DOCKETED	
Docket Number:	21-SPPE-02
Project Title:	STACK Backup Generating Facility
TN #:	240911-2
Document Title:	STACK Backup Generating Facility Application for SPPE Appendices C D and E
Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
Submitter Role:	Applicant Representative
Submission Date:	12/10/2021 5:05:22 PM
Docketed Date:	12/10/2021

6/7/21

Mr. Miles Johnson/KHA Project Manager
Kimley-Horn and Associates, Inc.
260 East Davis Street, Suite 100
McKinney, TX 75069
(669) 800-4140
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RE: **Project Name:** Stack D.C. San Jose
KHA Project: #197459001
2400 Ringwood Road & 1849 Fortune Drive
San Jose, CA 95131

Greetings Mr. Johnson,

At your request, I have visited the two above referenced site addresses: 2400 Ringwood Road and 1849 Fortune Drive in San Jose to obtain and compile the tree related data pertinent to the preparation of this arborist report that is prepared for you and your project called Stack D.C. San Jose #197459001 This letter will serve to summarize my observations and recommendations.

SUMMARY

There are a total of 187 trees at risk of adverse impacts.

- 11 street trees were identified. Street trees #205-210 are growing along Fortune Drive and require tree protection in the form of chained link fencing and/or wrapping the trunks for protection against direct impacts. Street trees #211-215 are growing in front of 2400 Ringwood Road along Tradezone Blvd. and require tree protection in the form of wrapping their trunks for protection against direct impacts (street tree #213 is dead). *Additional information regarding the excavation and installation of underground utilities in close proximity to the street trees is required to ensure all available tree protection and preservation efforts are being identified and employed.*
- 19 trees (lettered A-S) are growing on adjacent properties along the western property lines which require on site monitoring for all development activities occurring within the trees' driplines.

- 1 tree (#186A) is growing on the adjacent property at the eastern side of 1849 Fortune Drive which requires tree protection in the form of chained link fencing and/or wrapping the trunk for protection against direct impacts.
- The remaining 156 trees are growing on the two subject properties and are proposed for removal due to their locations being within the building footprints and/or the footprints of other infrastructure. See Appendix A: Tree Locations & Appendix B: TPZ MAP

We are unable at this time to locate the specific "code required replacement program for trees removed" for commercial properties. We recommend using the metric of installing 1 each 15-gallon size tree for each tree removed until such time that the City of San Jose's Planning Director presents to you the city's tree replacement requirements for this project.

ASSIGNMENT

[This] preliminary arborist report will inventory the existing trees onsite and directly adjacent to the property. This report will provide recommendations for the care and protection of the trees before, during, and after construction, based on the preliminary site plan. The arborist will provide an assessment of the health of existing trees onsite and will address proposed site improvements that will impact existing trees. The Preliminary Arborist Report will provide the code required replacement program for trees removed due to proposed project improvements.

BACKGROUND

Anderson's Tree Care Specialists, Inc. understands that the project consists of two existing parcels located at 2400 Ringwood Road and 1849 Fortune Drive in San Jose, CA. The combined acreage of these two parcels is approximately 9.78-acres. This proposal is based on the conceptual site plan prepared by Corgan Associates, Inc. dated January 20, 2021. We understand that the project consists of two buildings, one four-story parking structure (first level at-grade), and a 100-MW substation. Based on the conceptual site plan, the northern building consists of a Data Hall (3-levels, 180,910 GSF), Data Center Office Space (4-levels, 26,000 SF), Advanced Manufacturing (3-levels, 95,600 SF), and Advanced Manufacturing Office Space (1-level, 22,730 GSF). Adjacent to the northern building is a proposed 400-stall parking structure (no subterranean levels). The southern building consists of a Data Hall (2-levels, 159,320 GSF) and Data Center Office Space (3-levels, 42,000 GSF). We understand that the intent is to obtain City entitlements for the full site redevelopment, including both buildings, the parking garage, and the substation. [W]e understand that the construction documents would be divided into two phases: Phase 1 would include the northern building, parking structure, and substation; Phase 2 would include the southern building and drive aisles that surround the southern building. This proposal assumes the entire site will be Entitled as one project[.]

LIMITS OF ASSIGNMENT

This report is based on our review of the preliminary site plan titled "Existing Trees" that is dated 5/5/21 provided by Kimley-Horn which shows tree locations and the existing infrastructure with buildings that is overlaid with the proposed buildings and infrastructure. All site and tree observations were made from the ground. No root collar excavations were performed.

PURPOSE & USE OF REPORT

The purpose of this report is to provide a preliminary tree protection and preservation report that will be submitted for review to the City of San Jose for the project located at 2400 Ringwood Road and 1849 Fortune Drive a.k.a. "Stack D.C. San Jose #197459001."

OBSERVATIONS

San Jose Code of Ordinances:

13.32.130 - Safeguarding Trees During Construction.

For the purpose of safeguarding trees during construction, all of the following conditions shall apply to all such trees except for trees for which a tree removal permit has been issued or which are required to be removed pursuant to Chapter 13.28:

A. Prior to the issuance of any approval or permit for the construction of any improvement on the building site, all trees on the site shall be inventoried by the owner or contractor as to size (including diameter/circumference), species and location on the lot and the inventory shall be submitted on a topographical map to the director; and

B. Damage to any tree during construction shall be immediately reported by a person causing the damage, the responsible contractor, or the owner to the director, and the contractor and/or owner shall treat the tree for damage in the manner specified by the city arborist; and

C. No construction equipment, vehicles or materials shall be stored, parked or standing within the tree dripline; and

D. Drains shall be installed according to city specifications so as to avoid harm to trees due to excess watering; and

E. Wires, signs and other similar items shall not be attached to trees; and

F. Cutting and filling around the base of trees shall be done only after consultation with the city arborist and then only to the extent authorized by the city arborist; and

G. No paint thinner, paint, plaster or other liquid or solid excess or waste construction materials or wastewater shall be dumped on the ground or into any grate between the dripline and the base of the tree or uphill from any tree where certain substances might reach the roots through a leaching process; and

H. Fencing shall be installed outside the canopy of the tree to the dripline unless otherwise directed by the certified arborist to prevent injury to trees making them susceptible to disease causing organisms; and

I. Wherever cuts or soil disturbances are made in the ground near the roots of trees, appropriate measures shall be taken to prevent exposed soil from drying out and causing damage to tree roots as prescribed in a certified arborist report.

Trees Impacted by Development Activities

There is a combined total of 187 trees from both properties that are at risk of adverse impacts, they include: 72 Bradford Flowering Pear (***Pyrus calleryana* 'Bradford'**), 39 Shamel Ash (***Fraxinus uhdei***), 13 Liquidambar (***Liquidambar styraciflua***), 12 Oleander (***Nerium oleander***), 9 Canary Island Pine (***Pinus canariensis***), 7 Flowering Cherry (***Prunus spp***.), 7 Southern Magnolia (***Magnolia grandiflora***), 6 London Plane Tree (***Platanus x hispanica***), 5 Coast Redwood (***Sequoia sempervirens***), 4 White Alder (***Alnus rhombifolia***), 3 Valley Oak (***Quercus lobata***), 3 Chinese Tallow (***Triadica sebifera***), 1 Fruiting cherry (***Prunus spp***.), 1 Coast Live Oak (***Quercus agrifolia***), 1 Red Oak (***Quercus rubra***), 1 White Birch (***Betula pendula***), 1 Japanese Maple (***Acer palmatum***), 1 Crapemyrtle (***Lagerstroemia indica***), and 1 Hollywood Juniper (***Juniperus chinesis* 'Torulosa'**). See Appendix B: Tree Table

1. There is a total of **72 Bradford pears.** All 72 pears are mature specimens exhibiting varying degrees of structural and physiological well-being. Nearly all the pears are infected with a mild to heavy infestation of a fungal disease called fire blight **(*Erwinia amylovora*).**
    i. 65 of the trees (#60-81, #83-95, #99-101, #103, #112-126, #130, #132, #141-145 and #148-151) are growing at 2400 Ringwood Road.
    ii. The 7 remaining trees (#167-173) are growing at 1849 Fortune Drive.
2. There is a total of **39 maturing shamel ash trees.**
    i. 19 of the trees (A-S) are growing on the adjacent properties along the western property lines each appearing to be in a good state of structural and physiological well-being. All 19 have limbs and roots encroaching into the proposed project development envelopes and will require on site monitoring by a certified arborist to prevent undue damage to the trees when development activities occur within the drip lines of the trees.
    ii. 5 of the evergreen ash (#205-210) are street trees growing in the parkstrip along Fortune drive that require tree protection. The trees appear to be suffering the effects of water deprivation witnessed by copious amounts of deadwood throughout their canopies. The copious amount of deadwood presents an elevated risk for breakage and presents a safety hazard for the public at large. Additionally, there appears to be recently placed underground utility markings (paint) on the side walk in close proximity to the trees implying trenching is planned. Trenching will result in extensive root damage. Additional information is required regarding the exact placement and excavation of the underground utilities before a prescription of protection and preservation can be crafted.
    iii. 9 of the evergreen ash (#156-164) are growing along the western property line at 1849 Fortune Drive. The trees appear to be in good state of structural and physiological well-being.
    iv. 5 of the evergreen ash (#102, #104-107) are growing in the planting bed along Ringwood Road. The trees are suffering varying degrees of water deprivation witnessed by copious amounts of deadwood in their canopy.
    v. 1 evergreen ash (#186A) is growing on the adjacent property west of 1849 Fortune Drive. The tree is in a good state of structural and physiological well-being and is at risk of direct impacts and root damage.
3. There is a total of **13 maturing liquidambar trees.**
    i. 1 of the trees (#82) is growing in a planting bed along the southern rear property line of 2400 Ringwood Road and appears to be in a good state of structural and physiological well-being.
    ii. The remaining 12 trees (#152, #174-179, #187-190, and #193) are growing in various locations at 1849 Fortune Drive, 8 of which are in a good state of structural and physiological well-being with the remaining 4 being dead.

4. There is a total of **12 maturing oleanders** (i-iv, and #134-140) growing in the rear patio and western entrance to 2400 Ringwood Road. All 12 trees appear to be in a good state of structural and physiological well-being.
5. There is a total of **9 maturing canary island pine trees** (#155, #165-166, and #199-204) growing in front of and at the rear of 1849 Fortune Drive. All 9 trees appear to be in a good state of structural and physiological well-being.
6. There is a total of **8 maturing cherry trees** (v-xi, and #185), 7 are flowering cherries and 1 is a fruiting cherry. The 7 flowering cherries are growing in the rear patio area at 2400 Ringwood Road and all are dead or near death. The fruiting cherry is located at 1849 Fortune Drive and appears to be in a good state of structural and physiological well-being.
7. There is a total of 7 **maturing southern magnolia trees** (#153-154, and #194-198) growing in front of 1849 Fortune Drive and all appear to be in varying levels of water related distress from mild to severe.
8. There is a total of **6 maturing London plane trees** (#111, #211-215) growing in front of 2400 Ringwood Road along Tradezone Blvd.; 5 are street trees and 1 tree is growing on the subject property. The five street trees have suffered the effects of utility pruning (topping) and most are in a state of decline which is being exacerbated by water deprivation. 1 street tree #213 is dead and will require a separate tree removal permit. The 1 plane tree on the subject property is in a good state of structural and physiological well-being.
9. There is a total of **5 maturing coast redwood trees** (#180-184) growing at the rear of 1849 Fortune Drive. All 5 trees are suffering mild to moderate water deprivation.
10. There is a total of **4 maturing white alder trees** (#127-129, and #131) growing at 2400 Ringwood Road. 3 of the trees appear to be in a good state of structural and physiological well-being with the 4th tree #127 having visible mushrooms growing atop the buttress roots on the day of my inspection. The mushrooms appear to be oak root fungus (***Armillaria mellea*).**
11. There is a total of **3 maturing valley oak trees** (#96-98) growing in the parking lot planting island at 2400 Ringwood Road. All 3 tree are suffering mild to moderate levels of water deprivation.
12. There is a total of **3 maturing Chinese tallow trees** (#108-109) growing at 2400 Ringwood Road in the planting bed near the flag poles. All 3 trees are suffering mild levels of water deprivation.
13. **1 maturing Japanese maple tree** (#146) is growing in the planting bed at the front entrance to 2400 Ringwood Road. The tree appears to be in a good state of structural and physiological well-being.
14. **1 maturing coast live oak tree** (#147) is growing in the planting bed at the front entrance to 2400 Ringwood Road. The tree appears to be in a good state of structural and physiological well-being.
15. **1 maturing red oak tree** (#205) is a street tree growing in the park strip along 1849 Fortune Drive. The tree is suffering moderate levels of water deprivation witnessed by copious amounts of deadwood in the canopy.

16. **1 maturing white birch tree** (#186) is growing near the west side patio at 1849 Fortune Drive. The tree is dead.
17. **1 maturing crapemyrtle tree** (#191) is growing against the front of the bldg. at 1849 Fortune Drive. The tree appears to be suffering mild levels of water deprivation.
18. **1 maturing Hollywood juniper tree** (#192) is growing against the front of the bldg. at 1849 Fortune Drive. The tree appears to be in a good state of structural and physiological well-being.

TESTING & ANALYSIS

This preliminary tree protection and preservation analysis is based on assumptions made by reviewing the site plan provided by Kimley-Horn that is titled "EXISTING TREES" and dated 5/5/21.

DISCUSSION

Tree Construction Tolerance

Healthy trees are generally better able to withstand construction stressors than are unhealthy trees, as they have stored nutrients available to use for recovery. A tree's roots grow in unpredictable patterns, generally within the top two feet of soil and the root systems of mature trees may extend much farther than the dripline. The tolerance of disturbance varies widely among species**.** The relative tolerance of London plane trees in California to withstand development impacts is rated "Good." (Clark pg. 174)

Soil Compaction

Most soil compaction results from vehicle and equipment traffic, although foot traffic and rainwater impact may also contribute to a lesser extent. The severity of compaction depends on the force per area unit applied to the soil, frequency of application, surface cover, soil texture, and soil moisture. Soils with a clay or loam texture, high moisture content, or low levels of organic matter are more susceptible to compaction than are dry or frozen, coarse-textured soils, and those high in organic matter. (Fite pg. 3)

Soil and Root Protection within the TPZ

When activities cannot be kept outside the tree's dripline actions can be taken to disperse the load, minimizing soil compaction and mechanical root damage. These include:

- Applying 6 to 12 inches of wood chip mulch to cover the area where roots are located
- Laying ¾ inch minimum thickness plywood, beams, or road mats over a 4+ inch thick layer of wood chip mulch
- Applying 4 to 6 inches of gravel over a taut, staked, geotextile fabric

Supplemental Irrigation

Supplemental irrigation should be provided prior to beginning construction activities and continue weekly throughout the duration of the project for all trees planned for root pruning or for trees with reduced tree protection zones that encroach to within the tree's dripline.

Irrigation water should penetrate the soil to the depth of the tree roots, generally within the upper 6 to 18 inches of the original soil surface. It is best to monitor soil moisture under high-value trees with soil moisture sensors. Lacking sensors, a general rule in humid, temperate regions is to provide a minimum of 1 inch of irrigation water weekly in the absence of normal rainfall. With drought adapted species in Mediterranean climates, a guideline is to provide 1 or 2 inches monthly. Water needs will vary with the season and tree species. Irrigation application methods include aboveground sprinklers, bubblers, soaker hoses, or injection of water into the soil. (Fite pg. 23)

Pruning Specifications
All tree pruning activities shall be performed prior to beginning development activities by a qualified Arborist with a C-61/D-49 California Contractors License. Tree maintenance and care shall be specified in writing according to American National Standard (ANSI) for Tree Care Operations: Tree, Shrub and Other woody Plant Management: Standard Practices parts 1 through 10, adhering to ANSI Z133.1 safety standards and local regulations. Work shall be performed according to the most recent edition of the International Society of Arboriculture© Best Management Practices for each subject matter (Tree Pruning etc.) *The use of spikes and/or gaffs when climbing is strictly prohibited unless the tree is being removed*.

- *Elevate Crown* (a.k.a. raise crown)-The selective removal of lower growing or low hanging limbs to gain vertical clearance. Do not remove living stems greater than 4" in diameter without the approval of the Project Arborist.
- *Reduce end-weight*-Cut the offending stem[s] back to a lateral that is ⅓ the diameter or more of the parent stem and capable of maintaining apical dominance. Remove no more than 25 percent of the living tissue from the offending stem[s]. Remove all existing dead stubs and/or damaged branches per occurrence. Do not cut back into living stems that are 4" or greater in diameter without the approval of the Project Arborist.

Root Pruning Specifications
Root pruning is the process of cleanly cutting roots prior to mechanical excavation to minimize damage to the tree's root system. Root pruning and root damage from excavation can cause great harm to a tree, especially if structural roots are affected. Damage to these roots can reduce tree health and/or structural stability…Air, water, [or hand excavation] prior to root pruning allows the arborist to examine the roots and determine the best places to make cuts, preferably beyond sinker roots or outside root branch unions. (Fite pg. 17)

The principles of Compartmentalization of Decay in Trees (CODIT) apply to roots as well as to stems. Because root injuries are common in nature, roots have evolved to be strong compartmentalizers. Small root cuts do not usually lead to extensive decay. Decay development because of root cutting can take years or decades to develop in temperate climates. Just as flush cutting branches is no longer an acceptable practice, a pruning cut that removes a root at its point of origin should not cut into the parent root. The final cut should result in a flat surface with adjacent bark firmly attached. Smaller pruning cuts are preferred. (Costello pg. 17)

Should roots 2" in diameter or greater be unearthed, root pruning may prove necessary. Halt activities and contact the project arborist to advise. The following guidelines should be adhered to with the project Arborist on site to advise work crews.

- Pruning roots 2" in diameter or greater requires the use of a commercial grade 15-amp reciprocating saw with at least 3 new unused wood cutting blades available while on-site.
- Cleanly sever the root without ripping or tearing the root tissue. It is preferable to cut back to a lateral root, much like when reducing the length of a stem or branch.

Underground Utilities
All underground utilities shall be routed outside the dripline of any protected tree. If the utilities cannot be routed outside the dripline, use boring equipment or hand excavate the trenches leaving roots 2 inches in diameter or greater intact and route the utilities below the roots.

CONCLUSIONS

1. The 11 street trees along Fortune Drive and Tradezone Blvd. require tree protection in the form of chained link fencing or wrapping their trunks to protect against direct impacts. Trees #205-210 pose a safety hazard to the public at large and should be pruned to reduce the risk of dead limb breakage. Additional information regarding the excavation and installation of underground utilities in close proximity to the street trees is required to ensure all available tree protection and preservation efforts are being identified and employed.
2. 19 trees (lettered A-S) are growing on adjacent properties along the western property lines and require o site monitoring by a certified arborist due to their limbs and roots encroaching into the building and/or development areas. On site monitoring of the trees will be required for all development activities occurring within the trees' driplines on a per occurrence basis.
3. 1 tree (#186A) is growing on the adjacent property at the eastern side of 1849 Fortune Drive requires tree protection in the form of chained link fencing and/or wrapping the trunk for protection against direct impacts.
4. The remaining 156 trees are proposed for removal due to their locations being within the building footprints and/or the footprints of other infrastructure.

We are unable at this time to locate the specific "code required replacement program for trees removed" for commercial properties. We recommend using the metric of installing 1 each 15-gallon size tree for each tree removed until such time that the City of San Jose's Planning Director presents to you the city's tree replacement requirements for this project.

RECOMMENDATIONS

1. Prune street trees #205-210 in a manner described as "remove deadwood 1 inch or greater in diameter and reduce end-weights as needed on long over-extended limbs." See Pruning Specifications.

2. Install tree protection fencing or trunk wrap on street trees #205-212, #214-215, and the interior tree #186A. (Type of tree protection contingent upon review of proposed underground utility installations.) See #5-12 below.
3. With the permits in hand, remove trees #60-204, and i-xi.
4. Schedule on site monitoring by a certified arborist for trees lettered A-S when any development activities are conducted within the tree's driplines.
5. Damage to any tree during construction shall be immediately reported by a person causing the damage, the responsible contractor, or the owner to the director, and the contractor and/or owner shall treat the tree for damage in the manner specified by the city arborist; and
6. No construction equipment, vehicles or materials shall be stored, parked or standing within the tree dripline; and
7. Drains shall be installed according to city specifications so as to avoid harm to trees due to excess watering; and
8. Wires, signs and other similar items shall not be attached to trees; and
9. Cutting and filling around the base of trees shall be done only after consultation with the city arborist and then only to the extent authorized by the city arborist; and
10. No paint thinner, paint, plaster or other liquid or solid excess or waste construction materials or wastewater shall be dumped on the ground or into any grate between the dripline and the base of the tree or uphill from any tree where certain substances might reach the roots through a leaching process; and
11. Fencing shall be installed outside the canopy of the tree to the dripline unless otherwise directed by the certified arborist to prevent injury to trees making them susceptible to disease causing organisms; and
12. Wherever cuts or soil disturbances are made in the ground near the roots of trees, appropriate measures shall be taken to prevent exposed soil from drying out and causing damage to tree roots as prescribed in a certified arborist report.
13. Leave tree protection fencing or trunk wraps in place throughout the duration of the project or until their removal is authorized by the city arborist.
14. Supply and plant replacement trees as directed by the City of San Jose during the landscape phase.

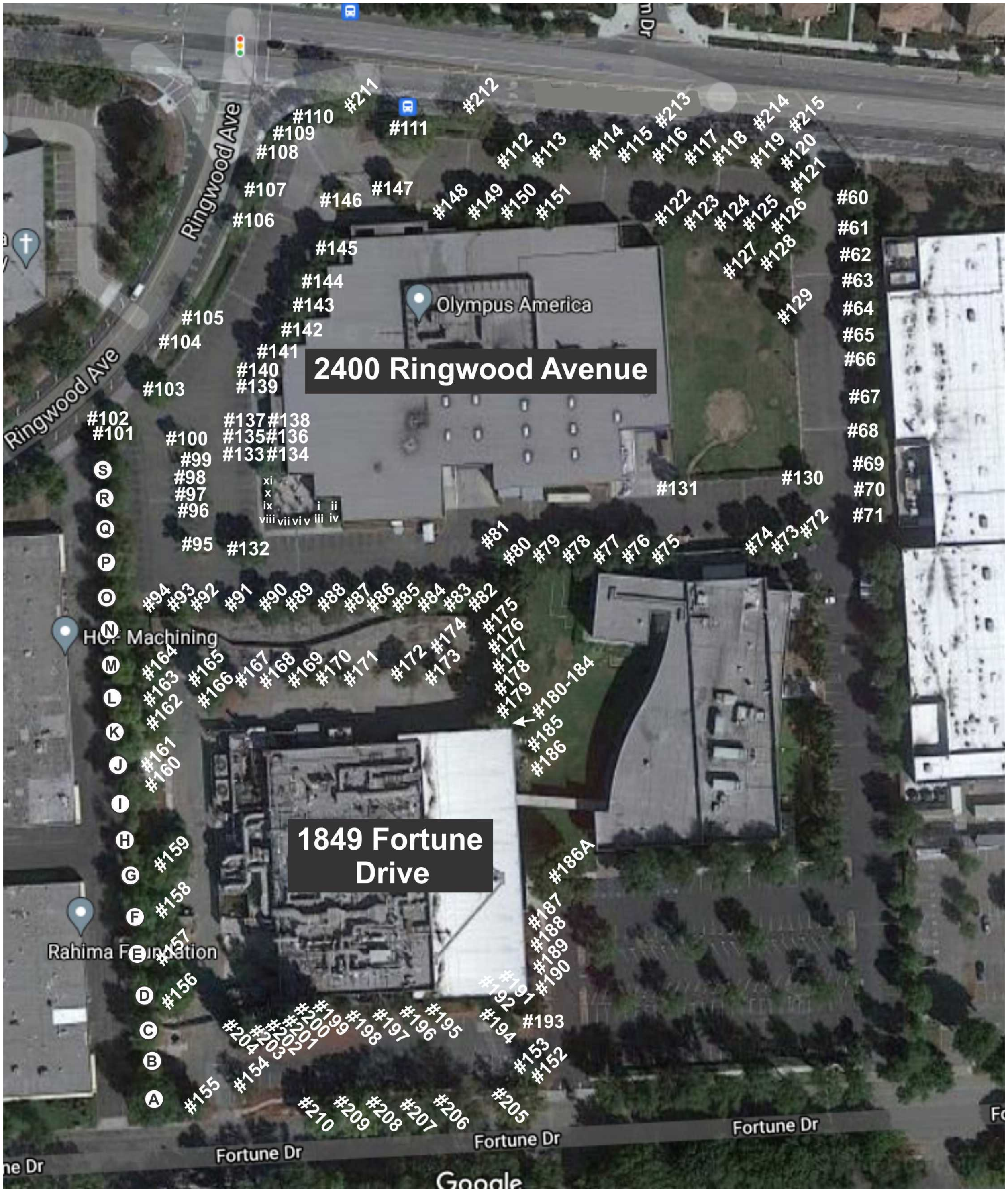
BIBLIOGRAPHY

-Clark, James R. and Nelda Matheny. Trees and Development: A Technical Guide to Preservation of Trees During Land Development. Champaign, IL: International Society of Arboriculture, 1998.

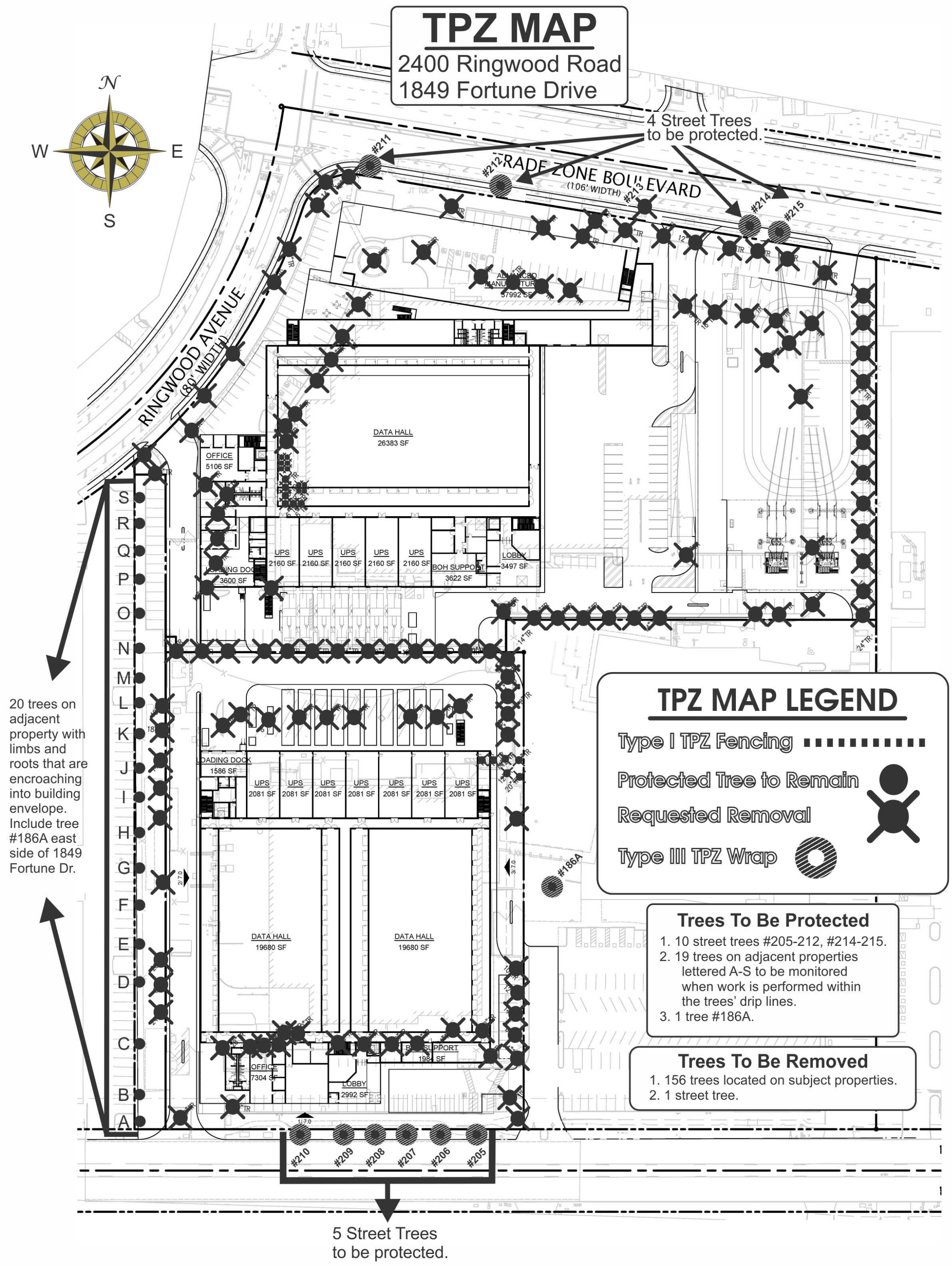
-Costello, Larry, Ph.D., Gary Watson, Ph.D., et al. Best Management Practices. Root Management 2017. Champaign, IL; International Society of Arboriculture.

-Fite, Kelby, Ph. D. and E. Thomas Smiley, Ph. D. Best Management Practices. Managing Trees During Construction. Second Edition 2016. Champaign, IL: International Society of Arboriculture, 1998.

APPENDIX A: TREE LOCATIONS



APPENDIX B: TPZ MAP



KIMLEY-HORN: STACK INFRASTRUCTURE (OLYMPUS BLDG.)
2400 RINGWOOD AVENUE
SAN JOSE, CA 95121

TREE #	COMMON NAME	GENUS/SPECIES	DBH (IN.)	SPREAD (FT.)	CONDITION	IMPACTS	STATUS
60	Bradford Pear	***Pyrus calleryana 'Bradford'***	18	30	Good*	Footprint	Remove
61	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.8	25	Good*	Footprint	Remove
62	Bradford Pear	***Pyrus calleryana 'Bradford'***	13	20	Good*	Footprint	Remove
63	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.8	25	Good*	Footprint	Remove
64	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.4	20	Good*	Footprint	Remove
65	Bradford Pear	***Pyrus calleryana 'Bradford'***	18.3	30	Good*	Footprint	Remove
66	Bradford Pear	***Pyrus calleryana 'Bradford'***	13.5	20	Good*	Footprint	Remove
67	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.4	20	Good*	Footprint	Remove
68	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.2	20	Good*	Footprint	Remove
69	Bradford Pear	***Pyrus calleryana 'Bradford'***	10	20	Good*	Footprint	Remove
70	Bradford Pear	***Pyrus calleryana 'Bradford'***	7.8	15	Good*	Footprint	Remove
71	Bradford Pear	***Pyrus calleryana 'Bradford'***	7.7	10	Good*	Footprint	Remove
72	Bradford Pear	***Pyrus calleryana 'Bradford'***	13	20	Good*	Footprint	Remove
73	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.1	30	Good*	Footprint	Remove
74	Bradford Pear	***Pyrus calleryana 'Bradford'***	17	25	Good*	Footprint	Remove
75	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.2	20	Good*	Footprint	Remove
76	Bradford Pear	***Pyrus calleryana 'Bradford'***	16.8	25	Good*	Footprint	Remove
77	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.2	30	Good*	Footprint	Remove
78	Bradford Pear	***Pyrus calleryana 'Bradford'***	18.1	35	Good*	Footprint	Remove
79	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.8	20	Good*	Footprint	Remove
80	Bradford Pear	***Pyrus calleryana 'Bradford'***	17.1	30	Good*	Footprint	Remove
81	Bradford Pear	***Pyrus calleryana 'Bradford'***	12.6	15	Good*	Footprint	Remove
82	Liquidambar	***Liquidambar styraciflua***	10, 8, 5.	15	Good	Footprint	Remove
83	Bradford Pear	***Pyrus calleryana 'Bradford'***	12.5	20	Fair*	Footprint	Remove
84	Bradford Pear	***Pyrus calleryana 'Bradford'***	13.2	20	Good*	Footprint	Remove
85	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.2	30	Fair*	Footprint	Remove
86	Bradford Pear	***Pyrus calleryana 'Bradford'***	13.6	25	Good*	Footprint	Remove
87	Bradford Pear	***Pyrus calleryana 'Bradford'***	13.5	25	Good*	Footprint	Remove
88	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.9	25	Fair*	Footprint	Remove
89	Bradford Pear	***Pyrus calleryana 'Bradford'***	12.8	20	Fair*	Footprint	Remove
90	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.6	25	Good*	Footprint	Remove
91	Bradford Pear	***Pyrus calleryana 'Bradford'***	10.3	15	Good*	Footprint	Remove

92	Bradford Pear	***Pyrus calleryana 'Bradford'***	9.6	15	Fair*	Footprint	Remove
93	Bradford Pear	***Pyrus calleryana 'Bradford'***	10	15	Good*	Footprint	Remove
94	Bradford Pear	***Pyrus calleryana 'Bradford'***	3.5	5	Good*	Footprint	Remove
95	Bradford Pear	***Pyrus calleryana 'Bradford'***	11.3	15	Fair*	Footprint	Remove
96	Valley Oak	***Quercus lobata***	8.7	15	Fair	Footprint	Remove
97	Valley Oak	***Quercus lobata***	10.2	20	Good	Footprint	Remove
98	Valley Oak	***Quercus lobata***	8.6	10	Fair	Footprint	Remove
99	Bradford Pear	***Pyrus calleryana 'Bradford'***	9.3	15	Fair*	Footprint	Remove
100	Bradford Pear	***Pyrus calleryana 'Bradford'***	10.4	15	Fair*	Footprint	Remove
101	Bradford Pear	***Pyrus calleryana 'Bradford'***	10.8	20	Good*	Footprint	Remove
102	Evergreen Ash	***Fraxinus uhdei***	9	15	Good	Footprint	Remove
103	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.5	20	Good*	Footprint	Remove
104	Evergreen Ash	***Fraxinus uhdei***	8	10	Distress	Footprint	Remove
105	Evergreen Ash	***Fraxinus uhdei***	13	15	Fair	Footprint	Remove
106	Evergreen Ash	***Fraxinus uhdei***	10, 6.9.	15	Fair	Footprint	Remove
107	Evergreen Ash	***Fraxinus uhdei***	11.8, 11.8.	25	Fair	Footprint	Remove
108	Chinese Tallow	***Triadica sebifera***	13.1	25	Fair	Footprint	Remove
109	Chinese Tallow	***Triadica sebifera***	11.2	15	Fair	Footprint	Remove
110	Chinese Tallow	***Triadica sebifera***	11.7	20	Fair	Footprint	Remove
111	London Plane Tree	***Platanus x hispanica***	18.2	60	Good	Footprint	Remove
112	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.8	30	Good*	Footprint	Remove
113	Bradford Pear	***Pyrus calleryana 'Bradford'***	13.4	25	Good*	Footprint	Remove
114	Bradford Pear	***Pyrus calleryana 'Bradford'***	13.1	25	Good*	Footprint	Remove
115	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.5	20	Good*	Footprint	Remove
116	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.4	20	Good*	Footprint	Remove
117	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.2	20	Good*	Footprint	Remove
118	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.2	25	Good*	Footprint	Remove
119	Bradford Pear	***Pyrus calleryana 'Bradford'***	2.1	3	Good*	Footprint	Remove
120	Bradford Pear	***Pyrus calleryana 'Bradford'***	2.8	5	Good*	Footprint	Remove
121	Bradford Pear	***Pyrus calleryana 'Bradford'***	17.6	35	Good*	Footprint	Remove
122	Bradford Pear	***Pyrus calleryana 'Bradford'***	17	25	Good*	Footprint	Remove
123	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.3	20	Good*	Footprint	Remove
124	Bradford Pear	***Pyrus calleryana 'Bradford'***	16.1	25	Fair*	Footprint	Remove
125	Bradford Pear	***Pyrus calleryana 'Bradford'***	17.1	30	Good*	Footprint	Remove
126	Bradford Pear	***Pyrus calleryana 'Bradford'***	17	35	Good*	Footprint	Remove
127	White Alder	***Alnus rhombifolia***	18.5	30	Poor	Footprint	Remove
128	White Alder	***Alnus rhombifolia***	12.4	10	Good	Footprint	Remove

129	White Alder	***Alnus rhombifolia***	16	15	Good	Footprint	Remove
130	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.6	20	Good*	Footprint	Remove
131	White Alder	***Alnus rhombifolia***	12.6	20	Good	Footprint	Remove
132	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.5	25	Good*	Footprint	Remove
133	Oleander	***Nerium oleander***	6.4	15	Good	Footprint	Remove
134	Oleander	***Nerium oleander***	6.6	15	Good	Footprint	Remove
135	Oleander	***Nerium oleander***	6	15	Good	Footprint	Remove
136	Oleander	***Nerium oleander***	5.9	15	Good	Footprint	Remove
137	Oleander	***Nerium oleander***	5.9	15	Good	Footprint	Remove
138	Oleander	***Nerium oleander***	7.5	15	Good	Footprint	Remove
139	Oleander	***Nerium oleander***	7.5	15	Good	Footprint	Remove
140	Oleander	***Nerium oleander***	7.8	15	Good	Footprint	Remove
141	Bradford Pear	***Pyrus calleryana 'Bradford'***	15	25	Good*	Footprint	Remove
142	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.5	25	Good*	Footprint	Remove
143	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.3	30	Good*	Footprint	Remove
144	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.7	35	Good*	Footprint	Remove
145	Bradford Pear	***Pyrus calleryana 'Bradford'***	14	30	Good*	Footprint	Remove
146	Japanese Maple	***Acer palmatum***	9.8 @ grade	20	Good	Footprint	Remove
147	Coast Live Oak	***Quercus agrifolia***	13.2	30	Good	Footprint	Remove
148	Bradford Pear	***Pyrus calleryana 'Bradford'***	4.6	10	Good*	Footprint	Remove
149	Bradford Pear	***Pyrus calleryana 'Bradford'***	16.2	40	Good*	Footprint	Remove
150	Bradford Pear	***Pyrus calleryana 'Bradford'***	13	25	Good*	Footprint	Remove
151	Bradford Pear	***Pyrus calleryana 'Bradford'***	15.4	35	Good*	Footprint	Remove
i	Oleander	***Nerium oleander***	Interior patio, did not access.		Good	Footprint	Remove
ii	Oleander	***Nerium oleander***	Interior patio, did not access.		Good	Footprint	Remove
iii	Oleander	***Nerium oleander***	Interior patio, did not access.		Good	Footprint	Remove
iv	Oleander	***Nerium oleander***	Interior patio, did not access.		Good	Footprint	Remove
v	Flowering Cherry	***Prunus spp.***	Interior patio, did not access.		Dead	Footprint	Remove
vi	Flowering Cherry	***Prunus spp.***	Interior patio, did not access.		Dead	Footprint	Remove
vii	Flowering Cherry	***Prunus spp.***	Interior patio, did not access.		Dead	Footprint	Remove
viii	Flowering Cherry	***Prunus spp.***	Interior patio, did not access.		Dead	Footprint	Remove
ix	Flowering Cherry	***Prunus spp.***	Interior patio, did not access.		Dead	Footprint	Remove
x	Flowering Cherry	***Prunus spp.***	Interior patio, did not access.		Dead	Footprint	Remove
xi	Flowering Cherry	***Prunus spp.***	Interior patio, did not access.		Dead	Footprint	Remove
O	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
P	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
Q	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain

R	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
S	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
211	London Plane Tree	***Platanus x hispanica (stree tree)***	22.2	50	Good	Direct impacts, soil compaction, root loss.	Retain/Protect
212	London Plane Tree	***Platanus x hispanica (stree tree)***	14.1	30	Good	Direct impacts, soil compaction, root loss.	Retain/Protect
213	London Plane Tree	***Platanus x hispanica (stree tree)***	8.5	25	Dead	Direct impacts, soil compaction, root loss.	Retain/Protect
214	London Plane Tree	***Platanus x hispanica (stree tree)***	13.5	30	Poor	Direct impacts, soil compaction, root loss.	Retain/Protect
215	London Plane Tree	***Platanus x hispanica (stree tree)***	14.3	30	Poor	Direct impacts, soil compaction, root loss.	Retain/Protect

***** All Pyrus calleryana suffering infestation of fire blight from mild to heavy.

****** Trees on neighboring property, did not physically access to measure tree diameters.

KIMLEY-HORN: STACK INFRASTRUCTURE (DATA CENTER) 1849 FORTUNE DRIVE SAN JOSE, CA 95121							
TREE #	**COMMON NAME**	**GENUS/SPECIES**	**DBH (IN.)**	**SPREAD (FT.)**	**CONDITION**	**IMPACTS**	**STATUS**
152	Liquidambar	***Liquidambar styraciflua***	9	20	Good	Footprint	Remove
153	Southern Magnolia	***Magnolia grandiflora***	11.9	25	Good	Footprint	Remove
154	Southern Magnolia	***Magnolia grandiflora***	12.4	25	Good	Footprint	Remove
155	Canary Island Pine	***Pinus canariensis***	20.3	20	Good	Footprint	Remove
156	Shamel Ash	***Fraxinus uhdei***	23.5	55	Good	Footprint	Remove
157	Shamel Ash	***Fraxinus uhdei***	6.2	15	Good	Footprint	Remove
158	Shamel Ash	***Fraxinus uhdei***	17.7	25	Good	Footprint	Remove
159	Shamel Ash	***Fraxinus uhdei***	17.5	25	Good	Footprint	Remove
160	Shamel Ash	***Fraxinus uhdei***	17.3	35	Good	Footprint	Remove
161	Shamel Ash	***Fraxinus uhdei***	25.7	55	Good	Footprint	Remove
162	Shamel Ash	***Fraxinus uhdei***	16.8	35	Good	Footprint	Remove
163	Shamel Ash	***Fraxinus uhdei***	19.2	30	Good	Footprint	Remove
164	Shamel Ash	***Fraxinus uhdei***	21.1	45	Good	Footprint	Remove
165	Canary Island Pine	***Pinus canariensis***	16.2	25	Good	Footprint	Remove
166	Canary Island Pine	***Pinus canariensis***	17.5	25	Good	Footprint	Remove
167	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.8	25	Poor*	Footprint	Remove
168	Bradford Pear	***Pyrus calleryana 'Bradford'***	9.6	15	Poor	Footprint	Remove
169	Bradford Pear	***Pyrus calleryana 'Bradford'***	12	25	Poor	Footprint	Remove
170	Bradford Pear	***Pyrus calleryana 'Bradford'***	13.7	25	Fair	Footprint	Remove
171	Bradford Pear	***Pyrus calleryana 'Bradford'***	10.1	20	Poor	Footprint	Remove
172	Bradford Pear	***Pyrus calleryana 'Bradford'***	14.2	25	Fair	Footprint	Remove
173	Bradford Pear	***Pyrus calleryana 'Bradford'***	11.2	20	Good	Footprint	Remove
174	Liquidambar	***Liquidambar styraciflua***	7.4	20	Fair	Footprint	Remove
175	Liquidambar	***Liquidambar styraciflua***	13.2	35	Good	Footprint	Remove
176	Liquidambar	***Liquidambar styraciflua***	12.4, 9.1.	35	Good	Footprint	Remove
177	Liquidambar	***Liquidambar styraciflua***	14.1	35	Good	Footprint	Remove
178	Liquidambar	***Liquidambar styraciflua***	11.3	25	Good	Footprint	Remove
179	Liquidambar	***Liquidambar styraciflua***	18.3	45	Good	Footprint	Remove
180	Coast Redwood	***Sequoia sempervirens***	15.9	15	Fair	Footprint	Remove
181	Coast Redwood	***Sequoia sempervirens***	14.6	15	Fair	Footprint	Remove

182	Coast Redwood	***Sequoia sempervirens***	12.4	15	Fair	Footprint	Remove
183	Coast Redwood	***Sequoia sempervirens***	13.7	15	Fair	Footprint	Remove
184	Coast Redwood	***Sequoia sempervirens***	20.4	20	Good	Footprint	Remove
185	Fruiting Cherry	***Prunus spp.***	5.3	10	Good	Footprint	Remove
186	White Birch	***Betula pendula***	8.6	15	Dead	Footprint	Remove
186A	Shamel Ash	***Fraxinus uhdei**** ***	31	70	Good	Direct impacts, soil compaction, root loss.	Retain/Protect
187	Liquidambar	***Liquidambar styraciflua***	9.3	15	Dead	Footprint	Remove
188	Liquidambar	***Liquidambar styraciflua***	11.6	10	Dead	Footprint	Remove
189	Liquidambar	***Liquidambar styraciflua***	14.2	35	Dead	Footprint	Remove
190	Liquidambar	***Liquidambar styraciflua***	7	10	Dead	Footprint	Remove
191	Crapemyrtle	***Lagerstroemia indica***	14	20	Good	Footprint	Remove
192	Hollywood Juniper	***Juniperus chinesis 'Torulosa'***	11.3, 10.2.	25	Good	Footprint	Remove
193	Liquidambar	***Liquidambar styraciflua***	14.8	30	Good	Footprint	Remove
194	Southern Magnolia	***Magnolia grandiflora***	13.8	30	Fair	Footprint	Remove
195	Southern Magnolia	***Magnolia grandiflora***	15.3	30	Fair	Footprint	Remove
196	Southern Magnolia	***Magnolia grandiflora***	17.7	35	Fair	Footprint	Remove
197	Southern Magnolia	***Magnolia grandiflora***	16	35	Poor	Footprint	Remove
198	Southern Magnolia	***Magnolia grandiflora***	15.4	30	Poor	Footprint	Remove
199	Canary Island Pine	***Pinus canariensis***	29	35	Good	Footprint	Remove
200	Canary Island Pine	***Pinus canariensis***	12.5	15	Good	Footprint	Remove
201	Canary Island Pine	***Pinus canariensis***	18.2	20	Good	Footprint	Remove
202	Canary Island Pine	***Pinus canariensis***	21.7	30	Good	Footprint	Remove
203	Canary Island Pine	***Pinus canariensis***	18.1	20	Good	Footprint	Remove
204	Canary Island Pine	***Pinus canariensis***	26	40	Good	Footprint	Remove
205	Red Oak	***Quercus rubra (street tree)***	17.9	50	Poor	Direct impacts, soil compaction, root loss.	Retain/Protect
206	Shamel Ash	***Fraxinus uhdei (street tree)***	34	65	Poor	Direct impacts, soil compaction, root loss.	Retain/Protect
207	Shamel Ash	***Fraxinus uhdei (street tree)***	28.8	55	Poor	Direct impacts, soil compaction, root loss.	Retain/Protect

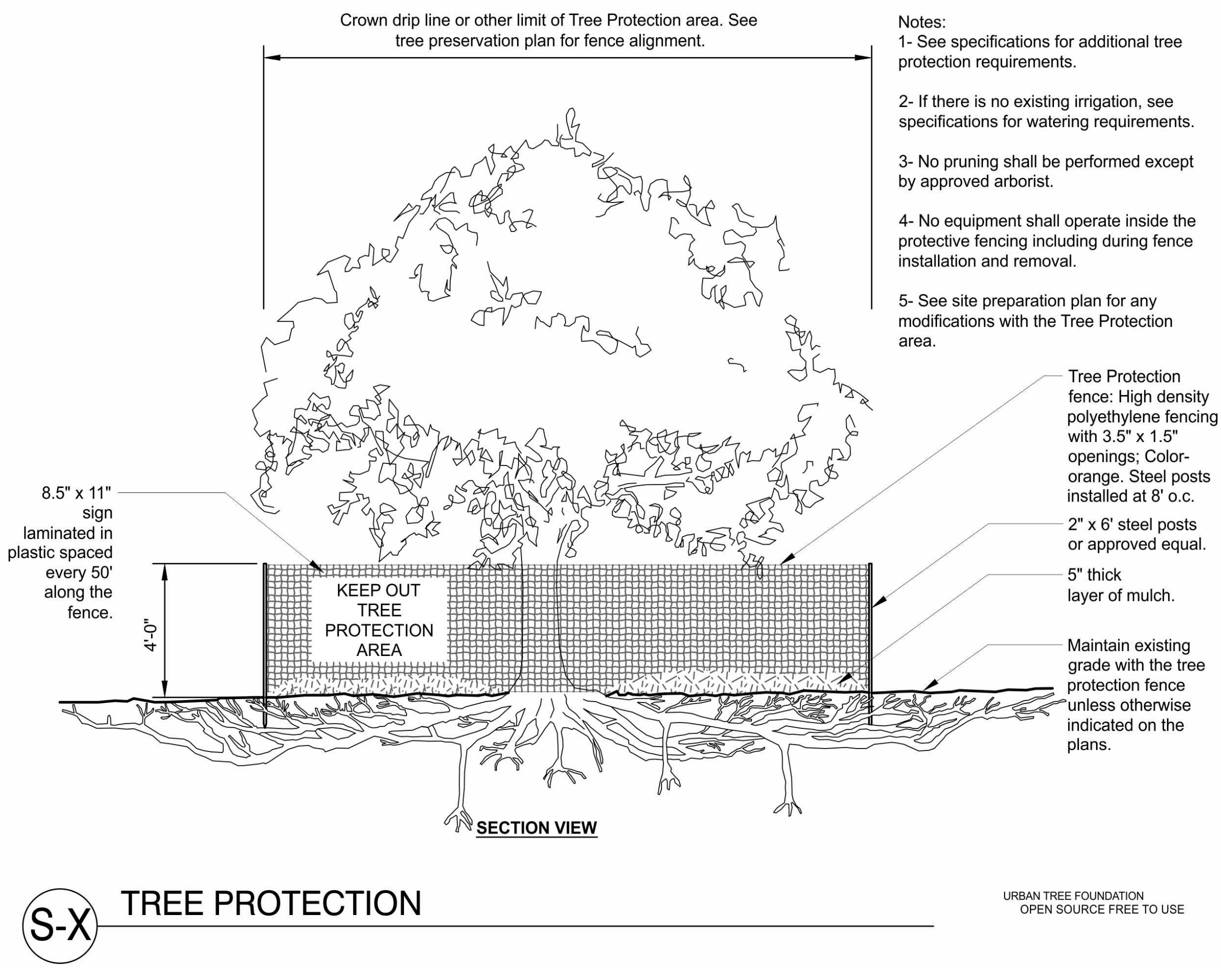
208	Shamel Ash	***Fraxinus uhdei (street tree)***	25.6	55	Poor	Direct impacts, soil compaction, root loss.	Retain/Protect
209	Shamel Ash	***Fraxinus uhdei (street tree)***	27	65	Poor	Direct impacts, soil compaction, root loss.	Retain/Protect
210	Shamel Ash	***Fraxinus uhdei (street tree)***	23.3	40	Good	Direct impacts, soil compaction, root loss.	Retain/Protect
A	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
B	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
C	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
D	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
E	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
F	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
G	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
H	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
I	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
J	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
K	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
L	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
M	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain
N	Shamel Ash	***Fraxinus uhdei***	Neighbor's tree; west side.**		Good	Monitor	Retain

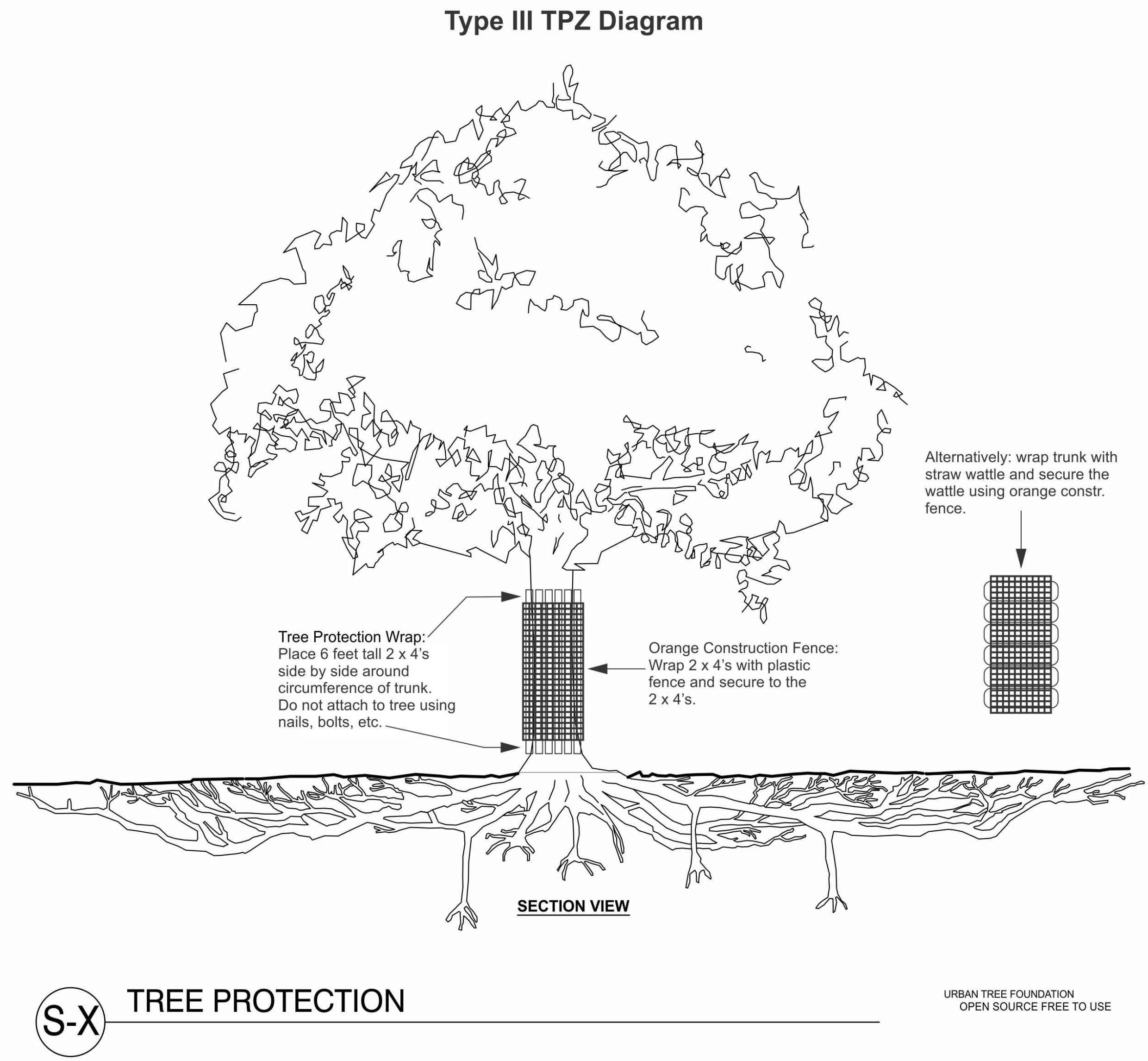
***** All Pyrus calleryana suffering infestation of fire blight from mild to heavy.

****** Trees on neighboring property, did not physically access to measure tree diameters.

******* Tree located on adjacent property. High risk for direct impacts and root damage.

Type I TPZ Diagram




Type III TPZ Diagram
Alternatively: wrap trunk with straw wattle and secure the wattle using orange constr. fence.
Tree Protection Wrap:
Place 6 feet tall 2 x 4's side by side around circumference of trunk.
Do not attach to tree using nails, bolts, etc.
Orange Construction Fence:
Wrap 2 x 4's with plastic fence and secure to the 2 x 4's.
SECTION VIEW
S-X
TREE PROTECTION
URBAN TREE FOUNDATION
OPEN SOURCE FREE TO USE

ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other government regulations.

3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however the consultant/appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.

4. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

5. Loss, alteration, or reproduction of any part of this report invalidates the entire report.

6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.

7. Neither all nor any part of this report, nor any copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant/appraiser particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or initialed designation conferred upon the consultant/appraiser as stated in his qualification.

8. This report and the values expressed herein represent the opinion of the consult/appraiser, and the consult/appraiser’s fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

9. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

10. Unless expressed otherwise: 1) information in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in future.

Respectfully submitted,

Dave

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Anderson's Tree Care Specialists, Inc.
A TCIA Accredited Company
ISA Certified Arborist #1233A PN
TRAQ Qualified
Office: 408 226-8733
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CORNERSTONE EARTH GROUP

Type of Services	Geotechnical Investigation
Project Name	Stack SVYL1/L2
Location	1849 Fortune Drive and 2400 Ringwood Avenue San Jose, California
Client	STACK Infrastructure (USA), LLC
Client Address	2001 Fortune Drive San Jose, California
Project Number	1210-2-2
Date	August 13, 2021

DRAFT

Prepared by

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Geotechnical Project Manager

Danh T. Tran, P.E.
Senior Principal Engineer
Quality Assurance Reviewer

CORNERSTONE EARTH GROUP

TABLE OF CONTENTS

CORNERSTONE
EARTH GROUP

Type of Services	**Geotechnical Investigation**
Project Name	**Stack SVYL1/L2**
Location	**1849 Fortune Drive and 2400 Ringwood Avenue San Jose, California**

SECTION 1: INTRODUCTION

This geotechnical report was prepared for the sole use of STACK Infrastructure (USA), LLC for the Stack SVYL1/L2 project in San Jose, 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 preliminary civil site plan titled "STACK – SVYAM, 2400 Ringwood Avenue, San Jose, CA 95131," prepared by Kimley Horn, dated June 25, 2021.
- A topographic survey titled "1849 Fortune and 2400 Ringwood for Microtel, San Jose, California," prepared by Kier & Wright, dated January 2021.
- An undated conceptual site plan prepared by Corgan.
- A draft report titled "Geotechnical Engineering Investigation, Proposed Tenant Improvements, 1849 Fortune Drive, San Jose, California," prepared by BAGG Engineers, dated July 14, 2018.

1.1 PROJECT DESCRIPTION

The project will include redeveloping the approximately 9½ acre site for a new data center campus with associated office and advanced manufacturing. The overall project will include construction of two three- to four-story data center buildings encompassing approximately 378,000 square feet, a four-story advanced manufacturing building, a four-level at-grade parking structure, a utility substation, two generator equipment yards, surface parking, landscaping, and associated utilities necessary for development. Building SVY04 will be approximately 225,000 square feet and Building SVY05 will be approximately 288,000 square feet. The data center buildings (SVY04 and SVY05) will include three levels of data center suites, and four levels of admin and office space in portions of the structure. The advanced manufacturing building will up to four stories, including office space, with square footage of approximately 135,000 square feet.

Anticipated dead plus live loads of 1,398 kips for typical Data Center interior columns, 1096 kips for typical Advanced Manufacturing columns, and 800 kips for typical parking structure columns were provided to us by Paradigm Structural Engineers on June 4, 2021 and August 4, 2021. Site grading with cuts and fills on the order of 2 to 3 feet are anticipated.

1.2 SCOPE OF SERVICES

Our scope of services was presented in our proposal dated April 6, 2021 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 exploratory borings drilled on June 1, 2, 3, 19, and 20, 2021 and July 10 and 11, 2021 with truck-mounted hollow-stem auger drilling equipment, and ten Cone Penetration Tests (CPTs) advanced on June 12 and 25, 2021. The borings were drilled to depths of 50 to 99½ feet; the CPTs were advanced to depths of 50 to 150 feet. Seismic shear wave velocity measurements were collected from CPT-6 and CPT-10. All of the borings (Boring EB-1 through EB-10) were advanced adjacent to the CPTs (CPT-1 through CPT-10) 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 PREVIOUS FIELD EXPLORATION BY OTHERS

Previous field exploration was performed by BAGG in 2018 for the 1849 Fortune Drive parcel, which consisted of five borings using truck-mounted exploration equipment. The approximate locations of the previous explorations are also shown on the Site Plan, Figure 2. Copies of the previous exploration logs are included in Appendix C.

1.5 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, consolidation tests, and triaxial compression tests. Details regarding our laboratory program are included in Appendix B.

1.6 ENVIRONMENTAL SERVICES

Cornerstone Earth Group also provided environmental services for this project, including Phase 1 site assessments; environmental findings and conclusions are provided under separate covers.

SECTION 2: REGIONAL SETTING

2.1 GEOLOGICAL SETTING

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

2.2 REGIONAL SEISMICITY

While seismologists cannot predict earthquake events, geologists from the U.S. Geological Survey have recently updated (in 2015) earlier estimates from their 2014 Uniform California Earthquake Rupture Forecast (Version 3; UCERF3) publication. The estimated probability of one or more magnitude 6.7 earthquakes (the size of the destructive 1994 Northridge earthquake) expected to occur somewhere in the San Francisco Bay Area has been revised (increased) to 72 percent for the period 2014 to 2043 (Aagaard et al., 2016). The faults in the region with the highest estimated probability of generating damaging earthquakes between 2014 and 2043 are the Hayward (33%), Calaveras (26%), and San Andreas Faults (22%). In this 30-year period, the probability of an earthquake of magnitude 6.7 or larger occurring is 22 percent along the San Andreas Fault and 33 percent for the Hayward Fault.

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. Other local seismologic features are discussed further in this report.

Table 1: Approximate Fault Distances

Fault Name	Distance	
	(miles)	(kilometers)
Hayward (Southeast Extension)	2.8	4.5
Hayward (Total Length)	5.6	9.0
Calaveras	6.2	10.0
Monte Vista-Shannon	10.9	17.5
San Andreas (1906)	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 approximately 9½-acre site includes two parcels (1849 Fortune Drive and 2400 Ringwood Avenue) in San Jose, California. The site is bounded by Trade Zone Boulevard to the north, industrial and commercial development to the east, Fortune Drive and commercial development to the south, and Ringwood Avenue and commercial development to the west.

The Fortune Drive parcel (proposed SVY05 building) is currently occupied by an existing, unoccupied commercial building consisting of a high-bay warehouse on the north portion of the building and office area with a second level loft on the south. Demolition and/or renovation of the existing building appears to have been started but was not completed. A fenced equipment yard/storage tank area is located on the north and west sides of the existing building. A loading dock was observed on the west side of the existing building. The building and equipment yard are surrounded by asphalt concrete parking, landscaping, and sidewalks. Concrete equipment and storage tank pads were observed along the west side of the site.

The Ringwood Avenue parcel (proposed SVY04 building, Advanced Manufacturing building, parking garage, and substation) is currently occupied by an existing one-story commercial building at the center of the parcel surrounded by at-grade asphalt concrete pavement, landscaping, and sidewalks. Vehicular pavers were observed in the northwest corner of the existing parking lot. A loading dock was also observed on the south side of the existing building. An outdoor fenced patio area was located at the southwest corner of the building. An at-grade grass area was present along the east side of the existing building.

Surface pavements generally consisted of 2 to 8 inches of asphalt concrete over 0 to 12 inches of aggregate base. Based on visual observations, the existing pavements are in moderate to very poor condition with areas of significant alligator cracking and pavement patching.

3.2 SUBSURFACE CONDITIONS

Below the surface pavements, our Exploratory Borings EB-1 through EB-5 and EB-7 through EB-10 generally encountered approximately 1½ to 4¼ feet of undocumented fill consisting of very stiff to hard lean clay with varying amounts of sand, medium dense to dense clayey sands with varying amounts of gravel, and medium dense well graded sand with gravel. Below the fills or surface pavements, our borings generally encountered soft to hard lean clays with varying amounts of sand and interbedded layers of loose to dense clayey sand, silty sand, and poorly graded sand to depths up to about 87 feet. Below the clays, Boring EB-6 encountered dense to very dense poorly graded sand with silt to the terminal boring depth of 99½ feet. Beneath the terminal boring depths, our CPTs generally encountered interbedded layers of stiff to hard clays and silts with varying amounts of sand and medium dense to very dense sands with varying amounts of clay and silt to the maximum depth explored of 150 feet.

3.2.1 Plasticity/Expansion Potential

We performed one Plasticity Index (PI) tests on a representative sample of the surficial soil (i.e. fill). Test results were used to evaluate expansion potential of surficial soils. The result of the surficial PI test indicated a PI of 15, indicating low to moderate expansion potential to wetting and drying cycles. In addition, BAGG performed one PI test on a surficial soil sample resulting in a PI of 21 indicating moderate 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 10 feet range from about optimum to about 15 percent over the estimated laboratory optimum moisture.

3.3 GROUNDWATER

Groundwater was encountered in our borings at depths ranging from 8½ to 16 feet below current grades and inferred from pore pressure dissipation tests in CPT-1, CPT-2, CPT-5, CPT-6, and CPT-8 at depths ranging from about 5 to 8½ feet below current grades. All measurements were taken at the time of drilling and may not represent the stabilized levels that can vary from the initial levels encountered.

We also reviewed groundwater data available online from the website GeoTracker, https://geotracker.waterboards.ca.gov/. Nearby monitoring well data indicates that groundwater has been measured at depths of approximately 6 to 9 feet at wells located northeast of the site (2104 North Capitol Avenue) and at depths of approximately 8 to 12 feet at wells located west of the site (1780 South Main Street). In addition, BAGG encountered groundwater at a depth of about 10 feet in previous borings performed in 2018.

Based on the above well data, CGS maps, and our experience in the area, we recommend a design groundwater depth of 8 feet. Fluctuations in groundwater levels occur due to many factors including seasonal fluctuation, underground drainage patterns, regional fluctuations, and other factors.

SECTION 4: GEOLOGIC HAZARDS

4.1 FAULT SURFACE RUPTURE

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

4.2 ESTIMATED GROUND SHAKING

Moderate to severe (design-level) earthquakes can cause strong ground shaking, which is the case for most sites within the Bay Area. A peak ground acceleration (PGA_M) was estimated following the Site Specific Response analysis procedure presented in Chapter 21, Section 21.1 of ASCE 7-16 and Supplement No.1, and is summarized in Appendix D.

4.3 LIQUEFACTION POTENTIAL

The site is within a State-designated Liquefaction Hazard Zone (CGS, Milpitas Quadrangle, 2003) 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 groundwater. The tip pressures are corrected for effective overburden stresses, taking into consideration both the groundwater level at the time of exploration and the design 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.

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

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 on the order of ½-inch or less 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 ⅓-inch or less between independent foundation elements, or over a horizontal distance of 30 to 50 feet along continuous foundations.

4.3.4 Ground Deformation and Surficial Cracking Potential

The methods used to estimate liquefaction settlements assume that there is a sufficient cap of non-liquefiable material to prevent ground deformation or sand boils. For ground deformation 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 minimum 8-foot thick layer of non-liquefiable cap is sufficient to prevent ground deformation and significant surficial cracking; 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 mapping of tsunami inundation potential for the San Francisco Bay Area by CGS (conservation.ca.gov/cgs/tsunami/maps), 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 8½ miles inland from the San Francisco Bay shoreline and is approximately 42 to 48 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 AO, described as a “special flood hazard areas subject to inundation by the 1% annual chance flood” with average flood depths of 1 foot. We recommend the project civil engineer be retained to confirm this information and verify the base flood elevation, if appropriate.

The Department of Water Resources (DWR), Division of Safety of Dams (DSOD) compiled a database of Dam Failure Inundation Hazard Maps (DSOD, 2015). The generalized hazard maps were prepared by dam owners as required by the State Office of Emergency Services; they are intended for planning purposes only. Based on our review of these maps, a small portion of the site along Fortune Drive appears to be located within a dam failure inundation area for the Cherry Flat Reservoir; however, the remainder of the site does not appear to be located within a dam failure inundation area.

SECTION 5: CONCLUSIONS

5.1 SUMMARY

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

- Potential for significant static settlements
- Redevelopment considerations
- Shallow groundwater
- Presence of moderately expansive soils
- Presence of undocumented fill

5.1.1 Potential for Significant Static Settlements

As noted above and discussed in the “Foundations” section of this report, structural loads are anticipated to range from about 800 to 1,398 kips for typical dead plus live loads for the parking garage, advanced manufacturing, and data center structures. As such, we estimate large static and long-term consolidation settlements to occur over the design life of the structure. In addition, based on the soft to medium stiff clays encountered starting at depths of about 7 feet, we anticipate low allowable bearing pressures would require large at-grade spread footings. Based on our engineering judgement, experience with similar projects, and the subsurface conditions, the proposed buildings should be supported on augercast piles or shallow foundations over ground improvement. Detailed foundation recommendations are presented in the “Foundations” section of this report.

5.1.2 Redevelopment Considerations

As discussed, the site is currently occupied by existing buildings and appurtenant flatwork, site fixtures, and landscaping. We understand that all of the existing improvements will be demolished for the construction of the planned development. Potential issues that are often associated with redeveloping sites include demolition of existing improvements, abandonment of existing utilities, and undocumented fills. Please refer to the “Earthwork” section below for further recommendations.

5.1.3 Shallow Groundwater

Shallow groundwater was measured at depths ranging from approximately 8½ to 16 feet below the existing ground surface in our exploratory borings and inferred from pore pressure dissipation tests in some of our CPTs at depths ranging from approximately 5 to 7½ feet below the existing ground surface. BAGG encountered groundwater in previous borings at a depth of about 10 feet (BAGG, 2018). Historic high groundwater is also mapped in the range of about 5 to 10 feet below current grades. We used a design groundwater depth of 8 feet.

Our experience with similar sites in the vicinity indicates that shallow groundwater could significantly impact grading and underground construction. These impacts typically consist of potentially wet and unstable pavement subgrade, difficulty achieving compaction, and difficult underground utility installation. Dewatering and shoring of utility trenches may be required in some areas of the site, particularly when excavations extend below about 6 feet below grade. In addition, excavated soils may be wet, and may require moisture conditioning prior to reuse as backfill material, or may require replacement with engineered fill. Detailed recommendations addressing this concern are presented in the "Earthwork" section of this report.

5.1.4 Presence of Moderately Expansive Soils

Moderately 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.

5.1.5 Undocumented Fill

As previously discussed, approximately 1½ to 4¼ feet of undocumented fill was encountered in our borings. Additional deeper undocumented fill may be present in other areas of the site as a result of prior development grading, including beneath the existing buildings. Undocumented fills are expected to vary in thickness, density, and consistency across the site. Therefore, we recommend all undocumented fill and existing improvements within future building areas be removed and replaced as engineered fill. Additional recommendations are outlined in the "Earthwork" sections below.

5.2 PLANS AND SPECIFICATIONS REVIEW

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

5.3 CONSTRUCTION OBSERVATION AND TESTING

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

SECTION 6: EARTHWORK

6.1 SITE DEMOLITION

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

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

6.1.1 Demolition of Existing Slabs, Foundations and Pavements

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

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

Special care should be taken during the demolition and removal of existing floor slabs, foundations, utilities and pavements to minimize disturbance of the subgrade. Excessive disturbance of the subgrade, which includes either native or previously placed engineered fill, resulting from demolition activities can have serious detrimental effects on planned foundation and paving elements.

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

6.1.2 Abandonment of Existing Utilities

All utilities should be completely removed from within planned building areas. For any utility line to be considered acceptable to remain within building areas, the utility line must be completely backfilled with grout or sand-cement slurry (sand slurry is not acceptable), the ends outside the building area capped with concrete, and the trench fills either removed and replaced as engineered fill with the trench side slopes flattened to at least 1:1, or the trench fills are determined not to be a risk to the structure. The assessment of the level of risk posed by the particular utility line will determine whether the utility may be abandoned in place or needs to be completely removed. The contractor should assume that all utilities will be removed from within building areas unless provided written confirmation from both the owner and the geotechnical engineer.

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

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

6.2 SITE CLEARING AND PREPARATION

6.2.1 Site Stripping

The site should be stripped of all surface vegetation, and surface and subsurface improvements to be removed within the proposed development area. Demolition of existing improvements is discussed in the prior paragraphs. A detailed discussion of removal of existing fills is provided later in this report. Surface vegetation and topsoil should be stripped to a sufficient depth to remove all material greater than 3 percent organic content by weight.

6.2.2 Tree and Shrub Removal

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

6.3 MITIGATION OF UNDOCUMENTED FILLS

As previously discussed, we encountered approximately 1½ to 4¼ feet of undocumented fill in our exploratory borings. We anticipate there may be other areas onsite that may have deeper undocumented fills due to past site development. All undocumented 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 to 18 inches of fill below pavement subgrade is re-worked and compacted as discussed in the "Compaction" section below.

6.4 TEMPORARY CUT AND FILL SLOPES

The contractor is responsible for maintaining all temporary slopes and providing temporary shoring where required. Temporary shoring, bracing, and cuts/fills should be performed in accordance with the strictest government safety standards. On a preliminary basis, the upper 10 feet at the site may be classified as OSHA Soil Type C materials. A Cornerstone representative should be retained to confirm the preliminary site classification.

Excavations performed during site demolition and fill removal should be sloped at 2:1 (horizontal:vertical) within the upper 5 feet below building subgrade. Actual excavation inclinations should be reviewed in the field during construction, as needed. Excavations below building subgrade and excavations in pavement and flatwork areas should be sloped in accordance with OSHA soil classification requirements.

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 WET SOIL STABILIZATION GUIDELINES

Native soil 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 about 15 percent over the estimated laboratory optimum in the upper 10 feet of the soil profile. The contractor should anticipate drying the soils prior to reusing them as fill. In addition, repetitive rubber-tire loading will likely de-stabilize the soils.

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 site conditions.

6.6.1 Scarification and Drying

The subgrade may be scarified to a depth of 8 to 10 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 geosynthetic (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.

6.7 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 parking garage slab-on-grade areas. AC grindings may not be reused within the habitable building areas. Laboratory testing will be required to confirm the grindings meet project specifications. Due to the existing alligator cracking of the AC pavements, it is likely that the grinding operation will leave significant oversize chunks and will not likely meet the Class 2 AB gradation requirements but may meet Caltrans subbase requirements. Depending on the quantities of oversized material, the grindings may still be used within the structural section; however, the pavement design will need to be modified to account for the difference, typically resulting in the addition of about 1 inch to the structural section.

6.7.3 Potential Import Sources

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 habitable building areas. Imported soil for use as general fill 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 habitable 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 6 months from the import date) may be provided for our review without providing a sample. If current data is not available, specification testing will need to be completed prior to approval.

Environmental and soil corrosion characterization should also be considered by the project team prior to acceptance. Suitable environmental laboratory data to the planned import quantity should be provided to the project environmental consultant; additional laboratory testing may be required based on the project environmental consultant’s review. The potential import source should also not be more corrosive than the on-site soils, based on pH, saturated resistivity, and soluble sulfate and chloride testing.

6.7.4 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 for high PI clayey soil and bedrock materials 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 2: 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
Trench Backfill	On-Site Expansive Soils	87 – 92	>3
	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
	Low Expansion Soils	90	>1
Flatwork Aggregate Base	Class 2 Aggregate Base[3]	90	Optimum
Pavement Subgrade	On-Site Expansive Soils	87 - 92	>3
	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)

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.

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 8 feet, and therefore is expected to be within 10 feet of the base of the infiltration measure.
- In our opinion, infiltration locations within 10 feet of the buildings would create a geotechnical hazard.

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 BIOSWALE DESIGN GUIDELINES

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

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

- The bottom of bioswale or detention areas should include a perforated drain placed at a low point, such as a shallow trench or sloped bottom, to reduce water infiltration into the surrounding soils near structural improvements, and to address the low infiltration capacity of the on-site clay soils.

6.11.1.2 BIOSWALE INFILTRATION MATERIAL

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

- Compaction requirements for bioswale filter material in non-landscaped areas or in pervious pavement areas, if any, should be indicated on the plans and specifications to satisfy the anticipated use of the infiltration area.

- If bioswales are to be vegetated, the landscape architect should select planting materials that do not reduce or inhibit the water infiltration rate, such as covering the bioswale with grass sod containing a clayey soil base.

- Due to the relatively loose consistency and/or high organic content of many bioswale filter materials, long-term settlement of the bioswale medium should be anticipated. To reduce initial volume loss, bioswale filter material should be wetted in 12-inch lifts during placement to pre-consolidate the material. Mechanical compaction should not be allowed, unless specified on the grading and improvement plans, since this could significantly decrease the infiltration rate of the bioswale materials.

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

6.11.1.3 BIOSWALE CONSTRUCTION ADJACENT TO PAVEMENTS

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

- Improvements should be setback from the vertical edge of a bioswale such that there is at least 1 foot of horizontal distance between the edge of improvements and the top edge of the bioswale excavation for every 1 foot of vertical bioswale depth, or

- Concrete curbs for pavements, or lateral restraint for exterior flatwork, located directly adjacent to a vertical bioswale cut should be designed to resist lateral earth pressures in accordance with the recommendations in the "Retaining Walls" section of this report, or concrete curbs or edge restraint should be adequately keyed into the native soil or engineered to reduce the potential for rotation or lateral movement of the curbs.

6.12 LANDSCAPE CONSIDERATIONS

Since the near-surface soils are [moderately/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: 2019 CBC SEISMIC DESIGN CRITERIA

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

7.1 SITE LOCATION AND PROVIDED DATA FOR 2019 CBC SEISMIC DESIGN

The project is located at latitude 37.4023° and longitude -121.8955°, which is based on Google Earth (WGS84) coordinates at the approximate center of the site at 1849 Fortune Drive and 2400 Ringwood Avenue in San Jose, California. We have assumed that a Seismic Importance Factor (I_e) of 1.00 has been assigned to the structure in accordance with Table 1.5-2 of ASCE 7-16 for structures classified as Risk Category II. The building period has not been provided by the project structural engineer.

7.2 SITE CLASSIFICATION – CHAPTER 20 OF ASCE 7-16

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

As discussed in Section 3, our explorations generally encountered medium dense to very dense sands with varying amounts of clay and silt and medium stiff to hard clay deposits to a depth of 150 feet, the maximum depth explored. Shear wave velocity (V_S) measurements were performed while advancing CPT-6 and CPT-10, resulting in a time-averaged shear wave velocity for the top 30 meters (V_{S30}) of approximately 227 to 245 meters per second. In accordance with Table 20.3-1 of ASCE 7-16, we recommend the site be classified as Soil Classification D, which is described as a “stiff soil” profile. Because we used site specific data from our explorations and laboratory testing, the site class should be considered as “determined” for the purposes of estimating the seismic design parameters from the code outlined below. Site Response Analysis considered a V_{S30} of 245 m/s (804 ft/s).

