			11.38	1.11	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	12.980	0.741	1644.8	1439.5	16.891	6.092	3.01		Clay	100.0			12.27	1.11	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	13.330	0.788	1664.0	1448.7	17.254	6.302	3.01		Clay	100.0			12.60	1.11	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	13.430	0.790	1684.4	1458.5	17.261	6.272	3.01		Clay	100.0			12.69	1.10	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	13.460	0.833	1703.6	1467.7	17.181	6.607	3.03		Clay	100.0			12.72	1.10	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	12.760	0.833	1722.8	1476.9	16.112	6.999	3.06		Clay	100.0			12.06	1.10	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	11.580	0.761	1743.2	1486.7	14.405	7.106	3.10		Clay	100.0			10.95	1.10	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	10.340	0.596	1762.4	1496.0	12.646	6.297	3.11		Clay	100.0			9.77	1.10	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	10.640	0.519	1782.8	1505.7	12.949	5.320	3.06		Clay	100.0			10.06	1.09	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	11.820	0.517	1802.0	1515.0	14.415	4.737	2.99		Clay	100.0			11.17	1.09	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	11.400	0.535	1821.2	1524.2	13.764	5.100	3.02		Clay	100.0			10.78	1.09	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	12.180	0.618	1841.6	1534.0	14.680	5.489	3.02		Clay	100.0			11.51	1.09	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	12.810	0.678	1860.8	1543.2	15.396	5.708	3.02		Clay	100.0			12.11	1.09	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	12.540	0.780	1881.2	1553.0	14.938	6.728	3.08		Clay	100.0			11.85	1.09	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	11.720	0.673	1900.4	1562.2	13.788	6.250	3.08		Clay	100.0			11.08	1.08	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	9.930	0.617	1919.6	1571.4	11.417	6.875	3.17		Clay	100.0			9.39	1.08	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	8.850	0.529	1940.0	1581.2	9.967	6.713	3.21		Clay	100.0			8.36	1.08	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	8.240	0.497	1959.2	1590.4	9.130	6.844	3.24		Clay	100.0			7.79	1.08	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	7.820	0.486	1979.6	1600.2	8.537	7.111	3.28		Clay	100.0			7.39	1.08	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	7.670	0.508	1998.8	1609.4	8.289	7.610	3.31		Clay	100.0			7.25	1.07	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	7.970	0.543	2018.0	1618.6	8.601	7.805	3.30		Clay	100.0			7.53	1.07	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	8.020	0.573	2038.4	1628.4	8.598	8.189	3.31		Clay	100.0			7.58	1.07	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	7.610	0.558	2057.6	1637.6	8.037	8.482	3.35		Clay	100.0			7.19	1.07	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	7.040	0.494	2078.0	1647.4	7.285	8.232	3.37		Clay	100.0			6.65	1.07	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	6.820	0.421	2097.2	1656.7	6.968	7.298	3.35		Clay	100.0			6.45	1.07	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	6.810	0.369	2116.4	1665.9	6.905	6.415	3.32		Clay	100.0			6.44	1.07	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	7.040	0.397	2136.8	1675.7	7.127	6.640	3.32		Clay	100.0			6.65	1.06	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	10.740	0.508	2156.0	1684.9	11.469	5.260	3.09		Clay	100.0			10.15	1.06	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	13.590	0.580	2176.4	1694.7	14.754	4.636	2.98		Clay	100.0			12.84	1.06	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	14.960	0.605	2195.6	1703.9	16.271	4.362	2.93		Clay	97.1			14.14	1.06	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	15.270	0.643	2214.8	1713.1	16.534	4.542	2.93		Clay	97.5			14.43	1.06	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	15.080	0.654	2235.2	1722.9	16.208	4.687	2.95		Clay	98.8			14.25	1.06	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	12.190	0.644	2254.4	1732.1	12.774	5.822	3.09		Clay	100.0			11.52	1.05	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	11.190	0.578	2274.8	1741.9	11.542	5.754	3.12		Clay	100.0			10.58	1.05	n.a.	n.a.	0.97	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	12.180	0.597	2294.0	1751.1	12.601	5.410	3.07		Clay	100.0			11.51	1.05	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	13.270	0.651	2313.2	1760.3	13.763	5.377	3.04		Clay	100.0			12.54	1.05	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	14.210	0.886	2333.6	1770.1	14.737	6.789	3.08		Clay	100.0			13.43	1.05	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	18.220	1.182	2352.8	1779.3	19.157	6.933	3.01		Clay	100.0			17.22	1.05	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	26.270	1.352	2373.2	1789.1	28.040	5.388	2.81		Clay	87.8			24.83	1.05	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	29.250	1.301	2392.4	1798.4	31.199	4.636	2.73		Clay	81.5			27.65	1.04	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	31.750	1.166	2412.8	1808.1	33.784	3.816	2.65		Clay	74.9			30.01	1.04	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	23.200	0.865	2432.0	1817.4	24.193	3.936	2.77		Clay	84.2			21.93	1.04	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	15.190	0.738	2451.2	1826.6	15.290	5.288	3.00		Clay	100.0			14.36	1.04	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	11.740	0.617	2471.6	1836.4	11.440	5.878	3.13		Clay	100.0			11.10	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	9.760	0.619	2490.8	1845.6	9.227	7.273	3.26		Clay	100.0			9.22	1.04	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	9.410	0.598	2511.2	1855.4	8.790	7.329	3.28		Clay	100.0			8.89	1.04	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	11.680	0.569	2530.4	1864.6	11.171	5.465	3.11		Clay	100.0			11.04	1.03	n.a.	n.a.	0.96	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	13.310	0.617	2549.6	1873.8	12.846	5.127	3.05		Clay	100.0			12.58	1.03	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	12.560	0.632	2570.0	1883.6	11.972	5.604	3.10		Clay	100.0			11.87	1.03	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	12.690	0.626	2589.2	1892.8	12.041	5.496	3.09		Clay	100.0			11.99	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.50

Total Settlement:	0.12	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.330	12.770	0.607	2609.6	1902.6	12.052	5.293	3.08		Clay	100.0			12.07	1.03	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	11.910	0.568	2628.8	1911.8	11.084	5.359	3.11		Clay	100.0			11.26	1.03	n.a.	n.a.	0.96	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	11.470	0.566	2648.0	1921.0	10.563	5.577	3.14		Clay	100.0			10.84	1.03	n.a.	n.a.	0.96	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	11.990	0.586	2668.4	1930.8	11.038	5.497	3.12		Clay	100.0			11.33	1.02	n.a.	n.a.	0.96	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	13.000	0.729	2687.6	1940.0	12.016	6.253	3.13		Clay	100.0			12.29	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	19.580	0.613	2708.0	1949.8	18.695	3.363	2.81		Clay	87.6			18.51	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	15.240	0.668	2727.2	1959.1	14.166	4.813	3.00		Clay	100.0			14.40	1.02	n.a.	n.a.	0.96	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	14.070	0.700	2746.4	1968.3	12.901	5.509	3.07		Clay	100.0			13.30	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	13.090	0.607	2766.8	1978.1	11.836	5.186	3.08		Clay	100.0			12.37	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	11.430	0.519	2786.0	1987.3	10.101	5.173	3.13		Clay	100.0			10.80	1.02	n.a.	n.a.	0.96	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	11.690	0.426	2806.4	1997.1	10.302	4.145	3.07		Clay	100.0			11.05	1.02	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	10.880	0.380	2825.6	2006.3	9.438	4.016	3.09		Clay	100.0			10.28	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	10.980	0.375	2844.8	2015.5	9.484	3.928	3.08		Clay	100.0			10.38	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	10.610	0.378	2865.2	2025.3	9.063	4.123	3.11		Clay	100.0			10.03	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	10.840	0.430	2884.4	2034.5	9.238	4.570	3.13		Clay	100.0			10.25	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	10.760	0.404	2904.8	2044.3	9.106	4.344	3.12		Clay	100.0			10.17	1.01	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	9.880	0.363	2924.0	2053.5	8.199	4.310	3.16		Clay	100.0			9.34	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	8.940	0.344	2943.2	2062.7	7.241	4.603	3.22		Clay	100.0			8.45	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	9.200	0.474	2963.6	2072.5	7.448	6.147	3.28		Clay	100.0			8.70	1.01	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	12.770	0.856	2982.8	2081.7	10.836	7.592	3.22		Clay	100.0			12.07	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	20.280	1.356	3003.2	2091.5	17.957	7.219	3.04		Clay	100.0			19.17	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	25.380	1.586	3022.4	2100.8	22.724	6.644	2.94		Clay	98.1			23.99	1.00	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	32.040	1.522	3041.6	2110.0	28.929	4.987	2.78		Clay	85.2			30.28	1.00	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	39.990	1.326	3062.0	2119.8	36.318	3.447	2.60		Sand	70.6	39.54		39.54	1.00	39.51	101.75	0.95	0.474	1.000	0.140	0.177	0.37	0.03	0.03
25.260	41.830	1.405	3081.2	2129.0	37.964	3.488	2.58		Sand	69.8			39.54	1.00	39.42	101.47	0.95	0.474	0.999	0.139	0.177	0.37	0.03	0.04
25.430	41.570	1.681	3101.6	2138.8	37.423	4.200	2.64		Clay	74.6			39.29	1.00	n.a.	n.a.	0.95	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	46.020	1.570	3120.8	2148.0	41.708	3.532	2.56		Sand	67.7			43.50	0.99	43.18	105.90	0.95	0.475	0.998	0.146	0.188	0.40	0.03	0.03
25.750	41.840	1.464	3140.0	2157.2	37.335	3.634	2.60		Clay	71.2			39.55	0.99	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	37.810	1.506	3160.4	2167.0	33.438	4.157	2.68		Clay	77.2			35.74	0.99	n.a.	n.a.	0.95	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	41.640	1.633	3179.6	2176.2	36.807	4.078	2.64		Clay	74.3			39.36	0.99	n.a.	n.a.	0.95	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	38.520	2.007	3200.0	2186.0	33.779	5.435	2.76		Clay	83.4			36.41	0.99	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	76.930	1.875	3219.2	2195.2	69.895	2.490	2.29		Sand	46.4	113.17	1.55	175.41	0.99	173.72	263.18	0.94	0.478	0.989	716.429	1558.765	3260.95	0.00	0.00
26.570	119.730	1.547	3238.4	2204.4	109.374	1.309	1.96		Sand	19.7		1.55	175.41	0.99	173.23	219.13	0.94	0.478	0.988	6.674	14.501	30.31	0.00	0.00
26.740	109.340	2.020	3258.8	2214.2	99.522	1.875	2.10		Sand	30.7		1.55	160.19	0.99	158.05	226.58	0.94	0.479	0.986	12.173	26.415	55.15	0.00	0.00
26.900	91.100	2.008	3278.0	2223.4	82.488	2.245	2.21		Sand	39.8		1.55	133.46	0.98	131.34	204.75	0.94	0.479	0.986	2.496	5.416	11.30	0.00	0.00
27.070	108.320	1.717	3298.4	2233.2	98.141	1.609	2.05		Sand	27.3		1.55	158.69	0.98	156.10	218.33	0.94	0.480	0.984	6.278	13.587	28.31	0.00	0.00
27.230	95.620	1.634	3317.6	2242.4	86.270	1.739	2.12		Sand	32.4	102.38	1.55	158.69	0.98	155.99	226.64	0.94	0.480	0.983	12.236	26.451	55.07	0.00	0.00
27.400	64.440	2.058	3338.0	2252.2	57.507	3.279	2.44		Sand	57.9	102.38	1.55	158.69	0.98	156.03	247.58	0.94	0.481	0.981	98.262	212.131	441.21	0.00	0.00
27.560	47.470	1.604	3357.2	2261.5	41.866	3.502	2.56		Sand	67.4	102.38	1.55	158.69	0.98	155.90	251.10	0.94	0.481	0.980	148.539	320.267	665.53	0.00	0.00
27.720	37.120	1.859	3376.4	2270.7	31.208	5.246	2.77		Clay	84.5			35.09	0.98	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	48.290	1.511	3396.8	2280.5	42.420	3.244	2.53		Sand	65.2	124.79	1.72	214.64	0.98	210.44	320.54	0.94	0.482	0.978	########	########	##########	0.00	0.00
28.050	122.170	1.304	3416.0	2289.7	109.455	1.083	1.90		Sand	15.2	124.79	1.72	214.64	0.98	210.02	243.32	0.94	0.482	0.976	61.130	131.304	272.15	0.00	0.00
28.220	132.030	1.524	3436.4	2299.5	118.152	1.169	1.90		Sand	15.0		1.72	214.64	0.98	209.75	242.23	0.94	0.483	0.975	54.356	116.601	241.46	0.00	0.00
28.380	80.520	1.905	3455.6	2308.7	71.297	2.418	2.28		Sand	45.2	124.79	1.72	214.64	0.98	209.76	307.46	0.94	0.483	0.974	########	########	##########	0.00	0.00
28.540	50.650	1.715	3474.8	2317.9	44.172	3.506	2.54		Sand	66.1	124.79	1.72	214.64	0.98	209.54	319.72	0.94	0.484	0.973	########	########	##########	0.00	0.00
28.710	33.560	1.540	3495.2	2327.7	27.334	4.841	2.79		Clay	85.9			31.72	0.98	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	18.430	1.009	3514.4	2336.9	14.269	6.051	3.06		Clay	100.0			17.42	0.97	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	14.740	0.629	3534.8	2346.7	11.056	4.849	3.09		Clay	100.0			13.93	0.97	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	10.810	0.465	3554.0	2355.9	7.668	5.151	3.23		Clay	100.0			10.22	0.97	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	8.490	0.372	3573.2	2365.1	5.669	5.549	3.35		Clay	100.0			8.02	0.97	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	7.910	0.290	3593.6	2374.9	5.148	4.736	3.35		Clay	100.0			7.48	0.97	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	7.940	0.285	3612.8	2384.1	5.145	4.653	3.34		Clay	100.0			7.50	0.97	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	8.250	0.305	3633.2	2393.9	5.375	4.733	3.33		Clay	100.0			7.80	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	9.700	0.325	3652.4	2403.2	6.553	4.125	3.23		Clay	100.0			9.17	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	11.580	0.395	3671.6	2412.4	8.079	4.053	3.15		Clay	100.0			10.95	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	14.070	0.511	3692.0	2422.2	10.093	4.176	3.08		Clay	100.0			13.30	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	16.340	0.584	3711.2	2431.4	11.915	4.031	3.01		Clay	100.0			15.44	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	17.910	0.730	3731.6	2441.2	13.145	4.552	3.01		Clay	100.0			16.93	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	18.960	0.764	3750.8	2450.4	13.944	4.474	2.98		Clay	100.0			17.92	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	18.330	0.761	3770.0	2459.6	13.372	4.630	3.01		Clay	100.0			17.33	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	17.820	0.759	3790.4	2469.4	12.898	4.765	3.03		Clay	100.0			16.84	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	18.060	0.769	3809.6	2478.6	13.036	4.759	3.02		Clay	100.0			17.07	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	15.790	0.681	3830.0	2488.4	11.152	4.905	3.09		Clay	100.0			14.92	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	13.140	0.553	3849.2	2497.6	8.981	4.926	3.16		Clay	100.0			12.42	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.50

Total Settlement:	0.12	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.820	11.940	0.472	3868.4	2506.8	7.983	4.716	3.19		Clay	100.0			11.29	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	12.660	0.504	3888.8	2516.6	8.516	4.707	3.17		Clay	100.0			11.97	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	15.220	0.526	3908.0	2525.8	10.504	3.964	3.05		Clay	100.0			14.39	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	17.960	0.698	3928.4	2535.6	12.617	4.361	3.01		Clay	100.0			16.98	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	23.860	1.007	3947.6	2544.8	17.200	4.599	2.92		Clay	96.7			22.55	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	18.280	0.937	3966.8	2554.1	12.761	5.750	3.08		Clay	100.0			17.28	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	16.150	0.744	3987.2	2563.9	11.043	5.254	3.11		Clay	100.0			15.26	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	16.620	0.826	4006.4	2573.1	11.361	5.653	3.12		Clay	100.0			15.71	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	22.400	1.486	4026.8	2582.9	15.786	7.288	3.08		Clay	100.0			21.17	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	92.320	2.153	4046.0	2592.1	77.112	2.385	2.25		Sand	42.9	164.94		164.94	0.94	155.76	237.89	0.92	0.492	0.939	34.703	71.699	145.65	0.00	0.00
33.460	123.250	2.613	4065.2	2601.3	103.334	2.155	2.13		Sand	33.3	164.94		164.94	0.94	155.18	226.89	0.92	0.492	0.938	12.496	25.789	52.36	0.00	0.00
33.630	164.630	1.935	4085.6	2611.1	138.340	1.190	1.86		Sand	11.5	164.94		164.94	0.92	152.38	166.69	0.92	0.493	0.961	0.452	0.819	1.66	0.00	0.00
33.790	174.510	2.626	4104.8	2620.3	146.480	1.523	1.92		Sand	16.2			164.94	0.93	153.05	185.00	0.92	0.493	0.952	0.895	1.854	3.76	0.00	0.00
33.960	149.410	2.848	4125.2	2630.1	124.919	1.933	2.04		Sand	26.1			141.22	0.93	130.91	186.03	0.92	0.493	0.951	0.936	1.954	3.96	0.00	0.00
34.120	213.250	2.961	4144.4	2639.3	178.721	1.402	1.83		Sand	9.5			201.56	0.93	187.15	195.40	0.92	0.493	0.945	1.472	3.061	6.21	0.00	0.00
34.280	265.430	3.264	4163.6	2648.5	222.485	1.239	1.73		Sand	1.2			250.88	0.94	235.32	235.32	0.92	0.493	0.933	26.933	55.263	111.99	0.00	0.00
34.450	301.500	3.499	4184.0	2658.3	252.483	1.169	1.67		Sand	0.0			284.97	0.94	268.32	268.32	0.92	0.494	0.932	1511.693	3098.079	6275.69	0.00	0.00
34.610	381.600	3.616	4203.2	2667.5	319.468	0.953	1.54		Sand	0.0			360.68	0.94	339.30	339.30	0.92	0.494	0.931	########	########	##########	0.00	0.00
34.780	513.510	2.828	4223.6	2677.3	429.715	0.553	1.28		Sand	0.0			485.36	0.94	456.15	456.15	0.92	0.494	0.929	########	########	##########	0.00	0.00
34.940	585.170	2.679	4242.8	2686.5	489.080	0.460	1.18		Sand	0.0			553.09	0.94	519.33	519.33	0.92	0.494	0.928	########	########	##########	0.00	0.00
35.100	648.820	2.653	4262.0	2695.8	541.536	0.410	1.11		Sand	0.0			613.25	0.94	575.30	575.30	0.92	0.494	0.927	########	########	##########	0.00	0.00
35.270	680.120	3.229	4282.4	2705.6	566.709	0.476	1.15		Sand	0.0			642.84	0.94	602.48	602.48	0.92	0.495	0.926	########	########	##########	0.00	0.00
35.430	647.020	3.227	4301.6	2714.8	538.118	0.500	1.18		Sand	0.0			611.55	0.94	572.64	572.64	0.92	0.495	0.925	########	########	##########	0.00	0.00
35.600	583.770	3.384	4322.0	2724.6	484.457	0.582	1.26		Sand	0.0			551.77	0.94	516.17	516.17	0.91	0.495	0.924	########	########	##########	0.00	0.00
35.760	470.320	3.694	4341.2	2733.8	389.292	0.789	1.42		Sand	0.0			444.54	0.93	415.49	415.49	0.91	0.495	0.923	########	########	##########	0.00	0.00
35.930	432.940	3.033	4361.6	2743.6	357.560	0.704	1.41		Sand	0.0			409.21	0.93	382.10	382.10	0.91	0.495	0.922	########	########	##########	0.00	0.00
36.090	443.630	3.686	4380.8	2752.8	365.812	0.835	1.46		Sand	0.0			419.31	0.93	391.19	391.19	0.91	0.495	0.921	########	########	##########	0.00	0.00
36.250	461.880	3.172	4400.0	2762.0	380.291	0.690	1.38		Sand	0.0			436.56	0.93	406.93	406.93	0.91	0.495	0.920	########	########	##########	0.00	0.00
36.420	463.230	2.009	4420.4	2771.8	380.725	0.436	1.24		Sand	0.0			437.84	0.93	407.74	407.74	0.91	0.496	0.919	########	########	##########	0.00	0.00
36.580	387.760	1.799	4439.6	2781.0	317.864	0.467	1.31		Sand	0.0	437.84		437.84	0.93	407.38	407.38	0.91	0.496	0.918	########	########	##########	0.00	0.00
36.750	329.010	1.645	4460.0	2790.8	268.945	0.504	1.39		Sand	0.0	437.84		437.84	0.93	407.01	407.01	0.91	0.496	0.917	########	########	##########	0.00	0.00
36.910	296.550	1.067	4479.2	2800.0	241.823	0.362	1.34		Sand	0.0	437.84		437.84	0.93	406.65	406.65	0.91	0.496	0.916	########	########	##########	0.00	0.00
37.070	263.010	1.166	4498.4	2809.2	213.905	0.447	1.43		Sand	0.0	437.84		437.84	0.93	406.30	406.30	0.91	0.496	0.915	########	########	##########	0.00	0.00
37.240	186.510	2.660	4518.8	2819.0	150.880	1.444	1.89		Sand	14.2	437.84		437.84	0.93	405.93	449.27	0.91	0.496	0.914	########	########	##########	0.00	0.00
37.400	80.570	2.680	4538.0	2828.2	64.015	3.422	2.42		Sand	56.4	437.84		437.84	0.93	405.58	565.16	0.91	0.496	0.913	########	########	##########	0.00	0.00
37.570	43.550	2.316	4558.4	2838.0	29.084	5.611	2.81		Clay	87.9			41.16	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	39.210	1.631	4577.6	2847.2	25.935	4.418	2.78		Clay	85.1			37.06	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	48.590	2.207	4596.8	2856.5	32.412	4.767	2.73		Clay	81.2			45.93	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	48.510	2.254	4617.2	2866.3	32.238	4.879	2.74		Clay	81.9			45.85	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	94.170	2.597	4636.4	2875.5	74.474	2.827	2.31		Sand	48.0	152.68		152.68	0.91	139.14	220.76	0.91	0.497	0.908	7.565	15.112	30.42	0.00	0.00
38.390	161.540	3.578	4656.8	2885.3	128.871	2.248	2.08		Sand	29.3			152.68	0.90	137.85	199.92	0.90	0.497	0.919	1.881	3.801	7.65	0.00	0.00
38.550	130.940	3.495	4676.0	2894.5	103.928	2.718	2.20		Sand	39.2	152.68		152.68	0.91	138.44	212.97	0.90	0.497	0.906	4.262	8.495	17.10	0.00	0.00
38.710	71.880	2.819	4695.2	2903.7	56.103	4.055	2.51		Sand	63.9	152.68		152.68	0.91	139.13	228.31	0.90	0.497	0.905	14.131	28.137	56.62	0.00	0.00
38.880	40.420	1.745	4715.6	2913.5	26.128	4.585	2.78		Clay	85.8			38.20	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	25.040	1.051	4734.8	2922.7	15.515	4.635	2.96		Clay	99.7			23.67	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	14.700	0.734	4755.2	2932.5	8.404	5.960	3.23		Clay	100.0			13.89	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	10.500	0.534	4774.4	2941.7	5.516	6.577	3.41		Clay	100.0			9.92	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	9.870	0.461	4793.6	2950.9	5.065	6.163	3.42		Clay	100.0			9.33	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	10.830	0.467	4814.0	2960.7	5.690	5.546	3.35		Clay	100.0			10.24	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	11.690	0.504	4833.2	2969.9	6.245	5.436	3.31		Clay	100.0			11.05	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	12.510	0.495	4853.6	2979.7	6.768	4.912	3.26		Clay	100.0			11.82	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	11.920	0.498	4872.8	2988.9	6.346	5.254	3.30		Clay	100.0			11.27	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	12.540	0.482	4892.0	2998.2	6.733	4.773	3.25		Clay	100.0			11.85	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	13.500	0.483	4912.4	3008.0	7.343	4.375	3.20		Clay	100.0			12.76	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	13.390	0.472	4931.6	3017.2	7.241	4.318	3.20		Clay	100.0			12.66	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	13.180	0.469	4952.0	3027.0	7.072	4.383	3.21		Clay	100.0			12.46	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	12.780	0.466	4971.2	3036.2	6.781	4.527	3.24		Clay	100.0			12.08	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	12.720	0.464	4990.4	3045.4	6.715	4.533	3.24		Clay	100.0			12.02	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	12.300	0.458	5010.8	3055.2	6.412	4.672	3.27		Clay	100.0			11.63	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	12.320	0.455	5030.0	3064.4	6.399	4.644	3.26		Clay	100.0			11.64	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	12.830	0.472	5050.4	3074.2	6.704	4.582	3.24		Clay	100.0			12.13	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	14.020	0.524	5069.6	3083.4	7.450	4.562	3.21		Clay	100.0			13.25	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	20.830	0.544	5088.8	3092.6	11.825	2.975	2.94		Clay	97.8			19.69	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	24.530	0.851	5109.2	3102.4	14.167	3.870	2.94		Clay	98.2			23.19	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.50

Total Settlement:	0.12	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.320	29.700	1.156	5128.4	3111.6	17.442	4.259	2.90		Clay	94.7			28.07	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	38.910	1.481	5148.8	3121.4	23.281	4.075	2.79		Clay	86.0			36.78	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	32.600	1.785	5168.0	3130.6	19.176	5.946	2.96		Clay	99.8			30.81	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	40.140	2.070	5187.2	3139.9	23.916	5.514	2.87		Clay	92.4			37.94	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	47.410	2.259	5207.6	3149.6	28.452	5.042	2.79		Clay	85.9			44.81	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	56.340	1.869	5226.8	3158.9	34.016	3.479	2.62		Clay	72.5			53.25	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	58.350	1.964	5247.2	3168.7	35.174	3.525	2.61		Clay	72.0			55.15	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	42.630	1.682	5266.4	3177.9	25.172	4.206	2.77		Clay	84.7			40.29	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	44.650	1.662	5286.8	3187.7	26.356	3.956	2.74		Clay	82.1			42.20	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	33.750	1.859	5306.0	3196.9	19.455	5.977	2.96		Clay	99.5			31.90	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	46.190	1.959	5325.2	3206.1	27.153	4.501	2.77		Clay	84.3			43.66	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	50.380	1.655	5345.6	3215.9	29.670	3.470	2.66		Clay	76.0			47.62	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	56.970	1.696	5364.8	3225.1	41.562	3.124	2.52		Sand	64.9			53.85	0.82	43.90	106.18	0.88	0.498	0.953	0.146	0.180	0.36	0.03	0.02
44.460	32.030	1.269	5385.2	3234.9	18.138	4.324	2.89		Clay	94.0			30.27	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	24.180	0.907	5404.4	3244.1	13.241	4.224	2.99		Clay	100.0			22.85	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	17.770	0.530	5423.6	3253.3	9.257	3.521	3.06		Clay	100.0			16.80	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	13.720	0.519	5444.0	3263.1	6.741	4.722	3.25		Clay	100.0			12.97	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	15.190	0.588	5463.2	3272.3	7.614	4.723	3.21		Clay	100.0			14.36	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	18.100	0.807	5483.6	3282.1	9.359	5.253	3.16		Clay	100.0			17.11	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	29.620	0.703	5502.8	3291.3	16.327	2.615	2.79		Clay	86.1			28.00	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	35.330	0.592	5522.0	3300.6	19.735	1.819	2.63		Clay	73.4			33.39	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	26.640	0.511	5542.4	3310.4	14.421	2.139	2.78		Clay	85.6			25.18	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	17.960	0.502	5561.6	3319.6	9.145	3.304	3.05		Clay	100.0			16.98	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	16.730	0.454	5582.0	3329.4	8.373	3.258	3.08		Clay	100.0			15.81	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	16.810	0.472	5601.2	3338.6	8.392	3.368	3.09		Clay	100.0			15.89	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	16.740	0.456	5620.4	3347.8	8.322	3.273	3.08		Clay	100.0			15.82	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	17.080	0.454	5640.8	3357.6	8.494	3.186	3.07		Clay	100.0			16.14	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	17.280	0.416	5660.0	3366.8	8.584	2.880	3.04		Clay	100.0			16.33	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	16.630	0.401	5680.4	3376.6	8.168	2.908	3.06		Clay	100.0			15.72	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.360	0.401	5699.6	3385.8	7.980	2.965	3.08		Clay	100.0			15.46	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	17.450	0.429	5718.8	3395.0	8.595	2.938	3.05		Clay	100.0			16.49	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	17.900	0.489	5739.2	3404.8	8.829	3.253	3.06		Clay	100.0			16.92	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	19.450	0.595	5758.4	3414.0	9.707	3.589	3.05		Clay	100.0			18.38	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	22.080	0.590	5778.8	3423.8	11.210	3.073	2.96		Clay	100.0			20.87	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	22.400	0.475	5798.0	3433.0	11.361	2.436	2.90		Clay	95.0			21.17	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	18.300	0.563	5817.2	3442.3	8.943	3.659	3.09		Clay	100.0			17.30	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	17.660	0.588	5837.6	3452.0	8.541	3.991	3.12		Clay	100.0			16.69	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	23.080	0.460	5856.8	3461.3	11.644	2.283	2.88		Clay	93.1			21.81	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	17.590	0.457	5877.2	3471.1	8.442	3.118	3.07		Clay	100.0			16.63	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	16.030	0.479	5896.4	3480.3	7.518	3.662	3.15		Clay	100.0			15.15	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	18.630	0.592	5915.6	3489.5	8.983	3.779	3.09		Clay	100.0			17.61	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	21.770	0.688	5936.0	3499.3	10.746	3.658	3.02		Clay	100.0			20.58	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	22.460	0.638	5955.2	3508.5	11.106	3.276	2.98		Clay	100.0			21.23	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	22.220	0.610	5975.6	3518.3	10.933	3.171	2.98		Clay	100.0			21.00	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	21.000	0.686	5994.8	3527.5	10.207	3.812	3.05		Clay	100.0			19.85	0.87	n.a.	n.a.	0.86	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	21.600	0.744	6014.0	3536.7	10.514	4.002	3.05		Clay	100.0			20.42	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	21.660	0.885	6034.4	3546.5	10.513	4.747	3.10		Clay	100.0			20.47	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	23.830	1.029	6053.6	3555.7	11.701	4.947	3.07		Clay	100.0			22.52	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	30.170	1.085	6074.0	3565.5	15.220	3.999	2.92		Clay	97.0			28.52	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	31.390	1.196	6093.2	3574.7	15.858	4.220	2.93		Clay	97.0			29.67	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	30.380	1.469	6112.4	3584.0	15.248	5.374	3.01		Clay	100.0			28.71	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	41.260	2.159	6132.8	3593.7	21.256	5.654	2.91		Clay	96.0			39.00	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	70.930	2.551	6152.0	3603.0	37.666	3.759	2.61		Clay	71.8			67.04	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	149.250	2.763	6172.4	3612.8	105.729	1.890	2.08		Sand	29.5	207.3		207.30	0.87	179.62	250.39	0.86	0.495	0.840	136.384	251.894	509.26	0.00	0.00
51.180	194.810	2.777	6191.6	3622.0	138.501	1.449	1.92		Sand	16.3	207.3		207.30	0.84	174.77	209.12	0.86	0.495	0.842	3.287	6.092	12.32	0.00	0.00
51.350	211.830	3.012	6212.0	3631.8	150.586	1.443	1.89		Sand	14.2	207.3		207.30	0.84	173.44	199.52	0.86	0.494	0.859	1.839	3.475	7.03	0.00	0.00
51.510	219.320	2.040	6231.2	3641.0	155.786	0.944	1.75		Sand	2.9			207.30	0.82	169.32	169.32	0.86	0.494	0.897	0.492	0.848	1.72	0.00	0.00
51.670	211.120	2.244	6250.4	3650.2	149.681	1.079	1.80		Sand	7.1			199.55	0.81	162.16	164.30	0.86	0.494	0.901	0.420	0.701	1.42	0.00	0.00
51.840	214.150	2.315	6270.8	3660.0	151.651	1.097	1.80		Sand	7.2			202.41	0.81	164.68	166.96	0.86	0.494	0.898	0.456	0.773	1.57	0.00	0.00
52.000	250.130	2.806	6290.0	3669.2	177.279	1.136	1.77		Sand	4.3			236.42	0.83	196.73	196.79	0.86	0.494	0.861	1.584	2.999	6.07	0.00	0.00
52.170	291.980	2.155	6310.4	3679.0	207.034	0.746	1.59		Sand	0.0			275.97	0.85	235.76	235.76	0.85	0.494	0.834	28.110	51.581	104.46	0.00	0.00
52.330	332.430	1.216	6329.6	3688.2	235.728	0.369	1.35		Sand	0.0			314.21	0.86	271.37	271.37	0.85	0.494	0.833	2406.679	4412.153	8937.74	0.00	0.00
52.490	318.810	1.200	6348.8	3697.4	225.688	0.380	1.37		Sand	0.0			301.33	0.86	260.08	260.08	0.85	0.494	0.833	466.650	854.739	1731.89	0.00	0.00
52.660	253.240	1.722	6369.2	3707.2	178.560	0.689	1.61		Sand	0.0			239.36	0.83	198.80	198.80	0.85	0.493	0.855	1.767	3.322	6.73	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.50

Total Settlement:	0.12	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
52.820	246.060	1.630	6388.4	3716.4	173.211	0.671	1.62		Sand	0.0			232.57	0.83	192.00	192.00	0.85	0.493	0.865	1.239	2.357	4.78	0.00	0.00
52.990	237.410	1.570	6408.8	3726.2	166.815	0.670	1.63		Sand	0.0			224.40	0.82	183.91	183.91	0.85	0.493	0.875	0.854	1.612	3.27	0.00	0.00
53.150	299.290	1.381	6428.0	3735.4	210.622	0.466	1.45		Sand	0.0			282.88	0.85	241.54	241.54	0.85	0.493	0.829	50.532	92.216	187.05	0.00	0.00
53.310	359.700	1.896	6447.2	3744.7	253.278	0.532	1.43		Sand	0.0			339.98	0.86	292.45	292.45	0.85	0.493	0.829	########	########	373759.97	0.00	0.00
53.480	377.550	2.105	6467.6	3754.4	265.606	0.562	1.43		Sand	0.0			356.85	0.86	306.75	306.75	0.85	0.493	0.828	########	########	8299166.15	0.00	0.00
53.640	352.840	1.478	6486.8	3763.7	247.762	0.423	1.37		Sand	0.0	356.85		356.85	0.86	306.55	306.55	0.85	0.493	0.827	########	########	7913737.15	0.00	0.00
53.810	316.400	2.033	6507.2	3773.5	221.641	0.649	1.53		Sand	0.0	356.85		356.85	0.86	306.34	306.34	0.85	0.492	0.826	########	########	7529960.32	0.00	0.00
53.970	159.920	3.576	6526.4	3782.7	110.744	2.283	2.13		Sand	33.2	356.85		356.85	0.86	306.15	410.44	0.85	0.492	0.826	########	########	#########	0.00	0.00
54.130	65.530	3.300	6545.6	3791.9	32.837	5.300	2.76		Clay	83.5			61.94	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	27.570	2.312	6566.0	3801.7	12.777	9.519	3.23		Clay	100.0			26.06	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	26.470	1.238	6585.2	3810.9	12.164	5.343	3.08		Clay	100.0			25.02	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	26.190	1.178	6605.6	3820.7	11.981	5.148	3.07		Clay	100.0			24.75	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	23.170	1.090	6624.8	3829.9	10.370	5.488	3.14		Clay	100.0			21.90	0.86	n.a.	n.a.	0.84	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	24.480	1.128	6644.0	3839.1	11.022	5.329	3.11		Clay	100.0			23.14	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	28.150	1.146	6664.4	3848.9	12.896	4.616	3.02		Clay	100.0			26.61	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.280	25.790	1.098	6683.6	3858.1	11.637	4.892	3.07		Clay	100.0			24.38	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	24.930	1.018	6704.0	3867.9	11.157	4.719	3.07		Clay	100.0			23.56	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	24.960	0.988	6723.2	3877.1	11.141	4.573	3.07		Clay	100.0			23.59	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	27.700	1.076	6742.4	3886.4	12.520	4.422	3.02		Clay	100.0			26.18	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	28.860	1.029	6762.8	3896.1	13.079	4.040	2.98		Clay	100.0			27.28	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	26.200	1.047	6782.0	3905.4	11.681	4.589	3.05		Clay	100.0			24.76	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	25.830	1.019	6802.4	3915.2	11.457	4.542	3.06		Clay	100.0			24.41	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	25.010	1.019	6821.6	3924.4	11.008	4.716	3.08		Clay	100.0			23.64	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	25.540	1.168	6840.8	3933.6	11.247	5.282	3.10		Clay	100.0			24.14	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	30.830	1.425	6861.2	3943.4	13.896	5.202	3.03		Clay	100.0			29.14	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	37.070	1.361	6880.4	3952.6	17.017	4.046	2.89		Clay	94.2			35.04	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	40.870	1.511	6900.8	3962.4	18.887	4.038	2.85		Clay	91.4			38.63	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	41.240	1.074	6920.0	3971.6	19.025	2.841	2.76		Clay	83.5			38.98	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	48.640	1.088	6939.2	3980.8	22.694	2.408	2.65		Clay	75.2			45.97	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	41.470	1.483	6959.6	3990.6	19.040	3.904	2.84		Clay	90.4			39.20	0.85	n.a.	n.a.	0.83	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	55.530	1.835	6978.8	3999.8	26.021	3.526	2.71		Clay	79.8			52.49	0.85	n.a.	n.a.	0.83	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	62.910	2.673	6999.2	4009.6	29.634	4.500	2.74		Clay	82.1			59.46	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	78.440	3.452	7018.4	4018.8	37.290	4.607	2.67		Clay	76.9			74.14	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	98.900	3.301	7037.6	4028.0	65.341	3.461	2.42		Sand	56.2			93.48	0.76	71.22	138.62	0.83	0.488	0.907	0.228	0.320	0.66	0.02	0.00
58.400	106.260	2.478	7058.0	4037.8	70.291	2.412	2.28		Sand	45.5			100.43	0.76	76.60	140.55	0.83	0.488	0.905	0.237	0.336	0.69	0.02	0.00
58.560	91.500	2.112	7077.2	4047.1	60.117	2.401	2.33		Sand	49.3			86.48	0.75	64.93	127.80	0.83	0.488	0.914	0.191	0.253	0.52	0.02	0.00
58.730	54.320	2.783	7097.6	4056.8	25.030	5.481	2.85		Clay	91.1			51.34	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	71.750	2.150	7116.8	4066.1	46.496	3.153	2.49		Sand	62.3			67.82	0.74	49.88	113.21	0.83	0.487	0.923	0.158	0.195	0.40	0.03	0.00
59.060	85.210	2.147	7137.2	4075.9	55.600	2.629	2.38		Sand	53.4			80.54	0.74	59.94	123.22	0.83	0.487	0.916	0.179	0.231	0.47	0.03	0.00
59.220	62.200	2.331	7156.4	4085.1	28.700	3.975	2.71		Clay	80.0			58.79	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	65.510	1.772	7175.6	4094.3	30.248	2.862	2.60		Clay	71.1			61.92	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	51.080	2.186	7196.0	4104.1	23.139	4.604	2.82		Clay	89.0			48.28	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	54.180	2.105	7215.2	4113.3	24.590	4.162	2.78		Clay	85.1			51.21	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	57.410	1.966	7235.6	4123.1	26.093	3.654	2.72		Clay	80.6			54.26	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	54.420	1.792	7254.8	4132.3	24.583	3.528	2.73		Clay	81.3			51.44	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	43.440	1.820	7274.0	4141.5	19.221	4.572	2.88		Clay	93.7			41.06	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	41.090	1.724	7294.4	4151.3	18.039	4.604	2.91		Clay	95.5			38.84	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	43.070	1.599	7313.6	4160.5	18.946	4.058	2.85		Clay	91.4			40.71	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	41.940	1.446	7334.0	4170.3	18.355	3.779	2.85		Clay	90.7			39.64	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	40.190	1.828	7353.2	4179.5	17.472	5.007	2.94		Clay	98.2			37.99	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	48.480	1.509	7372.4	4188.8	21.388	3.369	2.76		Clay	84.0			45.82	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	64.050	1.477	7392.8	4198.5	40.497	2.447	2.46		Sand	59.9			60.54	0.72	43.30	104.12	0.82	0.485	0.925	0.143	0.170	0.35	0.03	0.00
61.350	52.340	2.775	7412.0	4207.8	23.116	5.707	2.89		Clay	94.1			49.47	0.83	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	51.280	2.066	7432.4	4217.6	22.555	4.344	2.82		Clay	88.3			48.47	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	53.140	1.190	7451.6	4226.8	23.382	2.409	2.64		Clay	74.4			50.23	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	36.240	0.950	7470.8	4236.0	15.347	2.923	2.84		Clay	90.1			34.25	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	21.380	1.584	7491.2	4245.8	8.307	8.984	3.35		Clay	100.0			20.21	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	41.470	1.797	7510.4	4255.0	17.727	4.763	2.92		Clay	96.7			39.20	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	371.660	3.099	7530.8	4264.8	244.933	0.842	1.57		Sand	0.0			351.29	0.83	291.98	291.98	0.82	0.483	0.790	92016.513	########	330727.52	0.00	0.00
62.500	565.990	2.902	7550.0	4274.0	373.902	0.516	1.29		Sand	0.0			534.96	0.83	444.40	444.40	0.82	0.483	0.789	########	########	#########	0.00	0.00
62.660	594.840	2.834	7569.2	4283.2	392.659	0.479	1.26		Sand	0.0			562.23	0.83	466.79	466.79	0.82	0.483	0.788	########	########	#########	0.00	0.00
62.830	583.240	3.138	7589.6	4293.0	384.506	0.542	1.30		Sand	0.0			551.27	0.83	457.41	457.41	0.81	0.483	0.788	########	########	#########	0.00	0.00
62.990	621.110	3.483	7608.8	4302.2	409.191	0.564	1.30		Sand	0.0			587.06	0.83	486.83	486.83	0.81	0.483	0.787	########	########	#########	0.00	0.00
63.160	607.760	4.659	7629.2	4312.0	399.880	0.771	1.41		Sand	0.0			574.44	0.83	476.08	476.08	0.81	0.482	0.786	########	########	#########	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.50