7.3 SITE RESPONSE ANALYSIS

Following Section 11.4.8 of ASCE 7-16, our technical partner, Robert Pyke, PhD., GE performed a SRA in accordance with Chapter 21, Section 21.1. The details of the SRA are presented in Appendix D. The recommended MCE Spectrum is shown graphically on Figure 8 and tabulated in Table 2 of Appendix D.

The recommended seismic design parameters are summarized in Table 3 below.

When using the Equivalent Lateral Force Procedure, ASCE 7-16 Section 21.4 allows using the spectral acceleration at any period (T) in lieu of S_{D1}/T in Eq. 12.8-3 and $S_{D1}T_L/T_2$ in Eq. 12.8-4. The site-specific spectral acceleration at any period may be calculated by interpolation of the spectral ordinates in Table 2, Appendix D. We note that the recommended MCE spectrum applies to structures founded at the ground surface. They will likely be conservative for the design of the embedded mat/pile supported structures and analysis for individual buildings may allow for a reduction to as low as 70 percent of the standard code spectrum in accordance with Section 19.2.3(4) of ASCE 7-16 if additional analyses are performed.

Table 3: Site-Specific Design Acceleration Parameters

Parameter	Value
S_{DS}	1.03g
S_{D1}	0.92g
S_{MS}	1.54g
S_{M1}	1.38g

SECTION 8: FOUNDATIONS

8.1 SUMMARY OF RECOMMENDATIONS

Anticipated structural loads for the new four-story data center buildings were provided to us by Paradigm Structural Engineers as shown in Table 4 below.

Table 4: Anticipated Structural Loading

Foundation Area	Provided Typical Loads
Interior Column Footing – Data Centers (Dead + Live)	1,398 kips
Interior Column Footing – Advanced Manufacturing (Dead + Live)	1,065 kips
Interior Column Footing – Parking Garage (Dead + Live)	800 kips

Based on the above loading and allowable bearing pressures, we estimate that the total static footing settlement would be on the order of 2 to 2½ inches, with about 1 to 1¼ inches of post-construction differential settlement between adjacent foundation elements. In addition, we estimate that differential seismic movement will be on the order of ⅓-inch or less over a horizontal distance of 30 to 50 feet, resulting in a total estimated differential footing movement on the order of 1⅓ to 1⅔ inches between foundation elements.

In our opinion, the above estimated settlements may exceed typical allowable total and differential settlement for the proposed structures and shallow spread footings. In addition, based on the provided loads and allowable bearing pressures, it appears the minimum footing size may not be feasible. However, in our opinion, the proposed structure may be supported on shallow foundations bearing over ground improvement or augercast piles provided the recommendations in the “Earthwork”, “Ground Improvement”, and other sections below are followed. We understand augercast piles are currently planned for the project.

8.2 AUGERCAST PILES

As discussed, the proposed data center structures, advanced manufacturing structure and parking garage structure may be supported on conventional drilled, cast-in-place augercast (APG) piles. APG piles have been successfully used for projects throughout the Bay Area and California in similar soil conditions. APG piles are constructed by augering and removing the soil column as a hollow-stem auger is advanced, prior to pumping sand-cement grout (4,000 to 6,000 psi) through the hollow-stem as the drill stem is extracted. A benefit of the augercast pile installation process is that augercast piles are a low noise and vibration installation compared to driven piles.

The APG pile load testing program should consist of at least one (1) compression test and one (1) tension test for every 150 to 250 piles to be installed. Static load tests include installing a test pile, which can either be in a production pile location or sacrificial, with four surrounding piles that serve as anchor piles to resist the jacking pressure. During test pile installation, the contractor should allow for monitoring forces in the compression piles at a distance of about 5 feet from the pile tip with the use of a pair of strain gauges. The installation of a strain-gauge pair at depth is beneficial because strain gauges are frequently damaged during installation. This monitoring will allow for observation of the skin friction as it is mobilized, and separation of end-bearing support in the final analysis. A member of our staff should be present during test pile installation and testing. Pile load testing should not proceed without provisions for monitoring forces in the piles recommended above.

8.2.1 Vertical Capacity

The proposed structural loads may be supported on APG piles. Adjacent pile centers should be spaced at least three diameters apart; otherwise, a reduction for group effects on vertical support may be required. Piles within nine pile diameters of each other should not be installed on the same day. Grade beams should span between piles and/or pile caps in accordance with structural requirements.

As no consistent significantly thick, uniform, dense sand layer was encountered during our investigation that would provide adequate end bearing support at depth, vertical capacity is based on frictional resistance. We evaluated the allowable vertical capacity for 16- and 18-inch diameter APG piles and present the results in Figure 5. As shown on Figure 5, we have assumed that the top of pile/bottom of pile cap occurs approximately 4 feet below the future structure pad grade and recommend a minimum pile depth of 30 feet below future pad grades. Though this elevation is approximate, as the subsurface is relatively consistent, we do not expect the pile capacities to change significantly with small variations in pile cap elevation. The allowable capacities are for dead plus live loads; dead loads should not exceed two-thirds of the allowable dead plus live load capacities. The allowable capacities may be increased by one-third for wind and seismic loads. Seismic tensile capacities should not exceed the allowable downward (compression) capacity for dead plus live loads.

8.2.2 Lateral Capacity

Lateral load resistance is developed by the soil's resistance to pile bending. The magnitude of the shear and bending moment developed within the pile are dependent on the pile stiffness, embedment length, the fixity of the pile into the pile cap (free or fixed-head conditions), the surrounding soil properties, the tolerable lateral deflection, and yield moment capacity of the pile. If APG piles are to be used, we would provide either LPile parameters for your use at that time, or we could perform LPile analysis given the structural properties of the piles, pile head fixity condition, and the allowable lateral deflections. The results of the LPile analysis would generally provide maximum shear, maximum moment, depth to maximum moment and depth to zero moment for the piles.

In general, the calculated lateral capacities are for single piles and may not be representative of piles in groups. Group effects, including the layout of the piles within a group, can significantly reduce the overall lateral capacity. Therefore, the load deflection behavior of pile groups should be modeled by applying a reduction ratio (group efficiency) factor, which is the ratio of the load carried by piles in a group as compared to the same number of isolated piles under similar conditions. Once final pile configurations are available, we could also provide group efficiency factors for each group.

8.2.3 Passive Resistance against Pile Caps and Grade Beams

Passive resistance against pile caps and grade beams poured neat against native or engineered fill may also be considered; however, as the allowable lateral deflections of the piles are limited, full allowable passive pressures will not be developed. The design-build pile contractor should evaluate appropriate allowable passive pressures that maintain strain compatibility between the piles and pile caps, if additional passive resistance is required.

8.2.4 Construction Considerations

The installation of all test and production piles should be observed on a full-time basis by a Cornerstone representative to confirm that the piles are constructed in accordance with our recommendations and project requirements. Since the piles will derive their capacity from skin friction, the production piles should be installed to avoid significant end-bearing and produce a test of the required skin friction. The geotechnical project engineer should provide on-site quality assurance review during installation and should review installation records for conformance. We may recommend additional testing of piles, or additional installations, if any pile installations vary from normal installation practices. Pile contractors should meet all the requirements of the APG pile specification for the project.

We recommend that augercast pile contractors have at least 3 years of installation experience in the Bay Area.

8.3 SHALLOW FOUNDATIONS OVERLYING GROUND IMPROVEMENT

As previously discussed, to minimize the potentially high static and seismic differential settlements, the four-story data center building may be supported on conventional spread footings overlying ground improvement. Ground improvement should also extend beneath slab-on-grades to minimize seismic settlements and differential settlements from consolidation of the underlying compressible alluvial soil.

8.3.1 Spread Footings

Provided ground improvement is performed in accordance with the recommendations in this report, the data center building may be supported on spread footings, which will bear on ground improvement columns discussed in later sections, be at least 24 inches wide, and extend at least 30 inches below the lowest adjacent grade. Bottom of footing is based on lowest adjacent grade, defined as the deeper of the following: 1) bottom of the adjacent interior slab-on-grade, or 2) finished exterior grade, excluding landscaping topsoil.

Bearing pressures will be dependent on the final ground improvement technique and spacing; however, substantial improvement in bearing capacity would be expected. On a preliminary basis, we expect allowable bearing pressures of at least 4,000 to 5,000 psf for combined dead plus live loads are feasible.

Ground improvement should be designed to reduce total settlement due to static and seismic conditions to tolerable levels as described below.

8.3.2 Lateral Loading

Lateral loads may be resisted by friction between the bottom of footing and the supporting subgrade, and also by passive pressures generated against footing sidewalls. An ultimate frictional resistance of 0.45 applied to the footing 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 to the ultimate values above. Where footings are adjacent to landscape areas without hardscape, the depth of landscaping soil should be neglected when determining passive pressure capacity.

8.3.3 Spread Footing Construction Considerations

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. Footing excavations should be filled as soon as possible or be kept moist until concrete placement by regular sprinkling to prevent desiccation. A Cornerstone representative should observe all footing excavations prior to placing reinforcing steel and concrete. If there is a significant schedule delay between our initial observation and concrete placement, we may need to re-observe the excavations.

8.4 GROUND IMPROVEMENT

Due to high interior column loads, high groundwater, and the presence of compressible alluvial soils, as an alternative to augercast piles, the proposed data center buildings, advanced manufacturing building, and parking structure could be supported on shallow foundations overlying ground improvement.

8.4.1 Ground Improvement Requirements

Ground improvement should consist of densification techniques to improve the consistency of the undocumented fills, reduce static settlement of the native soils and fills, and increase the native soil's resistance to liquefaction. Densification techniques could potentially consist of vibro replacement (i.e. stone columns), granular compaction piles (i.e. rammed aggregate), grouted displacement columns (i.e. CLSM), or similar densification techniques. The intent of the ground improvement design would be to increase the consistency and density of the existing in-place fills and reduce the total static and seismic settlement to tolerable levels by laterally displacing and/or densifying the existing in-place soils. The degree to which the density is increased will depend on the improvement method and spacing.

Vibro replacement and granular compaction piles are similar in that a probe is vibrated into the ground to the design depth and a compacted open-graded gravel column is constructed from the bottom up. The surrounding soils are densified by the displacement of the soil as well as the vibrations from consolidating and expanding the gravel column laterally. One of the disadvantages of these densification pile types are the noise and vibration (and sometimes dust) produced during construction. The vibrations may cause noise and vibrations that can be heard or felt off-site. Pre-drilling through surficial materials may reduce noise and vibration, and should be anticipated for improvement areas adjacent to the site that may be sensitive to vibrations.

CLSM columns are formed in displaced soil cavities and displace liquefiable and compressible soil with cemented Controlled Low Strength Material. CLSM column ground improvement can mitigate liquefaction and settlement of heavy foundations and slabs. CLSM columns are ideal for sensitive project sites such as those near critical structures that require low noise and low vibration construction methods, unreinforced masonry walls, occupied offices, sensitive soil (e.g. Bay Mud), and hazardous/contaminated soil sites where deep ground improvement is required.

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

Contractors to perform recommended ground improvement should have adequate experience for the proposed methods to address the requirements herein. All construction quality control and quality assurance records should be supplied to the design team for review on completion of the ground improvement. Adequate quality control readings must be available at the time of installation so that real time oversight can be provided. The instrumentation provided will depend on the ground improvement method chosen. Once a method is chosen, the geotechnical engineer should modify the project design guideline specification for the appropriate method.

8.4.2 Ground Improvement Design Guidelines

The ground improvement columns will extend from the working pad to a sufficient depth to meet the design criteria. The ground improvement design should reduce the total (static plus seismic) settlement to 1½ inches or less, with no more than 1-inch of static nor 1-inch of seismic settlement allowed as a component of the total settlement. This total settlement is preliminary and these criteria should be confirmed collaboratively with the structural engineer and owner.

We anticipate a ground improvement element spacing of about 4 to 6 feet on center beneath spread footing foundations and 6 to 8 feet on center within slab-on-grade areas, including mats, to meet the performance criteria given above. Due to the variability and uncertainty of ground conditions, we recommend that ground improvement element spacing not exceed 6 feet in foundation areas, and 8 feet in slab-on-grade improvement areas. We anticipate a tighter spacing will likely be required for the CLSM column methodology, as vibratory consolidation of sandy soils is typically more effective laterally at densification than non-vibratory displacement column construction.

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

Ground improvement would generally be constructed as follows: 1) clear the site of existing demolition debris, 2) mass grading to the building pad subgrade elevation, 3) install performance test arrays to confirm the design spacing achieves the densification requirements, verified by load testing and additional analyses, 4) install the ground improvement on the approved layout, and 5) re-compact top of building pad, as required, prior to construction of remainder of pad and the foundations.

8.4.3 Ground Improvement Performance Testing

On a preliminary basis, foundation and slab areas must meet the above total settlement criteria, which will include all settlement estimated from static loads and seismic shaking. Analysis of settlement for static loading should include compression within the treatment area due to structural loads, and long-term consolidation estimated for below the zone of treatment. Analysis of settlement for seismic loading should include settlement due to liquefaction strain, as well as any dry sand settlement.

Performance testing typically consists of a pre-construction test section to confirm design spacing with post-installation CPT testing to confirm that suitable ground improvement has occurred to meet the design criteria. If the design criteria have not been met, then additional testing may be required. Verification testing involves carrying out pre- and post-array penetration testing of the soil equidistant between treatment points for the analysis of liquefaction, and comparison with measurements before treatment. We recommend that liquefaction analysis methods used include the methods proposed by Idriss and Boulanger (2014). Because of detrimental effects of pore pressure on the results of testing, we recommend that testing of ground improvement test arrays occur no sooner than two weeks after their installation. This should be incorporated into project planning, as well as the possibility that additional arrays and testing may be required if proposed spacing is inadequate.

Verification testing also includes the performance of a modulus test at each array location. To validate the parameters selected for a specific project, a modulus load test is performed on a test pier typically constructed in locations chosen in coordination with the geotechnical engineer. Modulus tests are conducted to a pressure equal to at least 150% of the maximum design top of pier stress to assure a reasonable level of safety which supports long term settlement control and demonstrates that the ground improvement element has adequate strength. Performing modulus testing beyond the limit state top of pier stress meets the intent of the building code with respect to shallow foundation support. Modulus testing should be performed in general accordance with ASTM D1143.

We recommend that at least one test array be performed at the site. Additional tests may be required depending on the total number of ground improvement elements installed.

We should observe and monitor installation of the test arrays and production ground improvement on a full-time basis and review the post-test array settlement analyses provided by the contractor.

8.5 DRILLED PIERS – SUBSTATION EQUIPMENT

Substation equipment and pertinent structures can be supported on drilled, cast-in-place, straight shaft friction piers. The piers should have a minimum diameter of 18 inches and extend to a depth of at least 10 feet below the lowest adjacent grade. Adjacent pier centers should be spaced at least three diameters apart, otherwise, a reduction for group effects may be required. The vertical capacity of the piers may be designed based on an allowable skin friction of 650 pounds per square foot (psf) for combined dead plus live loads based on a factor of safety of 2.0.

8.5.1 Allowable Lateral Bearing Pressure

To evaluate the piers lateral capacity including deflections, shear forces, and moments in the piers under loading, the design parameters in Table 4 could be used to model the underlying alluvial materials. We recommend a seasonal groundwater level of 8 feet be assumed for vertical and lateral design. Where piers are adjacent to landscape areas without hardscape, the depth of landscaping soil should be neglected when determining passive pressure capacity.

Table 5: Lateral Pile Design Parameters – Generalized Soil Profile

Depth (feet)	Soil Type	Total Unit Weight[1] (pcf)	Friction Angle (degrees)	Soil Modulus Parameter (pci)	Undrained Cohesion (psf)	Strain Factor, E50
0 - 5	Hard Clay	122	--	--	4,000	0.004
5 - 10	Loose to Medium Dense Sand	123	29	25.0	--	--
10 - 15	Medium Stiff Clay	120	--	--	600	0.01
15 - 25	Stiff Clay	120	--	--	1,000	0.007
25 - 35	Very Stiff Clay	120	--	--	2,000	0.005

[1]For soils below the design groundwater depth of 8 feet, unit weight should be reduced by 62.4 pcf for input as effective unit weight

Piles spaced at distances less than about 5 to 7 pile diameters are likely affected by group effects. Group effects, including the layout of the piles within a group, can significantly reduce the overall lateral capacity. Therefore, the load deflection behavior of pile groups should be modeled by applying a reduction ratio (group efficiency) factor, which is the ratio of the load carried by piles in a group as compared to the same number of isolated piles under similar conditions. Once final pile configurations are available, we could also provide group efficiency factors for each group.

8.5.2 Construction Considerations

The excavation of all drilled shafts should be observed by a Cornerstone representative to confirm the soil profile, verify that the piers extend to the minimum depth into suitable materials, and that the piers are constructed in accordance with our recommendations and project requirements. Contractors should note that shallow groundwater should be anticipated within drilled pier excavations. The drilled shafts should be straight, dry, and relatively free of loose material before reinforcing steel is installed and concrete is placed. If groundwater cannot be removed from the excavations prior to concrete placement, drilling slurry or casing may be required to stabilize the shaft and the concrete should be placed using a tremie pipe, keeping the tremie pipe below the surface of the concrete to avoid entrapment of water or drilling slurry in the concrete. Some medium dense gravels and soils with lower fines contents were encountered in our borings. The contractor should plan on encountering medium dense and caving soils that will likely require casing or other stability measures to prevent caving and sloughing into pier foundations. The proposed construction methods and materials should be submitted for approval prior to construction.

8.6 ALTERNATIVE FOUNDATION

As an alternative to shallow foundations over ground improvement or augercast piles, the buildings and substation may also potentially be supported on a reinforced concrete mat foundation bearing on natural soil or engineered fill prepared in accordance with the “Earthwork” section of this report, and designed in accordance with the 2019 California Building Code. If this option is desired, we should be provided additional information, including mat foundation contact pressures for additional analysis and further evaluation.

SECTION 9: CONCRETE SLABS AND PEDESTRIAN PAVEMENTS

9.1 INTERIOR SLABS-ON-GRADE

Due to the moderate expansion potential of the surficial soils, the proposed slabs-on-grade should be supported on at least 12 inches of non-expansive fill (NEF) to reduce the potential for slab damage due to soil heave. The NEF layer should be constructed over subgrade prepared in accordance with the recommendations in the “Earthwork” section of this report. If moisture-sensitive floor coverings are planned, the recommendations in the “Interior Slabs Moisture Protection Considerations” section below may be incorporated in the project design if desired. If significant time elapses between initial subgrade preparation and slab-on-grade NEF construction, the subgrade should be proof-rolled to confirm subgrade stability, and if the soil has been allowed to dry out, the subgrade should be re-moisture conditioned to at least 3 percent over the optimum moisture content.

The structural engineer should determine the appropriate slab reinforcement for the loading requirements and considering the expansion potential of the underlying soils. For unreinforced concrete slabs, ACI 302.1R recommends limiting control joint spacing to 24 to 36 times the slab thickness in each direction, or a maximum of 18 feet.

9.2 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 15-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 crushed rock should be placed below the vapor retarder and consolidated in place with vibratory equipment. The mineral aggregate shall be of such size that the percentage composition by dry weight as determined by laboratory sieves will conform to the following gradation:

Sieve Size	Percentage Passing Sieve
1"	100
¾"	90 – 100
No. 4	0 – 10
No. 200	0 – 5

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.

9.3 EXTERIOR FLATWORK

9.3.1 Pedestrian Concrete 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 6 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 10: VEHICULAR PAVEMENTS

10.1 ASPHALT CONCRETE

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

Table 6: Asphalt Concrete Pavement Recommendations

Design Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base[1] (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

[1]Caltrans Class 2 aggregate base; minimum R-value of 78; subgrade R-value of 5

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 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.

10.1.1 Chemically-Treated Subgrade

We have also included pavement structural section alternatives for chemically-treated (lime/cement) subgrade soil with an estimated design R-value of 50 for your consideration. If it is desired to chemically-treat subgrade, on a preliminary basis, we recommend that the upper 12 inches of subgrade soil be treated; this section should be increased for unstable subgrade conditions or for high traffic conditions. Additional testing will need to be performed to determine the appropriate lime/cement percentage to be mixed with the subgrade soil. These recommendations are in addition to those noted above regarding the construction of asphalt concrete pavements.

Table 7: Asphalt Concrete Pavement Recommendations (Chemically-Treated Subgrade, Design R-value = 50)

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	4.0	4.0	8.0

*Caltrans Class 2 aggregate base with minimum R-value of 78; minimum chemically-treated subgrade R-value assumed to be 50

10.2 PORTLAND CEMENT CONCRETE

The Portland Cement Concrete (PCC) pavement recommendations outlined below are based on methods presented in American Concrete Institute Committee 330 (ACI, 2001). We have provided a few pavement alternatives as an anticipated Average Daily Truck Traffic (ADTT) was not provided. The following table presents minimum PCC pavements thicknesses for various traffic loading categories and the anticipated maximum Average Daily Truck Traffic (ADTT).

Table 8: PCC Pavement Recommendations

Traffic Category	Minimum PCC Thickness[1] (inches)	Class 2 Aggregate Base (inches)
Maximum ADTT = 10	6.0	6.0
Maximum ADTT = 25	6.5	6.0

[1]Subgrade design R-Value = 5

The PCC thicknesses above are based on a concrete compressive strength of at least 3,500 psi. 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 the construction and expansion joints be dowelled.

10.2.1 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.

10.3 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 11: RETAINING WALLS

11.1 STATIC LATERAL EARTH PRESSURES

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

Table 9: 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

If adequate drainage cannot be provided behind the wall, an additional equivalent fluid pressure of 40 pcf should be added to the values above for both restrained and unrestrained walls for the portion of the wall that will not have drainage. Damp proofing or waterproofing of the walls may be considered where moisture penetration and/or efflorescence are not desired.

11.2 SEISMIC LATERAL EARTH PRESSURES

11.2.1 Site Walls

The 2019 CBC states that lateral pressures from earthquakes should be considered in the design of basements and retaining walls. At this time, we are not aware of any retaining walls for the project. However, minor landscaping walls (i.e. walls 6 feet or less in height) may be proposed. In our opinion, design of these walls for seismic lateral earth pressures in addition to static earth pressures is not warranted.

11.3 WALL DRAINAGE

11.3.1 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.

11.4 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.

11.5 FOUNDATIONS

In general, conventional at-grade site retaining walls may be supported on a continuous conventional footing. Strip footings should bear on natural, undisturbed soil or entirely on engineered fill, and extend at least 18 inches below the lowest adjacent grade.

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

SECTION 12: LIMITATIONS

This report, an instrument of professional service, has been prepared for the sole use of STACK Infrastructure (USA), LLC specifically to support the design of the Stack SVYL1/L2 GI project in San Jose, California. The opinions, conclusions, and recommendations presented in this report have been formulated in accordance with accepted geotechnical engineering practices that exist in Northern California at the time this report was prepared. No warranty, expressed or implied, is made or should be inferred.

Recommendations in this report are based upon the soil and 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.

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

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

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

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

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

SECTION 13: REFERENCES

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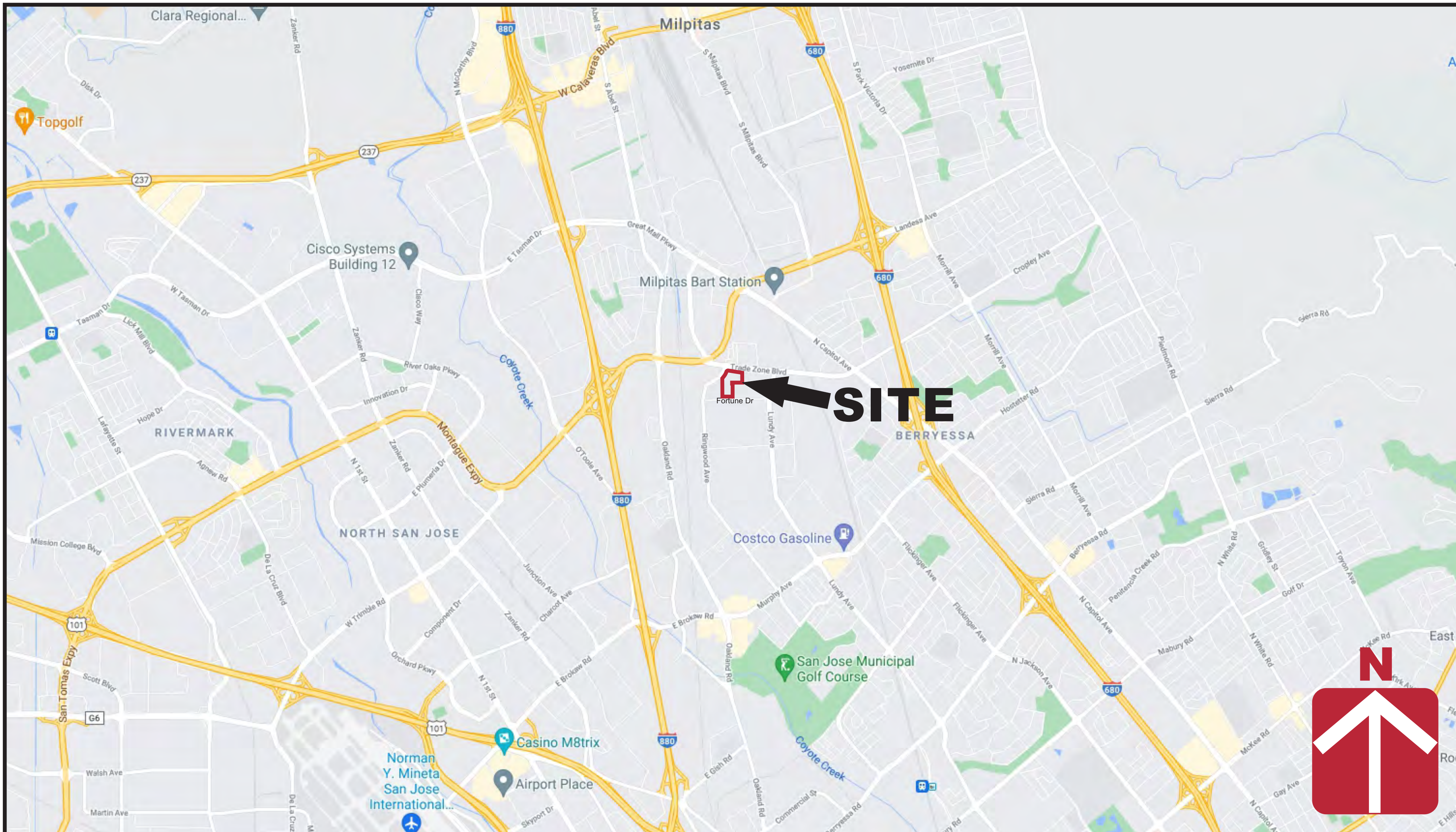

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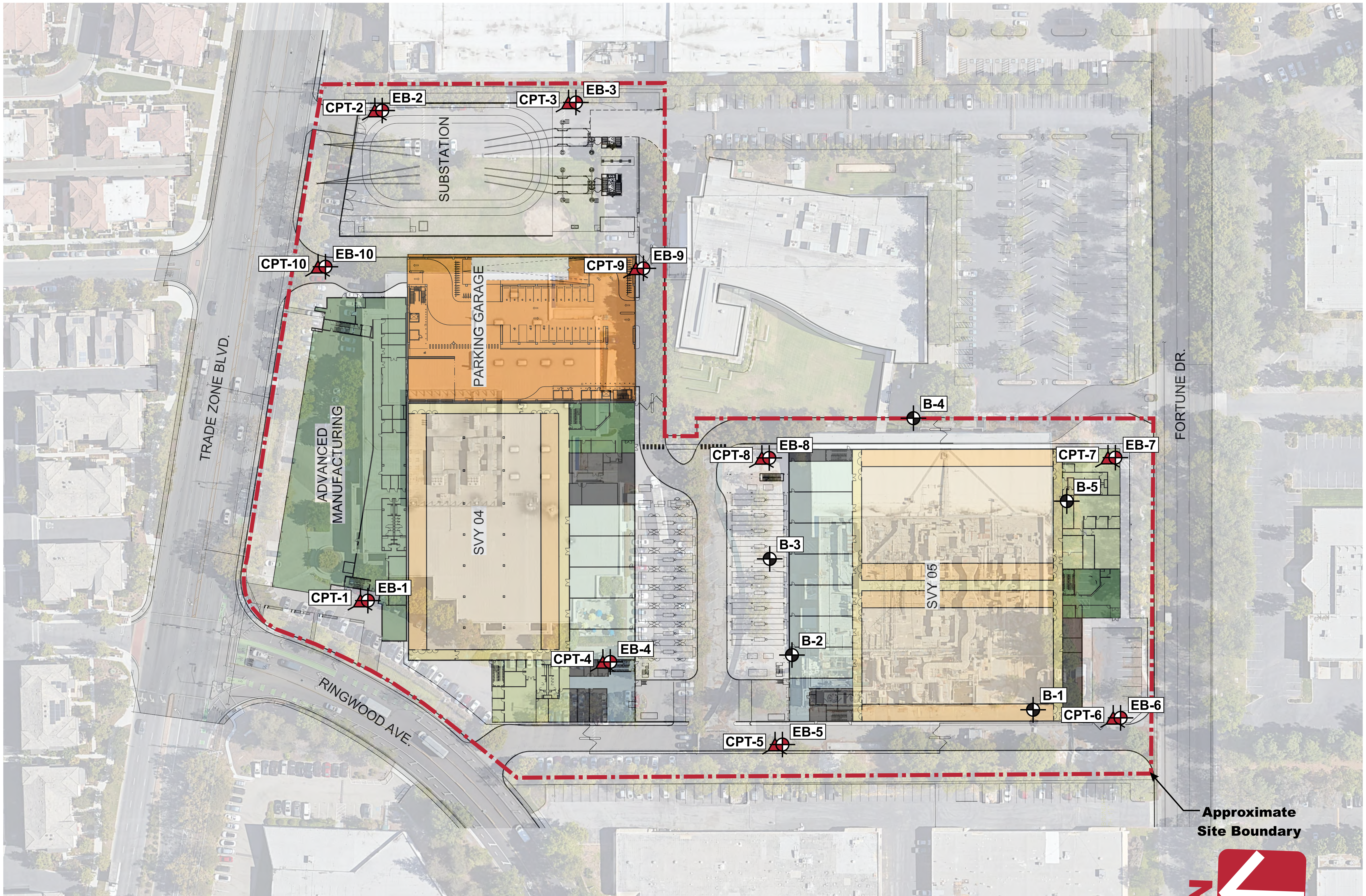
Vicinity Map

STACK San Jose, San Jose, CA

Project Number	1210-2-2
Figure Number	Figure 1
Date	August 2021
Drawn By	RRN



Legend

- Approximate location of previous boring (B) (BAGG, 2018)
- Approximate location of exploratory boring (EB) (Cornerstone, current investigation)
- Approximate location of cone penetration test (CPT) (Cornerstone, current investigation)

0 100 200
APPROXIMATE SCALE (FEET)

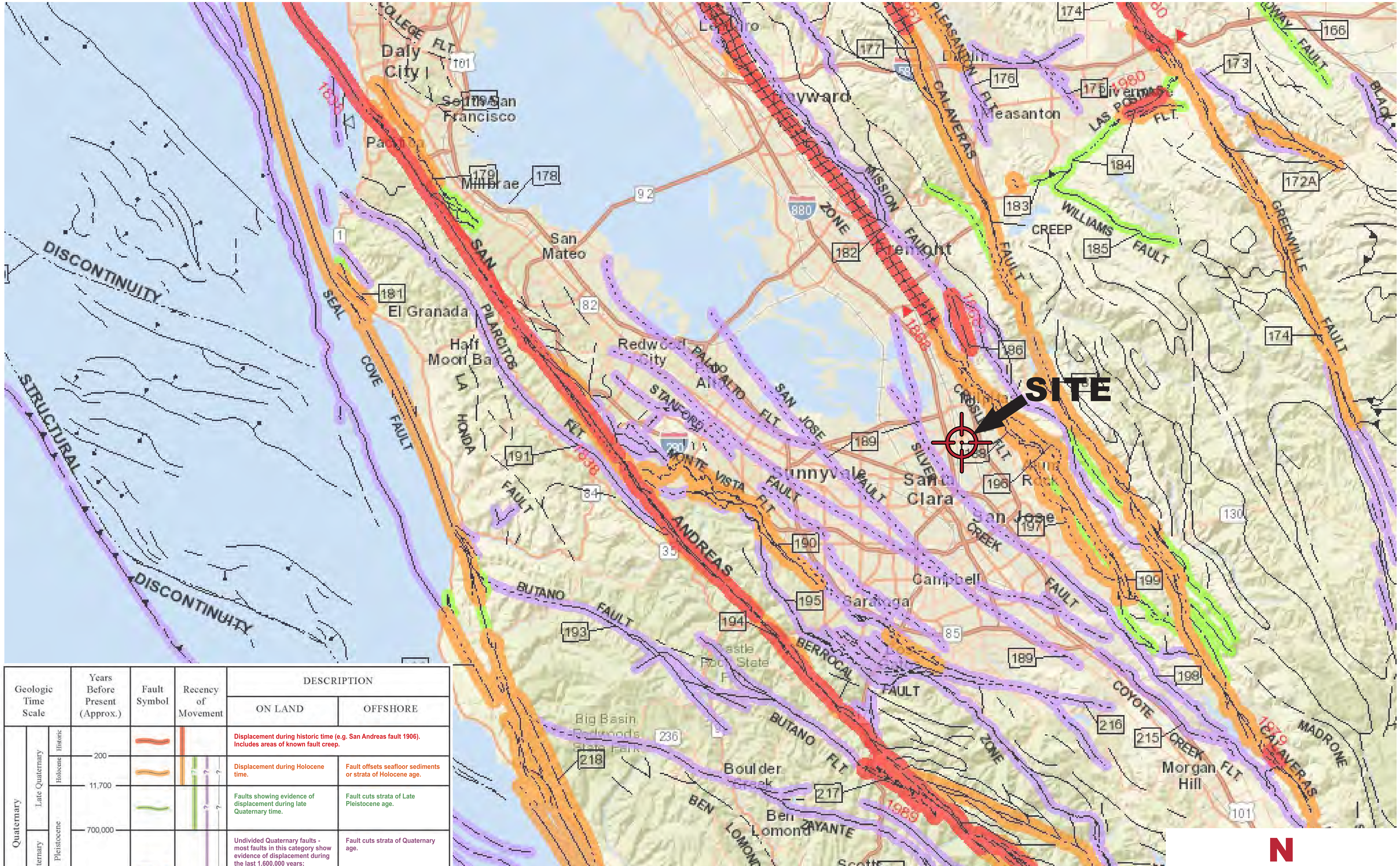
Base by Google Earth, dated 09/04/2020
Overlay: 20210716-Stack SVY L1L2 - SITE PLAN.pdf

Project Number 1210-2-2
Figure Number Figure 2
Date August 2021
Drawn By RRN

Site Plan

STACK San Jose,
San Jose, 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	200			Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	11,700		? ?	Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
		Pleistocene	700,000		? ?	Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
	Early Quaternary		1,600,000		?	Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Pilo-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			4.5 billion (Age of Earth)			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.

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

Project Number 1210-2-2

Figure Number Figure 3

Date August 2021

Drawn By RRN

Regional Fault Map

STACK San Jose, San Jose, CA

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FIGURE 4A

CPT NO. 1

PROJECT/CPT DATA

Project Title	STACK SVYL1/L2
Project No.	1210-2-2
Project Manager	MFR

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	6.9	
PGA (Amax)	0.58	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	4.7
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	125

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 FEET

0.00 (Inches)

LIQUEFACTION SETTLEMENT FROM 50 FEET

0.14 (Inches)

TOTAL SEISMIC SETTLEMENT 0.1 INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.00 L/H 1000.0

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.

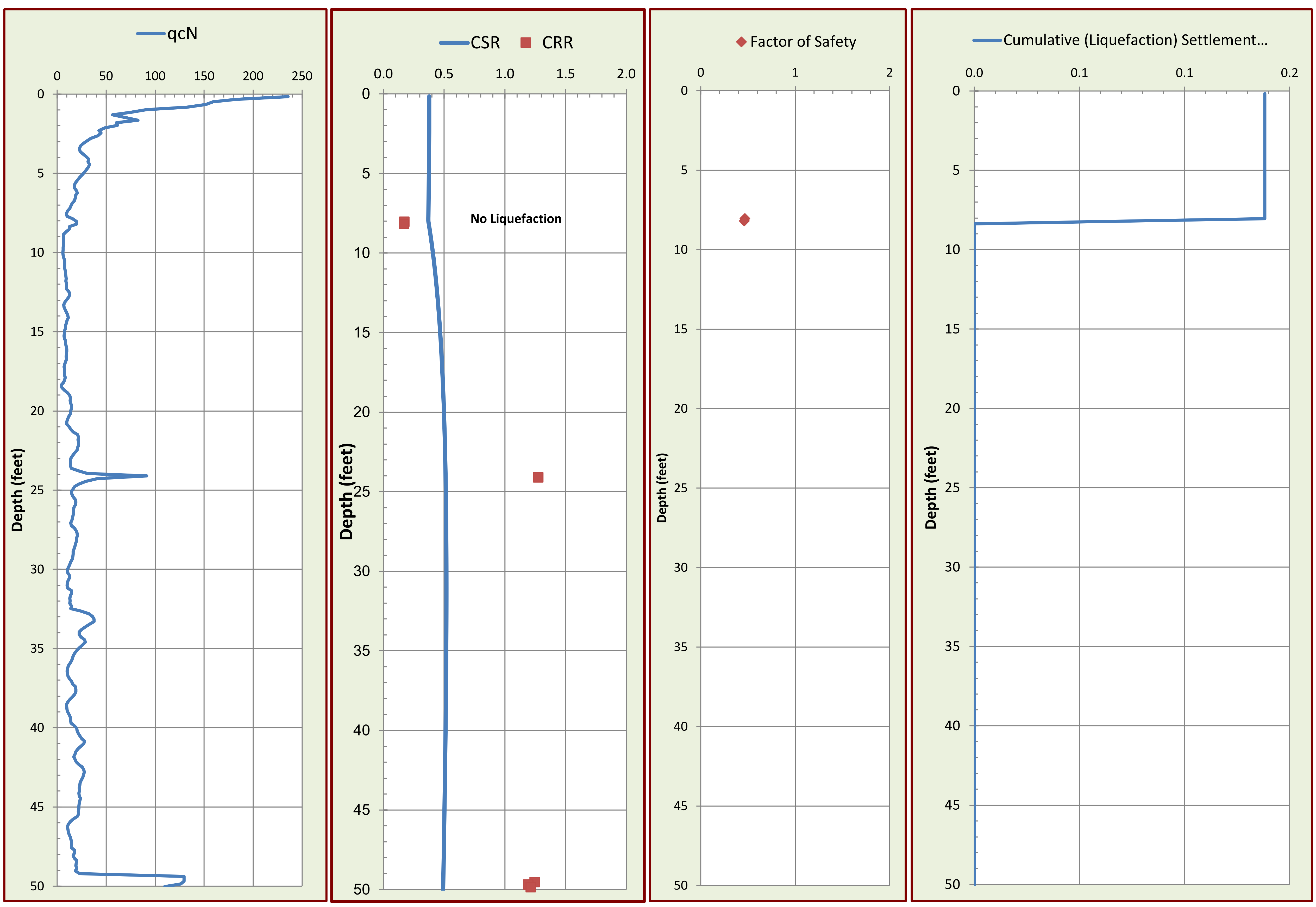

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FIGURE	4B
CPT NO.	2

PROJECT/CPT DATA

Project Title	STACK SVYL1/L2
Project No.	1210-2-2
Project Manager	MFR

SEISMIC PARAMETERS

Controlling Fault	Hayward
Earthquake Magnitude (Mw)	6.9
PGA (Amax)	0.58 (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	6.9
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	125

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 FEET

0.01 (Inches)

LIQUEFACTION SETTLEMENT FROM 50 FEET

0.00 (Inches)

TOTAL SEISMIC SETTLEMENT 0.0 INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.00 L/H 1000.0

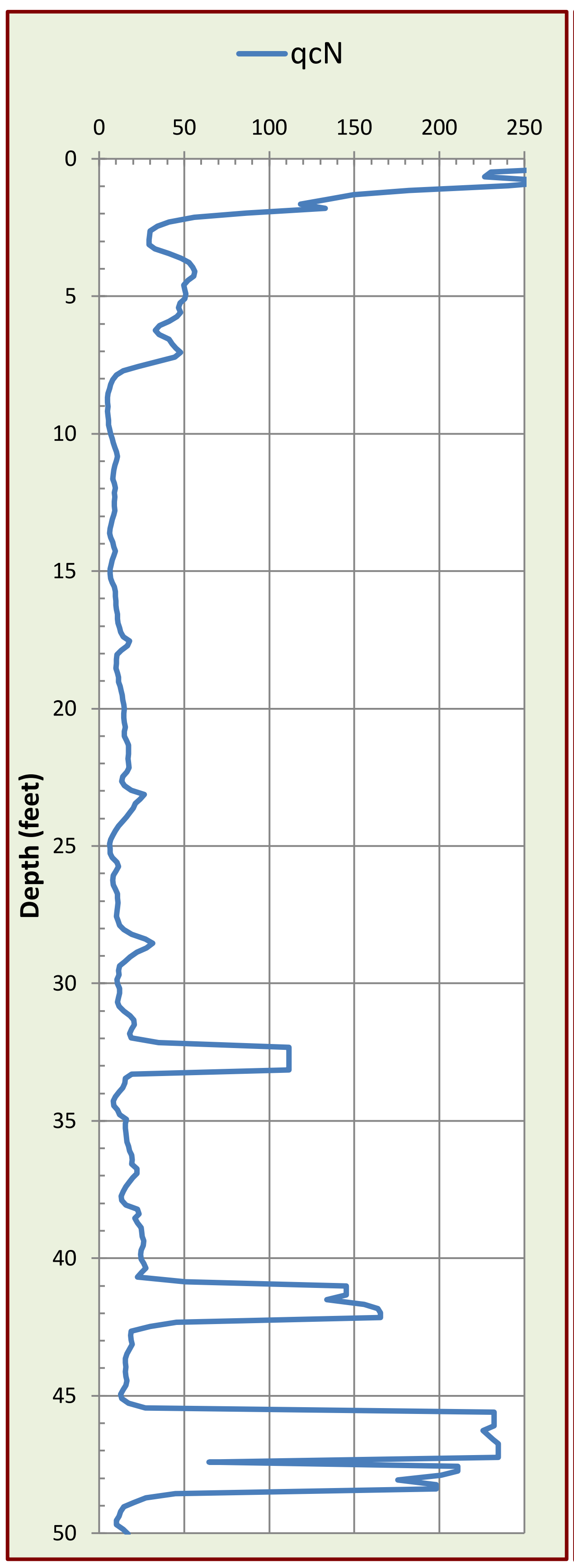
LDI[1] Corrected for Distance 0.00 (4 < L/H < 40)

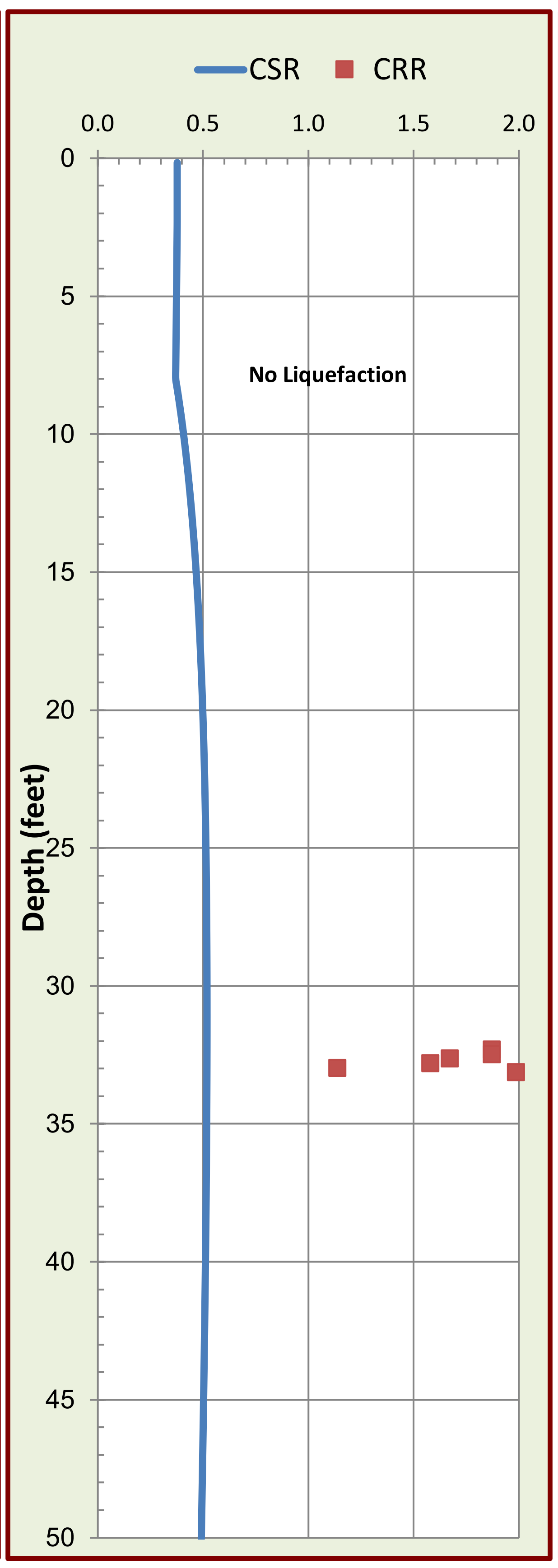
EXPECTED RANGE OF DISPLACEMENT

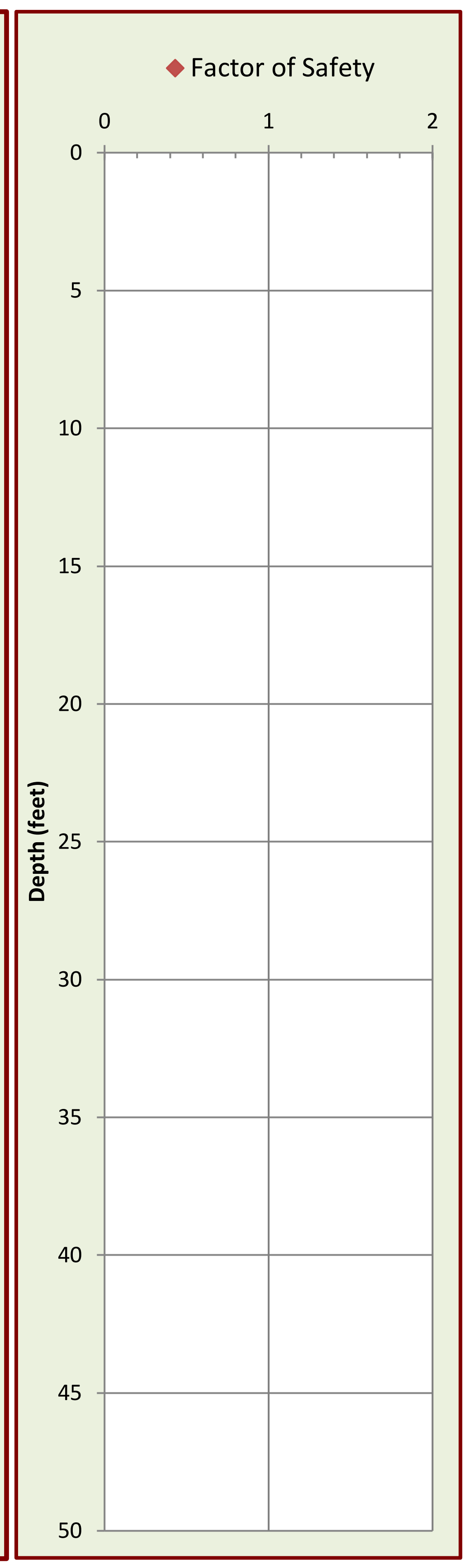
0.0 to 0.0 feet

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

[2]LDI Values Only Summed to 2H Below Grade.







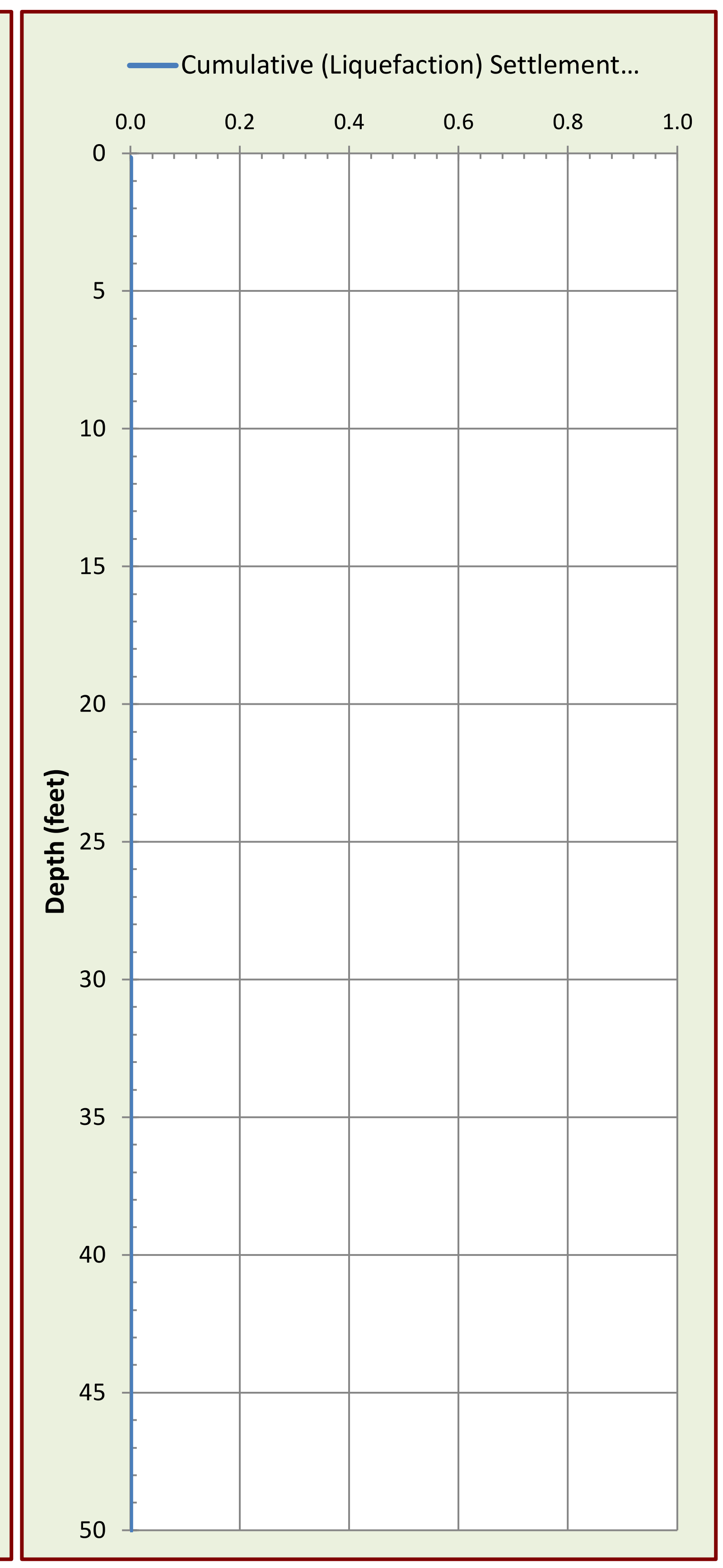


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FIGURE 4C

CPT NO. 3

PROJECT/CPT DATA

Project Title	STACK SVYL1/L2
Project No.	1210-2-2
Project Manager	MFR

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	6.9	
PGA (Amax)	0.58	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	6.9
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	125

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 FEET

0.02 (Inches)

LIQUEFACTION SETTLEMENT FROM 50 FEET

0.21 (Inches)

TOTAL SEISMIC SETTLEMENT 0.2 INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.00 L/H 1000.0

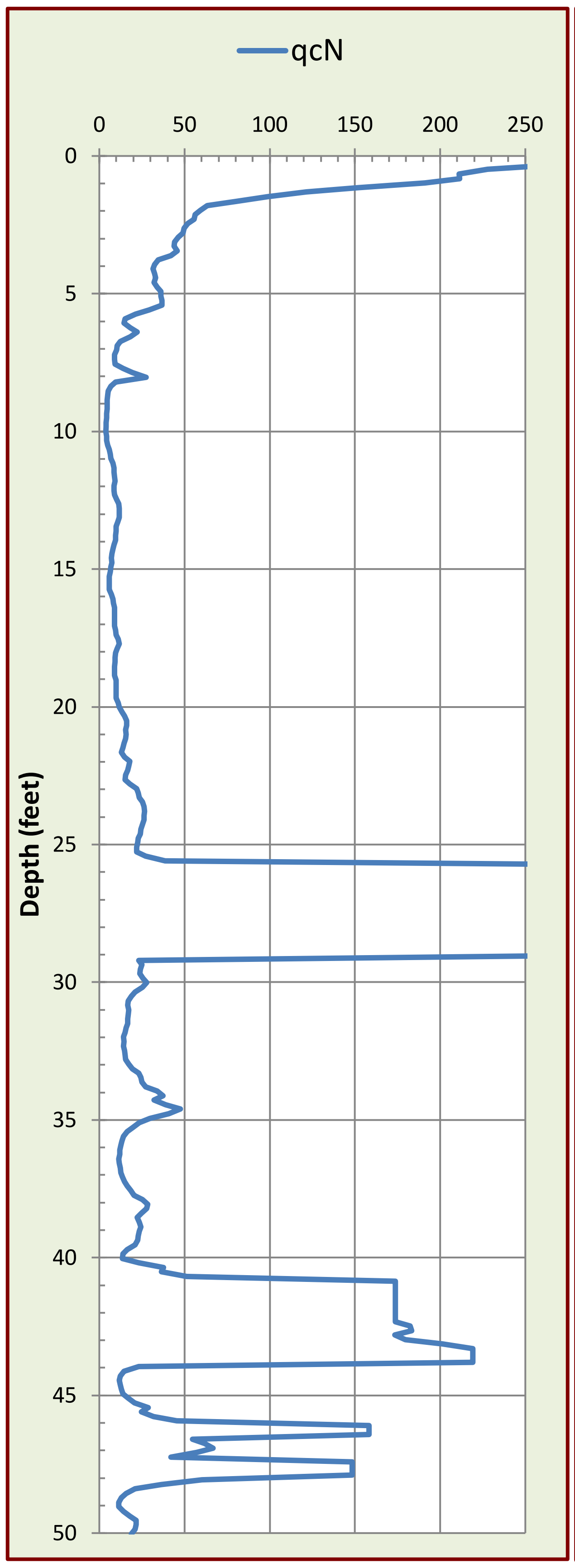
LDI[1] Corrected for Distance 0.00 (4 < L/H < 40)

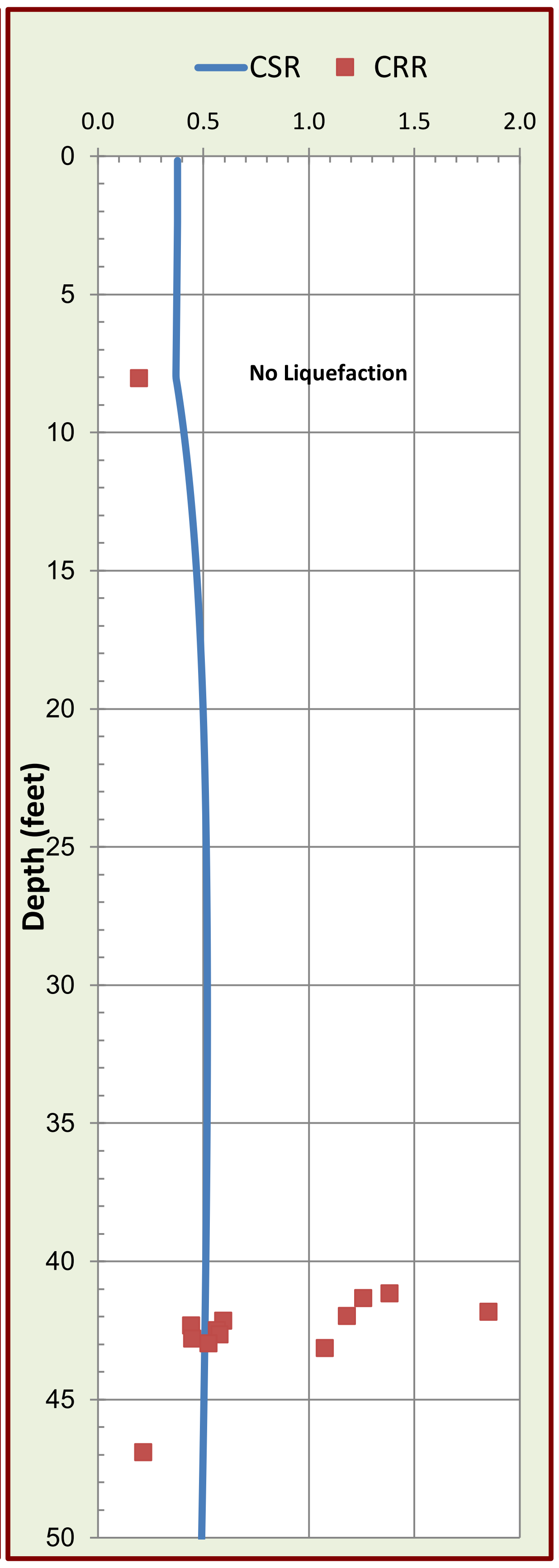
EXPECTED RANGE OF DISPLACEMENT

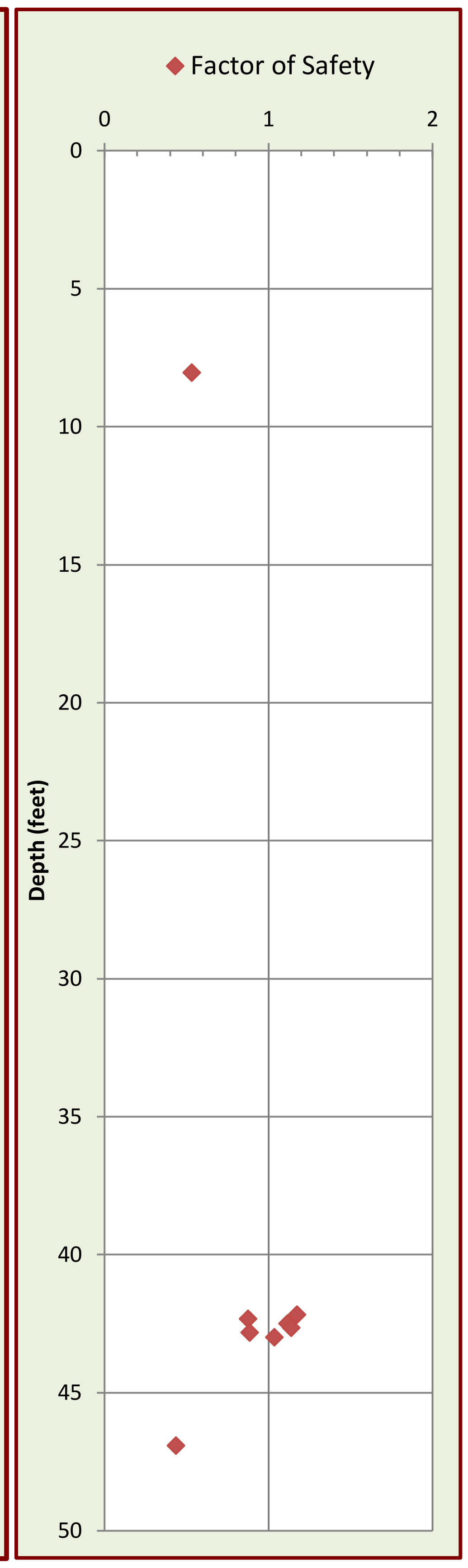
0.0 to 0.0 feet

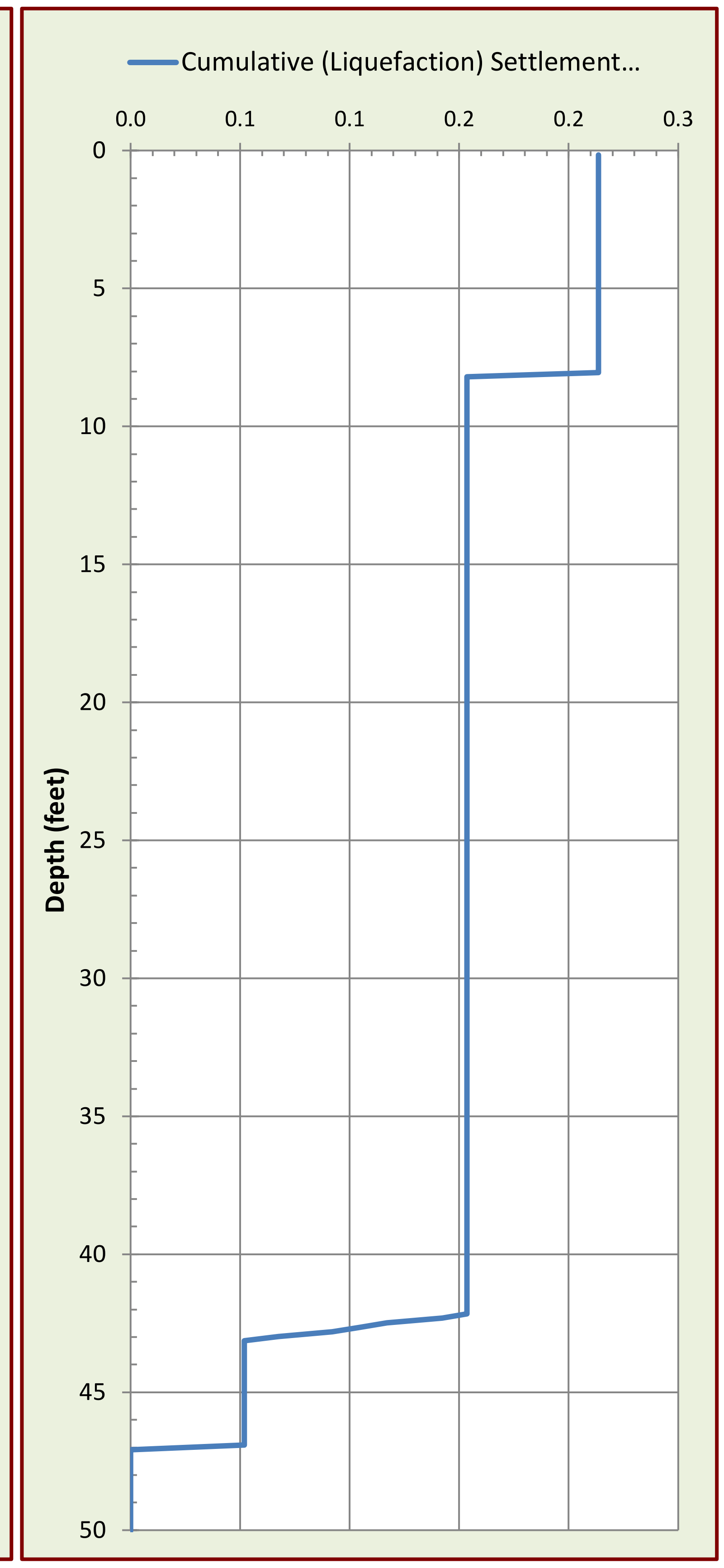
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4D

CPT NO. 4

PROJECT/CPT DATA

Project Title	**STACK SVYL1/L2**
Project No.	**1210-2-2**
Project Manager	**MFR**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**6.9**	
PGA (Amax)	**0.58**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**6.9**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**125**
Ave. Unit Weight Below GW (pcf)	**125**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.01 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

0.39 **(Inches)**

TOTAL SEISMIC SETTLEMENT 0.4 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.00 **L/H** 1000.0

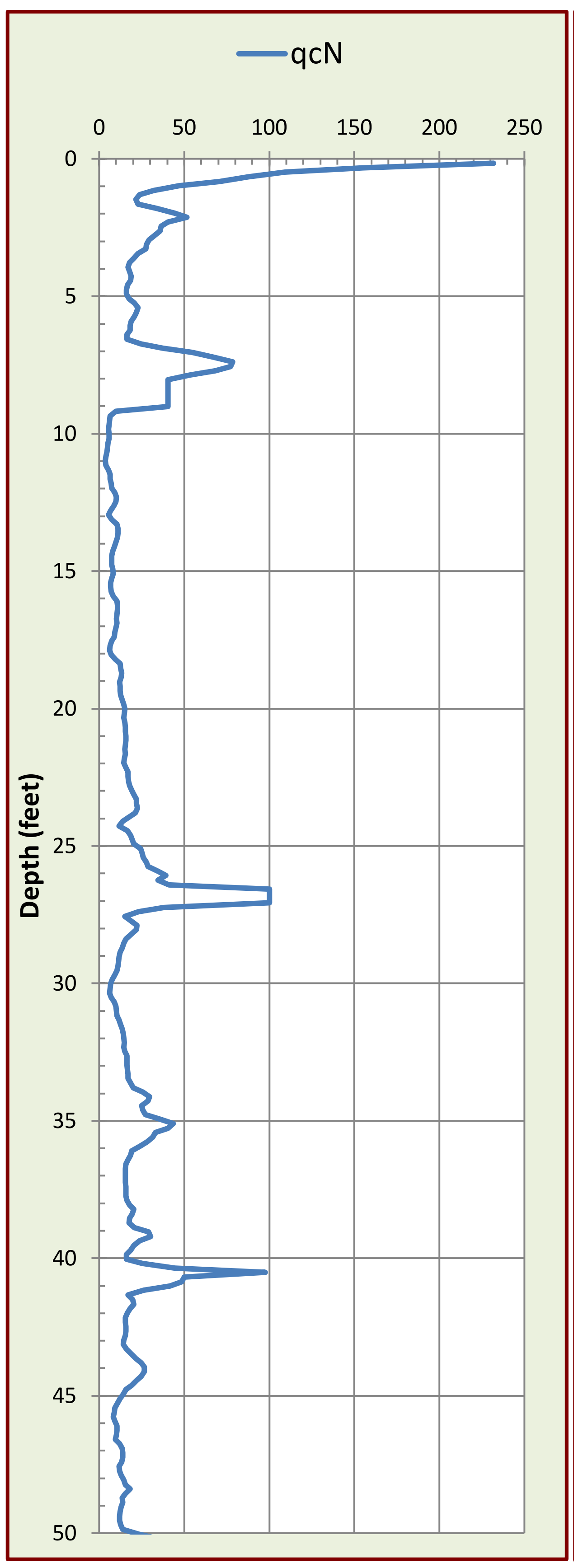
LDI[1] **Corrected for Distance** 0.00 (4 < L/H < 40)

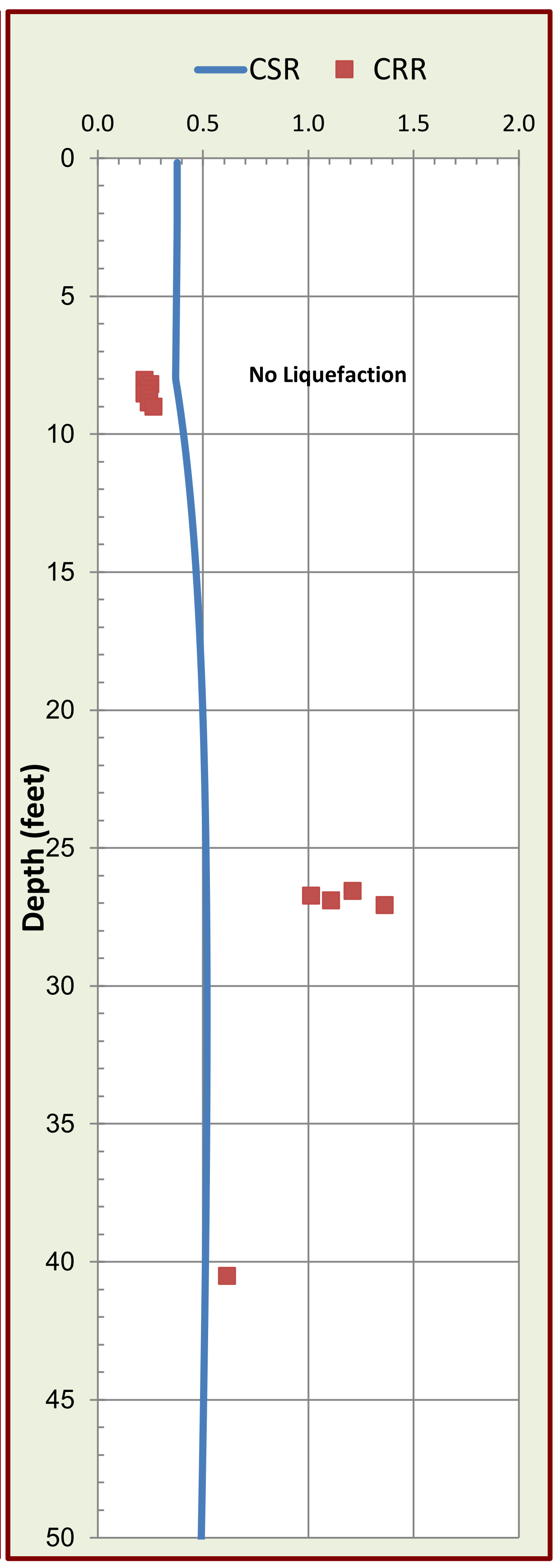
EXPECTED RANGE OF DISPLACEMENT

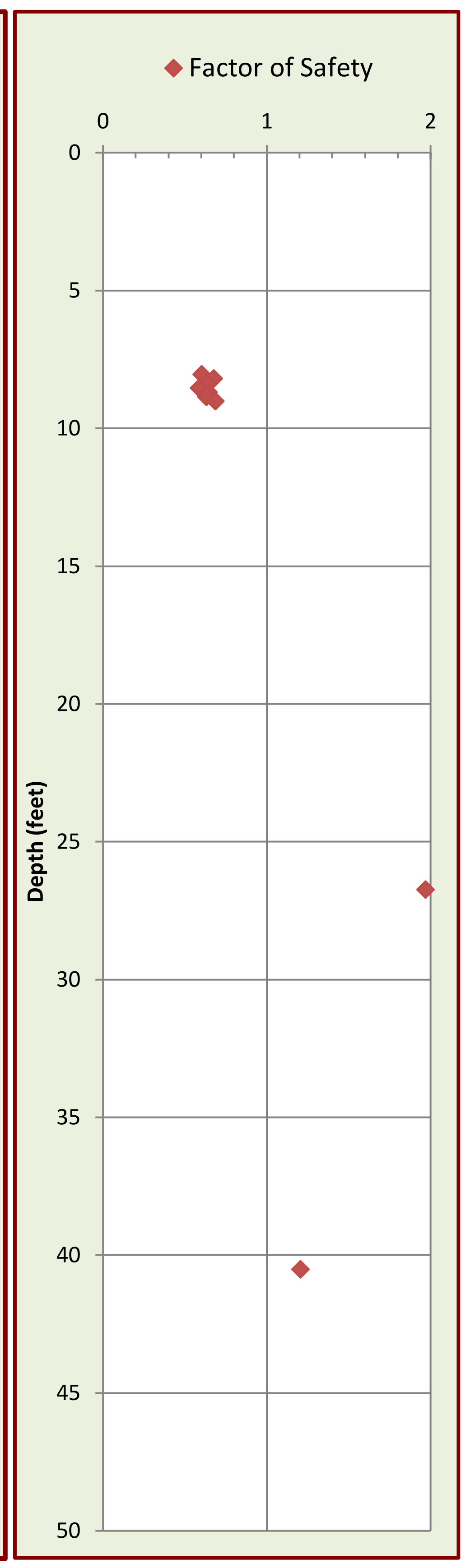
0.0 **to** **0.0** **feet**

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

[2]LDI Values Only Summed to 2H Below Grade.







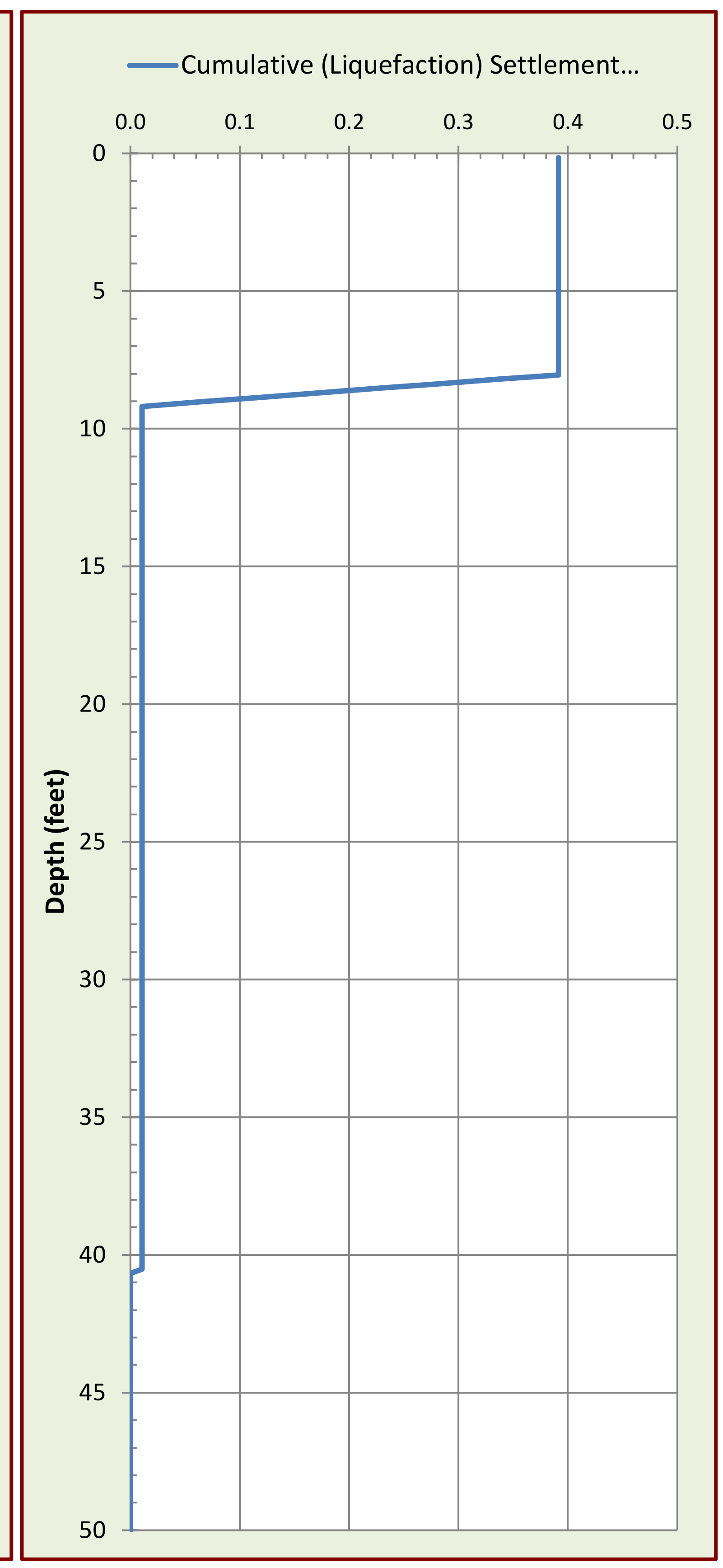


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FIGURE	4E
CPT NO.	5

PROJECT/CPT DATA

Project Title	STACK SVYL1/L2
Project No.	1210-2-2
Project Manager	MFR

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	6.9	
PGA (Amax)	0.58	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	7.4
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	125

CPT ANALYSIS RESULTS

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

POTENTIAL LATERAL DISPLACEMENT

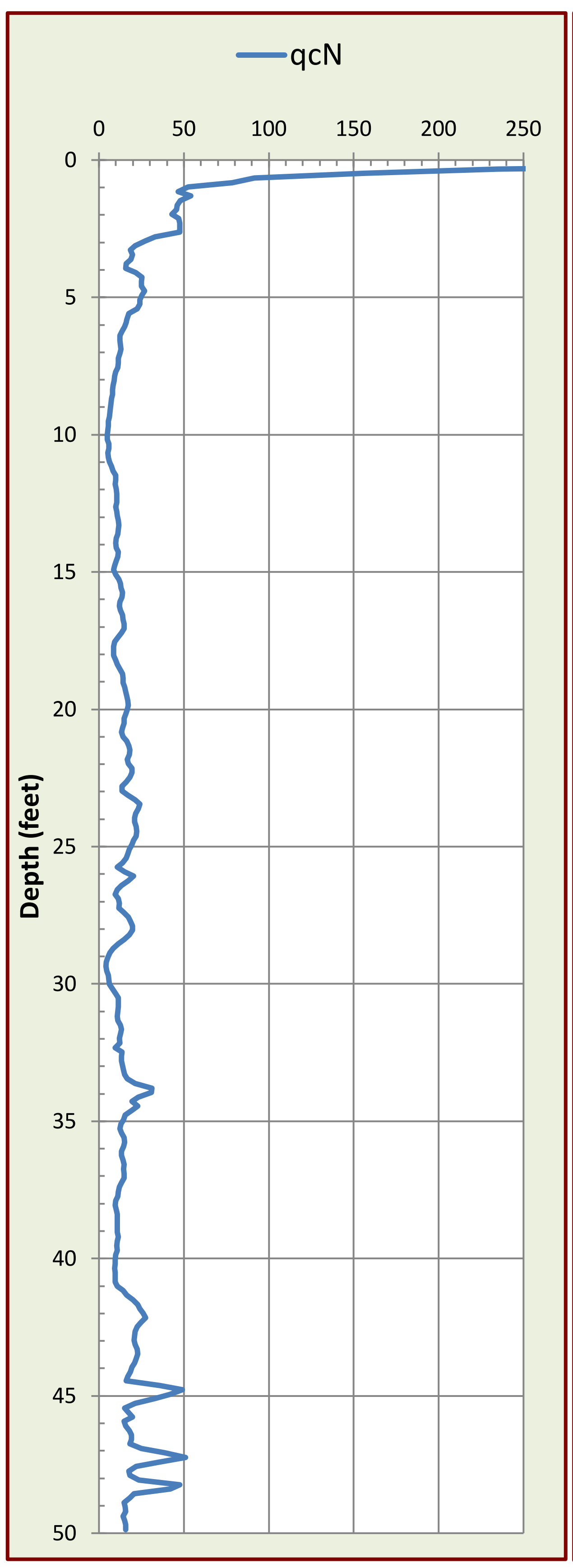
LDI[2]	0.00	L/H	1000.0
LDI[1] Corrected for Distance	0.00	(4 < L/H < 40)	

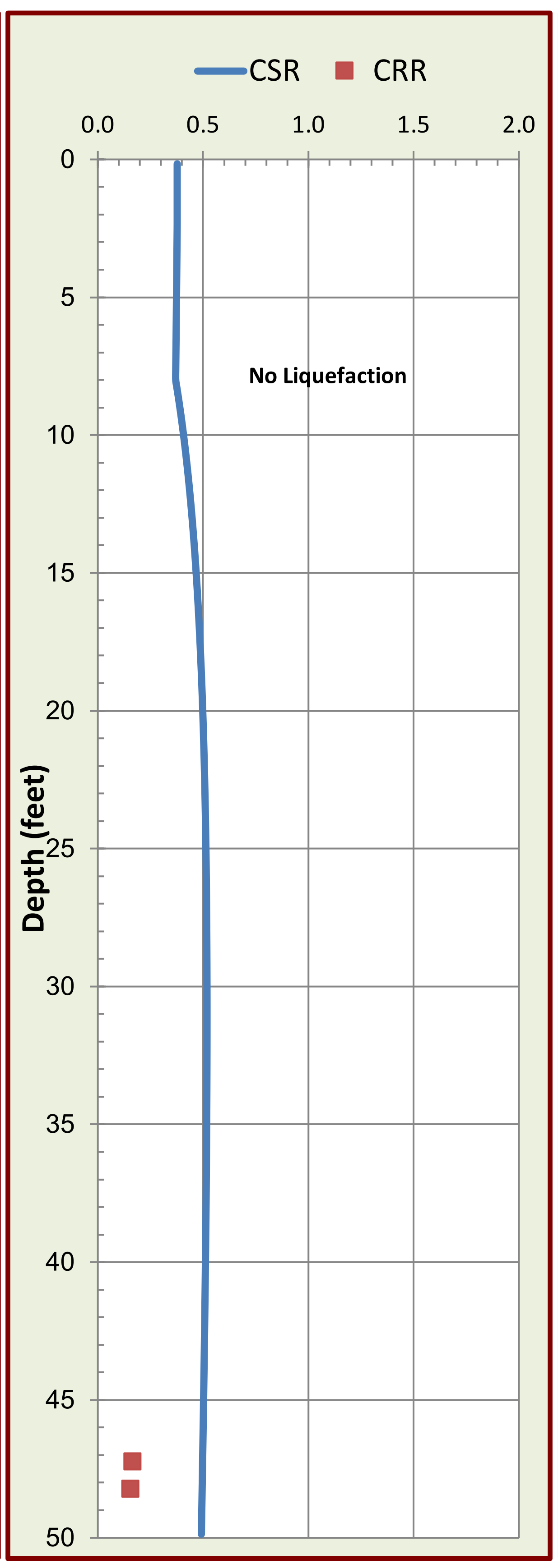
EXPECTED RANGE OF DISPLACEMENT

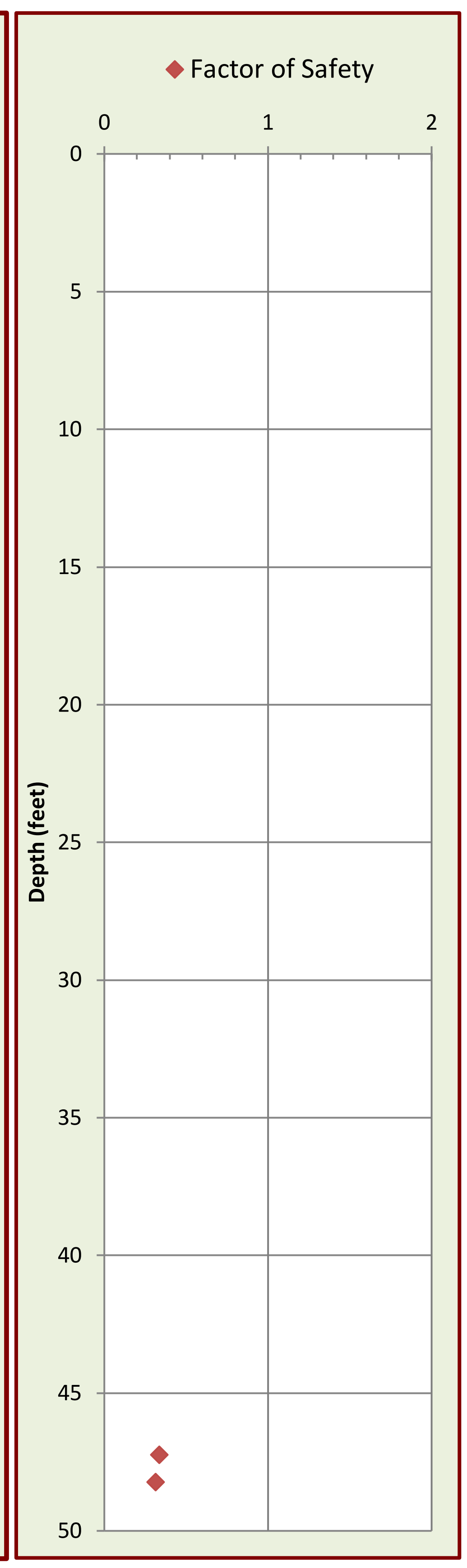
0.0 to 0.0 feet

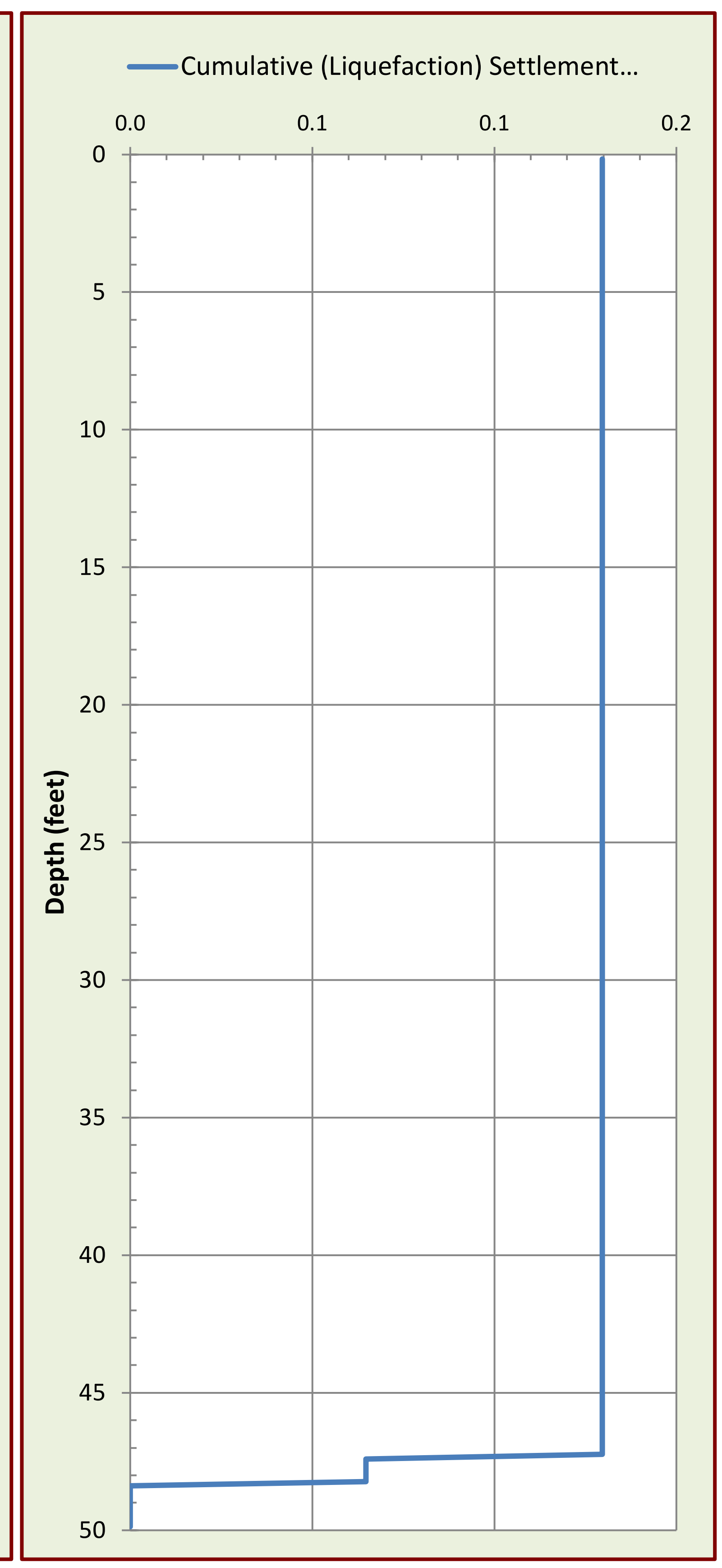
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4F

CPT NO. 6

PROJECT/CPT DATA

Project Title	**STACK SVYL1/L2**
Project No.	**1210-2-2**
Project Manager	**MFR**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**6.9**	
PGA (Amax)	**0.58**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**6.1**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**125**
Ave. Unit Weight Below GW (pcf)	**125**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.00 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

0.05 **(Inches)**

TOTAL SEISMIC SETTLEMENT 0.1 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.00 **L/H** 1000.0

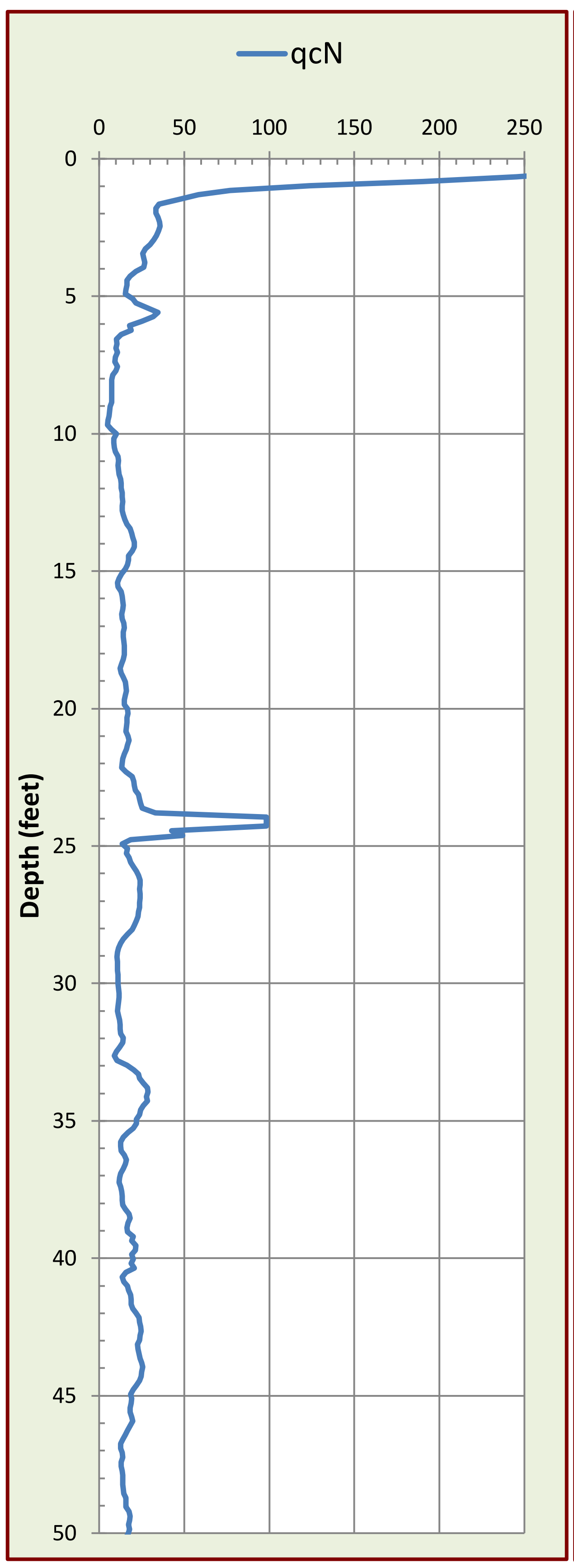
LDI[1]**Corrected for Distance** 0.00 (4 < L/H < 40)

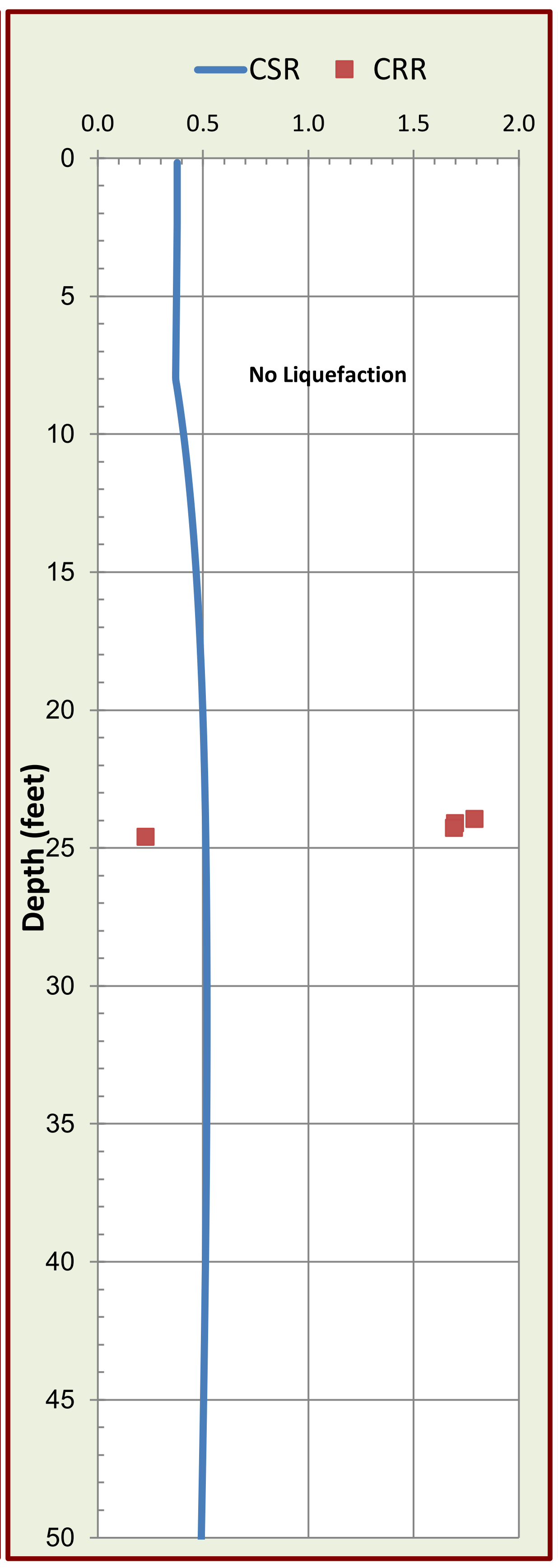
EXPECTED RANGE OF DISPLACEMENT

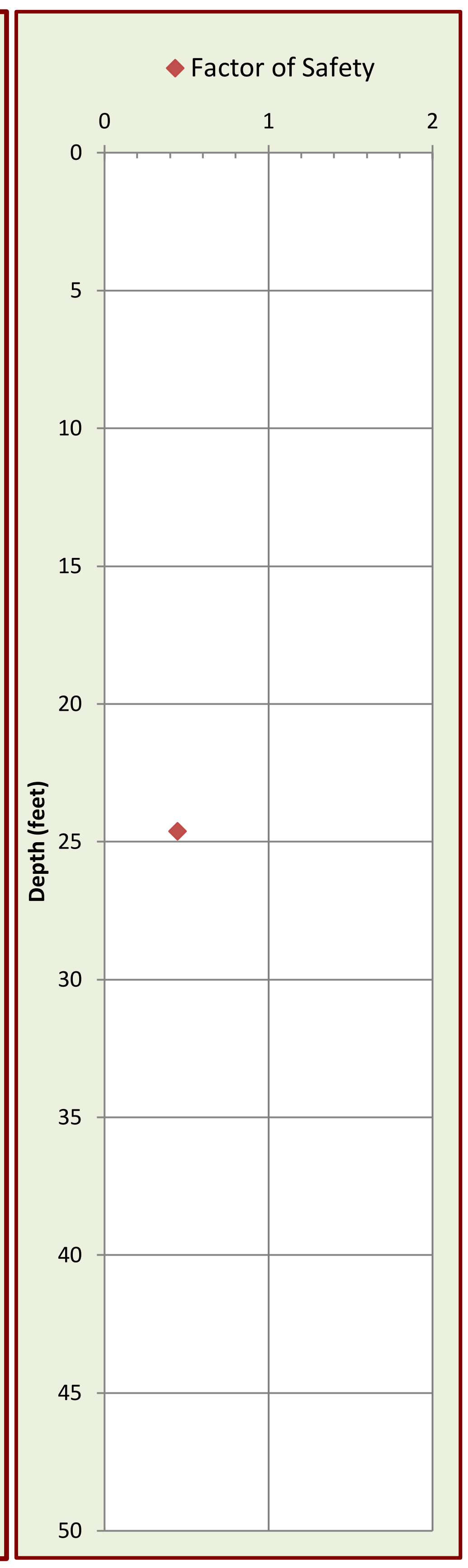
0.0 **to** 0.0 **feet**

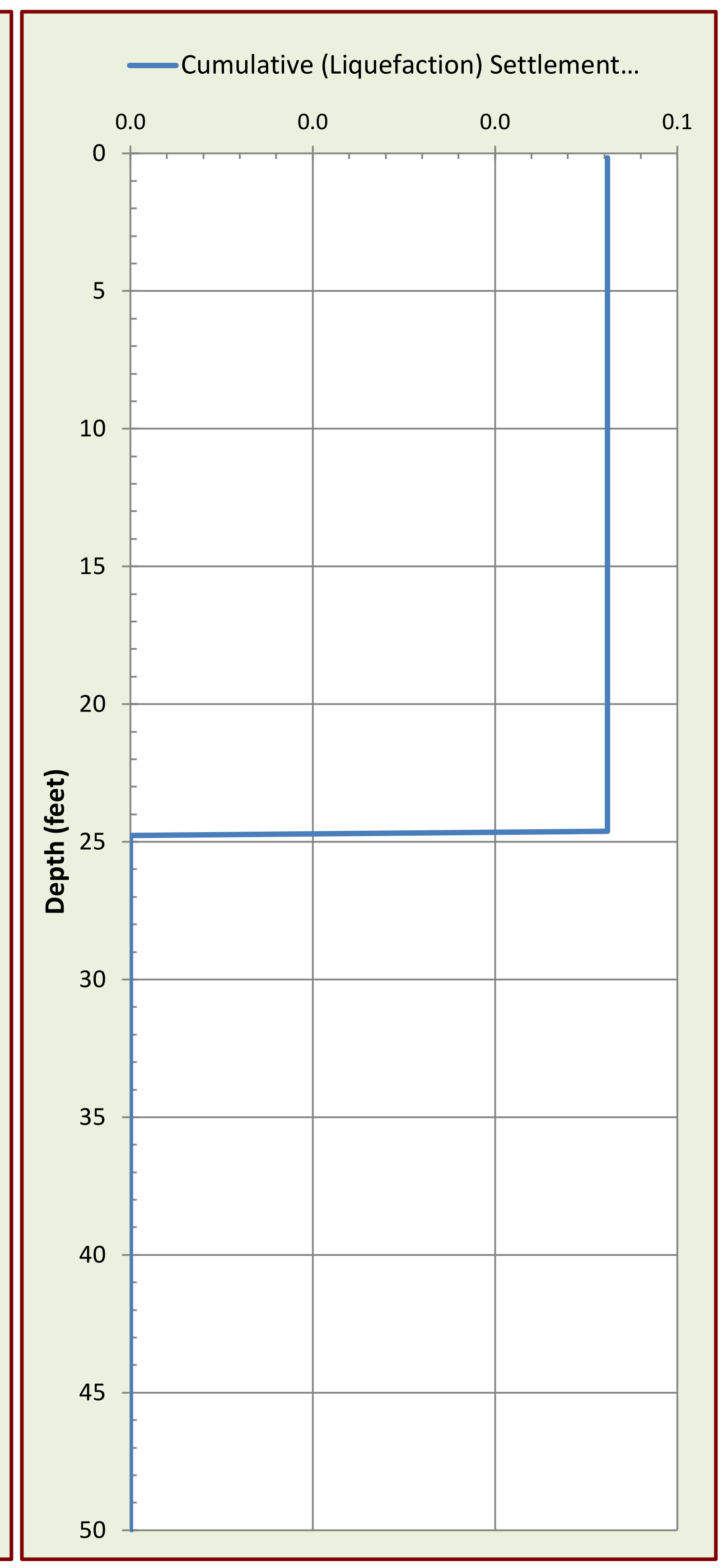
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4G

CPT NO. 7

PROJECT/CPT DATA

Project Title	**STACK SVYL1/L2**
Project No.	**1210-2-2**
Project Manager	**MFR**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**6.9**	
PGA (Amax)	**0.58**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**7.4**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**125**
Ave. Unit Weight Below GW (pcf)	**125**

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 **FEET**

0.00 **(Inches)**

LIQUEFACTION SETTLEMENT FROM 50 **FEET**

0.00 **(Inches)**

TOTAL SEISMIC SETTLEMENT 0.0 **INCHES**

POTENTIAL LATERAL DISPLACEMENT

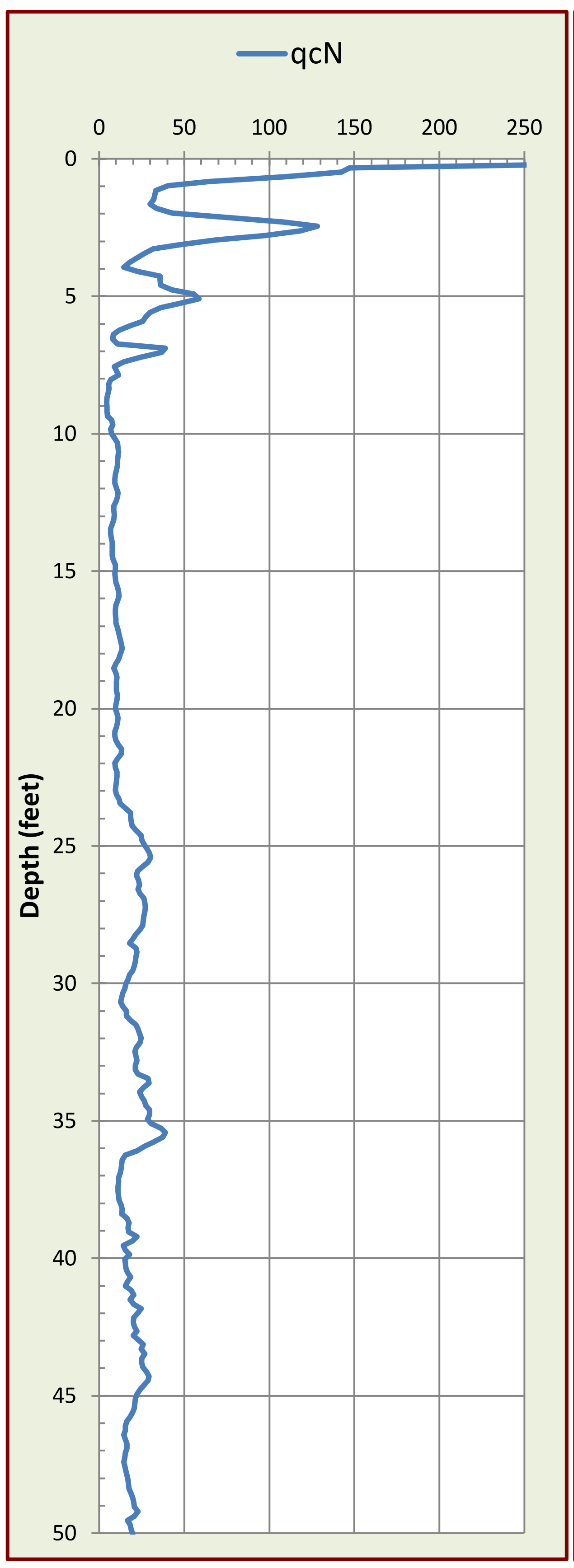
LDI[2] 0.00 **L/H** 1000.0

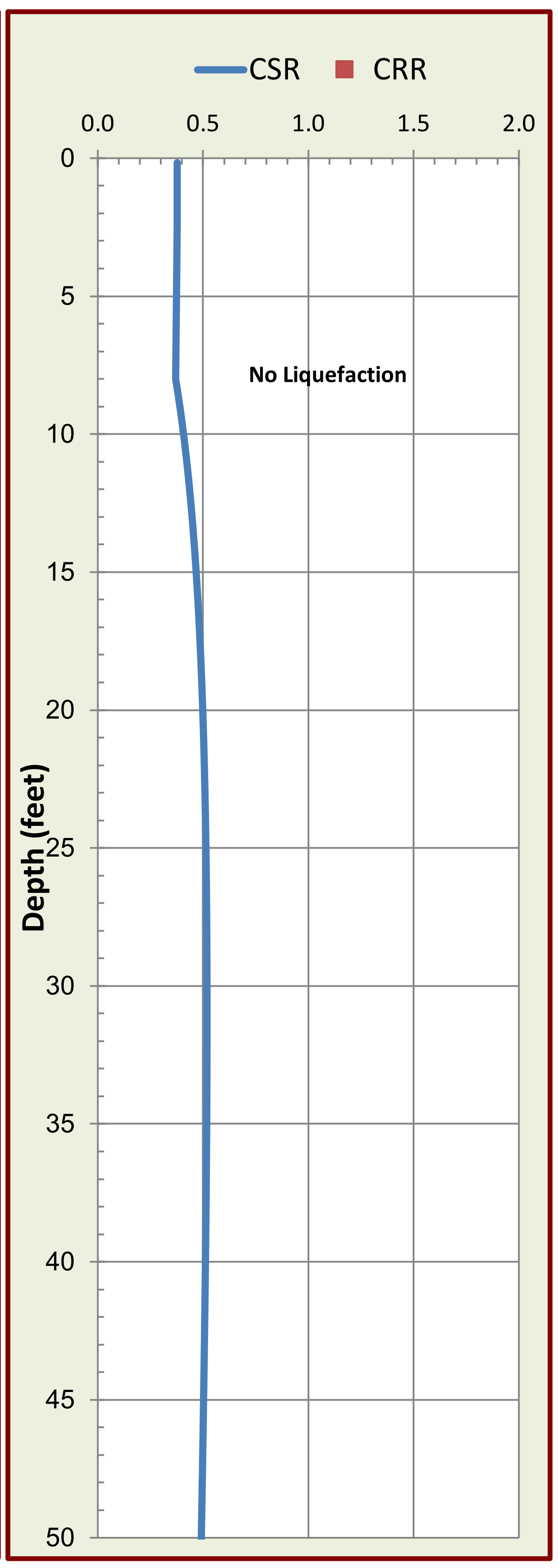
LDI[1] **Corrected for Distance** 0.00 (4 < L/H < 40)

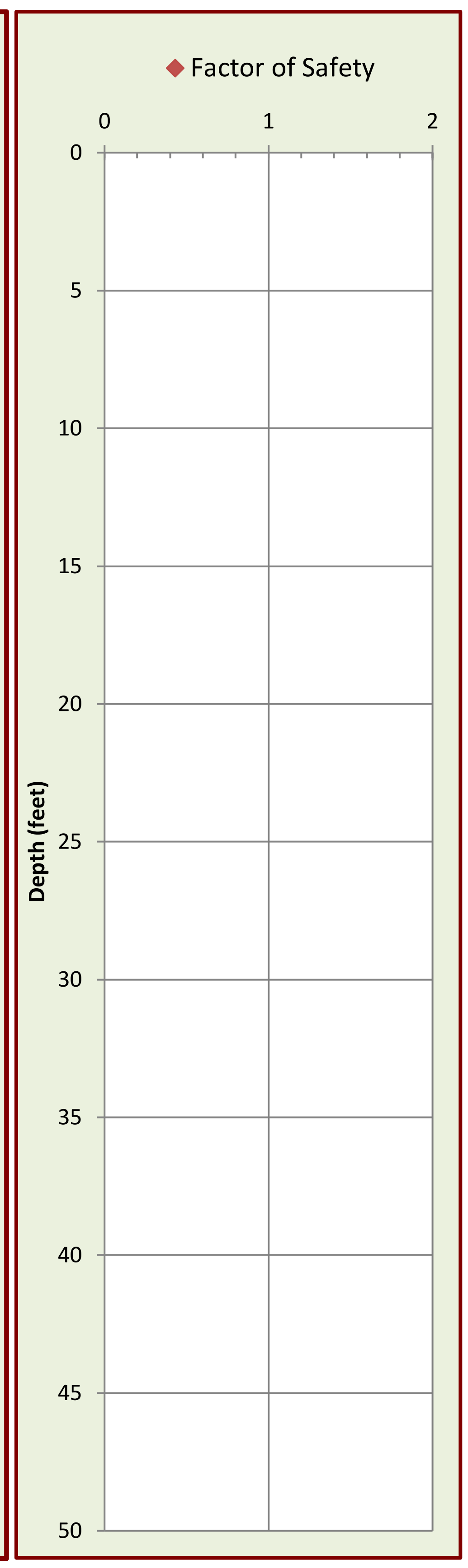
EXPECTED RANGE OF DISPLACEMENT

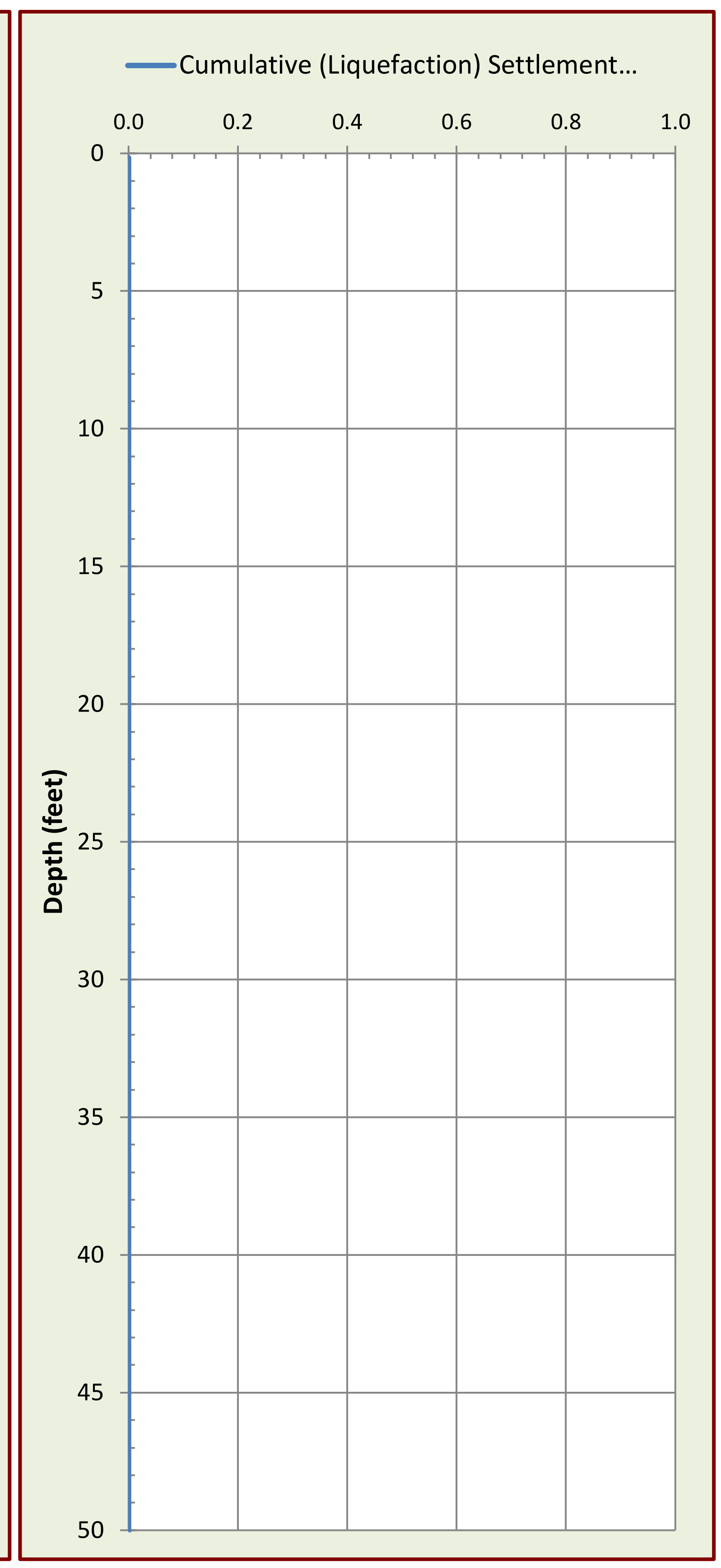
0.0 **to** **0.0** **feet**

[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**

PROJECT/CPT DATA

Project Title	STACK SVYL1/L2
Project No.	1210-2-2
Project Manager	MFR

SEISMIC PARAMETERS

Controlling Fault	Hayward	
Earthquake Magnitude (Mw)	6.9	
PGA (Amax)	0.58	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	8.3
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	125

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 FEET

0.00 (Inches)

LIQUEFACTION SETTLEMENT FROM 50 FEET

0.05 (Inches)

TOTAL SEISMIC SETTLEMENT 0.1 INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.00 L/H 1000.0

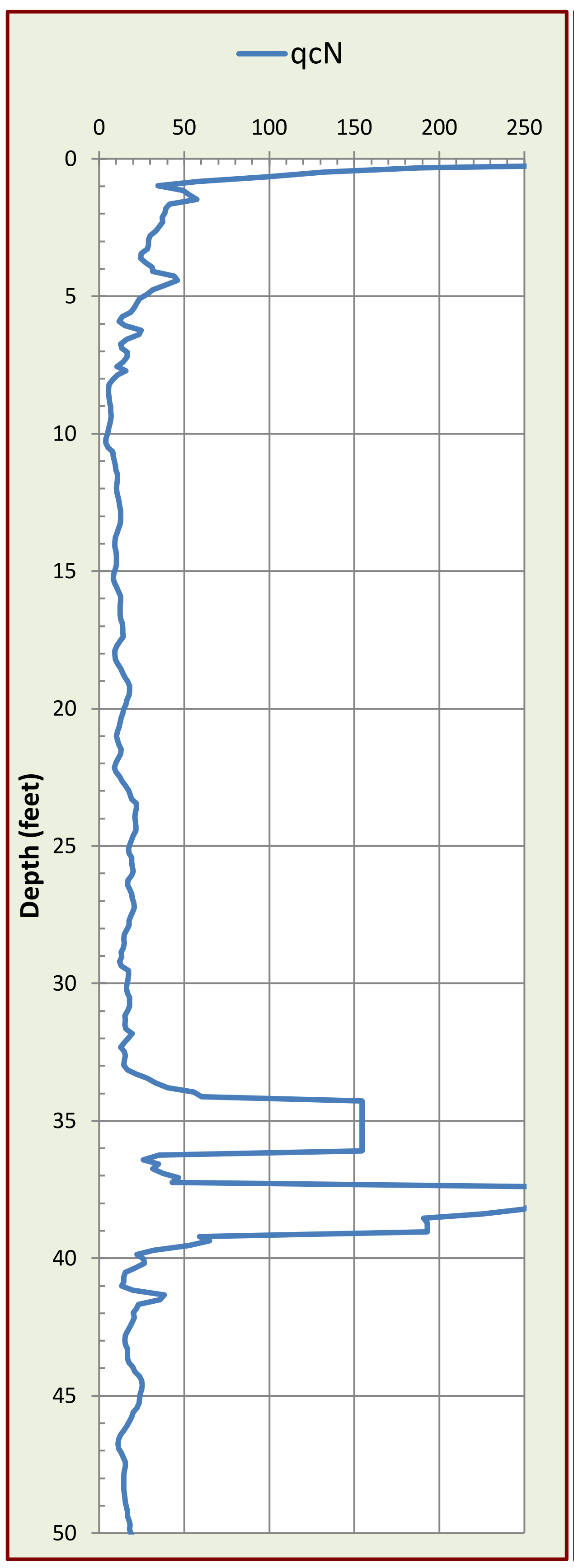
LDI[1] Corrected for Distance 0.00 (4 < L/H < 40)

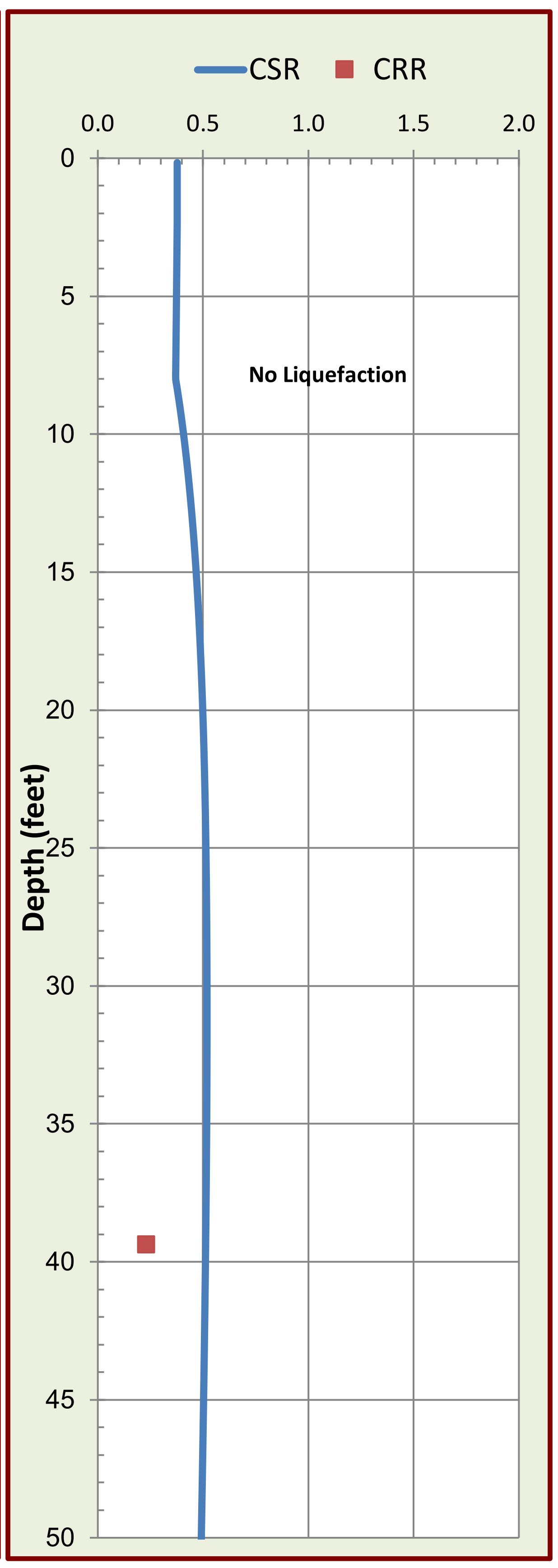
EXPECTED RANGE OF DISPLACEMENT

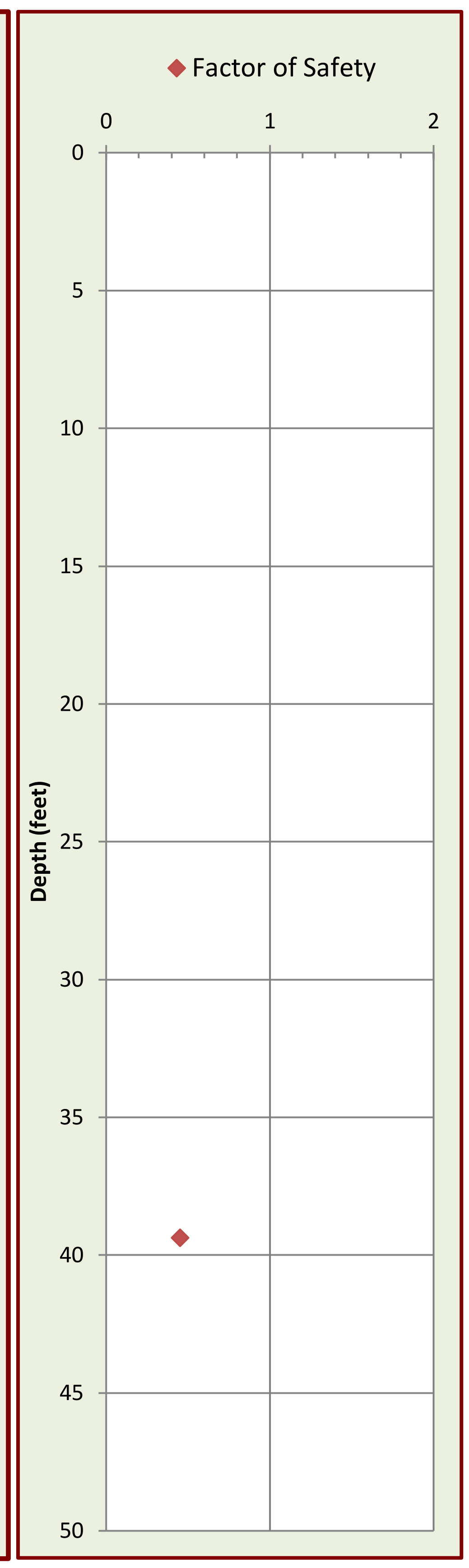
0.0 to 0.0 feet

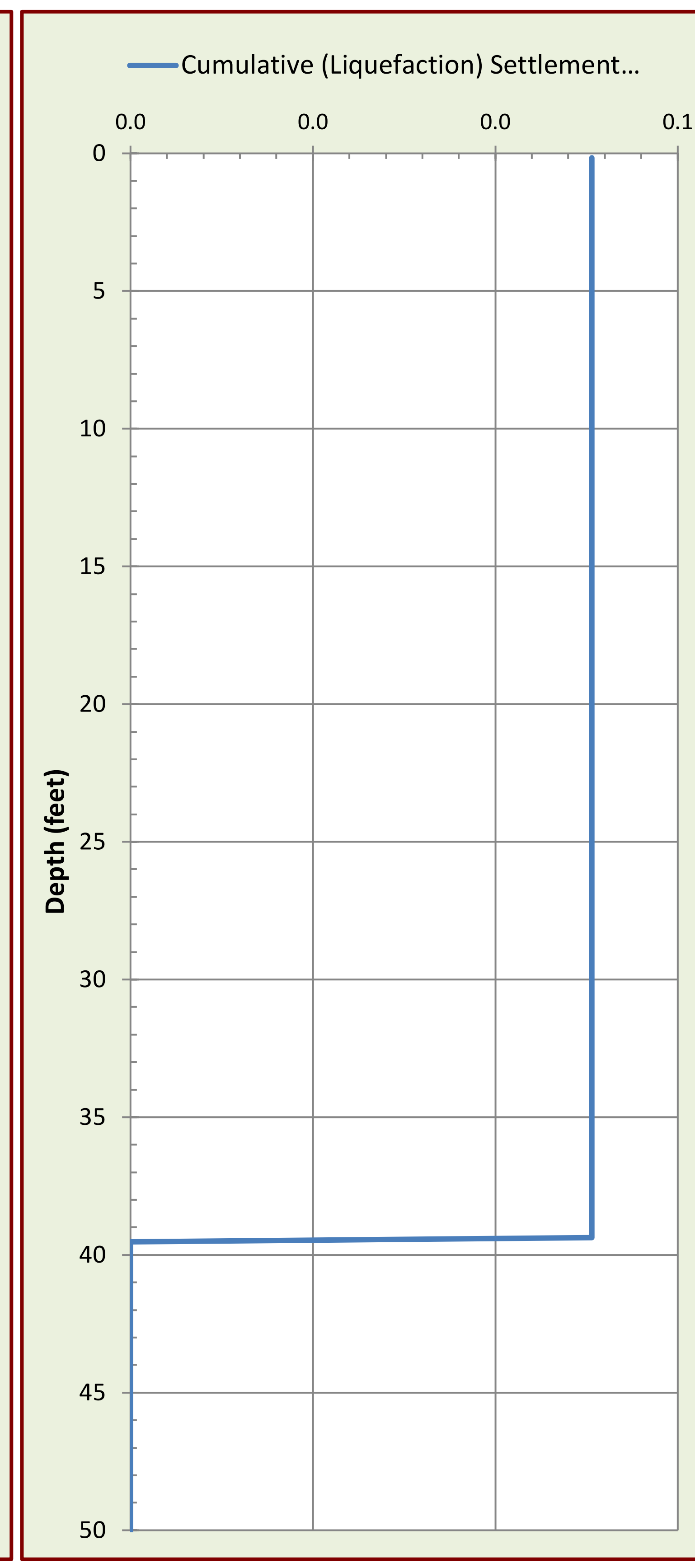
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4I

CPT NO. 9

PROJECT/CPT DATA

Project Title	**STACK SVYL1/L2**
Project No.	**1210-2-2**
Project Manager	**MFR**

SEISMIC PARAMETERS

Controlling Fault	**Hayward**	
Earthquake Magnitude (Mw)	**6.9**	
PGA (Amax)	**0.58**	(g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	**6.9**
Design Water Depth (feet)	**8**
Ave. Unit Weight Above GW (pcf)	**125**
Ave. Unit Weight Below GW (pcf)	**125**

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** 1000.0

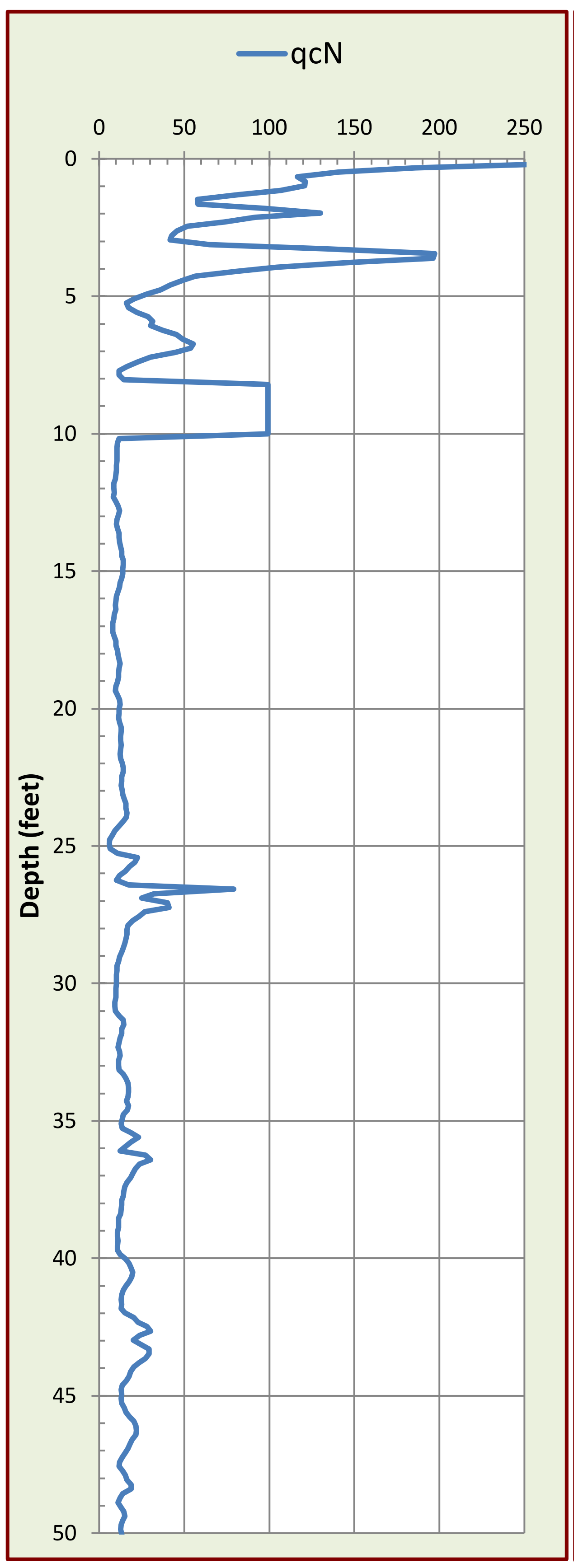
LDI[1] Corrected for Distance 0.00 (4 < L/H < 40)

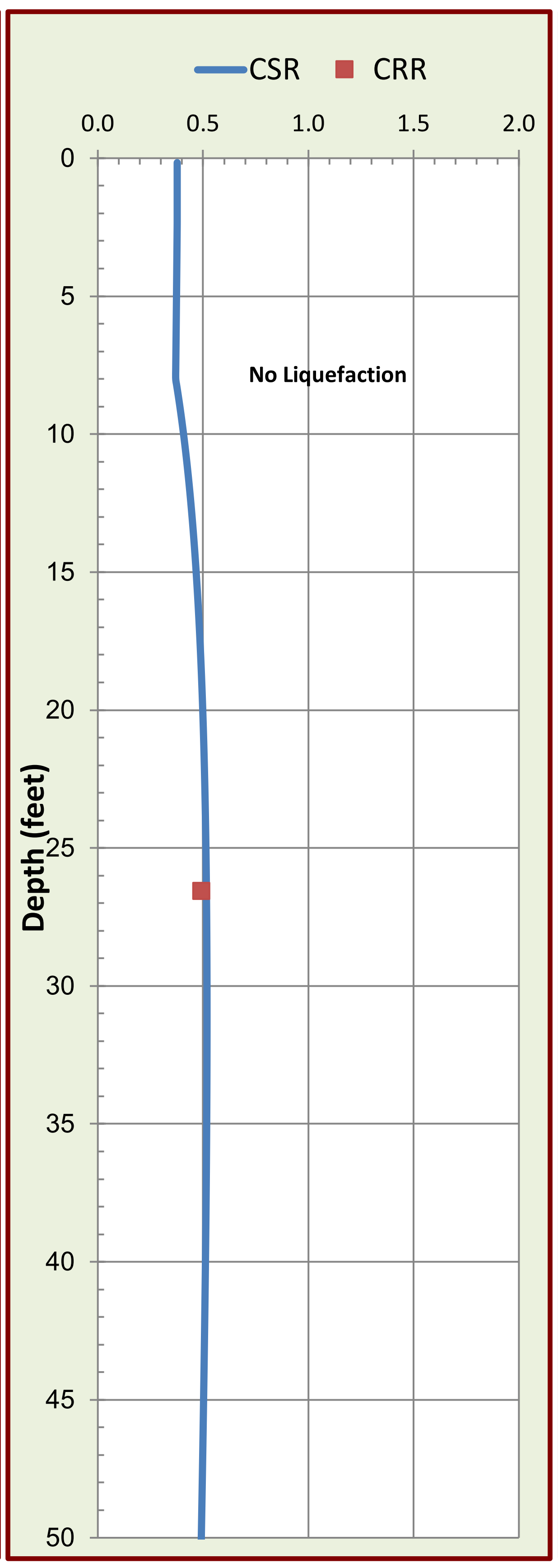
EXPECTED RANGE OF DISPLACEMENT

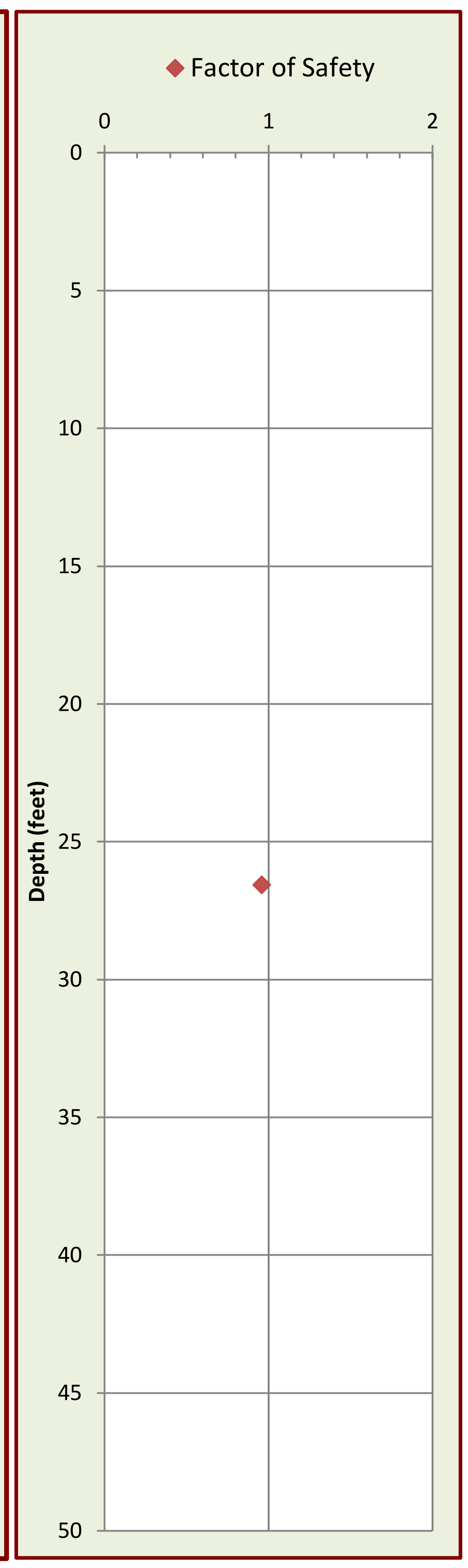
0.0 **to** 0.0 **feet**

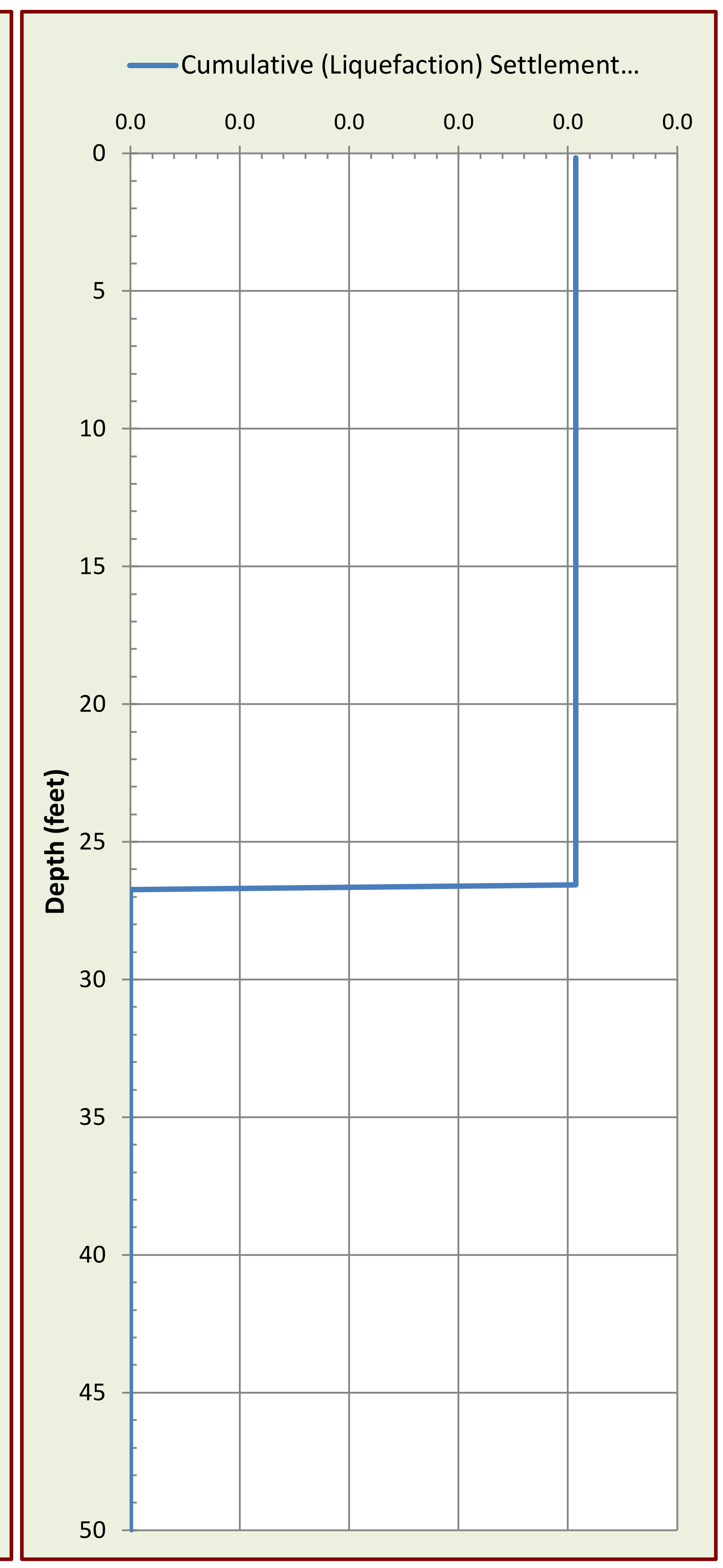
[1]Not Valid for L/H Values < 4 and > 40.

[2]LDI Values Only Summed to 2H Below Grade.









CORNERSTONE EARTH GROUP

FIGURE 4J

CPT NO. 10

PROJECT/CPT DATA

Project Title	STACK SVYL1/L2
Project No.	1210-2-2
Project Manager	MFR

SEISMIC PARAMETERS

Controlling Fault	San Andreas
Earthquake Magnitude (Mw)	7.9
PGA (Amax)	0.835 (g)

SITE SPECIFIC PARAMETERS

Ground Water Depth at Time of Drilling (feet)	6.9
Design Water Depth (feet)	8
Ave. Unit Weight Above GW (pcf)	125
Ave. Unit Weight Below GW (pcf)	125

CPT ANALYSIS RESULTS

DRY SAND SETTLEMENT FROM 8 FEET

0.01 (Inches)

LIQUEFACTION SETTLEMENT FROM 50 FEET

0.42 (Inches)

TOTAL SEISMIC SETTLEMENT 0.4 INCHES

POTENTIAL LATERAL DISPLACEMENT

LDI[2] 0.00 L/H 1000.0

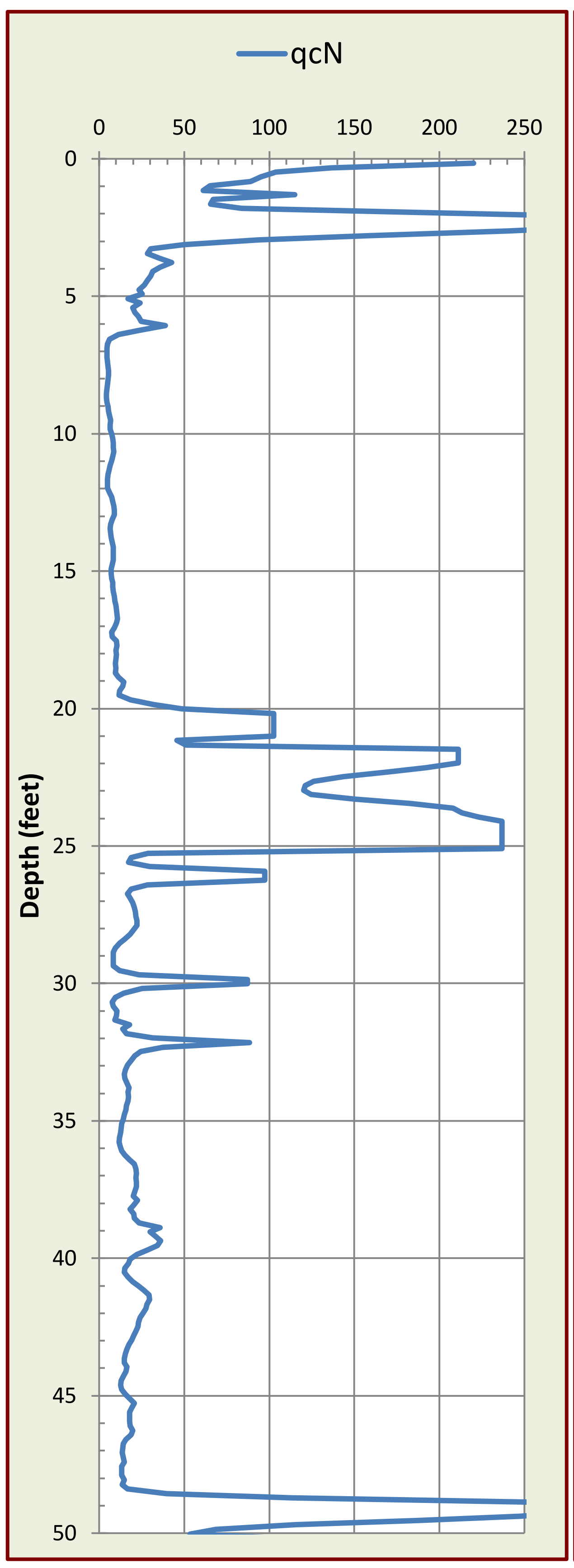
LDI[1] Corrected for Distance 0.00 (4 < L/H < 40)

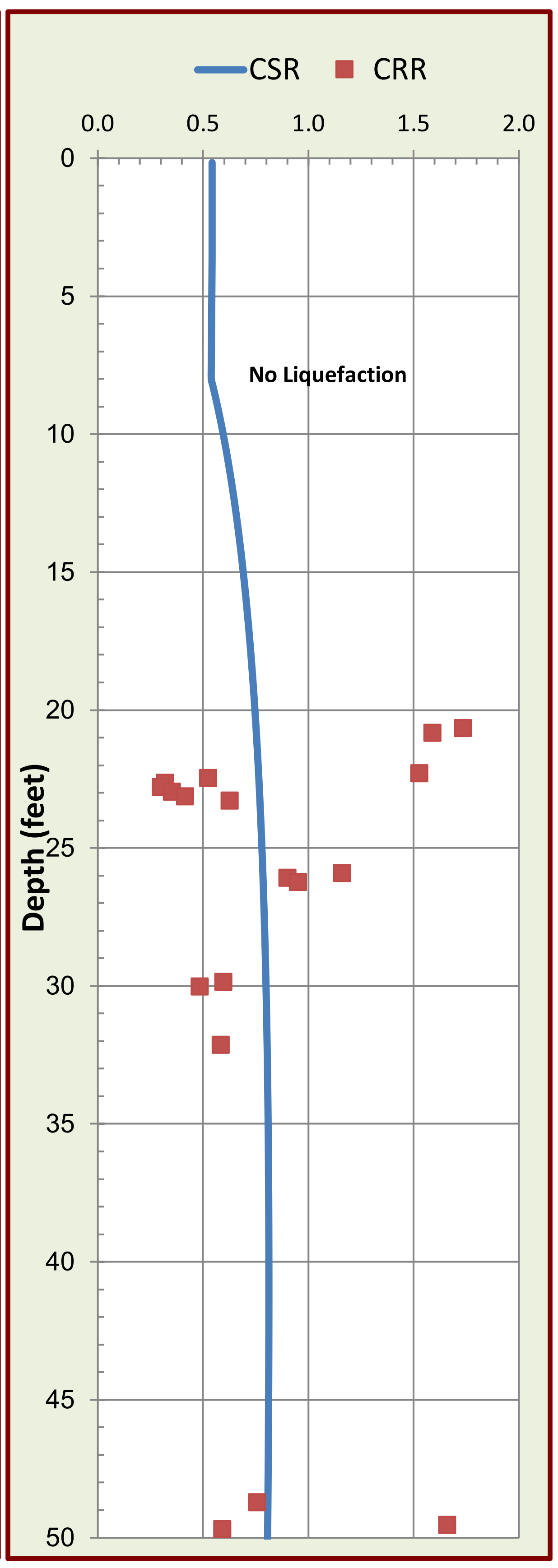
EXPECTED RANGE OF DISPLACEMENT

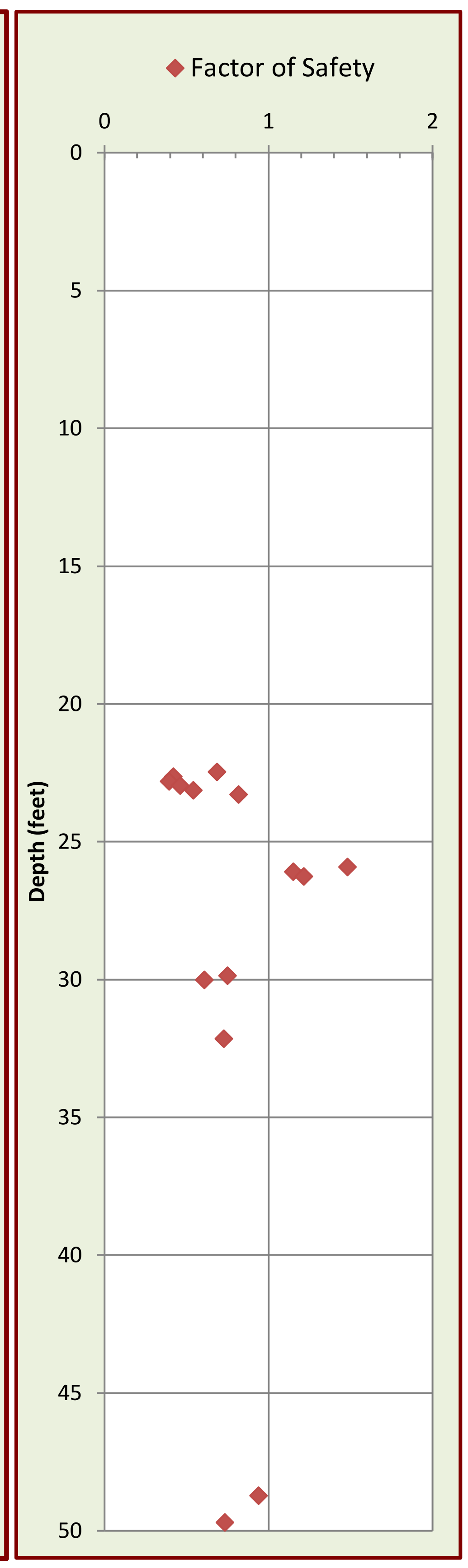
0.0 to 0.0 feet

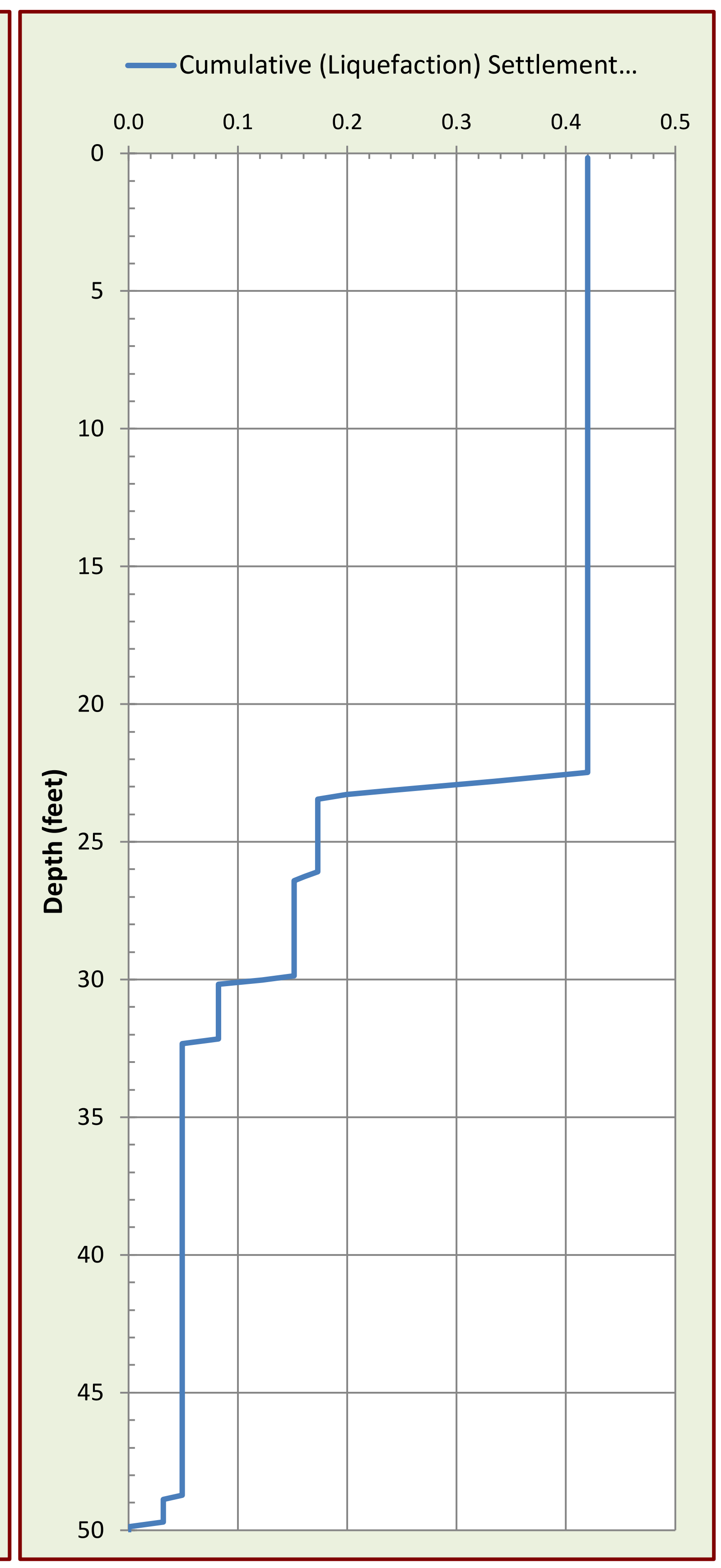
[1]Not Valid for L/H Values < 4 and > 40.

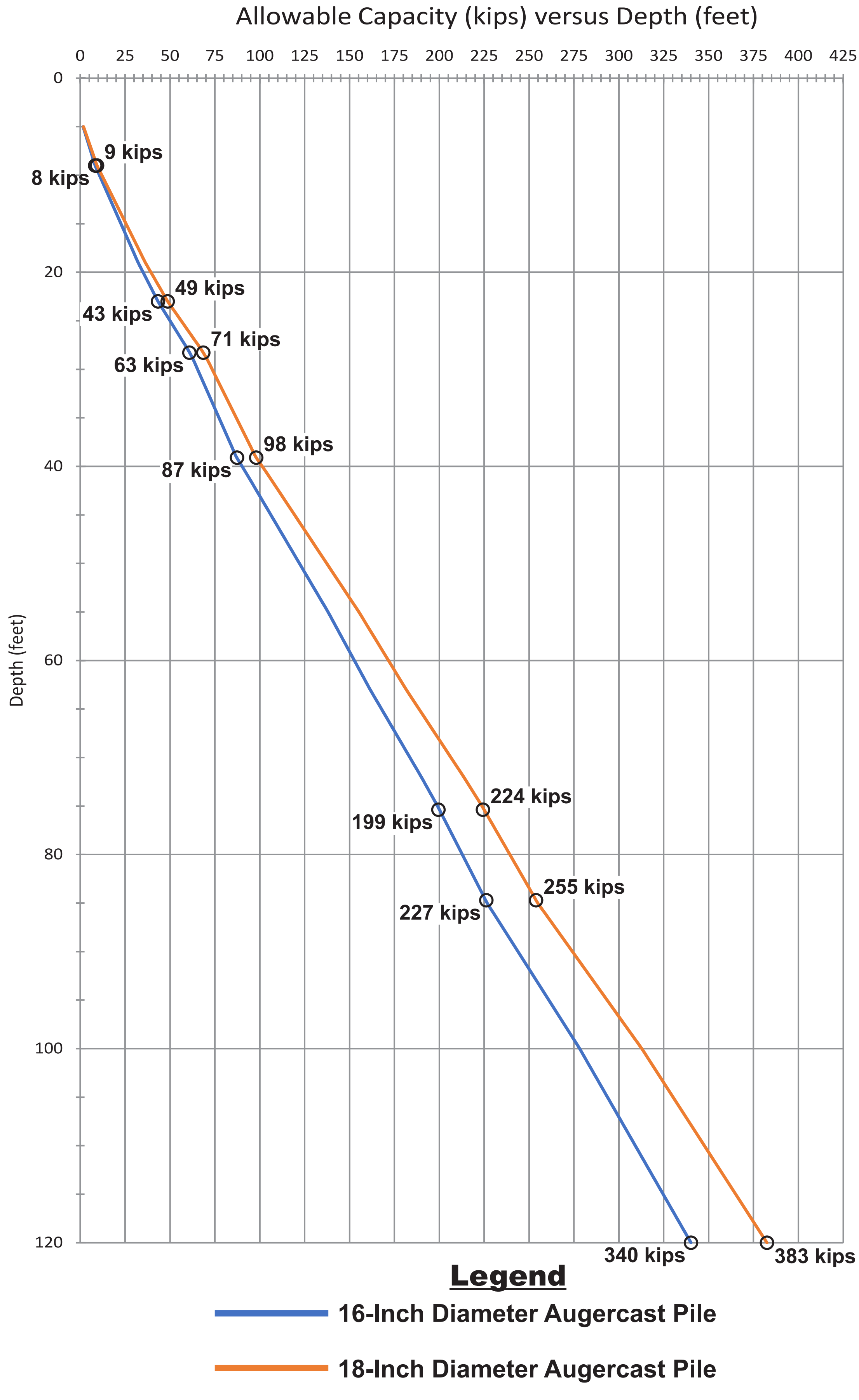
[2]LDI Values Only Summed to 2H Below Grade.











CORNERSTONE EARTH GROUP

Vertical Pile Capacity	Project Number 1210-2-2
STACK San Jose, San Jose, CA	Figure Number Figure 5
	Date August 2021 / Drawn By RRN

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 June 1, 2, 3, 19, and 20, 2021 and July 10 and 11, 2021 to depths of 50 to 99½ feet. Ten CPT soundings were also performed in accordance with ASTM D 5778-95 (revised, 2002) on June 12 and 25, 2021, to depths ranging from 50 to 150 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, a hand-held GPS unit, and other site features as references. Boring and CPT elevations were based on interpolation of plan contours. The locations and elevations 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	Sand
Clayey Sand	Silt
Sandy Silt	Well Graded Gravelly Sand
Artificial/Undocumented Fill	Gravelly Silt
Poorly-Graded Gravelly Sand	Asphalt
Topsoil	Boulders and Cobble
Well-Graded Gravel with Clay	
Well-Graded Gravel with Silt	

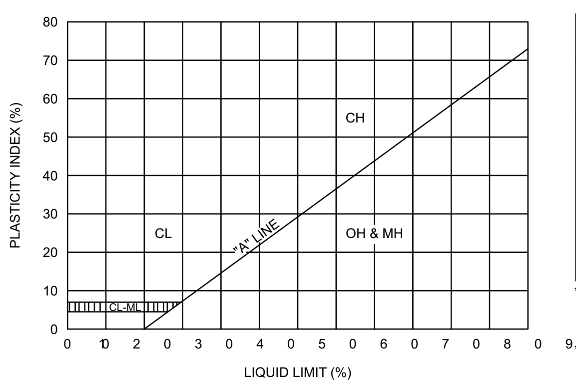
SAMPLER TYPES

SPT	Shelby Tube
Modified California (2.5" I.D.)	No Recovery
Rock Core	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 STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 6/20/21 **DATE COMPLETED** 6/20/21
GROUND ELEVATION **BORING DEPTH** 60 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE 37.403242° **LONGITUDE** -121.895609°
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY BCG
▽ **AT TIME OF DRILLING** 13 ft.
NOTES
▼ **AT END OF DRILLING** 11 ft.