Total Settlement:	0.12	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
63.320	635.010	4.401	7648.4	4321.2	417.470	0.697	1.36		Sand	0.0			600.20	0.83	497.15	497.15	0.81	0.482	0.786	########	########	##########	0.00	0.00
63.480	596.070	5.286	7667.6	4330.4	391.292	0.893	1.46		Sand	0.0			563.39	0.83	466.40	466.40	0.81	0.482	0.785	########	########	##########	0.00	0.00
63.650	523.690	2.800	7688.0	4340.2	343.076	0.539	1.33		Sand	0.0			494.98	0.83	409.52	409.52	0.81	0.482	0.784	########	########	##########	0.00	0.00
63.810	450.890	2.725	7707.2	4349.5	294.712	0.610	1.42		Sand	0.0			426.17	0.83	352.39	352.39	0.81	0.482	0.784	########	########	##########	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.330	562.090	3.126	41.3	41.3	3804.960	0.556	0.97		Unsaturated	0.0			531.28	1.70	903.17	903.17	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	583.610	4.349	61.3	61.3	3242.045	0.745	1.09		Unsaturated	0.0			551.62	1.70	937.75	937.75	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	584.980	5.687	82.5	82.5	2799.984	0.972	1.21		Unsaturated	0.0			552.91	1.70	939.95	939.95	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	427.320	4.746	102.5	102.5	1834.896	1.111	1.28		Unsaturated	0.0			403.89	1.70	686.62	686.62	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	284.960	6.294	122.5	122.5	1119.166	2.209	1.62		Unsaturated	0.0			269.34	1.70	457.88	457.88	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	172.630	5.364	143.8	143.8	625.754	3.108	1.84		Unsaturated	10.2			163.17	1.70	277.38	291.07	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	83.270	3.752	163.8	163.8	282.646	4.511	2.13		Unsaturated	33.7			78.71	1.70	133.80	201.27	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	45.280	2.664	185.0	185.0	144.446	5.895	2.38		Unsaturated	53.6			42.80	1.70	72.76	139.60	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	33.450	1.668	205.0	205.0	101.265	5.003	2.41		Unsaturated	56.1			31.62	1.70	53.75	116.32	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	32.360	1.146	225.0	225.0	93.471	3.554	2.32		Unsaturated	48.6			30.59	1.70	52.00	111.17	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	33.480	1.076	246.3	246.3	92.421	3.227	2.29		Unsaturated	46.3			31.64	1.70	53.80	112.35	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	37.420	1.093	266.3	266.3	99.354	2.931	2.24		Unsaturated	42.2			35.37	1.70	60.13	117.96	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	36.850	1.216	287.5	287.5	94.122	3.312	2.29		Unsaturated	46.6			34.83	1.70	59.21	119.30	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	36.910	1.291	307.5	307.5	91.134	3.512	2.32		Unsaturated	48.9			34.89	1.70	59.31	120.52	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	35.910	1.373	327.5	327.5	85.881	3.841	2.37		Unsaturated	52.6			33.94	1.70	57.70	120.06	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	35.930	1.525	348.8	348.8	83.245	4.264	2.41		Unsaturated	56.1			33.96	1.70	57.73	121.37	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	35.080	1.706	368.8	368.8	79.009	4.889	2.47		Unsaturated	60.9			33.16	1.70	56.37	121.14	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	32.820	1.762	390.0	390.0	71.827	5.402	2.53		Unsaturated	65.6			31.02	1.70	52.74	117.73	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	31.410	1.720	410.0	410.0	67.005	5.512	2.56		Unsaturated	67.7			29.69	1.70	50.47	115.30	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	30.690	1.709	430.0	430.0	63.897	5.606	2.58		Unsaturated	69.2			29.01	1.70	49.31	114.14	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	29.920	1.652	451.3	451.3	60.777	5.562	2.59		Unsaturated	70.2			28.28	1.70	48.08	112.73	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	28.110	1.554	471.3	471.3	75.388	5.575	2.53		Unsaturated	65.4			26.57	1.70	45.17	107.94	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	26.470	1.425	492.5	492.5	68.768	5.435	2.55		Unsaturated	66.8			25.02	1.70	42.53	104.86	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	23.600	1.259	512.5	512.5	59.533	5.392	2.59		Unsaturated	69.8			22.31	1.70	37.92	99.55	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	19.920	1.141	533.8	533.8	48.716	5.805	2.67		Unsaturated	76.4			18.83	1.70	32.01	93.06	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	17.800	1.035	553.8	553.8	42.332	5.906	2.71		Unsaturated	80.1			16.82	1.70	28.60	89.19	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	16.190	0.909	573.8	573.8	55.436	5.717	2.62		Unsaturated	73.0			15.30	1.70	26.01	84.74	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	14.790	0.824	595.0	595.0	48.714	5.682	2.66		Unsaturated	75.8			13.98	1.70	23.76	82.28	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	14.480	0.839	615.0	615.0	46.089	5.922	2.69		Unsaturated	78.2			13.69	1.70	23.27	81.99	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	14.390	0.853	636.3	636.3	44.234	6.060	2.71		Unsaturated	79.7			13.60	1.70	23.12	82.02	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	13.700	0.811	656.3	656.3	40.752	6.064	2.73		Unsaturated	81.7			12.95	1.70	22.01	80.84	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	13.200	0.781	676.3	676.3	38.039	6.073	2.75		Unsaturated	83.3			12.48	1.70	21.21	80.01	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	12.930	0.775	697.5	697.5	36.075	6.161	2.77		Unsaturated	85.0			12.22	1.70	20.78	79.65	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	13.670	0.778	717.5	717.5	37.105	5.842	2.75		Unsaturated	82.9			12.92	1.70	21.97	80.95	1.00	0.324	1.099	n.a.	n.a.	n.a.	0.00	0.00
5.910	12.810	0.724	738.8	738.8	33.680	5.816	2.78		Unsaturated	85.2			12.11	1.70	20.58	79.42	1.00	0.324	1.095	n.a.	n.a.	n.a.	0.00	0.00
6.070	12.360	0.684	758.8	758.8	31.580	5.713	2.79		Unsaturated	86.3			11.68	1.70	19.86	78.61	1.00	0.324	1.092	n.a.	n.a.	n.a.	0.00	0.00
6.230	13.510	0.729	778.8	778.8	33.697	5.555	2.76		Unsaturated	84.0			12.77	1.70	21.71	80.75	1.00	0.323	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.400	13.890	0.721	800.0	800.0	33.725	5.348	2.75		Unsaturated	83.1			13.13	1.70	22.26	81.34	0.99	0.323	1.089	n.a.	n.a.	n.a.	0.00	0.00
6.560	12.850	0.644	820.0	820.0	30.341	5.174	2.77		Unsaturated	84.9			12.15	1.68	20.43	79.18	0.99	0.323	1.086	n.a.	n.a.	n.a.	0.00	0.00
6.730	11.130	0.572	841.3	841.3	25.461	5.338	2.84		Unsaturated	90.0			10.52	1.67	17.58	76.04	0.99	0.323	1.081	n.a.	n.a.	n.a.	0.00	0.00
6.890	10.800	0.593	861.3	861.3	24.080	5.723	2.88		Unsaturated	93.1			10.21	1.65	16.86	75.41	0.99	0.323	1.079	n.a.	n.a.	n.a.	0.00	0.00
7.050	10.440	0.600	881.3	881.3	22.694	5.997	2.91		Unsaturated	95.7			9.87	1.63	16.12	74.69	0.99	0.323	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.220	10.620	0.585	902.5	902.5	22.535	5.748	2.90		Unsaturated	94.9			10.04	1.61	16.18	74.69	0.99	0.323	1.074	n.a.	n.a.	n.a.	0.00	0.00
7.380	11.030	0.588	922.5	922.5	22.913	5.565	2.88		Unsaturated	93.7			10.43	1.59	16.59	75.11	0.99	0.323	1.073	n.a.	n.a.	n.a.	0.00	0.00
7.550	10.990	0.591	943.8	943.8	22.290	5.616	2.90		Unsaturated	94.6			10.39	1.57	16.33	74.85	0.99	0.323	1.070	n.a.	n.a.	n.a.	0.00	0.00
7.710	10.460	0.576	963.8	963.8	20.707	5.776	2.93		Unsaturated	97.1			9.89	1.56	15.39	73.86	0.99	0.323	1.068	n.a.	n.a.	n.a.	0.00	0.00
7.870	10.150	0.528	983.8	983.8	19.635	5.470	2.93		Unsaturated	97.2			9.59	1.54	14.79	73.08	0.99	0.322	1.066	n.a.	n.a.	n.a.	0.00	0.00
8.040	10.050	0.512	1004.8	1002.3	19.051	5.365	2.93		Clay	97.6			9.50	1.22	n.a.	n.a.	0.99	0.323	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	11.980	0.559	1024.0	1011.5	22.675	4.875	2.85		Clay	90.8			11.32	1.21	n.a.	n.a.	0.99	0.326	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	14.330	0.637	1044.4	1021.3	27.039	4.613	2.78		Clay	85.0			13.54	1.21	n.a.	n.a.	0.99	0.329	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	14.660	0.758	1063.6	1030.5	27.419	5.364	2.82		Clay	88.3			13.86	1.21	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	15.330	0.789	1082.8	1039.7	28.447	5.335	2.80		Clay	87.2			14.49	1.21	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	17.420	0.842	1103.2	1049.5	32.144	4.990	2.74		Clay	82.6			16.47	1.20	n.a.	n.a.	0.99	0.338	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	18.200	0.916	1122.4	1058.8	33.320	5.193	2.75		Clay	82.6			17.20	1.20	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	19.060	0.966	1142.8	1068.5	34.605	5.225	2.74		Clay	81.9			18.02	1.20	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	18.810	0.985	1162.0	1077.8	33.828	5.401	2.75		Clay	83.2			17.78	1.19	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	18.370	0.989	1181.2	1087.0	32.714	5.561	2.77		Clay	84.8			17.36	1.19	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	17.060	0.974	1201.6	1096.8	30.014	5.919	2.82		Clay	88.4			16.12	1.19	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	16.070	0.936	1220.8	1106.0	27.956	6.055	2.85		Clay	90.7			15.19	1.19	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	16.090	0.869	1241.2	1115.8	27.729	5.619	2.83		Clay	89.1			15.21	1.18	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	15.900	0.893	1260.4	1125.0	27.147	5.846	2.84		Clay	90.6			15.03	1.18	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	15.760	0.878	1279.6	1134.2	26.662	5.809	2.85		Clay	90.9			14.90	1.18	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	14.750	0.855	1300.0	1144.0	24.650	6.065	2.89		Clay	93.9			13.94	1.18	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	15.500	0.851	1319.2	1153.2	25.737	5.732	2.86		Clay	91.5			14.65	1.17	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.830	15.200	0.865	1339.6	1163.0	24.987	5.952	2.88		Clay	93.1			14.37	1.17	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	13.500	0.762	1358.8	1172.2	21.874	5.941	2.92		Clay	96.4			12.76	1.17	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	11.520	0.641	1378.0	1181.4	18.335	5.916	2.97		Clay	100.0			10.89	1.17	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	11.410	0.544	1398.4	1191.2	17.983	5.076	2.94		Clay	97.8			10.78	1.16	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	10.710	0.477	1417.6	1200.4	16.662	4.770	2.94		Clay	98.4			10.12	1.16	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	10.430	0.426	1438.0	1210.2	16.048	4.386	2.93		Clay	97.5			9.86	1.16	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	10.140	0.471	1457.2	1219.5	15.435	5.009	2.98		Clay	100.0			9.58	1.16	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	9.220	0.408	1477.6	1229.2	13.799	4.808	3.01		Clay	100.0			8.71	1.15	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	8.680	0.337	1496.8	1238.5	12.809	4.243	3.00		Clay	100.0			8.20	1.15	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	8.000	0.266	1516.0	1247.7	11.609	3.667	2.99		Clay	100.0			7.56	1.15	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	7.600	0.226	1536.4	1257.5	10.866	3.310	2.99		Clay	100.0			7.18	1.15	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	7.690	0.223	1555.6	1266.7	10.914	3.222	2.98		Clay	100.0			7.27	1.14	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	8.100	0.249	1576.0	1276.5	11.457	3.404	2.98		Clay	100.0			7.66	1.14	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	8.670	0.280	1595.2	1285.7	12.246	3.553	2.97		Clay	100.0			8.19	1.14	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	8.460	0.322	1614.4	1294.9	11.820	4.205	3.02		Clay	100.0			8.00	1.14	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	8.070	0.324	1634.8	1304.7	11.118	4.471	3.06		Clay	100.0			7.63	1.14	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	7.040	0.323	1654.0	1313.9	9.457	5.204	3.16		Clay	100.0			6.65	1.13	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	6.980	0.331	1674.4	1323.7	9.281	5.384	3.17		Clay	100.0			6.60	1.13	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	8.410	0.368	1693.6	1332.9	11.348	4.867	3.08		Clay	100.0			7.95	1.13	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	9.130	0.454	1712.8	1342.1	12.329	5.484	3.08		Clay	100.0			8.63	1.13	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	9.230	0.429	1733.2	1351.9	12.372	5.133	3.06		Clay	100.0			8.72	1.13	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	6.730	0.370	1752.4	1361.2	8.601	6.328	3.24		Clay	100.0			6.36	1.12	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	6.950	0.331	1772.8	1370.9	8.846	5.457	3.19		Clay	100.0			6.57	1.12	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	6.340	0.317	1792.0	1380.2	7.889	5.825	3.25		Clay	100.0			5.99	1.12	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	7.020	0.326	1811.2	1389.4	8.802	5.338	3.19		Clay	100.0			6.64	1.12	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	7.630	0.343	1831.6	1399.2	9.597	5.110	3.15		Clay	100.0			7.21	1.12	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	7.930	0.353	1850.8	1408.4	9.947	5.045	3.13		Clay	100.0			7.50	1.11	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	8.080	0.399	1871.2	1418.2	10.075	5.589	3.16		Clay	100.0			7.64	1.11	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	11.780	0.477	1890.4	1427.4	15.181	4.405	2.95		Clay	99.1			11.13	1.11	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	13.040	0.558	1909.6	1436.6	16.825	4.616	2.93		Clay	97.4			12.33	1.11	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	14.300	0.646	1930.0	1446.4	18.439	4.844	2.91		Clay	96.1			13.52	1.11	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	15.610	0.797	1949.2	1455.6	20.109	5.447	2.92		Clay	96.5			14.75	1.10	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	17.620	0.998	1969.6	1465.4	22.704	5.997	2.91		Clay	95.7			16.65	1.10	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	19.160	1.090	1988.8	1474.6	24.638	6.000	2.88		Clay	93.7			18.11	1.10	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	18.570	1.089	2008.0	1483.8	23.676	6.197	2.91		Clay	95.4			17.55	1.10	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	19.520	0.887	2028.4	1493.6	24.780	4.795	2.81		Clay	88.2			18.45	1.10	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	14.870	0.708	2047.6	1502.8	18.427	5.113	2.93		Clay	97.3			14.05	1.09	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	11.630	0.590	2068.0	1512.6	14.010	5.571	3.04		Clay	100.0			10.99	1.09	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	9.670	0.452	2087.2	1521.9	11.337	5.235	3.10		Clay	100.0			9.14	1.09	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	8.770	0.346	2106.4	1531.1	10.080	4.482	3.10		Clay	100.0			8.29	1.09	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	8.870	0.320	2126.8	1540.9	10.133	4.099	3.07		Clay	100.0			8.38	1.09	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	12.020	0.381	2146.0	1550.1	14.124	3.484	2.91		Clay	96.1			11.36	1.09	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	14.300	0.490	2166.4	1559.9	16.946	3.705	2.87		Clay	92.4			13.52	1.08	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	15.260	0.514	2185.6	1569.1	18.058	3.625	2.84		Clay	90.2			14.42	1.08	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	13.250	0.493	2204.8	1578.3	15.393	4.062	2.92		Clay	97.0			12.52	1.08	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	11.490	0.600	2225.2	1588.1	13.069	5.784	3.08		Clay	100.0			10.86	1.08	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	10.470	0.514	2244.4	1597.3	11.704	5.500	3.10		Clay	100.0			9.90	1.08	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	9.560	0.395	2264.8	1607.1	10.488	4.683	3.09		Clay	100.0			9.04	1.08	n.a.	n.a.	0.97	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	9.470	0.318	2284.0	1616.3	10.305	3.815	3.05		Clay	100.0			8.95	1.07	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	8.710	0.295	2303.2	1625.5	9.300	3.900	3.09		Clay	100.0			8.23	1.07	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	9.120	0.316	2323.6	1635.3	9.733	3.968	3.08		Clay	100.0			8.62	1.07	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	11.030	0.372	2342.8	1644.5	11.989	3.774	2.99		Clay	100.0			10.43	1.07	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	12.120	0.433	2363.2	1654.3	13.224	3.959	2.97		Clay	100.0			11.46	1.07	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	12.700	0.454	2382.4	1663.6	13.836	3.945	2.95		Clay	99.3			12.00	1.07	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	11.870	0.466	2402.8	1673.3	12.751	4.368	3.01		Clay	100.0			11.22	1.06	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	12.330	0.484	2422.0	1682.6	13.217	4.348	3.00		Clay	100.0			11.65	1.06	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	13.980	0.531	2441.2	1691.8	15.084	4.160	2.94		Clay	98.1			13.21	1.06	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	14.280	0.541	2461.6	1701.6	15.338	4.147	2.93		Clay	97.5			13.50	1.06	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	12.130	0.510	2480.8	1710.8	12.731	4.686	3.03		Clay	100.0			11.47	1.06	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	10.220	0.410	2501.2	1720.6	10.426	4.570	3.09		Clay	100.0			9.66	1.06	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	8.660	0.291	2520.4	1729.8	8.556	3.937	3.12		Clay	100.0			8.19	1.05	n.a.	n.a.	0.96	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	8.030	0.239	2539.6	1739.0	7.775	3.541	3.13		Clay	100.0			7.59	1.05	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	7.730	0.217	2560.0	1748.8	7.376	3.366	3.13		Clay	100.0			7.31	1.05	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	7.360	0.202	2579.2	1758.0	6.906	3.326	3.16		Clay	100.0			6.96	1.05	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.330	7.210	0.187	2599.6	1767.8	6.686	3.171	3.16		Clay	100.0			6.81	1.05	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	7.120	0.166	2618.8	1777.0	6.540	2.848	3.14		Clay	100.0			6.73	1.05	n.a.	n.a.	0.96	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	7.090	0.169	2638.0	1786.2	6.462	2.934	3.15		Clay	100.0			6.70	1.05	n.a.	n.a.	0.96	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	8.070	0.167	2658.4	1796.0	7.506	2.474	3.06		Clay	100.0			7.63	1.04	n.a.	n.a.	0.96	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	7.770	0.162	2677.6	1805.2	7.125	2.524	3.08		Clay	100.0			7.34	1.04	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	7.960	0.161	2698.0	1815.0	7.285	2.438	3.06		Clay	100.0			7.52	1.04	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	9.190	0.204	2717.2	1824.3	8.586	2.600	3.02		Clay	100.0			8.69	1.04	n.a.	n.a.	0.96	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	10.450	0.306	2736.4	1833.5	9.907	3.370	3.03		Clay	100.0			9.88	1.04	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	13.100	0.497	2756.8	1843.3	12.718	4.237	3.00		Clay	100.0			12.38	1.04	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	15.480	0.544	2776.0	1852.5	15.214	3.861	2.92		Clay	96.2			14.63	1.04	n.a.	n.a.	0.96	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	12.550	0.470	2796.4	1862.3	11.977	4.215	3.02		Clay	100.0			11.86	1.03	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	11.000	0.362	2815.6	1871.5	10.251	3.770	3.05		Clay	100.0			10.40	1.03	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	12.430	0.494	2834.8	1880.7	11.711	4.482	3.04		Clay	100.0			11.75	1.03	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	19.740	0.913	2855.2	1890.5	19.373	4.988	2.91		Clay	95.5			18.66	1.03	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	48.210	1.114	2874.4	1899.7	46.658	2.381	2.41		Sand	55.6		1.8	82.02	1.04	85.57	156.66	0.95	0.468	1.018	0.339	0.605	1.29	0.00	0.01
23.790	47.060	1.122	2894.8	1909.5	45.383	2.460	2.43		Sand	57.0	45.57	1.8	82.03	1.04	85.39	157.01	0.95	0.469	1.017	0.343	0.611	1.30	0.00	0.00
23.950	30.280	0.964	2914.0	1918.7	30.044	3.345	2.65		Clay	74.8			28.62	1.03	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	19.870	1.087	2933.2	1927.9	19.091	5.905	2.96		Clay	99.7			18.78	1.02	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	27.680	0.985	2953.6	1937.7	27.045	3.759	2.72		Clay	80.3			26.16	1.02	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	56.420	0.997	2972.8	1946.9	54.129	1.814	2.28		Sand	45.5	101.12	1.32	133.48	1.03	136.95	216.31	0.95	0.472	1.025	5.406	12.190	25.85	0.00	0.00
24.610	73.130	1.318	2993.2	1956.7	70.408	1.840	2.20		Sand	38.9	101.12	1.32	133.48	1.02	136.81	210.76	0.95	0.472	1.023	3.665	8.251	17.47	0.00	0.00
24.770	91.210	1.236	3012.4	1966.0	87.962	1.378	2.04		Sand	26.5	101.12	1.32	133.48	1.03	136.84	193.82	0.95	0.473	1.018	1.357	3.039	6.43	0.00	0.00
24.930	106.980	1.243	3031.6	1975.2	103.175	1.179	1.95		Sand	18.7	101.12	1.32	133.48	1.03	136.87	175.17	0.95	0.473	1.014	0.603	1.230	2.60	0.00	0.00
25.100	89.030	2.146	3052.0	1985.0	85.393	2.452	2.23		Sand	41.1		1.32	111.08	1.02	113.60	183.87	0.95	0.474	1.014	0.852	1.863	3.93	0.00	0.00
25.260	62.300	2.218	3071.2	1994.2	59.162	3.651	2.46		Sand	59.9		1.32	77.73	1.02	79.60	150.62	0.95	0.474	1.010	0.293	0.495	1.04	0.01	0.01
25.430	75.780	2.168	3091.6	2004.0	72.099	2.921	2.33		Sand	49.6		1.32	94.55	1.02	96.50	167.85	0.95	0.475	1.010	0.469	0.901	1.90	0.00	0.00
25.590	161.840	1.877	3110.8	2013.2	155.318	1.171	1.82		Sand	8.2		1.32	201.92	1.02	205.13	210.00	0.95	0.475	1.015	3.484	7.778	16.36	0.00	0.00
25.750	193.420	1.387	3130.0	2022.4	185.486	0.723	1.62		Sand	0.0		1.32	241.32	1.01	244.34	244.34	0.95	0.476	1.014	68.270	152.233	319.83	0.00	0.00
25.920	158.840	1.655	3150.4	2032.2	151.678	1.052	1.79		Sand	6.2	182.82	1.32	241.32	1.01	244.01	245.17	0.95	0.477	1.012	74.860	166.689	349.80	0.00	0.00
26.080	120.820	1.890	3169.6	2041.4	114.739	1.585	2.00		Sand	23.1	182.82	1.32	241.32	1.01	243.62	310.67	0.95	0.477	1.011	########	########	##########	0.00	0.00
26.250	92.550	1.993	3190.0	2051.2	87.316	2.191	2.18		Sand	37.8	182.82	1.32	241.32	1.01	243.31	341.07	0.94	0.478	1.009	########	########	##########	0.00	0.00
26.410	42.170	1.356	3209.2	2060.4	38.855	3.343	2.56		Sand	68.2	182.82	1.32	241.32	1.01	243.02	363.72	0.94	0.478	1.008	########	########	##########	0.00	0.00
26.570	21.690	0.902	3228.4	2069.6	19.400	4.494	2.88		Clay	93.0			20.50	1.01	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	15.990	0.432	3248.8	2079.4	13.817	3.006	2.88		Clay	93.6			15.11	1.00	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	13.730	0.406	3268.0	2088.6	11.583	3.360	2.97		Clay	100.0			12.98	1.00	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	11.960	0.414	3288.4	2098.4	9.832	4.012	3.08		Clay	100.0			11.30	1.00	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	12.860	0.391	3307.6	2107.6	10.634	3.485	3.01		Clay	100.0			12.16	1.00	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	12.680	0.390	3328.0	2117.4	10.405	3.537	3.02		Clay	100.0			11.98	1.00	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	12.420	0.423	3347.2	2126.7	10.106	3.935	3.06		Clay	100.0			11.74	1.00	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	12.260	0.458	3366.4	2135.9	9.904	4.334	3.09		Clay	100.0			11.59	1.00	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	11.930	0.460	3386.8	2145.7	9.542	4.492	3.12		Clay	100.0			11.28	1.00	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	11.740	0.494	3406.0	2154.9	9.316	4.920	3.15		Clay	100.0			11.10	1.00	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	11.230	0.480	3426.4	2164.7	8.793	5.044	3.17		Clay	100.0			10.61	0.99	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	10.280	0.434	3445.6	2173.9	7.873	5.071	3.21		Clay	100.0			9.72	0.99	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	10.150	0.394	3464.8	2183.1	7.712	4.678	3.20		Clay	100.0			9.59	0.99	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	9.820	0.327	3485.2	2192.9	7.367	4.050	3.18		Clay	100.0			9.28	0.99	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	8.830	0.250	3504.4	2202.1	6.428	3.535	3.20		Clay	100.0			8.35	0.99	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	9.010	0.209	3524.8	2211.9	6.553	2.886	3.14		Clay	100.0			8.52	0.99	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	9.330	0.186	3544.0	2221.1	6.806	2.456	3.09		Clay	100.0			8.82	0.99	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	9.370	0.193	3563.2	2230.3	6.805	2.541	3.10		Clay	100.0			8.86	0.99	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	9.950	0.193	3583.6	2240.1	7.284	2.362	3.06		Clay	100.0			9.40	0.99	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	10.070	0.197	3602.8	2249.3	7.352	2.383	3.05		Clay	100.0			9.52	0.98	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	10.150	0.214	3623.2	2259.1	7.382	2.566	3.07		Clay	100.0			9.59	0.98	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	12.020	0.255	3642.4	2268.4	8.992	2.499	2.99		Clay	100.0			11.36	0.98	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	12.430	0.279	3661.6	2277.6	9.307	2.636	2.99		Clay	100.0			11.75	0.98	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	10.880	0.264	3682.0	2287.4	7.903	2.918	3.08		Clay	100.0			10.28	0.98	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	10.610	0.215	3701.2	2296.6	7.628	2.458	3.05		Clay	100.0			10.03	0.98	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	11.070	0.251	3721.6	2306.4	7.986	2.726	3.06		Clay	100.0			10.46	0.98	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	13.980	0.344	3740.8	2315.6	10.459	2.844	2.97		Clay	100.0			13.21	0.98	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	14.540	0.399	3760.0	2324.8	10.891	3.148	2.98		Clay	100.0			13.74	0.98	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	14.090	0.401	3780.4	2334.6	10.451	3.283	3.00		Clay	100.0			13.32	0.97	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	14.950	0.462	3799.6	2343.8	11.136	3.537	3.00		Clay	100.0			14.13	0.97	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	14.560	0.431	3820.0	2353.6	10.749	3.403	3.00		Clay	100.0			13.76	0.97	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	12.800	0.405	3839.2	2362.8	9.210	3.721	3.08		Clay	100.0			12.10	0.97	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.820	12.780	0.337	3858.4	2372.0	9.149	3.102	3.04		Clay	100.0			12.08	0.97	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	12.010	0.437	3878.8	2381.8	8.456	4.339	3.15		Clay	100.0			11.35	0.97	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	15.380	0.520	3898.0	2391.0	11.234	3.875	3.02		Clay	100.0			14.54	0.97	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	20.930	0.650	3918.4	2400.8	15.804	3.426	2.87		Clay	92.6			19.78	0.97	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	21.640	0.756	3937.6	2410.0	16.324	3.843	2.89		Clay	94.2			20.45	0.97	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	21.590	0.767	3956.8	2419.3	16.213	3.911	2.90		Clay	94.8			20.41	0.97	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	22.410	0.573	3977.2	2429.1	16.814	2.808	2.80		Clay	86.7			21.18	0.96	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	22.510	0.472	3996.4	2438.3	16.825	2.301	2.75		Clay	82.6			21.28	0.96	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	13.650	0.443	4016.8	2448.1	9.511	3.805	3.07		Clay	100.0			12.90	0.96	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	11.300	0.323	4036.0	2457.3	7.555	3.481	3.13		Clay	100.0			10.68	0.96	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	11.280	0.254	4055.2	2466.5	7.502	2.747	3.08		Clay	100.0			10.66	0.96	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	10.160	0.219	4075.6	2476.3	6.560	2.698	3.12		Clay	100.0			9.60	0.96	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	9.880	0.197	4094.8	2485.5	6.303	2.515	3.12		Clay	100.0			9.34	0.96	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	9.770	0.203	4115.2	2495.3	6.182	2.633	3.14		Clay	100.0			9.23	0.96	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	10.150	0.218	4134.4	2504.5	6.455	2.701	3.13		Clay	100.0			9.59	0.96	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	11.270	0.234	4153.6	2513.7	7.314	2.541	3.07		Clay	100.0			10.65	0.96	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	11.630	0.224	4174.0	2523.5	7.563	2.344	3.04		Clay	100.0			10.99	0.95	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	11.560	0.211	4193.2	2532.7	7.473	2.233	3.03		Clay	100.0			10.93	0.95	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	11.320	0.220	4213.6	2542.5	7.247	2.387	3.06		Clay	100.0			10.70	0.95	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	11.700	0.250	4232.8	2551.7	7.511	2.608	3.07		Clay	100.0			11.06	0.95	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	11.840	0.266	4252.0	2561.0	7.586	2.734	3.07		Clay	100.0			11.19	0.95	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	11.910	0.270	4272.4	2570.8	7.604	2.759	3.08		Clay	100.0			11.26	0.95	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	12.410	0.285	4291.6	2580.0	7.957	2.779	3.06		Clay	100.0			11.73	0.95	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	11.870	0.277	4312.0	2589.8	7.502	2.847	3.09		Clay	100.0			11.22	0.95	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	11.480	0.270	4331.2	2599.0	7.168	2.900	3.11		Clay	100.0			10.85	0.95	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	11.390	0.283	4351.6	2608.8	7.064	3.068	3.13		Clay	100.0			10.77	0.95	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	11.840	0.316	4370.8	2618.0	7.376	3.270	3.13		Clay	100.0			11.19	0.95	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	12.510	0.362	4390.0	2627.2	7.852	3.505	3.12		Clay	100.0			11.82	0.94	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	13.040	0.377	4410.4	2637.0	8.218	3.479	3.10		Clay	100.0			12.33	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	12.810	0.365	4429.6	2646.2	8.008	3.444	3.11		Clay	100.0			12.11	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	13.020	0.355	4450.0	2656.0	8.129	3.286	3.09		Clay	100.0			12.31	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	13.690	0.354	4469.2	2665.2	8.596	3.088	3.06		Clay	100.0			12.94	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	12.920	0.350	4488.4	2674.4	7.984	3.276	3.10		Clay	100.0			12.21	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	13.140	0.345	4508.8	2684.2	8.111	3.165	3.09		Clay	100.0			12.42	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	12.940	0.338	4528.0	2693.4	7.927	3.167	3.09		Clay	100.0			12.23	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	12.730	0.332	4548.4	2703.2	7.736	3.174	3.10		Clay	100.0			12.03	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	12.960	0.326	4567.6	2712.4	7.872	3.052	3.09		Clay	100.0			12.25	0.94	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	13.200	0.339	4586.8	2721.7	8.015	3.112	3.09		Clay	100.0			12.48	0.94	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	13.250	0.349	4607.2	2731.5	8.015	3.185	3.09		Clay	100.0			12.52	0.93	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	13.050	0.339	4626.4	2740.7	7.835	3.158	3.10		Clay	100.0			12.33	0.93	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	12.380	0.292	4646.8	2750.5	7.313	2.907	3.10		Clay	100.0			11.70	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	11.790	0.262	4666.0	2759.7	6.854	2.769	3.11		Clay	100.0			11.14	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	11.090	0.242	4685.2	2768.9	6.318	2.770	3.14		Clay	100.0			10.48	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	10.970	0.254	4705.6	2778.7	6.202	2.952	3.17		Clay	100.0			10.37	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	11.900	0.295	4724.8	2787.9	6.842	3.096	3.14		Clay	100.0			11.25	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	12.450	0.306	4745.2	2797.7	7.204	3.038	3.12		Clay	100.0			11.77	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	12.220	0.321	4764.4	2806.9	7.010	3.259	3.14		Clay	100.0			11.55	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	12.510	0.323	4783.6	2816.1	7.186	3.190	3.13		Clay	100.0			11.82	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	12.660	0.325	4804.0	2825.9	7.260	3.172	3.13		Clay	100.0			11.97	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	12.150	0.307	4823.2	2835.1	6.870	3.156	3.14		Clay	100.0			11.48	0.93	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	12.020	0.290	4843.6	2844.9	6.748	3.021	3.14		Clay	100.0			11.36	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	11.780	0.287	4862.8	2854.1	6.551	3.071	3.16		Clay	100.0			11.13	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	11.990	0.292	4882.0	2863.4	6.670	3.062	3.15		Clay	100.0			11.33	0.92	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	12.550	0.291	4902.4	2873.2	7.030	2.879	3.11		Clay	100.0			11.86	0.92	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	12.960	0.305	4921.6	2882.4	7.285	2.902	3.10		Clay	100.0			12.25	0.92	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	13.420	0.314	4942.0	2892.2	7.572	2.871	3.09		Clay	100.0			12.68	0.92	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	13.890	0.375	4961.2	2901.4	7.865	3.283	3.11		Clay	100.0			13.13	0.92	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	14.820	0.376	4980.4	2910.6	8.472	3.047	3.06		Clay	100.0			14.01	0.92	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	13.940	0.300	5000.8	2920.4	7.834	2.620	3.05		Clay	100.0			13.18	0.92	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	13.120	0.282	5020.0	2929.6	7.243	2.654	3.08		Clay	100.0			12.40	0.92	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	13.280	0.284	5040.4	2939.4	7.321	2.636	3.08		Clay	100.0			12.55	0.92	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	14.000	0.235	5059.6	2948.6	7.780	2.052	3.00		Clay	100.0			13.23	0.92	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	12.990	0.279	5078.8	2957.8	7.066	2.673	3.10		Clay	100.0			12.28	0.92	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	13.400	0.351	5099.2	2967.6	7.313	3.237	3.13		Clay	100.0			12.67	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.320	13.820	0.400	5118.4	2976.8	7.566	3.550	3.14		Clay	100.0			13.06	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	14.100	0.385	5138.8	2986.6	7.721	3.339	3.12		Clay	100.0			13.33	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	13.750	0.374	5158.0	2995.8	7.458	3.343	3.13		Clay	100.0			13.00	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	13.700	0.359	5177.2	3005.1	7.395	3.233	3.12		Clay	100.0			12.95	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	13.280	0.357	5197.6	3014.8	7.086	3.341	3.15		Clay	100.0			12.55	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	13.100	0.346	5216.8	3024.1	6.939	3.295	3.15		Clay	100.0			12.38	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	12.980	0.336	5237.2	3033.9	6.831	3.245	3.15		Clay	100.0			12.27	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	12.840	0.313	5256.4	3043.1	6.712	3.064	3.15		Clay	100.0			12.14	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	13.140	0.355	5276.8	3052.9	6.880	3.381	3.16		Clay	100.0			12.42	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	15.800	0.484	5296.0	3062.1	8.590	3.679	3.10		Clay	100.0			14.93	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	19.520	0.643	5315.2	3071.3	10.981	3.816	3.02		Clay	100.0			18.45	0.91	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	21.940	0.849	5335.6	3081.1	12.510	4.406	3.02		Clay	100.0			20.74	0.91	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	23.520	1.032	5354.8	3090.3	13.489	4.949	3.02		Clay	100.0			22.23	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	25.560	1.008	5375.2	3100.1	14.756	4.407	2.96		Clay	99.9			24.16	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	24.210	0.900	5394.4	3109.3	13.838	4.183	2.97		Clay	100.0			22.88	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	22.240	0.766	5413.6	3118.5	12.527	3.922	2.99		Clay	100.0			21.02	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	19.400	0.641	5434.0	3128.3	10.666	3.840	3.04		Clay	100.0			18.34	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	17.190	0.480	5453.2	3137.5	9.220	3.319	3.05		Clay	100.0			16.25	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	14.730	0.349	5473.6	3147.3	7.621	2.912	3.09		Clay	100.0			13.92	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	13.660	0.346	5492.8	3156.5	6.915	3.169	3.14		Clay	100.0			12.91	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	13.650	0.373	5512.0	3165.8	6.882	3.423	3.16		Clay	100.0			12.90	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	13.360	0.401	5532.4	3175.6	6.672	3.781	3.20		Clay	100.0			12.63	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	13.390	0.392	5551.6	3184.8	6.666	3.690	3.19		Clay	100.0			12.66	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	13.220	0.397	5572.0	3194.6	6.532	3.800	3.21		Clay	100.0			12.50	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	13.550	0.380	5591.2	3203.8	6.714	3.537	3.18		Clay	100.0			12.81	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	14.020	0.382	5610.4	3213.0	6.981	3.406	3.16		Clay	100.0			13.25	0.90	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	14.380	0.400	5630.8	3222.8	7.177	3.455	3.15		Clay	100.0			13.59	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	14.780	0.363	5650.0	3232.0	7.398	3.036	3.11		Clay	100.0			13.97	0.89	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.110	0.360	5670.4	3241.8	6.956	3.195	3.14		Clay	100.0			13.34	0.89	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	13.990	0.349	5689.6	3251.0	6.856	3.127	3.14		Clay	100.0			13.22	0.89	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.270	0.378	5708.8	3260.2	7.003	3.310	3.15		Clay	100.0			13.49	0.89	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	15.580	0.412	5729.2	3270.0	7.777	3.240	3.11		Clay	100.0			14.73	0.89	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	16.260	0.465	5748.4	3279.2	8.164	3.475	3.11		Clay	100.0			15.37	0.89	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	17.760	0.480	5768.8	3289.0	9.046	3.229	3.05		Clay	100.0			16.79	0.89	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	19.240	0.467	5788.0	3298.2	9.912	2.855	2.99		Clay	100.0			18.19	0.89	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	19.470	0.539	5807.2	3307.5	10.018	3.254	3.02		Clay	100.0			18.40	0.89	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	25.260	0.654	5827.6	3317.2	13.473	2.928	2.88		Clay	93.8			23.88	0.89	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	27.500	0.756	5846.8	3326.5	14.776	3.076	2.87		Clay	92.2			25.99	0.89	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	26.620	0.749	5867.2	3336.3	14.199	3.163	2.89		Clay	93.9			25.16	0.89	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	27.210	0.748	5886.4	3345.5	14.507	3.082	2.87		Clay	92.8			25.72	0.89	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	27.450	0.842	5905.6	3354.7	14.605	3.435	2.90		Clay	94.8			25.95	0.89	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	23.440	0.899	5926.0	3364.5	12.172	4.391	3.03		Clay	100.0			22.16	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	20.690	0.880	5945.2	3373.7	10.503	4.965	3.11		Clay	100.0			19.56	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	18.490	0.741	5965.6	3383.5	9.166	4.778	3.15		Clay	100.0			17.48	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	16.980	0.683	5984.8	3392.7	8.246	4.881	3.19		Clay	100.0			16.05	0.88	n.a.	n.a.	0.86	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	17.520	0.651	6004.0	3401.9	8.535	4.486	3.15		Clay	100.0			16.56	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	16.890	0.624	6024.4	3411.7	8.135	4.499	3.17		Clay	100.0			15.96	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	16.150	0.575	6043.6	3420.9	7.675	4.381	3.19		Clay	100.0			15.26	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	15.700	0.547	6064.0	3430.7	7.385	4.317	3.20		Clay	100.0			14.84	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	14.970	0.583	6083.2	3439.9	6.935	4.887	3.25		Clay	100.0			14.15	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	15.810	0.623	6102.4	3449.2	7.398	4.880	3.23		Clay	100.0			14.94	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	17.000	0.652	6122.8	3458.9	8.059	4.674	3.18		Clay	100.0			16.07	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	17.270	0.670	6142.0	3468.2	8.188	4.719	3.18		Clay	100.0			16.32	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	17.810	0.653	6162.4	3478.0	8.470	4.431	3.15		Clay	100.0			16.83	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	17.770	0.588	6181.6	3487.2	8.419	4.004	3.13		Clay	100.0			16.80	0.88	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	16.680	0.597	6202.0	3497.0	7.766	4.398	3.18		Clay	100.0			15.77	0.88	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	17.410	0.617	6221.2	3506.2	8.157	4.316	3.16		Clay	100.0			16.46	0.88	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	17.370	0.648	6240.4	3515.4	8.107	4.544	3.18		Clay	100.0			16.42	0.87	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	17.450	0.666	6260.8	3525.2	8.124	4.652	3.18		Clay	100.0			16.49	0.87	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	17.670	0.635	6280.0	3534.4	8.222	4.370	3.16		Clay	100.0			16.70	0.87	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	17.100	0.644	6300.4	3544.2	7.872	4.618	3.19		Clay	100.0			16.16	0.87	n.a.	n.a.	0.85	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	18.420	0.665	6319.6	3553.4	8.589	4.355	3.14		Clay	100.0			17.41	0.87	n.a.	n.a.	0.85	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	19.730	0.674	6338.8	3562.6	9.297	4.069	3.10		Clay	100.0			18.65	0.87	n.a.	n.a.	0.85	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	20.400	0.614	6359.2	3572.4	9.641	3.568	3.05		Clay	100.0			19.28	0.87	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc\ =\ 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
52.820	18.630	0.628	6378.4	3581.6	8.622	4.070	3.13		Clay	100.0			17.61	0.87	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	17.630	0.629	6398.8	3591.4	8.036	4.357	3.17		Clay	100.0			16.66	0.87	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	17.770	0.591	6418.0	3600.6	8.088	4.057	3.15		Clay	100.0			16.80	0.87	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	17.210	0.556	6437.2	3609.9	7.752	3.976	3.16		Clay	100.0			16.27	0.87	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	17.030	0.554	6457.6	3619.6	7.626	4.013	3.17		Clay	100.0			16.10	0.87	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	18.450	0.571	6476.8	3628.9	8.384	3.756	3.12		Clay	100.0			17.44	0.87	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	18.310	0.612	6497.2	3638.7	8.279	4.061	3.14		Clay	100.0			17.31	0.87	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	18.920	0.652	6516.4	3647.9	8.587	4.165	3.13		Clay	100.0			17.88	0.87	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	19.200	0.648	6535.6	3657.1	8.713	4.064	3.12		Clay	100.0			18.15	0.87	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	18.790	0.622	6556.0	3666.9	8.461	4.010	3.13		Clay	100.0			17.76	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	17.270	0.570	6575.2	3676.1	7.607	4.073	3.17		Clay	100.0			16.32	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	17.060	0.475	6595.6	3685.9	7.468	3.448	3.14		Clay	100.0			16.12	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	17.080	0.448	6614.8	3695.1	7.455	3.250	3.12		Clay	100.0			16.14	0.86	n.a.	n.a.	0.84	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	17.110	0.525	6634.0	3704.3	7.447	3.808	3.16		Clay	100.0			16.17	0.86	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	20.810	0.686	6654.4	3714.1	9.414	3.922	3.09		Clay	100.0			19.67	0.86	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.280	28.650	0.639	6673.6	3723.3	13.597	2.524	2.84		Clay	90.6			27.08	0.86	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	30.810	0.860	6694.0	3733.1	14.713	3.131	2.87		Clay	92.7			29.12	0.86	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	28.410	0.887	6713.2	3742.3	13.389	3.538	2.94		Clay	97.9			26.85	0.86	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	50.250	1.609	6732.4	3751.6	24.994	3.433	2.72		Clay	80.3			47.50	0.86	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	47.060	2.114	6752.8	3761.3	23.228	4.840	2.84		Clay	90.1			44.48	0.86	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	98.830	2.158	6772.0	3770.6	67.580	2.261	2.27		Sand	44.9			93.41	0.78	72.96	135.64	0.84	0.490	0.918	0.217	0.302	0.62	0.02	0.00
56.270	122.940	2.413	6792.4	3780.4	84.534	2.018	2.17		Sand	36.6			116.20	0.79	92.26	153.52	0.84	0.490	0.904	0.314	0.485	0.99	0.01	0.00
56.430	132.760	2.890	6811.6	3789.6	91.360	2.234	2.18		Sand	37.2			125.48	0.80	100.52	164.26	0.84	0.490	0.894	0.420	0.694	1.42	0.00	0.00
56.590	141.340	2.949	6830.8	3798.8	97.295	2.138	2.14		Sand	34.6			133.59	0.80	107.49	170.18	0.84	0.490	0.888	0.507	0.870	1.78	0.00	0.00
56.760	152.920	2.687	6851.2	3808.6	105.321	1.797	2.07		Sand	28.3			144.54	0.81	116.44	172.77	0.84	0.490	0.884	0.554	0.966	1.97	0.00	0.00
56.920	160.000	2.335	6870.4	3817.8	110.169	1.492	2.00		Sand	22.6			151.23	0.80	121.16	167.46	0.84	0.489	0.889	0.463	0.781	1.60	0.00	0.00
57.090	153.140	1.814	6890.8	3827.6	105.200	1.212	1.95		Sand	18.9			144.74	0.79	113.95	149.80	0.84	0.489	0.905	0.287	0.433	0.89	0.01	0.00
57.250	133.600	2.103	6910.0	3836.8	91.351	1.616	2.08		Sand	29.2			126.28	0.79	99.74	154.18	0.84	0.489	0.901	0.319	0.494	1.01	0.01	0.00
57.410	114.920	2.431	6929.2	3846.0	78.139	2.181	2.22		Sand	40.4			108.62	0.78	85.19	147.97	0.84	0.489	0.906	0.276	0.411	0.84	0.01	0.00
57.580	96.480	2.370	6949.6	3855.8	65.121	2.548	2.32		Sand	48.7			91.19	0.77	70.46	134.52	0.83	0.489	0.916	0.212	0.293	0.60	0.02	0.00
57.740	87.340	1.745	6968.8	3865.0	58.645	2.081	2.29		Sand	46.5			82.55	0.76	62.98	124.01	0.83	0.489	0.923	0.181	0.236	0.48	0.03	0.00
57.910	88.420	1.955	6989.2	3874.8	59.318	2.302	2.32		Sand	48.6			83.57	0.76	63.84	126.11	0.83	0.488	0.921	0.186	0.246	0.50	0.03	0.00
58.070	63.320	1.645	7008.4	3884.0	41.730	2.750	2.48		Sand	61.8			59.85	0.75	44.59	106.29	0.83	0.488	0.932	0.146	0.177	0.36	0.03	0.00
58.230	74.600	1.534	7027.6	3893.2	49.534	2.157	2.36		Sand	51.7			70.51	0.75	52.97	113.72	0.83	0.488	0.928	0.159	0.197	0.40	0.03	0.00
58.400	78.060	1.458	7048.0	3903.0	51.872	1.956	2.32		Sand	48.3			73.78	0.75	55.48	115.41	0.83	0.488	0.927	0.162	0.203	0.42	0.03	0.00
58.560	64.990	1.446	7067.2	3912.3	42.719	2.352	2.43		Sand	57.6			61.43	0.74	45.61	106.41	0.83	0.488	0.931	0.146	0.177	0.36	0.03	0.00
58.730	45.930	1.310	7087.6	3922.0	21.614	3.090	2.74		Clay	81.8			43.41	0.85	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	63.050	1.372	7106.8	3931.3	41.257	2.306	2.44		Sand	58.1			59.59	0.74	44.04	104.54	0.83	0.487	0.932	0.144	0.172	0.35	0.03	0.00
59.060	89.000	0.765	7127.2	3941.1	59.171	0.895	2.06		Sand	28.0			84.12	0.74	62.36	107.84	0.83	0.487	0.930	0.148	0.180	0.37	0.03	0.00
59.220	78.410	0.450	7146.4	3950.3	51.769	0.601	2.02		Sand	24.6			74.11	0.73	53.75	92.75	0.83	0.487	0.937	0.129	0.148	0.30	0.03	0.00
59.380	57.200	0.533	7165.6	3959.5	37.047	0.993	2.26		Sand	43.6			54.06	0.72	39.15	92.59	0.83	0.487	0.937	0.128	0.148	0.30	0.03	0.00
59.550	41.410	0.478	7186.0	3969.3	26.098	1.263	2.44		Sand	58.3			39.14	0.71	27.94	84.05	0.83	0.487	0.941	0.120	0.134	0.28	0.04	0.00
59.710	39.240	0.669	7205.2	3978.5	17.915	1.877	2.67		Clay	76.8			37.09	0.85	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	32.410	0.646	7225.6	3988.3	14.441	2.244	2.79		Clay	86.5			30.63	0.85	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	23.620	0.457	7244.8	3997.5	10.005	2.287	2.93		Clay	97.5			22.33	0.85	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	15.680	0.483	7264.0	4006.7	6.014	4.005	3.25		Clay	100.0			14.82	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	11.550	0.522	7284.4	4016.5	3.938	6.601	3.52		Clay	100.0			10.92	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	15.890	0.770	7303.6	4025.7	6.080	6.293	3.36		Clay	100.0			15.02	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	32.670	1.047	7324.0	4035.5	14.376	3.609	2.92		Clay	96.3			30.88	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	64.240	1.863	7343.2	4044.7	29.949	3.077	2.63		Clay	73.0			60.72	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	90.040	2.084	7362.4	4054.0	58.971	2.413	2.34		Sand	49.9			85.10	0.75	63.76	126.59	0.82	0.485	0.915	0.187	0.247	0.51	0.03	0.00
61.190	200.470	2.861	7382.8	4063.7	134.211	1.454	1.93		Sand	17.1			189.48	0.80	150.90	185.81	0.82	0.485	0.853	0.927	1.733	3.58	0.00	0.00
61.350	302.740	2.861	7402.0	4073.0	203.725	0.957	1.67		Sand	0.0			286.14	0.83	237.85	237.85	0.82	0.485	0.804	34.561	61.097	126.08	0.00	0.00
61.520	239.330	3.192	7422.4	4082.8	160.327	1.355	1.85		Sand	11.1			226.21	0.80	181.45	195.57	0.82	0.484	0.836	1.486	2.732	5.64	0.00	0.00
61.680	300.950	2.370	7441.6	4092.0	202.021	0.797	1.62		Sand	0.0			284.45	0.83	235.75	235.75	0.82	0.484	0.802	28.082	49.558	102.35	0.00	0.00
61.840	270.820	2.123	7460.8	4101.2	181.332	0.795	1.65		Sand	0.0			255.97	0.81	207.10	207.10	0.82	0.484	0.811	2.888	5.150	10.64	0.00	0.00
62.010	294.840	2.707	7481.2	4111.0	197.397	0.930	1.67		Sand	0.0			278.68	0.82	229.52	229.52	0.82	0.484	0.801	15.730	27.711	57.28	0.00	0.00
62.170	380.710	2.780	7500.4	4120.2	255.334	0.737	1.52		Sand	0.0			359.84	0.84	301.83	301.83	0.82	0.484	0.800	########	########	2655312.90	0.00	0.00
62.340	356.350	4.142	7520.8	4130.0	238.543	1.175	1.69		Sand	0.0			336.81	0.84	282.34	282.34	0.82	0.483	0.799	14977.797	########	54490.29	0.00	0.00
62.500	336.120	3.702	7540.0	4139.2	224.600	1.114	1.69		Sand	0.0			317.69	0.84	266.15	266.15	0.82	0.483	0.799	1096.187	1926.173	3986.28	0.00	0.00
62.660	279.840	2.623	7559.2	4148.4	186.352	0.950	1.70		Sand	0.0			264.50	0.81	214.60	214.60	0.82	0.483	0.798	4.777	8.386	17.36	0.00	0.00
62.830	248.880	2.023	7579.6	4158.2	165.251	0.825	1.69		Sand	0.0			235.24	0.79	185.84	185.84	0.81	0.483	0.848	0.929	1.726	3.57	0.00	0.00
62.990	232.100	2.110	7598.8	4167.4	153.761	0.924	1.75		Sand	2.8			219.38	0.78	170.61	170.61	0.81	0.483	0.869	0.514	0.867	1.80	0.00	0.00
63.160	241.730	1.472	7619.2	4177.2	160.052	0.619	1.62		Sand	0.0			228.48	0.78	179.03	179.03	0.81	0.482	0.857	0.699	1.243	2.58	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
63.320	262.420	1.662	7638.4	4186.4	173.772	0.643	1.60		Sand	0.0			248.03	0.80	197.67	197.67	0.81	0.482	0.825	1.661	3.017	6.26	0.00	0.00
63.480	133.330	1.565	7657.6	4195.6	86.925	1.208	2.01		Sand	23.8			126.02	0.75	94.39	138.79	0.81	0.482	0.901	0.229	0.319	0.66	0.02	0.00
63.650	31.010	1.209	7678.0	4205.4	12.922	4.448	3.01		Clay	100.0			29.31	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.810	16.400	1.280	7697.2	4214.7	5.956	10.196	3.50		Clay	100.0			15.50	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	89.800	2.010	7717.6	4224.4	57.490	2.339	2.33		Sand	49.8			84.88	0.73	62.28	124.68	0.81	0.481	0.911	0.182	0.236	0.49	0.03	0.00
64.140	151.910	2.550	7736.8	4233.7	98.923	1.722	2.07		Sand	28.8			143.58	0.77	110.53	166.46	0.81	0.481	0.871	0.449	0.736	1.53	0.00	0.00
64.300	318.850	2.670	7756.0	4242.9	210.239	0.848	1.62		Sand	0.0			301.37	0.83	250.06	250.06	0.81	0.481	0.791	131.230	228.448	474.99	0.00	0.00
64.470	359.470	2.436	7776.4	4252.7	237.072	0.685	1.52		Sand	0.0			339.76	0.83	282.62	282.62	0.81	0.481	0.791	15746.018	########	56969.13	0.00	0.00
64.630	428.370	2.168	7795.6	4261.9	282.696	0.511	1.38		Sand	0.0			404.89	0.83	336.60	336.60	0.81	0.481	0.790	########	########	##########	0.00	0.00
64.800	431.330	1.874	7816.0	4271.7	284.335	0.438	1.33		Sand	0.0			407.68	0.83	338.72	338.72	0.81	0.480	0.789	########	########	##########	0.00	0.00
64.960	391.550	2.414	7835.2	4280.9	257.588	0.623	1.47		Sand	0.0			370.09	0.83	307.30	307.30	0.81	0.480	0.789	########	########	9231336.60	0.00	0.00
65.120	361.650	2.141	7854.4	4290.1	237.457	0.599	1.48		Sand	0.0			341.82	0.83	283.68	283.68	0.81	0.480	0.788	19036.797	########	68765.48	0.00	0.00
65.290	341.320	1.609	7874.8	4299.9	223.700	0.477	1.44		Sand	0.0			322.61	0.83	267.57	267.57	0.81	0.480	0.787	1350.285	2338.716	4875.55	0.00	0.00
65.450	308.730	1.849	7894.0	4309.1	201.869	0.607	1.54		Sand	0.0			291.81	0.82	238.94	238.94	0.81	0.479	0.787	38.604	66.807	139.33	0.00	0.00
65.620	291.130	2.730	7914.4	4318.9	189.989	0.951	1.69		Sand	0.0			275.17	0.81	221.92	221.92	0.80	0.479	0.786	8.292	14.337	29.92	0.00	0.00
65.780	279.090	3.589	7933.6	4328.1	181.823	1.304	1.80		Sand	7.2			263.79	0.80	211.02	213.53	0.80	0.479	0.785	4.431	7.655	15.98	0.00	0.00
65.940	205.760	2.347	7952.8	4337.3	133.213	1.163	1.86		Sand	11.9			194.48	0.76	147.85	163.37	0.80	0.479	0.871	0.409	0.654	1.37	0.00	0.00
66.110	212.310	1.637	7973.2	4347.1	137.375	0.786	1.74		Sand	2.0			200.67	0.75	150.12	150.12	0.80	0.479	0.885	0.289	0.428	0.89	0.01	0.00
66.270	173.140	1.950	7992.4	4356.4	111.421	1.153	1.92		Sand	16.2			163.65	0.75	122.51	151.43	0.80	0.478	0.883	0.298	0.444	0.93	0.01	0.00
66.440	96.220	2.342	8012.8	4366.1	60.676	2.540	2.34		Sand	50.4			90.95	0.73	66.22	129.93	0.80	0.478	0.902	0.197	0.261	0.55	0.02	0.00
66.600	73.150	2.278	8032.0	4375.4	31.602	3.295	2.63		Clay	73.2			69.14	0.83	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	43.870	2.271	8052.4	4385.2	18.172	5.700	2.96		Clay	100.0			41.47	0.83	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	35.830	2.073	8071.6	4394.4	14.470	6.519	3.08		Clay	100.0			33.87	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	122.630	2.470	8090.8	4403.6	77.696	2.083	2.21		Sand	39.4			115.91	0.74	86.07	148.31	0.80	0.477	0.885	0.278	0.405	0.85	0.01	0.00
67.260	93.430	2.628	8111.2	4413.4	58.492	2.940	2.40		Sand	54.8			88.31	0.72	63.90	128.79	0.80	0.477	0.902	0.194	0.254	0.53	0.02	0.00
67.420	58.120	3.137	8130.4	4422.6	24.445	5.804	2.88		Clay	93.0			54.93	0.82	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	113.270	3.289	8150.8	4432.4	71.311	3.012	2.35		Sand	50.6			107.06	0.74	79.10	146.35	0.80	0.477	0.885	0.266	0.384	0.80	0.02	0.00
67.750	189.840	2.605	8170.0	4441.6	121.183	1.402	1.95		Sand	18.8			179.43	0.76	137.01	175.44	0.80	0.476	0.850	0.609	1.044	2.19	0.00	0.00
67.910	240.300	2.599	8189.2	4450.8	153.937	1.100	1.80		Sand	6.9			227.13	0.76	173.23	175.09	0.80	0.476	0.850	0.602	1.028	2.16	0.00	0.00
68.080	288.190	2.327	8209.6	4460.6	184.937	0.819	1.65		Sand	0.0			272.39	0.79	216.45	216.45	0.80	0.476	0.776	5.461	9.326	19.59	0.00	0.00
68.240	347.310	2.430	8228.8	4469.8	223.187	0.708	1.55		Sand	0.0			328.27	0.82	269.49	269.49	0.80	0.476	0.776	1804.034	3078.471	6470.51	0.00	0.00
68.410	337.010	2.110	8249.2	4479.6	216.245	0.634	1.53		Sand	0.0			318.53	0.82	261.35	261.35	0.79	0.476	0.775	555.178	946.575	1990.53	0.00	0.00
68.570	302.840	1.880	8268.4	4488.8	193.843	0.629	1.56		Sand	0.0			286.24	0.80	229.84	229.84	0.79	0.475	0.774	16.175	27.557	57.98	0.00	0.00
68.730	306.080	1.385	8287.6	4498.0	195.738	0.459	1.47		Sand	0.0			289.30	0.80	232.77	232.77	0.79	0.475	0.774	21.150	36.003	75.78	0.00	0.00
68.900	318.000	2.533	8308.0	4507.8	203.238	0.807	1.62		Sand	0.0			300.57	0.81	244.13	244.13	0.79	0.475	0.773	66.713	113.469	238.95	0.00	0.00
69.060	307.800	3.162	8327.2	4517.1	196.426	1.041	1.71		Sand	0.0			290.93	0.80	234.07	234.07	0.79	0.475	0.773	23.897	40.613	85.56	0.00	0.00
69.230	289.530	2.987	8347.6	4526.8	184.400	1.047	1.73		Sand	1.3			273.66	0.79	216.48	216.48	0.79	0.474	0.772	5.471	9.291	19.58	0.00	0.00
69.390	292.010	1.923	8366.8	4536.1	185.808	0.668	1.59		Sand	0.0			276.00	0.79	218.65	218.65	0.79	0.474	0.771	6.431	10.911	23.01	0.00	0.00
69.550	258.200	1.759	8386.0	4545.3	163.809	0.693	1.64		Sand	0.0			244.05	0.77	187.18	187.18	0.79	0.474	0.826	0.986	1.791	3.78	0.00	0.00
69.720	231.070	1.277	8406.4	4555.1	146.149	0.563	1.63		Sand	0.0			218.40	0.75	162.86	162.86	0.79	0.474	0.862	0.403	0.636	1.34	0.00	0.00
69.880	214.290	1.481	8425.6	4564.3	135.196	0.705	1.71		Sand	0.0			202.54	0.73	148.22	148.22	0.79	0.474	0.879	0.277	0.402	0.85	0.01	0.00
70.050	213.580	1.287	8446.0	4574.1	134.588	0.615	1.68		Sand	0.0			201.87	0.73	147.45	147.45	0.79	0.473	0.879	0.273	0.393	0.83	0.01	0.00
70.210	197.130	0.639	8465.2	4583.3	123.882	0.331	1.56		Sand	0.0			186.32	0.72	133.47	133.47	0.79	0.473	0.893	0.209	0.279	0.59	0.02	0.00
70.370	182.240	0.892	8484.4	4592.5	114.199	0.501	1.69		Sand	0.0			172.25	0.70	121.11	121.11	0.79	0.473	0.903	0.174	0.219	0.46	0.03	0.00
70.540	169.800	1.093	8504.8	4602.3	106.098	0.660	1.78		Sand	5.4			160.49	0.69	111.04	111.32	0.79	0.473	0.910	0.154	0.186	0.39	0.03	0.00
70.700	143.660	3.077	8524.0	4611.5	89.250	2.207	2.18		Sand	37.4			135.78	0.74	101.05	165.16	0.79	0.472	0.857	0.431	0.689	1.46	0.00	0.00
70.870	101.410	3.088	8544.4	4621.3	62.127	3.179	2.40		Sand	55.3			95.85	0.72	68.55	134.89	0.79	0.472	0.890	0.214	0.288	0.61	0.02	0.00
71.030	108.250	2.702	8563.6	4630.5	66.429	2.599	2.32		Sand	48.7			102.32	0.72	73.46	138.29	0.79	0.472	0.887	0.227	0.311	0.66	0.02	0.00
71.190	218.410	2.085	8582.8	4639.7	136.672	0.974	1.80		Sand	7.0			206.44	0.73	150.96	152.82	0.78	0.472	0.871	0.308	0.457	0.97	0.01	0.00
71.360	228.610	1.661	8603.2	4649.5	143.025	0.741	1.71		Sand	0.0			216.08	0.74	159.13	159.13	0.78	0.471	0.863	0.363	0.558	1.18	0.01	0.00
71.520	247.870	1.891	8622.4	4658.8	155.146	0.776	1.69		Sand	0.0			234.28	0.75	175.91	175.91	0.78	0.471	0.840	0.620	1.053	2.23	0.00	0.00
71.690	246.640	1.541	8642.8	4668.5	154.194	0.636	1.64		Sand	0.0			233.12	0.75	174.64	174.64	0.78	0.471	0.841	0.592	0.997	2.12	0.00	0.00
71.850	206.560	1.280	8662.0	4677.8	128.557	0.633	1.70		Sand	0.0			195.24	0.72	139.87	139.87	0.78	0.471	0.884	0.234	0.322	0.68	0.02	0.00
72.010	170.020	2.345	8681.2	4687.0	105.219	1.415	1.99		Sand	22.5			160.70	0.74	118.76	164.43	0.78	0.471	0.855	0.422	0.668	1.42	0.00	0.00
72.180	170.420	2.743	8701.6	4696.8	105.357	1.652	2.04		Sand	26.2			161.08	0.75	120.28	173.76	0.78	0.470	0.841	0.573	0.960	2.04	0.00	0.00
72.340	213.560	2.055	8720.8	4706.0	132.589	0.982	1.81		Sand	8.0			201.85	0.72	146.20	149.81	0.78	0.470	0.872	0.287	0.418	0.89	0.01	0.00
72.510	271.470	2.112	8741.2	4715.8	169.110	0.791	1.67		Sand	0.0			256.59	0.76	196.25	196.25	0.78	0.470	0.798	1.539	2.703	5.75	0.00	0.00
72.670	335.180	2.345	8760.4	4725.0	209.236	0.709	1.57		Sand	0.0			316.81	0.81	256.30	256.30	0.78	0.470	0.759	283.568	473.500	1008.22	0.00	0.00
72.830	361.370	2.379	8779.6	4734.2	225.576	0.666	1.53		Sand	0.0			341.56	0.81	276.18	276.18	0.78	0.469	0.758	5215.172	8701.571	18537.10	0.00	0.00
73.000	367.690	2.279	8800.0	4744.0	229.326	0.627	1.51		Sand	0.0			347.53	0.81	280.86	280.86	0.78	0.469	0.758	11546.828	########	41030.09	0.00	0.00
73.160	339.480	2.273	8819.2	4753.2	211.307	0.678	1.55		Sand	0.0			320.87	0.81	259.18	259.18	0.78	0.469	0.757	413.742	689.239	1469.75	0.00	0.00
73.330	320.050	2.643	8839.6	4763.0	198.843	0.837	1.64		Sand	0.0			302.50	0.80	241.39	241.39	0.78	0.469	0.757	49.720	82.760	176.57	0.00	0.00
73.490	281.960	3.811	8858.8	4772.2	174.672	1.373	1.83		Sand	9.4			266.50	0.78	207.31	215.99	0.78	0.468	0.756	5.281	8.783	18.75	0.00	0.00
73.650	77.990	3.369	8878.0	4781.4	30.765	4.581	2.73		Clay	81.6			73.71	0.81	n.a.	n.a.	0.78	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.50

Total Settlement:	0.02	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
73.820	29.520	2.541	8898.4	4791.2	10.465	10.134	3.31		Clay	100.0			27.90	0.81	n.a.	n.a.	0.78	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	85.530	3.255	8917.6	4800.4	33.777	4.015	2.66		Clay	76.1			80.84	0.81	n.a.	n.a.	0.77	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	116.840	4.429	8938.0	4810.2	70.444	3.941	2.43		Sand	57.8			110.43	0.72	79.24	149.42	0.77	0.468	0.869	0.285	0.411	0.88	0.01	0.00
74.310	104.270	4.098	8957.2	4819.5	41.412	4.107	2.61		Clay	71.5			98.55	0.80	n.a.	n.a.	0.77	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	157.260	2.970	8977.6	4829.2	95.582	1.944	2.12		Sand	32.6			148.64	0.74	109.40	170.29	0.77	0.467	0.841	0.508	0.828	1.77	0.00	0.00
74.640	268.070	3.717	8996.8	4838.5	164.747	1.410	1.86		Sand	11.5			253.37	0.77	195.36	211.61	0.77	0.467	0.752	3.882	6.421	13.75	0.00	0.00
74.800	411.420	2.854	9016.0	4847.7	254.101	0.701	1.51		Sand	0.0			388.87	0.80	312.48	312.48	0.77	0.467	0.751	########	########	##########	0.00	0.00
74.970	489.180	3.365	9036.4	4857.5	302.347	0.694	1.45		Sand	0.0			462.36	0.80	371.34	371.34	0.77	0.466	0.751	########	########	##########	0.00	0.00
75.130	485.390	3.633	9055.6	4866.7	299.693	0.756	1.48		Sand	0.0			458.78	0.80	368.28	368.28	0.77	0.466	0.750	########	########	##########	0.00	0.00
75.300	455.860	4.162	9076.0	4876.5	280.999	0.922	1.56		Sand	0.0			430.87	0.80	345.69	345.69	0.77	0.466	0.750	########	########	##########	0.00	0.00
75.460	440.340	4.029	9095.2	4885.7	271.074	0.925	1.58		Sand	0.0			416.20	0.80	333.75	333.75	0.77	0.466	0.749	########	########	##########	0.00	0.00
75.620	492.190	3.519	9114.4	4894.9	303.035	0.722	1.46		Sand	0.0			465.21	0.80	372.87	372.87	0.77	0.465	0.748	########	########	##########	0.00	0.00
75.790	483.650	3.478	9134.8	4904.7	297.424	0.726	1.47		Sand	0.0			457.14	0.80	366.20	366.20	0.77	0.465	0.748	########	########	##########	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.50