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

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

ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0	4 inches asphalt concrete over 4 inches aggregate base							
		Clayey Sand with Gravel (SC) [Fill] medium dense, moist, dark brown and brown mottled, fine to coarse sand, fine to coarse subangular gravel	21	MC-1B	117	14			
		Sandy Lean Clay (CL) very stiff, moist, gray with brown mottlles, fine to medium sand, low plasticity	16	MC-2B	109	16			○
	5		18	MC-3B	104	20			○
		Clayey Sand (SC) medium stiff, moist, brown with gray mottles, fine to medium sand	10	MC-4C	95	30			○
	10	**Lean Clay with Sand (CL)** medium stiff, moist, gray with brown mottles, fine sand, low to moderate plasticity							
		Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity	11	MC					○
	15								
			16	MC-6B	96	29			○▲
	20								
			16	MC					○
	25								

Continued Next Page

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE
			Lean Clay with Sand (CL) very stiff, moist, gray with brown mottles, fine sand, low to moderate plasticity	32	MC-8B	106	22		
	30		**Sandy Lean Clay (CL)** stiff to very stiff, moist, gray brown, fine to coarse sand, low plasticity		ST				
	35								
			Lean Clay (CL) very stiff, moist, gray, some fine sand, moderate plasticity	48	MC-10B	103	22		
	40								
				64	MC				
	45								
				30	MC-12B	106	25		
	50								
			Clayey Sand with Gravel (SC) medium dense, moist, gray brown, fine to coarse sand, coarse subrounded gravel	26	MC				
	55			23	SPT				

UNDRAINED SHEAR STRENGTH, ksf

○ HAND PENETROMETER

△ TORVANE

● UNCONFINED COMPRESSION

▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL

1.0 2.0 3.0 4.0

Continued Next Page

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

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

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
			Clayey Sand with Gravel (SC) medium dense, moist, gray brown, fine to coarse sand, coarse subrounded gravel							
			Lean Clay with Sand (CL) very stiff, moist, gray, fine to medium sand, low to moderate plasticity	18	SPT-15		22			○ 2.5
	60		Bottom of Boring at 60.0 feet.							
	65									
	70									
	75									
	80									
	85									

BORING NUMBER EB-2

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 7/11/21 **DATE COMPLETED** 7/11/21
GROUND ELEVATION **BORING DEPTH** 60 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE 37.403282° **LONGITUDE** -121.893853°
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY EA
▽ **AT TIME OF DRILLING** 12 ft.
NOTES
▼ **AT END OF DRILLING** 14 ft.

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

DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
0	4 inches asphalt concrete over 6 inches aggregate base							
	Sandy Lean Clay with Gravel (CL) [Fill] hard, moist, brown, fine sand, fine subangular gravel, low plasticity	36	MC-1B	103	17			>4.5
	Sandy Lean Clay (CL) hard, moist,brown with gray mottles, fine sand, low plasticity	24	MC-2B	101	16			>4.5
5	**Clayey Sand (SC)** medium dense, moist, gray with brown mottles, fine sand	25	MC-3B	108	14			
	Lean Clay with Sand (CL) stiff, moist, gray with brown mottles, fine sand, low to moderate plasticity	6	MC-4B	94	26			
10								
15		17	MC					
20		13	MC-6B	94	28			
25		19	MC					

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CORNERSTONE EARTH GROUP2 - CORNERSTONE 0812.GDT - 7/26/21 17:15 - P:\DRAFTING\GINT FILES\1210-2-2 STACK SAN JOSE.GPJ

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Lean Clay with Sand (CL) stiff, moist, brown with gray and orange mottles, fine to coarse sand, low plasticity		ST-8	101	23			○
	30								
		Sandy Lean Clay (CL) stiff, moist, light gray with light brown mottles, fine sand, low plasticity	18	MC					○
	35								
		Lean Clay (CL) very stiff, moist, dark gray, trace fine sand, moderate plasticity	33	MC-10B	97	24			○
	40								
		becomes stiff	18	MC					○
	45								
		Silty Sand (SM) medium dense, moist, fine to coarse sand	48	MC-12B	110	18			○
	50	**Sandy Lean Clay (CL)** very stiff, moist, brown, fine to coarse sand, some fine subrounded gravel, low plasticity							
		becomes stiff	30	MC					○
	55								

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

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
			Clayey Sand (SC) moist, brown, fine to coarse sand, fine to medium subrounded gravel							
			Lean Clay with Sand (CL) stiff, moist, brown, fine sand, low plasticity	30	MC-14B	100	24			○ (approx. 1.5)
	60		Bottom of Boring at 60.0 feet.							
	65									
	70									
	75									
	80									
	85									

BORING NUMBER EB-3

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 6/19/21 **DATE COMPLETED** 6/19/21
DRILLING CONTRACTOR Exploration Geoservices, Inc.
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
LOGGED BY SCO
NOTES

GROUND ELEVATION **BORING DEPTH** 51.5 ft.
LATITUDE **LONGITUDE**
GROUND WATER LEVELS:
∇ **AT TIME OF DRILLING** 15 ft.
▼ **AT END OF DRILLING** 15 ft.

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

DESCRIPTION

ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0	3 inches asphalt concrete over 10 inches aggregate base							
		Lean Clay with Sand (CL) [Fill] hard, moist, dark brown with brown mottles, fine to coarse sand, some fine subangular gravel, moderate plasticity	44	MC-1B	105	14			>4.5
		Lean Clay with Sand (CL) hard, moist, brown, fine to medium sand, low to moderate plasticity	16	MC-2B	108	16			>4.5
	5	**Silty Sand (SM)** loose, moist, brown, fine to coarse sand, trace fine gravel	13	MC-3B	107	13			
			8	MC-4B	79	28			
		Lean Clay with Sand (CL) medium stiff, moist, brown, fine to coarse sand, moderate plasticity	4	MC-5B	85	32			
	10	**Lean Clay (CL)** very stiff, moist, gray, some fine sand, moderate plasticity		ST-6	97	27			
▼	15								
			20	MC-7B	93	29			
	20								
			30	MC					
	25								

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Poorly Graded Sand (SP) medium dense, wet, brown, fine to coarse sand, some fine subrounded gravel	44	MC-9B	95	20			
	30	**Sandy Lean Clay (CL)** very stiff, moist, brown, fine to coarse sand, low plasticity							
		Lean Clay with Sand (CL) very stiff, moist, brown, fine sand, moderate plasticity	16	MC					○
	35								
		Lean Clay (CL) very stiff, moist, gray and brown mottled, some fine sand, moderate plasticity	37	MC-11B	102	24			○
	40								
		Poorly Graded Sand (SP) loose, wet, brown, fine to coarse sand, some fine subrounded gravel	17	MC					
	45	**Lean Clay (CL)** stiff, moist, brown, some fine sand, moderate plasticity							○
		Poorly Graded Sand (SP) dense, moist to wet, brown, fine to coarse sand, fine subrounded gravel	61	NR					
	50	**Lean Clay (CL)** very stiff, moist, brown, some fine sand, moderate plasticity	22	SPT-13		22			○
		Bottom of Boring at 51.5 feet.							
	55								

BORING NUMBER EB-4

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

DATE STARTED 6/20/21 **DATE COMPLETED** 6/20/21

GROUND ELEVATION **BORING DEPTH** 50 ft.

DRILLING CONTRACTOR Exploration Geoservices, Inc.

LATITUDE 37.402541° **LONGITUDE** -121.895769°

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

GROUND WATER LEVELS:

LOGGED BY BCG

∇ **AT TIME OF DRILLING** 9 ft.

NOTES

▼ **AT END OF DRILLING** 13 ft.

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ELEVATION (ft)	DEPTH (ft)	DESCRIPTION
	0	3 inches asphalt concrete over 8 inches aggregate base
		Sandy Lean Clay with Gravel (CL) [Fill] very stiff, moist, brown and dark gray mottled, fine to coarse sand, fine to coarse subangular gravel, low plasticity
		Lean Clay with Sand (CL) very stiff, moist, dark brown, fine to coarse sand, moderate plasticity
	5	**Sandy Lean Clay (CL)** very stiff, moist, gray and brown mottled, fine sand, low to moderate plasticity
		Silty Sand (SM) loose, moist, gray brown, fine to medium sand
	10	**Sandy Lean Clay (CL)** medium stiff, moist, gray with brown mottles, fine to medium sand, low plasticity
		Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity
	15	
	20	
		Lean Clay with Sand (CL) very stiff, moist, gray with brown mottles, fine sand, moderate plasticity
	25	

N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE
17	MC-1B	115	15		
26	MC-2B	107	18		
23	MC-3B	104	18		
9	MC-4B	89	33		
20	MC-5B	91	32		
14	MC				
20	MC-7B	104	21		

UNDRAINED SHEAR STRENGTH, ksf

○ HAND PENETROMETER

△ TORVANE

● UNCONFINED COMPRESSION

▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL

1.0 2.0 3.0 4.0

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

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
		CL	**Lean Clay with Sand (CL)** very stiff, moist, gray with brown mottles, fine sand, moderate plasticity						
	30			35	MC				
	35		becomes stiff	13	MC-9B	108	20		
	40			23	MC				
	45			22	MC-11B	105	22		
	50			27	MC				
	50		Bottom of Boring at 50.0 feet.						
	55								

BORING NUMBER EB-5

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 6/2/21 **DATE COMPLETED** 6/2/21
GROUND ELEVATION **BORING DEPTH** 70 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE 37.402042° **LONGITUDE** -121.896027°
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY JLC
∇ **AT TIME OF DRILLING** 10 ft.
NOTES
▼ **AT END OF DRILLING** 10 ft.

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

ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0	8 inches asphalt concrete							
		Sandy Lean Clay (CL) [Fill] hard, moist, dark brown and brown mottled, fine to coarse sand, low plasticity	50/6"	MC-1B	96	14			○ >4.5
		Lean Clay with Sand (CL) very stiff, moist, brown and gray mottled, fine sand, low plasticity	32	MC-2B		16			○
	5	**Clayey Sand (SC)** medium dense, moist, brown and gray mottled, fine sand	30	MC-3B	106	13			
		Silty Sand (SM) loose, moist, brown, fine to coarse sand	12	MC					
		Lean Clay with Sand (CL) medium stiff, moist, gray with brown mottles, fine sand, moderate plasticity	10	MC-5A	93	33			○
	10 ∇▼			ST					
	15								
		Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity							
			24	MC-7B	98	26			○
	20								
		becomes very stiff	38	MC					○
	25								

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BORING NUMBER EB-5

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity						
			38	MC-9B	97	27		
	30							
			32	MC-10B	104	23		
	35							
			36	MC				
	40							
			36	MC-12B	99	26		
	45							
		Sandy Lean Clay (CL) very stiff, moist, brown, fine to medium sand, low plasticity						
			42	MC				
	50							
		Lean Clay (CL) very stiff, moist, gray with brown mottles, some fine sand, moderate plasticity						
			31	MC-14B	101	27		
	55							

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

Undrained shear strength, ksf: ○ Hand Penetrometer; △ Torvane; ● Unconfined Compression; ▲ Unconsolidated-Undrained Triaxial (scale 1.0, 2.0, 3.0, 4.0)

DEPTH (ft)	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
~58	**Sandy Lean Clay (CL)** stiff, moist, brown, fine to medium sand, low plasticity							
~59.5		54	MC					○ (Hand Penetrometer)
~63	**Lean Clay (CL)** stiff, moist, gray with brown mottles, some fine sand, moderate plasticity							
~64.5		42	MC-16B	100	26			○ (Hand Penetrometer)
~69.5		85	MC					○ (Hand Penetrometer)
70	Bottom of Boring at 70.0 feet.							

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 6/1/21 **DATE COMPLETED** 6/1/21
DRILLING CONTRACTOR Exploration Geoservices, Inc.
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
LOGGED BY JLC
NOTES

GROUND ELEVATION **BORING DEPTH** 99.5 ft.
LATITUDE 37.401104° **LONGITUDE** -121.895867°
GROUND WATER LEVELS:
▽ **AT TIME OF DRILLING** 16 ft.
▼ **AT END OF DRILLING** 16 ft.

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

ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0	3 inches asphalt concrete over 10 inches aggregate base							
		Sandy Lean Clay (CL) hard, moist, dark brown to brown with gray mottles, fine sand, low plasticity	44	MC-1B	111	18			○ >4.5
			33	MC-2B	112	15			○ 4.0
	5	**Silty Sand (SM)** medium dense to loose, moist, brown, fine to coarse sand							
		Lean Clay with Sand (CL) stiff, moist, gray with brown mottles, fine sand, low plasticity	13	MC-3B	97	26			
		medium stiff	10	MC-4B	93	28			○ 1.0
	10	**Silty Sand (SM)** loose, moist, brown, fine sand							
		Lean Clay with Sand (CL) stiff, moist, gray with brown mottles, fine sand, low to moderate plasticity	24	MC-5B	101	24			○ 2.0
	15 ▼								
			23	MC					○ 2.0
	20								
		Lean Clay (CL) very stiff, moist, gray with brown mottles, some fine sand, moderate plasticity	54	MC-7B	111	20			○ 3.5
	25								

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Lean Clay (CL) very stiff, moist, gray with brown mottles, some fine sand, moderate plasticity							
			29	MC					○
	30								
		becomes stiff		ST-9	96	29			○
		Lean Clay with Sand (CL) very stiff, moist, gray with brown mottles, fine sand, moderate plasticity	34	MC-10B	112	19			○
	35								
		Lean Clay (CL) medium stiff, moist, gray, some fine sand, moderate plasticity							
			24	MC					○
	40								
		becomes very stiff	50	MC-12B	107	22			○
	45								
		Lean Clay with Sand (CL) medium stiff, moist, gray, fine sand, moderate plasticity							
			31	MC-13B	106	22			○ ▲
	50								
			36	MC-14B	102	23			○
	55								

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Lean Clay (CL) very stiff, moist, gray, some fine sand, moderate plasticity							
			58	MC					○ ~3.0
	60								
		Poorly Graded Sand with Clay (SP-SC) dense, moist, brown, fine to coarse sand	70	MC-16B	117	14			○ ~3.0
	65								
			78	MC-17					
	70								
		Lean Clay (CL) very stiff, moist, gray, some fine sand, moderate plasticity	82	MC					○ ~3.0
	75								
		becomes stiff	62	MC-19B	105	23			○▲ ~1.4
	80								
		becomes very stiff	65	MC-20B	104	23			○ ~3.0
	85								

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BORING NUMBER EB-6

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf (○ HAND PENETROMETER; △ TORVANE; ● UNCONFINED COMPRESSION; ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL) 1.0 2.0 3.0 4.0
			Poorly Graded Sand with Silt (SP-SM) dense, wet, brown, fine to medium sand							
				74	MC					
	90									
			becomes very dense	88	SPT-22		24			
	95									
				50/6"	SPT-23		20			
	100		Bottom of Boring at 99.5 feet.							
	105									
	110									
	115									

BORING NUMBER EB-7

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 6/2/21 **DATE COMPLETED** 6/2/21
GROUND ELEVATION **BORING DEPTH** 64.3 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE 37.401161° **LONGITUDE** -121.894939°
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY JLC
▽ **AT TIME OF DRILLING** 8.5 ft.
NOTES
▼ **AT END OF DRILLING** 8.5 ft.

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

ELEVATION (ft)	DEPTH (ft)	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
	0	2 inches asphalt concrete over 2 inches aggregate base						
		Well Graded Sand with Gravel (SW) [Fill] medium dense, moist, brown, fine to coarse sand, some fine subangular gravel	46	MC-1B	117	4		
		Lean Clay with Sand (CL) very stiff, moist, gray with brown mottles, fine sand, moderate plasticity	22	MC-2B	85	31		
	5	**Silty Sand (SM)** loose, moist, brown, fine to medium sand	16	MC-3B	96	22		
		Sandy Lean Clay (CL) soft, moist, brown, fine sand, low plasticity	10	MC-4B	92	29		
			14	MC-5B	96	25		
	10	**Lean Clay with Sand (CL)** stiff, moist, gray with brown mottles, fine sand, moderate plasticity						
			13	MC-6B	96	26		
	15			ST-7	92	31		
	20							
		Lean Clay (CL) very stiff, moist, gray, some fine to medium sand, moderate plasticity						
			33	MC				
	25							

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BORING NUMBER EB-7

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
	26–41	**Lean Clay (CL)** very stiff, moist, gray, some fine to medium sand, moderate plasticity							
	~29.3		50	MC-9B	104	21			○ 3.0
	~34.3		22	MC					○ ~2.6
	40–42.5			ST					○ 1.0
	41–46.5	**Sandy Lean Clay (CL)** stiff, moist, brown, fine to medium sand, low plasticity							
	46.5–52.5	**Lean Clay (CL)** stiff, moist, gray, fine to medium sand, moderate plasticity							
	~49.3		52	MC-12B	106	21			○ ~1.8
	52.5–	**Well Graded Sand with Silt (SW-SM)** dense, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel							
	~54.3		64	MC-13B	133	11			

Depth markers: 30, 35, 40, 45, 50, 55

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BORING NUMBER EB-7

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Lean Clay with Sand (CL) very stiff, moist, brown, fine to medium sand, moderate plasticity	90	MC					○ (hand penetrometer)
	60								
		becomes medium stiff	50/3"	MC-15B	98	28			○ (hand penetrometer)
		Bottom of Boring at 64.3 feet.							
	65								
	70								
	75								
	80								
	85								

BORING NUMBER EB-8

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 6/3/21 **DATE COMPLETED** 6/3/21
DRILLING CONTRACTOR Exploration Geoservices, Inc.
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
LOGGED BY JLC
NOTES

GROUND ELEVATION **BORING DEPTH** 78.9 ft.
LATITUDE 37.402120° **LONGITUDE** -121.895011°
GROUND WATER LEVELS:
▽ **AT TIME OF DRILLING** 15 ft.
▼ **AT END OF DRILLING** 10 ft.

ELEVATION (ft) | DEPTH (ft) | SYMBOL

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DESCRIPTION

2½ inches asphalt concrete over 2 inches aggregate base

Sandy Lean Clay (CL) [Fill]
hard, moist, dark brown and brown mottled, fine to coarse sand, some fine subangular gravel, low plasticity
Liquid Limit = 30, Plastic Limit = 15

Clayey Sand (SC)
medium dense, moist, gray with brown mottles, fine to medium sand

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

Sandy Lean Clay (CL)
stiff, moist, brown, fine sand, low plasticity

Lean Clay with Sand (CL)
soft, moist, gray and brown mottled, fine sand, low plasticity

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

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
43	MC-1B	118	14	15		>4.5
28	MC-2B	113	14			
16	MC-3B	100	23			
9	MC-4B	93	30			
23	MC					
40	MC-6B	96	29			
	ST					

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

Depth (ft): 0, 5, 10, 15, 20, 25

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity							
	30	**Sandy Lean Clay (CL)** very stiff, moist, gray, fine sand, moderate plasticity	38	MC-8B	98	25			○
	35	**Silty Sand (SM)** medium dense, moist, gray, fine to medium sand	40	MC					
	40		35	MC-10B	108	20			
	45	**Sandy Lean Clay (CL)** stiff, moist, brown, fine sand, low plasticity	41	MC					○
	50	**Lean Clay with Sand (CL)** stiff, moist, brown, fine sand, moderate plasticity	30	MC-12B	103	25			○
	55	becomes medium stiff	29	MC					○

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

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
			Lean Clay with Sand (CL) stiff, moist, brown, fine sand, moderate plasticity	30	MC-14B	101	23			○
	60									
			Lean Clay (CL) stiff, moist, gray, some fine sand, moderate plasticity	22	MC-15B	88	33			○
	65									
			becomes very stiff	46	MC					○
	70									
				50/6"	SPT-17		26			○
	75									
				50/5"	SPT					○
			Bottom of Boring at 78.9 feet.							
	80									
	85									

CORNERSTONE EARTH GROUP

PROJECT NAME	STACK San Jose		
PROJECT NUMBER	1210-2-2		
PROJECT LOCATION	San Jose, CA		
DATE STARTED	6/19/21	**DATE COMPLETED**	6/19/21
GROUND ELEVATION		**BORING DEPTH**	80 ft.
DRILLING CONTRACTOR	Exploration Geoservices, Inc.		
LATITUDE	37.402497°	**LONGITUDE**	-121.894340°
DRILLING METHOD	Mobile B-56, 8 inch Hollow-Stem Auger		
GROUND WATER LEVELS:			
LOGGED BY	SCO	▽ **AT TIME OF DRILLING**	10 ft.
NOTES		▼ **AT END OF DRILLING**	10 ft.

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

ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
	0	2 inches asphalt concrete over 12 inches aggregate base							
		Clayey Sand with Gravel (SC) [Fill] medium dense, moist, dark brown and brown mottled, fine to coarse sand, fine to coarse subangular gravel	33	MC-1B	118	12			
		Lean Clay with Sand (CL) hard, moist, brown, fine to medium sand, low to moderate plasticity	33	MC-2B	105	19			○ >4.5
	5	**Silty Sand (SM)** loose, moist, brown, fine to coarse sand, trace fine gravel	44	MC-3B	108	14			
		becomes loose	10	MC					
	10	**Lean Clay (CL)** stiff, moist, gray, some fine sand, moderate plasticity							
			12	MC-5B	94	28			○
	15								
			10	MC-6					○
	20								
		becomes very stiff	20	MC-7B	99	25			○
	25								

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

DEPTH (ft)	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
	Lean Clay with Sand (CL) very stiff, moist, brown, fine to medium sand, low to moderate plasticity	29	MC					○ 3.0
30								
	becomes stiff	10	MC-9B	102	21			○ 1.0
35								
		13	MC					○ 1.0
40								
	Sandy Lean Clay (CL) very stiff, moist, brown, fine to medium sand, low plasticity	19	MC-11B	108	18			○ 3.0
45								
	becomes stiff	29	MC					○ 2.0
50	**Lean Clay with Sand (CL)** very stiff, moist, gray with brown mottles, fine sand, moderate plasticity							
		58	MC-13B	102	22			○ 3.0
55								

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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

ELEVATION (ft)	DEPTH (ft)	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
		Lean Clay with Sand (CL) very stiff, moist, gray with brown mottles, fine sand, moderate plasticity							
	60		27	MC					○ 2.0
	65		21	MC-15B	105	22			○
	70		22	MC					○ 2.0
	75		43	MC-17B	105	22			○
	80		33	MC-18B	101	26			○ 3.0
	80	Bottom of Boring at 80.0 feet.							
	85								

BORING NUMBER EB-10

CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

DATE STARTED 7/10/21 **DATE COMPLETED** 7/10/21
GROUND ELEVATION **BORING DEPTH** 80 ft.
DRILLING CONTRACTOR Exploration Geoservices, Inc.
LATITUDE 37.403403° **LONGITUDE** -121.894433°
DRILLING METHOD Mobile B-56, 8 inch Hollow-Stem Auger
GROUND WATER LEVELS:
LOGGED BY EA
▽ **AT TIME OF DRILLING** 13 ft.
NOTES
▼ **AT END OF DRILLING** 14 ft.

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

DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf
0	2 inches asphalt concrete over 8 inches aggregate base							
	Clayey Sand with Gravel (SC) [Fill] dense to medium dense, moist, brown, fine to medium sand, fine to coarse subangular to subrounded gravel, some asphalt fragments	71	MC-1B	116	5			○ >4.5
		37	MC-2B	118	13			○ >4.5
5	**Lean Clay with Sand (CL)** hard, moist, brown with gray mottles, fine sand, low plasticity							
	Clayey Sand (SC) medium dense, moist, gray with brown mottles, fine sand	24	MC-3B	113	17			○
	Lean Clay (CL) medium stiff, moist, gray with brown mottles, some fine sand, moderate plasticity	12	MC-4B	90	32			○
10								
	▽ (13 ft) ▼ (14 ft)	7	MC-5C	95	29			○
15	**Lean Clay (CL)** stiff, moist, dark gray, trace fine sand, moderate to high plasticity		ST					○
20	**Well Graded Sand with Gravel (SW)** dense to medium dense, wet, gray brown, fine to coarse sand, fine to medium subrounded gravel							
		90	MC-7B	119	11			
25		19	SPT					

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose
PROJECT NUMBER 1210-2-2
PROJECT LOCATION San Jose, CA

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Undrained shear strength, ksf: ○ Hand Penetrometer; △ Torvane; ● Unconfined Compression; ▲ Unconsolidated-Undrained Triaxial (scale 1.0, 2.0, 3.0, 4.0)

ELEVATION (ft)	DEPTH (ft)	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
	26.5–28								
	28–31.5	**Clayey Sand (SC)** medium dense, moist, brown, fine sand	26	MC-9A	106	17		34	○ 4.0
	31.5–40	**Lean Clay (CL)** very stiff, moist, brown, some fine sand, low plasticity	13	MC-10B	101	24			○ 1.5
	40–41.5	**Sandy Lean Clay (CL)** stiff, moist, brown, fine sand, low plasticity							
	41.5–46.5	**Lean Clay (CL)** stiff, moist, brown with light brown mottles, some fine sand, low plasticity	16	MC					
	46.5–50	**Sandy Lean Clay (CL)** stiff, moist, brown, fine to medium sand, low plasticity	22	MC-12B	102	23			○ 1.75
	50–54	**Clayey Sand (SC)** medium dense, moist, brown, fine to coarse sand, some fine subangular to subrounded gravel							
	54–56	**Sandy Lean Clay (CL)** very stiff, moist, brown, fine sand, low plasticity	35	MC					○ 2.5

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CORNERSTONE EARTH GROUP

PROJECT NAME STACK San Jose

PROJECT NUMBER 1210-2-2

PROJECT LOCATION San Jose, CA

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Undrained shear strength legend (ksf): ○ HAND PENETROMETER; △ TORVANE; ● UNCONFINED COMPRESSION; ▲ UNCONSOLIDATED-UNDRAINED TRIAXIAL

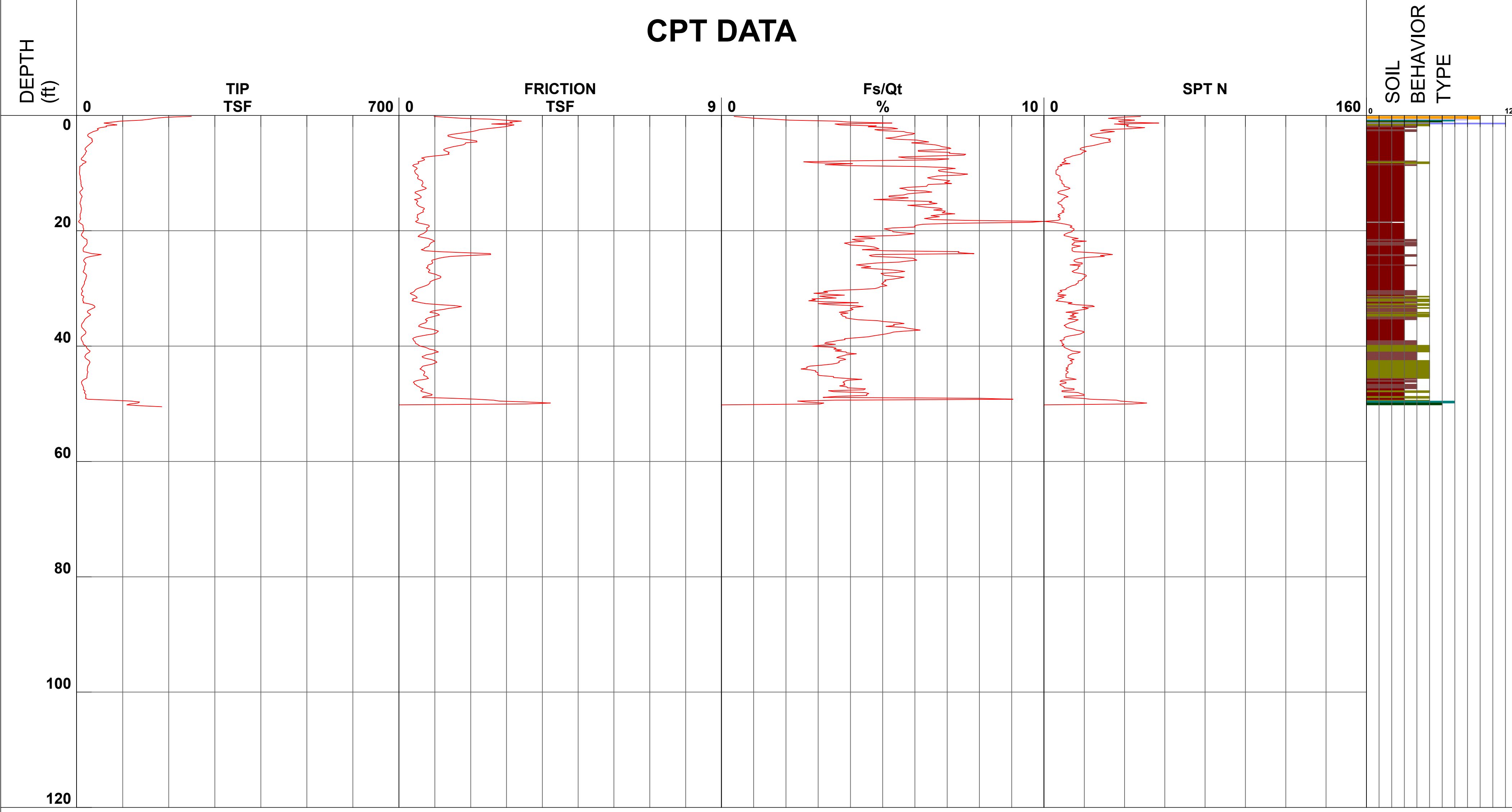
ELEVATION (ft)	DEPTH (ft)	DESCRIPTION	N-Value (uncorrected) blows per foot	SAMPLES TYPE AND NUMBER	DRY UNIT WEIGHT PCF	NATURAL MOISTURE CONTENT	PLASTICITY INDEX, %	PERCENT PASSING No. 200 SIEVE	UNDRAINED SHEAR STRENGTH, ksf (1.0 / 2.0 / 3.0 / 4.0)
		Sandy Lean Clay (CL) very stiff, moist, brown, fine sand, low plasticity							
			52	MC-14B	113	18			○
	60								
		Lean Clay with Sand (CL) stiff, moist, gray brown, fine to medium sand, moderate plasticity							
			35	MC					○
	65								
		Lean (CL) hard, moist, gray brown, some fine sand, moderate plasticity							
			83	MC-16B	112	19			○
	70								
		Clayey Sand (SC) dense, moist, gray, fine sand							
		Lean Clay (CL) very stiff, moist, gray brown, some fine sand, moderate plasticity	77	MC					○
	75								
			66	MC-18B	103	22			○
	80	Bottom of Boring at 80.0 feet.							
	85								

Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(690).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-01	Date and Time	6/12/2021 1:46:07 PM	Maximum Depth	50.52 ft
EST GW Depth During Test		7.00 ft			

Net Area Ratio .8

CPT DATA



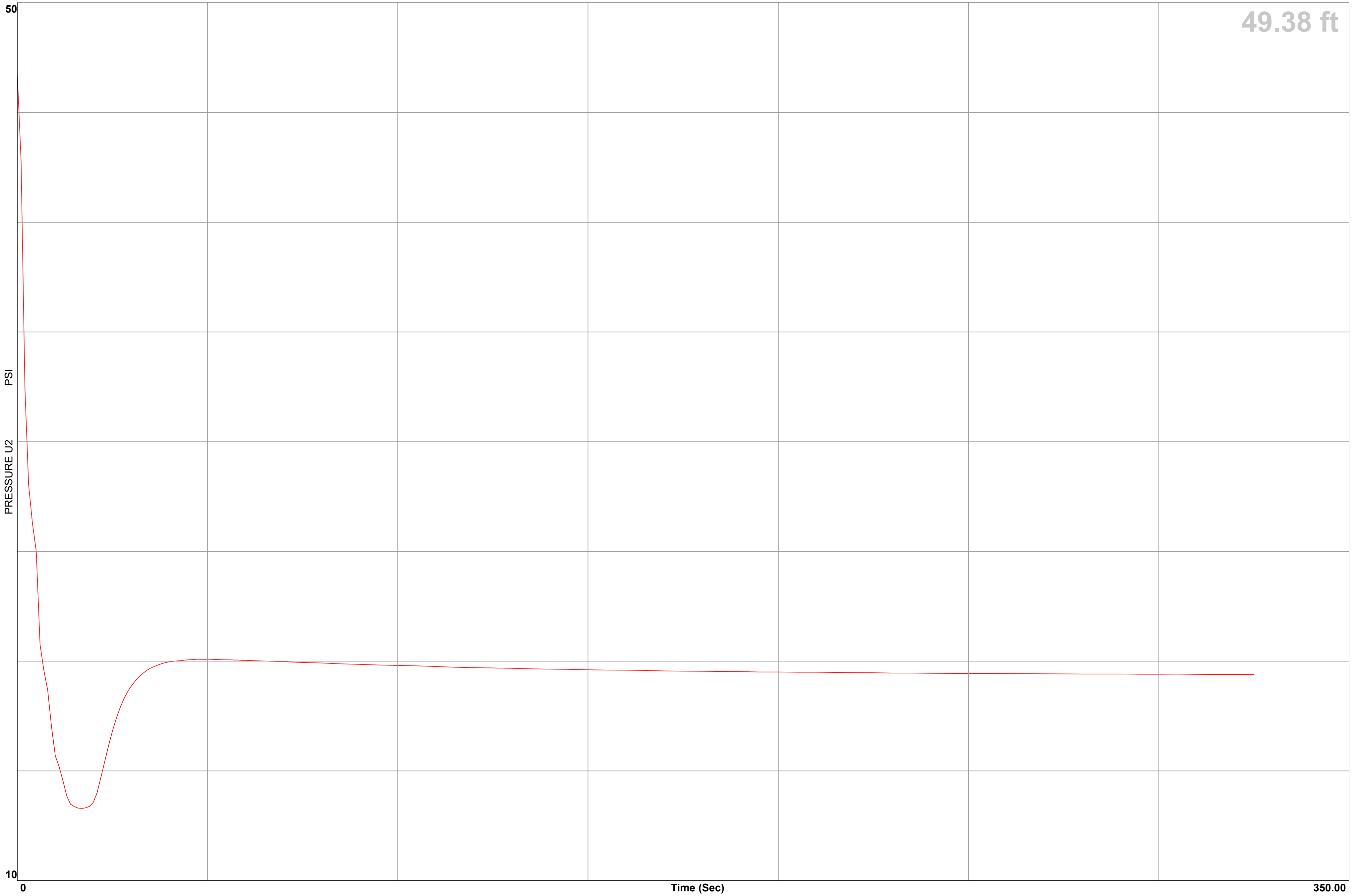
1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Cone Size 15cm squared

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

Cornerstone Earth Group

Location	Stacks San Jose	Operator	AJ-OO		
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-01	Date and Time	6/12/2021 1:46:07 PM		
Equilized Pressure	19.3	EST GW Depth During Test	4.7		

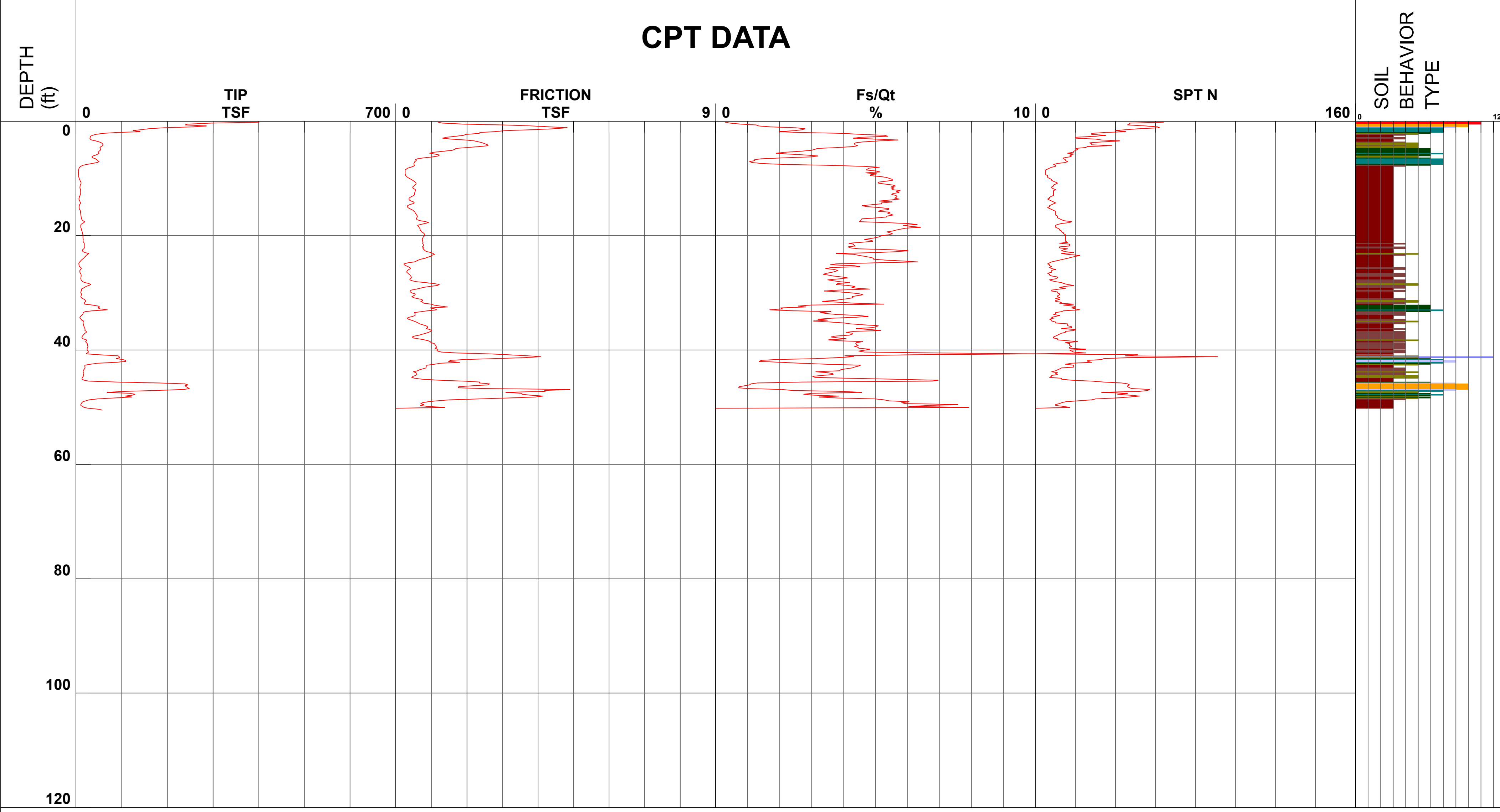


Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(686).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-02	Date and Time	6/12/2021 9:48:18 AM	Maximum Depth	50.52 ft
EST GW Depth During Test			6.00 ft		

Net Area Ratio .8

CPT DATA



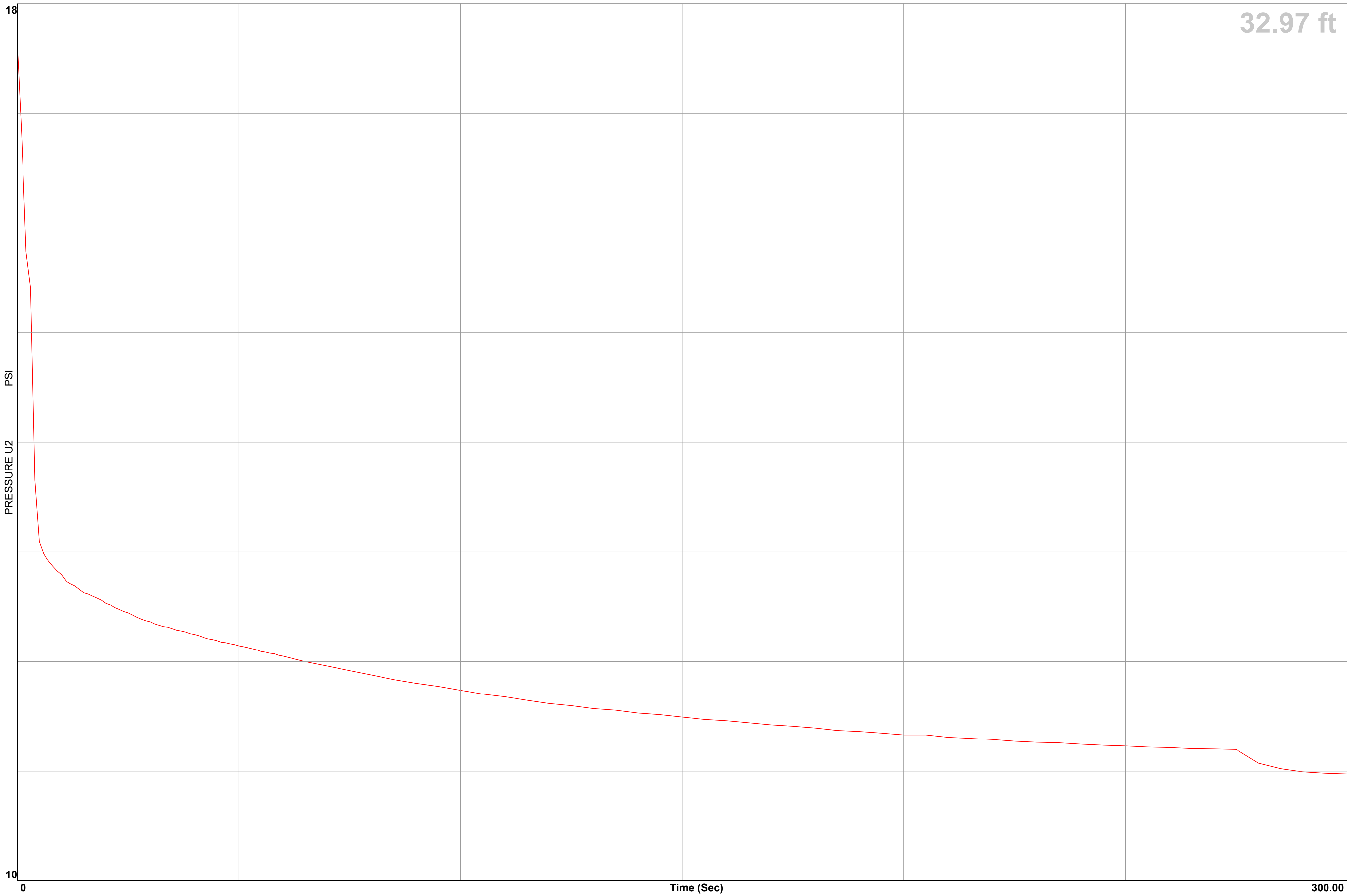
1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Cone Size 15cm squared

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

Cornerstone Earth Group

Location	Stacks San Jose	Operator	AJ-OO		
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-02	Date and Time	6/12/2021 9:48:18 AM		
Equilized Pressure	11.2	EST GW Depth During Test	6.9		

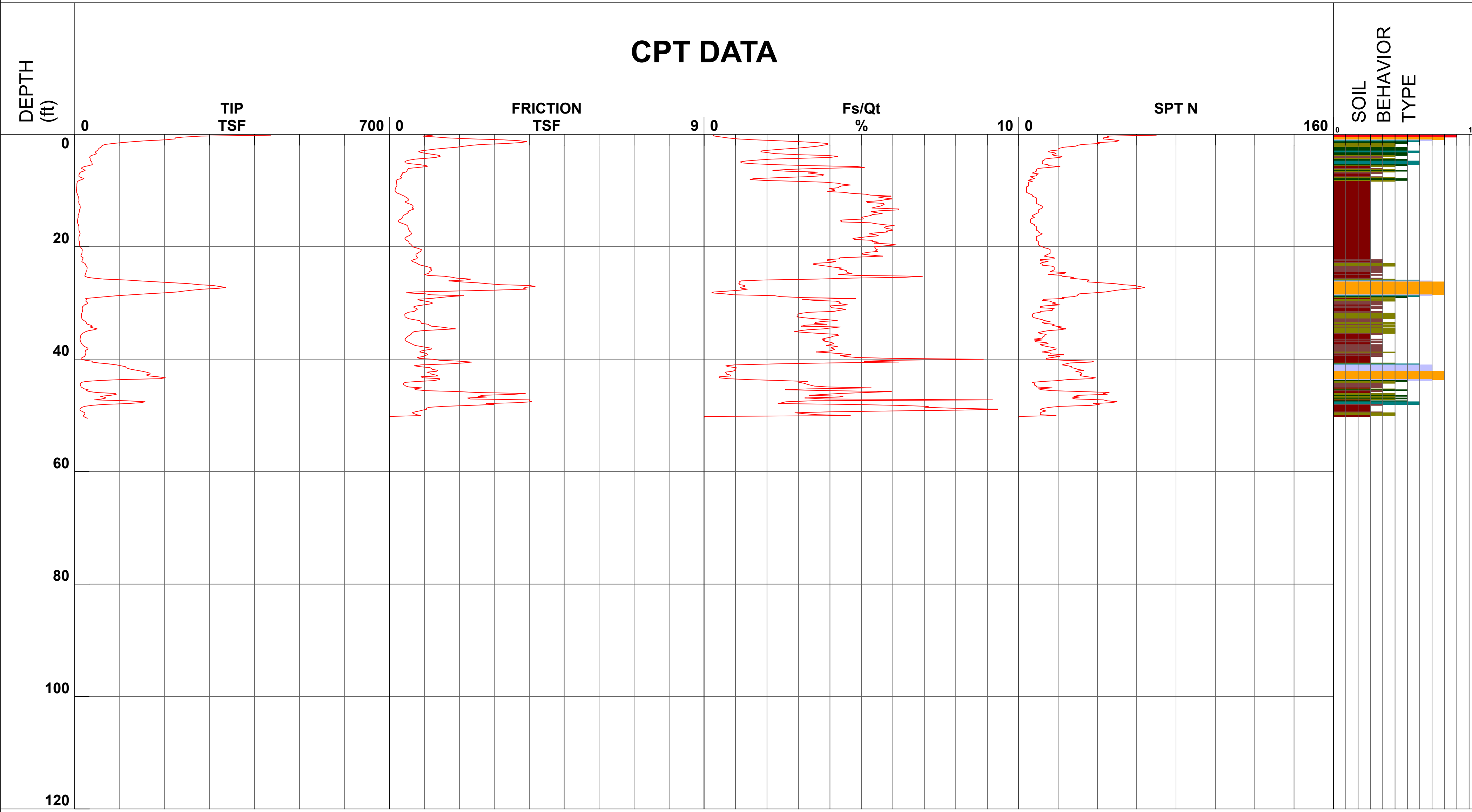


Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(687).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-03	Date and Time	6/12/2021 10:34:24 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		8.00 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 15cm squared

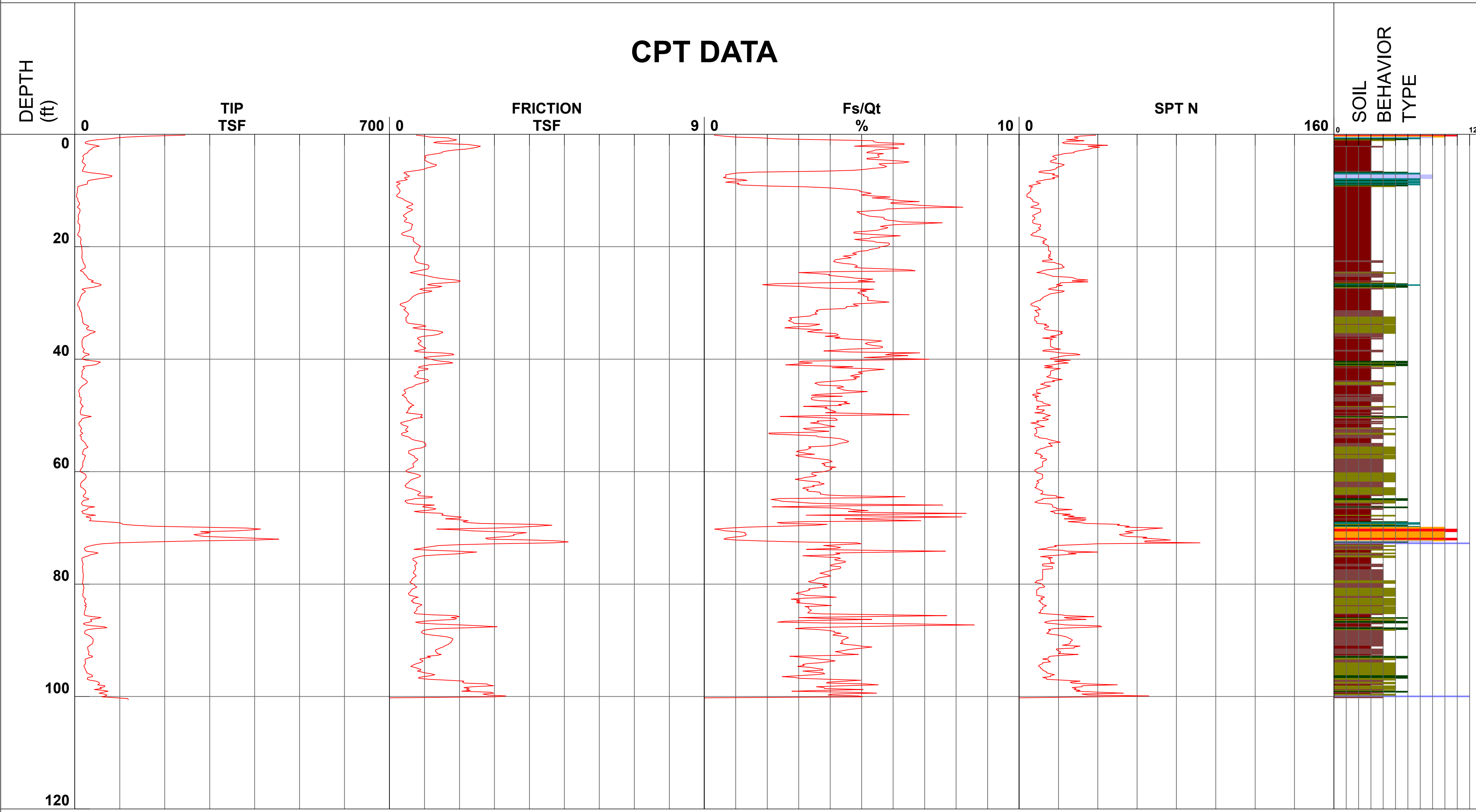
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(689).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-04	Date and Time	6/12/2021 12:48:48 PM	Maximum Depth	100.56 ft
EST GW Depth During Test		7.00 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 15cm squared

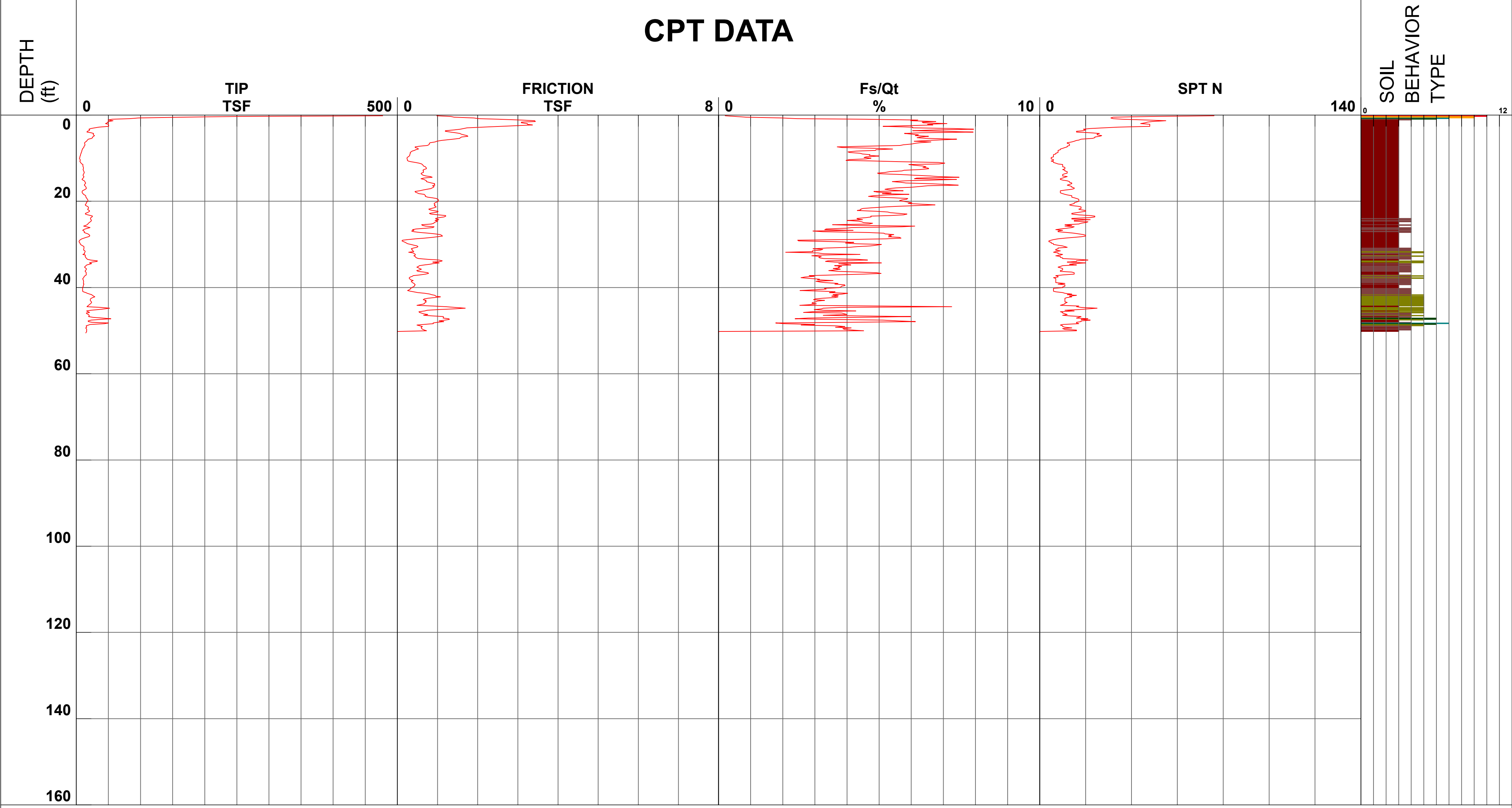
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(600).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-05	Date and Time	5/25/2021 11:48:19 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		7.40 ft			

Net Area Ratio .8

CPT DATA



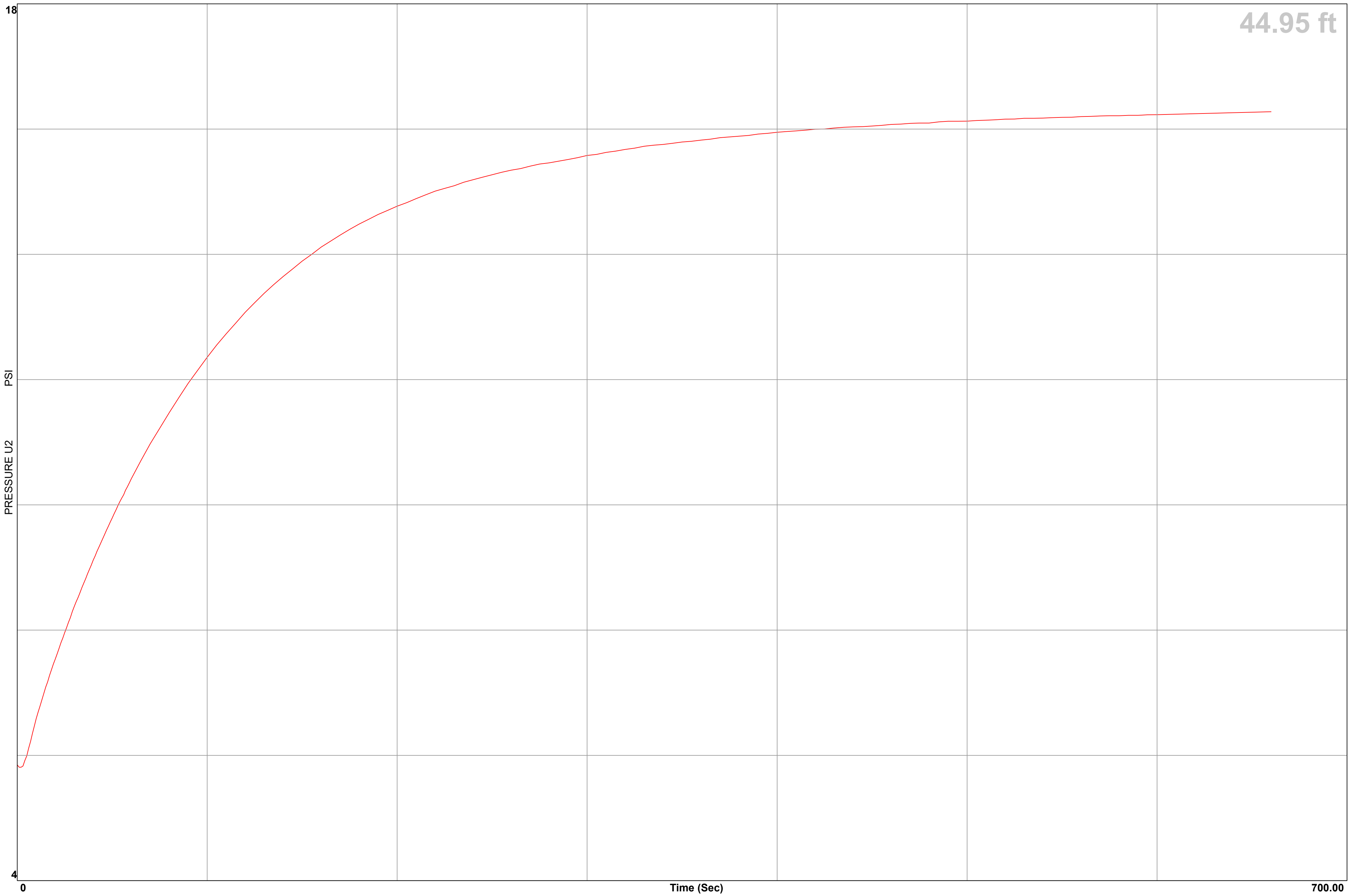
- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey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

Cone Size 15cm squared

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

Cornerstone Earth Group

Location	Stacks San Jose	Operator	AJ-OO		
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-05	Date and Time	5/25/2021 11:48:19 AM		
Equilized Pressure	16.2	EST GW Depth During Test	7.4		

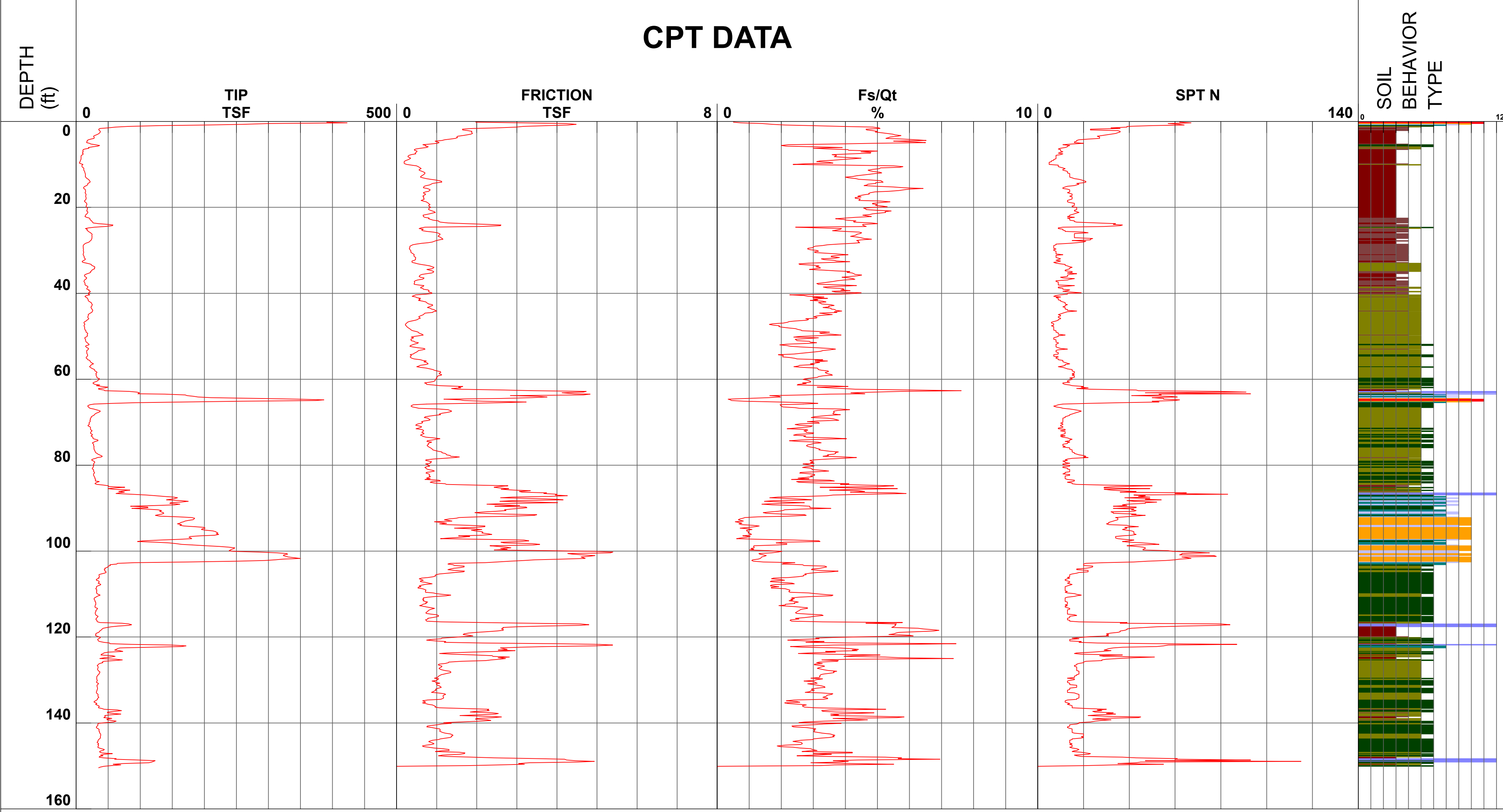


Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(599).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-06	Date and Time	5/25/2021 8:44:39 AM	Maximum Depth	150.42 ft
EST GW Depth During Test		6.10 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 (*)

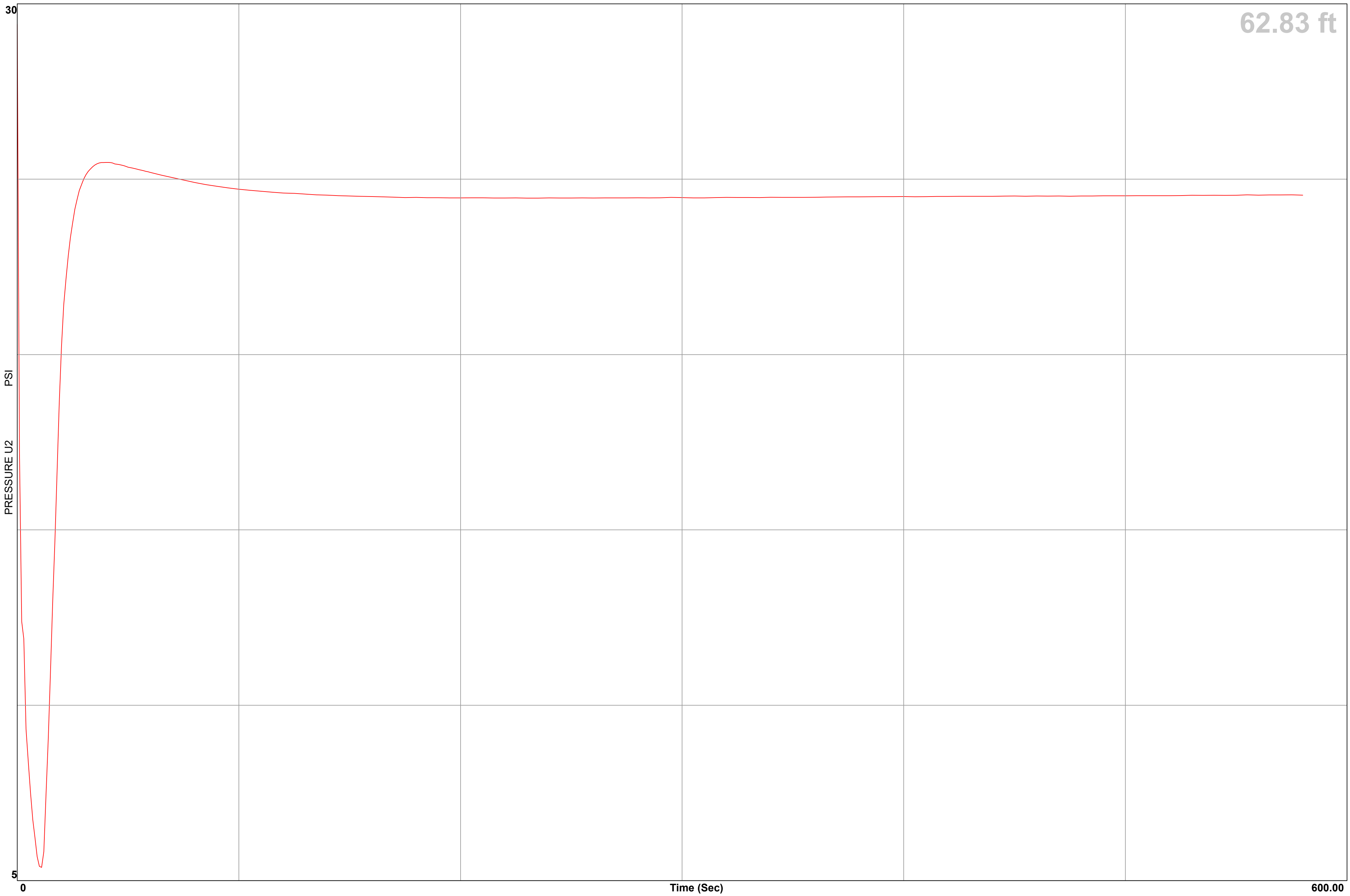
Cone Size 15cm squared

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

Cornerstone Earth Group

Location	Stacks San Jose	Operator	AJ-OO
Job Number	1210-2-2	Cone Number	DDG1587
Hole Number	CPT-06	Date and Time	5/25/2021 8:44:39 AM
Equilized Pressure	24.5	EST GW Depth During Test	6.1

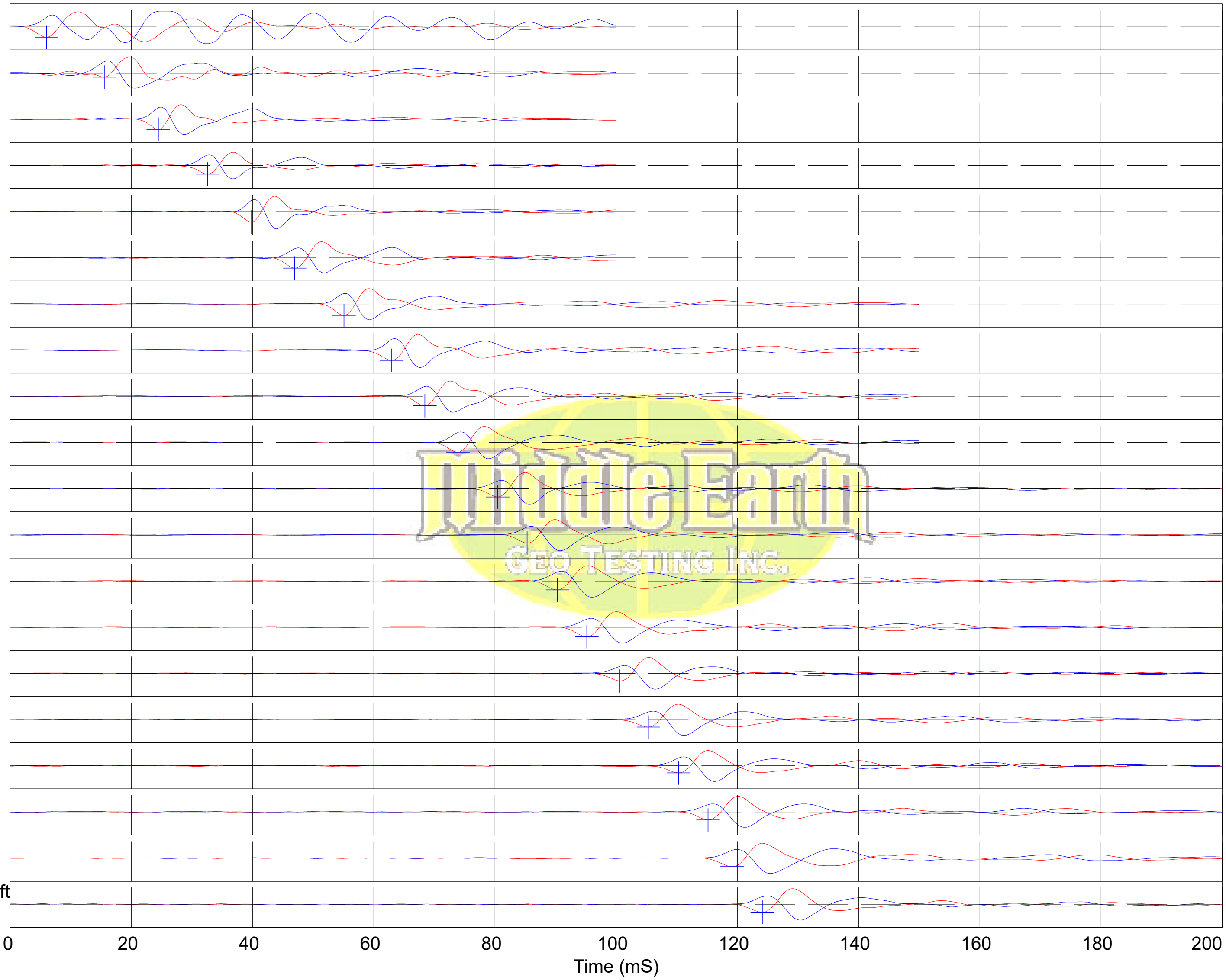
GPS



CPT-06

Cornerstone Earth Group

Stacks San Jose



Depth 4.99ft	Ref*	Arrival 6.02mS	Velocity*
Depth 10.01ft	Ref 4.99ft	Arrival 15.55mS	Velocity 410.08ft/S
Depth 15.03ft	Ref 10.01ft	Arrival 24.45mS	Velocity 509.35ft/S
Depth 20.01ft	Ref 15.03ft	Arrival 32.58mS	Velocity 581.84ft/S
Depth 25.03ft	Ref 20.01ft	Arrival 39.84mS	Velocity 668.61ft/S
Depth 30.02ft	Ref 25.03ft	Arrival 46.95mS	Velocity 686.14ft/S
Depth 35.01ft	Ref 30.02ft	Arrival 55.07mS	Velocity 604.11ft/S
Depth 40.19ft	Ref 35.01ft	Arrival 62.96mS	Velocity 649.19ft/S
Depth 45.01ft	Ref 40.19ft	Arrival 68.43mS	Velocity 873.77ft/S
Depth 50.03ft	Ref 45.01ft	Arrival 73.90mS	Velocity 911.09ft/S
Depth 55.02ft	Ref 50.03ft	Arrival 80.46mS	Velocity 755.30ft/S
Depth 60.10ft	Ref 55.02ft	Arrival 85.31mS	Velocity 1044.58ft/S
Depth 65.03ft	Ref 60.10ft	Arrival 90.31mS	Velocity 980.06ft/S
Depth 70.05ft	Ref 65.03ft	Arrival 95.15mS	Velocity 1032.54ft/S
Depth 75.03ft	Ref 70.05ft	Arrival 100.62mS	Velocity 909.01ft/S
Depth 80.12ft	Ref 75.03ft	Arrival 105.31mS	Velocity 1081.88ft/S
Depth 85.04ft	Ref 80.12ft	Arrival 110.31mS	Velocity 981.87ft/S
Depth 90.06ft	Ref 85.04ft	Arrival 115.15mS	Velocity 1034.10ft/S
Depth 95.05ft	Ref 90.06ft	Arrival 119.13mS	Velocity 1249.21ft/S
Depth 100.07ft	Ref 95.05ft	Arrival 124.13mS	Velocity 1002.21ft/S

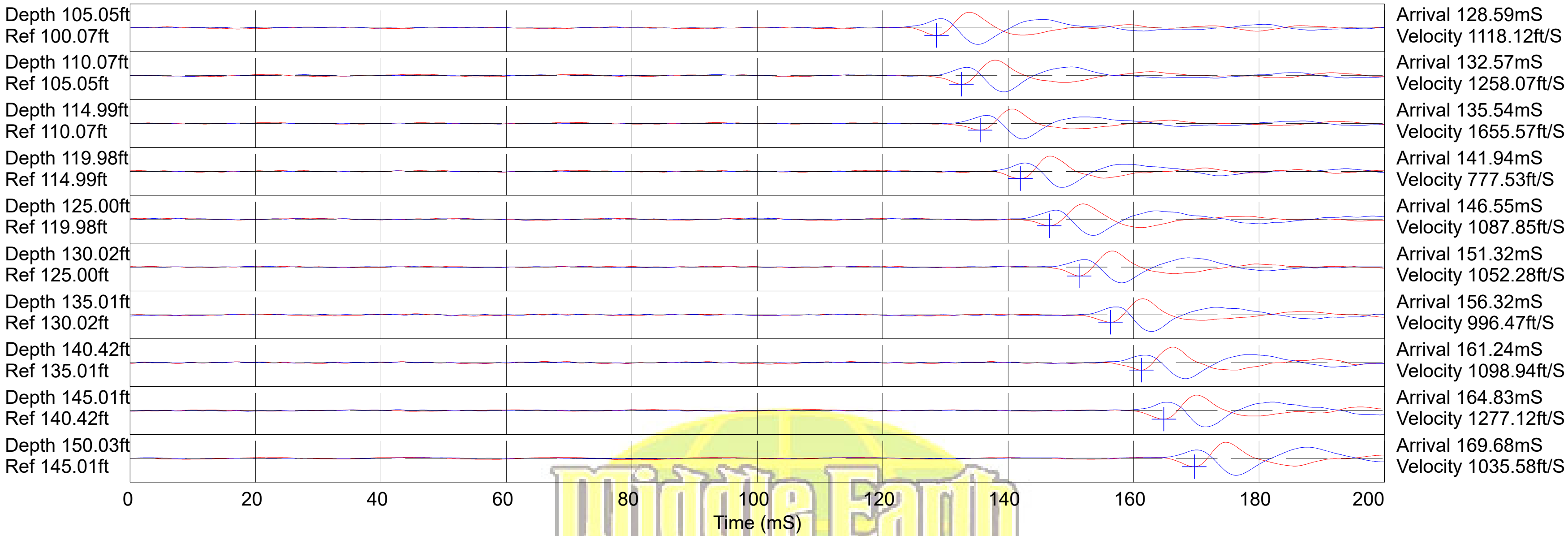
Hammer to Rod String Distance (ft): 5.83
* = Not Determined

COMMENT:

CPT-06

Cornerstone Earth Group

Stacks San Jose



Hammer to Rod String Distance (ft): 5.83

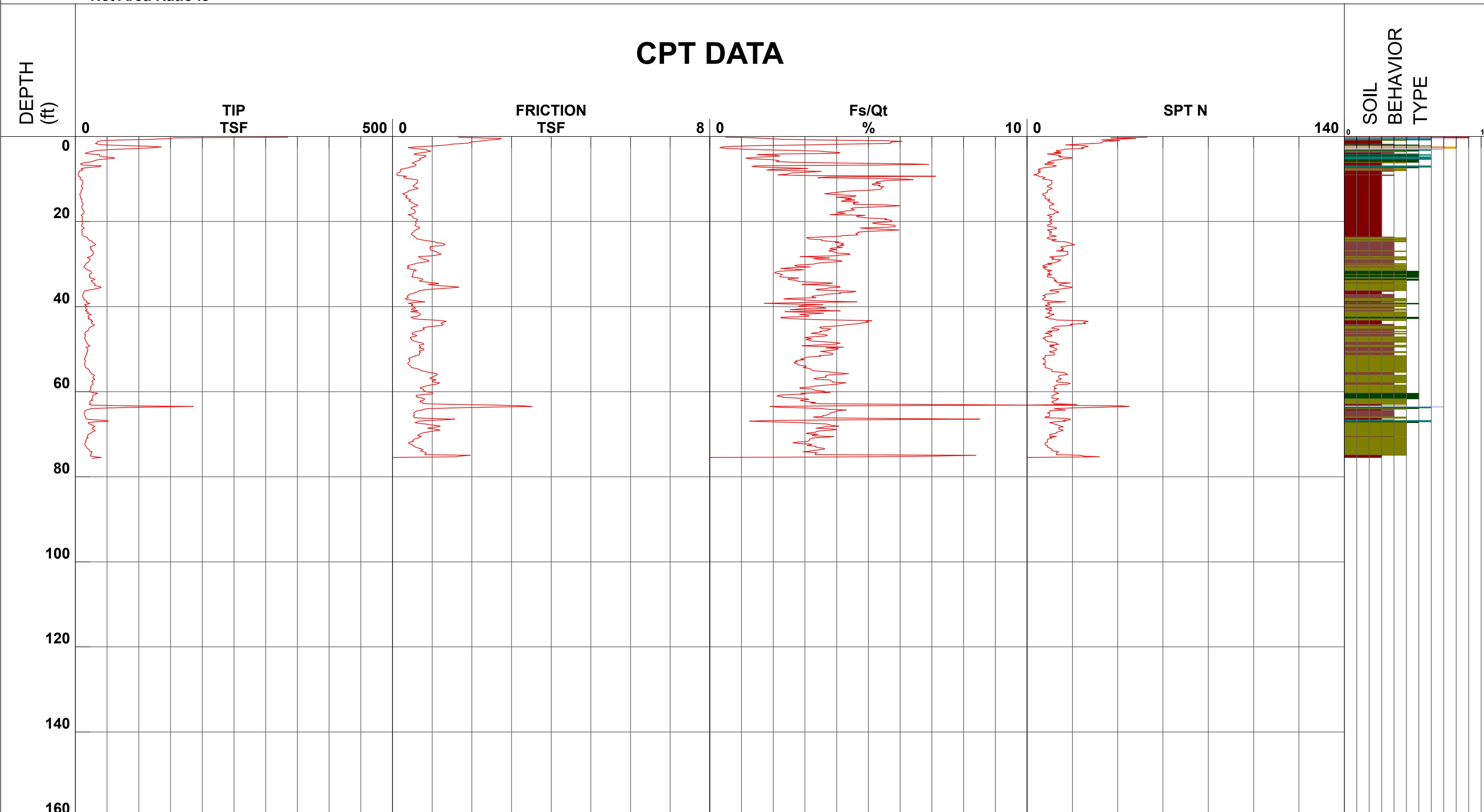
* = Not Determined

COMMENT:

Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(602).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-07	Date and Time	5/25/2021 2:27:13 PM	Maximum Depth	75.79 ft
EST GW Depth During Test		7.00 ft			

Net Area Ratio .8



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

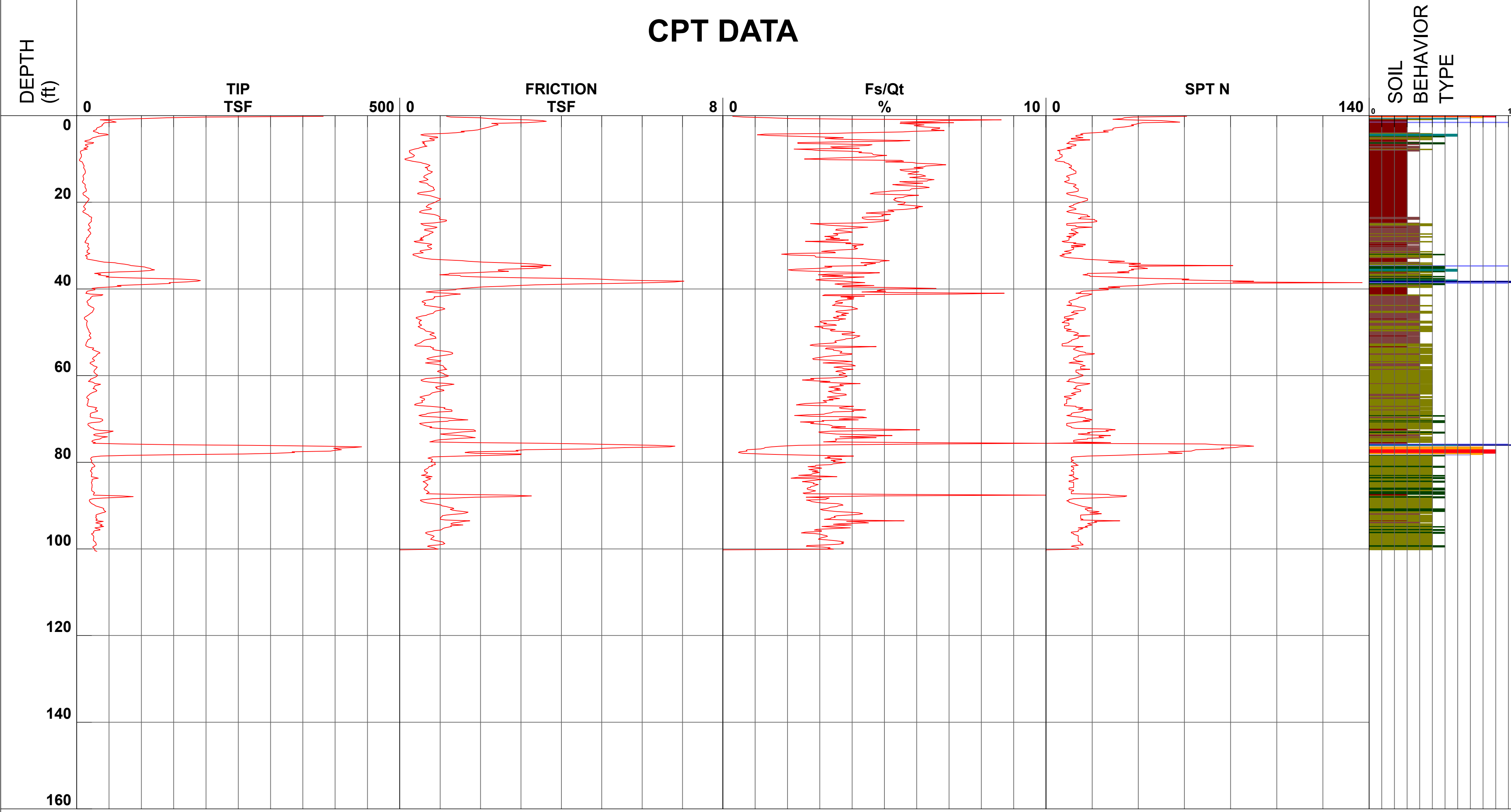
Cone Size 15cm squared

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

Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(601).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-08	Date and Time	5/25/2021 1:09:07 PM	Maximum Depth	100.56 ft
EST GW Depth During Test		8.30 ft			

Net Area Ratio .8



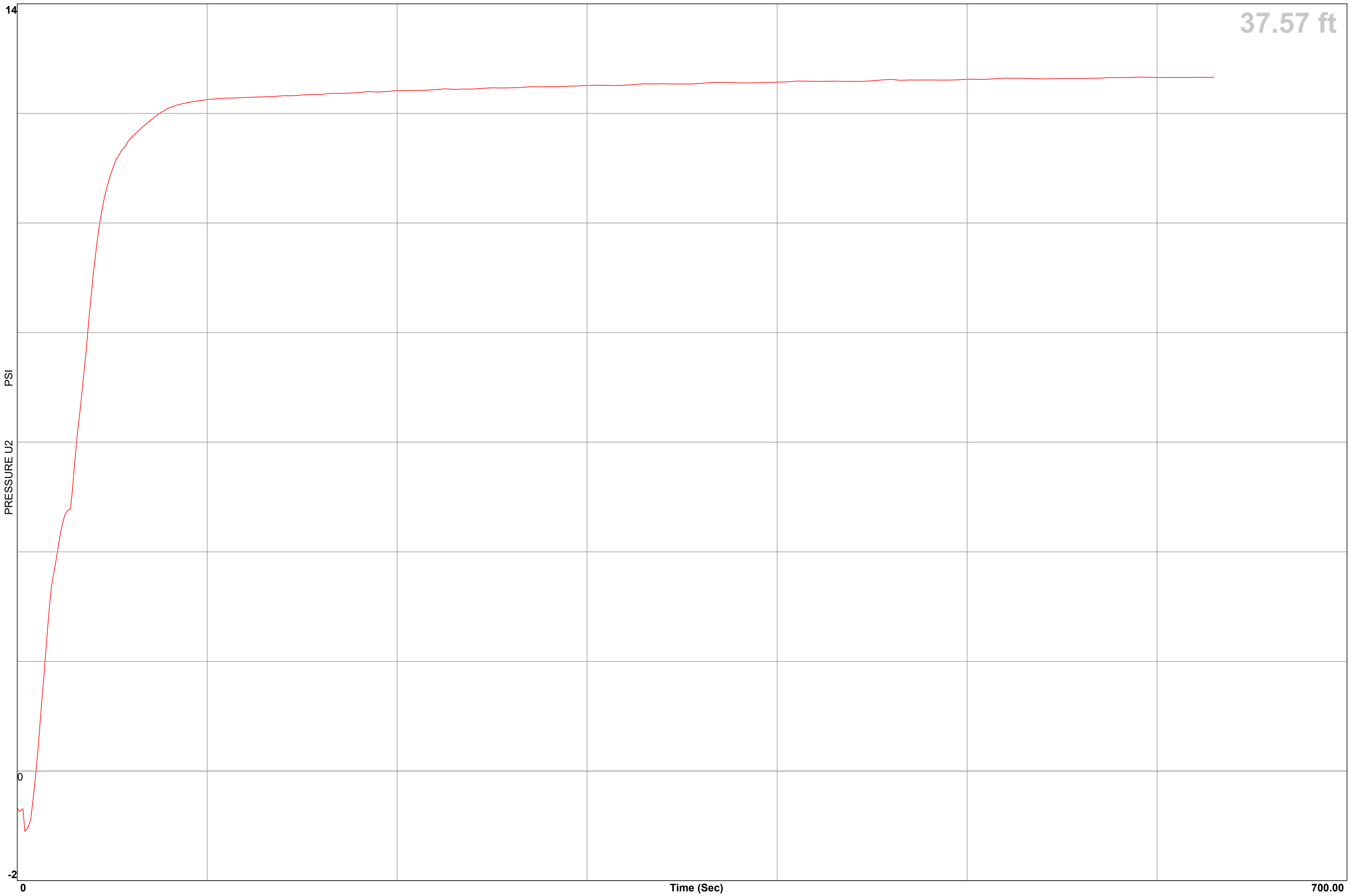
1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

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

Cornerstone Earth Group

Location	Stacks San Jose	Operator	AJ-OO		
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-08	Date and Time	5/25/2021 1:09:07 PM		
Equilized Pressure	12.6	EST GW Depth During Test	8.3		

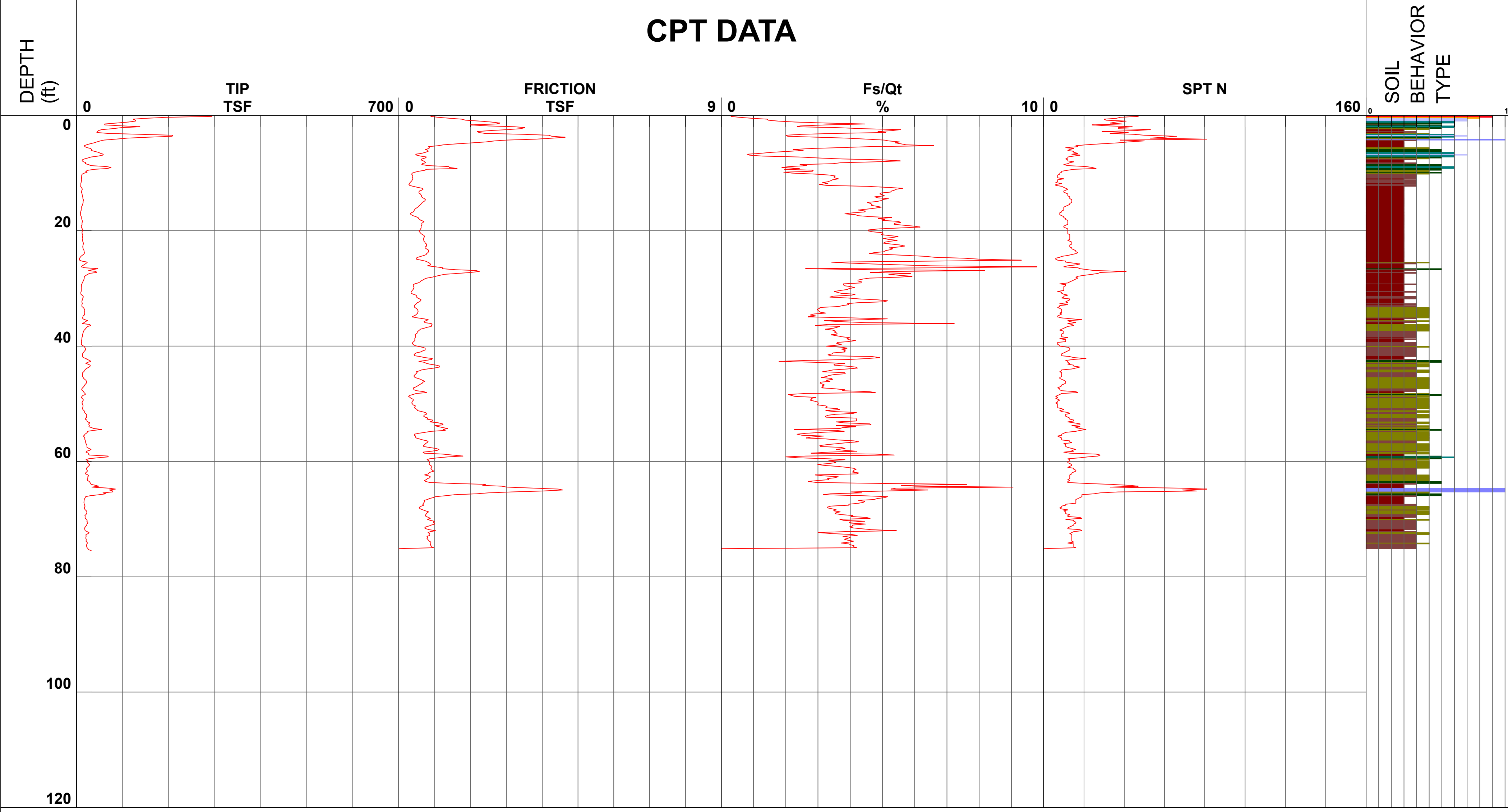


Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(688).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-09	Date and Time	6/12/2021 11:05:52 AM	Maximum Depth	75.46 ft
EST GW Depth During Test		11.00 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 15cm squared

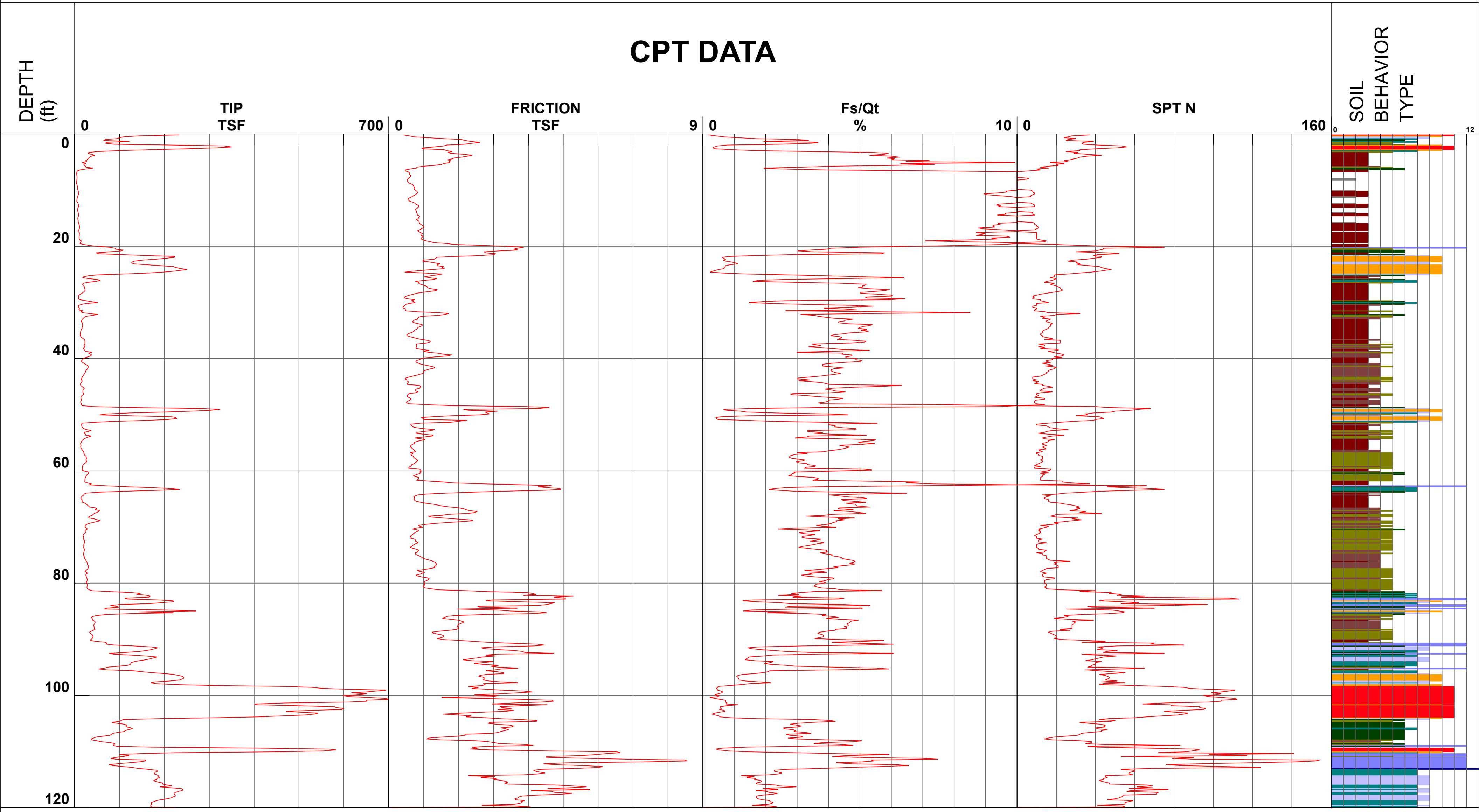
S*Soil behavior type and SPT based on data from UBC-1983

Cornerstone Earth Group

Project	Stacks San Jose	Operator	AJ-OO	Filename	SDF(685).cpt
Job Number	1210-2-2	Cone Number	DDG1587	GPS	
Hole Number	CPT-10	Date and Time	6/12/2021 8:12:39 AM	Maximum Depth	120.41 ft
EST GW Depth During Test		4.00 ft			

Net Area Ratio .8

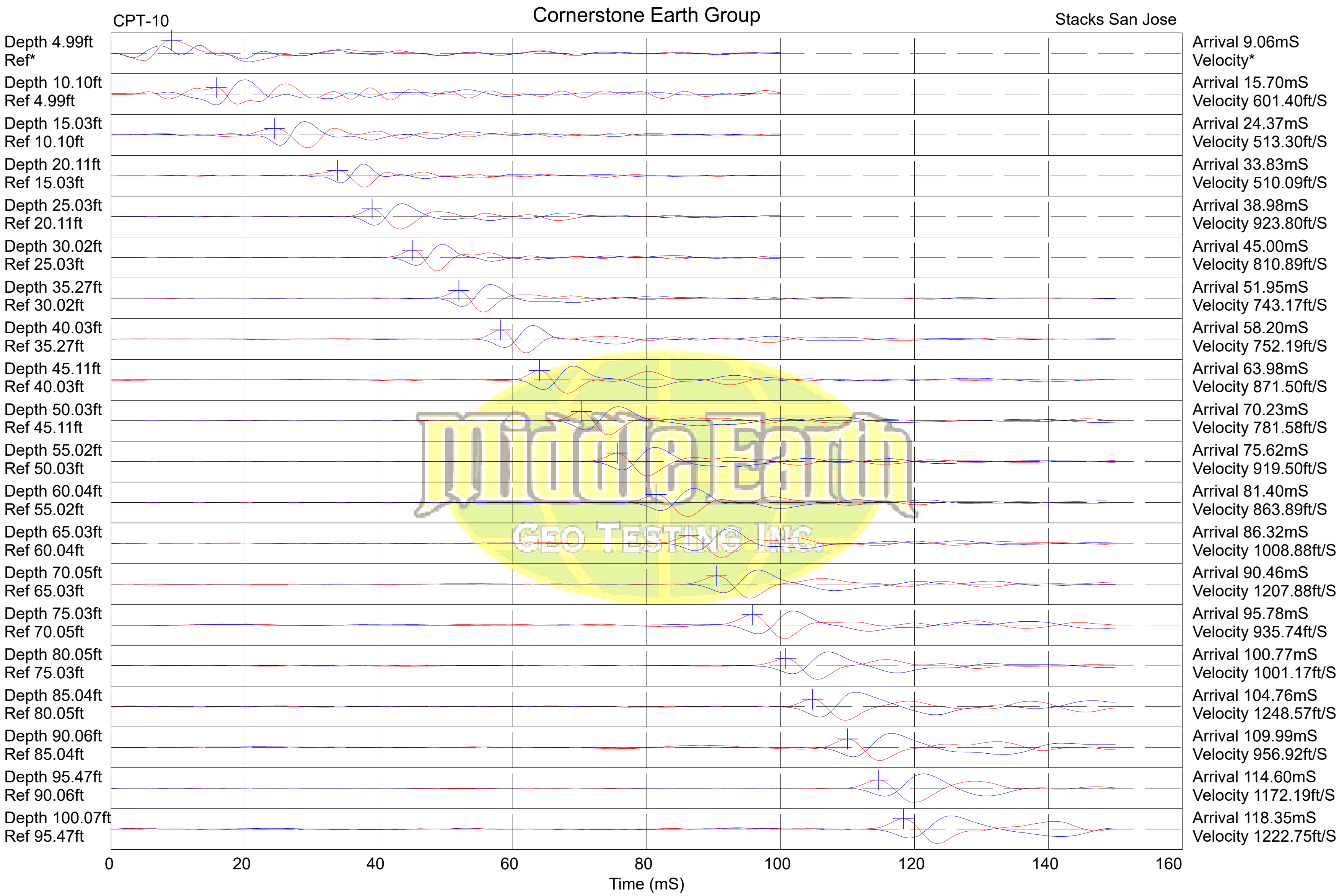
CPT DATA



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 15cm squared

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



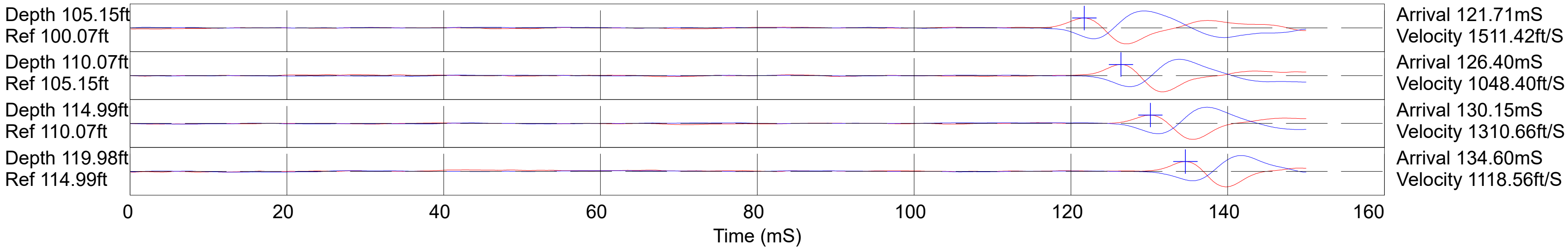
Hammer to Rod String Distance (ft): 5.83
* = Not Determined

COMMENT:

CPT-10

SEISMIC TEST

StacksSanJose



Hammer to Rod String Distance (ft): 5.83
* = Not Determined

COMMENT:

Middle Earth
Geo Testing Inc.

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 107 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 100 samples to measure the unit weight of the subsurface soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

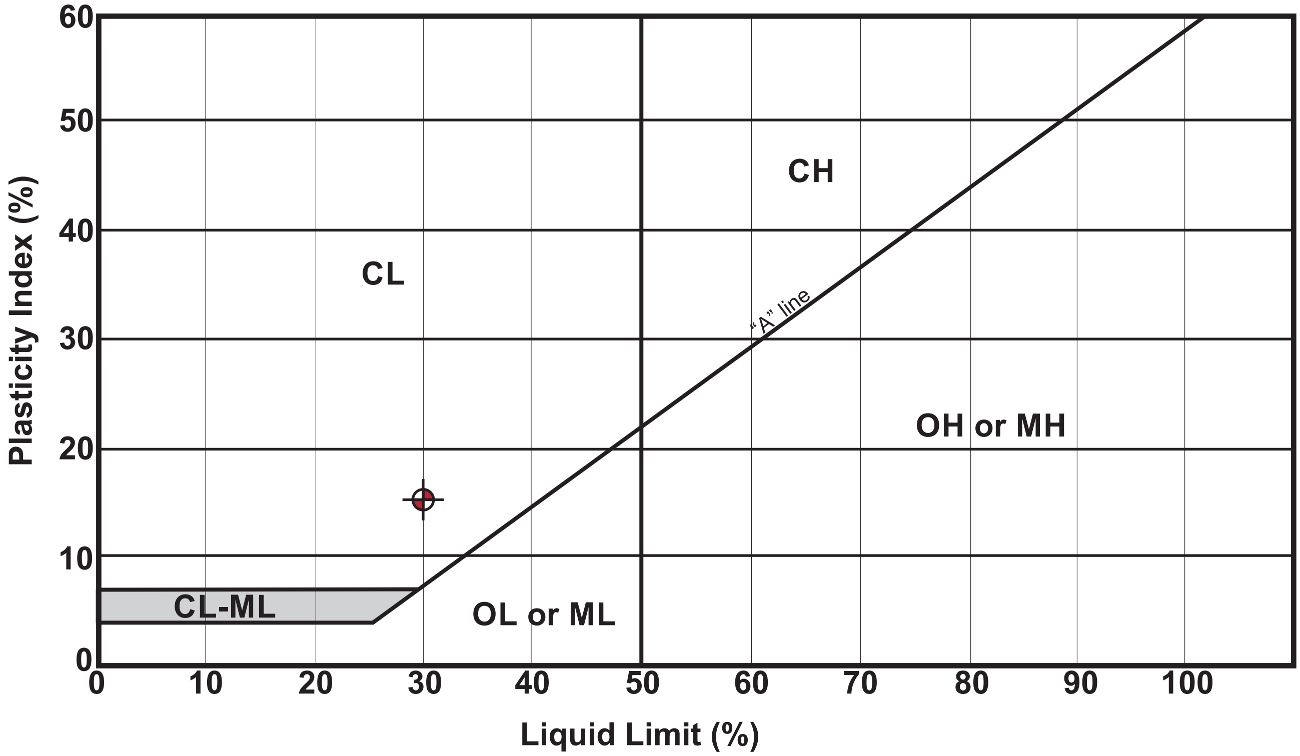
Washed Sieve Analyses: The percent soil fraction passing the No. 200 sieve (ASTM D1140) was determined on one sample of the subsurface soils to aid in the classification of these soils. Results of these tests are shown on the boring logs at the appropriate sample depths.

Plasticity Index: One 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 four 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: Three 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.

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-8	2.0	14	30	15	15	—	Sandy Lean Clay (CL) [Fill]

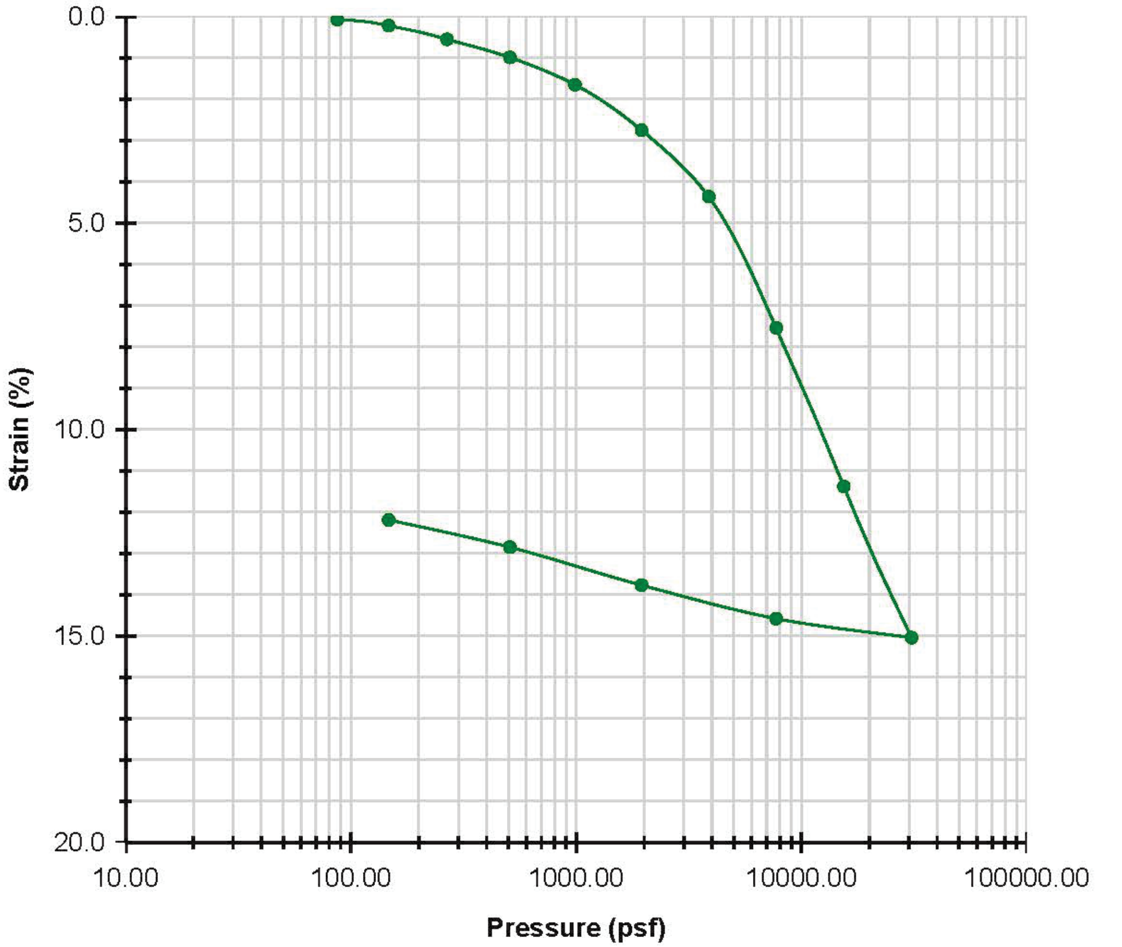
Samples prepared in accordance with ASTM D421

CORNERSTONE EARTH GROUP	Plasticity Index Testing Summary	Project Number 1210-2-2
	STACK San Jose, San Jose, CA	Figure Number Figure B1
		Date July 2021 / Drawn By FLL

Consolidation Test ASTM D2435

Boring: EB-2 Sample: 6 Depth: 27.5’

Description: Lean Clay with Sand (CL)



	BEFORE	AFTER
Moisture (%)	23.3	18.7
Dry Density (pcf)	101.4	112.5
Saturation (%)	94.0	100.0
Void Ratio	0.68	0.51

CORNERSTONE EARTH GROUP

Strain-Log Curve - EB-2 @ 27.5’

STACK San Jose,
San Jose, CA

Project Number 1210-2-2

Figure Number Figure B2

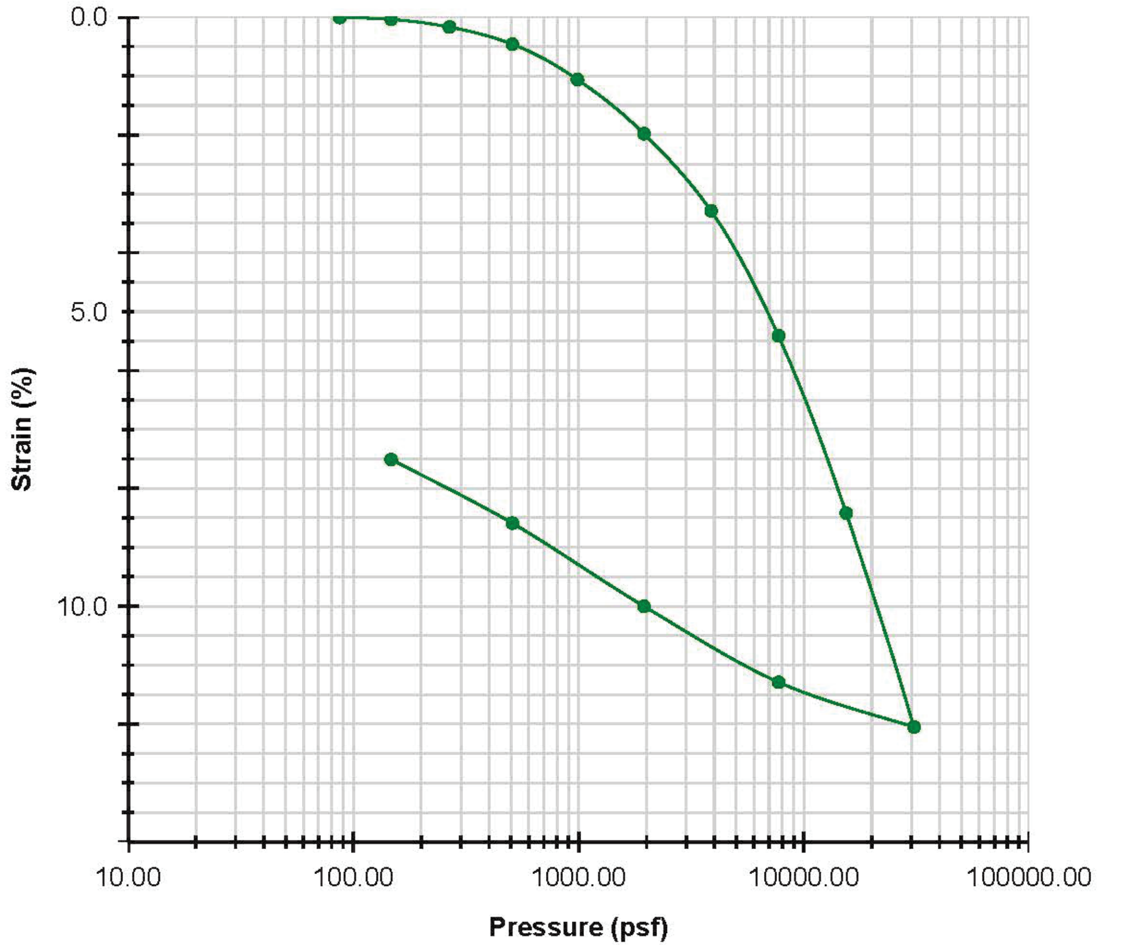
Date July 2021

Drawn By FLL

Consolidation Test ASTM D2435

Boring: EB-3 **Sample:** 6 **Depth:** 11.5’

Description: Lean Clay (CL)



	BEFORE	AFTER
Moisture (%)	26.6	24.4
Dry Density (pcf)	97.1	102.1
Saturation (%)	96.5	100.0
Void Ratio	0.75	0.66

CORNERSTONE EARTH GROUP

Strain-Log Curve - EB-3 @ 11.5’

STACK San Jose,
San Jose, CA

Project Number 1210-2-2

Figure Number Figure B3

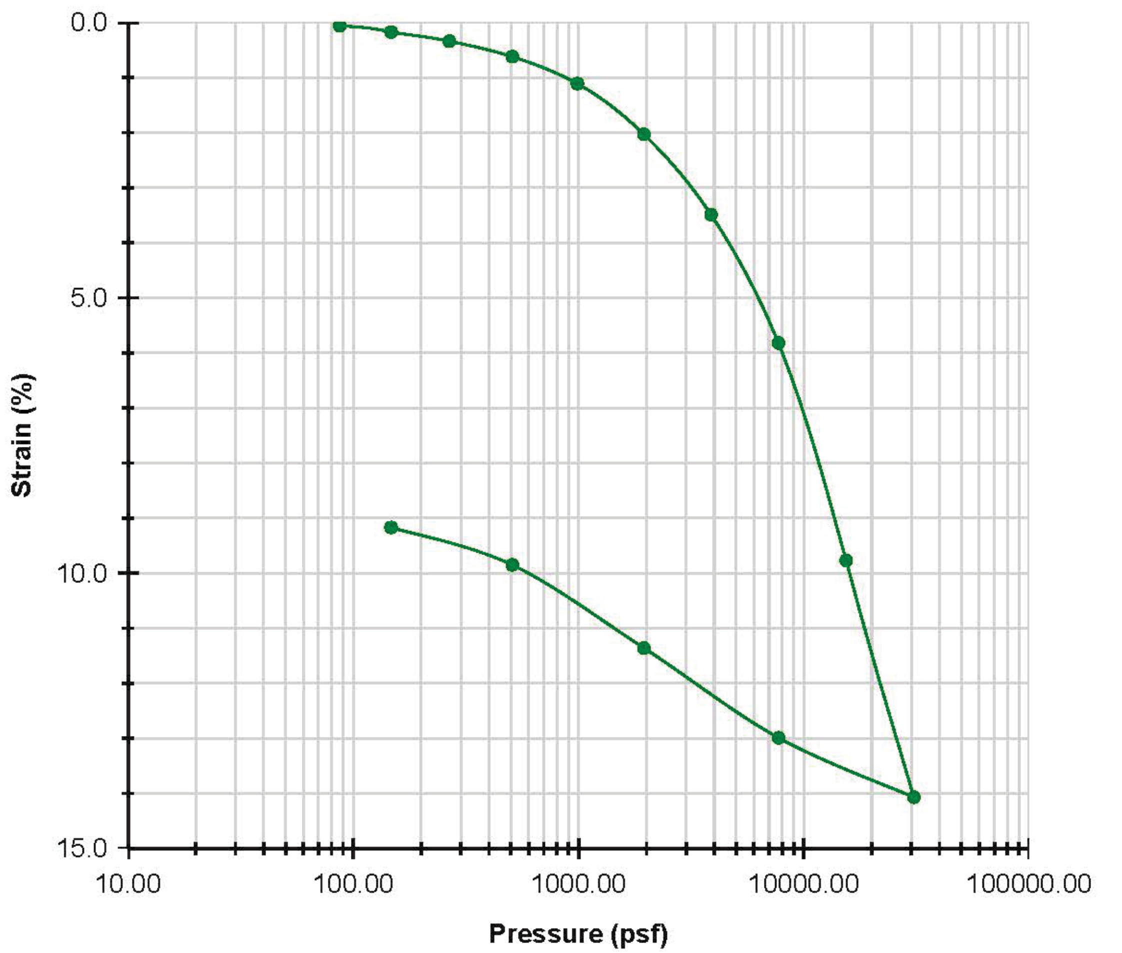
Date July 2021

Drawn By FLL

Consolidation Test ASTM D2435

Boring: EB-6 **Sample:** 9 **Depth:** 32.0’

Description: Lean Clay (CL)



	BEFORE	AFTER
Moisture (%)	28.5	24.5
Dry Density (pcf)	95.5	101.9
Saturation (%)	99.7	100.0
Void Ratio	0.78	0.67

CORNERSTONE EARTH GROUP

Strain-Log Curve - EB-6 @ 32.0’

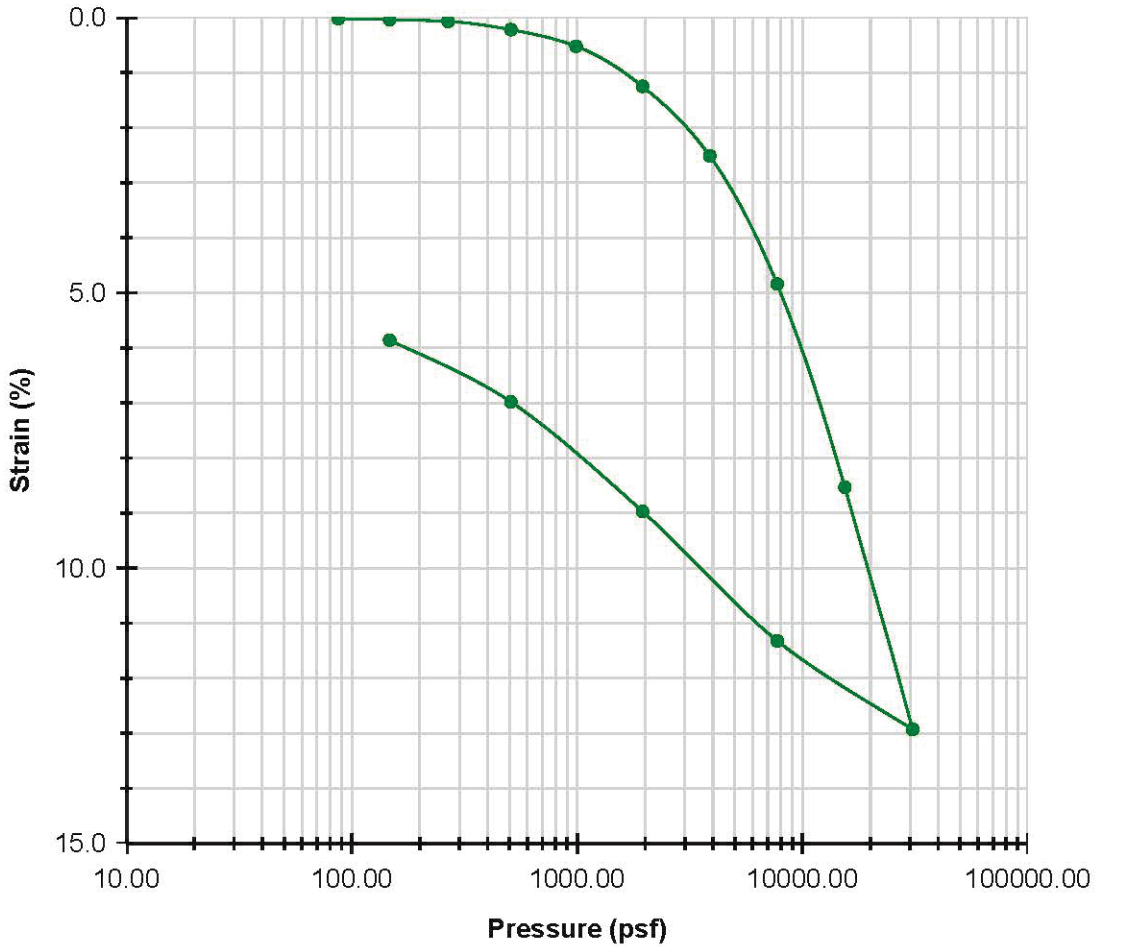
STACK San Jose,
San Jose, CA

Project Number	1210-2-2
Figure Number	Figure B4
Date	July 2021
Drawn By	FLL

Consolidation Test ASTM D2435

Boring: EB-7 Sample: 7 Depth: 17.0'

Description: Lean Clay with Sand (CL)



	BEFORE	AFTER
Moisture (%)	30.8	29.0
Dry Density (pcf)	92.3	95.0
Saturation (%)	99.8	100.0
Void Ratio	0.84	0.79

CORNERSTONE EARTH GROUP

Strain-Log Curve - EB-7 @ 17.0'

STACK San Jose,
San Jose, CA

Project Number 1210-2-2

Figure Number Figure B5

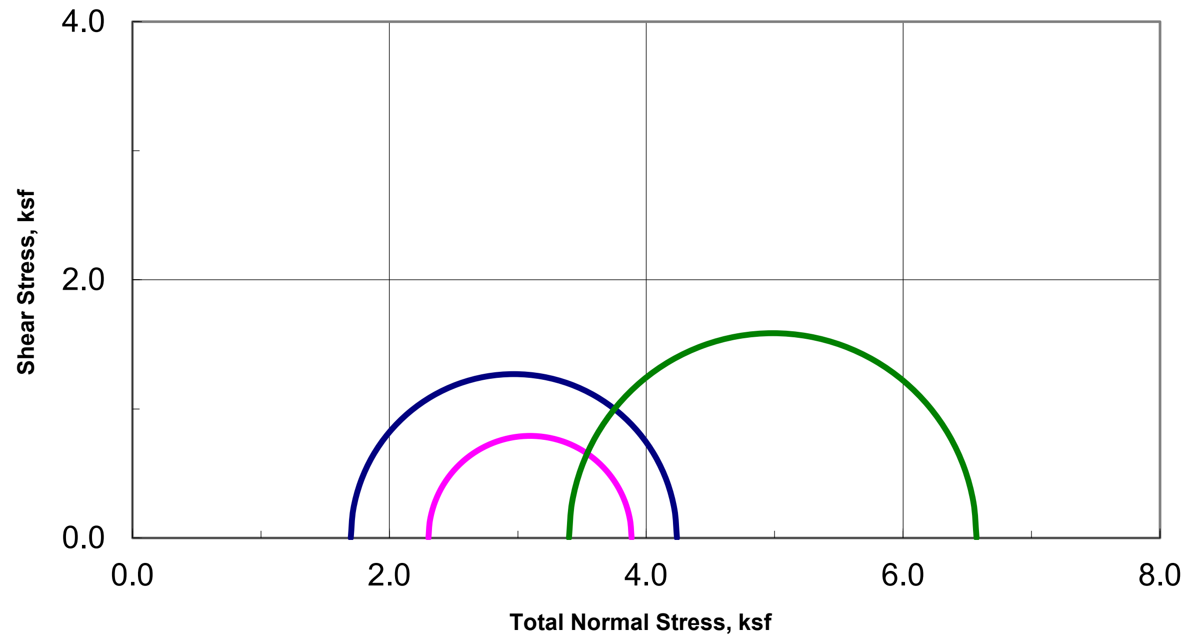
Date July 2021

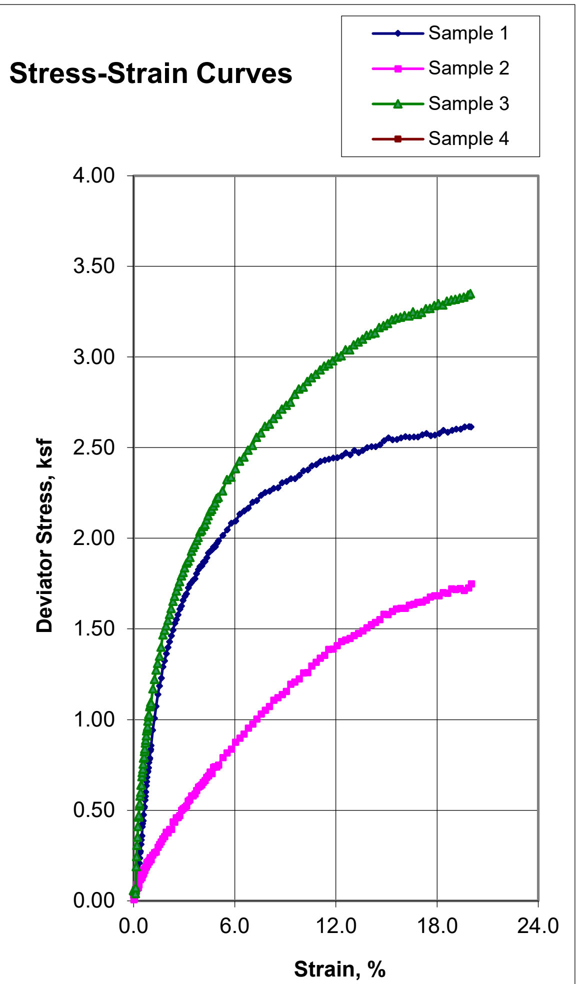
Drawn By FLL

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

COOPER TESTING LABORATORY

Unconsolidated-Undrained Triaxial Test
ASTM D2850





Sample Data	1	2	3	4
Moisture %	23.0	22.0	23.3	
Dry Den,pcf	104.2	106.3	104.5	
Void Ratio	0.648	0.615	0.643	
Saturation %	97.7	98.5	99.7	
Height in	5.00	4.97	4.99	
Diameter in	2.41	2.41	2.41	
Cell psi	11.8	16.0	23.6	
Strain %	15.00	15.00	15.00	
Deviator, ksf	2.539	1.582	3.173	
Rate %/min	1.00	1.00	1.00	
in/min	0.050	0.050	0.050	
Job No.:	640-1467			
Client:	Cornerstone Earth Group			
Project:	1210-2-2			
Boring:	EB-5	EB-6	EB-6	
Sample:	10B	13B	19B	
Depth ft:	34.5	49.5	79.5	

Visual Soil Description

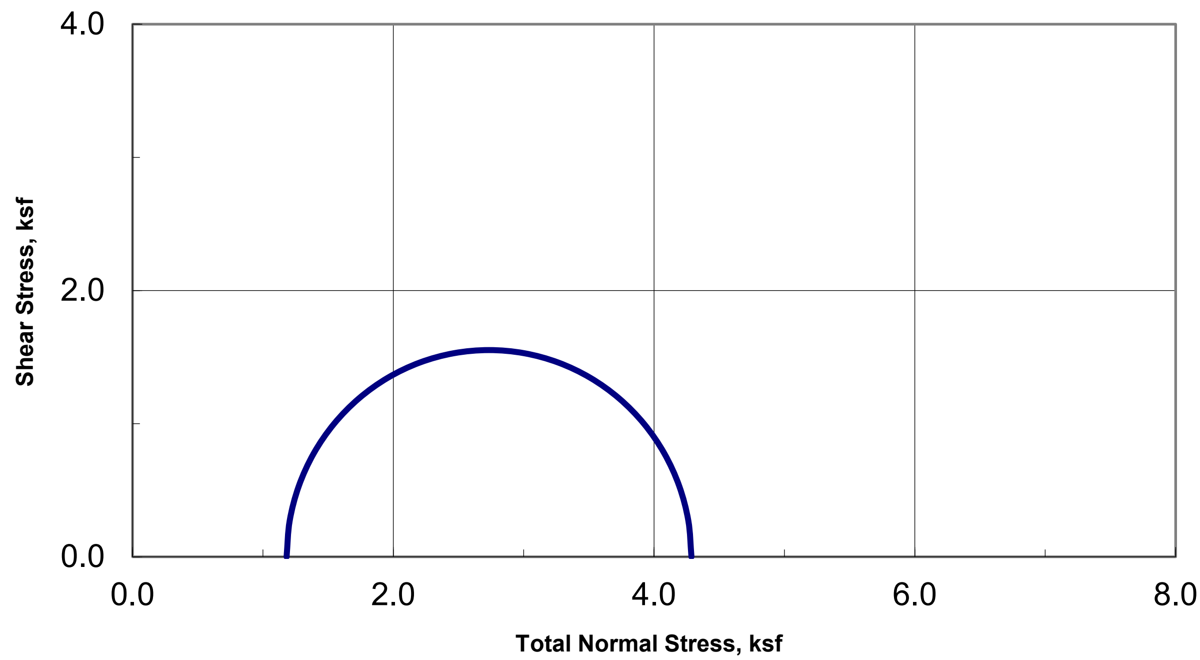
Sample #	
1	Olive Gray Sandy CLAY
2	Olive Gray Sandy CLAY
3	Gray CLAY
4	

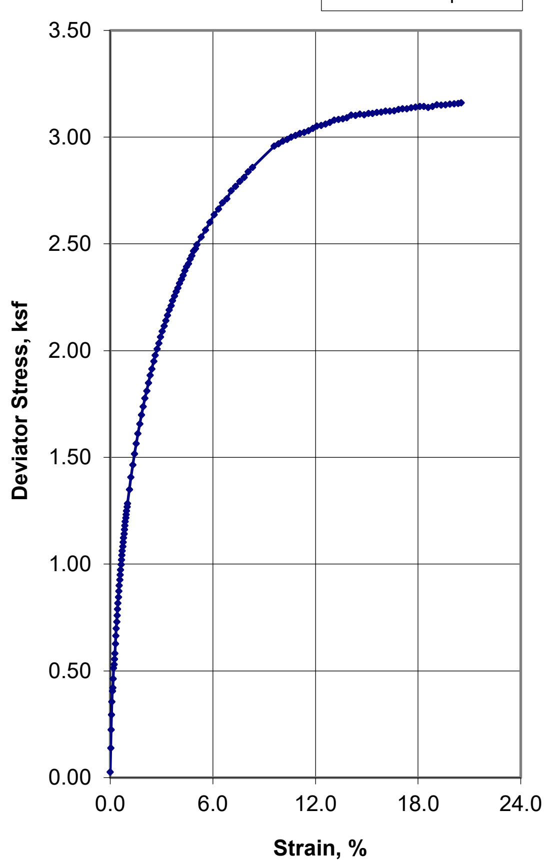
Remarks:

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

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

Unconsolidated-Undrained Triaxial Test
ASTM D2850





Sample Data				
	1	2	3	4
Moisture %	28.9			
Dry Den,pcf	95.5			
Void Ratio	0.797			
Saturation %	99.8			
Height in	4.98			
Diameter in	2.39			
Cell psi	8.2			
Strain %	15.00			
Deviator, ksf	3.105			
Rate %/min	1.00			
in/min	0.050			
Job No.:	640-1473			
Client:	Cornerstone Earth Group			
Project:	1210-2-2			
Boring:	EB-1			
Sample:	6B			
Depth ft:	19.5			

Visual Soil Description	
Sample #	
1	Gray CLAY
2	
3	
4	

Remarks:

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

APPENDIX C: PREVIOUS EXPLORATION BY BAGG (2018)

COARSE-GRAINED SOILS

LESS THAN 50% FINES*

GROUP SYMBOLS	ILLUSTRATIVE GROUP NAMES	MAJOR DIVISIONS
GW	Well graded gravel Well graded gravel with sand	**GRAVELS** More than half of coarse fraction is larger than No. 4 sieve size
GP	Poorly graded gravel Poorly graded gravel with sand	
GM	Silty gravel Silty gravel with sand	
GC	Clayey gravel Clayey gravel with sand	
SW	Well graded sand Well graded sand with gravel	**SANDS** More than half of coarse fraction is smaller than No. 4 sieve size
SP	Poorly graded sand Poorly graded sand with gravel	
SM	Silty sand Silty sand with gravel	
SC	Clayey sand Clayey sand with gravel	

NOTE: Coarse-grained soils receive dual symbols if:
(1) their fines are CL-ML (e.g. SC-SM or GC-GM) or
(2) they contain 5-12% fines (e.g. SW-SM, GP-GC, etc.)

FINE-GRAINED SOILS

MORE THAN 50% FINES*

GROUP SYMBOLS	ILLUSTRATIVE GROUP NAMES	MAJOR DIVISIONS
CL	Lean clay Sandy lean clay with gravel	**SILTS AND CLAYS** liquid limit less than 50
ML	Silt Sandy silt with gravel	
OL	Organic clay Sandy organic clay with gravel	
CH	Fat clay Sandy fat clay with gravel	**SILTS AND CLAYS** liquid limit more than 50
MH	Elastic silt Sandy elastic silt with gravel	
OH	Organic clay Sandy organic clay with gravel	
PT	Peat Highly organic silt	**HIGHLY ORGANIC SOIL**

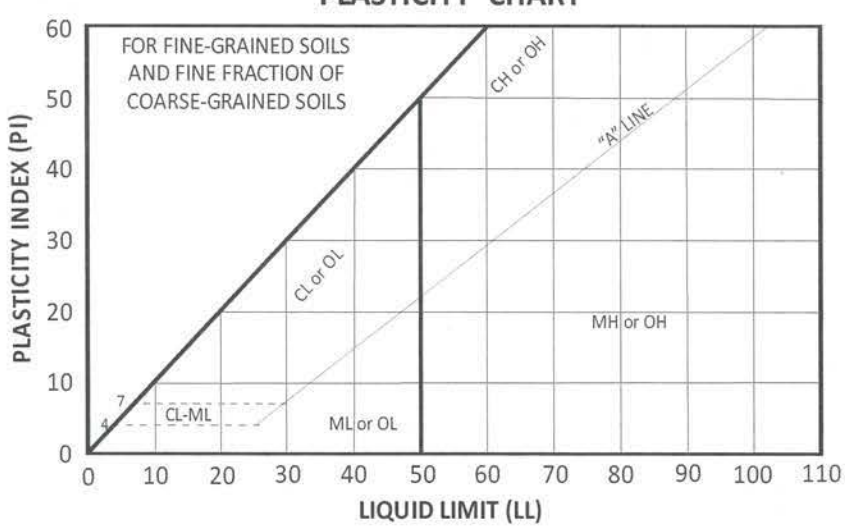
NOTE: Fine-grained soils receive dual symbols if their limits in the hatched zone on the Plasticity Chart(L-M)

SOIL SIZES

COMPONENT	SIZE RANGE
BOULDERS	ABOVE 12 in.
COBBLES	3 in. to 12 in.
GRAVEL	No. 4 to 3 in.
Coarse	¾ in to 3 in.
Fine	No. 4 to ¾ in.
SAND	No. 200 to No.4
Coarse	No. 10 to No. 4
Medium	No. 40 to No. 10
Fine	No. 200 to No. 40
*FINES:	BELOW No. 200

NOTE: Classification is based on the portion of a sample that passes the 3-inch sieve.

PLASTICITY CHART



Reference: ASTM D 2487-06, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

GENERAL NOTES: The tables list 30 out of a possible 110 Group Names, all of which are assigned to unique proportions of constituent soils. Flow charts in ASTM D 2487-06 aid assignment of the Group Names. Some general rules for fine grained soils are: less than 15% sand or gravel is not mentioned; 15% to 25% sand or gravel is termed "with sand" or "with gravel", and 30% to 49% sand or gravel is termed "sandy" or "gravelly". Some general rules for coarse-grained soils are: uniformly-graded or gap-graded soils are "Poorly" graded (SP or GP); 15% or more sand or gravel is termed "with sand" or "with gravel", 15% to 25% clay and silt is termed clayey and silty and any cobbles or boulders are termed "with cobbles" or "with boulders".

UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL TYPES (Ref 1)

Boulders: particles of rock that will not pass a 12-inch screen.
Cobbles: particles of rock that will pass a 12-inch screen, but not a 3-inch sieve.
Gravel: particles of rock that will pass a 3-inch sieve, but not a #4 sieve.
Sand: particles of rock that will pass a #4 sieve, but not a #200 sieve.
Silt: soil that will pass a #200 sieve, that is non-plastic or very slightly plastic, and that exhibits little or no strength when dry.
Clay: soil that will pass a #200 sieve, that can be made to exhibit plasticity (putty-like properties) within a range of water contents, and that exhibits considerable strength when dry.

MOISTURE AND DENSITY

Moisture Condition: an observational term; dry, moist, wet, or saturated.
Moisture Content: the weight of water in a sample divided by the weight of dry soil in the soil sample, expressed as a percentage.
Dry Density: the pounds of dry soil in a cubic foot of soil.

DESCRIPTORS OF CONSISTENCY (Ref 3)

Liquid Limit: the water content at which a soil that will pass a #40 sieve is on the boundary between exhibiting liquid and plastic characteristics. The consistency feels like soft butter.
Plastic Limit: the water content at which a soil that will pass a #40 sieve is on the boundary between exhibiting plastic and semi-solid characteristics. The consistency feels like stiff putty.
Plasticity Index: the difference between the liquid limit and the plastic limit, i.e. the range in water contents over which the soil is in a plastic state.

MEASURES OF CONSISTENCY OF COHESIVE SOILS (CLAYS) (Ref's 2 & 3)

Very Soft	N=0-1*	C=0-250 psf	Squeezes between fingers
Soft	N=2-4	C=250-500 psf	Easily molded by finger pressure
Medium Stiff	N=5-8	C=500-1000 psf	Molded by strong finger pressure
Stiff	N=9-15	C=1000-2000 psf	Dented by strong finger pressure
Very stiff	N=16-30	C=2000-4000 psf	Dented slightly by finger pressure
Hard	N>30	C>4000 psf	Dented slightly by a pencil point

***N**=blows per foot in the Standard Penetration Test. In cohesive soils, with the 3-inch-diameter ring sampler, 140-pound weight, divide the blow count by 1.2 to get N (Ref 4).

MEASURES OF RELATIVE DENSITY OF GRANULAR SOILS (GRAVELS, SANDS, AND SILTS) (Ref's 2 & 3)

Very Loose	N=0-4**	RD=0-30	Easily push a ½-inch reinforcing rod by hand
Loose	N=5-10	RD=30-50	Push a ½-inch reinforcing rod by hand
Medium Dense	N=11-30	RD=50-70	Easily drive a ½-inch reinforcing rod
Dense	N=31-50	RD=70-90	Drive a ½-inch reinforcing rod 1 foot
Very Dense	N>50	RD=90-100	Drive a ½-inch reinforcing rod a few inches

****N**=Blows per foot in the Standard Penetration Test. In granular soils, with the 3-inch-diameter ring sampler, 140-pound weight, divide the blow count by 2 to get N (Ref 4).

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Ref 1: ASTM Designation: D 2487-06, **Standard Classification of Soils for Engineering Purposes** (Unified Soil Classification System).

Ref 2: Terzaghi, Karl, and Peck, Ralph B., **Soil Mechanics in Engineering Practice,** John Wiley & Sons, New York, 2nd Ed., 1967, pp. 30, 341, and 347.

Ref 3: Sowers, George F., **Introductory Soil Mechanics and Foundations: Geotechnical Engineering,** Macmillan Publishing Company, New York, 4th Ed., 1979, pp. 80, 81, and 312.

Ref 4: Lowe, John III, and Zaccheo, Phillip F., **Subsurface Explorations and Sampling,** Chapter 1 in "Foundation Engineering Handbook," Hsai-Yang Fang, Editor, Van Nostrand Reinhold Company, New York, 2nd Ed, 1991, p. 39.

SOIL TERMINOLOGY

GENERAL NOTES FOR BORING LOGS:

The boring logs are intended for use only in conjunction with the text, and for only the purposes the text outlines for our services. The Plate "Soil Terminology" defines common terms used on the boring logs.

The plate "Unified Soil Classification System," illustrates the method used to classify the soils. The soils were visually classified in the field; the classifications were modified by visual examination of samples in the laboratory, supported, where indicated on the logs, by tests of liquid limit, plasticity index, and/or gradation. In addition to the interpretations for sample classification, there are interpretations of where stratum changes occur between samples, where gradational changes substantively occur, and where minor changes within a stratum are significant enough to log.

There may be variations in subsurface conditions between borings. Soil characteristics change with variations in moisture content, with exchange of ions, with loosening and densifying, and for other reasons. Groundwater levels change with seasons, with pumping, from leaks, and for other reasons. Thus boring logs depict interpretations of subsurface conditions only at the locations indicated, and only on the date(s) noted.

SPECIAL FIELD NOTES FOR THIS REPORT:

1. The borings were drilled on June 18 and 19, 2018, with a truck-mounted drilling rig equipped with 8-inch diameter hollow stem augers. The borings were sealed with cement and capped with soil immediately after the last soil sample was collected.

2. The boring location was approximately located by pacing from known points on the site, as shown on Plate 2, Site Plan.

3. The soils' Group Names [e.g. SANDY LEAN CLAY] and Group Symbols [e.g. (CL)] were determined or estimated per ASTM D 2487-06, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System, see Plate 5). Other soil engineering terms used on the boring log are defined on Plate 6, Soil Terminology.

4. The "Blow Count" Column on the boring logs indicates the number of blows required to drive the sampler below the bottom of the boring, and the blow counts given are for each 6 inches of sampler penetration. The samples from the boring were driven with a 140-pound hammer with about a 30-inch free fall via a cathead and pulley system.

5. Groundwater was encountered in each boring at a depth of about 10 feet on the date as indicated in the boring logs.

6. The direct shear strength values recorded on the boring logs are peak strength values.

BORING LOG NOTES

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Paving
	Lean Clay
	Silty sand
	Well graded sand
	Poorly graded sand
	Clayey sand
	Borderline sandy lean clay to clayey sand
	High plasticity (fat) clay
Misc. Symbols	
	Water first encountered during drilling
	Water level at completion of boring
	Boring continues
Soil Samplers	
	Modified California Sampler: 24" long, 2.375" ID by 3" OD, split-barrel sampler driven w/ 140-pound hammer falling 30 inches

Symbol	Description
	Standard Penetration Test: 24" long, 1.375" ID by 2" OD, split-spoon sampler driven w/ 140-pound hammer falling 30 inches (ASTM D 1586-99)
Line Types	
______	Denotes a sudden, or well identified strata change
— — —	Denotes a gradual, or poorly identified strata change
Laboratory Data	
AC	Asphaltic concrete
AB	Aggregate base
bgs	below ground surface
DSX	Direct Shear test performed under artificially increased moisture content (ASTM D3080)
DS	Direct Shear test performed at natural moisture content (ASTM D3080)
LL	Liquid Limit (ASTM 4318)
PI	Plasticity Index (ASTM 4318)

BvGG ENGINEERS

BORING LOG

Boring No. B-1

JOB NAME: Tennant Improvements
CLIENT: Centerbridge Partners, L.P.
LOCATION: 1849 Fortune Drive, San Jose, California
DRILLER: Exploration Geoservices, Inc.
DRILL METHOD: 8-inch diameter hollow stem augers

JOB NO.: SADLE-01-00
DATE DRILLED: 6/19/18
ELEVATION: 46±feet
LOGGED BY: MM

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
						0			3-inches AC over 6-inches AB	
								CL	LEAN CLAY, dark brown, moist, stiff, with silt and fine sand	
						3	10 10 10			
DSX DSX	500 2000	22.5 19.7	1570 2790	20.6 18.5	103.6 109.2				...color changer to olive gray, some oxidation stains	0.40% swell 0.04% swell
						6				
DSX DSX	1200 3000	25.0 23.9	1060 1800	26.5 26.3	96.5 96.8		6 9 10			0.05% consol 0.15% consol
				17.5				SM	SILTY SAND, brown, saturated, medium dense, medium to fine grained	25.2% fines
				29.6		9	2 4 6	CL	LEAN CLAY, brown to gray brown, saturated, stiff, with silt and fine sand, trace oxidation stains	
						12				
DS	1400	NAT	1430	29.2	92.2		7 9 14		...very stiff, more plastic, trace caliche	
						15				
						18	10			

BORING LOG

BVGG ENGINEERS

JOB NAME: Tennant Improvements

JOB NO.: SADLE-01-00

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DS	1700	NAT	1880	28.2	95.0		10, 14			
						21				
DS	2100	NAT	1880	20.9	106.0	24	9, 13, 19			
						27				
DS	2400	NAT	2140	18.9	108.8		8, 16, 20			
				21.4		30		SM	SILTY SAND, gray brown, saturated, dense, poorly sorted	
				27.2			15, 16, 8			14.4% fines
								CL	LEAN CLAY, olive brown, saturated, stiff, with silt and fine sand	
						33				
						36				
				27.1	95.5		9, 9, 12			
						39				

BORING LOG

Boring No. B-1

BVGG ENGINEERS

JOB NAME: Tennant Improvements

JOB NO.: SADLE-01-00

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
						42				
				18.9	107.8		12 20 30		...very stiff to hard	
						45				
						48				
				21.9	103.5		10 17 19			
									Boring terminated at 50 feet. Groundwater encountered at 13' and stabilized at 10' after 10 minutes. Boring backfilled with neat cement grout.	
						51				
						54				
						57				
						60				

BvGG ENGINEERS

BORING LOG

JOB NAME: Tennant Improvements
CLIENT: Centerbridge Partners, L.P.
LOCATION: 1849 Fortune Drive, San Jose, California
DRILLER: Exploration Geoservices, Inc.
DRILL METHOD: 8-inch diameter hollow stem augers

JOB NO.: SADLE-01-00
DATE DRILLED: 6/18/18
ELEVATION: 45±feet
LOGGED BY: MM

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
						0			4-inches AC over 9-inches AB	
DSX	320	18.1	1110	16.5	112.5		14 21 23	CL	LEAN CLAY, gray brown, moist, very stiff, with silt and fine sand, trace gravel, dark discolorations	0.77% swell
						3				
DSX	550	19.6	1600	17.6	108.8		16 22 24			0.01% swell
						6				
DSX	750	29.7	1080	28.2	98.8		9 13 14		...color change to gray with oxidation stains, trace rootlets	
									...increase in sand content	
						9				
				25.5			6 7 8			62.8% fines LL=34 PI=17
						12				
				33.6			8 12 19		...less sandy, increase in plasticity, trace caliche	
						15				
						18				
							6			

BORING LOG

BVGG ENGINEERS

JOB NAME: Tennant Improvements

JOB NO.: SADLE-01-00

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DS	1800	NAT	1000	24.9	96.8		10 12			
						21				
				20.0	107.4	24	8 12 26			
									Boring terminated at 25 feet. Groundwater encountered at 12' and rose to 10' after about 10 minutes. Boring backfilled with neat cement grout.	
						27				
						30				
						33				
						36				
						39				

BYGG ENGINEERS

BORING LOG

JOB NAME: Tennant Improvements
CLIENT: Centerbridge Partners, L.P.
LOCATION: 1849 Fortune Drive, San Jose, California
DRILLER: Exploration Geoservices, Inc.
DRILL METHOD: 8-inch diameter hollow stem auger

JOB NO.: SADLE-01-00
DATE DRILLED: 6/19/18
ELEVATION: 45±feet
LOGGED BY: MM

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
						0			3-inches AC over 9-inches AB	
								CL	LEAN CLAY, dark gray brown, moist, very stiff, with silt and fine sand, trace gravel	
						3	12			
DSX DSX	500 1700	17.4 17.9	1340 2220	15.3 16.1	112 112.0		22 24		...color change to gray brown, with oxidation stains, trace caliche	0.22% swell 0.07% consol
						6				
DSX DSX	1200 2700	23.3 24.0	940 1430	23.0 24.1	98.9 96.9		6 8 10			0.29% consol 0.41% consol
						9	8 4 4		...increase in sand content	LL=42 PI=26
						12				
DS	1500	NAT	1490	30.4	91.7		10 13 20	CL	...saturated, very stiff, less sandy, increase in plasticity	
						15				
						18	8			

BORING LOG

Boring No. B-3
Page 2 of 3

JOB NAME: Tennant Improvements *JOB NO.:* SADLE-01-00

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DS	1800	NAT	1060	19.5	94.9		10 14		...stiff	
						21				
				20.1	107.2	24	12 18 28		...very stiff, trace oxidation stains and caliche	
						27				
				23.8	101.5	30	10 12 15			
						33				
				18.3	108.4		12 20 26			
						36				
				23.8		39	11 22			

BORING LOG

JOB NAME: Tennant Improvements

JOB NO.: SADLE-01-00

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
							42	SW	WELL GRADED SAND, brown, saturated, very dense, trace fines	
						42				
				17.1			10 10 14		...medium dense	3.2% fines
						45				
								SP	POORLY GRADED SAND, brown, medium dense, saturated, medium to fine grained	
						48				
				27.4			8			4.2% fines
				17.3			8		...increase in fine gravel content	5.3% fines
				21.4			8	CL	LEAN CLAY, brown, saturated, stiff, with silt and fine sand	
									Boring terminated at 50 feet. Groundwater encountered at 12' and stabilized at 10.' Boring backfilled with neat cement grout.	
						51				
						54				
						57				
						60				

BAGG ENGINEERS

BORING LOG

Boring No. B-4

JOB NAME: Tennant Improvements
CLIENT: Centerbridge Partners, L.P.
LOCATION: 1849 Fortune Drive, San Jose, California
DRILLER: Exploration Geoservices, Inc.
DRILL METHOD: 8-inch diameter hollow stem augers

JOB NO.: SADLE-01-00
DATE DRILLED: 6/18/18
ELEVATION: 45±feet
LOGGED BY: MM

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
						0		CL	LEAN CLAY, dark gray, slightly moist, very stiff, with silt and fine sand, trace gravel up to 2-inch size in upper 1-foot. ...color change to gray with oxidation stains	In Landscape Area
DSX	320	21.2	740	16.2	104.2		7, 10, 14			1.1% swell LL=36 PI=21
DSX	550	22.0	770	19.4	106.9	3	8, 11, 12			0.02% swell
DSX	800	15.1	880	14.6	106.0	6	7, 9, 12			
						9	7, 6, 4	SC	CLAYEY SAND, brown, very moist, loose	LL=27 PI=13
				32.2			5, 7, 8	CL	LEAN CLAY, gray, saturated, stiff, with silt and sand	
						12				
DS	1500	NAT	1375	30.1	91.6	15	6, 12, 16			
						18	19			

BORING LOG

JOB NAME: Tennant Improvements

JOB NO.: SADLE-01-00

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DS	1800	NAT	1110	24.3	100.3		11 12		...increase in plasticity	
						21				
DS	2100	NAT	1375	27.3	94.9	24	10 19 35			
									Boring terminated at 25.' Groundwater encountered at 11' and rose to 10' after about 10 minutes. Boring backfilled with neat cement grout.	
						27				
						30				
						33				
						36				
						39				

BYGG ENGINEERS

BORING LOG

JOB NAME: Tennant Improvements
CLIENT: Centerbridge Partners, L.P.
LOCATION: 1849 Fortune Drive, San Jose, California
DRILLER: Exploration Geoservices, Inc.
DRILL METHOD: 8-inch diameter hollow stem augers

JOB NO.: SADLE-01-00
DATE DRILLED: 6/18/18
ELEVATION: 45±feet
LOGGED BY: MM

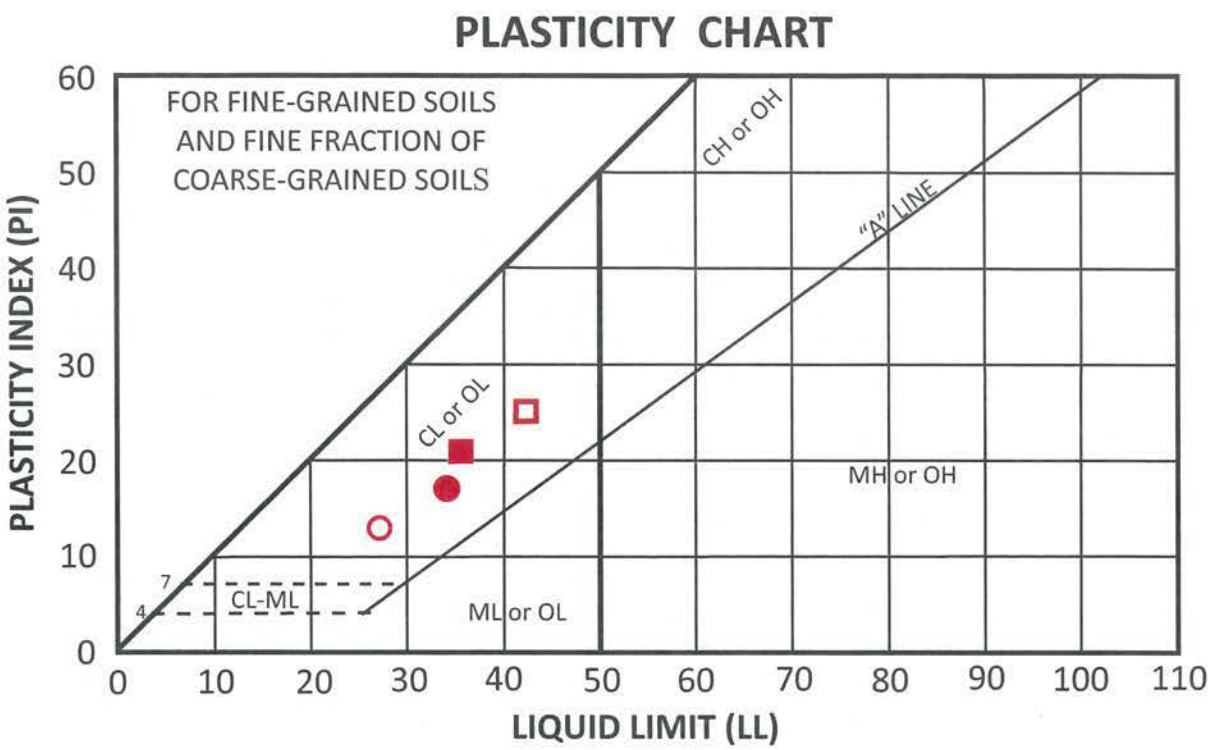
Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
						0		CL	LEAN CLAY, brown, moist, stiff, with silt and sand, dark mottling, trace gravel	In Landscape Area.
DSX	320	22.6	880	21.2	102.2		8, 12, 16			
						3			...color change to gray, with oxidation stains	
DDSX	550	16.5	1170	14.6	114.7		8, 11, 12			0.07% swell
						6	7, 9, 12		...increase in sand content	
				19.2				CL/ SC	BORDERLINE SANDY LEAN CLAY TO CLAYEY SAND, gray brown, very moist, stiff	42.9% fines
				25.8		9	7, 6, 4			49.2% fines
							5, 7, 8	CL	LEAN CLAY, gray brown, saturated, stiff, with silt and sand	
						12				
DS	1400	NAT	740	27.1	95.4	15	6, 12, 16			
						18	10			

BORING LOG

JOB NAME: Tennant Improvements

JOB NO.: SADLE-01-00

Type of Strength Test	Test Surcharge Pressure, psf	Test Water Content, %	Shear Strength, psf	In-Situ Water Content, %	In-Situ Dry Unit Weight, pcf	Depth, ft.	Soil Symbols, Samplers and Blow Counts	USCS	Description	Remarks
DS	1800	NAT	1080	29.2	93.0		11 12			
						21		CH	FAT CLAY, gray, saturated, stiff, with silt and trace fine sand, trace oxidation stains and caliche	
				23.2	102.0	24	10 19 35		...color change to dark gray, trace caliche	
						27			Boring terminated at 25 feet. Groundwater was encountered a 13 feet bgs and rose to 10 feet bgs after about 10 minutes. Boring was backfilled with neat cement grout.	
						30				
						33				
						36				
						39				



SYMBOL	SAMPLE SOURCE	DEPTH (FEET)	NATURAL WATER CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SOIL DESCRIPTION
●	Boring B-2	9.5	24.5	34	17	17	CL
□	Boring B-3	10	29.7	42	16	26	CL
■	Boring B-4	1.5	24.5	36	15	21	CL
○	Boring B-5	8.5	25.8	27	14	13	CL

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED TENANT IMPROVEMENTS
1849 FORTUNE DRIVE
SAN JOSE, CALIFORNIA

ATTERBERG LIMITS

DATE:	JOB NUMBER:	PLATE
JULY 2018	SADLE-01-00	14

BAGG ENGINEERS

CORNERSTONE EARTH GROUP

APPENDIX D: SITE SPECIFIC RESPONSE ANALYSIS BY ROBERT PYKE, P.E., G.E.

Robert Pyke, Consulting Engineer

August 6, 2021

Maura Ruffato P.E / Danh Tran P.E.
Cornerstone Earth Group
1259 Oakmead Parkway
Sunnyvale, California 94085

Re: STACK Data Center
2400 Ringwood Avenue
San Jose, CA
Earthquake Ground Motions

Dear Maura / Danh,

At your request I have conducted a site-specific site response analysis in accordance with the provisions of ASCE 7-16 and have developed appropriate seismic loading criteria.

The site is located in San Jose, CA with representative co-ordinates being latitude 37.4023 and longitude -121.8955. The site lies in an area of active seismicity in between the San Andreas and the Hayward / Calaveras fault systems and is only 5.5 km from the southern segment of the Hayward fault which is capable of generating a magnitude 7 earthquake.

The location of various borings and CPT soundings and the subsurface conditions at the site are described in more detail in your companion geotechnical report. Bedrock was not encountered in your borings and CPT soundings, however the available geologic mapping suggests that Franciscan bedrock should be found at about 1000 to 1200 feet below the ground surface.

Measured shear wave velocities are available from the two SCPT soundings as shown in Figure 1. The weighted average shear wave velocity over the top 30 meters, or 100 feet, V_{s30} of 804 feet/second places the site within Site Class D according to ASCE 7-16.