Total Settlement:	0.36	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.330	301.920	1.428	41.3	41.3	2043.725	0.473	0.91		Unsaturated	0.0			285.37	1.70	485.13	485.13	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	238.530	2.155	61.3	61.3	1324.971	0.904	1.23		Unsaturated	0.0			225.45	1.70	383.27	383.27	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	148.500	2.353	82.5	82.5	710.642	1.585	1.55		Unsaturated	0.0			140.36	1.70	238.61	238.61	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	54.590	2.513	102.5	102.5	234.215	4.607	2.18		Unsaturated	37.5			51.60	1.70	87.72	148.77	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	74.990	2.314	122.5	122.5	294.342	3.088	1.98		Unsaturated	21.5			70.88	1.70	120.49	164.05	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	40.080	2.043	143.8	143.8	145.083	5.107	2.33		Unsaturated	49.4			37.88	1.70	64.40	127.20	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	25.350	1.239	163.8	163.8	85.853	4.903	2.45		Unsaturated	59.1			23.96	1.70	40.73	100.62	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	21.220	0.948	185.0	185.0	67.536	4.489	2.49		Unsaturated	62.1			20.06	1.70	34.10	92.92	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	21.940	0.911	205.0	205.0	66.313	4.172	2.47		Unsaturated	60.7			20.74	1.70	35.25	94.02	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	18.630	0.926	225.0	225.0	53.674	5.001	2.59		Unsaturated	70.2			17.61	1.70	29.93	89.32	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	17.460	0.836	246.3	246.3	73.855	4.823	2.49		Unsaturated	62.0			16.50	1.70	28.05	85.14	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	20.030	0.832	266.3	266.3	53.017	4.181	2.54		Unsaturated	66.0			18.93	1.70	32.18	91.36	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	22.130	0.952	287.5	287.5	56.377	4.330	2.53		Unsaturated	65.4			20.92	1.70	35.56	95.57	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	25.880	1.092	307.5	307.5	63.786	4.245	2.49		Unsaturated	62.0			24.46	1.70	41.58	102.49	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	30.320	1.229	327.5	327.5	72.451	4.075	2.44		Unsaturated	58.0			28.66	1.70	48.72	110.50	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	32.860	1.448	348.8	348.8	76.098	4.431	2.45		Unsaturated	59.1			31.06	1.70	52.80	116.05	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	32.910	1.612	368.8	368.8	74.096	4.925	2.49		Unsaturated	62.5			31.11	1.70	52.88	117.12	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	30.460	1.632	390.0	390.0	66.632	5.391	2.55		Unsaturated	67.3			28.79	1.70	48.94	113.23	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	26.150	1.585	410.0	410.0	77.354	6.109	2.55		Unsaturated	67.4			24.72	1.70	42.02	104.32	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	23.050	1.493	430.0	430.0	65.849	6.540	2.62		Unsaturated	72.7			21.79	1.70	37.04	98.95	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	19.690	1.351	451.3	451.3	54.265	6.941	2.69		Unsaturated	78.6			18.61	1.70	31.64	92.92	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	22.670	1.338	471.3	471.3	60.675	5.962	2.61		Unsaturated	72.0			21.43	1.70	36.43	98.04	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	28.350	1.471	492.5	492.5	55.060	5.233	2.60		Unsaturated	70.8			26.80	1.70	45.55	109.61	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	25.070	1.575	512.5	512.5	63.282	6.348	2.62		Unsaturated	72.8			23.70	1.70	40.28	103.16	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	24.810	1.524	533.8	533.8	60.837	6.210	2.63		Unsaturated	73.1			23.45	1.70	39.86	102.68	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	24.540	1.489	553.8	553.8	58.614	6.136	2.63		Unsaturated	73.6			23.19	1.70	39.43	102.21	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	26.800	1.321	573.8	573.8	62.478	4.981	2.55		Unsaturated	66.6			25.33	1.70	43.06	105.51	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	29.710	1.299	595.0	595.0	52.426	4.416	2.56		Unsaturated	67.6			28.08	1.70	47.74	111.75	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	22.320	1.231	615.0	615.0	49.412	5.594	2.65		Unsaturated	75.1			21.10	1.70	35.86	97.84	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	18.910	1.101	636.3	636.3	58.442	5.922	2.62		Unsaturated	72.7			17.87	1.70	30.38	90.35	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	18.310	1.114	656.3	656.3	54.802	6.196	2.65		Unsaturated	75.4			17.31	1.70	29.42	89.54	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	17.560	1.153	676.3	676.3	50.933	6.697	2.70		Unsaturated	79.1			16.60	1.70	28.22	88.55	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	14.290	0.942	697.5	697.5	39.975	6.758	2.77		Unsaturated	84.9			13.51	1.70	22.96	82.48	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	12.430	0.829	717.5	717.5	33.648	6.868	2.83		Unsaturated	89.4			11.75	1.70	19.97	79.10	1.00	0.324	1.098	n.a.	n.a.	n.a.	0.00	0.00
5.910	12.780	0.820	738.8	738.8	33.599	6.606	2.82		Unsaturated	88.4			12.08	1.70	20.53	79.73	1.00	0.324	1.095	n.a.	n.a.	n.a.	0.00	0.00
6.070	13.640	0.842	758.8	758.8	34.954	6.350	2.79		Unsaturated	86.5			12.89	1.70	21.92	81.31	1.00	0.324	1.094	n.a.	n.a.	n.a.	0.00	0.00
6.230	11.540	0.850	778.8	778.8	28.637	7.620	2.91		Unsaturated	95.8			10.91	1.70	18.54	77.87	1.00	0.323	1.089	n.a.	n.a.	n.a.	0.00	0.00
6.400	11.420	0.861	800.0	800.0	27.550	7.813	2.93		Unsaturated	97.4			10.79	1.70	18.35	77.76	0.99	0.323	1.087	n.a.	n.a.	n.a.	0.00	0.00
6.560	14.140	0.912	820.0	820.0	33.488	6.640	2.82		Unsaturated	88.6			13.36	1.67	22.32	82.08	0.99	0.323	1.088	n.a.	n.a.	n.a.	0.00	0.00
6.730	15.930	1.017	841.3	841.3	36.872	6.559	2.79		Unsaturated	86.0			15.06	1.64	24.64	84.81	0.99	0.323	1.087	n.a.	n.a.	n.a.	0.00	0.00
6.890	15.870	1.030	861.3	861.3	35.853	6.671	2.80		Unsaturated	87.1			15.00	1.62	24.26	84.44	0.99	0.323	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.050	12.880	0.866	881.3	881.3	28.231	6.964	2.89		Unsaturated	93.9			12.17	1.62	19.68	79.18	0.99	0.323	1.079	n.a.	n.a.	n.a.	0.00	0.00
7.220	10.820	0.683	902.5	902.5	22.978	6.591	2.93		Unsaturated	97.7			10.23	1.61	16.46	75.31	0.99	0.323	1.075	n.a.	n.a.	n.a.	0.00	0.00
7.380	10.480	0.632	922.5	922.5	21.721	6.304	2.94		Unsaturated	98.0			9.91	1.59	15.78	74.45	0.99	0.323	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.550	11.250	0.723	943.8	943.8	22.841	6.712	2.94		Unsaturated	98.2			10.63	1.57	16.68	75.65	0.99	0.323	1.071	n.a.	n.a.	n.a.	0.00	0.00
7.710	11.110	0.745	963.8	963.8	22.056	7.006	2.96		Unsaturated	100.0			10.50	1.55	16.30	75.29	0.99	0.323	1.069	n.a.	n.a.	n.a.	0.00	0.00
7.870	9.700	0.665	983.8	983.8	18.720	7.219	3.02		Unsaturated	100.0			9.17	1.54	14.15	72.48	0.99	0.322	1.066	n.a.	n.a.	n.a.	0.00	0.00
8.040	8.990	0.564	1005.0	1005.0	16.891	6.640	3.03		Clay	100.0			8.50	1.22	n.a.	n.a.	0.99	0.323	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	9.880	0.585	1025.0	1025.0	18.278	6.240	2.99		Clay	100.0			9.34	1.21	n.a.	n.a.	0.99	0.326	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	9.240	0.591	1046.3	1046.3	16.663	6.774	3.04		Clay	100.0			8.73	1.20	n.a.	n.a.	0.99	0.329	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	8.610	0.562	1066.3	1066.3	15.150	6.963	3.08		Clay	100.0			8.14	1.20	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	9.470	0.585	1086.3	1086.3	16.436	6.548	3.04		Clay	100.0			8.95	1.19	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	11.300	0.652	1107.5	1107.5	19.406	6.068	2.96		Clay	100.0			10.68	1.19	n.a.	n.a.	0.99	0.338	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	12.100	0.722	1127.5	1127.5	20.463	6.255	2.95		Clay	99.3			11.44	1.18	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	13.480	0.768	1148.8	1148.8	22.469	5.954	2.91		Clay	95.8			12.74	1.17	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	14.400	0.852	1168.8	1168.8	23.642	6.169	2.90		Clay	95.4			13.61	1.17	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	14.750	0.899	1188.8	1188.8	23.816	6.352	2.91		Clay	95.9			13.94	1.16	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	13.760	0.906	1210.0	1210.0	21.744	6.886	2.96		Clay	100.0			13.01	1.16	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	12.800	0.904	1230.0	1230.0	19.813	7.422	3.02		Clay	100.0			12.10	1.15	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	12.330	0.898	1251.2	1250.6	18.718	7.673	3.04		Clay	100.0			11.65	1.15	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	12.010	0.881	1270.4	1259.8	18.058	7.741	3.06		Clay	100.0			11.35	1.15	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	12.060	0.868	1289.6	1269.0	17.991	7.603	3.05		Clay	100.0			11.40	1.14	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	12.530	0.869	1310.0	1278.8	18.572	7.319	3.03		Clay	100.0			11.84	1.14	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	12.370	0.861	1329.2	1288.0	18.176	7.352	3.04		Clay	100.0			11.69	1.14	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.50

Total Settlement:	0.36	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc\ =\ 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.830	11.770	0.811	1349.6	1297.8	17.098	7.311	3.06		Clay	100.0			11.12	1.14	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	11.550	0.808	1368.8	1307.0	16.626	7.439	3.07		Clay	100.0			10.92	1.14	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	11.390	0.786	1388.0	1316.2	16.252	7.348	3.07		Clay	100.0			10.77	1.13	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	10.440	0.728	1408.4	1326.0	14.684	7.476	3.11		Clay	100.0			9.87	1.13	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	9.180	0.609	1427.6	1335.2	12.681	7.196	3.15		Clay	100.0			8.68	1.13	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	8.420	0.496	1448.0	1345.0	11.444	6.438	3.15		Clay	100.0			7.96	1.13	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	8.640	0.533	1467.2	1354.3	11.676	6.743	3.16		Clay	100.0			8.17	1.12	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	8.790	0.585	1487.6	1364.0	11.798	7.269	3.18		Clay	100.0			8.31	1.12	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.260	0.607	1506.8	1373.3	12.389	7.131	3.15		Clay	100.0			8.75	1.12	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	9.150	0.636	1526.0	1382.5	12.133	7.583	3.18		Clay	100.0			8.65	1.12	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	8.490	0.587	1546.4	1392.3	11.085	7.609	3.21		Clay	100.0			8.02	1.12	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	8.060	0.539	1565.6	1401.5	10.385	7.408	3.22		Clay	100.0			7.62	1.11	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	7.720	0.500	1586.0	1411.3	9.817	7.217	3.23		Clay	100.0			7.30	1.11	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	6.780	0.440	1605.2	1420.5	8.416	7.359	3.29		Clay	100.0			6.41	1.11	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	6.050	0.364	1624.4	1429.7	7.327	6.953	3.32		Clay	100.0			5.72	1.11	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	5.980	0.333	1644.8	1439.5	7.166	6.456	3.31		Clay	100.0			5.65	1.11	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	5.990	0.319	1664.0	1448.7	7.121	6.179	3.30		Clay	100.0			5.66	1.11	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	5.610	0.316	1684.4	1458.5	6.538	6.632	3.35		Clay	100.0			5.30	1.10	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	5.440	0.300	1703.6	1467.7	6.252	6.545	3.36		Clay	100.0			5.14	1.10	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	5.080	0.266	1722.8	1476.9	5.713	6.296	3.38		Clay	100.0			4.80	1.10	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	5.200	0.220	1743.2	1486.7	5.823	5.092	3.32		Clay	100.0			4.91	1.10	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	5.270	0.197	1762.4	1496.0	5.868	4.480	3.29		Clay	100.0			4.98	1.10	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	5.350	0.186	1782.8	1505.7	5.922	4.174	3.27		Clay	100.0			5.06	1.09	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	5.160	0.192	1802.0	1515.0	5.623	4.513	3.30		Clay	100.0			4.88	1.09	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	5.100	0.201	1821.2	1524.2	5.497	4.803	3.33		Clay	100.0			4.82	1.09	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	5.760	0.248	1841.6	1534.0	6.309	5.127	3.29		Clay	100.0			5.44	1.09	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	6.470	0.271	1860.8	1543.2	7.179	4.890	3.24		Clay	100.0			6.12	1.09	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	6.830	0.296	1881.2	1553.0	7.585	5.021	3.22		Clay	100.0			6.46	1.09	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	6.100	0.314	1900.4	1562.2	6.593	6.091	3.32		Clay	100.0			5.77	1.08	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	7.050	0.350	1919.6	1571.4	7.751	5.754	3.25		Clay	100.0			6.66	1.08	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	7.050	0.359	1940.0	1581.2	7.690	5.906	3.26		Clay	100.0			6.66	1.08	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	6.150	0.279	1959.2	1590.4	6.502	5.394	3.30		Clay	100.0			5.81	1.08	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	5.850	0.227	1979.6	1600.2	6.074	4.666	3.28		Clay	100.0			5.53	1.08	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	6.500	0.246	1998.8	1609.4	6.835	4.474	3.23		Clay	100.0			6.14	1.07	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	7.850	0.301	2018.0	1618.6	8.453	4.403	3.15		Clay	100.0			7.42	1.07	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	10.000	0.349	2038.4	1628.4	11.030	3.888	3.03		Clay	100.0			9.45	1.07	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	11.290	0.395	2057.6	1637.6	12.532	3.848	2.98		Clay	100.0			10.67	1.07	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	12.310	0.577	2078.0	1647.4	13.683	5.118	3.03		Clay	100.0			11.64	1.07	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	15.800	0.829	2097.2	1656.7	17.809	5.618	2.97		Clay	100.0			14.93	1.07	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	23.550	1.059	2116.4	1665.9	27.003	4.709	2.78		Clay	85.6			22.26	1.07	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	29.900	1.137	2136.8	1675.7	34.412	3.942	2.65		Clay	75.2			28.26	1.06	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	36.260	1.149	2156.0	1684.9	37.266	3.265	2.57		Sand	68.7	62.33		62.33	1.10	68.62	138.93	0.97	0.436	1.033	0.230	0.368	0.84	0.02	0.02
17.720	42.790	1.219	2176.4	1694.7	44.044	2.923	2.49		Sand	61.8	62.33		62.33	1.10	68.50	136.98	0.97	0.437	1.032	0.222	0.350	0.80	0.02	0.02
17.880	49.690	1.340	2195.6	1703.9	51.182	2.758	2.42		Sand	56.6	62.33		62.33	1.10	68.39	135.17	0.97	0.439	1.031	0.215	0.335	0.76	0.02	0.03
18.040	54.170	1.404	2214.8	1713.1	55.740	2.645	2.38		Sand	53.5	62.33		62.33	1.10	68.27	133.84	0.97	0.440	1.029	0.210	0.325	0.74	0.02	0.03
18.210	55.620	1.234	2235.2	1722.9	57.090	2.264	2.33		Sand	49.2	62.33		62.33	1.09	68.15	131.83	0.97	0.441	1.028	0.203	0.310	0.70	0.02	0.03
18.370	61.500	1.633	2254.4	1732.1	63.070	2.704	2.35		Sand	50.9	62.33		62.33	1.09	67.98	132.41	0.97	0.442	1.028	0.205	0.314	0.71	0.02	0.03
18.540	65.950	1.725	2274.8	1741.9	67.518	2.661	2.32		Sand	48.9			62.33	1.09	67.85	131.30	0.97	0.443	1.027	0.201	0.306	0.69	0.02	0.03
18.700	59.170	1.582	2294.0	1751.1	60.286	2.726	2.37		Sand	52.2			55.93	1.09	60.89	123.97	0.97	0.444	1.024	0.181	0.262	0.59	0.03	0.03
18.860	53.980	1.696	2313.2	1760.3	54.739	3.211	2.45		Sand	58.6			51.02	1.09	55.51	119.37	0.97	0.445	1.023	0.170	0.240	0.54	0.03	0.04
19.030	57.870	1.946	2333.6	1770.1	58.597	3.433	2.45		Sand	58.6			54.70	1.08	59.26	124.16	0.97	0.446	1.023	0.181	0.263	0.59	0.03	0.03
19.190	65.450	2.083	2352.8	1779.3	66.248	3.241	2.39		Sand	54.2			61.86	1.08	66.69	132.12	0.97	0.447	1.024	0.204	0.311	0.69	0.02	0.03
19.360	96.290	2.313	2373.2	1789.1	97.757	2.432	2.18		Sand	37.7			91.01	1.07	97.11	160.53	0.96	0.448	1.029	0.377	0.698	1.56	0.00	0.00
19.520	151.800	1.850	2392.4	1798.4	154.408	1.229	1.83		Sand	9.6			143.48	1.06	152.78	160.58	0.96	0.449	1.029	0.377	0.699	1.56	0.00	0.00
19.690	183.710	1.757	2412.8	1808.1	186.607	0.962	1.70		Sand	0.0			173.64	1.06	183.52	183.52	0.96	0.450	1.035	0.840	1.868	4.15	0.00	0.00
19.850	188.820	1.570	2432.0	1817.4	191.335	0.837	1.65		Sand	0.0			178.47	1.05	188.11	188.11	0.96	0.451	1.035	1.029	2.343	5.20	0.00	0.00
20.010	167.390	1.135	2451.2	1826.6	169.041	0.683	1.63		Sand	0.0			158.21	1.06	167.21	167.21	0.96	0.452	1.027	0.460	0.894	1.98	0.00	0.00
20.180	164.660	0.910	2471.6	1836.4	165.809	0.557	1.58		Sand	0.0			155.63	1.06	164.26	164.26	0.96	0.453	1.026	0.420	0.797	1.76	0.00	0.00
20.340	162.880	1.633	2490.8	1845.6	163.584	1.010	1.75		Sand	3.3			153.95	1.05	162.24	162.25	0.96	0.453	1.024	0.396	0.739	1.63	0.00	0.00
20.510	127.850	2.140	2511.2	1855.4	127.782	1.690	1.99		Sand	22.1			120.84	1.05	126.82	172.81	0.96	0.454	1.026	0.554	1.123	2.47	0.00	0.00
20.670	105.640	2.428	2530.4	1864.6	105.094	2.326	2.15		Sand	34.9			99.85	1.05	104.71	167.12	0.96	0.455	1.024	0.459	0.887	1.95	0.00	0.00
20.830	259.460	2.129	2549.6	1873.8	259.323	0.824	1.55		Sand	0.0			245.24	1.03	253.25	253.25	0.96	0.456	1.036	193.085	440.278	965.62	0.00	0.00
21.000	291.220	1.454	2570.0	1883.6	290.455	0.502	1.36		Sand	0.0			275.26	1.03	283.83	283.83	0.96	0.457	1.035	19594.717	########	97660.66	0.00	0.00
21.160	249.820	0.808	2589.2	1892.8	248.364	0.325	1.30		Sand	0.0	275.26		275.26	1.03	283.47	283.47	0.96	0.458	1.033	18360.266	########	91219.04	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.50

Total Settlement:	0.36	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'vc = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.330	174.210	0.442	2609.6	1902.6	172.348	0.256	1.38		Sand	0.0	275.26		275.26	1.03	283.09	283.09	0.96	0.458	1.032	17130.301	########	84825.79	0.00	0.00
21.490	94.850	0.574	2628.8	1911.8	93.009	0.614	1.81		Sand	7.7	275.26		275.26	1.03	282.73	286.97	0.96	0.459	1.030	34900.992	########	172288.83	0.00	0.00
21.650	36.070	0.867	2648.0	1921.0	34.467	2.494	2.52		Sand	64.6	275.26		275.26	1.03	282.37	412.75	0.96	0.460	1.029	########	########	##########	0.00	0.00
21.820	16.510	0.712	2668.4	1930.8	15.719	4.691	2.96		Clay	99.6			15.60	1.02	n.a.	n.a.	0.96	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	8.700	0.381	2687.6	1940.0	7.584	5.173	3.23		Clay	100.0			8.22	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	8.130	0.271	2708.0	1949.8	6.950	3.995	3.20		Clay	100.0			7.68	1.02	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	11.600	0.354	2727.2	1959.1	10.450	3.456	3.02		Clay	100.0			10.96	1.02	n.a.	n.a.	0.96	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	15.530	0.446	2746.4	1968.3	14.385	3.148	2.88		Clay	93.4			14.68	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	18.600	0.580	2766.8	1978.1	17.408	3.371	2.83		Clay	89.6			17.58	1.02	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	16.240	0.617	2786.0	1987.3	14.942	4.153	2.94		Clay	98.3			15.35	1.02	n.a.	n.a.	0.96	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	12.320	0.508	2806.4	1997.1	10.933	4.652	3.08		Clay	100.0			11.64	1.02	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	10.870	0.353	2825.6	2006.3	9.428	3.736	3.07		Clay	100.0			10.27	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	11.380	0.285	2844.8	2015.5	9.881	2.863	2.99		Clay	100.0			10.76	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	11.680	0.282	2865.2	2025.3	10.119	2.756	2.97		Clay	100.0			11.04	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	12.890	0.311	2884.4	2034.5	11.254	2.712	2.93		Clay	97.4			12.18	1.01	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	15.770	0.313	2904.8	2044.3	14.007	2.185	2.80		Clay	86.9			14.91	1.01	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	15.580	0.431	2924.0	2053.5	13.750	3.052	2.89		Clay	94.1			14.73	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	18.340	1.182	2943.2	2062.7	16.355	7.007	3.06		Clay	100.0			17.33	1.01	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	21.560	1.587	2963.6	2072.5	19.376	7.905	3.04		Clay	100.0			20.38	1.01	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	35.350	1.420	2982.8	2081.7	32.529	4.193	2.69		Clay	78.1			33.41	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	56.120	1.726	3003.2	2091.5	51.925	3.159	2.46		Sand	59.5	84.77	1.66	140.72	1.00	141.20	229.31	0.95	0.472	1.003	15.438	34.081	72.18	0.00	0.00
24.770	67.520	1.806	3022.4	2100.8	62.616	2.736	2.35		Sand	51.4	84.77	1.66	140.72	1.00	141.02	225.18	0.95	0.473	1.002	10.814	23.843	50.44	0.00	0.00
24.930	82.250	1.436	3041.6	2110.0	76.413	1.779	2.16		Sand	36.1	84.77	1.66	140.72	1.00	140.84	212.74	0.95	0.473	1.001	4.194	9.234	19.51	0.00	0.00
25.100	89.690	1.032	3062.0	2119.8	83.252	1.170	2.02		Sand	24.2		1.66	140.72	1.00	140.64	193.68	0.95	0.474	1.000	1.347	2.963	6.25	0.00	0.00
25.260	84.780	1.179	3081.2	2129.0	78.436	1.416	2.09		Sand	30.1	84.77	1.66	140.72	1.00	140.44	204.33	0.95	0.474	0.998	2.433	5.344	11.26	0.00	0.00
25.430	66.370	1.663	3101.6	2138.8	60.939	2.565	2.34		Sand	50.5	84.77	1.66	140.72	1.00	140.27	223.72	0.95	0.475	0.997	9.587	21.023	44.26	0.00	0.00
25.590	43.400	1.663	3120.8	2148.0	38.957	3.975	2.62		Clay	72.3			41.02	1.00	n.a.	n.a.	0.95	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	70.670	1.562	3140.0	2157.2	64.685	2.260	2.29		Sand	46.0	133.07	1.5	199.61	0.99	198.59	294.12	0.95	0.476	0.994	########	########	649784.59	0.00	0.00
25.920	102.060	1.279	3160.4	2167.0	93.847	1.272	2.00		Sand	22.9	133.07	1.5	199.61	0.99	198.35	257.70	0.95	0.477	0.993	340.055	742.777	1558.74	0.00	0.00
26.080	124.420	1.051	3179.6	2176.2	114.479	0.856	1.82		Sand	8.8	133.07	1.5	199.61	0.99	197.80	204.06	0.95	0.477	0.992	2.394	5.227	10.96	0.00	0.00
26.250	134.470	1.018	3200.0	2186.0	123.559	0.766	1.77		Sand	4.3	133.07	1.5	199.61	0.99	197.45	197.51	0.94	0.478	0.992	1.647	3.593	7.52	0.00	0.00
26.410	140.790	0.723	3219.2	2195.2	129.155	0.519	1.65		Sand	0.0		1.5	199.61	0.99	197.18	197.18	0.94	0.478	0.991	1.618	3.525	7.38	0.00	0.00
26.570	134.760	0.694	3238.4	2204.4	123.292	0.521	1.67		Sand	0.0	133.07	1.5	199.61	0.99	196.90	196.90	0.94	0.478	0.990	1.593	3.469	7.25	0.00	0.00
26.740	110.070	1.383	3258.8	2214.2	100.197	1.276	1.98		Sand	21.3	133.07	1.5	199.61	0.99	197.21	251.54	0.94	0.479	0.986	156.564	339.753	709.34	0.00	0.00
26.900	67.300	1.669	3278.0	2223.4	60.543	2.542	2.34		Sand	50.4	133.07	1.5	199.61	0.99	197.01	295.51	0.94	0.479	0.985	########	########	850086.81	0.00	0.00
27.070	39.000	1.534	3298.4	2233.2	33.450	4.107	2.67		Clay	76.9			36.86	0.99	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	20.900	1.215	3317.6	2242.4	17.161	6.315	3.01		Clay	100.0			19.75	0.98	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	17.780	0.722	3338.0	2252.2	14.307	4.483	2.98		Clay	100.0			16.81	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	16.860	0.733	3357.2	2261.5	13.426	4.825	3.02		Clay	100.0			15.94	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	17.190	0.529	3376.4	2270.7	13.654	3.415	2.92		Clay	96.6			16.25	0.98	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	15.070	0.621	3396.8	2280.5	11.727	4.643	3.05		Clay	100.0			14.24	0.98	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	13.620	0.629	3416.0	2289.7	10.405	5.280	3.13		Clay	100.0			12.87	0.98	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	13.080	0.570	3436.4	2299.5	9.882	5.014	3.13		Clay	100.0			12.36	0.98	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	12.190	0.487	3455.6	2308.7	9.063	4.657	3.14		Clay	100.0			11.52	0.98	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	10.740	0.426	3474.8	2317.9	7.768	4.736	3.20		Clay	100.0			10.15	0.98	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	9.810	0.419	3495.2	2327.7	6.927	5.202	3.27		Clay	100.0			9.27	0.98	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	12.290	0.413	3514.4	2336.9	9.014	3.923	3.10		Clay	100.0			11.62	0.97	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	13.020	0.416	3534.8	2346.7	9.590	3.699	3.06		Clay	100.0			12.31	0.97	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	11.470	0.419	3554.0	2355.9	8.229	4.319	3.16		Clay	100.0			10.84	0.97	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	11.530	0.378	3573.2	2365.1	8.239	3.876	3.13		Clay	100.0			10.90	0.97	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	10.550	0.346	3593.6	2374.9	7.371	3.952	3.17		Clay	100.0			9.97	0.97	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	10.050	0.306	3612.8	2384.1	6.915	3.714	3.18		Clay	100.0			9.50	0.97	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	10.810	0.300	3633.2	2393.9	7.513	3.337	3.13		Clay	100.0			10.22	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	11.610	0.293	3652.4	2403.2	8.142	2.992	3.07		Clay	100.0			10.97	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	12.240	0.286	3671.6	2412.4	8.626	2.747	3.03		Clay	100.0			11.57	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	11.700	0.286	3692.0	2422.2	8.137	2.899	3.06		Clay	100.0			11.06	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	11.630	0.283	3711.2	2431.4	8.040	2.894	3.07		Clay	100.0			10.99	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	12.290	0.300	3731.6	2441.2	8.540	2.877	3.04		Clay	100.0			11.62	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	12.850	0.338	3750.8	2450.4	8.957	3.078	3.04		Clay	100.0			12.15	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	12.740	0.361	3770.0	2459.6	8.827	3.327	3.07		Clay	100.0			12.04	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	14.610	0.455	3790.4	2469.4	10.298	3.578	3.03		Clay	100.0			13.81	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	20.720	0.650	3809.6	2478.6	15.182	3.456	2.89		Clay	93.9			19.58	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	26.400	0.808	3830.0	2488.4	19.679	3.298	2.79		Clay	85.8			24.95	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	18.170	0.682	3849.2	2497.6	13.009	4.198	2.99		Clay	100.0			17.17	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.50

Total Settlement:	0.36	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.820	13.410	0.467	3868.4	2506.8	9.156	4.073	3.10		Clay	100.0			12.67	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	12.830	0.349	3888.8	2516.6	8.651	3.202	3.06		Clay	100.0			12.13	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	13.910	0.494	3908.0	2525.8	9.467	4.134	3.10		Clay	100.0			13.15	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	18.060	0.617	3928.4	2535.6	12.696	3.830	2.98		Clay	100.0			17.07	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	26.660	0.714	3947.6	2544.8	19.401	2.891	2.75		Clay	83.4			25.20	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	25.260	0.611	3966.8	2554.1	18.227	2.624	2.75		Clay	83.1			23.88	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	20.530	0.492	3987.2	2563.9	14.460	2.655	2.84		Clay	89.8			19.40	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	16.090	0.443	4006.4	2573.1	10.949	3.143	2.98		Clay	100.0			15.21	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	14.450	0.476	4026.8	2582.9	9.630	3.827	3.07		Clay	100.0			13.66	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	16.180	0.490	4046.0	2592.1	10.923	3.460	3.00		Clay	100.0			15.29	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	14.990	0.417	4065.2	2601.3	9.962	3.218	3.02		Clay	100.0			14.17	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	12.940	0.355	4085.6	2611.1	8.347	3.260	3.08		Clay	100.0			12.23	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	10.890	0.284	4104.8	2620.3	6.745	3.215	3.16		Clay	100.0			10.29	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	11.030	0.247	4125.2	2630.1	6.819	2.754	3.12		Clay	100.0			10.43	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	11.470	0.241	4144.4	2639.3	7.121	2.568	3.08		Clay	100.0			10.84	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	11.060	0.235	4163.6	2648.5	6.780	2.619	3.11		Clay	100.0			10.45	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	11.010	0.237	4184.0	2658.3	6.710	2.654	3.11		Clay	100.0			10.41	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	11.470	0.246	4203.2	2667.5	7.024	2.629	3.09		Clay	100.0			10.84	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	12.370	0.236	4223.6	2677.3	7.663	2.297	3.03		Clay	100.0			11.69	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	12.760	0.223	4242.8	2686.5	7.920	2.100	3.00		Clay	100.0			12.06	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	12.880	0.241	4262.0	2695.8	7.975	2.239	3.01		Clay	100.0			12.17	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	14.220	0.237	4282.4	2705.6	8.929	1.964	2.94		Clay	98.1			13.44	0.94	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	13.690	0.228	4301.6	2714.8	8.501	1.972	2.96		Clay	99.6			12.94	0.94	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	12.350	0.229	4322.0	2724.6	7.479	2.246	3.03		Clay	100.0			11.67	0.94	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	11.520	0.235	4341.2	2733.8	6.840	2.515	3.09		Clay	100.0			10.89	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	12.070	0.250	4361.6	2743.6	7.209	2.529	3.08		Clay	100.0			11.41	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	13.140	0.318	4380.8	2752.8	7.955	2.900	3.07		Clay	100.0			12.42	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	14.170	0.318	4400.0	2762.0	8.668	2.657	3.02		Clay	100.0			13.39	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	14.250	0.321	4420.4	2771.8	8.687	2.664	3.02		Clay	100.0			13.47	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	14.030	0.323	4439.6	2781.0	8.493	2.737	3.03		Clay	100.0			13.26	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	14.280	0.352	4460.0	2790.8	8.636	2.922	3.04		Clay	100.0			13.50	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	14.720	0.395	4479.2	2800.0	8.915	3.166	3.05		Clay	100.0			13.91	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	15.330	0.449	4498.4	2809.2	9.313	3.429	3.06		Clay	100.0			14.49	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	16.720	0.477	4518.8	2819.0	10.259	3.297	3.01		Clay	100.0			15.80	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	17.730	0.503	4538.0	2828.2	10.933	3.256	2.99		Clay	100.0			16.76	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	17.590	0.477	4558.4	2838.0	10.790	3.118	2.98		Clay	100.0			16.63	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	16.520	0.463	4577.6	2847.2	9.996	3.253	3.02		Clay	100.0			15.61	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	17.170	0.447	4596.8	2856.5	10.413	3.005	2.98		Clay	100.0			16.23	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	16.710	0.431	4617.2	2866.3	10.049	2.991	2.99		Clay	100.0			15.79	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	17.050	0.432	4636.4	2875.5	10.247	2.934	2.98		Clay	100.0			16.12	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	18.190	0.462	4656.8	2885.3	10.995	2.915	2.96		Clay	99.5			17.19	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	18.070	0.479	4676.0	2894.5	10.870	3.045	2.97		Clay	100.0			17.08	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	14.500	0.445	4695.2	2903.7	8.370	3.661	3.11		Clay	100.0			13.71	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	13.130	0.377	4715.6	2913.5	7.395	3.500	3.14		Clay	100.0			12.41	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	12.350	0.327	4734.8	2922.7	6.831	3.272	3.16		Clay	100.0			11.67	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	11.620	0.285	4755.2	2932.5	6.303	3.086	3.17		Clay	100.0			10.98	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	11.080	0.259	4774.4	2941.7	5.910	2.979	3.19		Clay	100.0			10.47	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	11.100	0.249	4793.6	2950.9	5.899	2.864	3.18		Clay	100.0			10.49	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	10.960	0.239	4814.0	2960.7	5.778	2.788	3.18		Clay	100.0			10.36	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	10.640	0.232	4833.2	2969.9	5.538	2.824	3.20		Clay	100.0			10.06	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	10.820	0.245	4853.6	2979.7	5.634	2.917	3.20		Clay	100.0			10.23	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	11.020	0.248	4872.8	2988.9	5.744	2.893	3.19		Clay	100.0			10.42	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	11.060	0.240	4892.0	2998.2	5.746	2.785	3.18		Clay	100.0			10.45	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	11.310	0.284	4912.4	3008.0	5.887	3.210	3.20		Clay	100.0			10.69	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	12.960	0.338	4931.6	3017.2	6.956	3.219	3.14		Clay	100.0			12.25	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	15.200	0.327	4952.0	3027.0	8.407	2.571	3.02		Clay	100.0			14.37	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	16.490	0.429	4971.2	3036.2	9.225	3.064	3.03		Clay	100.0			15.59	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	20.220	1.157	4990.4	3045.4	11.640	6.528	3.15		Clay	100.0			19.11	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	31.740	1.896	5010.8	3055.2	19.138	6.486	2.99		Clay	100.0			30.00	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	50.130	2.354	5030.0	3064.4	31.076	4.943	2.75		Clay	83.2			47.38	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	59.420	2.383	5050.4	3074.2	37.014	4.189	2.65		Clay	74.8			56.16	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	57.550	1.948	5069.6	3083.4	35.685	3.541	2.61		Clay	71.7			54.40	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	45.480	1.109	5088.8	3092.6	27.766	2.583	2.60		Clay	71.2			42.99	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	32.350	0.580	5109.2	3102.4	19.208	1.945	2.66		Clay	75.5			30.58	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.50

Total Settlement:	0.36	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.320	19.340	0.473	5128.4	3111.6	10.783	2.818	2.95		Clay	99.4			18.28	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	13.670	0.357	5148.8	3121.4	7.109	3.220	3.14		Clay	100.0			12.92	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	13.550	0.299	5168.0	3130.6	7.006	2.726	3.10		Clay	100.0			12.81	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	13.510	0.297	5187.2	3139.9	6.953	2.724	3.11		Clay	100.0			12.77	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	13.260	0.324	5207.6	3149.6	6.767	3.036	3.14		Clay	100.0			12.53	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	13.330	0.382	5226.8	3158.9	6.785	3.562	3.18		Clay	100.0			12.60	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	13.530	0.441	5247.2	3168.7	6.884	4.047	3.20		Clay	100.0			12.79	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	13.720	0.489	5266.4	3177.9	6.977	4.408	3.22		Clay	100.0			12.97	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	13.770	0.479	5286.8	3187.7	6.981	4.301	3.21		Clay	100.0			13.02	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	13.230	0.457	5306.0	3196.9	6.617	4.321	3.23		Clay	100.0			12.50	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	12.850	0.412	5325.2	3206.1	6.355	4.040	3.23		Clay	100.0			12.15	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	12.170	0.372	5345.6	3215.9	5.906	3.913	3.25		Clay	100.0			11.50	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	11.710	0.346	5364.8	3225.1	5.598	3.830	3.27		Clay	100.0			11.07	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	11.980	0.378	5385.2	3234.9	5.742	4.073	3.27		Clay	100.0			11.32	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	14.280	0.366	5404.4	3244.1	7.138	3.157	3.13		Clay	100.0			13.50	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	14.240	0.372	5423.6	3253.3	7.087	3.223	3.14		Clay	100.0			13.46	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	14.550	0.456	5444.0	3263.1	7.250	3.856	3.17		Clay	100.0			13.75	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	18.290	0.506	5463.2	3272.3	9.509	3.251	3.03		Clay	100.0			17.29	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	18.610	0.438	5483.6	3282.1	9.669	2.760	2.99		Clay	100.0			17.59	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	18.510	0.429	5502.8	3291.3	9.576	2.723	2.99		Clay	100.0			17.50	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	15.710	0.447	5522.0	3300.6	7.847	3.454	3.12		Clay	100.0			14.85	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	16.070	0.431	5542.4	3310.4	8.035	3.243	3.09		Clay	100.0			15.19	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	15.190	0.440	5561.6	3319.6	7.476	3.547	3.14		Clay	100.0			14.36	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	15.100	0.443	5582.0	3329.4	7.394	3.600	3.15		Clay	100.0			14.27	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	15.290	0.477	5601.2	3338.6	7.482	3.819	3.16		Clay	100.0			14.45	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.750	0.492	5620.4	3347.8	7.730	3.804	3.15		Clay	100.0			14.89	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	14.610	0.410	5640.8	3357.6	7.023	3.473	3.16		Clay	100.0			13.81	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	13.240	0.334	5660.0	3366.8	6.184	3.204	3.19		Clay	100.0			12.51	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	13.390	0.284	5680.4	3376.6	6.249	2.696	3.14		Clay	100.0			12.66	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	13.450	0.286	5699.6	3385.8	6.262	2.695	3.14		Clay	100.0			12.71	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.680	0.402	5718.8	3395.0	6.963	3.398	3.16		Clay	100.0			13.88	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	18.500	0.334	5739.2	3404.8	9.181	2.137	2.95		Clay	98.8			17.49	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	19.490	0.847	5758.4	3414.0	9.731	5.102	3.14		Clay	100.0			18.42	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	27.460	1.076	5778.8	3423.8	14.353	4.378	2.97		Clay	100.0			25.95	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	47.480	0.858	5798.0	3433.0	33.081	1.924	2.46		Sand	60.0			44.88	0.78	35.02	93.56	0.87	0.496	0.951	0.129	0.152	0.31	0.03	0.01
48.060	28.670	0.876	5817.2	3442.3	14.968	3.402	2.89		Clay	94.0			27.10	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	19.230	0.779	5837.6	3452.0	9.450	4.773	3.14		Clay	100.0			18.18	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	19.300	0.594	5856.8	3461.3	9.460	3.626	3.06		Clay	100.0			18.24	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	18.880	0.520	5877.2	3471.1	9.185	3.261	3.05		Clay	100.0			17.84	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	16.960	0.545	5896.4	3480.3	8.052	3.887	3.14		Clay	100.0			16.03	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	17.130	0.510	5915.6	3489.5	8.123	3.601	3.12		Clay	100.0			16.19	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	16.130	0.481	5936.0	3499.3	7.523	3.654	3.15		Clay	100.0			15.25	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	16.370	0.455	5955.2	3508.5	7.634	3.399	3.12		Clay	100.0			15.47	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	16.760	0.501	5975.6	3518.3	7.829	3.640	3.13		Clay	100.0			15.84	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	21.520	0.748	5994.8	3527.5	10.502	4.039	3.05		Clay	100.0			20.34	0.87	n.a.	n.a.	0.86	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	25.130	1.008	6014.0	3536.7	12.510	4.558	3.03		Clay	100.0			23.75	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	25.120	1.157	6034.4	3546.5	12.465	5.232	3.07		Clay	100.0			23.74	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	25.330	1.124	6053.6	3555.7	12.545	5.038	3.05		Clay	100.0			23.94	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	22.850	1.067	6074.0	3565.5	11.114	5.384	3.11		Clay	100.0			21.60	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.330	0.030	0.014	41.3	41.3	0.455	145.067	5.10		Unsaturated	100.0			0.03	1.70	0.05	54.00	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	0.090	0.069	61.3	61.3	1.939	116.042	4.57		Unsaturated	100.0			0.09	1.70	0.14	54.12	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	1.700	0.501	82.5	82.5	40.212	30.209	3.28		Unsaturated	100.0			1.61	1.70	2.73	57.51	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	166.560	1.407	102.5	102.5	715.068	0.845	1.30		Unsaturated	0.0			157.43	1.70	267.63	267.63	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	116.760	2.048	122.5	122.5	458.427	1.755	1.67		Unsaturated	0.0			110.36	1.70	187.61	187.61	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	98.000	2.814	143.8	143.8	355.120	2.873	1.91		Unsaturated	16.1			92.63	1.70	157.47	189.40	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	95.900	3.553	163.8	163.8	325.559	3.708	2.03		Unsaturated	25.3			90.64	1.70	154.09	211.87	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	81.400	4.192	185.0	185.0	259.906	5.155	2.20		Unsaturated	39.1			76.94	1.70	130.79	203.48	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	67.720	3.592	205.0	205.0	205.331	5.311	2.26		Unsaturated	44.1			64.01	1.70	108.81	180.07	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	61.500	3.539	225.0	225.0	177.935	5.766	2.33		Unsaturated	49.1			58.13	1.70	98.82	170.53	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	61.220	3.373	246.3	246.3	169.279	5.521	2.32		Unsaturated	48.7			57.86	1.70	98.37	169.77	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	64.590	3.211	266.3	266.3	171.750	4.982	2.28		Unsaturated	45.5			61.05	1.70	103.78	174.67	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	70.710	2.788	287.5	287.5	180.947	3.951	2.18		Unsaturated	37.7			66.83	1.70	113.62	180.94	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	79.260	2.594	307.5	307.5	196.137	3.279	2.10		Unsaturated	30.8			74.91	1.70	127.36	189.62	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	86.300	2.486	327.5	327.5	206.944	2.886	2.04		Unsaturated	26.1			81.57	1.70	138.67	195.23	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	87.520	2.482	348.8	348.8	203.356	2.842	2.04		Unsaturated	26.0			82.72	1.70	140.63	197.35	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	82.550	2.491	368.8	368.8	186.489	3.025	2.08		Unsaturated	29.5			78.02	1.70	132.64	194.02	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	82.920	2.729	390.0	390.0	182.128	3.299	2.12		Unsaturated	32.4			78.37	1.70	133.24	198.99	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	87.890	2.926	410.0	410.0	188.281	3.337	2.11		Unsaturated	32.1			83.07	1.69	140.44	207.29	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	88.880	2.741	430.0	430.0	185.905	3.091	2.09		Unsaturated	30.2			84.01	1.67	140.63	204.69	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	91.790	2.162	451.3	451.3	187.409	2.361	1.99		Unsaturated	22.4			86.76	1.68	145.74	195.41	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	91.620	1.794	471.3	471.3	183.028	1.963	1.94		Unsaturated	17.9			86.60	1.70	146.90	183.71	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	87.670	1.954	492.5	492.5	171.277	2.236	2.00		Unsaturated	22.8			82.86	1.66	137.51	186.86	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	77.230	2.193	512.5	512.5	147.832	2.849	2.12		Unsaturated	32.6			73.00	1.65	120.28	183.49	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	63.730	2.280	533.8	533.8	119.433	3.593	2.26		Unsaturated	43.5			60.24	1.67	100.64	169.46	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	51.890	2.181	553.8	553.8	95.362	4.226	2.37		Unsaturated	52.8			49.05	1.70	83.38	152.75	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	44.020	2.221	573.8	573.8	79.382	5.079	2.48		Unsaturated	61.8			41.61	1.70	70.73	139.82	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	39.990	2.167	595.0	595.0	70.749	5.459	2.54		Unsaturated	66.3			37.80	1.70	64.26	132.72	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	36.130	2.240	615.0	615.0	80.412	6.252	2.55		Unsaturated	67.2			34.15	1.70	58.05	124.94	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	31.050	2.027	636.3	636.3	67.364	6.596	2.62		Unsaturated	72.4			29.35	1.70	49.89	115.53	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	25.920	1.751	656.3	656.3	54.895	6.844	2.69		Unsaturated	77.9			24.50	1.70	41.65	105.82	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	24.460	1.446	676.3	676.3	50.665	5.995	2.67		Unsaturated	76.3			23.12	1.70	39.30	102.50	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	23.390	1.372	697.5	697.5	47.359	5.955	2.68		Unsaturated	77.7			22.11	1.70	37.58	100.50	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	21.620	1.350	717.5	717.5	59.265	6.349	2.64		Unsaturated	74.2			20.43	1.70	34.74	96.25	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	19.660	1.230	738.8	738.8	52.225	6.376	2.68		Unsaturated	77.2			18.58	1.70	31.59	92.65	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	17.730	1.233	758.8	758.8	45.735	7.105	2.75		Unsaturated	83.1			16.76	1.70	28.49	89.45	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	17.860	1.318	778.8	778.8	44.868	7.542	2.78		Unsaturated	85.1			16.88	1.69	28.45	89.65	1.00	0.323	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.400	17.530	1.486	800.0	800.0	42.825	8.675	2.84		Unsaturated	89.8			16.57	1.66	27.57	89.06	0.99	0.323	1.095	n.a.	n.a.	n.a.	0.00	0.00
6.560	18.090	1.502	820.0	820.0	43.122	8.495	2.83		Unsaturated	89.1			17.10	1.64	28.05	89.61	0.99	0.323	1.093	n.a.	n.a.	n.a.	0.00	0.00
6.730	18.890	1.537	841.3	841.3	43.909	8.324	2.81		Unsaturated	88.1			17.85	1.62	28.84	90.54	0.99	0.323	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.890	19.170	1.575	861.3	861.3	43.517	8.406	2.82		Unsaturated	88.6			18.12	1.60	28.91	90.67	0.99	0.323	1.089	n.a.	n.a.	n.a.	0.00	0.00
7.050	20.240	1.663	881.3	881.3	44.935	8.398	2.81		Unsaturated	87.9			19.13	1.57	30.07	92.10	0.99	0.323	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.220	20.350	1.773	902.5	902.5	44.097	8.911	2.84		Unsaturated	89.9			19.23	1.55	29.86	92.06	0.99	0.323	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.380	21.090	1.852	922.5	922.5	44.724	8.976	2.83		Unsaturated	89.7			19.93	1.53	30.55	92.94	0.99	0.323	1.084	n.a.	n.a.	n.a.	0.00	0.00
7.550	20.960	1.877	943.8	943.8	43.419	9.160	2.85		Unsaturated	90.9			19.81	1.52	30.04	92.41	0.99	0.323	1.081	n.a.	n.a.	n.a.	0.00	0.00
7.710	20.730	1.846	963.8	963.8	42.019	9.118	2.86		Unsaturated	91.6			19.59	1.50	29.43	91.68	0.99	0.323	1.078	n.a.	n.a.	n.a.	0.00	0.00
7.870	21.300	1.823	983.8	983.8	42.304	8.760	2.84		Unsaturated	90.3			20.13	1.48	29.89	92.15	0.99	0.322	1.077	n.a.	n.a.	n.a.	0.00	0.00
8.040	20.690	1.845	1005.0	1005.0	40.174	9.141	2.87		Clay	92.6			19.56	1.22	n.a.	n.a.	0.99	0.323	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	20.700	1.801	1025.0	1025.0	39.390	8.921	2.87		Clay	92.4			19.57	1.21	n.a.	n.a.	0.99	0.326	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	20.270	1.511	1046.3	1046.3	37.748	7.649	2.83		Clay	89.4			19.16	1.20	n.a.	n.a.	0.99	0.329	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	19.530	1.704	1066.3	1066.3	35.633	8.971	2.90		Clay	94.9			18.46	1.20	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	15.540	1.476	1086.3	1086.3	27.612	9.845	3.00		Clay	100.0			14.69	1.19	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	14.930	1.243	1107.5	1107.5	25.962	8.643	2.98		Clay	100.0			14.11	1.19	n.a.	n.a.	0.99	0.338	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	13.250	1.053	1127.5	1127.5	22.503	8.296	3.01		Clay	100.0			12.52	1.18	n.a.	n.a.	0.99	0.341	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	12.280	0.938	1148.8	1148.8	20.380	8.014	3.03		Clay	100.0			11.61	1.17	n.a.	n.a.	0.99	0.344	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	12.530	0.898	1168.8	1168.8	20.442	7.521	3.01		Clay	100.0			11.84	1.17	n.a.	n.a.	0.99	0.347	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	13.120	0.906	1188.8	1188.8	21.074	7.231	2.99		Clay	100.0			12.40	1.16	n.a.	n.a.	0.99	0.349	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	13.080	0.835	1210.0	1210.0	20.620	6.693	2.97		Clay	100.0			12.36	1.16	n.a.	n.a.	0.99	0.352	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	12.450	0.691	1230.0	1230.0	19.244	5.840	2.95		Clay	99.3			11.77	1.15	n.a.	n.a.	0.99	0.354	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	11.900	0.671	1251.2	1250.6	18.031	5.953	2.98		Clay	100.0			11.25	1.15	n.a.	n.a.	0.99	0.357	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	12.390	0.652	1270.4	1259.8	18.661	5.542	2.95		Clay	98.9			11.71	1.15	n.a.	n.a.	0.99	0.359	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	12.290	0.593	1289.6	1269.0	18.353	5.090	2.93		Clay	97.3			11.62	1.14	n.a.	n.a.	0.99	0.362	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	10.870	0.496	1310.0	1278.8	15.976	4.856	2.96		Clay	99.9			10.27	1.14	n.a.	n.a.	0.99	0.364	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	9.660	0.378	1329.2	1288.0	13.968	4.204	2.97		Clay	100.0			9.13	1.14	n.a.	n.a.	0.99	0.367	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.830	9.230	0.327	1349.6	1297.8	13.184	3.826	2.96		Clay	99.9			8.72	1.14	n.a.	n.a.	0.99	0.369	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	10.690	0.359	1368.8	1307.0	15.311	3.590	2.89		Clay	94.5			10.10	1.14	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	12.390	0.517	1388.0	1316.2	17.772	4.424	2.90		Clay	95.0			11.71	1.13	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	13.940	0.616	1408.4	1326.0	19.963	4.650	2.88		Clay	93.1			13.18	1.13	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	12.130	0.731	1427.6	1335.2	17.100	6.407	3.02		Clay	100.0			11.47	1.13	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	9.090	0.341	1448.0	1345.0	12.440	4.072	3.00		Clay	100.0			8.59	1.13	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	7.490	0.311	1467.2	1354.3	9.978	4.609	3.11		Clay	100.0			7.08	1.12	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	7.090	0.358	1487.6	1364.0	9.305	5.643	3.18		Clay	100.0			6.70	1.12	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	8.150	0.361	1506.8	1373.3	10.772	4.879	3.10		Clay	100.0			7.70	1.12	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	7.900	0.313	1526.0	1382.5	10.325	4.387	3.08		Clay	100.0			7.47	1.12	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	7.850	0.322	1546.4	1392.3	10.166	4.547	3.10		Clay	100.0			7.42	1.12	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	7.680	0.336	1565.6	1401.5	9.843	4.876	3.13		Clay	100.0			7.26	1.11	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	8.650	0.312	1586.0	1411.3	11.135	3.976	3.03		Clay	100.0			8.18	1.11	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	9.220	0.542	1605.2	1420.5	11.851	6.437	3.14		Clay	100.0			8.71	1.11	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	16.180	0.657	1624.4	1429.7	21.498	4.276	2.83		Clay	89.2			15.29	1.11	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	18.570	0.803	1644.8	1439.5	24.658	4.527	2.80		Clay	87.0			17.55	1.11	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	12.810	0.427	1664.0	1448.7	16.536	3.562	2.87		Clay	92.2			12.11	1.11	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	7.890	0.340	1684.4	1458.5	9.664	4.826	3.13		Clay	100.0			7.46	1.10	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	8.540	0.376	1703.6	1467.7	10.476	4.896	3.11		Clay	100.0			8.07	1.10	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	11.460	0.478	1722.8	1476.9	14.352	4.512	2.98		Clay	100.0			10.83	1.10	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	11.540	0.515	1743.2	1486.7	14.351	4.831	3.00		Clay	100.0			10.91	1.10	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	11.810	0.529	1762.4	1496.0	14.611	4.836	2.99		Clay	100.0			11.16	1.10	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	11.830	0.570	1782.8	1505.7	14.529	5.213	3.01		Clay	100.0			11.18	1.09	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	11.870	0.613	1802.0	1515.0	14.481	5.592	3.03		Clay	100.0			11.22	1.09	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	10.780	0.580	1821.2	1524.2	12.950	5.873	3.08		Clay	100.0			10.19	1.09	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	9.540	0.462	1841.6	1534.0	11.238	5.362	3.11		Clay	100.0			9.02	1.09	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	8.970	0.434	1860.8	1543.2	10.419	5.403	3.13		Clay	100.0			8.48	1.09	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	8.610	0.433	1881.2	1553.0	9.877	5.650	3.16		Clay	100.0			8.14	1.09	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	9.200	0.455	1900.4	1562.2	10.562	5.512	3.14		Clay	100.0			8.70	1.08	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	9.770	0.488	1919.6	1571.4	11.213	5.541	3.12		Clay	100.0			9.23	1.08	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	9.900	0.476	1940.0	1581.2	11.295	5.331	3.10		Clay	100.0			9.36	1.08	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	9.450	0.426	1959.2	1590.4	10.652	5.032	3.11		Clay	100.0			8.93	1.08	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	8.020	0.362	1979.6	1600.2	8.787	5.142	3.18		Clay	100.0			7.58	1.08	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	7.770	0.325	1998.8	1609.4	8.414	4.797	3.18		Clay	100.0			7.34	1.07	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	8.300	0.310	2018.0	1618.6	9.009	4.250	3.12		Clay	100.0			7.84	1.07	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	8.330	0.347	2038.4	1628.4	8.979	4.740	3.15		Clay	100.0			7.87	1.07	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	12.160	0.409	2057.6	1637.6	13.594	3.673	2.94		Clay	98.2			11.49	1.07	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	11.260	0.377	2078.0	1647.4	12.408	3.688	2.97		Clay	100.0			10.64	1.07	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	10.110	0.272	2097.2	1656.7	10.939	3.005	2.97		Clay	100.0			9.56	1.07	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	11.830	0.386	2116.4	1665.9	12.932	3.583	2.95		Clay	99.1			11.18	1.07	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	14.180	0.636	2136.8	1675.7	15.649	4.854	2.97		Clay	100.0			13.40	1.06	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	16.770	0.793	2156.0	1684.9	18.627	5.053	2.92		Clay	96.8			15.85	1.06	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	17.640	0.829	2176.4	1694.7	19.534	5.005	2.90		Clay	95.3			16.67	1.06	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	17.040	0.794	2195.6	1703.9	18.713	4.980	2.92		Clay	96.3			16.11	1.06	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	20.050	0.563	2214.8	1713.1	22.115	2.970	2.72		Clay	80.4			18.95	1.06	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	24.300	1.115	2235.2	1722.9	26.911	4.808	2.79		Clay	86.1			22.97	1.06	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	30.670	1.787	2254.4	1732.1	34.112	6.049	2.79		Clay	85.8			28.99	1.05	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	52.410	2.223	2274.8	1741.9	53.413	4.336	2.55		Sand	66.7			49.54	1.09	54.14	119.80	0.97	0.443	1.024	0.171	0.242	0.55	0.03	0.04
18.700	25.840	1.404	2294.0	1751.1	28.203	5.687	2.82		Clay	89.0			24.42	1.05	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	15.790	0.962	2313.2	1760.3	16.626	6.572	3.03		Clay	100.0			14.92	1.05	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	14.910	0.940	2333.6	1770.1	15.528	6.839	3.07		Clay	100.0			14.09	1.05	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	16.700	1.038	2352.8	1779.3	17.449	6.685	3.02		Clay	100.0			15.78	1.05	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	17.980	1.000	2373.2	1789.1	18.773	5.955	2.97		Clay	100.0			16.99	1.05	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	19.050	1.056	2392.4	1798.4	19.856	5.914	2.95		Clay	98.8			18.01	1.04	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	19.820	1.281	2412.8	1808.1	20.589	6.880	2.98		Clay	100.0			18.73	1.04	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	26.030	1.326	2432.0	1817.4	27.308	5.343	2.82		Clay	88.3			24.60	1.04	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	52.480	1.031	2451.2	1826.6	52.142	2.012	2.32		Sand	48.8	67.7		67.70	1.06	72.08	136.61	0.96	0.452	1.021	0.220	0.343	0.76	0.02	0.03
20.180	71.630	0.542	2471.6	1836.4	71.422	0.770	1.96		Sand	19.7			67.70	1.07	72.54	105.14	0.96	0.453	1.016	0.144	0.189	0.42	0.03	0.04
20.340	70.330	0.596	2490.8	1845.6	69.918	0.862	1.99		Sand	22.5			66.47	1.07	70.97	109.23	0.96	0.453	1.016	0.151	0.201	0.44	0.03	0.04
20.510	64.850	0.890	2511.2	1855.4	64.191	1.400	2.15		Sand	35.1			61.29	1.06	65.11	118.89	0.96	0.454	1.016	0.169	0.236	0.52	0.03	0.03
20.670	64.530	1.098	2530.4	1864.6	63.700	1.736	2.21		Sand	40.2			60.99	1.06	64.58	122.22	0.96	0.455	1.016	0.176	0.251	0.55	0.03	0.03
20.830	73.420	0.891	2549.6	1873.8	72.463	1.235	2.08		Sand	29.1			69.40	1.06	73.32	122.36	0.96	0.456	1.015	0.177	0.252	0.55	0.03	0.03
21.000	89.630	0.638	2570.0	1883.6	88.503	0.722	1.87		Sand	12.3			84.72	1.06	89.69	103.67	0.96	0.457	1.013	0.142	0.185	0.40	0.03	0.04
21.160	90.110	0.304	2589.2	1892.8	88.758	0.343	1.70		Sand	0.0			85.17	1.06	90.26	90.26	0.96	0.458	1.011	0.126	0.155	0.34	0.04	0.05