Because this site falls within Site Class D a site-specific seismic hazard analysis and/or a site-specific site response analysis is required to determine the longer period ground motions for use in design. Previous experience has shown that site-specific hazard analyses for Site Class D sites in the Bay Area tend to be conservative – because of the variability of such sites the standard deviation based on data recorded in similar tectonic regions worldwide is quite large, thus the hazard analysis results, whether governed by probabilistic or deterministic criteria, tend to be conservative.

1310 Alma Avenue, No. 201, Walnut Creek, CA 94596
Telephone 925.323.7338 E-mail bobpyke@attglobal.net

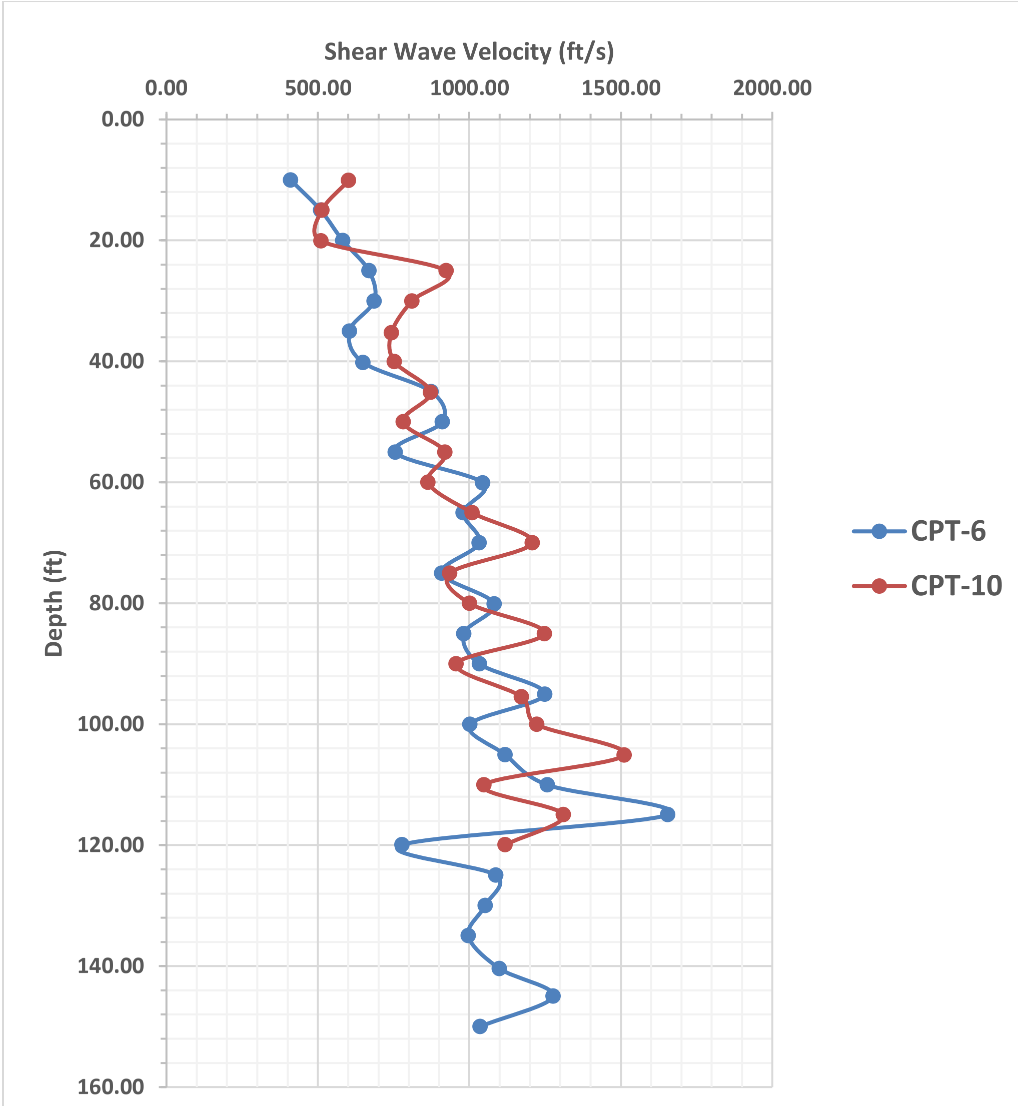


Figure 1 – Shear Wave Velocity Profiles

I have therefore conducted a nonlinear effective stress site response analysis which takes into account the particular soil conditions at this site, rather than using ground motion data averaged over the entire site class. I have extended the shear wave velocity profile to 1200 feet guided by measurements made on the campus of Stanford University which lies at the stiffer end of the possible range and therefore produce conservative results at the periods of interest.

Earthquake Input Motions

In order to conduct the site response analysis, I have developed a target response spectrum and matching acceleration histories in the Franciscan Formation. Figure 2 shows the Site Class B response spectrum for this site under ASCE 7-16 obtained from the SEA/OSHPD web site https://seismicmaps.org/. The printed outputs downloaded from that site for both Site Classes B and D are shown in Appendix A. Although Section 21.1.1 of ASCE 7-16 is not very specific about selection and scaling of input motions, I increased this spectrum by 10 percent to be consistent with Section 16.2.3.3 of ASCE 7-16 because I used spectral matching rather than scaling.

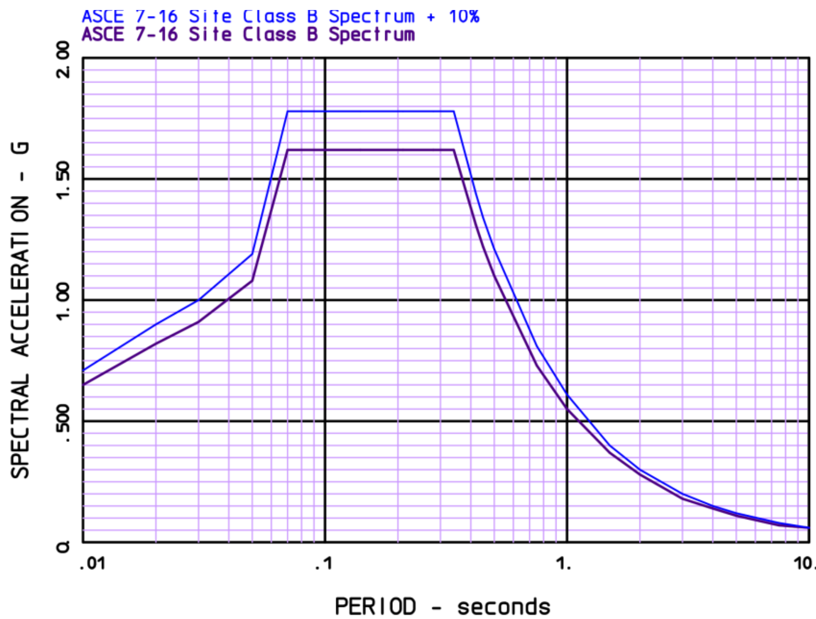


Figure 2 – ASCE 7-16 Site Class B Response Spectrum

ASCE 7-16 requires the use of a minimum of five input motions for a site response analysis, and, while it is not clear whether this means five single components or five pairs of components, for good measure I have used both horizontal components of each of the five records as listed in Table 1. These records were chosen to represent earthquakes on the Hayward South and Calaveras faults with magnitudes in the high 6's to low 7's.

Table 1 – Selected Earthquake Records

Earthquake	Record Name	Station Name	Year	M_w	R (km)	V_{s30} (m/s)
Imperial Valley	IV02	El Centro 9	1940	6.95	6.09	213.4
Imperial Valley	IVEC4	El Centro 4	1979	6.53	7.05	208.9
Landers	JOS	Joshua Tree	1992	7.28	11.03	379.3
Kobe	NIS	Nishi-Akashi	1995	6.90	7.08	609.0
Kocaeli	YAR	Yarimca	1999	7.51	4.83	297.0

I then modified the recorded motions so that they matched the Site Class B MCE spectrum for this location using the frequency domain program TINKER. The matches obtained to the target spectrum are shown in Figure 3. Plots of the individual time histories before and after matching have been saved and can be provided on request.

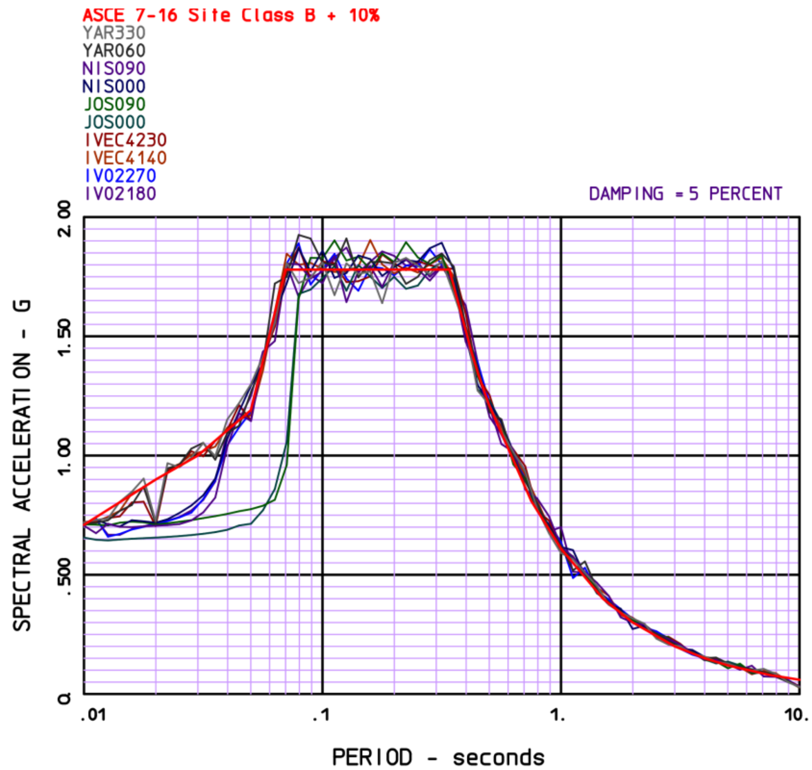


Figure 3 – Fit to ASCE 7-16 Site Class B Response Spectrum

TESS2 Analyses and Results

I conducted site response analyses for the STACK site using TESS2. TESS2 employs the same explicit finite difference solution of the one-dimension wave propagation problem and the same HDCP soil model as were used in the earlier program TESS (Pyke, 1979, 1993, 2004). TESS has been verified and validated in a number of studies including Kwok et al. (2007) and Stewart et al. (2008). Various issues involved in the conduct of nonlinear site response analyses are discussed in Pyke (2020b).

In conventional "equivalent linear" analyses of site response it is necessary to specify the shear wave velocity, or the shear modulus at small strains, G_{max}, for each layer along with a "modulus reduction curve", and a modulus reduction curve of this kind can also be used as the "backbone" curve for constructing simple nonlinear models of shear stress – shear strain behavior. Pyke et al. (1993) constructed a consistent family of shear modulus reduction curves in terms of the reference strain, which is equal to τ_{max}, the asymptotic value of the shear stress at large strains, divided by G_{max}, the shear modulus at small strains. The value of τ_{max} may be much greater than the conventional shear strength under monotonic loading as a result of both cyclic and rate of loading effects. For a plain hyperbola the reference strain is equal to the shear strain at which G/G_{max} equals 0.5. Typical modulus reduction curves in terms of reference strain are shown in Figure 4.

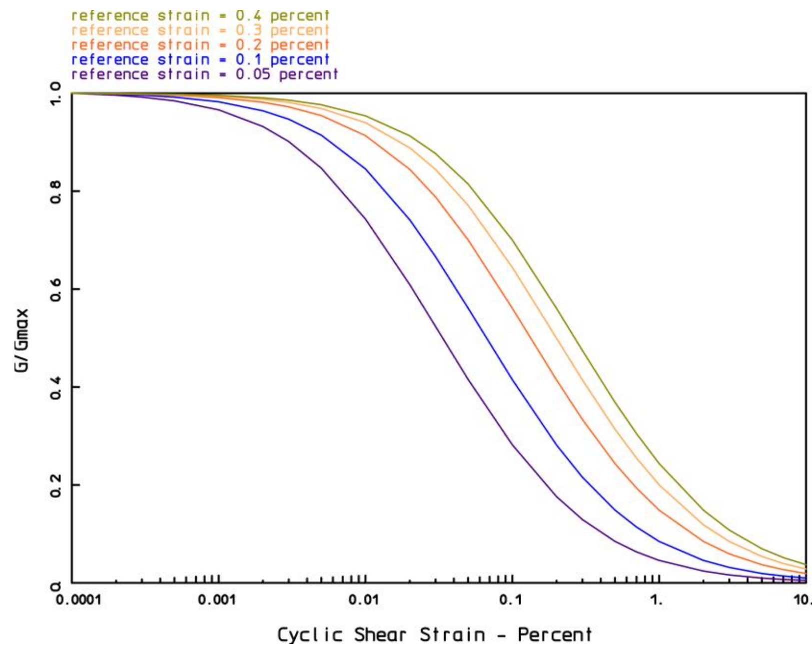


Figure 4 – Modulus Reduction Curves as a Function of Reference Strain

The modulus reduction curve for a reference strain of 0.1 percent closely matched the upper bound of the modulus reduction curves for sands given by Seed and Idriss (1971) which is widely accepted as a good representation of the modulus reduction curve for relatively young, clean sands. Clayey soils exhibit less nonlinearity than sands and have modulus reduction curves with larger reference strains. For instance, young Bay Mud, a silty clay, has a reference strain of about 0.3 percent.

For clean sands there is also a depth effect, as shown in the modulus reduction curves developed by Pyke et al. (1993) for use on nuclear power sites in Eastern North America which are shown in Figure 5. However, this depth effect, which results from τ_{max} increasing faster with depth than G_{max}, is offset by ageing and cementation and a minimal increase in the reference strain might be expected in cemented materials. Freshly made laboratory samples of cemented materials in fact show much greater nonlinearity and smaller reference strains (see for instance Yang and Salvati (2010)). But since the deeper soils at this site have been repeatedly subject to strong earthquake ground motions, any increased nonlinearity will likely be small. Thus, the soils at this site might be expected to have reference strains between 0.1 and 0.3 percent, showing only a moderate increase with depth.

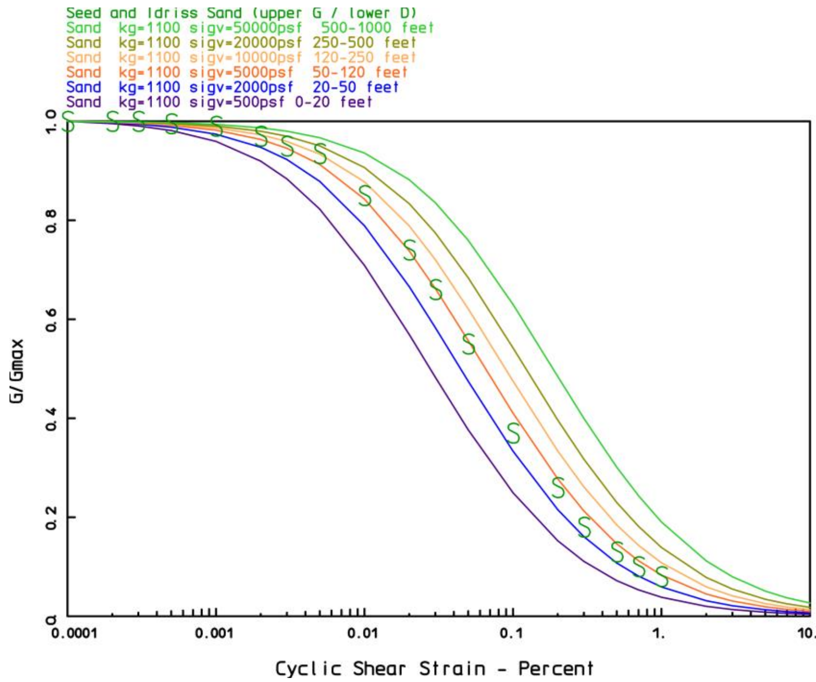


Figure 5 – Modulus Reduction Curves as a Function of Depth

The new program, TESS2, runs two horizontal components of motion simultaneously and, if appropriate, adds the excess pore pressures generated by each component in accordance with the recommendation of Seed et al. (1978). Seismic settlements are computed as described by Pyke (2019a), using data from Pyke (1973) factored as necessary for the particular site conditions. However, these options were not exercised in this case because the shear wave velocities in any cleaner sand layers exceed the value of 710 feet/second indicated by Andrus and Stokoe (2000) to be the upper limit of the shear wave velocity in material that have been observed to liquefy.

I have run TESS2 using all five two-component input motions for both 1000-foot and 1200-foot deep profiles. The details of the assumed input parameters and summaries of the results for Runs a2 (1000 feet) and b2 (1200 feet) are shown in the printed outputs from TESS2 that are included in Appendix B. Plots of the computed ground surface response spectra for Runs a2 and b2 are shown in Figures 6 and 7.

The mapped spectra acceleration parameters and the corresponding MCE spectral acceleration parameters for Site Class D at this location were obtained from the SEA/OSHPD web site https://seismicmaps.org/, as shown in Appendix A, and Supplement No.1 to ASCE 7-16, and that spectrum and a spectrum equal to 80 percent of the code values, the minimum allowed by the code, are shown in Figure 8 along with the medians of the values shown in Figures 6 and 7. It may be seen that the median computed MCE_R spectra generally falls below 80 percent of the code values at periods greater than 0.1 seconds except for some peaks between 0.3 and 0.6 seconds. By code the value of S_{MS} should be taken as 90% of the peak spectral acceleration, which is 1.71 g.

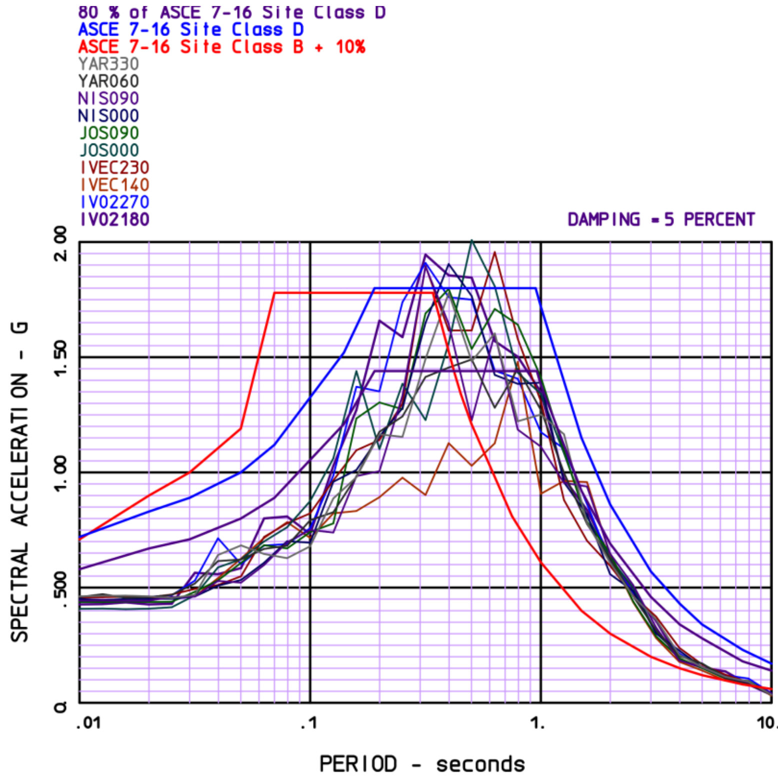


Figure 6 – Free-field Ground Surface Response Spectra for 1000-foot Profile

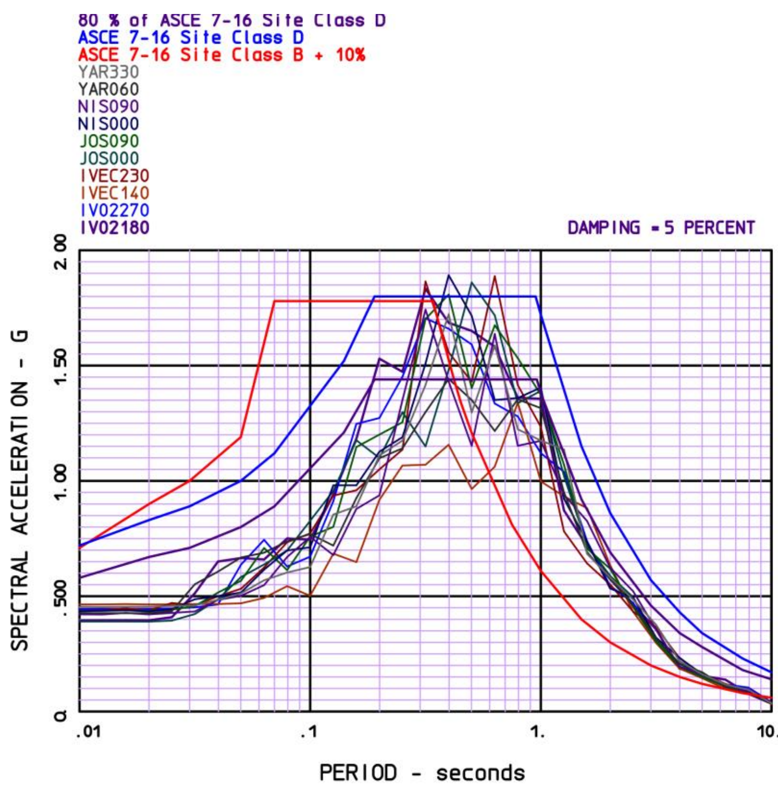


Figure 7 – Free-field Ground Surface Response Spectra for 1200-foot Profile

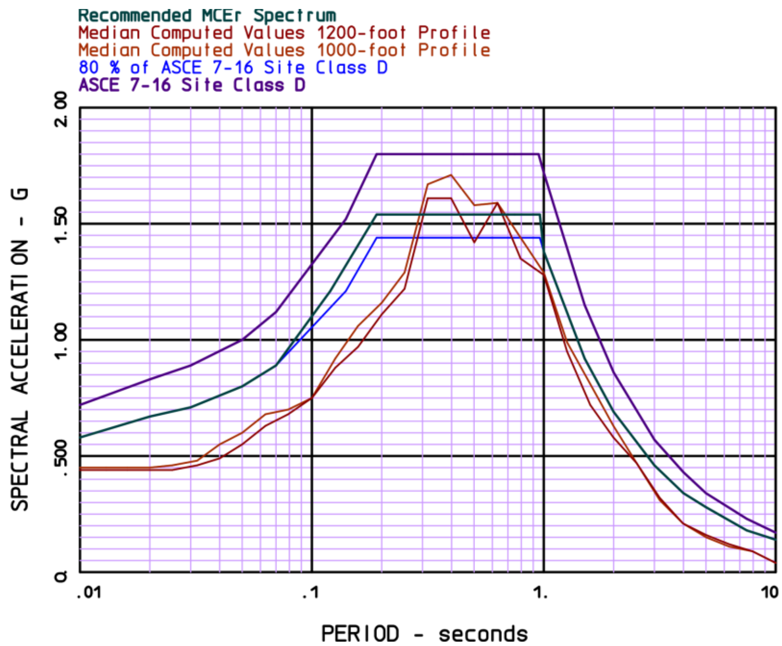


Figure 8 – Recommended MCE$_R$ Response Spectrum

Table 2 – Recommended MCE$_R$ Response Spectrum

Period	Sa
seconds	g
0.01	0.58
0.02	0.67
0.03	0.71
0.05	0.80
0.07	0.89
0.12	1.21
0.19	1.54
0.30	1.54
0.45	1.54
0.60	1.54
0.75	1.54
0.90	1.54
0.96	1.54
1.00	1.38
1.50	0.92
2.00	0.69
3.00	0.46
4.00	0.34
5.00	0.28
7.50	0.18
10.00	0.14

I therefore recommend use of the MCE_R spectrum that is shown in Figure 8 and listed in Table 2. The values of S_{MS} and S_{M1} are 1.54 g and 1.38 g. S_{DS} and S_{D1} by code are two-thirds of these values, or 1.03 g and 0.92 g.

I would be happy to address any questions that you or the structural engineer might have.

Sincerely,

Robert Pyke Ph.D, G.E.

Attachments:

Appendix A – Outputs from SEA/OSHPD and USGS web sites

Appendix B – Input and output from TESS2 analyses

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Appendix A

Output from SEA/OSHPD and USGS Hazard Tools

STACK

Latitude, Longitude: 37.4023, -121.8955

Date	7/31/2021, 11:55:36 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	B - Rock

Type	Value	Description
S_S	1.803	MCE_R ground motion. (for 0.2 second period)
S_1	0.686	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.623	Site-modified spectral acceleration value
S_{M1}	0.549	Site-modified spectral acceleration value
S_{DS}	1.082	Numeric seismic design value at 0.2 second SA
S_{D1}	0.366	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	0.9	Site amplification factor at 0.2 second
F_v	0.8	Site amplification factor at 1.0 second
PGA	0.758	MCE_G peak ground acceleration
F_{PGA}	0.9	Site amplification factor at PGA
PGA_M	0.683	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	2.667	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.838	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.803	Factored deterministic acceleration value. (0.2 second)
S1RT	0.981	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	1.068	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.686	Factored deterministic acceleration value. (1.0 second)
PGAd	0.758	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.94	Mapped value of the risk coefficient at short periods
C_{R1}	0.918	Mapped value of the risk coefficient at a period of 1 s

STACK

Latitude, Longitude: 37.4023, -121.8955

Date	7/31/2021, 11:59:30 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.803	MCE_R ground motion. (for 0.2 second period)
S_1	0.686	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.803	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1.202	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.758	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.834	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	2.667	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.838	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.803	Factored deterministic acceleration value. (0.2 second)
S1RT	0.981	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	1.068	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.686	Factored deterministic acceleration value. (1.0 second)
PGAd	0.758	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.94	Mapped value of the risk coefficient at short periods
C_{R1}	0.918	Mapped value of the risk coefficient at a period of 1 s

U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Input

Edition

Dynamic: Conterminous U.S. 2014 (u…

Latitude

Decimal degrees

37.4023

Longitude

Decimal degrees, negative values for western longitudes

-121.8955

Site Class

259 m/s (Site class D)

Spectral Period

0.20 Second Spectral Acceleration

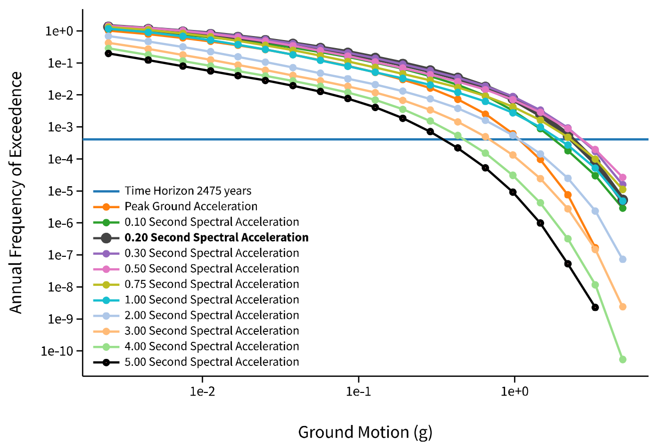
Time Horizon

Return period in years

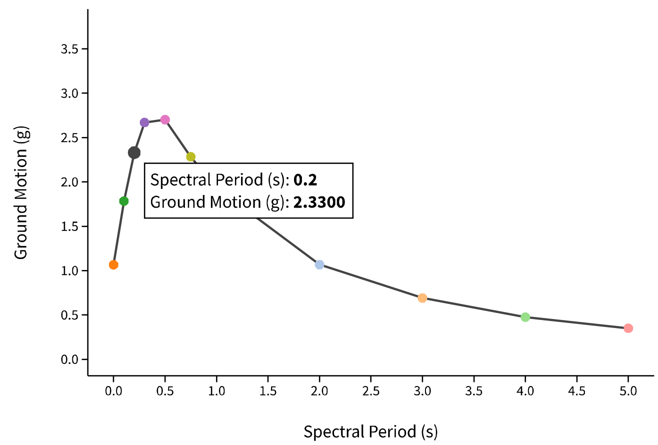
2475

Hazard Curve

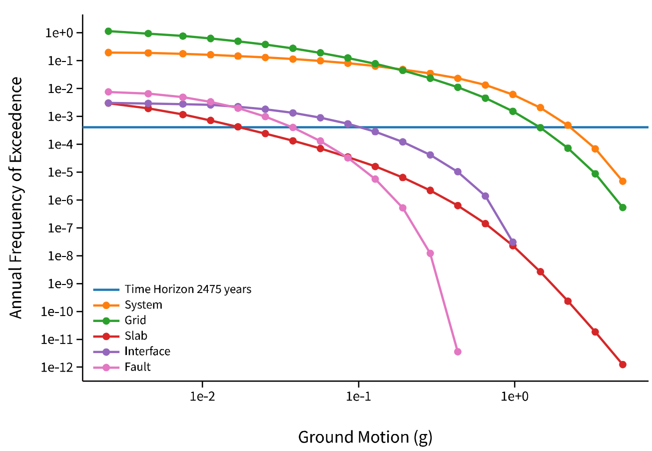
Hazard Curves



Uniform Hazard Response Spectrum



Component Curves for 0.20 Second Spectral Acceleration

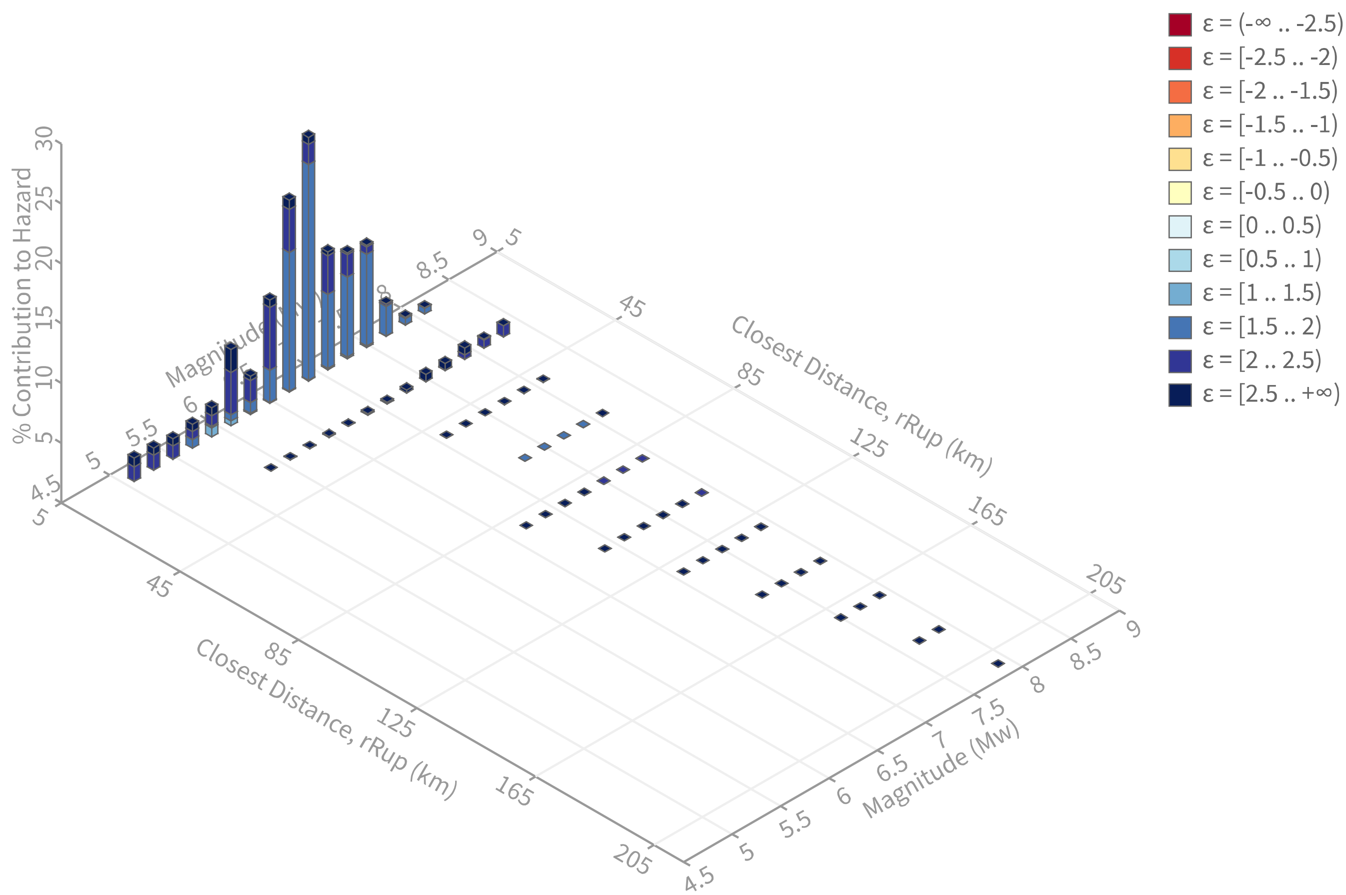


[View Raw Data]

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
0.2 s SA ground motion: 2.3300135 g

Recovered targets

Return period: 3332.528 yrs
Exceedance rate: 0.00030007249 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.04 %

Mean (over all sources)

m: 6.8
r: 8.05 km
ε_0: 1.97 σ

Mode (largest m-r bin)

m: 6.87
r: 6.26 km
ε_0: 1.85 σ
Contribution: 20.34 %

Mode (largest m-r-ε_0 bin)

m: 6.87
r: 5.82 km
ε_0: 1.79 σ
Contribution: 18.01 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM31	System							44.96
Hayward (So) [1]		5.53	6.96	1.79	121.856°W	37.441°N	39.22	24.38
Calaveras (No) [6]		9.14	7.24	1.89	121.820°W	37.455°N	48.40	5.62
Calaveras (Central) [9]		9.17	6.71	2.13	121.806°W	37.443°N	59.95	4.40
Hayward (So) [2]		9.97	6.78	2.14	121.906°W	37.487°N	354.47	2.31
Hayward (So) extension [6]		9.97	6.08	2.31	121.785°W	37.406°N	87.31	1.92
San Andreas (Peninsula) [2]		23.71	7.93	2.49	122.101°W	37.266°N	230.16	1.73
UC33brAvg_FM32	System							43.54
Hayward (So) [1]		5.53	6.96	1.79	121.856°W	37.441°N	39.22	24.08
Calaveras (No) [6]		9.14	7.23	1.90	121.820°W	37.455°N	48.40	5.64
Calaveras (Central) [9]		9.17	6.71	2.13	121.806°W	37.443°N	59.95	3.98
Hayward (So) [2]		9.97	6.77	2.14	121.906°W	37.487°N	354.47	2.42
San Andreas (Peninsula) [2]		23.71	7.92	2.49	122.101°W	37.266°N	230.16	1.77
Hayward (So) extension [6]		9.97	6.08	2.31	121.785°W	37.406°N	87.31	1.36
UC33brAvg_FM31 (opt)	Grid							5.75
PointSourceFinite: -121.896, 37.407		5.02	5.53	2.02	121.895°W	37.407°N	0.00	1.66
PointSourceFinite: -121.896, 37.407		5.02	5.53	2.02	121.895°W	37.407°N	0.00	1.66
UC33brAvg_FM32 (opt)	Grid							5.75
PointSourceFinite: -121.896, 37.407		5.02	5.53	2.02	121.895°W	37.407°N	0.00	1.66
PointSourceFinite: -121.896, 37.407		5.02	5.53	2.02	121.895°W	37.407°N	0.00	1.66

Appendix B
Detailed Input and Output
Nonlinear Site Response Analyses

The following pages show the printed output from TESS2 showing the assumed input parameters and summaries of the results for Runs a2 and b2..

Definitions of key column headings are as follows:

In the INPUT data:

SIGV - vertical effective stress
VS - shear wave velocity
GMAX - shear modulus at low strains
TAUMAX - asymptote of stress-strain curve under rapid, cyclic loading
GAMREF – reference strain - ratio of TAUMAX to shear modulus at low strains

In the OUTPUT:

TAUMAX – is now the peak shear stress during the loading
GAMMAX – is the peak cyclic shear strain
DELTA, DETAG and DETAU – are degradation indices generally used for clayey soils. Unity indicates no degradation.
UMAX – maximum excess pore pressure ratio at any time. Unity indicates initial liquefaction.
UFINAL – excess pore pressure ratio at the end of the specified input motion

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**************************************************
**************************************************

 TESS2 - Version 3.00D
 Copyright 2020 Robert Pyke
 Built by rmp on 08/29/2020
 Using Simply Fortran v. 2.4

**************************************************
**************************************************

INPUT/OUTPUT FILE NAME: a2


****************************************
STACK
****************************************
1000 feet
****************************************


REDISTRIBUTION AND DISSIPATION OF PORE PRESSURES
IS NOT INCLUDED!


CALCULATION OF SETTLEMENTS IS NOT TURNED ON!


UNITS ARE KIPS, FEET AND SECONDS


**********
INPUT DATA
**********

MATERIAL PROPERTY PARAMETERS

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  1         0.02      1.00      0.00       0.00       0.00

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  2         0.02      1.00      0.00       0.00       0.00

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  3         0.02      1.00      0.00       0.00       0.00