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ $s'vc = 1$ atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.330	88.900	0.302	2609.6	1902.6	87.313	0.345	1.71		Sand	0.0			84.03	1.06	88.84	88.84	0.96	0.458	1.010	0.124	0.152	0.33	0.04	0.04
21.490	85.840	0.260	2628.8	1911.8	84.050	0.307	1.70		Sand	0.0			81.13	1.06	85.63	85.63	0.96	0.459	1.010	0.121	0.146	0.32	0.04	0.05
21.650	82.530	0.346	2648.0	1921.0	80.555	0.426	1.78		Sand	5.4			78.01	1.05	82.18	82.44	0.96	0.460	1.009	0.118	0.141	0.31	0.04	0.05
21.820	80.530	0.397	2668.4	1930.8	78.361	0.502	1.82		Sand	9.0			76.12	1.05	79.93	84.71	0.96	0.461	1.009	0.120	0.145	0.31	0.04	0.05
21.980	96.600	0.368	2687.6	1940.0	94.028	0.386	1.70		Sand	0.0			91.30	1.05	95.43	95.43	0.96	0.462	1.009	0.132	0.165	0.36	0.03	0.04
22.150	95.740	0.258	2708.0	1949.8	92.935	0.273	1.64		Sand	0.0			90.49	1.04	94.35	94.35	0.96	0.462	1.008	0.130	0.162	0.35	0.03	0.04
22.310	86.380	0.328	2727.2	1959.1	83.512	0.386	1.75		Sand	2.7			81.64	1.04	85.07	85.07	0.96	0.463	1.007	0.121	0.145	0.31	0.04	0.05
22.470	90.420	0.335	2746.4	1968.3	87.267	0.376	1.72		Sand	0.9			85.46	1.04	88.77	88.77	0.96	0.464	1.007	0.124	0.151	0.33	0.04	0.05
22.640	116.290	0.674	2766.8	1978.1	112.330	0.587	1.73		Sand	1.4			109.91	1.03	113.45	113.45	0.96	0.464	1.008	0.158	0.213	0.46	0.03	0.03
22.800	139.910	0.685	2786.0	1987.3	135.097	0.495	1.62		Sand	0.0			132.24	1.03	135.84	135.84	0.96	0.465	1.009	0.217	0.333	0.72	0.02	0.03
22.970	154.410	0.990	2806.4	1997.1	148.863	0.647	1.66		Sand	0.0			145.95	1.02	149.40	149.40	0.95	0.466	1.009	0.285	0.477	1.02	0.01	0.01
23.130	168.010	1.179	2825.6	2006.3	161.712	0.708	1.65		Sand	0.0			158.80	1.02	162.08	162.08	0.95	0.467	1.009	0.394	0.723	1.55	0.00	0.00
23.290	196.130	1.244	2844.8	2015.5	188.566	0.639	1.57		Sand	0.0			185.38	1.02	188.52	188.52	0.95	0.467	1.011	1.049	2.333	4.99	0.00	0.00
23.460	200.160	1.441	2865.2	2025.3	191.993	0.725	1.60		Sand	0.0			189.19	1.02	192.03	192.03	0.95	0.468	1.011	1.241	2.758	5.90	0.00	0.00
23.620	208.300	1.345	2884.4	2034.5	199.395	0.650	1.56		Sand	0.0			196.88	1.01	199.45	199.45	0.95	0.468	1.010	1.832	4.072	8.69	0.00	0.00
23.790	216.670	1.324	2904.8	2044.3	206.956	0.615	1.53		Sand	0.0			204.79	1.01	207.07	207.07	0.95	0.469	1.010	2.882	6.402	13.65	0.00	0.00
23.950	217.960	1.184	2924.0	2053.5	207.719	0.547	1.50		Sand	0.0			206.01	1.01	207.99	207.99	0.95	0.470	1.009	3.056	6.783	14.44	0.00	0.00
24.110	211.660	0.935	2943.2	2062.7	201.214	0.445	1.45		Sand	0.0			200.06	1.01	201.73	201.73	0.95	0.470	1.007	2.086	4.621	9.83	0.00	0.00
24.280	225.090	0.939	2963.6	2072.5	213.555	0.420	1.42		Sand	0.0			212.75	1.01	214.13	214.13	0.95	0.471	1.006	4.621	10.230	21.72	0.00	0.00
24.440	226.060	1.056	2982.8	2081.7	213.997	0.470	1.45		Sand	0.0			213.67	1.01	214.75	214.75	0.95	0.472	1.005	4.830	10.679	22.65	0.00	0.00
24.610	211.680	0.897	3003.2	2091.5	199.815	0.427	1.45		Sand	0.0			200.08	1.00	200.84	200.84	0.95	0.472	1.003	1.982	4.374	9.26	0.00	0.00
24.770	195.950	0.657	3022.4	2100.8	184.445	0.338	1.42		Sand	0.0			185.21	1.00	185.68	185.68	0.95	0.473	1.002	0.922	2.020	4.27	0.00	0.00
24.930	190.610	0.591	3041.6	2110.0	178.979	0.313	1.41		Sand	0.0			180.16	1.00	180.34	180.34	0.95	0.473	1.001	0.736	1.544	3.26	0.00	0.00
25.100	182.440	0.893	3062.0	2119.8	170.840	0.494	1.54		Sand	0.0			172.44	1.00	172.33	172.33	0.95	0.474	1.000	0.545	1.072	2.26	0.00	0.00
25.260	209.270	0.867	3081.2	2129.0	195.742	0.417	1.45		Sand	0.0			197.80	1.00	197.40	197.40	0.95	0.474	0.998	1.637	3.595	7.58	0.00	0.00
25.430	222.670	0.995	3101.6	2138.8	207.882	0.450	1.45		Sand	0.0			210.46	1.00	209.75	209.75	0.95	0.475	0.997	3.427	7.516	15.82	0.00	0.00
25.590	227.570	0.935	3120.8	2148.0	212.023	0.414	1.42		Sand	0.0			215.09	1.00	214.09	214.09	0.95	0.475	0.995	4.609	10.095	21.23	0.00	0.00
25.750	233.290	0.863	3140.0	2157.2	216.915	0.372	1.38		Sand	0.0			220.50	0.99	219.21	219.21	0.95	0.476	0.994	6.712	14.680	30.84	0.00	0.00
25.920	235.920	0.857	3160.4	2167.0	218.872	0.366	1.37		Sand	0.0			222.99	0.99	221.39	221.39	0.95	0.477	0.993	7.949	17.363	36.44	0.00	0.00
26.080	236.000	0.861	3179.6	2176.2	218.473	0.367	1.38		Sand	0.0			223.06	0.99	221.18	221.18	0.95	0.477	0.992	7.819	17.056	35.76	0.00	0.00
26.250	214.150	0.948	3200.0	2186.0	197.655	0.446	1.46		Sand	0.0	223.06		223.06	0.99	220.87	220.87	0.94	0.478	0.990	7.634	16.630	34.82	0.00	0.00
26.410	188.300	0.963	3219.2	2195.2	173.243	0.516	1.54		Sand	0.0	223.06		223.06	0.99	220.59	220.59	0.94	0.478	0.989	7.466	16.244	33.98	0.00	0.00
26.570	183.590	0.802	3238.4	2204.4	168.510	0.441	1.51		Sand	0.0	223.06		223.06	0.99	220.31	220.31	0.94	0.478	0.988	7.303	15.870	33.17	0.00	0.00
26.740	183.340	0.627	3258.8	2214.2	167.897	0.345	1.46		Sand	0.0	223.06		223.06	0.99	220.01	220.01	0.94	0.479	0.986	7.136	15.485	32.33	0.00	0.00
26.900	171.540	0.453	3278.0	2223.4	156.659	0.267	1.43		Sand	0.0	223.06		223.06	0.99	219.72	219.72	0.94	0.479	0.985	6.983	15.134	31.57	0.00	0.00
27.070	148.660	0.455	3298.4	2233.2	135.255	0.309	1.52		Sand	0.0	223.06		223.06	0.98	219.43	219.43	0.94	0.480	0.984	6.825	14.772	30.78	0.00	0.00
27.230	91.000	1.422	3317.6	2242.4	82.028	1.592	2.11		Sand	31.6	223.06		223.06	0.98	219.67	302.56	0.94	0.480	0.983	########	########	3865823.33	0.00	0.00
27.400	44.870	1.486	3338.0	2252.2	39.578	3.440	2.57		Sand	68.4	223.06		223.06	0.98	219.42	333.36	0.94	0.481	0.981	########	########	#########	0.00	0.00
27.560	21.690	1.295	3357.2	2261.5	17.698	6.469	3.01		Clay	100.0			20.50	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	16.410	0.637	3376.4	2270.7	12.967	4.324	3.00		Clay	100.0			15.51	0.98	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	14.560	0.415	3396.8	2280.5	11.280	3.228	2.97		Clay	100.0			13.76	0.98	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	12.160	0.297	3416.0	2289.7	9.130	2.838	3.02		Clay	100.0			11.49	0.98	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	11.950	0.260	3436.4	2299.5	8.899	2.544	3.00		Clay	100.0			11.29	0.98	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	12.610	0.274	3455.6	2308.7	9.427	2.516	2.98		Clay	100.0			11.92	0.98	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	15.110	0.293	3474.8	2317.9	11.539	2.193	2.87		Clay	92.6			14.28	0.98	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	17.300	0.345	3495.2	2327.7	13.363	2.218	2.82		Clay	88.5			16.35	0.98	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	17.160	0.356	3514.4	2336.9	13.182	2.309	2.83		Clay	89.7			16.22	0.97	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	16.150	0.327	3534.8	2346.7	12.258	2.276	2.86		Clay	91.5			15.26	0.97	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	15.290	0.300	3554.0	2355.9	11.472	2.220	2.87		Clay	93.0			14.45	0.97	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	15.020	0.278	3573.2	2365.1	11.190	2.104	2.87		Clay	92.7			14.20	0.97	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	16.000	0.268	3593.6	2374.9	11.961	1.890	2.82		Clay	88.7			15.12	0.97	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	15.870	0.311	3612.8	2384.1	11.798	2.211	2.86		Clay	92.1			15.00	0.97	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	15.510	0.315	3633.2	2393.9	11.440	2.299	2.88		Clay	93.7			14.66	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	15.560	0.342	3652.4	2403.2	11.430	2.491	2.90		Clay	95.3			14.71	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	15.390	0.346	3671.6	2412.4	11.237	2.551	2.92		Clay	96.2			14.55	0.97	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	14.420	0.320	3692.0	2422.2	10.382	2.543	2.94		Clay	98.5			13.63	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	14.340	0.311	3711.2	2431.4	10.269	2.494	2.94		Clay	98.4			13.55	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	14.300	0.277	3731.6	2441.2	10.187	2.224	2.92		Clay	96.5			13.52	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	13.910	0.237	3750.8	2450.4	9.823	1.971	2.90		Clay	95.3			13.15	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	13.350	0.218	3770.0	2459.6	9.323	1.901	2.92		Clay	96.2			12.62	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	13.390	0.197	3790.4	2469.4	9.310	1.711	2.89		Clay	94.4			12.66	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	12.800	0.213	3809.6	2478.6	8.791	1.955	2.94		Clay	98.5			12.10	0.96	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	13.200	0.163	3830.0	2488.4	9.070	1.445	2.87		Clay	92.3			12.48	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	13.250	0.159	3849.2	2497.6	9.069	1.400	2.86		Clay	91.8			12.52	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.820	12.540	0.161	3868.4	2506.8	8.462	1.517	2.90		Clay	95.2			11.85	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	13.770	0.175	3888.8	2516.6	9.398	1.477	2.86		Clay	91.6			13.02	0.96	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	14.090	0.262	3908.0	2525.8	9.609	2.156	2.93		Clay	97.6			13.32	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	15.560	0.488	3928.4	2535.6	10.724	3.586	3.02		Clay	100.0			14.71	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	22.500	0.539	3947.6	2544.8	16.132	2.624	2.79		Clay	86.5			21.27	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	24.240	0.452	3966.8	2554.1	17.428	2.030	2.70		Clay	79.2			22.91	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	21.260	0.527	3987.2	2563.9	15.029	2.737	2.83		Clay	89.3			20.09	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	20.340	0.900	4006.4	2573.1	14.253	4.905	3.00		Clay	100.0			19.22	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	34.920	1.312	4026.8	2582.9	25.481	3.988	2.75		Clay	83.2			33.01	0.95	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	42.570	0.958	4046.0	2592.1	34.626	2.362	2.50		Sand	63.3		1.8	72.43	0.92	66.38	134.66	0.92	0.492	0.972	0.213	0.312	0.63	0.02	0.02
33.460	35.720	0.712	4065.2	2601.3	28.717	2.114	2.54		Sand	65.9	40.24	1.8	72.43	0.92	66.30	135.27	0.92	0.492	0.971	0.215	0.316	0.64	0.02	0.02
33.630	18.040	0.360	4085.6	2611.1	12.253	2.250	2.85		Clay	91.3			17.05	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	12.800	0.267	4104.8	2620.3	8.203	2.483	3.02		Clay	100.0			12.10	0.95	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	13.580	0.240	4125.2	2630.1	8.758	2.081	2.96		Clay	99.7			12.84	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	13.500	0.281	4144.4	2639.3	8.660	2.462	3.00		Clay	100.0			12.76	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	13.760	0.291	4163.6	2648.5	8.819	2.488	3.00		Clay	100.0			13.01	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	13.240	0.283	4184.0	2658.3	8.387	2.539	3.02		Clay	100.0			12.51	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	12.670	0.283	4203.2	2667.5	7.924	2.680	3.05		Clay	100.0			11.98	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	12.570	0.260	4223.6	2677.3	7.812	2.481	3.04		Clay	100.0			11.88	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	13.550	0.298	4242.8	2686.5	8.508	2.611	3.02		Clay	100.0			12.81	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	14.410	0.341	4262.0	2695.8	9.110	2.779	3.01		Clay	100.0			13.62	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	14.160	0.331	4282.4	2705.6	8.885	2.750	3.02		Clay	100.0			13.38	0.94	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	14.340	0.350	4301.6	2714.8	8.980	2.871	3.02		Clay	100.0			13.55	0.94	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	14.680	0.340	4322.0	2724.6	9.190	2.718	3.00		Clay	100.0			13.88	0.94	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	15.090	0.366	4341.2	2733.8	9.452	2.833	3.00		Clay	100.0			14.26	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	16.200	0.381	4361.6	2743.6	10.220	2.719	2.97		Clay	100.0			15.31	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	16.070	0.395	4380.8	2752.8	10.084	2.849	2.98		Clay	100.0			15.19	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	15.750	0.409	4400.0	2762.0	9.812	3.020	3.01		Clay	100.0			14.89	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	15.290	0.407	4420.4	2771.8	9.438	3.109	3.03		Clay	100.0			14.45	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	15.310	0.383	4439.6	2781.0	9.414	2.924	3.01		Clay	100.0			14.47	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	15.950	0.421	4460.0	2790.8	9.832	3.067	3.01		Clay	100.0			15.08	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	16.130	0.404	4479.2	2800.0	9.922	2.907	2.99		Clay	100.0			15.25	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	16.100	0.425	4498.4	2809.2	9.861	3.070	3.01		Clay	100.0			15.22	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	15.750	0.435	4518.8	2819.0	9.571	3.222	3.03		Clay	100.0			14.89	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	16.210	0.545	4538.0	2828.2	9.858	3.908	3.07		Clay	100.0			15.32	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	16.410	0.594	4558.4	2838.0	9.958	4.206	3.08		Clay	100.0			15.51	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	18.490	0.625	4577.6	2847.2	11.380	3.859	3.01		Clay	100.0			17.48	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	18.970	0.607	4596.8	2856.5	11.673	3.639	2.99		Clay	100.0			17.93	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	18.740	0.628	4617.2	2866.3	11.465	3.820	3.01		Clay	100.0			17.71	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	18.490	0.625	4636.4	2875.5	11.248	3.867	3.02		Clay	100.0			17.48	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	16.700	0.539	4656.8	2885.3	9.962	3.750	3.05		Clay	100.0			15.78	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	14.670	0.433	4676.0	2894.5	8.521	3.514	3.09		Clay	100.0			13.87	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	13.450	0.362	4695.2	2903.7	7.647	3.264	3.11		Clay	100.0			12.71	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	13.430	0.319	4715.6	2913.5	7.601	2.882	3.09		Clay	100.0			12.69	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	13.640	0.324	4734.8	2922.7	7.714	2.878	3.08		Clay	100.0			12.89	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	14.110	0.356	4755.2	2932.5	8.002	3.033	3.08		Clay	100.0			13.34	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	16.280	0.363	4774.4	2941.7	9.445	2.614	2.98		Clay	100.0			15.39	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	19.050	0.556	4793.6	2950.9	11.287	3.337	2.98		Clay	100.0			18.01	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	20.070	0.978	4814.0	2960.7	11.932	5.538	3.10		Clay	100.0			18.97	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	35.250	1.434	4833.2	2969.9	22.111	4.368	2.82		Clay	89.0			33.32	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	57.890	1.726	4853.6	2979.7	44.176	3.112	2.50		Sand	63.2	71.79	1.72	123.48	0.89	109.82	190.44	0.90	0.497	0.919	1.148	2.322	4.67	0.00	0.00
40.190	72.840	1.628	4872.8	2988.9	55.990	2.312	2.34		Sand	50.2	71.79	1.72	123.48	0.89	109.39	184.46	0.90	0.497	0.923	0.874	1.748	3.51	0.00	0.00
40.350	75.950	1.504	4892.0	2998.2	58.365	2.046	2.29		Sand	46.3		1.72	123.47	0.88	109.12	181.88	0.90	0.498	0.925	0.784	1.538	3.09	0.00	0.00
40.520	71.470	1.438	4912.4	3008.0	54.711	2.084	2.32		Sand	48.3	71.79	1.72	123.48	0.88	109.07	183.05	0.90	0.498	0.923	0.823	1.627	3.27	0.00	0.00
40.680	56.520	1.022	4931.6	3017.2	42.786	1.891	2.37		Sand	52.7	71.79	1.72	123.48	0.88	109.07	185.31	0.90	0.498	0.921	0.907	1.822	3.66	0.00	0.00
40.850	26.740	0.597	4952.0	3027.0	16.032	2.460	2.78		Clay	85.4			25.27	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	14.630	0.357	4971.2	3036.2	8.000	2.942	3.07		Clay	100.0			13.83	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	12.350	0.253	4990.4	3045.4	6.472	2.562	3.12		Clay	100.0			11.67	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	12.600	0.223	5010.8	3055.2	6.608	2.208	3.08		Clay	100.0			11.91	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	12.760	0.255	5030.0	3064.4	6.686	2.490	3.10		Clay	100.0			12.06	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	14.760	0.378	5050.4	3074.2	7.960	3.090	3.09		Clay	100.0			13.95	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	16.890	0.608	5069.6	3083.4	9.311	4.234	3.11		Clay	100.0			15.96	0.91	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	20.750	0.935	5088.8	3092.6	11.774	5.133	3.08		Clay	100.0			19.61	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	27.760	0.670	5109.2	3102.4	16.249	2.659	2.79		Clay	86.6			26.24	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.320	31.760	0.576	5128.4	3111.6	18.766	1.973	2.67		Clay	76.5			30.02	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	24.670	0.547	5148.8	3121.4	14.157	2.474	2.83		Clay	89.0			23.32	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	18.010	0.554	5168.0	3130.6	9.855	3.591	3.05		Clay	100.0			17.02	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	15.890	0.424	5187.2	3139.9	8.469	3.188	3.07		Clay	100.0			15.02	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	14.750	0.339	5207.6	3149.6	7.713	2.787	3.07		Clay	100.0			13.94	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	14.360	0.238	5226.8	3158.9	7.437	2.028	3.01		Clay	100.0			13.57	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	13.680	0.224	5247.2	3168.7	6.979	2.028	3.04		Clay	100.0			12.93	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	13.610	0.229	5266.4	3177.9	6.908	2.084	3.05		Clay	100.0			12.86	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	13.360	0.251	5286.8	3187.7	6.724	2.338	3.08		Clay	100.0			12.63	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	13.200	0.269	5306.0	3196.9	6.598	2.550	3.11		Clay	100.0			12.48	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	13.640	0.313	5325.2	3206.1	6.848	2.853	3.12		Clay	100.0			12.89	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	14.660	0.352	5345.6	3215.9	7.455	2.939	3.10		Clay	100.0			13.86	0.90	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	14.700	0.417	5364.8	3225.1	7.453	3.470	3.14		Clay	100.0			13.89	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	14.250	0.455	5385.2	3234.9	7.145	3.939	3.18		Clay	100.0			13.47	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	15.070	0.524	5404.4	3244.1	7.625	4.233	3.18		Clay	100.0			14.24	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	16.840	0.559	5423.6	3253.3	8.685	3.958	3.12		Clay	100.0			15.92	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	16.970	0.637	5444.0	3263.1	8.733	4.469	3.15		Clay	100.0			16.04	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	17.460	0.709	5463.2	3272.3	9.002	4.814	3.15		Clay	100.0			16.50	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	17.750	0.731	5483.6	3282.1	9.145	4.872	3.15		Clay	100.0			16.78	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	16.840	0.646	5502.8	3291.3	8.561	4.587	3.16		Clay	100.0			15.92	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	15.530	0.539	5522.0	3300.6	7.737	4.219	3.17		Clay	100.0			14.68	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	15.050	0.429	5542.4	3310.4	7.418	3.491	3.14		Clay	100.0			14.22	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	14.430	0.339	5561.6	3319.6	7.019	2.906	3.12		Clay	100.0			13.64	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	13.470	0.235	5582.0	3329.4	6.415	2.197	3.09		Clay	100.0			12.73	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	13.140	0.190	5601.2	3338.6	6.194	1.836	3.06		Clay	100.0			12.42	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	13.260	0.189	5620.4	3347.8	6.243	1.809	3.06		Clay	100.0			12.53	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	13.480	0.175	5640.8	3357.6	6.350	1.639	3.03		Clay	100.0			12.74	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	13.480	0.198	5660.0	3366.8	6.326	1.857	3.06		Clay	100.0			12.74	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.750	0.300	5680.4	3376.6	7.054	2.518	3.08		Clay	100.0			13.94	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.990	0.466	5699.6	3385.8	8.353	3.298	3.08		Clay	100.0			16.06	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	19.460	0.578	5718.8	3395.0	9.779	3.481	3.04		Clay	100.0			18.39	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	21.300	0.632	5739.2	3404.8	10.826	3.427	3.00		Clay	100.0			20.13	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	21.390	0.692	5758.4	3414.0	10.844	3.736	3.02		Clay	100.0			20.22	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	22.060	0.713	5778.8	3423.8	11.198	3.718	3.01		Clay	100.0			20.85	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	20.120	0.651	5798.0	3433.0	10.033	3.781	3.05		Clay	100.0			19.02	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	16.590	0.600	5817.2	3442.3	7.949	4.386	3.17		Clay	100.0			15.68	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	15.100	0.465	5837.6	3452.0	7.057	3.817	3.18		Clay	100.0			14.27	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	14.170	0.427	5856.8	3461.3	6.496	3.800	3.21		Clay	100.0			13.39	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	14.710	0.470	5877.2	3471.1	6.783	3.996	3.21		Clay	100.0			13.90	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	15.680	0.570	5896.4	3480.3	7.317	4.479	3.21		Clay	100.0			14.82	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	16.230	0.553	5915.6	3489.5	7.607	4.164	3.18		Clay	100.0			15.34	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	15.860	0.526	5936.0	3499.3	7.368	4.076	3.18		Clay	100.0			14.99	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	15.200	0.441	5955.2	3508.5	6.967	3.605	3.17		Clay	100.0			14.37	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	14.430	0.404	5975.6	3518.3	6.504	3.529	3.19		Clay	100.0			13.64	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	14.830	0.357	5994.8	3527.5	6.709	3.020	3.14		Clay	100.0			14.02	0.87	n.a.	n.a.	0.86	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	14.340	0.321	6014.0	3536.7	6.409	2.831	3.14		Clay	100.0			13.55	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	14.000	0.372	6034.4	3546.5	6.194	3.384	3.20		Clay	100.0			13.23	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	14.800	0.279	6053.6	3555.7	6.622	2.366	3.09		Clay	100.0			13.99	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	16.000	0.236	6074.0	3565.5	7.271	1.821	3.00		Clay	100.0			15.12	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	14.720	0.237	6093.2	3574.7	6.531	2.034	3.06		Clay	100.0			13.91	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	15.370	0.290	6112.4	3584.0	6.872	2.356	3.08		Clay	100.0			14.53	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	15.860	0.385	6132.8	3593.7	7.120	3.007	3.12		Clay	100.0			14.99	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	16.120	0.462	6152.0	3603.0	7.241	3.540	3.15		Clay	100.0			15.24	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	15.770	0.629	6172.4	3612.8	7.022	4.958	3.25		Clay	100.0			14.91	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	17.450	0.610	6191.6	3622.0	7.926	4.247	3.17		Clay	100.0			16.49	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	18.660	0.399	6212.0	3631.8	8.566	2.564	3.02		Clay	100.0			17.64	0.87	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	20.870	0.368	6231.2	3641.0	9.753	2.070	2.92		Clay	96.4			19.73	0.87	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	19.230	0.492	6250.4	3650.2	8.824	3.053	3.05		Clay	100.0			18.18	0.87	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	18.550	0.740	6270.8	3660.0	8.423	4.798	3.18		Clay	100.0			17.53	0.87	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	22.470	0.513	6290.0	3669.2	10.534	2.655	2.95		Clay	98.9			21.24	0.86	n.a.	n.a.	0.86	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	23.860	0.928	6310.4	3679.0	11.256	4.481	3.06		Clay	100.0			22.55	0.86	n.a.	n.a.	0.85	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	24.720	1.278	6329.6	3688.2	11.689	5.931	3.12		Clay	100.0			23.36	0.86	n.a.	n.a.	0.85	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	30.900	1.148	6348.8	3697.4	14.997	4.141	2.94		Clay	98.1			29.21	0.86	n.a.	n.a.	0.85	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	35.690	0.892	6369.2	3707.2	17.536	2.743	2.78		Clay	85.1			33.73	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
52.820	39.820	0.779	6388.4	3716.4	19.710	2.127	2.67		Clay	76.6			37.64	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	34.970	0.946	6408.8	3726.2	17.050	2.978	2.81		Clay	87.6			33.05	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	33.100	0.992	6428.0	3735.4	16.001	3.318	2.86		Clay	91.6			31.29	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	30.300	0.784	6447.2	3744.7	14.461	2.894	2.86		Clay	91.6			28.64	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	22.300	0.696	6467.6	3754.4	10.157	3.649	3.04		Clay	100.0			21.08	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	18.200	0.671	6486.8	3763.7	7.948	4.487	3.18		Clay	100.0			17.20	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	17.880	0.654	6507.2	3773.5	7.752	4.471	3.19		Clay	100.0			16.90	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	19.290	0.604	6526.4	3782.7	8.474	3.771	3.11		Clay	100.0			18.23	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	20.140	0.549	6545.6	3791.9	8.896	3.257	3.06		Clay	100.0			19.04	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	17.630	0.515	6566.0	3801.7	7.548	3.589	3.14		Clay	100.0			16.66	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	15.340	0.342	6585.2	3810.9	6.323	2.840	3.15		Clay	100.0			14.50	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	13.920	0.379	6605.6	3820.7	5.558	3.569	3.25		Clay	100.0			13.16	0.86	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	15.010	0.512	6624.8	3829.9	6.109	4.380	3.27		Clay	100.0			14.19	0.86	n.a.	n.a.	0.84	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	18.890	0.620	6644.0	3839.1	8.110	3.982	3.14		Clay	100.0			17.85	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	23.310	0.453	6664.4	3848.9	10.381	2.270	2.92		Clay	96.3			22.03	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.280	20.960	0.391	6683.6	3858.1	9.133	2.217	2.96		Clay	99.6			19.81	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	17.030	0.398	6704.0	3867.9	7.073	2.908	3.11		Clay	100.0			16.10	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	15.750	0.356	6723.2	3877.1	6.390	2.875	3.15		Clay	100.0			14.89	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	15.560	0.322	6742.4	3886.4	6.273	2.638	3.14		Clay	100.0			14.71	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	14.790	0.346	6762.8	3896.1	5.856	3.030	3.19		Clay	100.0			13.98	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	14.080	0.351	6782.0	3905.4	5.474	3.283	3.24		Clay	100.0			13.31	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	15.270	0.460	6802.4	3915.2	6.063	3.876	3.24		Clay	100.0			14.43	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	22.940	0.619	6821.6	3924.4	9.953	3.171	3.01		Clay	100.0			21.68	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	27.730	0.869	6840.8	3933.6	12.360	3.573	2.97		Clay	100.0			26.21	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	30.660	1.097	6861.2	3943.4	13.810	4.029	2.96		Clay	99.8			28.98	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	30.990	1.213	6880.4	3952.6	13.940	4.402	2.98		Clay	100.0			29.29	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	28.530	1.161	6900.8	3962.4	12.659	4.629	3.03		Clay	100.0			26.97	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	23.780	0.933	6920.0	3971.6	10.233	4.592	3.10		Clay	100.0			22.48	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	20.780	0.715	6939.2	3980.8	8.697	4.130	3.13		Clay	100.0			19.64	0.85	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	21.340	0.665	6959.6	3990.6	8.951	3.725	3.09		Clay	100.0			20.17	0.85	n.a.	n.a.	0.83	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	20.500	0.694	6978.8	3999.8	8.506	4.079	3.13		Clay	100.0			19.38	0.85	n.a.	n.a.	0.83	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	23.760	0.637	6999.2	4009.6	10.106	3.143	3.00		Clay	100.0			22.46	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	23.250	0.560	7018.4	4018.8	9.824	2.838	2.99		Clay	100.0			21.98	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	22.220	0.643	7037.6	4028.0	9.285	3.440	3.06		Clay	100.0			21.00	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	17.830	0.636	7058.0	4037.8	7.083	4.448	3.22		Clay	100.0			16.85	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	19.030	0.591	7077.2	4047.1	7.656	3.816	3.15		Clay	100.0			17.99	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	21.690	0.610	7097.6	4056.8	8.943	3.361	3.06		Clay	100.0			20.50	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	21.750	0.530	7116.8	4066.1	8.948	2.916	3.03		Clay	100.0			20.56	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	19.860	0.424	7137.2	4075.9	7.994	2.600	3.04		Clay	100.0			18.77	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	18.200	0.404	7156.4	4085.1	7.159	2.761	3.10		Clay	100.0			17.20	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	18.550	0.483	7175.6	4094.3	7.309	3.227	3.13		Clay	100.0			17.53	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	19.510	0.573	7196.0	4104.1	7.754	3.601	3.13		Clay	100.0			18.44	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	19.780	0.591	7215.2	4113.3	7.863	3.653	3.13		Clay	100.0			18.70	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	19.180	0.547	7235.6	4123.1	7.549	3.517	3.14		Clay	100.0			18.13	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	20.110	0.628	7254.8	4132.3	7.977	3.810	3.14		Clay	100.0			19.01	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	21.950	0.797	7274.0	4141.5	8.844	4.353	3.13		Clay	100.0			20.75	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	23.860	0.766	7294.4	4151.3	9.738	3.792	3.06		Clay	100.0			22.55	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	23.290	0.705	7313.6	4160.5	9.438	3.592	3.06		Clay	100.0			22.01	0.84	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	23.810	0.640	7334.0	4170.3	9.660	3.175	3.02		Clay	100.0			22.50	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	23.700	0.755	7353.2	4179.5	9.582	3.772	3.07		Clay	100.0			22.40	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	22.350	0.782	7372.4	4188.8	8.911	4.192	3.12		Clay	100.0			21.12	0.84	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	20.620	0.698	7392.8	4198.5	8.062	4.123	3.15		Clay	100.0			19.49	0.83	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	20.470	0.662	7412.0	4207.8	7.968	3.951	3.15		Clay	100.0			19.35	0.83	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	23.210	0.434	7432.4	4217.6	9.244	2.224	2.95		Clay	99.3			21.94	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	23.030	0.338	7451.6	4226.8	9.134	1.752	2.90		Clay	95.4			21.77	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	24.220	0.380	7470.8	4236.0	9.672	1.855	2.90		Clay	94.7			22.89	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	29.030	0.617	7491.2	4245.8	11.910	2.441	2.88		Clay	93.7			27.44	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	37.820	0.997	7510.4	4255.0	16.012	2.926	2.82		Clay	88.9			35.75	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	39.810	1.217	7530.8	4264.8	16.903	3.376	2.84		Clay	90.5			37.63	0.83	n.a.	n.a.	0.82	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	37.200	1.307	7550.0	4274.0	15.641	3.909	2.91		Clay	95.7			35.16	0.83	n.a.	n.a.	0.82	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	33.980	1.241	7569.2	4283.2	14.099	4.111	2.96		Clay	99.6			32.12	0.83	n.a.	n.a.	0.82	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	27.180	1.180	7589.6	4293.0	10.895	5.047	3.10		Clay	100.0			25.69	0.83	n.a.	n.a.	0.81	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	21.150	1.020	7608.8	4302.2	8.064	5.882	3.24		Clay	100.0			19.99	0.83	n.a.	n.a.	0.81	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	18.160	0.741	7629.2	4312.0	6.654	5.163	3.28		Clay	100.0			17.16	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
63.320	16.740	0.475	7648.4	4321.2	5.978	3.678	3.23		Clay	100.0			15.82	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	16.750	0.323	7667.6	4330.4	5.965	2.497	3.14		Clay	100.0			15.83	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.650	16.480	0.326	7688.0	4340.2	5.823	2.582	3.16		Clay	100.0			15.58	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.810	17.390	0.379	7707.2	4349.5	6.224	2.802	3.15		Clay	100.0			16.44	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	21.070	0.574	7727.6	4359.2	7.894	3.334	3.11		Clay	100.0			19.91	0.83	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	25.010	1.139	7746.8	4368.5	9.677	5.387	3.16		Clay	100.0			23.64	0.83	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	31.900	1.244	7766.0	4377.7	12.800	4.441	3.01		Clay	100.0			30.15	0.83	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	30.670	0.909	7786.4	4387.5	12.206	3.396	2.96		Clay	99.6			28.99	0.82	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.630	22.750	0.651	7805.6	4396.7	8.573	3.453	3.09		Clay	100.0			21.50	0.82	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.800	21.240	0.727	7826.0	4406.5	7.864	4.194	3.17		Clay	100.0			20.08	0.82	n.a.	n.a.	0.81	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.960	23.460	1.299	7845.2	4415.7	8.849	6.648	3.25		Clay	100.0			22.17	0.82	n.a.	n.a.	0.81	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.120	32.000	1.452	7864.4	4424.9	12.686	5.174	3.06		Clay	100.0			30.25	0.82	n.a.	n.a.	0.81	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.290	29.980	1.314	7884.8	4434.7	11.743	5.045	3.08		Clay	100.0			28.34	0.82	n.a.	n.a.	0.81	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.450	29.740	1.305	7904.0	4443.9	11.606	5.059	3.08		Clay	100.0			28.11	0.82	n.a.	n.a.	0.81	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.620	32.120	1.540	7924.4	4453.7	12.645	5.470	3.07		Clay	100.0			30.36	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	37.610	1.701	7943.6	4462.9	15.074	5.057	2.99		Clay	100.0			35.55	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	45.480	1.742	7962.8	4472.1	18.559	4.198	2.87		Clay	92.7			42.99	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	47.520	1.376	7983.2	4481.9	19.424	3.161	2.78		Clay	85.2			44.91	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.270	43.460	0.683	8002.4	4491.2	17.572	1.731	2.66		Clay	75.8			41.08	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	29.850	0.472	8022.8	4500.9	11.481	1.828	2.83		Clay	89.3			28.21	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	20.350	0.552	8042.0	4510.2	7.241	3.382	3.14		Clay	100.0			19.23	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	20.500	0.597	8062.4	4520.0	7.287	3.622	3.16		Clay	100.0			19.38	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	21.320	0.620	8081.6	4529.2	7.630	3.590	3.14		Clay	100.0			20.15	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	20.570	0.652	8100.8	4538.4	7.280	3.946	3.18		Clay	100.0			19.44	0.82	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	21.530	0.753	8121.2	4548.2	7.682	4.312	3.18		Clay	100.0			20.35	0.82	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	24.390	0.938	8140.4	4557.4	8.917	4.617	3.15		Clay	100.0			23.05	0.82	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	22.610	0.867	8160.8	4567.2	8.114	4.677	3.18		Clay	100.0			21.37	0.82	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	22.310	0.744	8180.0	4576.4	7.963	4.083	3.15		Clay	100.0			21.09	0.82	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	19.680	0.626	8199.2	4585.6	6.795	4.017	3.21		Clay	100.0			18.60	0.82	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	18.260	0.434	8219.6	4595.4	6.158	3.069	3.18		Clay	100.0			17.26	0.81	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	17.970	0.437	8238.8	4604.6	6.016	3.157	3.19		Clay	100.0			16.98	0.81	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	19.790	0.437	8259.2	4614.4	6.788	2.793	3.12		Clay	100.0			18.71	0.81	n.a.	n.a.	0.79	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	20.170	0.498	8278.4	4623.6	6.934	3.107	3.14		Clay	100.0			19.06	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	20.900	0.404	8297.6	4632.8	7.231	2.409	3.06		Clay	100.0			19.75	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	20.580	0.443	8318.0	4642.6	7.074	2.697	3.10		Clay	100.0			19.45	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	22.260	0.519	8337.2	4651.9	7.778	2.870	3.08		Clay	100.0			21.04	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	24.930	0.695	8357.6	4661.6	8.903	3.350	3.07		Clay	100.0			23.56	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	27.190	0.931	8376.8	4670.9	9.849	4.045	3.08		Clay	100.0			25.70	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	31.350	1.106	8396.0	4680.1	11.603	4.075	3.02		Clay	100.0			29.63	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	31.660	1.264	8416.4	4689.9	11.707	4.606	3.05		Clay	100.0			29.92	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	29.550	1.140	8435.6	4699.1	10.782	4.502	3.07		Clay	100.0			27.93	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	27.740	1.089	8456.0	4708.9	9.986	4.630	3.11		Clay	100.0			26.22	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	23.540	0.718	8475.2	4718.1	8.182	3.719	3.12		Clay	100.0			22.25	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	20.770	0.432	8494.4	4727.3	6.990	2.615	3.09		Clay	100.0			19.63	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	19.870	0.526	8514.8	4737.1	6.592	3.372	3.18		Clay	100.0			18.78	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	20.890	0.602	8534.0	4746.3	7.005	3.623	3.17		Clay	100.0			19.74	0.81	n.a.	n.a.	0.79	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	22.880	0.626	8554.4	4756.1	7.823	3.366	3.11		Clay	100.0			21.63	0.81	n.a.	n.a.	0.79	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	21.840	0.646	8573.6	4765.3	7.367	3.677	3.16		Clay	100.0			20.64	0.81	n.a.	n.a.	0.79	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	23.370	0.727	8592.8	4774.5	7.990	3.809	3.14		Clay	100.0			22.09	0.81	n.a.	n.a.	0.78	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	24.260	0.832	8613.2	4784.3	8.341	4.171	3.14		Clay	100.0			22.93	0.81	n.a.	n.a.	0.78	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	23.870	0.847	8632.4	4793.6	8.158	4.331	3.16		Clay	100.0			22.56	0.81	n.a.	n.a.	0.78	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	23.810	0.568	8652.8	4803.3	8.113	2.915	3.07		Clay	100.0			22.50	0.81	n.a.	n.a.	0.78	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	21.090	0.567	8672.0	4812.6	6.963	3.387	3.16		Clay	100.0			19.93	0.81	n.a.	n.a.	0.78	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	20.950	0.574	8691.2	4821.8	6.887	3.458	3.17		Clay	100.0			19.80	0.80	n.a.	n.a.	0.78	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	21.610	0.670	8711.6	4831.6	7.142	3.885	3.18		Clay	100.0			20.43	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	22.130	0.664	8730.8	4840.8	7.340	3.738	3.16		Clay	100.0			20.92	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	22.560	0.681	8751.2	4850.6	7.498	3.745	3.15		Clay	100.0			21.32	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	21.870	0.701	8770.4	4859.8	7.196	4.011	3.19		Clay	100.0			20.67	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	22.180	0.581	8789.6	4869.0	7.305	3.267	3.13		Clay	100.0			20.96	0.80	n.a.	n.a.	0.78	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	22.080	0.501	8810.0	4878.8	7.246	2.833	3.10		Clay	100.0			20.87	0.80	n.a.	n.a.	0.78	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	20.790	0.472	8829.2	4888.0	6.700	2.884	3.13		Clay	100.0			19.65	0.80	n.a.	n.a.	0.78	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	21.280	0.466	8849.6	4897.8	6.883	2.762	3.11		Clay	100.0			20.11	0.80	n.a.	n.a.	0.78	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	21.950	0.466	8868.8	4907.0	7.139	2.660	3.09		Clay	100.0			20.75	0.80	n.a.	n.a.	0.78	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	21.820	0.486	8888.0	4916.2	7.069	2.796	3.11		Clay	100.0			20.62	0.80	n.a.	n.a.	0.78	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
73.820	21.130	0.417	8908.4	4926.0	6.770	2.501	3.10		Clay	100.0			19.97	0.80	n.a.	n.a.	0.78	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	20.190	0.427	8927.6	4935.2	6.373	2.715	3.14		Clay	100.0			19.08	0.80	n.a.	n.a.	0.77	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	20.340	0.414	8948.0	4945.0	6.417	2.607	3.13		Clay	100.0			19.22	0.80	n.a.	n.a.	0.77	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	20.010	0.444	8967.2	4954.3	6.268	2.862	3.16		Clay	100.0			18.91	0.80	n.a.	n.a.	0.77	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	20.240	0.417	8987.6	4964.0	6.344	2.648	3.13		Clay	100.0			19.13	0.80	n.a.	n.a.	0.77	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	19.860	0.384	9006.8	4973.3	6.176	2.501	3.13		Clay	100.0			18.77	0.80	n.a.	n.a.	0.77	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	19.140	0.321	9026.0	4982.5	5.871	2.197	3.12		Clay	100.0			18.09	0.80	n.a.	n.a.	0.77	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	18.770	0.336	9046.4	4992.3	5.708	2.355	3.15		Clay	100.0			17.74	0.80	n.a.	n.a.	0.77	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.130	18.960	0.363	9065.6	5001.5	5.769	2.514	3.16		Clay	100.0			17.92	0.80	n.a.	n.a.	0.77	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.300	19.150	0.408	9086.0	5011.3	5.830	2.794	3.18		Clay	100.0			18.10	0.80	n.a.	n.a.	0.77	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.460	20.150	0.405	9105.2	5020.5	6.213	2.595	3.14		Clay	100.0			19.05	0.80	n.a.	n.a.	0.77	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.620	19.980	0.443	9124.4	5029.7	6.131	2.874	3.16		Clay	100.0			18.88	0.80	n.a.	n.a.	0.77	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.790	20.500	0.431	9144.8	5039.5	6.321	2.704	3.14		Clay	100.0			19.38	0.80	n.a.	n.a.	0.77	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.950	19.730	0.498	9164.0	5048.7	6.001	3.289	3.20		Clay	100.0			18.65	0.79	n.a.	n.a.	0.77	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.120	19.720	0.497	9184.4	5058.5	5.981	3.288	3.20		Clay	100.0			18.64	0.79	n.a.	n.a.	0.77	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.280	18.900	0.515	9203.6	5067.7	5.643	3.603	3.25		Clay	100.0			17.86	0.79	n.a.	n.a.	0.77	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.440	19.800	0.539	9222.8	5076.9	5.983	3.545	3.22		Clay	100.0			18.71	0.79	n.a.	n.a.	0.77	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.610	20.480	0.523	9243.2	5086.7	6.235	3.300	3.19		Clay	100.0			19.36	0.79	n.a.	n.a.	0.77	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.770	19.810	0.538	9262.4	5096.0	5.957	3.543	3.22		Clay	100.0			18.72	0.79	n.a.	n.a.	0.77	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.940	23.150	0.604	9282.8	5105.7	7.250	3.266	3.13		Clay	100.0			21.88	0.79	n.a.	n.a.	0.76	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.100	24.660	0.676	9302.0	5115.0	7.824	3.378	3.11		Clay	100.0			23.31	0.79	n.a.	n.a.	0.76	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.260	28.710	0.924	9321.2	5124.2	9.387	3.840	3.08		Clay	100.0			27.14	0.79	n.a.	n.a.	0.76	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	29.760	0.996	9341.6	5134.0	9.774	3.970	3.08		Clay	100.0			28.13	0.79	n.a.	n.a.	0.76	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	26.960	0.886	9360.8	5143.2	8.664	3.977	3.12		Clay	100.0			25.48	0.79	n.a.	n.a.	0.76	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	25.910	0.813	9381.2	5153.0	8.236	3.833	3.13		Clay	100.0			24.49	0.79	n.a.	n.a.	0.76	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	26.370	0.871	9400.4	5162.2	8.396	4.017	3.13		Clay	100.0			24.92	0.79	n.a.	n.a.	0.76	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	27.130	0.890	9419.6	5171.4	8.671	3.967	3.12		Clay	100.0			25.64	0.79	n.a.	n.a.	0.76	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	28.570	0.953	9440.0	5181.2	9.206	3.997	3.10		Clay	100.0			27.00	0.79	n.a.	n.a.	0.76	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	29.750	0.952	9459.2	5190.4	9.641	3.806	3.07		Clay	100.0			28.12	0.79	n.a.	n.a.	0.76	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	29.950	0.966	9479.6	5200.2	9.696	3.831	3.07		Clay	100.0			28.31	0.79	n.a.	n.a.	0.76	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	34.120	1.120	9498.8	5209.4	11.276	3.813	3.02		Clay	100.0			32.25	0.79	n.a.	n.a.	0.76	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	33.750	1.132	9518.0	5218.6	11.111	3.903	3.03		Clay	100.0			31.90	0.79	n.a.	n.a.	0.76	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	29.650	1.088	9538.4	5228.4	9.517	4.374	3.11		Clay	100.0			28.02	0.79	n.a.	n.a.	0.76	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	26.710	0.977	9557.6	5237.6	8.374	4.456	3.16		Clay	100.0			25.25	0.79	n.a.	n.a.	0.76	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	25.050	0.886	9578.0	5247.4	7.722	4.373	3.18		Clay	100.0			23.68	0.79	n.a.	n.a.	0.76	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	27.370	0.952	9597.2	5256.7	8.588	4.217	3.14		Clay	100.0			25.87	0.79	n.a.	n.a.	0.76	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	27.820	1.104	9616.4	5265.9	8.740	4.799	3.16		Clay	100.0			26.29	0.79	n.a.	n.a.	0.76	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	28.360	1.001	9636.8	5275.7	8.925	4.252	3.12		Clay	100.0			26.81	0.79	n.a.	n.a.	0.75	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	26.540	0.921	9656.0	5284.9	8.217	4.241	3.15		Clay	100.0			25.09	0.79	n.a.	n.a.	0.75	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	25.030	0.796	9676.4	5294.7	7.627	3.942	3.16		Clay	100.0			23.66	0.79	n.a.	n.a.	0.75	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	24.010	0.645	9695.6	5303.9	7.226	3.365	3.14		Clay	100.0			22.69	0.78	n.a.	n.a.	0.75	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	23.240	0.588	9714.8	5313.1	6.920	3.200	3.15		Clay	100.0			21.97	0.78	n.a.	n.a.	0.75	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	23.690	0.593	9735.2	5322.9	7.072	3.151	3.13		Clay	100.0			22.39	0.78	n.a.	n.a.	0.75	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	23.900	0.634	9754.4	5332.1	7.135	3.333	3.14		Clay	100.0			22.59	0.78	n.a.	n.a.	0.75	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	24.640	0.756	9774.8	5341.9	7.395	3.827	3.16		Clay	100.0			23.29	0.78	n.a.	n.a.	0.75	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	27.670	0.812	9794.0	5351.1	8.511	3.566	3.10		Clay	100.0			26.15	0.78	n.a.	n.a.	0.75	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	27.630	1.009	9813.2	5360.3	8.478	4.440	3.15		Clay	100.0			26.12	0.78	n.a.	n.a.	0.75	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	29.550	1.158	9833.6	5370.1	9.174	4.701	3.14		Clay	100.0			27.93	0.78	n.a.	n.a.	0.75	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	31.810	1.223	9852.8	5379.3	9.995	4.550	3.10		Clay	100.0			30.07	0.78	n.a.	n.a.	0.75	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	29.280	1.075	9873.2	5389.1	9.034	4.418	3.13		Clay	100.0			27.67	0.78	n.a.	n.a.	0.75	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	28.270	0.935	9892.4	5398.4	8.641	4.007	3.12		Clay	100.0			26.72	0.78	n.a.	n.a.	0.75	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	27.890	0.873	9912.8	5408.1	8.481	3.806	3.11		Clay	100.0			26.36	0.78	n.a.	n.a.	0.75	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	26.930	0.847	9932.0	5417.4	8.109	3.854	3.13		Clay	100.0			25.45	0.78	n.a.	n.a.	0.75	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	26.650	0.872	9951.2	5426.6	7.988	4.025	3.15		Clay	100.0			25.19	0.78	n.a.	n.a.	0.75	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	26.790	0.999	9971.6	5436.4	8.022	4.580	3.18		Clay	100.0			25.32	0.78	n.a.	n.a.	0.75	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	28.300	1.008	9990.8	5445.6	8.559	4.324	3.14		Clay	100.0			26.75	0.78	n.a.	n.a.	0.75	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	27.360	0.997	10011.2	5455.4	8.195	4.459	3.17		Clay	100.0			25.86	0.78	n.a.	n.a.	0.74	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	27.580	0.763	10030.4	5464.6	8.259	3.383	3.09		Clay	100.0			26.07	0.78	n.a.	n.a.	0.74	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	24.250	0.660	10049.6	5473.8	7.024	3.435	3.16		Clay	100.0			22.92	0.78	n.a.	n.a.	0.74	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	23.020	0.619	10070.0	5483.6	6.560	3.439	3.18		Clay	100.0			21.76	0.78	n.a.	n.a.	0.74	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	23.930	1.062	10089.2	5492.8	6.876	5.625	3.29		Clay	100.0			22.62	0.78	n.a.	n.a.	0.74	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	33.510	1.470	10109.6	5502.6	10.342	5.166	3.13		Clay	100.0			31.67	0.78	n.a.	n.a.	0.74	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	48.180	1.609	10128.8	5511.8	15.645	3.732	2.90		Clay	94.7			45.54	0.78	n.a.	n.a.	0.74	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	35.630	1.888	10148.0	5521.0	11.069	6.180	3.15		Clay	100.0			33.68	0.78	n.a.	n.a.	0.74	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.50

Total Settlement:	0.80	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
84.320	33.310	1.573	10168.4	5530.8	10.207	5.572	3.15		Clay	100.0			31.48	0.78	n.a.	n.a.	0.74	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	25.230	1.151	10187.6	5540.0	7.269	5.717	3.27		Clay	100.0			23.85	0.78	n.a.	n.a.	0.74	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	22.860	0.534	10208.0	5549.8	6.399	3.005	3.16		Clay	100.0			21.61	0.78	n.a.	n.a.	0.74	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	22.990	0.594	10227.2	5559.1	6.431	3.324	3.18		Clay	100.0			21.73	0.78	n.a.	n.a.	0.74	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	23.960	0.646	10246.4	5568.3	6.766	3.429	3.17		Clay	100.0			22.65	0.77	n.a.	n.a.	0.74	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	24.670	0.638	10266.8	5578.1	7.005	3.268	3.15		Clay	100.0			23.32	0.77	n.a.	n.a.	0.74	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.300	24.990	0.597	10286.0	5587.3	7.104	3.009	3.12		Clay	100.0			23.62	0.77	n.a.	n.a.	0.74	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.470	27.340	0.597	10306.4	5597.1	7.928	2.690	3.05		Clay	100.0			25.84	0.77	n.a.	n.a.	0.74	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.630	30.510	0.602	10325.6	5606.3	9.042	2.376	2.98		Clay	100.0			28.84	0.77	n.a.	n.a.	0.74	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.790	31.420	0.655	10344.8	5615.5	9.348	2.496	2.98		Clay	100.0			29.70	0.77	n.a.	n.a.	0.74	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.960	32.360	0.776	10365.2	5625.3	9.663	2.856	3.00		Clay	100.0			30.59	0.77	n.a.	n.a.	0.74	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.120	36.580	1.375	10384.4	5634.5	11.141	4.381	3.06		Clay	100.0			34.57	0.77	n.a.	n.a.	0.74	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.290	48.560	2.975	10404.8	5644.3	15.363	6.861	3.07		Clay	100.0			45.90	0.77	n.a.	n.a.	0.73	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.450	80.030	4.628	10424.0	5653.5	26.468	6.185	2.87		Clay	92.6			75.64	0.77	n.a.	n.a.	0.73	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.610	128.420	6.510	10443.2	5662.7	43.512	5.284	2.67		Clay	76.6			121.38	0.77	n.a.	n.a.	0.73	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.780	144.240	7.704	10463.6	5672.5	49.011	5.542	2.65		Clay	75.0			136.33	0.77	n.a.	n.a.	0.73	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.940	187.880	8.233	10482.8	5681.7	105.347	4.508	2.37		Sand	52.4			177.58	0.73	130.26	212.08	0.73	0.450	0.704	4.007	6.204	13.80	0.00	0.00
87.110	235.770	7.297	10503.2	5691.5	132.850	3.165	2.18		Sand	37.8			222.84	0.77	171.30	252.19	0.73	0.449	0.703	169.449	262.131	583.43	0.00	0.00
87.270	261.780	5.917	10522.4	5700.8	147.715	2.307	2.05		Sand	26.9			247.43	0.77	190.50	258.26	0.73	0.449	0.703	366.265	566.206	1260.83	0.00	0.00
87.430	294.030	4.869	10541.6	5710.0	166.146	1.686	1.91		Sand	15.9			277.91	0.77	212.77	249.35	0.73	0.449	0.702	120.594	186.297	415.05	0.00	0.00
87.600	313.710	4.291	10562.0	5719.8	177.312	1.391	1.83		Sand	9.4			296.51	0.75	222.19	231.17	0.73	0.449	0.702	18.248	28.170	62.79	0.00	0.00
87.760	280.470	4.309	10581.2	5729.0	158.070	1.566	1.90		Sand	15.2			265.09	0.75	198.35	230.33	0.73	0.448	0.701	16.901	26.072	58.14	0.00	0.00
87.930	266.250	4.309	10601.6	5738.8	149.768	1.651	1.93		Sand	17.8			251.65	0.75	187.94	229.17	0.73	0.448	0.701	15.240	23.493	52.42	0.00	0.00
88.090	260.550	5.006	10620.8	5748.0	146.373	1.961	2.00		Sand	22.8			246.27	0.76	187.11	244.23	0.73	0.448	0.700	67.451	103.905	231.95	0.00	0.00
88.250	259.940	6.353	10640.0	5757.2	145.901	2.495	2.08		Sand	29.3			245.69	0.77	188.67	260.90	0.73	0.448	0.700	522.116	803.741	1795.05	0.00	0.00
88.420	256.100	6.215	10660.4	5767.0	143.573	2.478	2.08		Sand	29.5			242.06	0.77	185.80	257.77	0.73	0.448	0.699	343.452	528.322	1180.54	0.00	0.00
88.580	253.520	3.715	10679.6	5776.2	141.977	1.497	1.92		Sand	16.5			239.62	0.73	174.26	209.43	0.73	0.447	0.704	3.356	5.200	11.62	0.00	0.00
88.750	264.120	3.318	10700.0	5786.0	147.910	1.282	1.86		Sand	11.7			249.64	0.71	177.74	193.90	0.73	0.447	0.753	1.363	2.259	5.05	0.00	0.00
88.910	280.420	3.102	10719.2	5795.2	157.096	1.128	1.80		Sand	7.0			265.05	0.71	187.48	189.56	0.73	0.447	0.764	1.101	1.852	4.14	0.00	0.00
89.070	294.030	2.832	10738.4	5804.4	164.733	0.981	1.74		Sand	2.5			277.91	0.72	199.04	199.04	0.73	0.447	0.738	1.791	2.906	6.51	0.00	0.00
89.240	265.720	2.592	10758.8	5814.2	148.446	0.996	1.78		Sand	5.4			251.15	0.69	173.46	173.84	0.73	0.446	0.799	0.575	0.914	2.05	0.00	0.00
89.400	237.500	2.816	10778.0	5823.4	132.245	1.213	1.88		Sand	13.1			224.48	0.69	155.41	175.84	0.73	0.446	0.794	0.618	0.994	2.23	0.00	0.00
89.570	262.130	3.566	10798.4	5833.2	146.149	1.389	1.89		Sand	14.0			247.76	0.72	178.27	203.71	0.72	0.446	0.722	2.344	3.721	8.34	0.00	0.00
89.730	341.870	3.269	10817.6	5842.4	191.386	0.971	1.69		Sand	0.0			323.13	0.76	244.49	244.49	0.72	0.446	0.695	69.417	106.187	238.20	0.00	0.00
89.900	354.840	2.433	10838.0	5852.2	198.591	0.696	1.58		Sand	0.0			335.39	0.76	256.44	256.44	0.72	0.446	0.695	288.784	441.430	990.73	0.00	0.00
90.060	375.670	2.530	10857.2	5861.5	210.259	0.683	1.56		Sand	0.0			355.08	0.76	271.38	271.38	0.72	0.445	0.694	2413.137	3686.177	8277.00	0.00	0.00
90.220	356.640	2.959	10876.4	5870.7	199.290	0.842	1.64		Sand	0.0			337.09	0.76	257.53	257.53	0.72	0.445	0.694	332.574	507.676	1140.48	0.00	0.00
90.390	360.910	2.936	10896.8	5880.5	201.539	0.826	1.63		Sand	0.0			341.12	0.76	260.50	260.50	0.72	0.445	0.693	494.081	753.675	1693.96	0.00	0.00
90.550	362.660	2.489	10916.0	5889.7	202.367	0.697	1.58		Sand	0.0			342.78	0.76	261.65	261.65	0.72	0.445	0.693	578.725	882.194	1983.75	0.00	0.00
90.720	358.660	2.640	10936.4	5899.5	199.929	0.747	1.60		Sand	0.0			339.00	0.76	258.65	258.65	0.72	0.444	0.692	385.680	587.498	1321.74	0.00	0.00
90.880	374.990	2.901	10955.6	5908.7	209.004	0.785	1.60		Sand	0.0			354.43	0.76	270.32	270.32	0.72	0.444	0.692	2046.615	3115.457	7012.35	0.00	0.00
91.040	368.720	2.510	10974.8	5917.9	205.292	0.691	1.57		Sand	0.0			348.51	0.76	265.69	265.69	0.72	0.444	0.691	1024.679	1558.763	3510.14	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.330	228.060	0.844	41.3	41.3	1543.725	0.370	0.84		Unsaturated	0.0			215.56	1.70	366.45	366.45	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	111.930	1.398	61.3	61.3	621.651	1.249	1.48		Unsaturated	0.0			105.79	1.70	179.85	179.85	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	58.410	1.627	82.5	82.5	279.399	2.787	1.95		Unsaturated	19.4			55.21	1.70	93.85	128.49	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	35.370	1.856	102.5	102.5	151.676	5.254	2.33		Unsaturated	49.4			33.43	1.70	56.83	117.62	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	27.940	1.638	122.5	122.5	109.516	5.874	2.45		Unsaturated	59.0			26.41	1.70	44.89	105.91	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	25.820	1.555	143.8	143.8	93.371	6.040	2.50		Unsaturated	63.1			24.40	1.70	41.49	102.64	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	21.300	1.256	163.8	163.8	72.092	5.918	2.56		Unsaturated	68.0			20.13	1.70	34.22	94.42	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	19.330	1.110	185.0	185.0	61.494	5.768	2.60		Unsaturated	70.9			18.27	1.70	31.06	90.89	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	15.870	1.022	205.0	205.0	76.368	6.483	2.58		Unsaturated	69.3			15.00	1.70	25.50	83.41	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	14.070	0.732	225.0	225.0	63.337	5.242	2.56		Unsaturated	67.7			13.30	1.70	22.61	79.37	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	11.810	0.640	246.3	246.3	49.786	5.477	2.64		Unsaturated	74.3			11.16	1.70	18.98	75.85	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	10.330	0.529	266.3	266.3	41.128	5.188	2.68		Unsaturated	77.5			9.76	1.70	16.60	73.24	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	9.630	0.480	287.5	287.5	36.260	5.057	2.71		Unsaturated	79.9			9.10	1.70	15.47	72.11	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	9.130	0.455	307.5	307.5	32.732	5.063	2.74		Unsaturated	82.5			8.63	1.70	14.67	71.39	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	9.020	0.403	327.5	327.5	30.901	4.552	2.73		Unsaturated	81.3			8.53	1.70	14.49	71.02	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	10.960	0.487	348.8	348.8	36.013	4.517	2.68		Unsaturated	77.3			10.36	1.70	17.61	74.53	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	15.610	0.752	368.8	368.8	49.534	4.873	2.61		Unsaturated	71.5			14.75	1.70	25.08	83.27	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	23.250	1.086	390.0	390.0	50.758	4.712	2.59		Unsaturated	70.0			21.98	1.70	37.36	98.87	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	29.840	1.395	410.0	410.0	63.633	4.706	2.52		Unsaturated	64.7			28.20	1.70	47.95	111.35	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	39.160	1.540	430.0	430.0	81.656	3.954	2.39		Unsaturated	54.5			37.01	1.70	62.92	127.42	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	39.160	1.724	451.3	451.3	79.689	4.428	2.44		Unsaturated	58.0			37.01	1.70	62.92	128.66	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	33.050	1.670	471.3	471.3	65.722	5.090	2.54		Unsaturated	66.1			31.24	1.70	53.10	118.31	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	25.870	1.449	492.5	492.5	67.194	5.653	2.57		Unsaturated	68.3			24.45	1.70	41.57	103.95	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	21.240	1.164	512.5	512.5	53.515	5.546	2.62		Unsaturated	73.0			20.08	1.70	34.13	95.24	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	17.470	1.111	533.8	533.8	64.461	6.458	2.62		Unsaturated	72.8			16.51	1.70	28.07	87.37	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	21.590	1.410	553.8	553.8	51.488	6.615	2.69		Unsaturated	78.5			20.41	1.70	34.69	96.87	1.00	0.325	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	43.890	2.717	573.8	573.8	79.146	6.232	2.56		Unsaturated	67.4			41.48	1.70	70.52	141.07	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	83.080	4.042	595.0	595.0	147.554	4.883	2.31		Unsaturated	47.8			78.53	1.53	119.99	196.50	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	127.370	5.098	615.0	615.0	222.768	4.012	2.14		Unsaturated	34.3			120.39	1.40	168.91	244.94	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	197.330	6.306	636.3	636.3	339.587	3.201	1.96		Unsaturated	20.1			186.51	1.37	256.09	314.73	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	185.360	6.172	656.3	656.3	314.039	3.336	2.00		Unsaturated	22.7			175.20	1.36	238.60	303.61	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	148.770	5.262	676.3	676.3	248.168	3.545	2.07		Unsaturated	28.7			140.61	1.35	189.99	261.27	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	96.150	4.327	697.5	697.5	157.714	4.516	2.27		Unsaturated	44.3			90.88	1.43	129.78	206.44	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	62.390	3.450	717.5	717.5	100.687	5.561	2.45		Unsaturated	59.2			58.97	1.51	89.23	162.69	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	42.760	2.651	738.8	738.8	67.810	6.253	2.60		Unsaturated	70.8			40.42	1.58	63.70	133.06	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	30.270	2.039	758.8	758.8	57.922	6.823	2.67		Unsaturated	76.7			28.61	1.62	46.47	111.86	1.00	0.324	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	23.460	1.594	778.8	778.8	59.250	6.911	2.67		Unsaturated	76.5			22.17	1.65	36.57	98.99	1.00	0.323	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	20.680	1.069	800.0	800.0	50.700	5.270	2.62		Unsaturated	72.9			19.55	1.65	32.24	92.79	0.99	0.323	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.560	21.790	0.718	820.0	820.0	39.239	3.360	2.56		Unsaturated	68.1			20.60	1.63	33.49	93.48	0.99	0.323	1.096	n.a.	n.a.	n.a.	0.00	0.00
6.730	21.290	0.597	841.3	841.3	31.284	2.859	2.59		Unsaturated	70.2			20.12	1.61	32.37	92.46	0.99	0.323	1.092	n.a.	n.a.	n.a.	0.00	0.00
6.890	21.120	0.789	861.3	861.3	36.689	3.811	2.62		Unsaturated	72.8			19.96	1.59	31.75	92.12	0.99	0.323	1.090	n.a.	n.a.	n.a.	0.00	0.00
7.050	19.610	0.791	881.3	881.3	33.451	4.126	2.67		Unsaturated	77.0			18.53	1.58	29.28	89.62	0.99	0.323	1.086	n.a.	n.a.	n.a.	0.00	0.00
7.220	23.340	0.812	902.5	902.5	39.281	3.546	2.58		Unsaturated	69.3			22.06	1.55	34.09	94.50	0.99	0.323	1.087	n.a.	n.a.	n.a.	0.00	0.00
7.380	23.500	0.842	922.5	922.5	38.937	3.653	2.59		Unsaturated	70.2			22.21	1.53	33.94	94.49	0.99	0.323	1.085	n.a.	n.a.	n.a.	0.00	0.00
7.550	22.650	0.888	943.8	943.8	36.889	4.005	2.64		Unsaturated	73.8			21.41	1.51	32.41	93.16	0.99	0.323	1.081	n.a.	n.a.	n.a.	0.00	0.00
7.710	29.280	1.123	963.8	963.8	40.332	3.900	2.60		Unsaturated	70.9			27.67	1.47	40.71	103.37	0.99	0.323	1.086	n.a.	n.a.	n.a.	0.00	0.00
7.870	26.570	1.000	983.8	983.8	42.134	3.835	2.58		Unsaturated	69.4			25.11	1.47	36.90	98.15	0.99	0.322	1.080	n.a.	n.a.	n.a.	0.00	0.00
8.040	39.770	0.822	1005.0	1005.0	53.855	2.093	2.32		Sand	48.9	37.59		37.59	1.42	53.36	113.00	0.99	0.323	1.088	0.157	0.229	0.71	0.03	0.05
8.200	34.160	0.649	1025.0	1025.0	45.694	1.927	2.35		Sand	51.3	37.59		37.59	1.41	52.84	113.39	0.99	0.326	1.086	0.158	0.230	0.70	0.03	0.05
8.370	24.940	0.853	1046.3	1046.3	37.785	3.491	2.59		Mixed	69.9	37.59		37.59	1.38	52.01	117.77	0.99	0.329	1.086	0.166	0.248	0.75	0.03	0.04
8.530	18.460	0.997	1066.3	1066.3	33.626	5.562	2.76		Clay	84.1			17.45	1.20	n.a.	n.a.	0.99	0.332	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	18.050	0.965	1086.3	1086.3	32.234	5.514	2.77		Clay	84.9			17.06	1.19	n.a.	n.a.	0.99	0.335	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	44.760	0.908	1107.5	1107.5	57.754	2.054	2.30		Sand	46.6	75.77	1.32	100.02	1.24	123.75	200.49	0.99	0.338	1.100	1.943	4.702	13.90	0.00	0.00
9.020	71.540	0.800	1127.5	1127.5	91.902	1.127	1.97		Sand	20.7	75.77	1.32	100.02	1.26	126.51	169.04	0.99	0.341	1.100	0.488	1.029	3.02	0.00	0.00
9.190	79.130	0.758	1148.8	1148.8	100.771	0.965	1.90		Sand	14.8	75.77	1.32	100.02	1.28	127.64	152.45	0.99	0.344	1.100	0.306	0.570	1.66	0.00	0.00
9.350	80.160	0.750	1168.8	1168.8	101.203	0.942	1.89		Sand	14.2		1.32	100.01	1.27	127.10	149.67	0.99	0.347	1.095	0.286	0.522	1.51	0.00	0.00
9.510	73.080	0.743	1188.8	1188.8	91.407	1.025	1.95		Sand	18.8		1.32	91.18	1.26	114.97	150.74	0.99	0.349	1.093	0.294	0.538	1.54	0.00	0.00
9.680	62.270	0.869	1210.0	1210.0	77.076	1.409	2.09		Sand	30.4		1.32	77.69	1.25	97.10	152.63	0.99	0.352	1.091	0.307	0.569	1.62	0.00	0.00
9.840	57.490	0.876	1230.0	1230.0	70.508	1.540	2.15		Sand	34.8		1.32	71.73	1.25	89.40	148.31	0.99	0.354	1.085	0.278	0.497	1.40	0.00	0.00
10.010	58.690	0.814	1251.3	1251.3	71.369	1.401	2.12		Sand	32.3		1.32	73.22	1.24	90.72	147.27	0.99	0.357	1.082	0.271	0.481	1.35	0.00	0.00
10.170	63.210	0.635	1271.3	1271.3	76.305	1.014	2.01		Sand	23.5		1.32	78.86	1.24	97.53	141.83	0.99	0.359	1.076	0.243	0.412	1.15	0.01	0.01
10.330	64.730	0.553	1291.3	1291.3	77.539	0.862	1.96		Sand	19.6		1.32	80.76	1.24	99.75	135.80	0.99	0.362	1.070	0.217	0.353	0.98	0.01	0.02
10.500	52.650	0.477	1312.5	1312.5	62.398	0.917	2.05		Sand	27.0	61.18	1.32	80.76	1.21	98.01	148.76	0.99	0.364	1.076	0.281	0.499	1.37	0.00	0.00
10.660	40.570	0.432	1332.5	1332.5	47.528	1.083	2.19		Sand	38.1	61.18	1.32	80.76	1.20	96.58	160.21	0.99	0.367	1.081	0.373	0.725	1.98	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
10.830	27.910	0.592	1353.8	1353.8	32.181	2.175	2.51		Sand	63.4	61.18	1.32	80.76	1.18	95.24	171.77	0.99	0.369	1.087	0.535	1.139	3.09	0.00	0.00
10.990	15.290	0.420	1373.8	1373.8	21.260	2.878	2.72		Clay	80.8			14.45	1.12	n.a.	n.a.	0.99	0.371	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	8.340	0.445	1393.0	1383.6	11.048	5.819	3.14		Clay	100.0			7.88	1.12	n.a.	n.a.	0.99	0.373	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.320	8.190	0.475	1413.4	1393.4	10.741	6.353	3.17		Clay	100.0			7.74	1.12	n.a.	n.a.	0.98	0.376	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	9.920	0.498	1432.6	1402.6	13.123	5.411	3.06		Clay	100.0			9.38	1.11	n.a.	n.a.	0.98	0.378	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	12.600	0.662	1453.0	1412.4	16.813	5.573	2.98		Clay	100.0			11.91	1.11	n.a.	n.a.	0.98	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	12.880	0.782	1472.2	1421.7	17.084	6.439	3.02		Clay	100.0			12.17	1.11	n.a.	n.a.	0.98	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	10.540	0.646	1492.6	1431.4	13.684	6.598	3.10		Clay	100.0			9.96	1.11	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	8.100	0.528	1511.8	1440.7	10.195	7.194	3.22		Clay	100.0			7.66	1.11	n.a.	n.a.	0.98	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	7.050	0.467	1531.0	1449.9	8.669	7.423	3.28		Clay	100.0			6.66	1.10	n.a.	n.a.	0.98	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	7.370	0.490	1551.4	1459.7	9.035	7.435	3.27		Clay	100.0			6.97	1.10	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	8.560	0.528	1570.6	1468.9	10.586	6.787	3.19		Clay	100.0			8.09	1.10	n.a.	n.a.	0.98	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	10.560	0.578	1591.0	1478.7	13.207	5.923	3.08		Clay	100.0			9.98	1.10	n.a.	n.a.	0.98	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	12.460	0.638	1610.2	1487.9	15.666	5.470	3.00		Clay	100.0			11.78	1.10	n.a.	n.a.	0.98	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	13.290	0.692	1629.4	1497.1	16.666	5.544	2.99		Clay	100.0			12.56	1.10	n.a.	n.a.	0.98	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	12.870	0.711	1649.8	1506.9	15.987	5.899	3.02		Clay	100.0			12.16	1.09	n.a.	n.a.	0.98	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	12.080	0.703	1669.0	1516.1	14.835	6.251	3.06		Clay	100.0			11.42	1.09	n.a.	n.a.	0.98	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	11.730	0.688	1689.4	1525.9	14.267	6.324	3.07		Clay	100.0			11.09	1.09	n.a.	n.a.	0.98	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	11.500	0.688	1708.6	1535.1	13.869	6.466	3.09		Clay	100.0			10.87	1.09	n.a.	n.a.	0.98	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	10.900	0.697	1727.8	1544.3	12.997	6.943	3.13		Clay	100.0			10.30	1.09	n.a.	n.a.	0.98	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	10.370	0.708	1748.2	1554.1	12.220	7.453	3.17		Clay	100.0			9.80	1.08	n.a.	n.a.	0.98	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	10.650	0.721	1767.4	1563.4	12.494	7.377	3.16		Clay	100.0			10.07	1.08	n.a.	n.a.	0.98	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	10.600	0.747	1787.8	1573.1	12.340	7.696	3.18		Clay	100.0			10.02	1.08	n.a.	n.a.	0.98	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	10.730	0.767	1807.0	1582.4	12.420	7.809	3.18		Clay	100.0			10.14	1.08	n.a.	n.a.	0.98	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	10.840	0.815	1826.2	1591.6	12.474	8.214	3.19		Clay	100.0			10.25	1.08	n.a.	n.a.	0.98	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	12.180	0.888	1846.6	1601.4	14.059	7.887	3.14		Clay	100.0			11.51	1.08	n.a.	n.a.	0.98	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	12.760	0.949	1865.8	1610.6	14.687	8.024	3.13		Clay	100.0			12.06	1.07	n.a.	n.a.	0.98	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	12.660	0.842	1886.2	1620.4	14.462	7.183	3.11		Clay	100.0			11.97	1.07	n.a.	n.a.	0.98	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	15.030	0.856	1905.4	1629.6	17.277	6.081	3.00		Clay	100.0			14.21	1.07	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	15.010	0.913	1924.6	1638.8	17.144	6.496	3.02		Clay	100.0			14.19	1.07	n.a.	n.a.	0.97	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	13.900	0.889	1945.0	1648.6	15.683	6.874	3.07		Clay	100.0			13.14	1.07	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	12.200	0.786	1964.2	1657.8	13.533	7.002	3.12		Clay	100.0			11.53	1.07	n.a.	n.a.	0.97	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	11.250	0.719	1984.6	1667.6	12.302	7.005	3.15		Clay	100.0			10.63	1.06	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	10.000	0.662	2003.8	1676.8	10.732	7.359	3.21		Clay	100.0			9.45	1.06	n.a.	n.a.	0.97	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	9.750	0.652	2023.0	1686.0	10.366	7.465	3.23		Clay	100.0			9.22	1.06	n.a.	n.a.	0.97	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	9.260	0.651	2043.4	1695.8	9.716	7.905	3.26		Clay	100.0			8.75	1.06	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	9.400	0.631	2062.6	1705.0	9.816	7.539	3.25		Clay	100.0			8.88	1.06	n.a.	n.a.	0.97	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	11.280	0.709	2083.0	1714.8	11.941	6.925	3.16		Clay	100.0			10.66	1.06	n.a.	n.a.	0.97	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	13.360	0.803	2102.2	1724.1	14.279	6.524	3.08		Clay	100.0			12.63	1.06	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	14.010	0.851	2121.4	1733.3	14.942	6.570	3.07		Clay	100.0			13.24	1.05	n.a.	n.a.	0.97	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	12.940	0.741	2141.8	1743.1	13.619	6.239	3.08		Clay	100.0			12.23	1.05	n.a.	n.a.	0.97	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	11.750	0.560	2161.0	1752.3	12.178	5.251	3.07		Clay	100.0			11.11	1.05	n.a.	n.a.	0.97	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	10.410	0.418	2181.4	1762.1	10.578	4.486	3.08		Clay	100.0			9.84	1.05	n.a.	n.a.	0.97	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	9.950	0.369	2200.6	1771.3	9.992	4.174	3.08		Clay	100.0			9.40	1.05	n.a.	n.a.	0.97	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	10.010	0.331	2219.8	1780.5	9.997	3.720	3.05		Clay	100.0			9.46	1.05	n.a.	n.a.	0.97	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	9.680	0.323	2240.2	1790.3	9.563	3.772	3.07		Clay	100.0			9.15	1.05	n.a.	n.a.	0.97	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	9.730	0.356	2259.4	1799.5	9.558	4.135	3.09		Clay	100.0			9.20	1.04	n.a.	n.a.	0.97	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	10.940	0.398	2279.8	1809.3	10.833	4.056	3.05		Clay	100.0			10.34	1.04	n.a.	n.a.	0.97	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	12.410	0.415	2299.0	1818.5	12.384	3.687	2.97		Clay	100.0			11.73	1.04	n.a.	n.a.	0.97	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	12.500	0.471	2318.2	1827.7	12.410	4.150	3.00		Clay	100.0			11.81	1.04	n.a.	n.a.	0.97	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	13.140	0.467	2338.6	1837.5	13.029	3.897	2.97		Clay	100.0			12.42	1.04	n.a.	n.a.	0.97	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	12.300	0.459	2357.8	1846.7	12.044	4.124	3.01		Clay	100.0			11.63	1.04	n.a.	n.a.	0.97	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	11.470	0.431	2378.2	1856.5	11.075	4.190	3.05		Clay	100.0			10.84	1.04	n.a.	n.a.	0.96	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	11.480	0.452	2397.4	1865.8	11.021	4.392	3.06		Clay	100.0			10.85	1.03	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	11.570	0.440	2417.8	1875.5	11.049	4.245	3.05		Clay	100.0			10.94	1.03	n.a.	n.a.	0.96	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	11.420	0.416	2437.0	1884.8	10.825	4.076	3.05		Clay	100.0			10.79	1.03	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	11.600	0.372	2456.2	1894.0	10.953	3.586	3.01		Clay	100.0			10.96	1.03	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	12.110	0.554	2476.6	1903.8	11.421	5.095	3.09		Clay	100.0			11.45	1.03	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	20.420	1.138	2495.8	1913.0	20.044	5.934	2.95		Clay	98.6			19.30	1.03	n.a.	n.a.	0.96	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	42.220	1.551	2516.2	1922.8	40.615	3.786	2.59		Sand	70.0			39.91	1.05	41.81	104.62	0.96	0.454	1.011	0.144	0.187	0.41	0.03	0.04
20.670	34.250	1.729	2535.4	1932.0	34.143	5.241	2.74		Clay	82.3			32.37	1.02	n.a.	n.a.	0.96	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	19.450	1.266	2554.6	1941.2	18.723	6.968	3.01		Clay	100.0			18.38	1.02	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	12.930	0.834	2575.0	1951.0	11.935	7.165	3.17		Clay	100.0			12.22	1.02	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	10.890	0.582	2594.2	1960.2	9.788	6.065	3.19		Clay	100.0			10.29	1.02	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
21.330	10.260	0.416	2614.6	1970.0	9.089	4.641	3.14		Clay	100.0			9.70	1.02	n.a.	n.a.	0.96	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	9.950	0.436	2633.8	1979.2	8.724	5.051	3.18		Clay	100.0			9.40	1.02	n.a.	n.a.	0.96	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	11.950	0.442	2653.0	1988.4	10.685	4.163	3.06		Clay	100.0			11.29	1.02	n.a.	n.a.	0.96	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	11.060	0.398	2673.4	1998.2	9.732	4.094	3.08		Clay	100.0			10.45	1.02	n.a.	n.a.	0.96	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	9.860	0.349	2692.6	2007.4	8.482	4.096	3.13		Clay	100.0			9.32	1.01	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	9.370	0.317	2713.0	2017.2	7.945	3.951	3.15		Clay	100.0			8.86	1.01	n.a.	n.a.	0.96	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.310	8.920	0.298	2732.2	2026.5	7.455	3.944	3.17		Clay	100.0			8.43	1.01	n.a.	n.a.	0.96	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	8.840	0.311	2751.4	2035.7	7.333	4.162	3.19		Clay	100.0			8.36	1.01	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	9.270	0.369	2771.8	2045.5	7.709	4.679	3.20		Clay	100.0			8.76	1.01	n.a.	n.a.	0.96	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	10.640	0.412	2791.0	2054.7	8.998	4.457	3.13		Clay	100.0			10.06	1.01	n.a.	n.a.	0.96	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	11.710	0.482	2811.4	2064.5	9.983	4.674	3.11		Clay	100.0			11.07	1.01	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	12.290	0.522	2830.6	2073.7	10.488	4.796	3.10		Clay	100.0			11.62	1.01	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	12.480	0.647	2849.8	2082.9	10.615	5.853	3.15		Clay	100.0			11.80	1.00	n.a.	n.a.	0.95	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	13.760	0.704	2870.2	2092.7	11.779	5.715	3.11		Clay	100.0			13.01	1.00	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	19.600	0.507	2889.4	2101.9	17.275	2.793	2.79		Clay	85.9			18.53	1.00	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	16.050	0.342	2909.8	2111.7	13.823	2.345	2.82		Clay	88.6			15.17	1.00	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	10.120	0.294	2929.0	2120.9	8.162	3.393	3.10		Clay	100.0			9.57	1.00	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	7.900	0.268	2948.2	2130.1	6.033	4.169	3.26		Clay	100.0			7.47	1.00	n.a.	n.a.	0.95	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	7.190	0.237	2968.6	2139.9	5.333	4.148	3.30		Clay	100.0			6.80	1.00	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	7.240	0.246	2987.8	2149.1	5.347	4.283	3.31		Clay	100.0			6.84	1.00	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	7.450	0.249	3008.2	2158.9	5.508	4.194	3.29		Clay	100.0			7.04	0.99	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	7.120	0.208	3027.4	2168.2	5.172	3.714	3.29		Clay	100.0			6.73	0.99	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	6.860	0.214	3046.6	2177.4	4.902	4.001	3.32		Clay	100.0			6.48	0.99	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	7.120	0.202	3067.0	2187.2	5.108	3.609	3.28		Clay	100.0			6.73	0.99	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	6.780	0.219	3086.2	2196.4	4.769	4.186	3.34		Clay	100.0			6.41	0.99	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	7.770	0.221	3106.6	2206.2	5.636	3.561	3.25		Clay	100.0			7.34	0.99	n.a.	n.a.	0.95	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	8.130	0.234	3125.8	2215.4	5.929	3.562	3.23		Clay	100.0			7.68	0.99	n.a.	n.a.	0.95	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	8.660	0.241	3145.0	2224.6	6.372	3.395	3.19		Clay	100.0			8.19	0.99	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	8.820	0.247	3165.4	2234.4	6.478	3.406	3.18		Clay	100.0			8.34	0.99	n.a.	n.a.	0.95	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	8.920	0.261	3184.6	2243.6	6.532	3.562	3.19		Clay	100.0			8.43	0.98	n.a.	n.a.	0.95	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	9.330	0.278	3205.0	2253.4	6.859	3.592	3.18		Clay	100.0			8.82	0.98	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	9.200	0.271	3224.2	2262.6	6.707	3.573	3.18		Clay	100.0			8.70	0.98	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	8.770	0.253	3243.4	2271.8	6.293	3.534	3.20		Clay	100.0			8.29	0.98	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	8.010	0.235	3263.8	2281.6	5.591	3.678	3.26		Clay	100.0			7.57	0.98	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	7.620	0.216	3283.0	2290.8	5.219	3.615	3.28		Clay	100.0			7.20	0.98	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	8.060	0.203	3303.4	2300.6	5.571	3.166	3.22		Clay	100.0			7.62	0.98	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	8.300	0.227	3322.6	2309.8	5.748	3.424	3.23		Clay	100.0			7.84	0.98	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	9.130	0.252	3343.0	2319.6	6.431	3.384	3.19		Clay	100.0			8.63	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	11.150	0.248	3362.2	2328.9	8.132	2.617	3.04		Clay	100.0			10.54	0.98	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	11.450	0.290	3381.4	2338.1	8.348	2.969	3.06		Clay	100.0			10.82	0.97	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	12.950	0.205	3401.8	2347.9	9.582	1.824	2.90		Clay	94.7			12.24	0.97	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	10.560	0.356	3421.0	2357.1	7.509	4.024	3.17		Clay	100.0			9.98	0.97	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	13.010	0.318	3441.4	2366.9	9.539	2.818	3.00		Clay	100.0			12.30	0.97	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	14.290	0.258	3460.6	2376.1	10.572	2.051	2.89		Clay	93.9			13.51	0.97	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	11.790	0.311	3479.8	2385.3	8.427	3.091	3.07		Clay	100.0			11.14	0.97	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	13.110	0.266	3500.2	2395.1	9.486	2.339	2.96		Clay	99.5			12.39	0.97	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	12.570	0.331	3519.4	2404.3	8.992	3.061	3.04		Clay	100.0			11.88	0.97	n.a.	n.a.	0.94	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	11.740	0.552	3539.8	2414.1	8.260	5.533	3.22		Clay	100.0			11.10	0.97	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	15.910	0.926	3559.0	2423.3	11.662	6.551	3.15		Clay	100.0			15.04	0.96	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	20.580	1.165	3578.2	2432.5	15.450	6.197	3.04		Clay	100.0			19.45	0.96	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	29.550	1.078	3598.6	2442.3	22.725	3.886	2.78		Clay	85.6			27.93	0.96	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	32.290	1.261	3617.8	2451.5	24.867	4.137	2.77		Clay	84.7			30.52	0.96	n.a.	n.a.	0.93	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	34.130	1.287	3638.2	2461.3	26.255	3.984	2.74		Clay	82.4			32.26	0.96	n.a.	n.a.	0.93	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	43.160	0.939	3657.4	2470.6	36.154	2.272	2.48		Sand	61.2	41.48		41.48	0.93	38.38	98.18	0.93	0.487	0.984	0.135	0.166	0.34	0.03	0.03
30.180	43.890	0.725	3676.6	2479.8	36.716	1.724	2.40		Sand	54.8			41.48	0.92	38.28	96.18	0.93	0.487	0.984	0.133	0.162	0.33	0.03	0.03
30.350	34.310	1.155	3697.0	2489.6	26.078	3.558	2.71		Clay	80.0			32.43	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	37.190	1.430	3716.2	2498.8	28.279	4.048	2.72		Clay	80.8			35.15	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	43.010	1.525	3736.6	2508.6	32.801	3.705	2.65		Clay	74.9			40.65	0.96	n.a.	n.a.	0.93	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	51.120	1.519	3755.8	2517.8	42.668	3.084	2.51		Sand	63.9	100.05	1.66	166.08	0.96	158.62	253.37	0.93	0.488	0.948	195.812	408.317	835.96	0.00	0.00
31.000	80.490	1.596	3775.0	2527.0	67.984	2.031	2.24		Sand	42.2	100.05	1.66	166.08	0.95	158.04	240.09	0.93	0.489	0.947	43.444	90.486	185.15	0.00	0.00
31.170	99.410	1.567	3795.4	2536.8	84.176	1.607	2.10		Sand	31.2	100.05	1.66	166.08	0.95	157.41	226.51	0.93	0.489	0.946	12.097	25.165	51.46	0.00	0.00
31.330	105.850	1.337	3814.6	2546.0	89.565	1.287	2.02		Sand	24.4		1.66	166.08	0.94	156.75	212.96	0.93	0.489	0.945	4.259	8.851	18.09	0.00	0.00
31.500	93.310	1.541	3835.0	2555.8	78.599	1.686	2.14		Sand	34.1	100.05	1.66	166.08	0.95	157.20	230.35	0.93	0.490	0.943	16.941	35.159	71.81	0.00	0.00
31.660	58.700	1.809	3854.2	2565.0	48.738	3.186	2.48		Sand	61.3	100.05	1.66	166.08	0.95	157.77	251.27	0.93	0.490	0.942	151.575	314.214	641.44	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
31.820	46.920	1.722	3873.4	2574.2	34.949	3.828	2.64		Clay	74.1			44.35	0.95	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	55.710	1.135	3893.8	2584.0	45.984	2.112	2.38		Sand	53.2		1.8	94.78	0.93	87.68	158.38	0.93	0.490	0.966	0.355	0.608	1.24	0.01	0.00
32.150	52.730	1.158	3913.0	2593.2	43.350	2.280	2.42		Sand	56.5	52.66	1.8	94.79	0.92	87.60	159.62	0.93	0.491	0.965	0.367	0.633	1.29	0.00	0.00