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  4         0.02      1.00      0.00       0.00       0.00
```

PARAMETERS FOR SIMPLE DEGRADATION

MTYPE	SS	RS	E	SG	RG	ST	RT
2	0.12	0.65	1.50	0.12	0.65	0.12	0.65

PARAMETERS FOR PORE PRESSURE GENERATION CURVES

LAYER NO.	MTYPE	TAUAV/SIGV	NL	E	F	G

****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
****

****
LAYER DATA
****

DEPTH TO WATER TABLE = 10.00
TRAVEL TIMES ARE RELATIVE TO A TIMESTEP OF 0.0025 SECONDS

LAYER NO.	MTYPE	THICK	UNIT WT	OCR	KO	SIGV	VS	GMAX	TAUMAX	GAMREF	TTR
1	1	5.00	0.120			0.30	500.00	931.68	2.329	0.250	0.250
2	2	5.00	0.120			0.90	500.00	931.68	2.329	0.250	0.250
3	2	5.00	0.120			1.34	500.00	931.68	2.329	0.250	0.250
4	2	5.00	0.120			1.63	550.00	1127.33	2.255	0.200	0.275
5	2	5.00	0.125			1.93	750.00	2183.62	3.275	0.150	0.375
6	2	5.00	0.125			2.25	750.00	2183.62	3.275	0.150	0.375
7	2	5.00	0.125			2.56	700.00	1902.17	2.853	0.150	0.350
8	2	5.00	0.125			2.87	700.00	1902.17	2.853	0.150	0.350
9	2	5.00	0.125			3.18	800.00	2484.47	3.727	0.150	0.400
10	2	5.00	0.125			3.50	800.00	2484.47	3.727	0.150	0.400
11	2	5.00	0.125			3.81	800.00	2484.47	3.727	0.150	0.400
12	2	5.00	0.125			4.12	900.00	3144.41	4.717	0.150	0.450
13	2	5.00	0.130			4.45	1000.00	4037.27	4.845	0.120	0.500
14	2	5.00	0.130			4.79	1100.00	4885.09	5.862	0.120	0.550
15	2	5.00	0.125			5.11	900.00	3144.41	4.717	0.150	0.450
16	2	5.00	0.130			5.44	1050.00	4451.09	5.341	0.120	0.525
17	2	5.00	0.130			5.78	1100.00	4885.09	5.862	0.120	0.550
18	2	5.00	0.130			6.11	1000.00	4037.27	4.845	0.120	0.500
19	2	10.00	0.130			6.62	1200.00	5813.66	6.976	0.120	0.300
20	1	20.00	0.125			7.59	1250.00	6065.61	9.098	0.150	0.156
21	1	20.00	0.125			8.84	1100.00	4697.20	9.394	0.200	0.138
22	1	20.00	0.125			10.09	1250.00	6065.61	15.164	0.250	0.156

23	1	20.00	0.125	11.34	1450.00	8161.88	20.405	0.250	0.181
24	1	20.00	0.125	12.59	1500.00	8734.47	21.836	0.250	0.187
25	1	20.00	0.125	13.85	1560.00	9447.20	23.618	0.250	0.195
26	1	20.00	0.125	15.10	1620.00	10187.89	25.470	0.250	0.203
27	1	20.00	0.125	16.35	1670.00	10826.47	27.066	0.250	0.209
28	1	20.00	0.125	17.60	1720.00	11484.47	28.711	0.250	0.215
29	1	20.00	0.125	18.85	1760.00	12024.84	30.062	0.250	0.220
30	1	20.00	0.125	20.11	1820.00	12858.70	32.147	0.250	0.227
31	1	20.00	0.125	21.36	1870.00	13574.92	33.937	0.250	0.234
32	1	20.00	0.125	22.61	1900.00	14013.97	35.035	0.250	0.237
33	1	20.00	0.125	23.86	1950.00	14761.26	36.903	0.250	0.244
34	1	20.00	0.125	25.11	1990.00	15373.06	38.433	0.250	0.249
35	1	20.00	0.125	26.36	2030.00	15997.28	39.993	0.250	0.254
36	1	20.00	0.125	27.62	2060.00	16473.60	41.184	0.250	0.257
37	1	20.00	0.125	28.87	2100.00	17119.56	42.799	0.250	0.262
38	2	20.00	0.125	30.12	2130.00	17612.19	44.030	0.250	0.266
39	2	20.00	0.125	31.37	2160.00	18111.80	45.280	0.250	0.270
40	2	20.00	0.125	32.62	2200.00	18788.82	46.972	0.250	0.275
41	2	20.00	0.125	33.88	2225.00	19218.26	48.046	0.250	0.278
42	2	20.00	0.125	35.13	2260.00	19827.64	49.569	0.250	0.282
43	2	20.00	0.125	36.38	2300.00	20535.71	51.339	0.250	0.287
44	2	20.00	0.125	37.63	2300.00	20535.71	51.339	0.250	0.287
45	2	25.00	0.130	39.10	2380.00	22868.70	68.606	0.300	0.238
46	2	25.00	0.130	40.79	2400.00	23254.66	69.764	0.300	0.240
47	2	25.00	0.130	42.48	2410.00	23448.85	70.347	0.300	0.241
48	2	25.00	0.130	44.17	2420.00	23643.85	70.932	0.300	0.242
49	2	25.00	0.130	45.86	2430.00	23839.66	71.519	0.300	0.243
50	2	25.00	0.130	47.55	2440.00	24036.27	72.109	0.300	0.244
51	2	25.00	0.130	49.24	2450.00	24233.70	72.701	0.300	0.245
52	2	25.00	0.130	50.93	2460.00	24431.93	73.296	0.300	0.246
53	2	25.00	0.130	52.62	2465.00	24531.34	73.594	0.300	0.246
54	2	25.00	0.130	54.31	2470.00	24630.96	73.893	0.300	0.247
55	2	25.00	0.130	56.00	2475.00	24730.78	74.192	0.300	0.247
56	2	25.00	0.130	57.69	2480.00	24830.81	74.492	0.300	0.248
57	2	25.00	0.130	59.38	2485.00	24931.03	74.793	0.300	0.248
58	2	25.00	0.130	61.07	2490.00	25031.46	75.094	0.300	0.249
59	2	25.00	0.130	62.76	2495.00	25132.09	75.396	0.300	0.249
60	2	25.00	0.130	64.45	2500.00	25232.92	75.699	0.300	0.250

SHEAR WAVE VELOCITY IN BASE = 3800.
UNIT WEIGHT OF BASE = 0.130

****

OUTPUT FOR IV02180
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00

****

****

MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER

****

LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.427	2.969	0.716	5.724	0.003	0.128	0.014	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.427	2.964	0.716	5.724	0.003	0.373	0.049	0.951	0.950	0.950	0.000	0.000	0.000	7.50
3	10.00	0.414	2.948	0.713	5.724	0.003	0.618	0.105	0.924	0.923	0.923	0.000	0.000	0.000	12.50
4	15.00	0.412	2.905	0.706	5.719	0.003	0.858	0.154	0.908	0.906	0.906	0.000	0.000	0.000	17.50
5	20.00	0.446	2.840	0.701	5.716	-0.006	1.100	0.084	0.936	0.935	0.935	0.000	0.000	0.000	22.50
6	25.00	0.436	2.808	0.696	5.714	-0.008	1.351	0.116	0.923	0.922	0.922	0.000	0.000	0.000	27.50
7	30.00	0.442	2.771	0.691	5.714	-0.011	1.586	0.249	0.892	0.890	0.890	0.000	0.000	0.000	32.50
8	35.00	0.454	2.715	0.684	5.711	-0.015	1.803	0.342	0.875	0.872	0.872	0.000	0.000	0.000	37.50
9	40.00	0.469	2.631	0.672	5.711	-0.014	1.968	0.229	0.902	0.901	0.901	0.000	0.000	0.000	42.50
10	45.00	0.558	2.575	0.664	5.711	-0.014	2.111	0.279	0.893	0.893	0.893	0.000	0.000	0.000	47.50
11	50.00	0.632	2.515	0.659	5.711	-0.016	2.244	0.330	0.883	0.883	0.883	0.000	0.000	0.000	52.50
12	55.00	0.562	2.440	0.655	5.709	-0.026	2.362	0.212	0.910	0.910	0.910	0.000	0.000	0.000	57.50
13	60.00	0.645	2.390	0.650	5.706	-0.022	2.505	0.169	0.923	0.923	0.923	0.000	0.000	0.000	62.50
14	65.00	0.756	2.351	0.650	5.701	-0.030	2.635	0.130	0.935	0.935	0.935	0.000	0.000	0.000	67.50
15	70.00	0.792	2.317	0.650	5.701	-0.034	2.828	0.298	0.894	0.894	0.894	0.000	0.000	0.000	72.50
16	75.00	0.649	2.248	0.654	5.694	-0.031	3.029	0.177	0.921	0.921	0.921	0.000	0.000	0.000	77.50
17	80.00	0.757	2.202	0.656	5.691	-0.033	3.167	0.145	0.927	0.927	0.927	0.000	0.000	0.000	82.50
18	85.00	0.595	2.160	0.657	5.691	-0.032	3.385	0.265	0.903	0.903	0.903	0.000	0.000	0.000	87.50
19	90.00	0.514	2.102	0.656	5.689	-0.032	3.492	0.128	0.936	0.936	0.936	0.000	0.000	0.000	95.00
20	100.00	0.418	2.031	0.656	5.686	-0.033	3.953	0.112	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.334	1.940	0.646	5.681	-0.023	4.584	0.166	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.344	1.963	0.634	5.676	-0.010	5.179	0.119	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.361	1.997	0.624	5.671	-0.010	5.688	0.082	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.337	2.017	0.618	5.669	-0.010	6.154	0.093	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.355	2.022	0.612	5.664	-0.016	6.601	0.091	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.319	2.015	0.603	5.661	-0.029	7.035	0.089	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.338	1.993	0.594	5.659	-0.038	7.455	0.091	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.336	1.964	0.583	5.656	-0.048	7.861	0.082	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.355	1.927	0.572	5.654	-0.052	8.257	0.087	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.339	1.892	0.560	5.651	-0.063	8.567	0.084	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.343	1.856	0.545	5.649	-0.070	8.881	0.081	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.412	1.824	0.536	5.646	-0.084	9.204	0.092	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.432	1.790	0.524	5.646	-0.099	9.826	0.089	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.432	1.760	0.510	5.644	-0.102	9.771	0.089	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.385	1.724	0.496	5.644	-0.106	10.382	0.087	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.398	1.695	0.484	5.641	-0.112	10.419	0.088	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.432	1.658	0.470	5.639	-0.110	10.817	0.087	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.515	1.631	0.454	5.634	-0.107	11.329	0.091	0.963	0.962	0.962	0.000	0.000	0.000	470.00
39	480.00	0.448	1.614	0.440	5.631	-0.110	11.724	0.091	0.963	0.963	0.963	0.000	0.000	0.000	490.00
40	500.00	0.561	1.606	0.423	5.624	-0.107	12.337	0.092	0.963	0.963	0.963	0.000	0.000	0.000	510.00
41	520.00	0.474	1.601	0.405	5.616	-0.105	12.436	0.092	0.964	0.964	0.964	0.000	0.000	0.000	530.00
42	540.00	0.546	1.585	0.388	5.609	-0.105	12.768	0.089	0.964	0.964	0.964	0.000	0.000	0.000	550.00

43	560.00	0.520	1.570	0.366	5.601	-0.094	13.067	0.088	0.964	0.964	0.964	0.000	0.000	0.000	570.00
44	580.00	0.501	1.554	0.348	5.591	-0.087	13.265	0.084	0.964	0.964	0.964	0.000	0.000	0.000	590.00
45	600.00	0.495	1.534	0.327	5.581	-0.079	13.566	0.078	0.967	0.967	0.967	0.000	0.000	0.000	612.50
46	625.00	0.495	1.524	0.306	5.574	-0.074	13.709	0.080	0.967	0.967	0.967	0.000	0.000	0.000	637.50
47	650.00	0.496	1.504	0.286	5.559	-0.071	13.873	0.077	0.967	0.967	0.967	0.000	0.000	0.000	662.50
48	675.00	0.471	1.486	0.265	5.544	-0.069	13.992	0.078	0.967	0.967	0.967	0.000	0.000	0.000	687.50
49	700.00	0.469	1.482	0.248	5.524	-0.075	13.991	0.073	0.967	0.967	0.967	0.000	0.000	0.000	712.50
50	725.00	0.465	1.444	0.228	5.511	-0.068	13.953	0.079	0.966	0.966	0.966	0.000	0.000	0.000	737.50
51	750.00	0.458	1.413	0.213	5.501	-0.066	14.050	0.076	0.966	0.966	0.966	0.000	0.000	0.000	762.50
52	775.00	0.467	1.391	0.192	5.489	-0.060	14.140	0.078	0.966	0.966	0.966	0.000	0.000	0.000	787.50
53	800.00	0.476	1.372	0.175	5.479	-0.061	14.164	0.076	0.966	0.966	0.966	0.000	0.000	0.000	812.50
54	825.00	0.473	1.363	0.154	5.469	-0.053	14.279	0.075	0.966	0.966	0.966	0.000	0.000	0.000	837.50
55	850.00	0.566	1.355	0.133	5.459	-0.048	14.220	0.070	0.966	0.965	0.965	0.000	0.000	0.000	862.50
56	875.00	0.513	1.353	0.112	5.451	-0.036	14.205	0.080	0.965	0.965	0.965	0.000	0.000	0.000	887.50
57	900.00	0.473	1.359	0.088	5.444	-0.029	14.220	0.075	0.965	0.965	0.965	0.000	0.000	0.000	912.50
58	925.00	0.449	1.361	0.065	5.436	-0.021	14.290	0.078	0.965	0.965	0.965	0.000	0.000	0.000	937.50
59	950.00	0.430	1.362	0.040	5.429	-0.013	14.939	0.066	0.965	0.965	0.965	0.000	0.000	0.000	962.50
60	975.00	0.487	1.364	0.022	5.429	-0.009	14.433	0.074	0.965	0.965	0.965	0.000	0.000	0.000	987.50
BASE	1000.00	0.472	1.374	0.852						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

****
OUTPUT FOR IV02270
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
****

****
MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
****

LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.461	3.283	0.795	25.987	0.114	0.138	0.016	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.472	3.276	0.794	25.987	0.114	0.409	0.060	0.949	0.949	0.949	0.000	0.000	0.000	7.50
3	10.00	0.466	3.255	0.791	25.990	0.114	0.666	0.127	0.921	0.921	0.921	0.000	0.000	0.000	12.50
4	15.00	0.462	3.216	0.783	25.990	0.111	0.921	0.241	0.904	0.904	0.904	0.000	0.000	0.000	17.50
5	20.00	0.478	3.169	0.766	25.992	0.099	1.177	0.132	0.933	0.933	0.933	0.000	0.000	0.000	22.50
6	25.00	0.471	3.146	0.760	25.995	0.097	1.410	0.193	0.919	0.918	0.918	0.000	0.000	0.000	27.50
7	30.00	0.471	3.115	0.747	3.584	0.085	1.633	0.384	0.884	0.884	0.884	0.000	0.000	0.000	32.50
8	35.00	0.461	3.076	0.737	3.584	0.060	1.837	0.650	0.859	0.859	0.859	0.000	0.000	0.000	37.50
9	40.00	0.483	3.034	0.724	3.586	0.025	2.020	0.330	0.895	0.895	0.895	0.000	0.000	0.000	42.50
10	45.00	0.472	3.003	0.717	3.586	0.026	2.225	0.440	0.883	0.883	0.883	0.000	0.000	0.000	47.50
11	50.00	0.542	2.964	0.716	3.586	0.035	2.450	0.584	0.867	0.867	0.867	0.000	0.000	0.000	52.50

12	55.00	0.610	2.936	0.716	3.584	0.049	2.595	0.306	0.903	0.903	0.903	0.000	0.000	0.000	57.50
13	60.00	0.538	2.918	0.715	3.589	0.058	2.761	0.255	0.914	0.914	0.914	0.000	0.000	0.000	62.50
14	65.00	0.562	2.912	0.717	3.589	0.068	2.923	0.171	0.930	0.929	0.929	0.000	0.000	0.000	67.50
15	70.00	0.607	2.904	0.714	3.591	0.069	3.074	0.469	0.881	0.881	0.881	0.000	0.000	0.000	72.50
16	75.00	0.590	2.906	0.709	3.589	0.073	3.137	0.275	0.913	0.913	0.913	0.000	0.000	0.000	77.50
17	80.00	0.601	2.910	0.706	3.591	0.081	3.234	0.223	0.920	0.920	0.920	0.000	0.000	0.000	82.50
18	85.00	0.561	2.891	0.701	3.586	0.082	3.291	0.449	0.889	0.889	0.889	0.000	0.000	0.000	87.50
19	90.00	0.455	2.881	0.692	3.584	0.087	3.385	0.175	0.931	0.931	0.931	0.000	0.000	0.000	95.00
20	100.00	0.324	2.878	0.682	3.586	0.077	3.650	0.118	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.328	2.866	0.668	3.584	0.082	4.103	0.163	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.337	2.833	0.639	3.581	0.055	4.560	0.110	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.360	2.788	0.618	3.579	0.048	5.088	0.081	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.344	2.742	0.604	3.584	0.043	5.505	0.082	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.360	2.691	0.586	3.579	0.034	5.971	0.080	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.415	2.627	0.571	3.579	0.032	6.417	0.079	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.368	2.572	0.555	3.579	0.031	6.889	0.072	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.473	2.516	0.540	3.576	0.036	7.509	0.073	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.411	2.448	0.525	3.581	0.033	7.781	0.083	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.457	2.384	0.508	3.591	0.027	8.355	0.079	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.457	2.310	0.492	3.596	0.025	8.708	0.080	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.535	2.243	0.476	3.599	0.023	9.154	0.090	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.473	2.168	0.460	3.601	0.025	9.695	0.087	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.433	2.099	0.444	3.604	0.021	9.983	0.079	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.531	2.033	0.428	3.604	0.023	10.422	0.083	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.457	1.958	0.414	3.606	0.017	10.948	0.081	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.503	1.900	0.401	3.604	0.023	11.121	0.078	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.563	1.847	0.387	3.609	0.017	11.301	0.077	0.958	0.958	0.958	0.000	0.000	0.000	470.00
39	480.00	0.560	1.816	0.374	3.606	0.012	11.569	0.083	0.958	0.957	0.957	0.000	0.000	0.000	490.00
40	500.00	0.553	1.779	0.361	3.604	0.017	11.745	0.087	0.959	0.959	0.959	0.000	0.000	0.000	510.00
41	520.00	0.590	1.736	0.346	3.601	0.028	11.893	0.081	0.959	0.959	0.959	0.000	0.000	0.000	530.00
42	540.00	0.584	1.719	0.332	3.604	0.030	12.133	0.083	0.959	0.959	0.959	0.000	0.000	0.000	550.00
43	560.00	0.565	1.698	0.316	3.606	0.031	12.546	0.077	0.960	0.960	0.960	0.000	0.000	0.000	570.00
44	580.00	0.664	1.680	0.302	3.606	0.022	12.678	0.081	0.959	0.959	0.959	0.000	0.000	0.000	590.00
45	600.00	0.588	1.649	0.287	3.604	0.017	12.990	0.064	0.963	0.963	0.963	0.000	0.000	0.000	612.50
46	625.00	0.622	1.651	0.274	3.601	0.017	13.505	0.072	0.963	0.963	0.963	0.000	0.000	0.000	637.50
47	650.00	0.593	1.664	0.263	3.604	0.021	13.928	0.069	0.963	0.963	0.963	0.000	0.000	0.000	662.50
48	675.00	0.541	1.668	0.246	3.604	0.016	14.550	0.070	0.962	0.962	0.962	0.000	0.000	0.000	687.50
49	700.00	0.579	1.687	0.231	3.601	0.008	15.369	0.076	0.962	0.962	0.962	0.000	0.000	0.000	712.50
50	725.00	0.535	1.717	0.213	3.601	0.011	15.997	0.072	0.962	0.961	0.961	0.000	0.000	0.000	737.50
51	750.00	0.553	1.746	0.199	3.601	0.018	16.320	0.084	0.961	0.961	0.961	0.000	0.000	0.000	762.50
52	775.00	0.484	1.777	0.181	3.596	0.012	17.222	0.080	0.962	0.961	0.961	0.000	0.000	0.000	787.50
53	800.00	0.539	1.798	0.165	3.596	0.013	17.474	0.080	0.961	0.961	0.961	0.000	0.000	0.000	812.50
54	825.00	0.589	1.803	0.147	3.591	0.006	17.798	0.086	0.961	0.961	0.961	0.000	0.000	0.000	837.50
55	850.00	0.486	1.817	0.128	3.586	0.018	18.092	0.082	0.961	0.961	0.961	0.000	0.000	0.000	862.50
56	875.00	0.597	1.822	0.107	3.581	0.014	18.352	0.080	0.961	0.961	0.961	0.000	0.000	0.000	887.50
57	900.00	0.596	1.832	0.090	3.576	0.017	18.560	0.089	0.961	0.961	0.961	0.000	0.000	0.000	912.50
58	925.00	0.567	1.855	0.069	3.569	0.016	18.622	0.089	0.961	0.960	0.960	0.000	0.000	0.000	937.50
59	950.00	0.541	1.880	0.048	3.564	0.011	18.784	0.091	0.961	0.961	0.961	0.000	0.000	0.000	962.50
60	975.00	0.509	1.907	0.023	3.561	0.003	18.906	0.089	0.961	0.961	0.961	0.000	0.000	0.000	987.50
BASE	1000.00	0.438	1.929	1.298						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 1
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 2
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 3

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 4
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 5
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 6

****
NEXT INPUT MOTION
****

****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
****

****
OUTPUT FOR IVEC4140
WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00
****

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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.458	2.995	1.017	6.081	-0.465	0.138	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.470	2.980	1.016	6.081	-0.465	0.417	0.057	0.968	0.967	0.967	0.000	0.000	0.000	7.50
3	10.00	0.463	2.962	1.014	6.081	-0.465	0.688	0.117	0.951	0.951	0.951	0.000	0.000	0.000	12.50
4	15.00	0.456	2.926	1.010	6.081	-0.466	0.960	0.160	0.942	0.942	0.942	0.000	0.000	0.000	17.50
5	20.00	0.449	2.886	1.001	6.079	-0.464	1.234	0.098	0.959	0.959	0.959	0.000	0.000	0.000	22.50
6	25.00	0.445	2.866	0.997	6.079	-0.464	1.512	0.128	0.951	0.951	0.951	0.000	0.000	0.000	27.50
7	30.00	0.439	2.839	0.991	6.076	-0.463	1.784	0.250	0.934	0.933	0.933	0.000	0.000	0.000	32.50
8	35.00	0.433	2.807	0.979	6.074	-0.460	2.047	0.473	0.919	0.919	0.919	0.000	0.000	0.000	37.50
9	40.00	0.408	2.771	0.956	6.066	-0.446	2.296	0.241	0.939	0.939	0.939	0.000	0.000	0.000	42.50

10	45.00	0.473	2.767	0.946	6.061	-0.446	2.538	0.322	0.933	0.932	0.932	0.000	0.000	0.000	47.50
11	50.00	0.441	2.756	0.931	6.059	-0.440	2.768	0.460	0.925	0.925	0.925	0.000	0.000	0.000	52.50
12	55.00	0.407	2.749	0.910	6.051	-0.422	2.979	0.292	0.938	0.938	0.938	0.000	0.000	0.000	57.50
13	60.00	0.432	2.734	0.896	6.049	-0.426	3.183	0.258	0.945	0.945	0.945	0.000	0.000	0.000	62.50
14	65.00	0.473	2.715	0.883	6.044	-0.426	3.377	0.181	0.954	0.954	0.954	0.000	0.000	0.000	67.50
15	70.00	0.614	2.696	0.875	6.044	-0.427	3.564	0.535	0.919	0.919	0.919	0.000	0.000	0.000	72.50
16	75.00	0.496	2.649	0.847	6.034	-0.411	3.719	0.292	0.943	0.943	0.943	0.000	0.000	0.000	77.50
17	80.00	0.634	2.625	0.830	6.031	-0.396	3.872	0.249	0.948	0.947	0.947	0.000	0.000	0.000	82.50
18	85.00	0.731	2.599	0.815	6.026	-0.386	4.021	0.676	0.923	0.923	0.923	0.000	0.000	0.000	87.50
19	90.00	0.426	2.558	0.781	6.009	-0.346	4.243	0.205	0.955	0.955	0.955	0.000	0.000	0.000	95.00
20	100.00	0.392	2.497	0.757	6.004	-0.337	4.786	0.165	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.339	2.375	0.719	5.994	-0.313	5.381	0.265	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.352	2.184	0.654	5.976	-0.261	5.911	0.162	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.323	2.030	0.616	5.966	-0.240	6.445	0.117	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.326	1.912	0.590	5.966	-0.230	6.920	0.115	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.333	1.808	0.564	5.964	-0.217	7.314	0.110	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.373	1.726	0.539	5.969	-0.202	7.573	0.108	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.387	1.650	0.516	5.979	-0.193	7.978	0.101	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.369	1.592	0.495	5.984	-0.184	7.987	0.096	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.373	1.534	0.475	5.991	-0.171	8.122	0.094	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.387	1.497	0.456	5.994	-0.164	8.302	0.087	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.385	1.461	0.439	5.996	-0.156	8.384	0.088	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.398	1.461	0.425	5.999	-0.149	8.524	0.089	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.420	1.467	0.407	5.996	-0.138	8.671	0.086	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.418	1.469	0.391	5.994	-0.129	9.362	0.076	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.430	1.470	0.376	5.999	-0.115	9.588	0.077	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.474	1.467	0.361	6.001	-0.106	9.708	0.076	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.473	1.467	0.351	7.024	-0.098	10.139	0.075	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.526	1.461	0.343	7.021	-0.084	10.884	0.074	0.971	0.971	0.971	0.000	0.000	0.000	470.00
39	480.00	0.471	1.453	0.331	7.019	-0.074	10.982	0.080	0.971	0.971	0.971	0.000	0.000	0.000	490.00
40	500.00	0.570	1.443	0.321	7.016	-0.066	11.083	0.081	0.971	0.971	0.971	0.000	0.000	0.000	510.00
41	520.00	0.603	1.429	0.306	7.014	-0.058	11.858	0.071	0.972	0.972	0.972	0.000	0.000	0.000	530.00
42	540.00	0.581	1.414	0.295	7.021	-0.054	11.948	0.076	0.971	0.971	0.971	0.000	0.000	0.000	550.00
43	560.00	0.575	1.407	0.283	7.016	-0.048	12.169	0.078	0.972	0.972	0.972	0.000	0.000	0.000	570.00
44	580.00	0.682	1.397	0.273	7.019	-0.036	12.287	0.078	0.972	0.972	0.972	0.000	0.000	0.000	590.00
45	600.00	0.660	1.381	0.260	7.021	-0.031	12.575	0.067	0.974	0.974	0.974	0.000	0.000	0.000	612.50
46	625.00	0.645	1.363	0.249	7.029	-0.025	12.704	0.069	0.974	0.974	0.974	0.000	0.000	0.000	637.50
47	650.00	0.637	1.340	0.232	7.026	-0.024	13.349	0.068	0.973	0.973	0.973	0.000	0.000	0.000	662.50
48	675.00	0.632	1.315	0.220	7.024	-0.019	13.504	0.067	0.973	0.973	0.973	0.000	0.000	0.000	687.50
49	700.00	0.654	1.310	0.207	7.014	-0.019	13.823	0.073	0.973	0.973	0.973	0.000	0.000	0.000	712.50
50	725.00	0.642	1.321	0.194	7.019	-0.009	13.946	0.071	0.973	0.973	0.973	0.000	0.000	0.000	737.50
51	750.00	0.552	1.330	0.177	7.034	-0.005	14.147	0.075	0.973	0.973	0.973	0.000	0.000	0.000	762.50
52	775.00	0.682	1.342	0.158	7.019	-0.007	14.721	0.073	0.973	0.973	0.973	0.000	0.000	0.000	787.50
53	800.00	0.682	1.344	0.143	7.021	-0.002	14.666	0.072	0.973	0.973	0.973	0.000	0.000	0.000	812.50
54	825.00	0.551	1.333	0.125	7.014	0.000	14.683	0.072	0.972	0.972	0.972	0.000	0.000	0.000	837.50
55	850.00	0.656	1.326	0.110	7.016	0.001	15.134	0.077	0.972	0.972	0.972	0.000	0.000	0.000	862.50
56	875.00	0.637	1.320	0.094	7.019	0.003	15.339	0.075	0.972	0.972	0.972	0.000	0.000	0.000	887.50
57	900.00	0.614	1.314	0.074	7.014	-0.001	15.644	0.083	0.971	0.971	0.971	0.000	0.000	0.000	912.50
58	925.00	0.680	1.287	0.059	7.021	0.007	15.702	0.078	0.972	0.972	0.972	0.000	0.000	0.000	937.50
59	950.00	0.618	1.278	0.038	7.019	0.005	15.646	0.074	0.972	0.972	0.972	0.000	0.000	0.000	962.50

60	975.00	0.521	1.266	0.018	7.019	-0.001	15.534	0.079	0.971	0.971	0.971	0.000	0.000	0.000	987.50
BASE	1000.00	0.456	1.253	0.886						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

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OUTPUT FOR IVEC4230
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.458	3.547	1.186	6.124	0.099	0.137	0.016	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.449	3.512	1.186	6.124	0.099	0.397	0.053	0.957	0.957	0.957	0.000	0.000	0.000	7.50
3	10.00	0.469	3.422	1.183	6.124	0.099	0.664	0.119	0.934	0.933	0.933	0.000	0.000	0.000	12.50
4	15.00	0.484	3.318	1.179	6.124	0.098	0.898	0.190	0.918	0.918	0.918	0.000	0.000	0.000	17.50
5	20.00	0.509	3.237	1.168	6.121	0.094	1.149	0.108	0.942	0.942	0.942	0.000	0.000	0.000	22.50
6	25.00	0.526	3.187	1.163	6.124	0.090	1.409	0.157	0.930	0.930	0.930	0.000	0.000	0.000	27.50
7	30.00	0.546	3.132	1.155	6.124	0.087	1.654	0.288	0.902	0.902	0.902	0.000	0.000	0.000	32.50
8	35.00	0.568	3.074	1.140	6.121	0.091	1.894	0.437	0.882	0.882	0.882	0.000	0.000	0.000	37.50
9	40.00	0.557	3.033	1.116	6.119	0.087	2.136	0.278	0.910	0.909	0.909	0.000	0.000	0.000	42.50
10	45.00	0.715	2.997	1.101	6.116	0.090	2.343	0.350	0.900	0.899	0.899	0.000	0.000	0.000	47.50
11	50.00	0.615	2.959	1.082	6.116	0.094	2.525	0.451	0.888	0.887	0.887	0.000	0.000	0.000	52.50
12	55.00	0.661	2.928	1.054	6.114	0.091	2.745	0.292	0.913	0.913	0.913	0.000	0.000	0.000	57.50
13	60.00	0.683	2.904	1.037	6.114	0.090	3.092	0.261	0.922	0.922	0.922	0.000	0.000	0.000	62.50
14	65.00	0.823	2.869	1.022	6.111	0.084	3.184	0.192	0.935	0.935	0.935	0.000	0.000	0.000	67.50
15	70.00	0.798	2.835	1.012	6.111	0.085	3.428	0.527	0.891	0.891	0.891	0.000	0.000	0.000	72.50
16	75.00	0.811	2.796	0.979	6.104	0.081	3.579	0.324	0.921	0.921	0.921	0.000	0.000	0.000	77.50
17	80.00	0.915	2.782	0.957	6.099	0.078	3.911	0.283	0.927	0.927	0.927	0.000	0.000	0.000	82.50
18	85.00	0.736	2.774	0.941	6.096	0.078	3.930	0.733	0.896	0.896	0.896	0.000	0.000	0.000	87.50
19	90.00	0.414	2.769	0.903	6.086	0.051	4.312	0.252	0.937	0.937	0.937	0.000	0.000	0.000	95.00
20	100.00	0.390	2.769	0.877	6.084	0.043	5.035	0.199	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.333	2.759	0.845	6.079	0.030	5.754	0.332	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.379	2.784	0.796	6.071	0.001	6.290	0.183	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.358	2.779	0.766	6.066	-0.009	6.969	0.134	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.336	2.770	0.745	6.056	-0.011	7.633	0.143	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.317	2.751	0.724	6.046	-0.013	8.222	0.140	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.323	2.729	0.704	6.034	-0.015	8.704	0.131	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.407	2.708	0.683	6.019	-0.021	9.111	0.137	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.313	2.676	0.661	6.009	-0.020	9.496	0.133	1.000	1.000	1.000	0.000	0.000	0.000	270.00

29	280.00	0.358	2.633	0.638	5.994	-0.027	10.012	0.106	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.349	2.614	0.622	5.986	-0.021	10.419	0.113	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.408	2.586	0.604	5.979	-0.014	10.949	0.109	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.386	2.565	0.587	5.971	-0.008	11.387	0.111	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.372	2.542	0.568	5.966	-0.004	11.761	0.111	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.400	2.518	0.550	5.959	-0.003	12.257	0.100	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.436	2.496	0.532	5.954	-0.001	13.009	0.102	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.425	2.489	0.514	5.949	0.000	13.049	0.117	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.428	2.467	0.490	5.941	-0.005	13.097	0.110	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.511	2.467	0.469	5.926	-0.015	13.369	0.118	0.969	0.969	0.969	0.000	0.000	0.000	470.00
39	480.00	0.603	2.425	0.445	5.916	-0.023	13.962	0.118	0.969	0.969	0.969	0.000	0.000	0.000	490.00
40	500.00	0.503	2.395	0.421	5.904	-0.034	13.505	0.112	0.969	0.969	0.969	0.000	0.000	0.000	510.00
41	520.00	0.480	2.347	0.398	5.896	-0.041	13.725	0.110	0.970	0.970	0.970	0.000	0.000	0.000	530.00
42	540.00	0.513	2.323	0.373	5.886	-0.050	13.799	0.103	0.970	0.970	0.970	0.000	0.000	0.000	550.00
43	560.00	0.572	2.288	0.349	5.874	-0.059	14.309	0.085	0.970	0.970	0.970	0.000	0.000	0.000	570.00
44	580.00	0.494	2.288	0.335	5.861	-0.055	14.602	0.093	0.970	0.970	0.970	0.000	0.000	0.000	590.00
45	600.00	0.503	2.270	0.316	5.856	-0.056	14.642	0.071	0.973	0.972	0.972	0.000	0.000	0.000	612.50
46	625.00	0.479	2.267	0.299	5.851	-0.054	15.059	0.072	0.972	0.972	0.972	0.000	0.000	0.000	637.50
47	650.00	0.517	2.256	0.279	5.846	-0.054	15.443	0.071	0.972	0.972	0.972	0.000	0.000	0.000	662.50
48	675.00	0.510	2.246	0.262	5.841	-0.052	15.833	0.080	0.972	0.972	0.972	0.000	0.000	0.000	687.50
49	700.00	0.496	2.257	0.243	5.836	-0.045	16.168	0.081	0.972	0.971	0.971	0.000	0.000	0.000	712.50
50	725.00	0.517	2.230	0.222	5.831	-0.047	16.467	0.077	0.972	0.972	0.972	0.000	0.000	0.000	737.50
51	750.00	0.605	2.225	0.206	5.826	-0.042	17.044	0.074	0.971	0.971	0.971	0.000	0.000	0.000	762.50
52	775.00	0.517	2.188	0.186	5.824	-0.042	16.921	0.077	0.971	0.971	0.971	0.000	0.000	0.000	787.50
53	800.00	0.513	2.169	0.167	5.821	-0.037	17.147	0.080	0.971	0.970	0.970	0.000	0.000	0.000	812.50
54	825.00	0.522	2.138	0.146	5.819	-0.030	17.084	0.075	0.971	0.971	0.971	0.000	0.000	0.000	837.50
55	850.00	0.538	2.131	0.127	5.814	-0.032	17.123	0.083	0.971	0.970	0.970	0.000	0.000	0.000	862.50
56	875.00	0.527	2.108	0.105	5.809	-0.027	17.265	0.081	0.971	0.970	0.970	0.000	0.000	0.000	887.50
57	900.00	0.509	2.093	0.084	5.806	-0.023	17.354	0.085	0.970	0.970	0.970	0.000	0.000	0.000	912.50
58	925.00	0.468	2.077	0.061	5.806	-0.017	17.314	0.072	0.970	0.970	0.970	0.000	0.000	0.000	937.50
59	950.00	0.491	2.087	0.042	5.804	-0.014	17.302	0.075	0.970	0.970	0.970	0.000	0.000	0.000	962.50
60	975.00	0.505	2.067	0.020	5.811	-0.013	17.338	0.080	0.970	0.970	0.970	0.000	0.000	0.000	987.50
BASE	1000.00	0.437	2.070	1.313						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 7
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 8
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 9

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 10
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 11
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 12

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NEXT INPUT MOTION

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****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
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OUTPUT FOR JOS000
WITH A PEAK ACCELERATION OF 0.66 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.408	3.570	0.891	11.541	-0.076	0.122	0.014	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.395	3.560	0.890	11.541	-0.076	0.354	0.050	0.949	0.949	0.949	0.000	0.000	0.000	7.50
3	10.00	0.389	3.530	0.887	11.541	-0.073	0.585	0.104	0.923	0.923	0.923	0.000	0.000	0.000	12.50
4	15.00	0.383	3.469	0.881	11.541	-0.062	0.809	0.162	0.907	0.907	0.907	0.000	0.000	0.000	17.50
5	20.00	0.412	3.398	0.877	11.538	-0.054	1.028	0.089	0.936	0.936	0.936	0.000	0.000	0.000	22.50
6	25.00	0.494	3.359	0.879	11.536	-0.053	1.245	0.125	0.924	0.924	0.924	0.000	0.000	0.000	27.50
7	30.00	0.421	3.307	0.878	11.538	-0.047	1.452	0.254	0.893	0.893	0.893	0.000	0.000	0.000	32.50
8	35.00	0.439	3.226	0.877	11.538	-0.050	1.640	0.322	0.877	0.877	0.877	0.000	0.000	0.000	37.50
9	40.00	0.462	3.130	0.877	11.541	-0.051	1.806	0.203	0.905	0.905	0.905	0.000	0.000	0.000	42.50
10	45.00	0.563	3.067	0.876	11.541	-0.055	1.962	0.238	0.895	0.895	0.895	0.000	0.000	0.000	47.50
11	50.00	0.476	2.992	0.878	11.538	-0.066	2.085	0.262	0.886	0.885	0.885	0.000	0.000	0.000	52.50
12	55.00	0.582	2.908	0.882	11.538	-0.085	2.181	0.164	0.911	0.911	0.911	0.000	0.000	0.000	57.50
13	60.00	0.513	2.852	0.882	11.536	-0.103	2.380	0.148	0.922	0.922	0.922	0.000	0.000	0.000	62.50
14	65.00	0.518	2.807	0.878	11.536	-0.113	2.417	0.118	0.934	0.934	0.934	0.000	0.000	0.000	67.50
15	70.00	0.510	2.771	0.872	11.536	-0.116	2.522	0.285	0.894	0.894	0.894	0.000	0.000	0.000	72.50
16	75.00	0.498	2.708	0.860	11.533	-0.130	2.647	0.195	0.920	0.920	0.920	0.000	0.000	0.000	77.50
17	80.00	0.510	2.669	0.852	11.531	-0.139	2.765	0.176	0.926	0.926	0.926	0.000	0.000	0.000	82.50
18	85.00	0.635	2.642	0.842	11.528	-0.142	3.022	0.309	0.901	0.901	0.901	0.000	0.000	0.000	87.50
19	90.00	0.388	2.598	0.826	11.528	-0.149	3.098	0.151	0.935	0.934	0.934	0.000	0.000	0.000	95.00
20	100.00	0.311	2.548	0.807	11.528	-0.149	3.519	0.121	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.297	2.471	0.776	11.528	-0.154	4.094	0.200	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.341	2.384	0.724	11.533	-0.160	4.555	0.126	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.341	2.305	0.693	11.536	-0.161	4.990	0.091	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.324	2.253	0.669	11.536	-0.158	5.362	0.095	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.322	2.210	0.650	11.541	-0.157	5.719	0.090	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.344	2.173	0.631	11.541	-0.152	5.963	0.096	1.000	1.000	1.000	0.000	0.000	0.000	230.00

27	240.00	0.367	2.133	0.609	11.558	-0.149	6.350	0.091	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.336	2.101	0.594	11.556	-0.151	6.736	0.089	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.365	2.101	0.575	11.541	-0.148	7.331	0.089	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.346	2.094	0.559	11.541	-0.150	7.590	0.083	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.393	2.072	0.541	11.533	-0.150	7.980	0.078	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.400	2.044	0.522	11.533	-0.146	8.334	0.079	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.404	2.048	0.509	11.531	-0.147	8.719	0.076	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.435	2.064	0.497	11.536	-0.146	8.964	0.082	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.424	2.067	0.477	11.528	-0.145	9.300	0.089	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.426	2.007	0.455	11.523	-0.136	9.591	0.086	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.455	1.956	0.432	11.518	-0.130	10.254	0.084	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.493	1.927	0.408	11.511	-0.115	10.182	0.096	0.959	0.959	0.959	0.000	0.000	0.000	470.00
39	480.00	0.524	1.900	0.384	11.506	-0.107	10.670	0.094	0.960	0.959	0.959	0.000	0.000	0.000	490.00
40	500.00	0.519	1.869	0.358	11.498	-0.092	10.618	0.092	0.960	0.960	0.960	0.000	0.000	0.000	510.00
41	520.00	0.517	1.848	0.337	11.493	-0.092	10.777	0.071	0.961	0.961	0.961	0.000	0.000	0.000	530.00
42	540.00	0.537	1.810	0.320	11.488	-0.084	10.932	0.089	0.961	0.961	0.961	0.000	0.000	0.000	550.00
43	560.00	0.528	1.762	0.295	11.483	-0.078	11.329	0.082	0.962	0.962	0.962	0.000	0.000	0.000	570.00
44	580.00	0.548	1.765	0.272	11.488	-0.065	11.339	0.090	0.962	0.962	0.962	0.000	0.000	0.000	590.00
45	600.00	0.516	1.723	0.248	11.468	-0.053	11.291	0.058	0.966	0.965	0.965	0.000	0.000	0.000	612.50
46	625.00	0.498	1.719	0.232	11.461	-0.050	11.560	0.071	0.965	0.965	0.965	0.000	0.000	0.000	637.50
47	650.00	0.487	1.637	0.220	10.506	-0.037	11.921	0.067	0.965	0.965	0.965	0.000	0.000	0.000	662.50
48	675.00	0.499	1.592	0.208	10.508	-0.029	12.193	0.070	0.965	0.965	0.965	0.000	0.000	0.000	687.50
49	700.00	0.504	1.560	0.197	10.503	-0.019	12.909	0.063	0.966	0.965	0.965	0.000	0.000	0.000	712.50
50	725.00	0.504	1.514	0.182	10.501	-0.018	12.928	0.071	0.965	0.965	0.965	0.000	0.000	0.000	737.50
51	750.00	0.506	1.500	0.169	10.496	-0.003	13.158	0.064	0.966	0.965	0.965	0.000	0.000	0.000	762.50
52	775.00	0.507	1.504	0.154	10.491	-0.000	13.507	0.067	0.966	0.966	0.966	0.000	0.000	0.000	787.50
53	800.00	0.511	1.467	0.138	10.483	0.007	13.791	0.068	0.965	0.965	0.965	0.000	0.000	0.000	812.50
54	825.00	0.514	1.473	0.119	10.478	0.001	14.034	0.070	0.965	0.965	0.965	0.000	0.000	0.000	837.50
55	850.00	0.497	1.451	0.101	10.473	0.006	14.338	0.072	0.965	0.965	0.965	0.000	0.000	0.000	862.50
56	875.00	0.485	1.455	0.084	10.468	0.011	14.918	0.068	0.965	0.965	0.965	0.000	0.000	0.000	887.50
57	900.00	0.531	1.412	0.063	10.468	0.003	14.550	0.066	0.965	0.965	0.965	0.000	0.000	0.000	912.50
58	925.00	0.530	1.413	0.047	10.463	0.005	14.641	0.062	0.965	0.965	0.965	0.000	0.000	0.000	937.50
59	950.00	0.499	1.400	0.034	10.463	0.004	14.985	0.063	0.965	0.965	0.965	0.000	0.000	0.000	962.50
60	975.00	0.411	1.415	0.018	10.468	-0.001	15.007	0.066	0.964	0.964	0.964	0.000	0.000	0.000	987.50
BASE	1000.00	0.418	1.416	1.102						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

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OUTPUT FOR JOS090
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.437	3.281	1.075	10.498	-0.467	0.131	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.463	3.275	1.074	10.498	-0.467	0.407	0.058	0.948	0.948	0.948	0.000	0.000	0.000	7.50
3	10.00	0.461	3.243	1.071	10.498	-0.468	0.654	0.126	0.919	0.918	0.918	0.000	0.000	0.000	12.50
4	15.00	0.478	3.184	1.062	10.498	-0.464	0.902	0.193	0.901	0.901	0.901	0.000	0.000	0.000	17.50
5	20.00	0.476	3.113	1.055	10.496	-0.470	1.161	0.111	0.931	0.931	0.931	0.000	0.000	0.000	22.50
6	25.00	0.439	3.074	1.051	10.493	-0.477	1.425	0.154	0.917	0.917	0.917	0.000	0.000	0.000	27.50
7	30.00	0.424	3.028	1.045	10.493	-0.484	1.684	0.324	0.882	0.882	0.882	0.000	0.000	0.000	32.50
8	35.00	0.450	2.958	1.026	27.568	-0.482	1.933	0.489	0.857	0.856	0.856	0.000	0.000	0.000	37.50
9	40.00	0.454	2.882	1.005	27.565	-0.465	2.166	0.302	0.893	0.893	0.893	0.000	0.000	0.000	42.50
10	45.00	0.487	2.827	0.991	27.565	-0.458	2.395	0.384	0.881	0.881	0.881	0.000	0.000	0.000	47.50
11	50.00	0.450	2.781	0.964	27.560	-0.435	2.616	0.516	0.868	0.867	0.867	0.000	0.000	0.000	52.50
12	55.00	0.410	2.731	0.927	10.463	-0.393	2.838	0.304	0.902	0.902	0.902	0.000	0.000	0.000	57.50
13	60.00	0.546	2.699	0.909	10.461	-0.374	3.058	0.269	0.914	0.914	0.914	0.000	0.000	0.000	62.50
14	65.00	0.493	2.690	0.894	10.456	-0.350	3.266	0.193	0.929	0.929	0.929	0.000	0.000	0.000	67.50
15	70.00	0.710	2.695	0.882	10.453	-0.335	3.470	0.569	0.878	0.878	0.878	0.000	0.000	0.000	72.50
16	75.00	0.678	2.698	0.851	10.438	-0.271	3.631	0.305	0.913	0.913	0.913	0.000	0.000	0.000	77.50
17	80.00	0.579	2.683	0.834	10.431	-0.242	3.801	0.269	0.920	0.920	0.920	0.000	0.000	0.000	82.50
18	85.00	0.605	2.690	0.818	10.424	-0.224	3.970	0.716	0.882	0.882	0.882	0.000	0.000	0.000	87.50
19	90.00	0.487	2.680	0.786	10.394	-0.150	4.212	0.205	0.930	0.930	0.930	0.000	0.000	0.000	95.00
20	100.00	0.393	2.686	0.762	10.381	-0.135	4.817	0.168	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.346	2.688	0.725	10.366	-0.103	5.439	0.260	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.359	2.691	0.673	10.336	-0.045	5.895	0.155	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.359	2.690	0.642	10.314	-0.036	6.209	0.111	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.339	2.680	0.621	10.296	-0.031	6.796	0.112	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.326	2.650	0.602	10.281	-0.033	7.000	0.112	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.334	2.614	0.581	10.271	-0.040	7.448	0.104	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.339	2.568	0.562	10.261	-0.045	7.604	0.104	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.373	2.523	0.543	10.254	-0.048	7.843	0.098	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.386	2.468	0.522	10.246	-0.052	8.117	0.100	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.409	2.409	0.503	10.241	-0.056	8.442	0.096	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.418	2.354	0.484	10.236	-0.062	8.668	0.095	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.450	2.305	0.466	10.234	-0.064	8.918	0.090	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.466	2.258	0.448	10.231	-0.068	9.141	0.088	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.467	2.221	0.430	10.234	-0.075	9.371	0.087	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.496	2.193	0.411	10.244	-0.075	9.505	0.084	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.490	2.158	0.391	10.239	-0.074	9.836	0.084	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.532	2.135	0.372	10.239	-0.080	9.828	0.079	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.598	2.103	0.356	10.234	-0.083	10.113	0.081	0.959	0.959	0.959	0.000	0.000	0.000	470.00
39	480.00	0.593	2.071	0.337	10.231	-0.080	9.921	0.083	0.959	0.959	0.959	0.000	0.000	0.000	490.00
40	500.00	0.608	2.031	0.314	10.229	-0.074	10.078	0.071	0.960	0.960	0.960	0.000	0.000	0.000	510.00
41	520.00	0.576	2.012	0.303	10.236	-0.076	10.142	0.079	0.961	0.961	0.961	0.000	0.000	0.000	530.00
42	540.00	0.579	1.968	0.285	10.234	-0.076	10.075	0.072	0.961	0.961	0.961	0.000	0.000	0.000	550.00
43	560.00	0.603	1.923	0.269	10.239	-0.078	10.211	0.070	0.961	0.961	0.961	0.000	0.000	0.000	570.00
44	580.00	0.575	1.875	0.256	10.239	-0.072	9.989	0.071	0.962	0.962	0.962	0.000	0.000	0.000	590.00
45	600.00	0.566	1.811	0.238	10.236	-0.065	10.357	0.056	0.965	0.965	0.965	0.000	0.000	0.000	612.50

46	625.00	0.548	1.760	0.222	10.234	-0.063	10.269	0.057	0.965	0.965	0.965	0.000	0.000		0.000	637.50
47	650.00	0.555	1.749	0.204	10.234	-0.056	10.591	0.058	0.964	0.964	0.964	0.000	0.000		0.000	662.50
48	675.00	0.561	1.750	0.189	10.241	-0.054	11.164	0.056	0.965	0.965	0.965	0.000	0.000		0.000	687.50
49	700.00	0.554	1.748	0.172	10.234	-0.048	11.191	0.060	0.964	0.964	0.964	0.000	0.000		0.000	712.50
50	725.00	0.554	1.743	0.158	19.551	-0.048	11.452	0.058	0.964	0.964	0.964	0.000	0.000		0.000	737.50
51	750.00	0.552	1.741	0.145	19.543	-0.048	11.992	0.056	0.964	0.964	0.964	0.000	0.000		0.000	762.50
52	775.00	0.579	1.735	0.135	19.536	-0.047	12.165	0.052	0.964	0.964	0.964	0.000	0.000		0.000	787.50
53	800.00	0.541	1.732	0.123	19.528	-0.046	12.398	0.061	0.964	0.964	0.964	0.000	0.000		0.000	812.50
54	825.00	0.544	1.727	0.108	19.521	-0.042	13.160	0.064	0.964	0.964	0.964	0.000	0.000		0.000	837.50
55	850.00	0.598	1.719	0.087	19.513	-0.029	13.290	0.066	0.964	0.963	0.963	0.000	0.000		0.000	862.50
56	875.00	0.778	1.708	0.073	19.508	-0.032	13.033	0.063	0.964	0.964	0.964	0.000	0.000		0.000	887.50
57	900.00	0.725	1.689	0.055	10.453	-0.024	13.409	0.063	0.964	0.964	0.964	0.000	0.000		0.000	912.50
58	925.00	0.569	1.677	0.042	9.619	-0.019	13.654	0.064	0.963	0.963	0.963	0.000	0.000		0.000	937.50
59	950.00	0.587	1.648	0.032	9.631	-0.005	13.841	0.071	0.963	0.963	0.963	0.000	0.000		0.000	962.50
60	975.00	0.726	1.620	0.016	31.338	-0.004	14.061	0.067	0.963	0.963	0.963	0.000	0.000		0.000	987.50
BASE	1000.00	0.441	1.620	0.955						GROUND SURFACE SETTLEMENT					0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 13
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 14
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 15

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 16
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 17
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 18

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NEXT INPUT MOTION
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****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
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OUTPUT FOR NIS000
WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.451	3.028	0.700	16.458	0.036	0.135	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.449	2.995	0.699	16.458	0.036	0.393	0.053	0.957	0.957	0.957	0.000	0.000	0.000	7.50
3	10.00	0.459	2.934	0.698	16.460	0.036	0.649	0.116	0.934	0.934	0.934	0.000	0.000	0.000	12.50
4	15.00	0.462	2.835	0.695	16.460	0.035	0.893	0.195	0.920	0.919	0.919	0.000	0.000	0.000	17.50
5	20.00	0.516	2.746	0.691	16.463	0.036	1.145	0.110	0.944	0.944	0.944	0.000	0.000	0.000	22.50
6	25.00	0.583	2.703	0.689	16.460	0.035	1.442	0.161	0.932	0.932	0.932	0.000	0.000	0.000	27.50
7	30.00	0.465	2.648	0.690	16.463	0.032	1.607	0.311	0.905	0.905	0.905	0.000	0.000	0.000	32.50
8	35.00	0.565	2.515	0.695	16.468	0.022	1.824	0.453	0.888	0.887	0.887	0.000	0.000	0.000	37.50
9	40.00	0.504	2.371	0.700	16.470	0.013	2.109	0.269	0.914	0.913	0.913	0.000	0.000	0.000	42.50
10	45.00	0.540	2.299	0.698	16.478	0.008	2.259	0.321	0.904	0.903	0.903	0.000	0.000	0.000	47.50
11	50.00	0.589	2.207	0.695	16.480	0.006	2.477	0.395	0.897	0.896	0.896	0.000	0.000	0.000	52.50
12	55.00	0.603	2.131	0.682	16.483	0.013	2.571	0.241	0.920	0.919	0.919	0.000	0.000	0.000	57.50
13	60.00	0.560	2.109	0.677	16.483	0.014	2.721	0.200	0.930	0.930	0.930	0.000	0.000	0.000	62.50
14	65.00	0.641	2.077	0.670	16.480	0.018	3.023	0.141	0.941	0.941	0.941	0.000	0.000	0.000	67.50
15	70.00	0.604	2.052	0.667	16.483	0.019	3.112	0.350	0.906	0.905	0.905	0.000	0.000	0.000	72.50
16	75.00	0.671	2.006	0.648	16.485	0.034	3.190	0.237	0.927	0.926	0.926	0.000	0.000	0.000	77.50
17	80.00	0.574	1.988	0.645	16.488	0.034	3.429	0.195	0.931	0.931	0.931	0.000	0.000	0.000	82.50
18	85.00	0.466	1.958	0.636	16.485	0.040	3.475	0.349	0.908	0.908	0.908	0.000	0.000	0.000	87.50
19	90.00	0.396	1.920	0.616	16.490	0.054	3.465	0.155	0.939	0.939	0.939	0.000	0.000	0.000	95.00
20	100.00	0.361	1.925	0.605	16.483	0.059	3.740	0.109	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.382	1.866	0.583	16.480	0.051	4.260	0.190	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.343	1.759	0.563	16.463	0.026	4.772	0.115	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.361	1.692	0.541	16.458	0.019	5.150	0.085	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.328	1.640	0.528	16.455	0.010	5.451	0.083	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.360	1.611	0.511	16.453	0.008	5.658	0.078	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.352	1.582	0.494	16.448	0.004	5.868	0.073	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.355	1.551	0.476	16.445	0.001	6.312	0.069	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.368	1.522	0.452	16.445	0.009	6.818	0.071	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.392	1.516	0.439	16.448	0.004	7.117	0.076	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.394	1.523	0.417	16.455	0.010	7.495	0.075	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.414	1.528	0.405	16.505	0.008	7.713	0.072	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.414	1.530	0.396	16.458	-0.000	8.026	0.074	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.428	1.527	0.379	16.513	0.002	8.437	0.073	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.427	1.500	0.367	16.518	0.002	8.967	0.071	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.424	1.506	0.348	16.515	0.004	9.488	0.072	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.439	1.495	0.334	16.520	0.006	9.381	0.067	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.443	1.493	0.318	16.525	0.006	9.772	0.071	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.464	1.496	0.303	16.530	0.007	9.660	0.074	0.959	0.959	0.959	0.000	0.000	0.000	470.00
39	480.00	0.475	1.504	0.283	16.528	0.006	9.729	0.074	0.960	0.960	0.960	0.000	0.000	0.000	490.00
40	500.00	0.467	1.506	0.268	16.525	0.007	9.939	0.073	0.960	0.960	0.960	0.000	0.000	0.000	510.00
41	520.00	0.478	1.512	0.254	16.528	0.008	10.111	0.068	0.961	0.961	0.961	0.000	0.000	0.000	530.00
42	540.00	0.496	1.511	0.243	16.533	0.004	10.272	0.070	0.961	0.961	0.961	0.000	0.000	0.000	550.00
43	560.00	0.529	1.520	0.231	10.633	0.007	10.805	0.068	0.963	0.962	0.962	0.000	0.000	0.000	570.00

44	580.00	0.526	1.528	0.222	10.628	0.004	10.932	0.066	0.962	0.962	0.962	0.000	0.000	0.000	590.00
45	600.00	0.498	1.531	0.217	10.626	0.008	10.925	0.061	0.965	0.965	0.965	0.000	0.000	0.000	612.50
46	625.00	0.474	1.527	0.208	10.621	0.008	11.319	0.061	0.965	0.965	0.965	0.000	0.000	0.000	637.50
47	650.00	0.458	1.517	0.196	10.616	0.011	11.668	0.059	0.965	0.965	0.965	0.000	0.000	0.000	662.50
48	675.00	0.557	1.503	0.184	10.611	0.010	12.394	0.064	0.965	0.964	0.964	0.000	0.000	0.000	687.50
49	700.00	0.550	1.478	0.170	10.606	0.012	12.421	0.065	0.965	0.965	0.965	0.000	0.000	0.000	712.50
50	725.00	0.438	1.450	0.158	10.601	0.010	12.574	0.065	0.964	0.964	0.964	0.000	0.000	0.000	737.50
51	750.00	0.432	1.418	0.145	10.596	0.006	12.830	0.063	0.964	0.964	0.964	0.000	0.000	0.000	762.50
52	775.00	0.398	1.391	0.132	10.588	0.001	12.971	0.063	0.965	0.965	0.965	0.000	0.000	0.000	787.50
53	800.00	0.388	1.360	0.121	10.583	0.001	13.201	0.065	0.964	0.964	0.964	0.000	0.000	0.000	812.50
54	825.00	0.429	1.334	0.110	10.581	0.005	13.364	0.071	0.964	0.964	0.964	0.000	0.000	0.000	837.50
55	850.00	0.493	1.313	0.099	10.576	0.010	13.593	0.069	0.964	0.964	0.964	0.000	0.000	0.000	862.50
56	875.00	0.533	1.299	0.082	10.568	0.005	14.141	0.074	0.963	0.963	0.963	0.000	0.000	0.000	887.50
57	900.00	0.490	1.294	0.066	10.558	0.001	13.897	0.073	0.963	0.963	0.963	0.000	0.000	0.000	912.50
58	925.00	0.473	1.294	0.049	10.553	0.003	14.382	0.069	0.964	0.964	0.964	0.000	0.000	0.000	937.50
59	950.00	0.427	1.293	0.034	10.561	0.000	14.274	0.075	0.964	0.963	0.963	0.000	0.000	0.000	962.50
60	975.00	0.436	1.293	0.017	10.553	-0.002	14.401	0.076	0.964	0.963	0.963	0.000	0.000	0.000	987.50
BASE	1000.00	0.432	1.297	0.941						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

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OUTPUT FOR NIS090
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.444	3.457	0.597	7.829	-0.174	0.133	0.016	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.433	3.426	0.597	7.829	-0.175	0.391	0.053	0.958	0.958	0.958	0.000	0.000	0.000	7.50
3	10.00	0.441	3.367	0.594	7.826	-0.176	0.649	0.111	0.937	0.937	0.937	0.000	0.000	0.000	12.50
4	15.00	0.431	3.261	0.589	7.826	-0.175	0.903	0.157	0.924	0.924	0.924	0.000	0.000	0.000	17.50
5	20.00	0.433	3.159	0.582	7.826	-0.178	1.160	0.092	0.946	0.946	0.946	0.000	0.000	0.000	22.50
6	25.00	0.458	3.099	0.579	7.826	-0.179	1.422	0.126	0.936	0.936	0.936	0.000	0.000	0.000	27.50
7	30.00	0.456	3.029	0.572	7.826	-0.181	1.679	0.241	0.911	0.911	0.911	0.000	0.000	0.000	32.50
8	35.00	0.388	2.913	0.557	7.824	-0.196	1.911	0.320	0.895	0.895	0.895	0.000	0.000	0.000	37.50
9	40.00	0.477	2.804	0.534	7.819	-0.211	2.106	0.203	0.918	0.918	0.918	0.000	0.000	0.000	42.50
10	45.00	0.488	2.720	0.536	12.296	-0.214	2.278	0.248	0.911	0.910	0.910	0.000	0.000	0.000	47.50
11	50.00	0.572	2.634	0.537	12.288	-0.217	2.407	0.307	0.903	0.903	0.903	0.000	0.000	0.000	52.50
12	55.00	0.483	2.571	0.537	12.281	-0.224	2.499	0.202	0.923	0.923	0.923	0.000	0.000	0.000	57.50

13	60.00	0.539	2.542	0.538	12.276	-0.231	2.608	0.167	0.933	0.933	0.933	0.000	0.000	0.000	62.50
14	65.00	0.528	2.542	0.536	12.271	-0.230	2.790	0.127	0.943	0.943	0.943	0.000	0.000	0.000	67.50
15	70.00	0.510	2.540	0.533	12.266	-0.230	2.963	0.310	0.908	0.908	0.908	0.000	0.000	0.000	72.50
16	75.00	0.651	2.551	0.525	12.258	-0.231	3.125	0.202	0.930	0.930	0.930	0.000	0.000	0.000	77.50
17	80.00	0.519	2.547	0.523	8.084	-0.229	3.281	0.177	0.935	0.935	0.935	0.000	0.000	0.000	82.50
18	85.00	0.562	2.537	0.523	8.079	-0.231	3.428	0.319	0.909	0.909	0.909	0.000	0.000	0.000	87.50
19	90.00	0.455	2.526	0.521	8.076	-0.232	3.581	0.157	0.940	0.940	0.940	0.000	0.000	0.000	95.00
20	100.00	0.360	2.513	0.526	8.071	-0.226	3.954	0.123	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.323	2.448	0.517	8.066	-0.227	4.359	0.194	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.330	2.325	0.497	8.061	-0.235	4.515	0.122	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.353	2.250	0.490	16.000	-0.242	4.774	0.085	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.329	2.197	0.486	15.993	-0.244	5.035	0.085	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.320	2.154	0.486	15.988	-0.252	5.330	0.082	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.352	2.112	0.483	15.985	-0.255	5.614	0.080	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.377	2.105	0.472	15.980	-0.253	5.917	0.079	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.331	2.115	0.462	12.091	-0.250	6.187	0.073	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.328	2.126	0.451	12.086	-0.240	6.398	0.073	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.344	2.136	0.444	12.081	-0.234	6.577	0.068	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.357	2.129	0.431	12.078	-0.220	6.668	0.065	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.356	2.118	0.417	12.076	-0.211	6.767	0.062	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.385	2.091	0.406	12.073	-0.202	7.157	0.061	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.350	2.058	0.394	12.068	-0.192	7.559	0.062	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.381	2.018	0.386	12.063	-0.185	7.845	0.062	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.377	1.980	0.377	12.061	-0.176	8.120	0.062	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.401	1.940	0.364	12.058	-0.164	8.358	0.059	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.480	1.908	0.353	12.053	-0.155	8.571	0.063	0.964	0.964	0.964	0.000	0.000	0.000	470.00
39	480.00	0.486	1.873	0.347	12.051	-0.150	8.781	0.062	0.964	0.964	0.964	0.000	0.000	0.000	490.00
40	500.00	0.453	1.850	0.334	12.048	-0.146	8.930	0.064	0.965	0.965	0.965	0.000	0.000	0.000	510.00
41	520.00	0.454	1.808	0.319	12.043	-0.140	9.036	0.068	0.965	0.965	0.965	0.000	0.000	0.000	530.00
42	540.00	0.529	1.773	0.307	12.043	-0.133	9.280	0.058	0.966	0.965	0.965	0.000	0.000	0.000	550.00
43	560.00	0.491	1.775	0.290	12.038	-0.120	9.775	0.062	0.966	0.966	0.966	0.000	0.000	0.000	570.00
44	580.00	0.512	1.731	0.282	12.036	-0.124	9.898	0.064	0.966	0.966	0.966	0.000	0.000	0.000	590.00
45	600.00	0.556	1.729	0.266	12.031	-0.106	10.306	0.055	0.969	0.968	0.968	0.000	0.000	0.000	612.50
46	625.00	0.520	1.688	0.247	12.026	-0.097	10.689	0.054	0.968	0.968	0.968	0.000	0.000	0.000	637.50
47	650.00	0.597	1.646	0.232	12.021	-0.092	11.015	0.053	0.969	0.968	0.968	0.000	0.000	0.000	662.50
48	675.00	0.582	1.642	0.220	12.013	-0.085	11.472	0.060	0.968	0.968	0.968	0.000	0.000	0.000	687.50
49	700.00	0.557	1.623	0.205	12.008	-0.076	11.823	0.057	0.968	0.968	0.968	0.000	0.000	0.000	712.50
50	725.00	0.544	1.593	0.190	12.003	-0.070	12.206	0.060	0.968	0.968	0.968	0.000	0.000	0.000	737.50
51	750.00	0.529	1.555	0.175	11.996	-0.066	12.562	0.064	0.968	0.968	0.968	0.000	0.000	0.000	762.50
52	775.00	0.480	1.559	0.162	11.991	-0.061	12.962	0.063	0.967	0.967	0.967	0.000	0.000	0.000	787.50
53	800.00	0.536	1.541	0.145	11.986	-0.049	13.453	0.065	0.967	0.967	0.967	0.000	0.000	0.000	812.50
54	825.00	0.519	1.529	0.130	11.978	-0.047	13.840	0.065	0.967	0.967	0.967	0.000	0.000	0.000	837.50
55	850.00	0.519	1.517	0.110	11.973	-0.036	14.070	0.070	0.967	0.966	0.966	0.000	0.000	0.000	862.50
56	875.00	0.513	1.512	0.092	11.963	-0.037	14.451	0.065	0.967	0.967	0.967	0.000	0.000	0.000	887.50
57	900.00	0.533	1.503	0.077	11.956	-0.033	14.842	0.068	0.966	0.966	0.966	0.000	0.000	0.000	912.50
58	925.00	0.536	1.513	0.059	8.044	-0.020	15.062	0.072	0.966	0.966	0.966	0.000	0.000	0.000	937.50
59	950.00	0.592	1.520	0.040	8.041	-0.012	15.544	0.074	0.966	0.966	0.966	0.000	0.000	0.000	962.50
60	975.00	0.472	1.524	0.020	8.041	-0.006	15.922	0.076	0.966	0.966	0.966	0.000	0.000	0.000	987.50
BASE	1000.00	0.444	1.526	1.112						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 19
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 20
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 21

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 22
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 23
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 24

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NEXT INPUT MOTION
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THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
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OUTPUT FOR YAR060
WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.459	2.540	0.728	21.384	-0.341	0.138	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.440	2.538	0.727	21.384	-0.341	0.396	0.053	0.959	0.959	0.959	0.000	0.000	0.000	7.50
3	10.00	0.449	2.525	0.725	21.384	-0.340	0.649	0.110	0.938	0.938	0.938	0.000	0.000	0.000	12.50
4	15.00	0.420	2.501	0.722	21.384	-0.340	0.895	0.161	0.926	0.926	0.926	0.000	0.000	0.000	17.50
5	20.00	0.405	2.470	0.724	21.384	-0.344	1.132	0.085	0.947	0.947	0.947	0.000	0.000	0.000	22.50
6	25.00	0.417	2.461	0.725	21.381	-0.346	1.371	0.131	0.937	0.937	0.937	0.000	0.000	0.000	27.50
7	30.00	0.375	2.451	0.725	21.381	-0.349	1.595	0.254	0.914	0.914	0.914	0.000	0.000	0.000	32.50
8	35.00	0.413	2.431	0.731	21.381	-0.359	1.779	0.487	0.894	0.894	0.894	0.000	0.000	0.000	37.50
9	40.00	0.387	2.405	0.718	21.379	-0.351	1.977	0.309	0.917	0.917	0.917	0.000	0.000	0.000	42.50
10	45.00	0.484	2.389	0.716	21.376	-0.352	2.129	0.364	0.909	0.909	0.909	0.000	0.000	0.000	47.50

11	50.00	0.440	2.371	0.711	21.374	-0.351	2.241	0.433	0.900	0.900	0.900	0.000	0.000	0.000	52.50
12	55.00	0.541	2.351	0.708	21.371	-0.353	2.364	0.267	0.923	0.923	0.923	0.000	0.000	0.000	57.50
13	60.00	0.503	2.337	0.708	21.371	-0.353	2.495	0.226	0.932	0.932	0.932	0.000	0.000	0.000	62.50
14	65.00	0.486	2.324	0.702	21.381	-0.348	2.637	0.149	0.943	0.943	0.943	0.000	0.000	0.000	67.50
15	70.00	0.515	2.312	0.698	21.379	-0.347	2.781	0.374	0.909	0.909	0.909	0.000	0.000	0.000	72.50
16	75.00	0.492	2.286	0.680	21.394	-0.332	2.883	0.218	0.931	0.931	0.931	0.000	0.000	0.000	77.50
17	80.00	0.497	2.267	0.667	21.399	-0.322	3.011	0.197	0.936	0.936	0.936	0.000	0.000	0.000	82.50
18	85.00	0.563	2.247	0.658	21.396	-0.313	3.111	0.350	0.912	0.912	0.912	0.000	0.000	0.000	87.50
19	90.00	0.398	2.223	0.635	21.401	-0.292	3.272	0.154	0.942	0.942	0.942	0.000	0.000	0.000	95.00
20	100.00	0.375	2.192	0.627	21.404	-0.290	3.730	0.115	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.364	2.117	0.591	21.411	-0.263	4.310	0.192	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.432	2.036	0.532	21.409	-0.211	4.574	0.114	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.417	2.025	0.503	21.414	-0.189	4.879	0.083	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.451	2.023	0.482	21.414	-0.173	5.404	0.084	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.418	2.014	0.464	21.411	-0.158	5.899	0.085	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.466	1.996	0.446	21.409	-0.146	6.403	0.082	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.488	1.982	0.435	21.411	-0.138	6.876	0.084	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.486	1.958	0.422	21.409	-0.130	7.258	0.082	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.520	1.935	0.403	21.406	-0.116	7.597	0.084	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.504	1.910	0.386	21.394	-0.103	8.067	0.081	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.496	1.891	0.368	21.394	-0.092	7.991	0.074	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.532	1.897	0.352	21.391	-0.081	8.282	0.074	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.519	1.901	0.335	21.406	-0.072	8.572	0.068	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.527	1.899	0.321	21.369	-0.065	8.858	0.070	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.579	1.896	0.305	21.416	-0.058	9.152	0.068	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.527	1.887	0.294	21.444	-0.050	9.381	0.069	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.516	1.879	0.282	21.464	-0.044	9.816	0.067	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.532	1.895	0.270	21.474	-0.040	10.014	0.072	0.962	0.962	0.962	0.000	0.000	0.000	470.00
39	480.00	0.496	1.910	0.260	21.479	-0.037	10.447	0.071	0.961	0.961	0.961	0.000	0.000	0.000	490.00
40	500.00	0.572	1.918	0.249	21.484	-0.032	10.408	0.066	0.963	0.963	0.963	0.000	0.000	0.000	510.00
41	520.00	0.580	1.924	0.239	21.486	-0.030	10.836	0.069	0.964	0.964	0.964	0.000	0.000	0.000	530.00
42	540.00	0.585	1.926	0.222	21.484	-0.021	11.208	0.069	0.964	0.964	0.964	0.000	0.000	0.000	550.00
43	560.00	0.541	1.923	0.211	21.486	-0.013	11.271	0.063	0.965	0.965	0.965	0.000	0.000	0.000	570.00
44	580.00	0.617	1.922	0.198	21.484	-0.007	11.439	0.069	0.965	0.964	0.964	0.000	0.000	0.000	590.00
45	600.00	0.565	1.909	0.188	21.486	-0.003	11.506	0.057	0.968	0.968	0.968	0.000	0.000	0.000	612.50
46	625.00	0.579	1.896	0.180	21.484	-0.003	11.582	0.058	0.969	0.969	0.969	0.000	0.000	0.000	637.50
47	650.00	0.587	1.881	0.168	21.481	0.003	12.096	0.059	0.968	0.968	0.968	0.000	0.000	0.000	662.50
48	675.00	0.579	1.862	0.158	10.616	0.006	11.965	0.058	0.968	0.968	0.968	0.000	0.000	0.000	687.50
49	700.00	0.587	1.840	0.149	10.608	0.006	11.973	0.056	0.969	0.969	0.969	0.000	0.000	0.000	712.50
50	725.00	0.602	1.819	0.137	10.603	0.007	12.043	0.057	0.968	0.968	0.968	0.000	0.000	0.000	737.50
51	750.00	0.627	1.795	0.125	10.598	0.010	12.325	0.056	0.968	0.968	0.968	0.000	0.000	0.000	762.50
52	775.00	0.606	1.772	0.112	10.588	0.013	12.166	0.059	0.968	0.968	0.968	0.000	0.000	0.000	787.50
53	800.00	0.609	1.748	0.101	10.581	0.008	12.290	0.058	0.968	0.968	0.968	0.000	0.000	0.000	812.50
54	825.00	0.620	1.721	0.089	10.573	0.006	12.478	0.057	0.968	0.968	0.968	0.000	0.000	0.000	837.50
55	850.00	0.626	1.704	0.075	10.571	0.007	12.635	0.059	0.967	0.967	0.967	0.000	0.000	0.000	862.50
56	875.00	0.607	1.698	0.063	10.566	0.006	12.776	0.055	0.967	0.967	0.967	0.000	0.000	0.000	887.50
57	900.00	0.597	1.673	0.051	11.833	-0.001	13.049	0.061	0.968	0.968	0.968	0.000	0.000	0.000	912.50
58	925.00	0.568	1.662	0.037	11.828	-0.000	12.990	0.053	0.968	0.968	0.968	0.000	0.000	0.000	937.50
59	950.00	0.521	1.643	0.027	17.583	-0.002	13.094	0.059	0.968	0.968	0.968	0.000	0.000	0.000	962.50
60	975.00	0.563	1.625	0.014	21.431	-0.004	13.175	0.058	0.968	0.968	0.968	0.000	0.000	0.000	987.50

BASE 1000.00 0.452 1.600 1.049 GROUND SURFACE SETTLEMENT 0.000

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

****
OUTPUT FOR YAR330
WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00
****

****
MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
****

LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.463	2.559	0.714	10.638	0.080	0.139	0.016	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.445	2.556	0.713	10.638	0.080	0.400	0.058	0.957	0.957	0.957	0.000	0.000	0.000	7.50
3	10.00	0.437	2.551	0.710	10.638	0.077	0.660	0.128	0.933	0.933	0.933	0.000	0.000	0.000	12.50
4	15.00	0.420	2.525	0.702	10.638	0.073	0.911	0.189	0.918	0.918	0.918	0.000	0.000	0.000	17.50
5	20.00	0.442	2.477	0.691	10.641	0.060	1.151	0.103	0.942	0.942	0.942	0.000	0.000	0.000	22.50
6	25.00	0.472	2.449	0.684	10.643	0.053	1.392	0.153	0.931	0.930	0.930	0.000	0.000	0.000	27.50
7	30.00	0.432	2.413	0.676	10.648	0.042	1.626	0.290	0.902	0.901	0.901	0.000	0.000	0.000	32.50
8	35.00	0.455	2.368	0.657	10.651	0.022	1.839	0.411	0.881	0.880	0.880	0.000	0.000	0.000	37.50
9	40.00	0.476	2.278	0.627	10.656	-0.024	2.016	0.248	0.909	0.908	0.908	0.000	0.000	0.000	42.50
10	45.00	0.522	2.222	0.610	10.658	-0.046	2.183	0.291	0.901	0.901	0.901	0.000	0.000	0.000	47.50
11	50.00	0.497	2.156	0.590	10.663	-0.081	2.302	0.337	0.893	0.892	0.892	0.000	0.000	0.000	52.50
12	55.00	0.545	2.082	0.578	17.848	-0.119	2.499	0.274	0.915	0.914	0.914	0.000	0.000	0.000	57.50
13	60.00	0.532	2.031	0.583	17.845	-0.131	2.536	0.240	0.925	0.925	0.925	0.000	0.000	0.000	62.50
14	65.00	0.517	1.991	0.583	17.840	-0.136	2.706	0.165	0.938	0.938	0.938	0.000	0.000	0.000	67.50
15	70.00	0.582	1.959	0.586	17.838	-0.147	2.890	0.463	0.898	0.897	0.897	0.000	0.000	0.000	72.50
16	75.00	0.574	1.900	0.585	17.828	-0.160	3.085	0.278	0.923	0.923	0.923	0.000	0.000	0.000	77.50
17	80.00	0.535	1.867	0.584	17.820	-0.166	3.272	0.243	0.929	0.929	0.929	0.000	0.000	0.000	82.50
18	85.00	0.568	1.834	0.584	17.815	-0.170	3.436	0.566	0.901	0.900	0.900	0.000	0.000	0.000	87.50
19	90.00	0.458	1.809	0.581	17.803	-0.168	3.745	0.210	0.938	0.938	0.938	0.000	0.000	0.000	95.00
20	100.00	0.354	1.813	0.576	17.793	-0.171	4.115	0.149	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.328	1.820	0.552	17.778	-0.159	4.666	0.236	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.368	1.807	0.509	17.755	-0.135	5.076	0.142	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.368	1.810	0.479	17.743	-0.120	5.437	0.102	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.338	1.804	0.458	17.735	-0.115	5.825	0.104	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.325	1.788	0.433	17.725	-0.107	6.210	0.098	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.338	1.767	0.419	26.655	-0.103	6.633	0.097	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.355	1.743	0.402	26.652	-0.093	7.030	0.100	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.352	1.722	0.391	26.647	-0.088	7.382	0.097	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.361	1.696	0.379	26.645	-0.083	7.663	0.092	1.000	1.000	1.000	0.000	0.000	0.000	290.00

30	300.00	0.413	1.700	0.360	26.637	-0.074	7.845	0.091	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.411	1.710	0.348	26.632	-0.072	8.028	0.074	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.453	1.701	0.338	26.625	-0.072	8.261	0.072	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.463	1.702	0.328	26.620	-0.073	8.235	0.071	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.494	1.700	0.317	26.612	-0.069	8.144	0.066	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.506	1.696	0.308	26.605	-0.069	8.346	0.062	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.532	1.691	0.301	26.597	-0.068	8.202	0.055	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.538	1.687	0.296	26.592	-0.069	8.213	0.056	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.630	1.693	0.292	26.585	-0.071	8.397	0.071	0.960	0.960	0.960	0.000	0.000	0.000	470.00
39	480.00	0.690	1.699	0.276	26.577	-0.070	8.768	0.062	0.961	0.961	0.961	0.000	0.000	0.000	490.00
40	500.00	0.665	1.710	0.259	26.572	-0.058	8.995	0.059	0.962	0.962	0.962	0.000	0.000	0.000	510.00
41	520.00	0.681	1.723	0.253	26.565	-0.062	9.489	0.058	0.962	0.962	0.962	0.000	0.000	0.000	530.00
42	540.00	0.691	1.744	0.236	26.557	-0.056	9.672	0.063	0.962	0.962	0.962	0.000	0.000	0.000	550.00
43	560.00	0.605	1.758	0.226	26.552	-0.052	9.936	0.061	0.963	0.963	0.963	0.000	0.000	0.000	570.00
44	580.00	0.657	1.770	0.215	26.542	-0.050	10.068	0.061	0.963	0.963	0.963	0.000	0.000	0.000	590.00
45	600.00	0.630	1.778	0.201	12.588	-0.040	10.093	0.052	0.966	0.966	0.966	0.000	0.000	0.000	612.50
46	625.00	0.608	1.786	0.188	12.586	-0.031	10.318	0.052	0.966	0.966	0.966	0.000	0.000	0.000	637.50
47	650.00	0.588	1.790	0.178	12.581	-0.027	10.468	0.052	0.966	0.966	0.966	0.000	0.000	0.000	662.50
48	675.00	0.579	1.774	0.166	12.581	-0.021	10.606	0.049	0.965	0.965	0.965	0.000	0.000	0.000	687.50
49	700.00	0.597	1.754	0.155	12.578	-0.020	10.626	0.051	0.965	0.965	0.965	0.000	0.000	0.000	712.50
50	725.00	0.605	1.739	0.146	16.998	-0.023	10.685	0.052	0.965	0.965	0.965	0.000	0.000	0.000	737.50
51	750.00	0.594	1.726	0.137	16.995	-0.015	10.928	0.052	0.964	0.964	0.964	0.000	0.000	0.000	762.50
52	775.00	0.601	1.712	0.125	16.993	-0.015	11.228	0.050	0.964	0.964	0.964	0.000	0.000	0.000	787.50
53	800.00	0.605	1.702	0.115	16.990	-0.011	11.484	0.053	0.965	0.965	0.965	0.000	0.000	0.000	812.50
54	825.00	0.593	1.687	0.100	16.988	-0.005	11.775	0.053	0.964	0.964	0.964	0.000	0.000	0.000	837.50
55	850.00	0.592	1.668	0.088	16.983	0.000	12.005	0.056	0.964	0.964	0.964	0.000	0.000	0.000	862.50
56	875.00	0.586	1.652	0.070	16.980	-0.001	12.511	0.056	0.963	0.963	0.963	0.000	0.000	0.000	887.50
57	900.00	0.581	1.625	0.058	16.975	0.000	12.279	0.056	0.963	0.963	0.963	0.000	0.000	0.000	912.50
58	925.00	0.594	1.597	0.047	16.970	0.010	12.393	0.056	0.963	0.963	0.963	0.000	0.000	0.000	937.50
59	950.00	0.568	1.572	0.033	16.968	0.007	12.432	0.059	0.963	0.963	0.963	0.000	0.000	0.000	962.50
60	975.00	0.552	1.551	0.016	26.482	0.001	12.421	0.057	0.963	0.963	0.963	0.000	0.000	0.000	987.50
BASE	1000.00	0.490	1.539	1.034						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 25
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 26
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 27

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 28
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 29
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 30

****
NORMAL TERMINATION FOR THIS INPUT FILE
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 TESS2 - Version 3.00D
 Copyright 2020 Robert Pyke
 Built by rmp on 08/29/2020
 Using Simply Fortran v. 2.4

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**************************************************

INPUT/OUTPUT FILE NAME: b2


****************************************
STACK
****************************************
1200 feet
****************************************


REDISTRIBUTION AND DISSIPATION OF PORE PRESSURES
IS NOT INCLUDED!


CALCULATION OF SETTLEMENTS IS NOT TURNED ON!


UNITS ARE KIPS, FEET AND SECONDS


**********
INPUT DATA
**********

MATERIAL PROPERTY PARAMETERS

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  1         0.02      1.00      0.00       0.00       0.00

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  2         0.02      1.00      0.00       0.00       0.00

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  3         0.02      1.00      0.00       0.00       0.00

 MTYPE        VT     ALPHA      GMRP       TSTR       FSTR
  4         0.02      1.00      0.00       0.00       0.00
```

PARAMETERS FOR SIMPLE DEGRADATION

MTYPE	SS	RS	E	SG	RG	ST	RT
2	0.12	0.65	1.50	0.12	0.65	0.12	0.65

PARAMETERS FOR PORE PRESSURE GENERATION CURVES

LAYER NO.	MTYPE	TAUAV/SIGV	NL	E	F	G

****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
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****
LAYER DATA
****

DEPTH TO WATER TABLE = 10.00
TRAVEL TIMES ARE RELATIVE TO A TIMESTEP OF 0.0025 SECONDS

LAYER NO.	MTYPE	THICK	UNIT WT	OCR	KO	SIGV	VS	GMAX	TAUMAX	GAMREF	TTR
1	1	5.00	0.120			0.30	500.00	931.68	2.329	0.250	0.250
2	2	5.00	0.120			0.90	500.00	931.68	2.329	0.250	0.250
3	2	5.00	0.120			1.34	500.00	931.68	2.329	0.250	0.250
4	2	5.00	0.120			1.63	550.00	1127.33	2.255	0.200	0.275
5	2	5.00	0.125			1.93	750.00	2183.62	3.275	0.150	0.375
6	2	5.00	0.125			2.25	750.00	2183.62	3.275	0.150	0.375
7	2	5.00	0.125			2.56	700.00	1902.17	2.853	0.150	0.350
8	2	5.00	0.125			2.87	700.00	1902.17	2.853	0.150	0.350
9	2	5.00	0.125			3.18	800.00	2484.47	3.727	0.150	0.400
10	2	5.00	0.125			3.50	800.00	2484.47	3.727	0.150	0.400
11	2	5.00	0.125			3.81	800.00	2484.47	3.727	0.150	0.400
12	2	5.00	0.125			4.12	900.00	3144.41	4.717	0.150	0.450
13	2	5.00	0.130			4.45	1000.00	4037.27	4.845	0.120	0.500
14	2	5.00	0.130			4.79	1100.00	4885.09	5.862	0.120	0.550
15	2	5.00	0.125			5.11	900.00	3144.41	4.717	0.150	0.450
16	2	5.00	0.130			5.44	1050.00	4451.09	5.341	0.120	0.525
17	2	5.00	0.130			5.78	1100.00	4885.09	5.862	0.120	0.550
18	2	5.00	0.130			6.11	1000.00	4037.27	4.845	0.120	0.500
19	2	10.00	0.130			6.62	1200.00	5813.66	6.976	0.120	0.300
20	1	20.00	0.125			7.59	1250.00	6065.61	9.098	0.150	0.156
21	1	20.00	0.125			8.84	1100.00	4697.20	9.394	0.200	0.138
22	1	20.00	0.125			10.09	1250.00	6065.61	15.164	0.250	0.156

23	1	20.00	0.125	11.34	1450.00	8161.88	20.405	0.250	0.181
24	1	20.00	0.125	12.59	1500.00	8734.47	21.836	0.250	0.187
25	1	20.00	0.125	13.85	1560.00	9447.20	23.618	0.250	0.195
26	1	20.00	0.125	15.10	1620.00	10187.89	25.470	0.250	0.203
27	1	20.00	0.125	16.35	1670.00	10826.47	27.066	0.250	0.209
28	1	20.00	0.125	17.60	1720.00	11484.47	28.711	0.250	0.215
29	1	20.00	0.125	18.85	1760.00	12024.84	30.062	0.250	0.220
30	1	20.00	0.125	20.11	1820.00	12858.70	32.147	0.250	0.227
31	1	20.00	0.125	21.36	1870.00	13574.92	33.937	0.250	0.234
32	1	20.00	0.125	22.61	1900.00	14013.97	35.035	0.250	0.237
33	1	20.00	0.125	23.86	1950.00	14761.26	36.903	0.250	0.244
34	1	20.00	0.125	25.11	1990.00	15373.06	38.433	0.250	0.249
35	1	20.00	0.125	26.36	2030.00	15997.28	39.993	0.250	0.254
36	1	20.00	0.125	27.62	2060.00	16473.60	41.184	0.250	0.257
37	1	20.00	0.125	28.87	2100.00	17119.56	42.799	0.250	0.262
38	2	20.00	0.125	30.12	2130.00	17612.19	44.030	0.250	0.266
39	2	20.00	0.125	31.37	2160.00	18111.80	45.280	0.250	0.270
40	2	20.00	0.125	32.62	2200.00	18788.82	46.972	0.250	0.275
41	2	20.00	0.125	33.88	2225.00	19218.26	48.046	0.250	0.278
42	2	20.00	0.125	35.13	2260.00	19827.64	49.569	0.250	0.282
43	2	20.00	0.125	36.38	2300.00	20535.71	51.339	0.250	0.287
44	2	20.00	0.125	37.63	2300.00	20535.71	51.339	0.250	0.287
45	2	25.00	0.130	39.10	2380.00	22868.70	68.606	0.300	0.238
46	2	25.00	0.130	40.79	2400.00	23254.66	69.764	0.300	0.240
47	2	25.00	0.130	42.48	2410.00	23448.85	70.347	0.300	0.241
48	2	25.00	0.130	44.17	2420.00	23643.85	70.932	0.300	0.242
49	2	25.00	0.130	45.86	2430.00	23839.66	71.519	0.300	0.243
50	2	25.00	0.130	47.55	2440.00	24036.27	72.109	0.300	0.244
51	2	25.00	0.130	49.24	2450.00	24233.70	72.701	0.300	0.245
52	2	25.00	0.130	50.93	2460.00	24431.93	73.296	0.300	0.246
53	2	25.00	0.130	52.62	2465.00	24531.34	73.594	0.300	0.246
54	2	25.00	0.130	54.31	2470.00	24630.96	73.893	0.300	0.247
55	2	25.00	0.130	56.00	2475.00	24730.78	74.192	0.300	0.247
56	2	25.00	0.130	57.69	2480.00	24830.81	74.492	0.300	0.248
57	2	25.00	0.130	59.38	2485.00	24931.03	74.793	0.300	0.248
58	2	25.00	0.130	61.07	2490.00	25031.46	75.094	0.300	0.249
59	2	25.00	0.130	62.76	2495.00	25132.09	75.396	0.300	0.249
60	2	25.00	0.130	64.45	2500.00	25232.92	75.699	0.300	0.250
61	2	25.00	0.130	66.14	2465.00	24531.34	73.594	0.300	0.246
62	2	25.00	0.130	67.83	2470.00	24630.96	73.893	0.300	0.247
63	2	25.00	0.130	69.52	2475.00	24730.78	74.192	0.300	0.247
64	2	25.00	0.130	71.21	2480.00	24830.81	74.492	0.300	0.248
65	2	25.00	0.130	72.90	2485.00	24931.03	74.793	0.300	0.248
66	2	25.00	0.130	74.59	2490.00	25031.46	75.094	0.300	0.249
67	2	25.00	0.130	76.28	2495.00	25132.09	75.396	0.300	0.249
68	2	25.00	0.130	77.97	2500.00	25232.92	75.699	0.300	0.250

SHEAR WAVE VELOCITY IN BASE = 3800.
UNIT WEIGHT OF BASE = 0.130

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OUTPUT FOR IV02180
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.395	2.648	0.778	5.819	-0.096	0.119	0.014	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.395	2.644	0.778	5.819	-0.096	0.354	0.049	0.952	0.952	0.952	0.000	0.000	0.000	7.50
3	10.00	0.395	2.633	0.775	5.816	-0.097	0.589	0.101	0.926	0.926	0.926	0.000	0.000	0.000	12.50
4	15.00	0.398	2.610	0.769	5.816	-0.091	0.824	0.148	0.910	0.910	0.910	0.000	0.000	0.000	17.50
5	20.00	0.395	2.575	0.763	5.819	-0.088	1.060	0.085	0.938	0.938	0.938	0.000	0.000	0.000	22.50
6	25.00	0.479	2.552	0.760	5.816	-0.088	1.289	0.123	0.926	0.926	0.926	0.000	0.000	0.000	27.50
7	30.00	0.416	2.521	0.756	5.819	-0.088	1.522	0.233	0.896	0.895	0.895	0.000	0.000	0.000	32.50
8	35.00	0.443	2.469	0.746	5.819	-0.085	1.720	0.293	0.880	0.879	0.879	0.000	0.000	0.000	37.50
9	40.00	0.477	2.403	0.737	5.821	-0.091	1.941	0.209	0.907	0.907	0.907	0.000	0.000	0.000	42.50
10	45.00	0.436	2.355	0.729	5.826	-0.089	2.039	0.250	0.897	0.897	0.897	0.000	0.000	0.000	47.50
11	50.00	0.545	2.302	0.724	5.826	-0.081	2.241	0.294	0.890	0.889	0.889	0.000	0.000	0.000	52.50
12	55.00	0.555	2.241	0.721	5.826	-0.082	2.324	0.195	0.913	0.913	0.913	0.000	0.000	0.000	57.50
13	60.00	0.542	2.198	0.719	5.826	-0.083	2.360	0.152	0.926	0.926	0.926	0.000	0.000	0.000	62.50
14	65.00	0.628	2.162	0.725	5.824	-0.094	2.533	0.113	0.937	0.937	0.937	0.000	0.000	0.000	67.50
15	70.00	0.710	2.146	0.726	5.821	-0.094	2.666	0.263	0.899	0.899	0.899	0.000	0.000	0.000	72.50
16	75.00	0.550	2.124	0.729	5.821	-0.107	2.835	0.158	0.925	0.925	0.925	0.000	0.000	0.000	77.50
17	80.00	0.575	2.097	0.731	5.819	-0.111	3.057	0.133	0.931	0.931	0.931	0.000	0.000	0.000	82.50
18	85.00	0.609	2.079	0.731	5.814	-0.111	3.154	0.228	0.907	0.907	0.907	0.000	0.000	0.000	87.50
19	90.00	0.595	2.043	0.736	5.804	-0.117	3.332	0.130	0.939	0.939	0.939	0.000	0.000	0.000	95.00
20	100.00	0.359	2.000	0.735	5.796	-0.116	3.680	0.109	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.340	1.911	0.721	5.784	-0.108	4.211	0.168	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.359	1.945	0.705	5.759	-0.095	4.846	0.116	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.341	1.977	0.697	5.734	-0.090	5.403	0.079	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.327	1.994	0.688	5.719	-0.087	5.954	0.085	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.328	1.999	0.682	5.714	-0.088	6.432	0.081	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.319	1.991	0.674	5.709	-0.092	6.846	0.082	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.313	1.971	0.666	5.706	-0.096	7.247	0.082	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.377	1.943	0.657	5.701	-0.101	7.801	0.087	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.343	1.909	0.652	5.699	-0.112	7.927	0.081	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.332	1.875	0.644	5.696	-0.121	8.236	0.079	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.366	1.840	0.637	5.696	-0.128	8.561	0.079	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.337	1.807	0.629	5.694	-0.138	8.884	0.086	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.397	1.771	0.620	5.691	-0.145	9.167	0.080	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.349	1.738	0.610	5.691	-0.145	9.561	0.081	1.000	1.000	1.000	0.000	0.000	0.000	390.00

35	400.00	0.361	1.707	0.599	5.689	-0.150	9.762	0.081	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.394	1.675	0.591	5.686	-0.156	9.798	0.083	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.415	1.642	0.577	5.686	-0.161	10.155	0.079	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.484	1.611	0.565	5.686	-0.156	10.483	0.082	0.963	0.963	0.963	0.000	0.000	0.000	470.00
39	480.00	0.493	1.590	0.552	5.684	-0.154	10.852	0.082	0.964	0.964	0.964	0.000	0.000	0.000	490.00
40	500.00	0.482	1.583	0.537	5.684	-0.150	11.346	0.084	0.965	0.965	0.965	0.000	0.000	0.000	510.00
41	520.00	0.452	1.574	0.525	5.681	-0.152	11.590	0.086	0.965	0.965	0.965	0.000	0.000	0.000	530.00
42	540.00	0.465	1.577	0.510	5.679	-0.149	11.986	0.086	0.965	0.965	0.965	0.000	0.000	0.000	550.00
43	560.00	0.456	1.569	0.491	5.674	-0.139	12.312	0.084	0.966	0.966	0.966	0.000	0.000	0.000	570.00
44	580.00	0.483	1.554	0.475	5.669	-0.141	12.586	0.086	0.965	0.965	0.965	0.000	0.000	0.000	590.00
45	600.00	0.467	1.542	0.461	5.664	-0.136	12.928	0.072	0.969	0.968	0.968	0.000	0.000	0.000	612.50
46	625.00	0.460	1.534	0.439	5.659	-0.129	13.487	0.076	0.968	0.968	0.968	0.000	0.000	0.000	637.50
47	650.00	0.444	1.514	0.418	5.651	-0.124	13.935	0.074	0.968	0.968	0.968	0.000	0.000	0.000	662.50
48	675.00	0.468	1.481	0.402	5.644	-0.127	13.428	0.077	0.968	0.968	0.968	0.000	0.000	0.000	687.50
49	700.00	0.459	1.448	0.382	5.634	-0.121	13.464	0.074	0.968	0.968	0.968	0.000	0.000	0.000	712.50
50	725.00	0.471	1.411	0.360	5.624	-0.114	13.423	0.068	0.968	0.968	0.968	0.000	0.000	0.000	737.50
51	750.00	0.463	1.390	0.342	5.611	-0.111	13.464	0.073	0.968	0.968	0.968	0.000	0.000	0.000	762.50
52	775.00	0.461	1.374	0.322	5.599	-0.108	13.379	0.074	0.967	0.967	0.967	0.000	0.000	0.000	787.50
53	800.00	0.456	1.349	0.298	5.589	-0.096	13.325	0.072	0.967	0.967	0.967	0.000	0.000	0.000	812.50
54	825.00	0.455	1.329	0.272	5.576	-0.084	13.246	0.070	0.967	0.967	0.967	0.000	0.000	0.000	837.50
55	850.00	0.457	1.323	0.249	5.561	-0.080	13.211	0.071	0.967	0.967	0.967	0.000	0.000	0.000	862.50
56	875.00	0.464	1.313	0.232	5.544	-0.074	13.497	0.061	0.967	0.967	0.967	0.000	0.000	0.000	887.50
57	900.00	0.475	1.309	0.220	5.531	-0.075	13.488	0.073	0.966	0.966	0.966	0.000	0.000	0.000	912.50
58	925.00	0.460	1.312	0.199	5.519	-0.066	13.518	0.072	0.966	0.966	0.966	0.000	0.000	0.000	937.50
59	950.00	0.479	1.319	0.177	5.506	-0.058	13.770	0.066	0.966	0.966	0.966	0.000	0.000	0.000	962.50
60	975.00	0.481	1.325	0.161	5.494	-0.053	13.904	0.063	0.966	0.966	0.966	0.000	0.000	0.000	987.50
61	1000.00	0.469	1.333	0.143	5.486	-0.045	13.812	0.074	0.964	0.964	0.964	0.000	0.000	0.000	1012.50
62	1025.00	0.484	1.349	0.124	9.254	-0.034	14.350	0.068	0.964	0.964	0.964	0.000	0.000	0.000	1037.50
63	1050.00	0.485	1.362	0.103	9.249	-0.018	14.295	0.071	0.964	0.964	0.964	0.000	0.000	0.000	1062.50
64	1075.00	0.489	1.368	0.086	9.244	-0.016	14.401	0.068	0.964	0.964	0.964	0.000	0.000	0.000	1087.50
65	1100.00	0.469	1.378	0.066	4.494	-0.007	15.005	0.073	0.965	0.965	0.965	0.000	0.000	0.000	1112.50
66	1125.00	0.428	1.382	0.052	4.496	0.003	14.983	0.073	0.964	0.964	0.964	0.000	0.000	0.000	1137.50
67	1150.00	0.530	1.391	0.035	4.494	0.006	15.156	0.063	0.964	0.964	0.964	0.000	0.000	0.000	1162.50
68	1175.00	0.431	1.399	0.019	4.496	0.004	15.375	0.071	0.964	0.964	0.964	0.000	0.000	0.000	1187.50
BASE	1200.00	0.459	1.411	0.827						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

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OUTPUT FOR IV02270
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00

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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER

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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.445	3.320	0.920	3.626	0.061	0.133	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.449	3.314	0.919	3.626	0.061	0.402	0.057	0.950	0.950	0.950	0.000	0.000	0.000	7.50
3	10.00	0.463	3.297	0.916	3.626	0.061	0.663	0.149	0.924	0.924	0.924	0.000	0.000	0.000	12.50
4	15.00	0.461	3.255	0.913	3.626	0.057	0.913	0.230	0.908	0.908	0.908	0.000	0.000	0.000	17.50
5	20.00	0.459	3.200	0.906	3.626	0.048	1.165	0.115	0.935	0.935	0.935	0.000	0.000	0.000	22.50
6	25.00	0.468	3.165	0.904	3.626	0.046	1.393	0.187	0.922	0.922	0.922	0.000	0.000	0.000	27.50
7	30.00	0.457	3.125	0.899	3.624	0.037	1.609	0.366	0.889	0.889	0.889	0.000	0.000	0.000	32.50
8	35.00	0.596	3.077	0.889	3.624	0.017	1.810	0.575	0.864	0.863	0.863	0.000	0.000	0.000	37.50
9	40.00	0.473	3.028	0.876	3.626	0.009	1.993	0.319	0.898	0.898	0.898	0.000	0.000	0.000	42.50
10	45.00	0.453	3.000	0.871	3.624	0.010	2.201	0.408	0.886	0.886	0.886	0.000	0.000	0.000	47.50
11	50.00	0.567	2.965	0.865	3.624	0.023	2.425	0.491	0.875	0.875	0.875	0.000	0.000	0.000	52.50
12	55.00	0.508	2.939	0.856	3.626	0.042	2.578	0.300	0.905	0.905	0.905	0.000	0.000	0.000	57.50
13	60.00	0.702	2.919	0.851	3.621	0.054	2.752	0.250	0.917	0.917	0.917	0.000	0.000	0.000	62.50
14	65.00	0.725	2.920	0.850	3.621	0.063	2.935	0.179	0.931	0.931	0.931	0.000	0.000	0.000	67.50
15	70.00	0.552	2.912	0.848	3.624	0.067	3.100	0.476	0.885	0.885	0.885	0.000	0.000	0.000	72.50
16	75.00	0.582	2.898	0.844	3.624	0.086	3.185	0.278	0.915	0.915	0.915	0.000	0.000	0.000	77.50
17	80.00	0.578	2.889	0.841	3.621	0.086	3.275	0.227	0.922	0.922	0.922	0.000	0.000	0.000	82.50
18	85.00	0.762	2.882	0.836	3.624	0.092	3.362	0.444	0.892	0.892	0.892	0.000	0.000	0.000	87.50
19	90.00	0.509	2.879	0.830	3.624	0.092	3.492	0.163	0.933	0.933	0.933	0.000	0.000	0.000	95.00
20	100.00	0.344	2.865	0.823	3.621	0.097	3.731	0.119	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.315	2.849	0.807	3.621	0.102	4.093	0.178	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.331	2.804	0.787	3.621	0.098	4.412	0.114	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.366	2.758	0.771	3.621	0.094	4.879	0.080	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.327	2.710	0.757	3.621	0.090	5.452	0.083	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.340	2.655	0.742	3.619	0.085	5.963	0.074	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.376	2.598	0.727	3.619	0.074	6.453	0.069	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.352	2.540	0.713	3.619	0.071	6.996	0.071	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.420	2.481	0.698	3.619	0.068	7.360	0.076	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.459	2.422	0.682	3.619	0.060	7.775	0.080	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.519	2.358	0.665	3.616	0.053	8.138	0.076	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.540	2.297	0.647	3.616	0.041	8.415	0.085	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.554	2.228	0.630	3.616	0.040	8.876	0.083	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.560	2.160	0.612	3.619	0.038	9.371	0.079	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.563	2.093	0.593	3.616	0.026	9.779	0.083	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.568	2.026	0.576	3.616	0.020	10.227	0.082	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.553	1.964	0.559	3.621	0.018	10.676	0.080	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.520	1.925	0.545	3.624	0.017	11.342	0.073	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.567	1.894	0.531	3.626	0.012	11.376	0.087	0.959	0.959	0.959	0.000	0.000	0.000	470.00
39	480.00	0.587	1.859	0.517	3.631	0.018	11.729	0.074	0.960	0.960	0.960	0.000	0.000	0.000	490.00
40	500.00	0.565	1.832	0.505	3.636	0.020	11.689	0.078	0.960	0.960	0.960	0.000	0.000	0.000	510.00
41	520.00	0.610	1.794	0.490	3.631	0.020	12.019	0.082	0.961	0.961	0.961	0.000	0.000	0.000	530.00
42	540.00	0.568	1.755	0.477	3.631	0.021	12.067	0.079	0.961	0.961	0.961	0.000	0.000	0.000	550.00
43	560.00	0.799	1.715	0.461	3.631	0.017	12.185	0.076	0.961	0.961	0.961	0.000	0.000	0.000	570.00
44	580.00	0.643	1.679	0.448	3.634	0.021	12.989	0.083	0.961	0.961	0.961	0.000	0.000	0.000	590.00
45	600.00	0.619	1.637	0.432	3.634	0.028	12.979	0.073	0.965	0.965	0.965	0.000	0.000	0.000	612.50

46	625.00	0.600	1.666	0.417	3.631	0.033	13.549	0.071	0.964	0.964	0.964	0.000	0.000	0.000	637.50
47	650.00	0.584	1.695	0.402	3.629	0.034	13.893	0.068	0.965	0.965	0.965	0.000	0.000	0.000	662.50
48	675.00	0.519	1.720	0.385	3.636	0.027	14.720	0.071	0.964	0.964	0.964	0.000	0.000	0.000	687.50
49	700.00	0.526	1.740	0.368	3.629	0.030	14.988	0.073	0.964	0.964	0.964	0.000	0.000	0.000	712.50
50	725.00	0.590	1.763	0.353	3.631	0.026	15.387	0.080	0.963	0.963	0.963	0.000	0.000	0.000	737.50
51	750.00	0.600	1.778	0.339	3.626	0.027	16.277	0.079	0.963	0.963	0.963	0.000	0.000	0.000	762.50
52	775.00	0.597	1.793	0.325	3.631	0.034	16.934	0.082	0.963	0.963	0.963	0.000	0.000	0.000	787.50
53	800.00	0.568	1.814	0.311	3.629	0.039	17.104	0.081	0.963	0.963	0.963	0.000	0.000	0.000	812.50
54	825.00	0.561	1.833	0.294	3.626	0.038	17.454	0.083	0.963	0.963	0.963	0.000	0.000	0.000	837.50
55	850.00	0.561	1.846	0.277	3.626	0.034	18.437	0.084	0.963	0.963	0.963	0.000	0.000	0.000	862.50
56	875.00	0.567	1.841	0.259	3.619	0.035	18.079	0.081	0.963	0.963	0.963	0.000	0.000	0.000	887.50
57	900.00	0.585	1.840	0.243	3.614	0.037	18.142	0.081	0.963	0.963	0.963	0.000	0.000	0.000	912.50
58	925.00	0.568	1.852	0.227	3.611	0.032	18.516	0.081	0.962	0.962	0.962	0.000	0.000	0.000	937.50
59	950.00	0.600	1.862	0.210	3.609	0.036	18.609	0.080	0.962	0.962	0.962	0.000	0.000	0.000	962.50
60	975.00	0.560	1.870	0.192	3.606	0.029	19.176	0.079	0.962	0.962	0.962	0.000	0.000	0.000	987.50
61	1000.00	0.581	1.886	0.175	3.604	0.031	18.567	0.086	0.961	0.961	0.961	0.000	0.000	0.000	1012.50
62	1025.00	0.558	1.897	0.154	3.599	0.025	18.781	0.091	0.961	0.961	0.961	0.000	0.000	0.000	1037.50
63	1050.00	0.520	1.912	0.132	3.594	0.020	19.470	0.089	0.961	0.961	0.961	0.000	0.000	0.000	1062.50
64	1075.00	0.546	1.913	0.109	3.586	0.011	19.068	0.089	0.961	0.961	0.961	0.000	0.000	0.000	1087.50
65	1100.00	0.583	1.916	0.086	3.576	0.002	19.842	0.086	0.961	0.961	0.961	0.000	0.000	0.000	1112.50
66	1125.00	0.538	1.907	0.066	3.569	0.004	19.315	0.092	0.961	0.961	0.961	0.000	0.000	0.000	1137.50
67	1150.00	0.504	1.895	0.045	3.566	0.002	18.947	0.086	0.961	0.961	0.961	0.000	0.000	0.000	1162.50
68	1175.00	0.525	1.883	0.022	3.566	-0.002	19.096	0.092	0.961	0.961	0.961	0.000	0.000	0.000	1187.50
BASE	1200.00	0.455	1.882	1.239						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 1
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 2
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 3

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 4
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 5
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 6

****
NEXT INPUT MOTION
****

****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
****

****
OUTPUT FOR IVEC4140
WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00
****

****
MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.465	2.830	1.020	6.169	-0.333	0.139	0.016	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.472	2.829	1.020	6.169	-0.333	0.420	0.055	0.969	0.969	0.969	0.000	0.000	0.000	7.50
3	10.00	0.498	2.826	1.018	6.166	-0.334	0.696	0.110	0.954	0.954	0.954	0.000	0.000	0.000	12.50
4	15.00	0.459	2.804	1.013	6.166	-0.335	0.971	0.158	0.946	0.945	0.945	0.000	0.000	0.000	17.50
5	20.00	0.450	2.781	1.006	6.164	-0.335	1.244	0.096	0.961	0.961	0.961	0.000	0.000	0.000	22.50
6	25.00	0.446	2.766	1.001	6.164	-0.335	1.521	0.133	0.954	0.954	0.954	0.000	0.000	0.000	27.50
7	30.00	0.440	2.752	0.995	6.161	-0.337	1.793	0.300	0.936	0.936	0.936	0.000	0.000	0.000	32.50
8	35.00	0.420	2.733	0.980	6.156	-0.330	2.051	0.330	0.929	0.928	0.928	0.000	0.000	0.000	37.50
9	40.00	0.398	2.711	0.966	6.146	-0.326	2.293	0.277	0.941	0.941	0.941	0.000	0.000	0.000	42.50
10	45.00	0.387	2.694	0.951	6.139	-0.316	2.526	0.316	0.936	0.936	0.936	0.000	0.000	0.000	47.50
11	50.00	0.417	2.671	0.938	6.131	-0.312	2.744	0.432	0.929	0.929	0.929	0.000	0.000	0.000	52.50
12	55.00	0.390	2.666	0.919	6.114	-0.297	2.943	0.267	0.941	0.940	0.940	0.000	0.000	0.000	57.50
13	60.00	0.341	2.659	0.908	6.106	-0.300	3.139	0.239	0.946	0.946	0.946	0.000	0.000	0.000	62.50
14	65.00	0.514	2.649	0.898	6.094	-0.298	3.334	0.171	0.955	0.955	0.955	0.000	0.000	0.000	67.50
15	70.00	0.571	2.636	0.892	6.086	-0.298	3.520	0.473	0.925	0.924	0.924	0.000	0.000	0.000	72.50
16	75.00	0.663	2.603	0.873	6.074	-0.286	3.668	0.290	0.944	0.944	0.944	0.000	0.000	0.000	77.50
17	80.00	0.559	2.575	0.861	6.069	-0.282	3.820	0.242	0.950	0.949	0.949	0.000	0.000	0.000	82.50
18	85.00	0.657	2.553	0.850	6.064	-0.270	4.066	0.527	0.928	0.928	0.928	0.000	0.000	0.000	87.50
19	90.00	0.482	2.499	0.832	6.054	-0.259	4.222	0.190	0.956	0.956	0.956	0.000	0.000	0.000	95.00
20	100.00	0.352	2.443	0.812	6.049	-0.242	4.642	0.157	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.343	2.305	0.783	6.041	-0.235	5.225	0.240	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.336	2.127	0.731	6.029	-0.191	5.742	0.147	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.325	1.985	0.700	6.019	-0.177	6.221	0.111	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.306	1.874	0.677	6.014	-0.168	6.653	0.105	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.303	1.774	0.655	6.006	-0.155	7.159	0.101	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.320	1.689	0.633	6.001	-0.146	7.340	0.099	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.338	1.612	0.610	5.999	-0.141	7.585	0.095	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.354	1.552	0.588	5.996	-0.133	8.039	0.098	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.437	1.506	0.568	6.006	-0.127	7.916	0.091	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.374	1.510	0.549	6.001	-0.115	7.971	0.079	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.448	1.521	0.535	7.099	-0.101	8.100	0.090	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.382	1.529	0.522	7.096	-0.095	8.202	0.080	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.391	1.531	0.512	7.094	-0.087	8.302	0.078	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.393	1.533	0.505	7.091	-0.078	8.677	0.074	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.401	1.530	0.494	7.089	-0.073	8.986	0.079	1.000	1.000	1.000	0.000	0.000	0.000	410.00

36	420.00	0.448	1.526	0.481	7.086	-0.067	9.334	0.081	1.000	1.000	1.000	0.000	0.000		0.000	430.00
37	440.00	0.427	1.523	0.469	7.084	-0.064	9.564	0.078	1.000	1.000	1.000	0.000	0.000		0.000	450.00
38	460.00	0.431	1.514	0.458	7.084	-0.060	9.887	0.075	0.972	0.972	0.972	0.000	0.000		0.000	470.00
39	480.00	0.484	1.508	0.450	7.081	-0.054	10.293	0.078	0.972	0.972	0.972	0.000	0.000		0.000	490.00
40	500.00	0.513	1.501	0.440	7.079	-0.043	10.768	0.074	0.972	0.972	0.972	0.000	0.000		0.000	510.00
41	520.00	0.464	1.496	0.430	7.081	-0.030	11.228	0.078	0.972	0.972	0.972	0.000	0.000		0.000	530.00
42	540.00	0.458	1.488	0.419	7.081	-0.027	11.358	0.076	0.972	0.972	0.972	0.000	0.000		0.000	550.00
43	560.00	0.519	1.479	0.408	7.076	-0.020	11.705	0.074	0.973	0.973	0.973	0.000	0.000		0.000	570.00
44	580.00	0.584	1.468	0.399	7.071	-0.014	11.877	0.074	0.973	0.972	0.972	0.000	0.000		0.000	590.00
45	600.00	0.587	1.449	0.388	7.074	-0.007	12.471	0.062	0.975	0.975	0.975	0.000	0.000		0.000	612.50
46	625.00	0.574	1.430	0.373	7.076	-0.006	12.570	0.063	0.975	0.975	0.975	0.000	0.000		0.000	637.50
47	650.00	0.570	1.401	0.356	7.074	-0.005	12.514	0.061	0.974	0.974	0.974	0.000	0.000		0.000	662.50
48	675.00	0.569	1.373	0.342	7.074	-0.005	12.968	0.062	0.974	0.974	0.974	0.000	0.000		0.000	687.50
49	700.00	0.706	1.346	0.325	7.069	-0.005	13.073	0.061	0.974	0.974	0.974	0.000	0.000		0.000	712.50
50	725.00	0.660	1.346	0.315	7.069	0.000	13.373	0.066	0.975	0.975	0.975	0.000	0.000		0.000	737.50
51	750.00	0.656	1.355	0.302	7.074	0.005	13.761	0.067	0.974	0.974	0.974	0.000	0.000		0.000	762.50
52	775.00	0.606	1.357	0.287	7.071	0.008	13.970	0.067	0.974	0.974	0.974	0.000	0.000		0.000	787.50
53	800.00	0.732	1.356	0.272	7.074	0.010	13.935	0.064	0.974	0.974	0.974	0.000	0.000		0.000	812.50
54	825.00	0.630	1.352	0.259	7.069	0.010	14.009	0.068	0.974	0.974	0.974	0.000	0.000		0.000	837.50
55	850.00	0.723	1.344	0.243	7.069	0.010	14.389	0.068	0.974	0.974	0.974	0.000	0.000		0.000	862.50
56	875.00	0.716	1.336	0.230	7.076	0.011	14.657	0.076	0.973	0.973	0.973	0.000	0.000		0.000	887.50
57	900.00	0.710	1.323	0.216	7.069	0.017	14.683	0.077	0.973	0.973	0.973	0.000	0.000		0.000	912.50
58	925.00	0.731	1.304	0.199	7.066	0.016	14.813	0.077	0.973	0.973	0.973	0.000	0.000		0.000	937.50
59	950.00	0.676	1.287	0.179	7.061	0.014	15.000	0.076	0.973	0.973	0.973	0.000	0.000		0.000	962.50
60	975.00	0.747	1.262	0.164	7.066	0.016	14.968	0.076	0.973	0.973	0.973	0.000	0.000		0.000	987.50
61	1000.00	0.741	1.238	0.147	7.064	0.015	15.582	0.079	0.972	0.972	0.972	0.000	0.000		0.000	1012.50
62	1025.00	0.786	1.224	0.131	7.064	0.015	15.292	0.076	0.972	0.972	0.972	0.000	0.000		0.000	1037.50
63	1050.00	0.750	1.215	0.112	7.064	0.008	15.479	0.079	0.971	0.971	0.971	0.000	0.000		0.000	1062.50
64	1075.00	0.760	1.203	0.093	7.061	0.001	15.575	0.078	0.971	0.971	0.971	0.000	0.000		0.000	1087.50
65	1100.00	0.710	1.188	0.074	7.059	0.001	15.584	0.075	0.971	0.971	0.971	0.000	0.000		0.000	1112.50
66	1125.00	0.701	1.175	0.056	7.051	-0.001	15.518	0.080	0.971	0.971	0.971	0.000	0.000		0.000	1137.50
67	1150.00	0.678	1.158	0.037	7.049	-0.004	15.370	0.079	0.971	0.971	0.971	0.000	0.000		0.000	1162.50
68	1175.00	0.624	1.160	0.020	7.066	0.002	15.127	0.073	0.971	0.971	0.971	0.000	0.000		0.000	1187.50
BASE	1200.00	0.468	1.177	0.889						GROUND SURFACE SETTLEMENT					0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