32.320	24.890	1.000	3933.4	2603.0	17.613	4.364	2.90		Clay	94.9			23.53	0.95	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	14.370	0.731	3952.6	2612.2	9.489	5.899	3.19		Clay	100.0			13.58	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	11.560	0.467	3971.8	2621.5	7.304	4.879	3.23		Clay	100.0			10.93	0.95	n.a.	n.a.	0.92	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	10.840	0.420	3992.2	2631.3	6.722	4.750	3.25		Clay	100.0			10.25	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	10.240	0.407	4011.4	2640.5	6.237	4.945	3.29		Clay	100.0			9.68	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	10.440	0.406	4031.8	2650.3	6.357	4.817	3.28		Clay	100.0			9.87	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.300	10.790	0.412	4051.0	2659.5	6.591	4.702	3.26		Clay	100.0			10.20	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	11.180	0.391	4070.2	2668.7	6.853	4.280	3.22		Clay	100.0			10.57	0.94	n.a.	n.a.	0.92	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	11.240	0.351	4090.6	2678.5	6.866	3.820	3.19		Clay	100.0			10.62	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	10.380	0.298	4109.8	2687.7	6.195	3.577	3.21		Clay	100.0			9.81	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	9.450	0.264	4130.2	2697.5	5.475	3.575	3.26		Clay	100.0			8.93	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	8.960	0.260	4149.4	2706.7	5.088	3.776	3.30		Clay	100.0			8.47	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	9.210	0.306	4168.6	2715.9	5.247	4.289	3.32		Clay	100.0			8.71	0.94	n.a.	n.a.	0.92	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	11.390	0.322	4189.0	2725.7	6.821	3.467	3.17		Clay	100.0			10.77	0.94	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	12.780	0.384	4208.2	2734.9	7.807	3.595	3.13		Clay	100.0			12.08	0.93	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	13.530	0.371	4228.6	2744.7	8.318	3.253	3.08		Clay	100.0			12.79	0.93	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	15.680	0.342	4247.8	2753.9	9.845	2.524	2.96		Clay	99.9			14.82	0.93	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	14.090	0.314	4267.0	2763.2	8.654	2.628	3.02		Clay	100.0			13.32	0.93	n.a.	n.a.	0.92	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	13.370	0.340	4287.4	2773.0	8.097	3.025	3.07		Clay	100.0			12.64	0.93	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	13.570	0.373	4306.6	2782.2	8.207	3.265	3.09		Clay	100.0			12.83	0.93	n.a.	n.a.	0.92	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	12.710	0.342	4327.0	2792.0	7.555	3.247	3.12		Clay	100.0			12.01	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	11.430	0.293	4346.2	2801.2	6.609	3.167	3.16		Clay	100.0			10.80	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	11.350	0.249	4366.6	2811.0	6.522	2.717	3.13		Clay	100.0			10.73	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	11.660	0.248	4385.8	2820.2	6.714	2.616	3.11		Clay	100.0			11.02	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	12.260	0.262	4405.0	2829.4	7.109	2.603	3.09		Clay	100.0			11.59	0.93	n.a.	n.a.	0.91	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	13.150	0.273	4425.4	2839.2	7.705	2.491	3.05		Clay	100.0			12.43	0.93	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	13.450	0.302	4444.6	2848.4	7.883	2.688	3.06		Clay	100.0			12.71	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	14.670	0.326	4465.0	2858.2	8.703	2.619	3.01		Clay	100.0			13.87	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	15.660	0.422	4484.2	2867.4	9.359	3.146	3.03		Clay	100.0			14.80	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	17.140	0.522	4503.4	2876.6	10.351	3.506	3.02		Clay	100.0			16.20	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	19.020	0.554	4523.8	2886.4	11.612	3.303	2.97		Clay	100.0			17.98	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	20.520	0.618	4543.0	2895.6	12.604	3.384	2.95		Clay	98.6			19.40	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	20.990	0.795	4563.4	2905.4	12.878	4.249	3.00		Clay	100.0			19.84	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	24.770	1.244	4582.6	2914.6	15.425	5.536	3.01		Clay	100.0			23.41	0.92	n.a.	n.a.	0.91	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	33.850	1.918	4601.8	2923.9	21.580	6.080	2.93		Clay	97.3			31.99	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	51.280	1.970	4622.2	2933.7	33.384	4.022	2.67		Clay	76.4			48.47	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	53.380	1.809	4641.4	2942.9	34.700	3.543	2.62		Clay	72.4			50.45	0.92	n.a.	n.a.	0.91	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	57.080	1.561	4661.8	2952.7	43.807	2.850	2.48		Sand	61.4			53.95	0.85	45.96	107.94	0.90	0.497	0.962	0.149	0.187	0.38	0.03	0.02
38.550	45.430	1.777	4681.0	2961.9	29.096	4.124	2.72		Clay	80.5			42.94	0.92	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	34.780	1.790	4700.2	2971.1	21.830	5.518	2.90		Clay	94.7			32.87	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	55.990	1.567	4720.6	2980.9	42.708	2.921	2.49		Sand	62.6			52.92	0.85	44.84	106.83	0.90	0.497	0.962	0.147	0.184	0.37	0.03	0.02
39.040	48.510	1.700	4739.8	2990.1	30.862	3.685	2.67		Clay	76.4			45.85	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	36.410	2.335	4760.2	2999.9	22.687	6.863	2.95		Clay	99.0			34.41	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	47.620	2.463	4779.4	3009.1	30.062	5.445	2.79		Clay	86.3			45.01	0.91	n.a.	n.a.	0.90	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	65.600	2.305	4798.6	3018.3	50.016	3.647	2.51		Sand	64.0	107.57	1.66	178.57	0.91	162.59	258.51	0.90	0.497	0.893	378.320	743.621	1495.37	0.00	0.00
39.700	87.350	2.430	4819.0	3028.1	67.112	2.860	2.35		Sand	50.8	107.57	1.66	178.57	0.91	162.31	251.80	0.90	0.497	0.892	161.525	317.146	637.68	0.00	0.00
39.860	113.410	2.273	4838.2	3037.3	87.561	2.048	2.16		Sand	36.0	107.57	1.66	178.57	0.90	161.24	237.78	0.90	0.497	0.892	34.324	67.324	135.35	0.00	0.00
40.030	113.810	2.209	4858.6	3047.1	87.728	1.983	2.15		Sand	35.2		1.66	178.57	0.90	161.00	236.47	0.90	0.497	0.891	30.128	59.030	118.67	0.00	0.00
40.190	89.240	2.474	4877.8	3056.3	68.265	2.850	2.34		Sand	50.3	107.57	1.66	178.57	0.91	161.85	250.90	0.90	0.497	0.890	145.008	283.828	570.52	0.00	0.00
40.350	63.360	2.283	4897.0	3065.6	47.832	3.748	2.53		Sand	65.7	107.57	1.66	178.57	0.91	161.93	258.30	0.90	0.498	0.889	368.133	719.824	1446.79	0.00	0.00
40.520	48.970	2.201	4917.4	3075.4	30.248	4.733	2.75		Clay	82.8			46.29	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	45.610	1.692	4936.6	3084.6	27.973	3.921	2.72		Clay	80.4			43.11	0.91	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	32.160	1.485	4957.0	3094.4	19.184	5.002	2.91		Clay	95.8			30.40	0.90	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	29.520	1.353	4976.2	3103.6	17.420	5.003	2.94		Clay	98.3			27.90	0.90	n.a.	n.a.	0.90	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	28.410	1.377	4995.4	3112.8	16.649	5.315	2.97		Clay	100.0			26.85	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	28.020	1.461	5015.8	3122.6	16.340	5.727	3.00		Clay	100.0			26.48	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	30.470	1.366	5035.0	3131.8	17.851	4.886	2.93		Clay	97.1			28.80	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	26.000	1.261	5055.4	3141.6	14.943	5.371	3.01		Clay	100.0			24.57	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	27.520	1.168	5074.6	3150.8	15.858	4.674	2.95		Clay	99.3			26.01	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	31.900	1.160	5093.8	3160.0	18.578	3.950	2.85		Clay	91.3			30.15	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	29.800	0.873	5114.2	3169.8	17.189	3.205	2.82		Clay	88.9			28.17	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5, s'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
42.320	25.480	0.469	5133.4	3179.0	14.415	2.047	2.77		Clay	84.8			24.08	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	18.020	0.324	5153.8	3188.8	9.686	2.099	2.92		Clay	96.9			17.03	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	10.640	0.268	5173.0	3198.0	5.037	3.325	3.27		Clay	100.0			10.06	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	9.390	0.241	5192.2	3207.3	4.237	3.541	3.35		Clay	100.0			8.88	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	9.510	0.244	5212.6	3217.0	4.292	3.540	3.34		Clay	100.0			8.99	0.90	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	9.790	0.249	5231.8	3226.3	4.447	3.476	3.33		Clay	100.0			9.25	0.89	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	10.310	0.248	5252.2	3236.1	4.749	3.231	3.29		Clay	100.0			9.74	0.89	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	10.660	0.240	5271.4	3245.3	4.945	2.995	3.25		Clay	100.0			10.08	0.89	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	11.080	0.224	5291.8	3255.1	5.182	2.657	3.21		Clay	100.0			10.47	0.89	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	10.790	0.214	5311.0	3264.3	4.984	2.625	3.22		Clay	100.0			10.20	0.89	n.a.	n.a.	0.89	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	10.890	0.208	5330.2	3273.5	5.025	2.533	3.21		Clay	100.0			10.29	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	11.020	0.213	5350.6	3283.3	5.083	2.547	3.21		Clay	100.0			10.42	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.290	10.980	0.217	5369.8	3292.5	5.039	2.621	3.22		Clay	100.0			10.38	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	11.210	0.211	5390.2	3302.3	5.157	2.473	3.19		Clay	100.0			10.60	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	11.830	0.257	5409.4	3311.5	5.511	2.817	3.20		Clay	100.0			11.18	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	13.210	0.287	5428.6	3320.7	6.321	2.733	3.14		Clay	100.0			12.49	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	13.200	0.318	5449.0	3330.5	6.291	3.032	3.17		Clay	100.0			12.48	0.89	n.a.	n.a.	0.88	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	15.060	0.394	5468.2	3339.7	7.381	3.196	3.12		Clay	100.0			14.23	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	17.390	0.487	5488.6	3349.5	8.745	3.323	3.07		Clay	100.0			16.44	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	19.170	0.512	5507.8	3358.7	9.775	3.119	3.01		Clay	100.0			18.12	0.89	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	18.860	0.559	5527.0	3368.0	9.559	3.471	3.05		Clay	100.0			17.83	0.88	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	18.540	0.541	5547.4	3377.8	9.335	3.428	3.05		Clay	100.0			17.52	0.88	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	17.080	0.538	5566.6	3387.0	8.442	3.760	3.11		Clay	100.0			16.14	0.88	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	15.700	0.494	5587.0	3396.8	7.599	3.830	3.16		Clay	100.0			14.84	0.88	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	14.770	0.462	5606.2	3406.0	7.027	3.857	3.18		Clay	100.0			13.96	0.88	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	14.620	0.452	5625.4	3415.2	6.915	3.827	3.19		Clay	100.0			13.82	0.88	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	15.520	0.508	5645.8	3425.0	7.414	3.997	3.17		Clay	100.0			14.67	0.88	n.a.	n.a.	0.88	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	17.450	0.507	5665.0	3434.2	8.513	3.468	3.09		Clay	100.0			16.49	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	17.640	0.583	5685.4	3444.0	8.593	3.938	3.12		Clay	100.0			16.67	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	18.980	0.621	5704.6	3453.2	9.341	3.848	3.08		Clay	100.0			17.94	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	18.550	0.727	5723.8	3462.4	9.062	4.632	3.14		Clay	100.0			17.53	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	18.480	0.715	5744.2	3472.2	8.990	4.580	3.14		Clay	100.0			17.47	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	18.940	0.655	5763.4	3481.4	9.225	4.078	3.10		Clay	100.0			17.90	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	19.160	0.805	5783.8	3491.2	9.319	4.946	3.15		Clay	100.0			18.11	0.88	n.a.	n.a.	0.87	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	21.430	0.754	5803.0	3500.4	10.586	4.071	3.05		Clay	100.0			20.26	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	18.910	0.641	5822.2	3509.7	9.117	4.003	3.10		Clay	100.0			17.87	0.88	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	17.830	0.592	5842.6	3519.4	8.472	3.972	3.13		Clay	100.0			16.85	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	17.280	0.513	5861.8	3528.7	8.133	3.577	3.11		Clay	100.0			16.33	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	16.130	0.459	5882.2	3538.5	7.455	3.479	3.14		Clay	100.0			15.25	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	15.860	0.440	5901.4	3547.7	7.278	3.410	3.14		Clay	100.0			14.99	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	16.520	0.463	5920.6	3556.9	7.624	3.414	3.13		Clay	100.0			15.61	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	17.840	0.498	5941.0	3566.7	8.338	3.351	3.09		Clay	100.0			16.86	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	19.970	0.546	5960.2	3575.9	9.502	3.212	3.03		Clay	100.0			18.88	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	19.830	0.581	5980.6	3585.7	9.393	3.450	3.05		Clay	100.0			18.74	0.87	n.a.	n.a.	0.87	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	19.070	0.564	5999.8	3594.9	8.940	3.510	3.08		Clay	100.0			18.02	0.87	n.a.	n.a.	0.86	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	19.200	0.567	6019.0	3604.1	8.984	3.501	3.07		Clay	100.0			18.15	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	18.710	0.547	6039.4	3613.9	8.683	3.487	3.08		Clay	100.0			17.68	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	18.060	0.515	6058.6	3623.1	8.297	3.428	3.10		Clay	100.0			17.07	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	18.210	0.509	6079.0	3632.9	8.352	3.354	3.09		Clay	100.0			17.21	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	17.890	0.700	6098.2	3642.1	8.150	4.716	3.18		Clay	100.0			16.91	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	22.450	1.416	6117.4	3651.4	10.621	7.301	3.21		Clay	100.0			21.22	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	44.580	1.734	6137.8	3661.1	22.677	4.178	2.80		Clay	87.3			42.14	0.87	n.a.	n.a.	0.86	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	89.690	1.985	6157.0	3670.4	62.157	2.292	2.30		Sand	47.3	234.22		234.22	0.86	202.54	300.18	0.86	0.495	0.835	########	########	1882899.13	0.00	0.00
51.020	150.800	2.180	6177.4	3680.2	105.865	1.476	2.00		Sand	23.4	234.22		234.22	0.86	202.40	263.54	0.86	0.495	0.834	752.829	1381.245	2792.50	0.00	0.00
51.180	191.910	2.393	6196.6	3689.4	135.153	1.267	1.88		Sand	13.6	234.22		234.22	0.85	198.32	223.64	0.86	0.495	0.833	9.526	17.462	35.31	0.00	0.00
51.350	212.620	2.239	6217.0	3699.2	149.771	1.069	1.80		Sand	6.9	234.22		234.22	0.83	194.29	196.23	0.86	0.494	0.859	1.537	2.907	5.88	0.00	0.00
51.510	232.950	2.065	6236.2	3708.4	164.093	0.899	1.72		Sand	0.5	234.22		234.22	0.83	193.77	193.77	0.86	0.494	0.863	1.354	2.569	5.20	0.00	0.00
51.670	247.810	2.126	6255.4	3717.6	174.479	0.869	1.69		Sand	0.0			234.22	0.83	193.58	193.58	0.86	0.494	0.862	1.341	2.544	5.15	0.00	0.00
51.840	241.640	3.907	6275.8	3727.4	169.849	1.638	1.90		Sand	14.7			228.39	0.84	192.58	222.10	0.86	0.494	0.830	8.413	15.366	31.10	0.00	0.00
52.000	201.600	5.820	6295.0	3736.6	141.153	2.933	2.14		Sand	34.4			190.55	0.85	162.18	236.87	0.86	0.494	0.829	31.350	57.205	115.82	0.00	0.00
52.170	162.000	5.982	6315.4	3746.4	112.832	3.766	2.29		Sand	46.0			153.12	0.83	127.28	204.56	0.85	0.494	0.842	2.468	4.569	9.25	0.00	0.00
52.330	202.310	4.371	6334.6	3755.6	141.285	2.195	2.04		Sand	26.6			191.22	0.84	160.92	222.50	0.85	0.494	0.828	8.686	15.820	32.05	0.00	0.00
52.490	241.650	2.114	6353.8	3764.8	168.982	0.886	1.70		Sand	0.0			228.40	0.82	186.98	186.98	0.85	0.494	0.869	0.978	1.869	3.79	0.00	0.00
52.660	201.830	2.042	6374.2	3774.6	140.575	1.028	1.81		Sand	7.6	228.4		228.40	0.82	187.33	190.45	0.85	0.493	0.863	1.149	2.182	4.42	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
52.820	145.260	2.772	6393.4	3783.8	100.413	1.951	2.11		Sand	31.5	228.4		228.40	0.86	195.93	273.60	0.85	0.493	0.826	3427.456	6225.636	12621.30	0.00	0.00
52.990	104.740	2.792	6413.8	3793.6	71.673	2.749	2.32		Sand	48.2	228.4		228.40	0.86	195.80	292.37	0.85	0.493	0.825	99431.080	########	365905.21	0.00	0.00
53.150	55.880	2.335	6433.0	3802.8	27.697	4.434	2.76		Clay	83.5			52.82	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	26.760	1.758	6452.2	3812.1	12.347	7.469	3.17		Clay	100.0			25.29	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	22.510	1.076	6472.6	3821.8	10.086	5.581	3.15		Clay	100.0			21.28	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	20.070	1.060	6491.8	3831.1	8.783	6.299	3.23		Clay	100.0			18.97	0.86	n.a.	n.a.	0.85	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	20.170	1.047	6512.2	3840.9	8.807	6.188	3.23		Clay	100.0			19.06	0.85	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	20.360	1.100	6531.4	3850.1	8.880	6.436	3.24		Clay	100.0			19.24	0.85	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	25.370	1.206	6550.6	3859.3	11.450	5.460	3.11		Clay	100.0			23.98	0.85	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	24.880	1.274	6571.0	3869.1	11.163	5.900	3.14		Clay	100.0			23.52	0.85	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	25.120	1.324	6590.2	3878.3	11.255	6.066	3.14		Clay	100.0			23.74	0.85	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	25.150	1.397	6610.6	3888.1	11.237	6.397	3.16		Clay	100.0			23.77	0.85	n.a.	n.a.	0.85	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	24.230	1.289	6629.8	3897.3	10.733	6.163	3.16		Clay	100.0			22.90	0.85	n.a.	n.a.	0.84	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	23.040	1.138	6649.0	3906.5	10.094	5.770	3.16		Clay	100.0			21.78	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	21.240	1.042	6669.4	3916.3	9.144	5.821	3.20		Clay	100.0			20.08	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.280	20.880	1.000	6688.6	3925.5	8.934	5.701	3.20		Clay	100.0			19.74	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	20.620	0.950	6709.0	3935.3	8.775	5.499	3.20		Clay	100.0			19.49	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	19.230	0.897	6728.2	3944.5	8.044	5.650	3.24		Clay	100.0			18.18	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	18.880	0.887	6747.4	3953.8	7.844	5.721	3.25		Clay	100.0			17.84	0.85	n.a.	n.a.	0.84	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	19.730	0.867	6767.8	3963.5	8.248	5.301	3.21		Clay	100.0			18.65	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	20.200	0.813	6787.0	3972.8	8.461	4.835	3.18		Clay	100.0			19.09	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	19.400	0.774	6807.4	3982.6	8.033	4.841	3.20		Clay	100.0			18.34	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	19.400	0.761	6826.6	3991.8	8.010	4.760	3.19		Clay	100.0			18.34	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	19.450	0.767	6845.8	4001.0	8.012	4.784	3.19		Clay	100.0			18.38	0.85	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	19.590	0.762	6866.2	4010.8	8.057	4.714	3.19		Clay	100.0			18.52	0.84	n.a.	n.a.	0.84	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	20.270	0.705	6885.4	4020.0	8.372	4.187	3.14		Clay	100.0			19.16	0.84	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	19.440	0.660	6905.8	4029.8	7.934	4.125	3.16		Clay	100.0			18.37	0.84	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	17.700	0.755	6925.0	4039.0	7.050	5.302	3.26		Clay	100.0			16.73	0.84	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	17.770	0.832	6944.2	4048.2	7.064	5.818	3.29		Clay	100.0			16.80	0.84	n.a.	n.a.	0.84	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	21.150	0.952	6964.6	4058.0	8.708	5.386	3.20		Clay	100.0			19.99	0.84	n.a.	n.a.	0.83	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	21.140	0.906	6983.8	4067.2	8.678	5.135	3.18		Clay	100.0			19.98	0.84	n.a.	n.a.	0.83	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	20.420	0.788	7004.2	4077.0	8.299	4.655	3.17		Clay	100.0			19.30	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	19.860	0.730	7023.4	4086.2	8.002	4.468	3.18		Clay	100.0			18.77	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	20.210	0.748	7042.6	4095.4	8.150	4.481	3.17		Clay	100.0			19.10	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	20.400	0.766	7063.0	4105.2	8.218	4.542	3.17		Clay	100.0			19.28	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	19.990	0.734	7082.2	4114.5	7.996	4.463	3.18		Clay	100.0			18.89	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	18.090	0.728	7102.6	4124.2	7.050	5.006	3.25		Clay	100.0			17.10	0.84	n.a.	n.a.	0.83	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	19.880	0.732	7121.8	4133.5	7.896	4.487	3.18		Clay	100.0			18.79	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	20.640	0.748	7142.2	4143.3	8.239	4.381	3.16		Clay	100.0			19.51	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	20.340	0.744	7161.4	4152.5	8.072	4.439	3.17		Clay	100.0			19.22	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	19.270	0.744	7180.6	4161.7	7.535	4.748	3.21		Clay	100.0			18.21	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	17.730	0.697	7201.0	4171.5	6.774	4.929	3.26		Clay	100.0			16.76	0.84	n.a.	n.a.	0.83	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	17.740	0.653	7220.2	4180.7	6.760	4.619	3.24		Clay	100.0			16.77	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	18.040	0.696	7240.6	4190.5	6.882	4.823	3.25		Clay	100.0			17.05	0.84	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	19.570	1.002	7259.8	4199.7	7.591	6.285	3.28		Clay	100.0			18.50	0.83	n.a.	n.a.	0.83	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	30.580	1.023	7279.0	4208.9	12.802	3.797	2.97		Clay	100.0			28.90	0.83	n.a.	n.a.	0.82	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	59.540	0.951	7299.4	4218.7	37.413	1.702	2.39		Sand	54.1			56.28	0.71	39.77	97.82	0.82	0.486	0.928	0.135	0.156	0.32	0.03	0.00
60.530	63.020	1.145	7318.6	4227.9	39.692	1.928	2.40		Sand	55.1			59.57	0.71	42.28	101.37	0.82	0.486	0.926	0.139	0.163	0.34	0.03	0.00
60.700	63.040	1.541	7339.0	4237.7	28.020	2.595	2.60		Clay	71.0			59.58	0.83	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	68.840	1.568	7358.2	4246.9	43.473	2.406	2.43		Sand	57.6			65.07	0.71	46.51	107.57	0.82	0.485	0.921	0.148	0.178	0.37	0.03	0.00
61.020	71.610	1.773	7377.4	4256.2	45.266	2.610	2.44		Sand	58.5			67.68	0.72	48.53	110.41	0.82	0.485	0.919	0.153	0.185	0.38	0.03	0.00
61.190	41.090	1.569	7397.8	4265.9	17.530	4.197	2.89		Clay	94.2			38.84	0.83	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	23.490	1.267	7417.0	4275.2	9.254	6.403	3.22		Clay	100.0			22.20	0.83	n.a.	n.a.	0.82	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	19.470	0.687	7437.4	4285.0	7.352	4.360	3.20		Clay	100.0			18.40	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	17.090	0.606	7456.6	4294.2	6.223	4.536	3.27		Clay	100.0			16.15	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	16.500	0.605	7475.8	4303.4	5.931	4.739	3.30		Clay	100.0			15.60	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	17.740	0.622	7496.2	4313.2	6.488	4.443	3.25		Clay	100.0			16.77	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	18.200	0.624	7515.4	4322.4	6.683	4.319	3.23		Clay	100.0			17.20	0.83	n.a.	n.a.	0.82	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	17.840	0.603	7535.8	4332.2	6.497	4.287	3.24		Clay	100.0			16.86	0.83	n.a.	n.a.	0.82	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	17.920	0.553	7555.0	4341.4	6.515	3.913	3.22		Clay	100.0			16.94	0.83	n.a.	n.a.	0.82	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	16.680	0.534	7574.2	4350.6	5.927	4.142	3.26		Clay	100.0			15.77	0.83	n.a.	n.a.	0.82	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	16.490	0.493	7594.6	4360.4	5.822	3.883	3.25		Clay	100.0			15.59	0.83	n.a.	n.a.	0.81	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	19.100	0.541	7613.8	4369.6	7.000	3.540	3.17		Clay	100.0			18.05	0.83	n.a.	n.a.	0.81	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	21.690	0.569	7634.2	4379.4	8.162	3.186	3.08		Clay	100.0			20.50	0.83	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	Ic	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,\ s'vc\ =\ 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
63.320	18.960	0.623	7653.4	4388.6	6.897	4.117	3.21		Clay	100.0			17.92	0.82	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	19.770	0.571	7672.6	4397.8	7.246	3.583	3.16		Clay	100.0			18.69	0.82	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.650	20.400	0.588	7693.0	4407.6	7.511	3.554	3.14		Clay	100.0			19.28	0.82	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.810	19.810	0.604	7712.2	4416.9	7.224	3.788	3.17		Clay	100.0			18.72	0.82	n.a.	n.a.	0.81	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	21.230	0.724	7732.6	4426.6	7.845	4.169	3.17		Clay	100.0			20.07	0.82	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	23.780	1.192	7751.8	4435.9	8.974	5.988	3.21		Clay	100.0			22.48	0.82	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	33.370	2.226	7771.0	4445.1	13.266	7.548	3.15		Clay	100.0			31.54	0.82	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	77.320	2.479	7791.4	4454.9	32.964	3.376	2.62		Clay	72.6			73.08	0.82	n.a.	n.a.	0.81	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.630	242.190	2.056	7810.6	4464.1	155.061	0.863	1.72		Sand	0.9			228.91	0.76	174.24	174.24	0.81	0.481	0.851	0.583	0.991	2.06	0.00	0.00
64.800	309.560	1.131	7831.0	4473.9	198.677	0.370	1.41		Sand	0.0			292.59	0.81	236.58	236.58	0.81	0.480	0.775	30.474	51.983	108.23	0.00	0.00
64.960	329.810	1.391	7850.2	4483.1	211.615	0.427	1.43		Sand	0.0			311.73	0.82	255.71	255.71	0.81	0.480	0.775	263.063	448.386	933.93	0.00	0.00
65.120	224.660	2.337	7869.4	4492.3	143.182	1.059	1.81		Sand	7.8			212.34	0.75	159.11	162.44	0.81	0.480	0.865	0.398	0.628	1.31	0.00	0.00
65.290	130.350	2.487	7889.8	4502.1	81.909	1.968	2.17		Sand	36.7			123.20	0.74	91.12	152.26	0.81	0.480	0.877	0.304	0.452	0.94	0.01	0.00
65.450	60.280	2.178	7909.0	4511.3	24.971	3.867	2.75		Clay	83.0			56.98	0.82	n.a.	n.a.	0.81	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.620	33.770	1.338	7929.4	4521.1	13.185	4.488	3.00		Clay	100.0			31.92	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	27.200	0.706	7948.6	4530.3	10.253	3.041	2.99		Clay	100.0			25.71	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	23.930	0.594	7967.8	4539.5	8.788	2.980	3.04		Clay	100.0			22.62	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	21.230	0.548	7988.2	4549.3	7.577	3.180	3.11		Clay	100.0			20.07	0.82	n.a.	n.a.	0.80	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.270	20.430	0.495	8007.4	4558.6	7.207	3.012	3.12		Clay	100.0			19.31	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	20.550	0.478	8027.8	4568.3	7.239	2.890	3.10		Clay	100.0			19.42	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	22.120	0.471	8047.0	4577.6	7.907	2.604	3.05		Clay	100.0			20.91	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	24.790	0.518	8067.4	4587.4	9.049	2.497	2.99		Clay	100.0			23.43	0.82	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	28.160	0.575	8086.6	4596.6	10.493	2.383	2.92		Clay	96.9			26.62	0.81	n.a.	n.a.	0.80	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	28.300	0.603	8105.8	4605.8	10.529	2.485	2.93		Clay	97.6			26.75	0.81	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	26.510	0.565	8126.2	4615.6	9.727	2.517	2.96		Clay	100.0			25.06	0.81	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	24.780	0.549	8145.4	4624.8	8.955	2.649	3.01		Clay	100.0			23.42	0.81	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	24.700	0.553	8165.8	4634.6	8.897	2.681	3.01		Clay	100.0			23.35	0.81	n.a.	n.a.	0.80	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	24.250	0.570	8185.0	4643.8	8.681	2.825	3.03		Clay	100.0			22.92	0.81	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	25.270	0.568	8204.2	4653.0	9.099	2.685	3.00		Clay	100.0			23.88	0.81	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	26.640	0.606	8224.6	4662.8	9.663	2.689	2.98		Clay	100.0			25.18	0.81	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	27.700	0.643	8243.8	4672.0	10.093	2.729	2.97		Clay	100.0			26.18	0.81	n.a.	n.a.	0.80	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	28.970	0.649	8264.2	4681.8	10.610	2.614	2.94		Clay	98.4			27.38	0.81	n.a.	n.a.	0.79	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	30.010	0.670	8283.4	4691.0	11.029	2.589	2.93		Clay	97.1			28.36	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	30.590	0.691	8302.6	4700.2	11.250	2.614	2.92		Clay	96.7			28.91	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	27.420	0.678	8323.0	4710.0	9.876	2.915	2.99		Clay	100.0			25.92	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	26.080	0.658	8342.2	4719.3	9.285	3.005	3.02		Clay	100.0			24.65	0.81	n.a.	n.a.	0.79	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	26.100	0.633	8362.6	4729.0	9.270	2.887	3.01		Clay	100.0			24.67	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	29.890	0.664	8381.8	4738.3	10.847	2.585	2.93		Clay	97.5			28.25	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	31.410	0.872	8401.0	4747.5	11.463	3.205	2.96		Clay	100.0			29.69	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	30.980	1.201	8421.4	4757.3	11.254	4.485	3.06		Clay	100.0			29.28	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	40.840	1.204	8440.6	4766.5	15.365	3.287	2.87		Clay	92.5			38.60	0.81	n.a.	n.a.	0.79	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	43.870	1.547	8461.0	4776.3	16.598	3.903	2.89		Clay	94.1			41.47	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	50.110	2.373	8480.2	4785.5	19.170	5.174	2.92		Clay	96.6			47.36	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	55.790	2.413	8499.4	4794.7	21.499	4.681	2.85		Clay	91.3			52.73	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	55.620	3.720	8519.8	4804.5	21.380	7.243	2.98		Clay	100.0			52.57	0.81	n.a.	n.a.	0.79	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	76.400	4.610	8539.0	4813.7	29.969	6.392	2.84		Clay	90.4			72.21	0.81	n.a.	n.a.	0.79	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	111.730	6.079	8559.4	4823.5	44.553	5.657	2.68		Clay	77.8			105.60	0.80	n.a.	n.a.	0.79	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	183.530	5.539	8578.6	4832.7	112.102	3.090	2.22		Sand	40.8			173.47	0.77	133.31	208.14	0.79	0.472	0.761	3.086	5.164	10.94	0.00	0.00
71.190	202.700	5.385	8597.8	4841.9	123.967	2.714	2.15		Sand	35.1			191.59	0.78	149.30	222.03	0.78	0.472	0.752	8.364	13.831	29.32	0.00	0.00
71.360	229.670	4.695	8618.2	4851.7	140.670	2.083	2.03		Sand	25.3			217.08	0.79	170.63	231.21	0.78	0.471	0.751	18.303	30.242	64.14	0.00	0.00
71.520	217.560	4.547	8637.4	4861.0	132.979	2.132	2.05		Sand	27.2			205.63	0.78	160.18	222.84	0.78	0.471	0.750	8.926	14.737	31.27	0.00	0.00
71.690	202.130	3.912	8657.8	4870.7	123.226	1.978	2.05		Sand	27.0			191.05	0.76	146.07	205.70	0.78	0.471	0.766	2.647	4.457	9.46	0.00	0.00
71.850	173.960	2.507	8677.0	4880.0	105.571	1.478	2.01		Sand	23.5			164.42	0.73	120.25	168.27	0.78	0.471	0.842	0.476	0.764	1.62	0.00	0.00
72.010	101.130	2.681	8696.2	4889.2	60.179	2.770	2.37		Sand	52.7			95.59	0.69	66.35	131.07	0.78	0.471	0.886	0.201	0.263	0.56	0.02	0.00
72.180	54.270	2.450	8716.6	4899.0	20.376	4.908	2.88		Clay	93.8			51.29	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	36.230	2.037	8735.8	4908.2	12.983	6.393	3.11		Clay	100.0			34.24	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	38.940	1.688	8756.2	4918.0	14.055	4.885	3.01		Clay	100.0			36.81	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	37.590	1.558	8775.4	4927.2	13.477	4.691	3.01		Clay	100.0			35.53	0.80	n.a.	n.a.	0.78	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	85.640	1.606	8794.6	4936.4	50.275	1.976	2.33		Sand	49.4			80.95	0.67	54.48	114.64	0.78	0.469	0.899	0.160	0.194	0.41	0.03	0.00
73.000	101.750	2.539	8815.0	4946.2	60.178	2.608	2.35		Sand	51.2			96.17	0.69	66.36	130.48	0.78	0.469	0.885	0.199	0.259	0.55	0.02	0.00
73.160	94.330	2.556	8834.2	4955.4	55.533	2.843	2.40		Sand	55.3			89.16	0.68	60.96	125.23	0.78	0.469	0.889	0.184	0.233	0.50	0.03	0.00
73.330	109.800	2.544	8854.6	4965.2	65.018	2.414	2.31		Sand	47.4			103.78	0.69	72.09	135.93	0.78	0.469	0.879	0.218	0.291	0.62	0.02	0.00
73.490	112.010	3.264	8873.8	4974.4	66.314	3.034	2.37		Sand	52.6			105.87	0.70	74.01	140.74	0.78	0.468	0.874	0.238	0.326	0.70	0.02	0.00
73.650	134.180	4.778	8893.0	4983.6	79.901	3.683	2.38		Sand	53.1			126.82	0.72	91.40	163.07	0.78	0.468	0.846	0.405	0.629	1.34	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.50

Total Settlement:	0.32	(Inches)

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Depth (ft)	q_c (tsf)	f_s (tsf)	S_{vc} (psf)	Insitu S'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_s for Sand	$CRR_{M=7.5,}$ s'_{vc} = 1 atm	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
73.820	153.500	4.147	8913.4	4993.4	91.703	2.783	2.25		Sand	42.7			145.09	0.73	106.21	175.81	0.78	0.468	0.826	0.618	1.032	2.20	0.00	0.00
73.980	215.320	4.251	8932.6	5002.6	129.614	2.016	2.04		Sand	26.3			203.52	0.77	156.06	216.22	0.77	0.468	0.742	5.369	8.762	18.73	0.00	0.00
74.150	243.180	4.294	8953.0	5012.4	146.591	1.799	1.97		Sand	20.5			229.85	0.78	178.26	227.38	0.77	0.468	0.741	13.034	21.255	45.46	0.00	0.00
74.310	244.100	5.044	8972.2	5021.7	147.015	2.105	2.02		Sand	24.6			230.72	0.79	181.60	242.40	0.77	0.467	0.741	55.348	90.196	193.01	0.00	0.00