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OUTPUT FOR IVEC4230
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.438	3.363	1.187	6.219	0.139	0.131	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.434	3.343	1.186	6.219	0.140	0.384	0.055	0.957	0.957	0.957	0.000	0.000	0.000	7.50
3	10.00	0.455	3.283	1.183	6.216	0.138	0.645	0.119	0.935	0.934	0.934	0.000	0.000	0.000	12.50
4	15.00	0.479	3.209	1.180	6.219	0.135	0.870	0.179	0.921	0.920	0.920	0.000	0.000	0.000	17.50
5	20.00	0.473	3.125	1.175	6.219	0.132	1.116	0.104	0.943	0.943	0.943	0.000	0.000	0.000	22.50
6	25.00	0.518	3.085	1.170	6.219	0.129	1.413	0.151	0.932	0.932	0.932	0.000	0.000	0.000	27.50
7	30.00	0.500	3.036	1.165	6.219	0.130	1.588	0.290	0.906	0.905	0.905	0.000	0.000	0.000	32.50
8	35.00	0.531	2.974	1.154	6.219	0.131	1.864	0.393	0.892	0.891	0.891	0.000	0.000	0.000	37.50
9	40.00	0.603	2.907	1.137	6.219	0.135	2.113	0.251	0.914	0.913	0.913	0.000	0.000	0.000	42.50
10	45.00	0.518	2.873	1.125	6.219	0.134	2.298	0.317	0.904	0.904	0.904	0.000	0.000	0.000	47.50
11	50.00	0.542	2.834	1.110	6.219	0.134	2.570	0.401	0.893	0.893	0.893	0.000	0.000	0.000	52.50
12	55.00	0.627	2.796	1.085	6.219	0.130	2.670	0.258	0.917	0.916	0.916	0.000	0.000	0.000	57.50
13	60.00	0.757	2.768	1.072	6.216	0.126	2.983	0.223	0.927	0.926	0.926	0.000	0.000	0.000	62.50
14	65.00	0.625	2.742	1.059	6.219	0.121	3.060	0.163	0.938	0.938	0.938	0.000	0.000	0.000	67.50
15	70.00	0.722	2.730	1.050	6.224	0.123	3.232	0.442	0.897	0.897	0.897	0.000	0.000	0.000	72.50
16	75.00	0.970	2.692	1.023	6.219	0.108	3.357	0.271	0.924	0.923	0.923	0.000	0.000	0.000	77.50
17	80.00	0.757	2.662	1.006	6.216	0.094	3.655	0.232	0.929	0.929	0.929	0.000	0.000	0.000	82.50
18	85.00	1.032	2.644	0.992	6.221	0.088	3.781	0.489	0.903	0.903	0.903	0.000	0.000	0.000	87.50
19	90.00	0.670	2.623	0.958	6.211	0.071	3.921	0.180	0.940	0.940	0.940	0.000	0.000	0.000	95.00
20	100.00	0.454	2.617	0.940	6.209	0.064	4.574	0.165	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.388	2.602	0.910	6.189	0.052	5.485	0.299	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.347	2.615	0.866	6.179	0.025	6.061	0.177	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.341	2.615	0.840	6.114	0.024	6.701	0.125	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.399	2.611	0.825	6.109	0.022	7.314	0.131	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.310	2.599	0.809	6.104	0.021	7.847	0.129	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.312	2.594	0.792	6.101	0.018	8.320	0.120	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.304	2.585	0.775	6.096	0.015	8.716	0.125	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.311	2.568	0.758	6.094	0.014	9.107	0.118	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.312	2.552	0.741	6.089	0.014	9.640	0.125	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.381	2.529	0.723	6.084	0.014	10.005	0.117	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.412	2.506	0.704	6.079	0.014	10.349	0.113	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.455	2.484	0.686	6.071	0.010	10.733	0.101	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.568	2.462	0.669	6.066	0.013	10.896	0.094	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.372	2.441	0.656	6.064	0.020	11.289	0.098	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.596	2.431	0.641	6.059	0.022	11.700	0.092	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.404	2.421	0.625	6.054	0.027	11.962	0.086	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.421	2.415	0.611	6.046	0.029	12.192	0.101	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.521	2.391	0.593	6.034	0.025	12.480	0.098	0.971	0.971	0.971	0.000	0.000	0.000	470.00
39	480.00	0.515	2.372	0.574	6.024	0.017	12.746	0.104	0.971	0.971	0.971	0.000	0.000	0.000	490.00
40	500.00	0.507	2.335	0.554	6.009	0.012	12.960	0.087	0.972	0.972	0.972	0.000	0.000	0.000	510.00
41	520.00	0.515	2.310	0.536	5.996	0.006	13.392	0.092	0.972	0.971	0.971	0.000	0.000	0.000	530.00
42	540.00	0.536	2.301	0.519	5.984	0.001	13.858	0.096	0.971	0.971	0.971	0.000	0.000	0.000	550.00
43	560.00	0.608	2.261	0.498	5.976	-0.006	13.534	0.083	0.972	0.972	0.972	0.000	0.000	0.000	570.00
44	580.00	0.492	2.237	0.481	5.969	-0.010	13.498	0.096	0.970	0.970	0.970	0.000	0.000	0.000	590.00
45	600.00	0.510	2.206	0.462	5.964	-0.017	13.713	0.078	0.974	0.973	0.973	0.000	0.000	0.000	612.50
46	625.00	0.463	2.188	0.441	5.956	-0.027	14.097	0.077	0.973	0.973	0.973	0.000	0.000	0.000	637.50

47	650.00	0.472	2.185	0.419	5.949	-0.033	14.371	0.071	0.973	0.973	0.973	0.000	0.000	0.000	662.50
48	675.00	0.480	2.163	0.402	5.946	-0.029	14.903	0.072	0.973	0.973	0.973	0.000	0.000	0.000	687.50
49	700.00	0.472	2.163	0.385	5.939	-0.027	14.932	0.083	0.973	0.972	0.972	0.000	0.000	0.000	712.50
50	725.00	0.499	2.144	0.361	5.931	-0.033	15.188	0.085	0.972	0.972	0.972	0.000	0.000	0.000	737.50
51	750.00	0.502	2.134	0.338	5.924	-0.035	15.525	0.078	0.972	0.972	0.972	0.000	0.000	0.000	762.50
52	775.00	0.507	2.114	0.317	5.909	-0.038	15.651	0.077	0.972	0.972	0.972	0.000	0.000	0.000	787.50
53	800.00	0.502	2.092	0.294	5.896	-0.041	16.285	0.092	0.972	0.971	0.971	0.000	0.000	0.000	812.50
54	825.00	0.491	2.089	0.274	5.869	-0.035	15.859	0.086	0.971	0.971	0.971	0.000	0.000	0.000	837.50
55	850.00	0.494	2.060	0.251	5.851	-0.040	15.689	0.061	0.972	0.972	0.972	0.000	0.000	0.000	862.50
56	875.00	0.526	2.062	0.238	5.846	-0.039	15.629	0.074	0.972	0.972	0.972	0.000	0.000	0.000	887.50
57	900.00	0.529	2.060	0.220	5.841	-0.038	16.035	0.076	0.971	0.971	0.971	0.000	0.000	0.000	912.50
58	925.00	0.495	2.052	0.203	5.836	-0.029	15.888	0.067	0.971	0.971	0.971	0.000	0.000	0.000	937.50
59	950.00	0.521	2.045	0.185	5.834	-0.032	16.012	0.072	0.971	0.971	0.971	0.000	0.000	0.000	962.50
60	975.00	0.445	2.033	0.168	5.834	-0.023	16.124	0.074	0.971	0.971	0.971	0.000	0.000	0.000	987.50
61	1000.00	0.517	2.016	0.150	5.831	-0.017	16.325	0.078	0.970	0.970	0.970	0.000	0.000	0.000	1012.50
62	1025.00	0.503	2.008	0.132	5.824	-0.012	16.427	0.078	0.970	0.970	0.970	0.000	0.000	0.000	1037.50
63	1050.00	0.490	2.017	0.113	5.819	-0.008	16.986	0.078	0.970	0.969	0.969	0.000	0.000	0.000	1062.50
64	1075.00	0.523	2.020	0.093	5.814	-0.007	16.621	0.067	0.970	0.970	0.970	0.000	0.000	0.000	1087.50
65	1100.00	0.467	2.034	0.075	5.811	-0.010	16.572	0.072	0.970	0.969	0.969	0.000	0.000	0.000	1112.50
66	1125.00	0.499	2.042	0.053	5.809	-0.011	16.459	0.079	0.970	0.970	0.970	0.000	0.000	0.000	1137.50
67	1150.00	0.627	2.059	0.035	5.209	-0.006	16.353	0.068	0.970	0.970	0.970	0.000	0.000	0.000	1162.50
68	1175.00	0.621	2.072	0.019	5.819	-0.003	16.176	0.071	0.970	0.970	0.970	0.000	0.000	0.000	1187.50
BASE	1200.00	0.438	2.070	1.240						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 7
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 8
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 9

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 10
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 11
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 12

****
NEXT INPUT MOTION
****

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THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
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************************************************************
  OUTPUT FOR JOS000
  WITH A PEAK ACCELERATION OF  0.66 G
  AND SLOPE = 0.00
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*******************************************************
  MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.390	3.367	0.887	11.656	0.042	0.117	0.014	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.384	3.359	0.887	11.656	0.042	0.347	0.048	0.952	0.952	0.952	0.000	0.000	0.000	7.50
3	10.00	0.383	3.340	0.885	11.656	0.044	0.573	0.107	0.926	0.926	0.926	0.000	0.000	0.000	12.50
4	15.00	0.383	3.296	0.882	11.656	0.044	0.788	0.150	0.912	0.912	0.912	0.000	0.000	0.000	17.50
5	20.00	0.394	3.245	0.877	11.656	0.045	0.989	0.084	0.939	0.939	0.939	0.000	0.000	0.000	22.50
6	25.00	0.413	3.205	0.875	11.653	0.044	1.197	0.122	0.927	0.927	0.927	0.000	0.000	0.000	27.50
7	30.00	0.440	3.160	0.874	11.653	0.048	1.397	0.217	0.900	0.900	0.900	0.000	0.000	0.000	32.50
8	35.00	0.452	3.087	0.870	11.653	0.055	1.578	0.314	0.881	0.881	0.881	0.000	0.000	0.000	37.50
9	40.00	0.441	3.020	0.873	11.653	0.043	1.723	0.199	0.907	0.907	0.907	0.000	0.000	0.000	42.50
10	45.00	0.455	2.951	0.876	11.653	0.033	1.868	0.219	0.899	0.899	0.899	0.000	0.000	0.000	47.50
11	50.00	0.488	2.880	0.877	11.653	0.024	1.988	0.287	0.890	0.890	0.890	0.000	0.000	0.000	52.50
12	55.00	0.470	2.805	0.881	11.653	-0.003	2.083	0.158	0.913	0.913	0.913	0.000	0.000	0.000	57.50
13	60.00	0.560	2.753	0.882	11.653	-0.017	2.225	0.137	0.924	0.924	0.924	0.000	0.000	0.000	62.50
14	65.00	0.500	2.711	0.882	11.651	-0.028	2.332	0.107	0.936	0.936	0.936	0.000	0.000	0.000	67.50
15	70.00	0.518	2.679	0.879	11.653	-0.032	2.494	0.247	0.898	0.897	0.897	0.000	0.000	0.000	72.50
16	75.00	0.535	2.622	0.880	11.656	-0.056	2.605	0.163	0.922	0.922	0.922	0.000	0.000	0.000	77.50
17	80.00	0.504	2.586	0.874	11.653	-0.060	2.689	0.147	0.928	0.928	0.928	0.000	0.000	0.000	82.50
18	85.00	0.571	2.555	0.868	11.653	-0.061	2.760	0.273	0.903	0.903	0.903	0.000	0.000	0.000	87.50
19	90.00	0.384	2.503	0.851	11.656	-0.066	2.889	0.128	0.937	0.937	0.937	0.000	0.000	0.000	95.00
20	100.00	0.302	2.448	0.835	11.658	-0.062	3.267	0.106	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.297	2.363	0.814	11.663	-0.078	3.785	0.173	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.325	2.265	0.768	11.666	-0.090	4.233	0.111	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.320	2.196	0.742	11.668	-0.094	4.665	0.082	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.328	2.145	0.724	11.668	-0.095	5.203	0.086	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.358	2.099	0.707	11.668	-0.095	5.415	0.084	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.332	2.060	0.690	11.668	-0.094	5.678	0.087	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.325	2.023	0.672	11.668	-0.091	6.152	0.078	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.350	2.013	0.657	11.668	-0.093	6.223	0.080	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.379	1.994	0.637	11.671	-0.095	6.689	0.082	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.463	1.983	0.620	11.666	-0.093	7.196	0.084	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.390	1.961	0.608	11.668	-0.095	7.555	0.072	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.488	1.960	0.593	11.666	-0.095	8.226	0.084	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.360	1.949	0.575	11.668	-0.092	8.501	0.081	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.360	1.961	0.561	11.668	-0.092	8.795	0.078	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.362	1.954	0.547	11.666	-0.092	9.126	0.084	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.380	1.911	0.525	11.658	-0.083	9.465	0.086	1.000	1.000	1.000	0.000	0.000	0.000	430.00

37	440.00	0.449	1.862	0.503	11.656	-0.069	9.932	0.083	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.440	1.837	0.482	11.653	-0.064	10.036	0.088	0.960	0.960	0.960	0.000	0.000	0.000	470.00
39	480.00	0.466	1.806	0.459	11.651	-0.054	10.362	0.087	0.960	0.960	0.960	0.000	0.000	0.000	490.00
40	500.00	0.474	1.788	0.440	11.646	-0.051	10.795	0.074	0.961	0.961	0.961	0.000	0.000	0.000	510.00
41	520.00	0.455	1.776	0.423	11.653	-0.053	10.601	0.085	0.962	0.961	0.961	0.000	0.000	0.000	530.00
42	540.00	0.442	1.733	0.399	11.646	-0.036	11.044	0.089	0.962	0.962	0.962	0.000	0.000	0.000	550.00
43	560.00	0.461	1.684	0.373	11.651	-0.028	11.255	0.077	0.963	0.963	0.963	0.000	0.000	0.000	570.00
44	580.00	0.477	1.659	0.367	10.573	-0.023	11.213	0.080	0.963	0.963	0.963	0.000	0.000	0.000	590.00
45	600.00	0.440	1.661	0.363	10.566	-0.009	11.538	0.065	0.966	0.966	0.966	0.000	0.000	0.000	612.50
46	625.00	0.454	1.603	0.355	10.566	-0.003	11.427	0.064	0.967	0.967	0.967	0.000	0.000	0.000	637.50
47	650.00	0.448	1.573	0.344	10.566	0.001	11.667	0.068	0.967	0.967	0.967	0.000	0.000	0.000	662.50
48	675.00	0.433	1.522	0.333	10.566	0.007	11.484	0.063	0.966	0.966	0.966	0.000	0.000	0.000	687.50
49	700.00	0.429	1.474	0.322	10.563	0.015	11.670	0.064	0.966	0.966	0.966	0.000	0.000	0.000	712.50
50	725.00	0.435	1.431	0.311	10.561	0.025	11.840	0.069	0.967	0.967	0.967	0.000	0.000	0.000	737.50
51	750.00	0.446	1.424	0.298	10.566	0.026	12.031	0.061	0.967	0.967	0.967	0.000	0.000	0.000	762.50
52	775.00	0.445	1.439	0.285	10.566	0.031	12.415	0.068	0.966	0.966	0.966	0.000	0.000	0.000	787.50
53	800.00	0.452	1.393	0.269	10.553	0.037	12.880	0.064	0.966	0.966	0.966	0.000	0.000	0.000	812.50
54	825.00	0.456	1.356	0.253	10.548	0.041	13.059	0.065	0.966	0.966	0.966	0.000	0.000	0.000	837.50
55	850.00	0.458	1.345	0.239	10.541	0.040	13.132	0.062	0.966	0.966	0.966	0.000	0.000	0.000	862.50
56	875.00	0.479	1.365	0.224	10.531	0.036	13.776	0.066	0.966	0.966	0.966	0.000	0.000	0.000	887.50
57	900.00	0.497	1.346	0.206	10.523	0.036	13.632	0.063	0.966	0.966	0.966	0.000	0.000	0.000	912.50
58	925.00	0.469	1.341	0.189	10.513	0.029	13.749	0.065	0.966	0.966	0.966	0.000	0.000	0.000	937.50
59	950.00	0.564	1.358	0.173	10.506	0.018	13.841	0.067	0.966	0.966	0.966	0.000	0.000	0.000	962.50
60	975.00	0.542	1.373	0.156	10.498	0.011	14.394	0.067	0.966	0.966	0.966	0.000	0.000	0.000	987.50
61	1000.00	0.529	1.374	0.140	10.493	0.012	14.199	0.064	0.965	0.965	0.965	0.000	0.000	0.000	1012.50
62	1025.00	0.554	1.393	0.119	10.486	0.003	13.876	0.069	0.964	0.964	0.964	0.000	0.000	0.000	1037.50
63	1050.00	0.520	1.406	0.103	10.481	0.009	13.834	0.066	0.964	0.964	0.964	0.000	0.000	0.000	1062.50
64	1075.00	0.487	1.416	0.086	10.473	0.000	13.786	0.070	0.963	0.963	0.963	0.000	0.000	0.000	1087.50
65	1100.00	0.508	1.428	0.068	10.466	0.012	13.918	0.070	0.964	0.963	0.963	0.000	0.000	0.000	1112.50
66	1125.00	0.466	1.447	0.051	10.461	0.012	13.810	0.063	0.964	0.964	0.964	0.000	0.000	0.000	1137.50
67	1150.00	0.469	1.461	0.033	10.458	0.008	13.893	0.067	0.964	0.963	0.963	0.000	0.000	0.000	1162.50
68	1175.00	0.409	1.474	0.018	10.456	0.006	14.316	0.073	0.963	0.963	0.963	0.000	0.000	0.000	1187.50
BASE	1200.00	0.415	1.487	1.087						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

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OUTPUT FOR JOS090
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.437	3.074	1.036	10.571	-0.387	0.131	0.014	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.443	3.065	1.035	10.571	-0.387	0.396	0.057	0.948	0.948	0.948	0.000	0.000	0.000	7.50
3	10.00	0.466	3.036	1.033	10.568	-0.386	0.655	0.126	0.920	0.920	0.920	0.000	0.000	0.000	12.50
4	15.00	0.452	2.994	1.028	10.568	-0.388	0.906	0.186	0.903	0.903	0.903	0.000	0.000	0.000	17.50
5	20.00	0.511	2.944	1.019	10.566	-0.385	1.167	0.103	0.933	0.932	0.932	0.000	0.000	0.000	22.50
6	25.00	0.473	2.923	1.015	10.566	-0.384	1.415	0.152	0.918	0.918	0.918	0.000	0.000	0.000	27.50
7	30.00	0.461	2.881	1.014	27.670	-0.386	1.666	0.293	0.886	0.885	0.885	0.000	0.000	0.000	32.50
8	35.00	0.477	2.828	1.004	27.670	-0.375	1.908	0.401	0.864	0.864	0.864	0.000	0.000	0.000	37.50
9	40.00	0.478	2.772	0.977	27.668	-0.352	2.133	0.269	0.897	0.897	0.897	0.000	0.000	0.000	42.50
10	45.00	0.468	2.726	0.958	27.668	-0.338	2.357	0.353	0.884	0.884	0.884	0.000	0.000	0.000	47.50
11	50.00	0.484	2.677	0.929	10.538	-0.310	2.570	0.462	0.874	0.874	0.874	0.000	0.000	0.000	52.50
12	55.00	0.456	2.633	0.907	10.528	-0.291	2.774	0.279	0.903	0.903	0.903	0.000	0.000	0.000	57.50
13	60.00	0.536	2.602	0.892	10.523	-0.266	2.976	0.240	0.917	0.917	0.917	0.000	0.000	0.000	62.50
14	65.00	0.540	2.581	0.881	10.516	-0.253	3.179	0.172	0.931	0.931	0.931	0.000	0.000	0.000	67.50
15	70.00	0.619	2.577	0.871	10.513	-0.240	3.379	0.457	0.885	0.885	0.885	0.000	0.000	0.000	72.50
16	75.00	0.522	2.578	0.845	10.503	-0.197	3.538	0.278	0.915	0.915	0.915	0.000	0.000	0.000	77.50
17	80.00	0.583	2.574	0.828	10.498	-0.167	3.708	0.246	0.922	0.922	0.922	0.000	0.000	0.000	82.50
18	85.00	0.574	2.581	0.814	10.493	-0.144	3.877	0.581	0.889	0.889	0.889	0.000	0.000	0.000	87.50
19	90.00	0.430	2.577	0.783	10.481	-0.076	4.092	0.185	0.933	0.933	0.933	0.000	0.000	0.000	95.00
20	100.00	0.353	2.586	0.763	10.471	-0.054	4.684	0.151	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.331	2.587	0.727	10.461	-0.018	5.269	0.242	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.339	2.600	0.676	10.434	0.013	5.649	0.143	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.347	2.599	0.645	10.416	0.029	6.100	0.108	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.330	2.591	0.624	10.404	0.033	6.501	0.105	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.334	2.573	0.602	10.391	0.030	6.844	0.106	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.348	2.544	0.581	10.379	0.028	7.089	0.101	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.331	2.510	0.562	10.369	0.022	7.339	0.099	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.346	2.465	0.542	10.361	0.017	7.735	0.094	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.357	2.414	0.522	10.354	0.008	7.860	0.096	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.378	2.360	0.500	10.349	0.006	8.061	0.090	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.392	2.308	0.481	10.344	0.000	8.339	0.082	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.401	2.257	0.464	10.339	0.001	8.577	0.092	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.417	2.208	0.446	10.349	-0.001	8.809	0.076	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.443	2.164	0.429	10.286	0.000	9.355	0.076	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.449	2.130	0.413	10.351	-0.004	9.389	0.070	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.466	2.112	0.398	9.699	-0.002	9.298	0.079	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.480	2.083	0.389	9.699	-0.004	9.515	0.070	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.553	2.047	0.381	9.701	-0.003	9.957	0.075	0.960	0.960	0.960	0.000	0.000	0.000	470.00
39	480.00	0.547	2.018	0.373	9.701	-0.007	9.787	0.068	0.961	0.961	0.961	0.000	0.000	0.000	490.00
40	500.00	0.543	1.988	0.366	9.699	-0.004	9.750	0.074	0.961	0.961	0.961	0.000	0.000	0.000	510.00
41	520.00	0.538	1.951	0.358	9.694	-0.001	9.770	0.066	0.962	0.962	0.962	0.000	0.000	0.000	530.00
42	540.00	0.532	1.914	0.348	9.691	-0.008	10.045	0.068	0.962	0.962	0.962	0.000	0.000	0.000	550.00
43	560.00	0.536	1.867	0.340	9.689	-0.011	9.763	0.064	0.963	0.963	0.963	0.000	0.000	0.000	570.00
44	580.00	0.535	1.835	0.330	9.689	-0.019	9.762	0.066	0.963	0.963	0.963	0.000	0.000	0.000	590.00
45	600.00	0.507	1.802	0.321	9.686	-0.024	9.541	0.054	0.966	0.966	0.966	0.000	0.000	0.000	612.50
46	625.00	0.509	1.757	0.314	9.686	-0.014	9.651	0.050	0.966	0.966	0.966	0.000	0.000	0.000	637.50
47	650.00	0.507	1.697	0.306	9.684	-0.015	10.207	0.049	0.966	0.966	0.966	0.000	0.000	0.000	662.50

48	675.00	0.514	1.682	0.295	9.684	-0.017	10.097	0.051	0.966	0.966	0.966	0.000	0.000	0.000	687.50
49	700.00	0.518	1.680	0.287	9.681	-0.015	10.505	0.052	0.966	0.966	0.966	0.000	0.000	0.000	712.50
50	725.00	0.508	1.681	0.278	9.679	-0.011	10.718	0.054	0.966	0.966	0.966	0.000	0.000	0.000	737.50
51	750.00	0.523	1.674	0.268	9.676	-0.017	11.090	0.053	0.966	0.965	0.965	0.000	0.000	0.000	762.50
52	775.00	0.521	1.670	0.259	9.671	-0.009	11.312	0.055	0.966	0.965	0.965	0.000	0.000	0.000	787.50
53	800.00	0.550	1.668	0.249	9.669	-0.005	11.695	0.053	0.966	0.966	0.966	0.000	0.000	0.000	812.50
54	825.00	0.522	1.670	0.237	9.669	-0.006	11.925	0.058	0.965	0.965	0.965	0.000	0.000	0.000	837.50
55	850.00	0.624	1.667	0.225	9.664	-0.003	12.220	0.058	0.965	0.965	0.965	0.000	0.000	0.000	862.50
56	875.00	0.519	1.656	0.213	9.661	-0.007	12.851	0.062	0.965	0.965	0.965	0.000	0.000	0.000	887.50
57	900.00	0.517	1.652	0.201	31.398	0.001	12.663	0.058	0.965	0.965	0.965	0.000	0.000	0.000	912.50
58	925.00	0.523	1.631	0.187	9.659	-0.003	13.201	0.064	0.964	0.964	0.964	0.000	0.000	0.000	937.50
59	950.00	0.520	1.619	0.174	31.396	-0.000	13.274	0.063	0.965	0.965	0.965	0.000	0.000	0.000	962.50
60	975.00	0.527	1.600	0.161	31.391	-0.001	13.471	0.065	0.964	0.964	0.964	0.000	0.000	0.000	987.50
61	1000.00	0.539	1.584	0.150	31.388	0.007	13.727	0.067	0.963	0.963	0.963	0.000	0.000	0.000	1012.50
62	1025.00	0.603	1.570	0.137	31.396	0.013	14.268	0.074	0.963	0.963	0.963	0.000	0.000	0.000	1037.50
63	1050.00	0.725	1.558	0.116	31.398	0.016	14.202	0.066	0.963	0.963	0.963	0.000	0.000	0.000	1062.50
64	1075.00	0.581	1.549	0.100	31.383	0.014	14.347	0.071	0.962	0.962	0.962	0.000	0.000	0.000	1087.50
65	1100.00	0.752	1.547	0.085	31.378	0.019	14.416	0.069	0.963	0.963	0.963	0.000	0.000	0.000	1112.50
66	1125.00	0.524	1.551	0.062	31.366	0.013	14.495	0.077	0.962	0.962	0.962	0.000	0.000	0.000	1137.50
67	1150.00	0.489	1.550	0.044	31.358	0.010	14.639	0.071	0.962	0.962	0.962	0.000	0.000	0.000	1162.50
68	1175.00	0.663	1.561	0.022	31.366	0.001	14.675	0.073	0.961	0.961	0.961	0.000	0.000	0.000	1187.50
BASE	1200.00	0.455	1.566	0.867						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 13
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 14
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 15

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 16
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 17
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 18

****
NEXT INPUT MOTION
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****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
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OUTPUT FOR NIS000
WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.434	3.086	0.711	16.540	-0.030	0.130	0.014	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.429	3.063	0.711	16.543	-0.030	0.381	0.055	0.958	0.958	0.958	0.000	0.000	0.000	7.50
3	10.00	0.442	3.001	0.709	16.543	-0.030	0.621	0.109	0.937	0.937	0.937	0.000	0.000	0.000	12.50
4	15.00	0.435	2.924	0.711	16.543	-0.033	0.860	0.171	0.923	0.923	0.923	0.000	0.000	0.000	17.50
5	20.00	0.426	2.835	0.704	16.548	-0.029	1.088	0.096	0.946	0.946	0.946	0.000	0.000	0.000	22.50
6	25.00	0.431	2.790	0.704	16.550	-0.030	1.320	0.140	0.936	0.936	0.936	0.000	0.000	0.000	27.50
7	30.00	0.457	2.730	0.706	16.553	-0.033	1.532	0.273	0.910	0.910	0.910	0.000	0.000	0.000	32.50
8	35.00	0.479	2.614	0.713	16.555	-0.046	1.741	0.365	0.896	0.896	0.896	0.000	0.000	0.000	37.50
9	40.00	0.496	2.475	0.711	16.558	-0.045	1.963	0.237	0.918	0.918	0.918	0.000	0.000	0.000	42.50
10	45.00	0.512	2.402	0.710	16.558	-0.047	2.121	0.286	0.910	0.910	0.910	0.000	0.000	0.000	47.50
11	50.00	0.533	2.317	0.706	16.560	-0.049	2.267	0.329	0.903	0.903	0.903	0.000	0.000	0.000	52.50
12	55.00	0.550	2.235	0.700	16.563	-0.050	2.428	0.209	0.924	0.924	0.924	0.000	0.000	0.000	57.50
13	60.00	0.595	2.191	0.693	16.563	-0.047	2.508	0.169	0.933	0.933	0.933	0.000	0.000	0.000	62.50
14	65.00	0.598	2.152	0.684	16.563	-0.039	2.769	0.127	0.944	0.944	0.944	0.000	0.000	0.000	67.50
15	70.00	0.554	2.126	0.678	16.563	-0.035	2.899	0.298	0.910	0.910	0.910	0.000	0.000	0.000	72.50
16	75.00	0.487	2.084	0.665	16.563	-0.024	2.951	0.209	0.929	0.929	0.929	0.000	0.000	0.000	77.50
17	80.00	0.673	2.051	0.650	16.563	-0.014	3.071	0.178	0.934	0.934	0.934	0.000	0.000	0.000	82.50
18	85.00	0.508	2.018	0.645	16.560	-0.010	3.278	0.317	0.910	0.910	0.910	0.000	0.000	0.000	87.50
19	90.00	0.359	2.025	0.632	16.563	0.002	3.366	0.142	0.941	0.941	0.941	0.000	0.000	0.000	95.00
20	100.00	0.357	1.998	0.619	16.560	0.008	3.714	0.113	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.381	1.938	0.602	16.560	0.004	4.280	0.186	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.332	1.833	0.579	16.555	-0.010	4.796	0.122	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.321	1.742	0.560	16.550	-0.015	5.237	0.082	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.321	1.681	0.548	16.548	-0.020	5.576	0.083	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.349	1.628	0.536	16.545	-0.025	5.825	0.079	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.336	1.595	0.524	16.543	-0.030	5.976	0.074	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.321	1.560	0.510	16.543	-0.032	6.274	0.070	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.323	1.524	0.497	16.540	-0.036	6.138	0.066	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.355	1.521	0.486	16.540	-0.040	6.575	0.067	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.363	1.512	0.473	16.550	-0.033	6.952	0.066	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.423	1.520	0.461	16.540	-0.038	7.328	0.068	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.434	1.522	0.449	16.545	-0.041	7.879	0.067	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.404	1.533	0.439	16.560	-0.046	7.936	0.066	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.411	1.540	0.430	16.563	-0.051	8.352	0.068	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.409	1.533	0.422	16.568	-0.061	8.703	0.068	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.407	1.531	0.410	16.580	-0.061	8.958	0.067	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.413	1.528	0.397	16.583	-0.056	9.197	0.067	1.000	1.000	1.000	0.000	0.000	0.000	450.00

38	460.00	0.436	1.521	0.381	16.568	-0.055	9.407	0.068	0.962	0.962	0.962	0.000	0.000	0.000	470.00
39	480.00	0.455	1.521	0.365	16.563	-0.050	9.667	0.069	0.962	0.962	0.962	0.000	0.000	0.000	490.00
40	500.00	0.442	1.516	0.351	16.573	-0.054	9.873	0.067	0.963	0.963	0.963	0.000	0.000	0.000	510.00
41	520.00	0.443	1.514	0.343	10.726	-0.060	10.118	0.069	0.963	0.963	0.963	0.000	0.000	0.000	530.00
42	540.00	0.459	1.528	0.340	10.723	-0.049	10.582	0.067	0.963	0.963	0.963	0.000	0.000	0.000	550.00
43	560.00	0.433	1.537	0.334	10.718	-0.039	10.805	0.065	0.964	0.964	0.964	0.000	0.000	0.000	570.00
44	580.00	0.483	1.538	0.326	10.713	-0.044	10.766	0.066	0.963	0.963	0.963	0.000	0.000	0.000	590.00
45	600.00	0.480	1.534	0.319	10.708	-0.041	10.720	0.059	0.966	0.966	0.966	0.000	0.000	0.000	612.50
46	625.00	0.457	1.538	0.311	10.701	-0.033	11.080	0.058	0.966	0.966	0.966	0.000	0.000	0.000	637.50
47	650.00	0.466	1.533	0.301	10.693	-0.023	11.360	0.058	0.966	0.966	0.966	0.000	0.000	0.000	662.50
48	675.00	0.471	1.510	0.289	10.688	-0.023	11.690	0.060	0.966	0.966	0.966	0.000	0.000	0.000	687.50
49	700.00	0.478	1.482	0.280	10.676	-0.017	12.006	0.064	0.966	0.966	0.966	0.000	0.000	0.000	712.50
50	725.00	0.466	1.453	0.265	10.666	-0.011	12.274	0.065	0.966	0.966	0.966	0.000	0.000	0.000	737.50
51	750.00	0.479	1.425	0.256	10.656	-0.001	12.523	0.063	0.965	0.965	0.965	0.000	0.000	0.000	762.50
52	775.00	0.466	1.397	0.245	10.646	-0.002	12.742	0.067	0.965	0.965	0.965	0.000	0.000	0.000	787.50
53	800.00	0.450	1.366	0.235	10.638	0.006	12.991	0.066	0.966	0.965	0.965	0.000	0.000	0.000	812.50
54	825.00	0.431	1.336	0.225	10.631	0.006	13.455	0.069	0.965	0.965	0.965	0.000	0.000	0.000	837.50
55	850.00	0.439	1.308	0.213	10.626	0.009	13.338	0.068	0.965	0.965	0.965	0.000	0.000	0.000	862.50
56	875.00	0.434	1.287	0.200	10.621	0.010	13.485	0.069	0.965	0.965	0.965	0.000	0.000	0.000	887.50
57	900.00	0.503	1.272	0.190	10.616	0.019	13.345	0.068	0.965	0.965	0.965	0.000	0.000	0.000	912.50
58	925.00	0.440	1.267	0.175	10.611	0.019	13.547	0.072	0.965	0.965	0.965	0.000	0.000	0.000	937.50
59	950.00	0.406	1.259	0.159	10.608	0.021	13.716	0.072	0.965	0.965	0.965	0.000	0.000	0.000	962.50
60	975.00	0.405	1.253	0.146	10.603	0.019	14.463	0.072	0.965	0.965	0.965	0.000	0.000	0.000	987.50
61	1000.00	0.459	1.257	0.131	10.596	0.011	14.127	0.074	0.964	0.964	0.964	0.000	0.000	0.000	1012.50
62	1025.00	0.486	1.256	0.114	10.591	0.013	14.109	0.072	0.964	0.964	0.964	0.000	0.000	0.000	1037.50
63	1050.00	0.471	1.253	0.098	10.586	0.009	14.290	0.071	0.965	0.965	0.965	0.000	0.000	0.000	1062.50
64	1075.00	0.442	1.256	0.080	12.083	0.007	14.677	0.074	0.964	0.964	0.964	0.000	0.000	0.000	1087.50
65	1100.00	0.497	1.257	0.067	12.081	0.001	14.650	0.074	0.964	0.964	0.964	0.000	0.000	0.000	1112.50
66	1125.00	0.497	1.262	0.052	12.076	0.007	14.419	0.076	0.965	0.965	0.965	0.000	0.000	0.000	1137.50
67	1150.00	0.481	1.263	0.035	12.081	0.005	14.719	0.065	0.965	0.965	0.965	0.000	0.000	0.000	1162.50
68	1175.00	0.476	1.271	0.018	12.081	0.001	14.927	0.067	0.965	0.965	0.965	0.000	0.000	0.000	1187.50
BASE	1200.00	0.446	1.269	0.891						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

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OUTPUT FOR NIS090
WITH A PEAK ACCELERATION OF 0.71 G
AND SLOPE = 0.00
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MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
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LAYER NO.	DEPTH	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC	FINAL	FINAL	FINAL	UMAX	UFINAL	SETTLE	DEPTH TO

	TO TOP							GAMMAX	DELTA	DETAG	DETAU				MIDLAYER
1	0.00	0.421	3.309	0.650	8.206	-0.316	0.126	0.014	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.417	3.282	0.650	8.204	-0.316	0.371	0.050	0.960	0.960	0.960	0.000	0.000	0.000	7.50
3	10.00	0.407	3.230	0.649	8.199	-0.316	0.615	0.104	0.939	0.939	0.939	0.000	0.000	0.000	12.50
4	15.00	0.410	3.130	0.650	8.186	-0.317	0.853	0.141	0.927	0.927	0.927	0.000	0.000	0.000	17.50
5	20.00	0.434	3.010	0.648	8.159	-0.321	1.092	0.081	0.949	0.949	0.949	0.000	0.000	0.000	22.50
6	25.00	0.401	2.949	0.648	8.151	-0.324	1.332	0.113	0.939	0.939	0.939	0.000	0.000	0.000	27.50
7	30.00	0.433	2.878	0.648	8.149	-0.326	1.568	0.207	0.915	0.914	0.914	0.000	0.000	0.000	32.50
8	35.00	0.408	2.776	0.645	8.144	-0.334	1.774	0.272	0.903	0.901	0.901	0.000	0.000	0.000	37.50
9	40.00	0.355	2.664	0.638	8.141	-0.338	1.961	0.178	0.923	0.922	0.922	0.000	0.000	0.000	42.50
10	45.00	0.423	2.589	0.634	8.139	-0.346	2.122	0.225	0.916	0.915	0.915	0.000	0.000	0.000	47.50
11	50.00	0.395	2.528	0.639	16.083	-0.353	2.250	0.265	0.910	0.908	0.908	0.000	0.000	0.000	52.50
12	55.00	0.407	2.504	0.639	16.085	-0.351	2.348	0.176	0.928	0.927	0.927	0.000	0.000	0.000	57.50
13	60.00	0.477	2.487	0.643	16.085	-0.356	2.461	0.162	0.936	0.935	0.935	0.000	0.000	0.000	62.50
14	65.00	0.456	2.482	0.647	16.085	-0.358	2.638	0.120	0.945	0.945	0.945	0.000	0.000	0.000	67.50
15	70.00	0.500	2.473	0.648	16.085	-0.358	2.799	0.285	0.913	0.911	0.911	0.000	0.000	0.000	72.50
16	75.00	0.688	2.465	0.644	16.083	-0.355	2.950	0.183	0.933	0.932	0.932	0.000	0.000	0.000	77.50
17	80.00	0.574	2.458	0.644	16.083	-0.356	3.088	0.166	0.936	0.936	0.936	0.000	0.000	0.000	82.50
18	85.00	0.559	2.453	0.644	16.083	-0.357	3.220	0.278	0.917	0.914	0.914	0.000	0.000	0.000	87.50
19	90.00	0.417	2.443	0.638	16.080	-0.355	3.390	0.144	0.942	0.942	0.942	0.000	0.000	0.000	95.00
20	100.00	0.307	2.431	0.633	8.129	-0.347	3.746	0.118	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.291	2.387	0.627	8.129	-0.333	4.134	0.181	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.324	2.280	0.616	8.124	-0.315	4.332	0.113	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.313	2.181	0.601	8.121	-0.313	4.513	0.078	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.309	2.112	0.590	8.119	-0.311	4.703	0.080	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.292	2.061	0.579	8.116	-0.310	4.939	0.074	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.294	2.028	0.564	16.063	-0.311	5.231	0.070	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.302	2.045	0.555	16.060	-0.308	5.570	0.069	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.300	2.052	0.545	16.060	-0.304	5.871	0.071	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.282	2.064	0.532	16.058	-0.297	6.083	0.068	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.300	2.090	0.520	16.063	-0.289	6.240	0.063	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.294	2.088	0.505	16.063	-0.281	6.362	0.062	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.310	2.067	0.495	16.065	-0.274	6.655	0.061	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.317	2.031	0.484	16.070	-0.264	6.684	0.057	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.351	2.013	0.466	16.063	-0.252	6.966	0.057	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.321	1.984	0.460	12.118	-0.246	7.229	0.054	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.385	1.944	0.448	12.116	-0.237	7.434	0.057	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.369	1.903	0.437	12.113	-0.222	7.632	0.055	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.448	1.856	0.435	12.111	-0.216	7.847	0.055	0.966	0.965	0.965	0.000	0.000	0.000	470.00
39	480.00	0.446	1.835	0.431	12.106	-0.213	8.027	0.059	0.966	0.965	0.965	0.000	0.000	0.000	490.00
40	500.00	0.408	1.811	0.425	12.101	-0.207	8.321	0.059	0.966	0.966	0.966	0.000	0.000	0.000	510.00
41	520.00	0.465	1.795	0.416	12.096	-0.197	8.771	0.055	0.966	0.966	0.966	0.000	0.000	0.000	530.00
42	540.00	0.450	1.768	0.409	12.091	-0.196	9.277	0.058	0.966	0.966	0.966	0.000	0.000	0.000	550.00
43	560.00	0.467	1.728	0.404	12.088	-0.193	9.710	0.059	0.967	0.967	0.967	0.000	0.000	0.000	570.00
44	580.00	0.514	1.705	0.396	12.081	-0.189	10.438	0.060	0.967	0.967	0.967	0.000	0.000	0.000	590.00
45	600.00	0.510	1.663	0.385	12.076	-0.175	10.469	0.053	0.969	0.969	0.969	0.000	0.000	0.000	612.50
46	625.00	0.548	1.646	0.374	12.071	-0.167	10.779	0.057	0.969	0.969	0.969	0.000	0.000	0.000	637.50
47	650.00	0.591	1.633	0.369	12.066	-0.167	11.098	0.054	0.969	0.969	0.969	0.000	0.000	0.000	662.50
48	675.00	0.581	1.581	0.356	12.061	-0.160	11.465	0.058	0.969	0.969	0.969	0.000	0.000	0.000	687.50

49	700.00	0.581	1.571	0.343	12.058	-0.149	11.840	0.059	0.969	0.969	0.969	0.000	0.000	0.000	712.50
50	725.00	0.570	1.547	0.333	12.056	-0.141	12.177	0.062	0.969	0.969	0.969	0.000	0.000	0.000	737.50
51	750.00	0.567	1.545	0.319	12.053	-0.126	12.492	0.058	0.969	0.968	0.968	0.000	0.000	0.000	762.50
52	775.00	0.565	1.534	0.305	12.048	-0.122	12.906	0.062	0.969	0.969	0.969	0.000	0.000	0.000	787.50
53	800.00	0.537	1.533	0.297	12.043	-0.115	13.011	0.056	0.969	0.968	0.968	0.000	0.000	0.000	812.50
54	825.00	0.540	1.526	0.279	12.036	-0.106	13.456	0.064	0.968	0.968	0.968	0.000	0.000	0.000	837.50
55	850.00	0.532	1.521	0.267	12.031	-0.098	13.801	0.070	0.968	0.968	0.968	0.000	0.000	0.000	862.50
56	875.00	0.533	1.518	0.251	12.023	-0.090	14.072	0.067	0.968	0.967	0.967	0.000	0.000	0.000	887.50
57	900.00	0.512	1.523	0.231	12.018	-0.078	14.338	0.067	0.967	0.967	0.967	0.000	0.000	0.000	912.50
58	925.00	0.589	1.527	0.215	12.013	-0.066	14.672	0.060	0.968	0.967	0.967	0.000	0.000	0.000	937.50
59	950.00	0.563	1.528	0.196	12.008	-0.058	14.814	0.072	0.967	0.967	0.967	0.000	0.000	0.000	962.50
60	975.00	0.565	1.535	0.179	12.001	-0.051	15.076	0.073	0.968	0.967	0.967	0.000	0.000	0.000	987.50
61	1000.00	0.572	1.543	0.160	11.998	-0.046	15.246	0.073	0.966	0.965	0.965	0.000	0.000	0.000	1012.50
62	1025.00	0.584	1.543	0.138	8.061	-0.037	15.443	0.071	0.966	0.966	0.966	0.000	0.000	0.000	1037.50
63	1050.00	0.567	1.544	0.120	8.059	-0.030	15.742	0.078	0.966	0.965	0.965	0.000	0.000	0.000	1062.50
64	1075.00	0.586	1.549	0.100	8.056	-0.025	16.142	0.078	0.966	0.965	0.965	0.000	0.000	0.000	1087.50
65	1100.00	0.595	1.550	0.081	8.054	-0.015	16.390	0.079	0.965	0.965	0.965	0.000	0.000	0.000	1112.50
66	1125.00	0.580	1.556	0.059	8.049	-0.014	16.611	0.080	0.965	0.965	0.965	0.000	0.000	0.000	1137.50
67	1150.00	0.570	1.556	0.040	8.044	-0.013	16.820	0.081	0.965	0.964	0.964	0.000	0.000	0.000	1162.50
68	1175.00	0.530	1.559	0.020	8.041	-0.008	17.076	0.079	0.964	0.964	0.964	0.000	0.000	0.000	1187.50
BASE	1200.00	0.433	1.562	1.051						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 19
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 20
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 21

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 22
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 23
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 24

****
NEXT INPUT MOTION
****

****
THE TIMESTEP HAS BEEN REDUCED BY A FACTOR OF 4
IN ORDER TO MEET THE COURANT STABILITY CRITERION
ALTERNATELY YOU MAY INCREASE THE LAYER THICKNESS(ES)
****

****
OUTPUT FOR YAR060

WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00

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****
MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
****

LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER
1	0.00	0.426	2.675	0.702	12.036	-0.234	0.128	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.419	2.671	0.701	12.036	-0.234	0.378	0.051	0.961	0.961	0.961	0.000	0.000	0.000	7.50
3	10.00	0.436	2.658	0.700	12.036	-0.233	0.623	0.099	0.940	0.940	0.940	0.000	0.000	0.000	12.50
4	15.00	0.442	2.629	0.698	12.033	-0.235	0.861	0.136	0.929	0.929	0.929	0.000	0.000	0.000	17.50
5	20.00	0.405	2.613	0.693	12.031	-0.243	1.099	0.081	0.950	0.950	0.950	0.000	0.000	0.000	22.50
6	25.00	0.404	2.606	0.690	12.028	-0.246	1.332	0.124	0.939	0.939	0.939	0.000	0.000	0.000	27.50
7	30.00	0.388	2.598	0.686	12.026	-0.253	1.561	0.229	0.916	0.916	0.916	0.000	0.000	0.000	32.50
8	35.00	0.387	2.581	0.683	21.469	-0.264	1.764	0.313	0.903	0.903	0.903	0.000	0.000	0.000	37.50
9	40.00	0.365	2.562	0.689	21.469	-0.274	1.934	0.284	0.920	0.920	0.920	0.000	0.000	0.000	42.50
10	45.00	0.460	2.548	0.689	21.469	-0.278	2.091	0.351	0.912	0.912	0.912	0.000	0.000	0.000	47.50
11	50.00	0.438	2.532	0.689	21.469	-0.282	2.212	0.415	0.904	0.904	0.904	0.000	0.000	0.000	52.50
12	55.00	0.495	2.515	0.680	21.471	-0.278	2.314	0.255	0.925	0.925	0.925	0.000	0.000	0.000	57.50
13	60.00	0.520	2.503	0.679	21.474	-0.280	2.437	0.196	0.934	0.934	0.934	0.000	0.000	0.000	62.50
14	65.00	0.592	2.490	0.678	21.471	-0.281	2.573	0.145	0.945	0.945	0.945	0.000	0.000	0.000	67.50
15	70.00	0.536	2.479	0.673	21.471	-0.278	2.713	0.361	0.910	0.910	0.910	0.000	0.000	0.000	72.50
16	75.00	0.571	2.449	0.661	21.474	-0.269	2.796	0.215	0.933	0.933	0.933	0.000	0.000	0.000	77.50
17	80.00	0.554	2.430	0.650	21.474	-0.261	2.879	0.177	0.938	0.938	0.938	0.000	0.000	0.000	82.50
18	85.00	0.638	2.414	0.646	21.474	-0.260	2.975	0.331	0.915	0.915	0.915	0.000	0.000	0.000	87.50
19	90.00	0.478	2.393	0.632	21.476	-0.247	3.112	0.135	0.946	0.946	0.946	0.000	0.000	0.000	95.00
20	100.00	0.378	2.361	0.627	21.479	-0.248	3.564	0.108	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.363	2.284	0.599	21.479	-0.228	4.171	0.172	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.407	2.182	0.555	21.481	-0.190	4.581	0.111	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.428	2.128	0.531	21.484	-0.171	5.154	0.082	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.445	2.110	0.514	21.484	-0.156	5.656	0.087	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.410	2.095	0.498	21.481	-0.143	6.102	0.081	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.399	2.077	0.480	21.481	-0.131	6.518	0.085	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.403	2.058	0.465	21.479	-0.121	6.914	0.081	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.439	2.036	0.447	21.479	-0.106	7.281	0.085	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.498	2.012	0.430	21.476	-0.094	7.576	0.076	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.473	1.983	0.410	21.476	-0.081	7.887	0.078	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.489	1.955	0.402	21.474	-0.077	8.219	0.076	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.446	1.944	0.387	21.474	-0.066	8.502	0.078	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.431	1.947	0.372	21.471	-0.056	8.949	0.073	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.431	1.949	0.362	21.476	-0.051	8.990	0.069	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.504	1.948	0.353	10.803	-0.041	9.265	0.070	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.452	1.951	0.348	10.793	-0.039	9.508	0.068	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.533	1.950	0.342	10.781	-0.033	10.210	0.068	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.489	1.954	0.335	10.773	-0.027	10.327	0.069	0.964	0.964	0.964	0.000	0.000	0.000	470.00

39	480.00	0.511	1.966	0.330	10.763	-0.024	10.628	0.072	0.963	0.963	0.963	0.000	0.000	0.000	490.00
40	500.00	0.525	1.977	0.323	10.756	-0.023	10.677	0.069	0.964	0.964	0.964	0.000	0.000	0.000	510.00
41	520.00	0.486	1.985	0.318	10.751	-0.020	10.941	0.067	0.965	0.965	0.965	0.000	0.000	0.000	530.00
42	540.00	0.466	1.985	0.311	10.748	-0.017	11.343	0.063	0.966	0.966	0.966	0.000	0.000	0.000	550.00
43	560.00	0.499	1.985	0.305	10.743	-0.018	11.239	0.067	0.966	0.966	0.966	0.000	0.000	0.000	570.00
44	580.00	0.534	1.980	0.299	10.736	-0.008	11.570	0.067	0.966	0.966	0.966	0.000	0.000	0.000	590.00
45	600.00	0.498	1.979	0.296	10.996	-0.007	11.665	0.054	0.970	0.970	0.970	0.000	0.000	0.000	612.50
46	625.00	0.491	1.967	0.288	11.001	-0.000	11.716	0.056	0.969	0.969	0.969	0.000	0.000	0.000	637.50
47	650.00	0.569	1.952	0.281	10.998	0.000	11.849	0.058	0.970	0.970	0.970	0.000	0.000	0.000	662.50
48	675.00	0.573	1.929	0.273	10.996	0.004	11.916	0.058	0.969	0.969	0.969	0.000	0.000	0.000	687.50
49	700.00	0.575	1.905	0.266	10.993	0.001	12.260	0.059	0.969	0.969	0.969	0.000	0.000	0.000	712.50
50	725.00	0.576	1.881	0.261	10.991	0.006	12.128	0.057	0.970	0.970	0.970	0.000	0.000	0.000	737.50
51	750.00	0.590	1.853	0.250	10.988	0.008	12.277	0.051	0.970	0.970	0.970	0.000	0.000	0.000	762.50
52	775.00	0.627	1.821	0.239	10.986	0.011	12.218	0.060	0.969	0.969	0.969	0.000	0.000	0.000	787.50
53	800.00	0.619	1.792	0.229	10.981	0.006	12.155	0.054	0.969	0.969	0.969	0.000	0.000	0.000	812.50
54	825.00	0.636	1.761	0.216	10.978	0.009	12.437	0.058	0.969	0.969	0.969	0.000	0.000	0.000	837.50
55	850.00	0.627	1.733	0.206	10.973	0.011	12.400	0.056	0.969	0.969	0.969	0.000	0.000	0.000	862.50
56	875.00	0.630	1.713	0.192	10.971	0.008	12.591	0.058	0.969	0.969	0.969	0.000	0.000	0.000	887.50
57	900.00	0.612	1.689	0.183	10.968	0.002	12.537	0.059	0.969	0.969	0.969	0.000	0.000	0.000	912.50
58	925.00	0.609	1.657	0.169	10.963	0.001	12.561	0.057	0.969	0.968	0.968	0.000	0.000	0.000	937.50
59	950.00	0.526	1.632	0.155	10.963	-0.003	12.599	0.058	0.968	0.968	0.968	0.000	0.000	0.000	962.50
60	975.00	0.554	1.606	0.143	10.963	-0.002	12.958	0.058	0.968	0.968	0.968	0.000	0.000	0.000	987.50
61	1000.00	0.612	1.576	0.130	10.961	0.003	12.855	0.058	0.967	0.967	0.967	0.000	0.000	0.000	1012.50
62	1025.00	0.535	1.550	0.113	10.958	0.008	12.682	0.062	0.967	0.967	0.967	0.000	0.000	0.000	1037.50
63	1050.00	0.655	1.529	0.099	10.961	0.003	12.523	0.060	0.967	0.967	0.967	0.000	0.000	0.000	1062.50
64	1075.00	0.674	1.507	0.081	10.931	0.010	12.645	0.059	0.968	0.968	0.968	0.000	0.000	0.000	1087.50
65	1100.00	0.565	1.465	0.067	10.926	0.006	12.946	0.062	0.967	0.967	0.967	0.000	0.000	0.000	1112.50
66	1125.00	0.554	1.433	0.050	10.926	0.002	13.505	0.060	0.968	0.968	0.968	0.000	0.000	0.000	1137.50
67	1150.00	0.579	1.409	0.034	10.936	0.002	13.496	0.067	0.967	0.967	0.967	0.000	0.000	0.000	1162.50
68	1175.00	0.552	1.390	0.017	10.926	-0.001	13.814	0.063	0.967	0.967	0.967	0.000	0.000	0.000	1187.50
BASE	1200.00	0.435	1.368	1.037						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

****
OUTPUT FOR YAR330
WITH A PEAK ACCELERATION OF 0.72 G
AND SLOPE = 0.00
****

****
MAXIMUM RESPONSE VALUES AT TOP OF OR IN EACH LAYER
****

LAYER NO.	DEPTH TO TOP	AMAX	VMAX	DMAXR	TIME	DFINALR	TAUMAX	CYCLIC GAMMAX	FINAL DELTA	FINAL DETAG	FINAL DETAU	UMAX	UFINAL	SETTLE	DEPTH TO MIDLAYER

1	0.00	0.455	2.565	0.738	10.726	0.037	0.136	0.015	1.000	1.000	1.000	0.000	0.000	0.000	2.50
2	5.00	0.446	2.561	0.738	10.726	0.037	0.395	0.059	0.959	0.959	0.959	0.000	0.000	0.000	7.50
3	10.00	0.428	2.549	0.735	10.726	0.036	0.650	0.119	0.936	0.936	0.936	0.000	0.000	0.000	12.50
4	15.00	0.452	2.530	0.727	10.726	0.032	0.893	0.183	0.923	0.923	0.923	0.000	0.000	0.000	17.50
5	20.00	0.419	2.491	0.717	10.731	0.025	1.128	0.103	0.945	0.945	0.945	0.000	0.000	0.000	22.50
6	25.00	0.487	2.481	0.711	10.736	0.022	1.367	0.151	0.933	0.933	0.933	0.000	0.000	0.000	27.50
7	30.00	0.436	2.449	0.704	10.741	0.014	1.602	0.287	0.905	0.905	0.905	0.000	0.000	0.000	32.50
8	35.00	0.422	2.395	0.689	10.746	-0.007	1.817	0.398	0.887	0.887	0.887	0.000	0.000	0.000	37.50
9	40.00	0.414	2.323	0.663	10.748	-0.038	1.995	0.245	0.913	0.913	0.913	0.000	0.000	0.000	42.50
10	45.00	0.519	2.292	0.650	10.751	-0.054	2.158	0.276	0.905	0.905	0.905	0.000	0.000	0.000	47.50
11	50.00	0.524	2.212	0.631	10.756	-0.081	2.274	0.342	0.896	0.895	0.895	0.000	0.000	0.000	52.50
12	55.00	0.529	2.146	0.617	26.702	-0.108	2.378	0.213	0.919	0.919	0.919	0.000	0.000	0.000	57.50
13	60.00	0.483	2.099	0.630	26.705	-0.123	2.585	0.206	0.928	0.928	0.928	0.000	0.000	0.000	62.50
14	65.00	0.612	2.062	0.634	26.707	-0.129	2.629	0.148	0.940	0.940	0.940	0.000	0.000	0.000	67.50
15	70.00	0.535	2.034	0.641	26.707	-0.137	2.756	0.370	0.903	0.903	0.903	0.000	0.000	0.000	72.50
16	75.00	0.483	1.975	0.652	26.710	-0.152	2.870	0.235	0.927	0.926	0.926	0.000	0.000	0.000	77.50
17	80.00	0.809	1.937	0.658	26.712	-0.161	3.029	0.217	0.932	0.932	0.932	0.000	0.000	0.000	82.50
18	85.00	0.598	1.903	0.665	26.712	-0.172	3.190	0.412	0.908	0.908	0.908	0.000	0.000	0.000	87.50
19	90.00	0.535	1.862	0.667	26.715	-0.178	3.404	0.163	0.941	0.941	0.941	0.000	0.000	0.000	95.00
20	100.00	0.351	1.840	0.668	26.715	-0.184	3.816	0.132	1.000	1.000	1.000	0.000	0.000	0.000	110.00
21	120.00	0.319	1.856	0.659	26.717	-0.179	4.293	0.205	1.000	1.000	1.000	0.000	0.000	0.000	130.00
22	140.00	0.349	1.849	0.629	26.720	-0.159	4.666	0.126	1.000	1.000	1.000	0.000	0.000	0.000	150.00
23	160.00	0.315	1.834	0.606	26.720	-0.143	5.021	0.094	1.000	1.000	1.000	0.000	0.000	0.000	170.00
24	180.00	0.316	1.819	0.597	26.717	-0.139	5.351	0.092	1.000	1.000	1.000	0.000	0.000	0.000	190.00
25	200.00	0.301	1.791	0.584	26.717	-0.132	5.686	0.092	1.000	1.000	1.000	0.000	0.000	0.000	210.00
26	220.00	0.310	1.757	0.574	26.715	-0.129	6.034	0.086	1.000	1.000	1.000	0.000	0.000	0.000	230.00
27	240.00	0.334	1.732	0.559	26.712	-0.121	6.368	0.086	1.000	1.000	1.000	0.000	0.000	0.000	250.00
28	260.00	0.337	1.735	0.544	26.710	-0.114	6.711	0.084	1.000	1.000	1.000	0.000	0.000	0.000	270.00
29	280.00	0.351	1.746	0.532	26.707	-0.110	6.952	0.085	1.000	1.000	1.000	0.000	0.000	0.000	290.00
30	300.00	0.389	1.752	0.524	26.702	-0.110	7.131	0.080	1.000	1.000	1.000	0.000	0.000	0.000	310.00
31	320.00	0.397	1.761	0.504	26.700	-0.098	7.260	0.078	1.000	1.000	1.000	0.000	0.000	0.000	330.00
32	340.00	0.397	1.766	0.490	26.695	-0.092	7.335	0.073	1.000	1.000	1.000	0.000	0.000	0.000	350.00
33	360.00	0.458	1.765	0.473	26.687	-0.084	7.504	0.070	1.000	1.000	1.000	0.000	0.000	0.000	370.00
34	380.00	0.463	1.758	0.455	26.682	-0.076	7.655	0.065	1.000	1.000	1.000	0.000	0.000	0.000	390.00
35	400.00	0.492	1.749	0.439	26.677	-0.069	8.049	0.065	1.000	1.000	1.000	0.000	0.000	0.000	410.00
36	420.00	0.511	1.748	0.428	26.670	-0.070	8.009	0.062	1.000	1.000	1.000	0.000	0.000	0.000	430.00
37	440.00	0.560	1.748	0.416	26.662	-0.067	8.117	0.054	1.000	1.000	1.000	0.000	0.000	0.000	450.00
38	460.00	0.626	1.743	0.404	26.655	-0.061	8.147	0.055	0.962	0.962	0.962	0.000	0.000	0.000	470.00
39	480.00	0.674	1.747	0.387	12.638	-0.051	8.475	0.057	0.962	0.962	0.962	0.000	0.000	0.000	490.00
40	500.00	0.696	1.756	0.378	12.636	-0.041	8.771	0.057	0.963	0.963	0.963	0.000	0.000	0.000	510.00
41	520.00	0.709	1.762	0.370	12.633	-0.032	9.013	0.057	0.963	0.963	0.963	0.000	0.000	0.000	530.00
42	540.00	0.642	1.770	0.363	12.633	-0.029	9.177	0.056	0.963	0.963	0.963	0.000	0.000	0.000	550.00
43	560.00	0.694	1.783	0.353	12.631	-0.022	9.497	0.053	0.964	0.964	0.964	0.000	0.000	0.000	570.00
44	580.00	0.694	1.794	0.341	12.628	-0.021	9.633	0.057	0.964	0.964	0.964	0.000	0.000	0.000	590.00
45	600.00	0.641	1.802	0.330	12.628	-0.015	10.027	0.051	0.966	0.966	0.966	0.000	0.000	0.000	612.50
46	625.00	0.618	1.798	0.320	12.626	-0.012	10.190	0.049	0.966	0.966	0.966	0.000	0.000	0.000	637.50
47	650.00	0.585	1.800	0.309	12.623	-0.012	10.360	0.052	0.966	0.966	0.966	0.000	0.000	0.000	662.50
48	675.00	0.603	1.791	0.300	12.618	-0.015	10.465	0.053	0.966	0.966	0.966	0.000	0.000	0.000	687.50
49	700.00	0.603	1.782	0.289	12.616	-0.012	10.842	0.052	0.966	0.966	0.966	0.000	0.000	0.000	712.50

50	725.00	0.601	1.768	0.277	12.613	-0.008	10.847	0.053	0.966	0.966	0.966	0.000	0.000	0.000	737.50
51	750.00	0.615	1.750	0.266	12.608	-0.006	11.126	0.053	0.966	0.966	0.966	0.000	0.000	0.000	762.50
52	775.00	0.612	1.738	0.254	12.606	-0.002	11.377	0.051	0.966	0.966	0.966	0.000	0.000	0.000	787.50
53	800.00	0.611	1.719	0.240	12.603	-0.001	11.606	0.055	0.965	0.965	0.965	0.000	0.000	0.000	812.50
54	825.00	0.616	1.700	0.226	12.601	-0.007	11.885	0.054	0.965	0.965	0.965	0.000	0.000	0.000	837.50
55	850.00	0.608	1.686	0.211	12.598	-0.008	12.108	0.054	0.965	0.964	0.964	0.000	0.000	0.000	862.50
56	875.00	0.562	1.669	0.195	12.596	0.003	12.363	0.057	0.964	0.964	0.964	0.000	0.000	0.000	887.50
57	900.00	0.626	1.647	0.187	17.008	0.009	12.587	0.058	0.964	0.964	0.964	0.000	0.000	0.000	912.50
58	925.00	0.623	1.628	0.180	17.005	0.016	12.827	0.057	0.964	0.964	0.964	0.000	0.000	0.000	937.50
59	950.00	0.617	1.611	0.166	17.003	0.010	13.279	0.061	0.964	0.964	0.964	0.000	0.000	0.000	962.50
60	975.00	0.626	1.593	0.152	16.998	0.015	13.179	0.058	0.964	0.964	0.964	0.000	0.000	0.000	987.50
61	1000.00	0.610	1.572	0.132	16.995	0.013	12.896	0.060	0.963	0.963	0.963	0.000	0.000	0.000	1012.50
62	1025.00	0.623	1.539	0.122	16.990	0.011	12.768	0.060	0.963	0.963	0.963	0.000	0.000	0.000	1037.50
63	1050.00	0.643	1.507	0.108	16.988	0.011	12.874	0.066	0.963	0.963	0.963	0.000	0.000	0.000	1062.50
64	1075.00	0.623	1.474	0.088	16.983	0.005	13.290	0.066	0.962	0.962	0.962	0.000	0.000	0.000	1087.50
65	1100.00	0.623	1.487	0.068	16.978	-0.000	13.097	0.063	0.962	0.962	0.962	0.000	0.000	0.000	1112.50
66	1125.00	0.607	1.503	0.047	16.975	-0.007	13.029	0.063	0.963	0.963	0.963	0.000	0.000	0.000	1137.50
67	1150.00	0.594	1.522	0.032	16.970	-0.003	13.063	0.064	0.963	0.963	0.963	0.000	0.000	0.000	1162.50
68	1175.00	0.550	1.532	0.017	26.640	-0.005	13.268	0.062	0.962	0.962	0.962	0.000	0.000	0.000	1187.50
BASE	1200.00	0.485	1.535	0.983						GROUND SURFACE SETTLEMENT				0.000	

DFINALR IS FINAL RELATIVE DISPLACEMENT WHEN SLOPE IS ZERO AND INCREASE IN FRD IF SLOPE IS GREATER IS GREATER THAN ZERO
DMAX FOR BASE IS ABSOLUTE DISPACEMENT, OTHERS ARE RELATIVE DISPLACEMENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 25
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 26
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 27

FOR SECOND COMPONENT

HISTORY OF ACCELERATION AT TOP OF LAYER 1 IS SAVED IN OUTPUT FILE NUMBER 28
HISTORY OF SHEAR STRESS IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 29
HISTORY OF SHEAR STRAIN IN LAYER 4 IS SAVED IN OUTPUT FILE NUMBER 30

****
NORMAL TERMINATION FOR THIS INPUT FILE
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APPENDIX E: LIQUEFACTION ANALYSIS

CORNERSTONE EARTH GROUP

CPT No.	1	PGA (A_{max})	0.58	Total Settlement:	0.14	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	249.340	0.980	20.0	20.0	2423.995	0.393	0.82		Unsaturated	0.0			235.67	1.70	400.64	400.64	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	193.520	1.338	41.3	41.3	1309.905	0.691	1.12		Unsaturated	0.0			182.91	1.70	310.95	310.95	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	168.530	1.779	61.3	61.3	936.090	1.056	1.34		Unsaturated	0.0			159.29	1.70	270.79	270.79	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	160.630	2.542	82.5	82.5	768.706	1.583	1.54		Unsaturated	0.0			151.82	1.70	258.10	258.10	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	140.080	2.973	102.5	102.5	601.350	2.123	1.69		Unsaturated	0.0			132.40	1.70	225.08	225.08	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	96.320	3.418	122.5	122.5	378.133	3.551	1.98		Unsaturated	21.6			91.04	1.70	154.77	203.68	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	79.280	3.094	143.8	143.8	287.235	3.906	2.08		Unsaturated	29.0			74.93	1.70	127.39	186.97	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	59.910	3.163	163.8	163.8	203.276	5.287	2.26		Unsaturated	44.1			56.63	1.70	96.26	164.38	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	73.560	2.587	185.0	185.0	234.845	3.521	2.08		Unsaturated	29.5			69.53	1.70	118.20	176.64	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	87.390	3.208	205.0	205.0	265.062	3.676	2.07		Unsaturated	28.6			82.60	1.70	140.42	201.83	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	63.920	3.067	225.0	225.0	184.949	4.807	2.25		Unsaturated	43.0			60.42	1.70	102.71	171.70	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	65.090	2.958	246.3	246.3	180.001	4.553	2.24		Unsaturated	41.9			61.52	1.70	104.59	173.27	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	51.740	2.726	266.3	266.3	137.510	5.282	2.36		Unsaturated	51.4			48.90	1.70	83.14	151.83	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	45.130	2.460	287.5	287.5	115.354	5.469	2.41		Unsaturated	55.9			42.66	1.70	72.52	140.17	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	47.430	2.251	307.5	307.5	117.218	4.761	2.36		Unsaturated	51.7			44.83	1.70	76.21	143.18	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	44.230	2.168	327.5	327.5	105.870	4.921	2.40		Unsaturated	54.7			41.81	1.70	71.07	137.89	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	36.130	2.038	348.8	348.8	83.711	5.669	2.51		Unsaturated	63.6			34.15	1.70	58.05	124.06	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	32.450	1.857	368.8	368.8	73.054	5.756	2.55		Unsaturated	67.0			30.67	1.70	52.14	117.28	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	27.950	1.668	390.0	390.0	85.698	6.010	2.52		Unsaturated	64.7			26.42	1.70	44.91	107.44	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	25.140	1.484	410.0	410.0	74.342	5.953	2.56		Unsaturated	67.5			23.76	1.70	40.40	102.26	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	24.020	1.363	430.0	430.0	68.646	5.727	2.57		Unsaturated	68.2			22.70	1.70	38.60	100.09	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	24.950	1.372	451.3	451.3	68.930	5.548	2.55		Unsaturated	67.3			23.58	1.70	40.09	101.82	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	27.610	1.485	471.3	471.3	74.036	5.425	2.53		Unsaturated	65.1			26.10	1.70	44.36	106.83	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	31.430	1.596	492.5	492.5	61.094	5.118	2.56		Unsaturated	67.9			29.71	1.70	50.50	115.37	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	33.950	1.818	512.5	512.5	64.710	5.397	2.56		Unsaturated	67.9			32.09	1.70	54.55	120.61	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	33.270	2.008	533.8	533.8	81.808	6.085	2.54		Unsaturated	66.1			31.45	1.70	53.46	118.76	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	34.910	2.167	553.8	553.8	83.666	6.256	2.54		Unsaturated	66.3			33.00	1.70	56.09	122.22	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	33.970	2.177	573.8	573.8	79.375	6.462	2.57		Unsaturated	68.3			32.11	1.70	54.58	120.74	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	31.640	1.860	595.0	591.3	72.321	5.934	2.56		Unsaturated	68.0			29.91	1.70	50.84	115.84	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	29.670	1.850	615.0	601.3	66.960	6.302	2.60		Unsaturated	71.3			28.04	1.70	47.67	112.45	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	27.190	1.793	636.3	611.9	60.533	6.671	2.65		Unsaturated	75.1			25.70	1.70	43.69	107.99	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	24.650	1.660	656.3	621.9	54.169	6.824	2.69		Unsaturated	78.2			23.30	1.70	39.61	103.20	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	22.310	1.517	676.3	631.9	69.537	6.906	2.62		Unsaturated	73.0			21.09	1.70	35.85	97.46	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	19.980	1.404	697.5	642.6	61.101	7.152	2.67		Unsaturated	76.8			18.88	1.70	32.10	93.24	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	18.600	1.317	717.5	652.6	55.903	7.220	2.70		Unsaturated	79.0			17.58	1.70	29.89	90.70	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	18.480	1.249	738.8	663.2	54.612	6.895	2.69		Unsaturated	78.3			17.47	1.70	29.69	90.35	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	20.700	1.258	758.8	673.3	60.365	6.192	2.63		Unsaturated	73.2			19.57	1.70	33.26	94.15	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	21.860	1.330	778.8	683.3	62.846	6.196	2.62		Unsaturated	72.3			20.66	1.70	35.12	96.40	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	19.860	1.402	800.0	693.9	56.087	7.202	2.70		Unsaturated	78.8			18.77	1.70	31.91	93.31	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	19.500	1.372	820.0	703.9	54.238	7.189	2.71		Unsaturated	79.5			18.43	1.70	31.33	92.66	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	18.540	1.398	841.3	714.6	50.713	7.717	2.75		Unsaturated	82.9			17.52	1.70	29.79	91.13	0.99	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	16.460	1.233	861.3	724.6	44.244	7.689	2.79		Unsaturated	85.9			15.56	1.70	26.45	87.15	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	14.980	0.968	881.3	734.6	39.584	6.658	2.77		Unsaturated	84.7			14.16	1.70	24.07	83.91	0.98	0.371	1.099	n.a.	n.a.	n.a.	0.00	0.00
7.220	13.780	0.753	902.5	745.3	35.770	5.649	2.75		Unsaturated	83.0			13.02	1.70	22.14	81.18	0.98	0.371	1.096	n.a.	n.a.	n.a.	0.00	0.00
7.380	11.130	0.632	922.5	755.3	28.252	5.927	2.84		Unsaturated	89.9			10.52	1.70	17.88	76.43	0.98	0.370	1.091	n.a.	n.a.	n.a.	0.00	0.00
7.550	10.050	0.703	943.8	765.9	25.011	7.340	2.94		Unsaturated	98.2			9.50	1.70	16.15	74.94	0.98	0.370	1.089	n.a.	n.a.	n.a.	0.00	0.00
7.710	10.810	0.715	963.8	775.9	26.621	6.925	2.90		Unsaturated	95.2			10.22	1.70	17.37	76.28	0.98	0.370	1.089	n.a.	n.a.	n.a.	0.00	0.00
7.870	16.520	0.642	983.8	785.9	40.787	4.005	2.60		Unsaturated	71.3			15.61	1.70	26.48	85.05	0.98	0.370	1.094	n.a.	n.a.	n.a.	0.00	0.00
8.040	20.790	0.529	1005.0	796.6	31.253	2.605	2.56		Sand	68.2			19.65	1.66	32.53	92.26	0.98	0.370	1.098	0.128	0.172	0.46	0.03	0.07
8.200	19.110	0.552	1025.0	806.6	34.528	2.966	2.57		Mixed	68.5	19.65		19.65	1.65	32.33	92.06	0.98	0.374	1.096	0.128	0.171	0.46	0.03	0.07
8.370	13.510	0.546	1046.3	817.2	31.782	4.204	2.70		Clay	78.7			12.77	1.29	n.a.	n.a.	0.98	0.377	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	13.060	0.418	1066.3	827.3	30.285	3.334	2.64		Clay	74.6			12.34	1.28	n.a.	n.a.	0.98	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	9.810	0.381	1086.3	837.3	22.136	4.115	2.81		Clay	87.6			9.27	1.28	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	6.960	0.421	1107.5	847.9	15.111	6.564	3.07		Clay	100.0			6.58	1.27	n.a.	n.a.	0.98	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	7.060	0.485	1127.5	857.9	15.144	7.467	3.10		Clay	100.0			6.67	1.27	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	7.110	0.510	1148.8	868.6	15.049	7.810	3.12		Clay	100.0			6.72	1.26	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	7.030	0.484	1168.8	878.6	14.673	7.507	3.11		Clay	100.0			6.64	1.26	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	6.710	0.447	1188.8	888.6	13.765	7.312	3.13		Clay	100.0			6.34	1.26	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	6.540	0.437	1210.0	899.2	13.200	7.366	3.14		Clay	100.0			6.18	1.25	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	6.480	0.451	1230.0	909.3	12.901	7.683	3.16		Clay	100.0			6.12	1.25	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	6.320	0.455	1251.3	919.9	12.380	7.996	3.19		Clay	100.0			5.97	1.25	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	6.440	0.487	1271.3	929.9	12.484	8.387	3.20		Clay	100.0			6.09	1.24	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	7.190	0.528	1291.3	939.9	13.925	8.070	3.15		Clay	100.0			6.80	1.24	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	8.090	0.538	1312.5	950.6	15.640	7.243	3.08		Clay	100.0			7.65	1.24	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	8.260	0.536	1332.5	960.6	15.810	7.057	3.07		Clay	100.0			7.81	1.23	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	8.130	0.516	1353.8	971.2	15.348	6.921	3.08		Clay	100.0			7.68	1.23	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	8.190	0.531	1373.8	981.3	15.293	7.072	3.08		Clay	100.0			7.74	1.22	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	8.630	0.582	1393.8	991.3	16.006	7.334	3.08		Clay	100.0			8.16	1.22	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.58

Total Settlement:	0.14	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	9.220	0.648	1415.0	1001.9	16.993	7.608	3.07		Clay	100.0			8.71	1.22	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	9.410	0.657	1435.0	1011.9	17.180	7.555	3.07		Clay	100.0			8.89	1.21	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	9.740	0.670	1456.3	1022.6	17.626	7.431	3.05		Clay	100.0			9.21	1.21	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	9.380	0.665	1476.3	1032.6	16.738	7.695	3.08		Clay	100.0			8.87	1.21	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	10.100	0.643	1497.5	1043.2	17.928	6.878	3.02		Clay	100.0			9.55	1.21	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.990	0.633	1517.5	1053.2	17.529	6.861	3.03		Clay	100.0			9.44	1.20	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	10.230	0.647	1537.5	1063.3	17.797	6.838	3.02		Clay	100.0			9.67	1.20	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	12.650	0.725	1558.8	1073.9	22.107	6.106	2.92		Clay	96.8			11.96	1.20	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	13.840	0.761	1578.8	1083.9	24.080	5.831	2.88		Clay	93.5			13.08	1.19	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	12.740	0.722	1600.0	1094.6	21.817	6.049	2.92		Clay	96.9			12.04	1.19	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	10.840	0.622	1620.0	1104.6	18.161	6.198	2.99		Clay	100.0			10.25	1.19	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	8.560	0.538	1640.0	1114.6	13.888	6.944	3.11		Clay	100.0			8.09	1.18	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	7.020	0.453	1661.3	1125.2	11.001	7.321	3.20		Clay	100.0			6.64	1.18	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	7.480	0.449	1681.3	1135.3	11.697	6.761	3.16		Clay	100.0			7.07	1.18	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	8.810	0.504	1702.5	1145.9	13.891	6.328	3.08		Clay	100.0			8.33	1.18	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	9.950	0.558	1722.5	1155.9	15.726	6.141	3.03		Clay	100.0			9.40	1.17	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	11.460	0.592	1742.5	1165.9	18.164	5.594	2.96		Clay	99.8			10.83	1.17	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	12.050	0.622	1763.8	1176.6	18.984	5.568	2.94		Clay	98.5			11.39	1.17	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	10.590	0.609	1783.8	1186.6	16.346	6.281	3.03		Clay	100.0			10.01	1.16	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	9.930	0.543	1805.0	1197.2	15.081	6.011	3.04		Clay	100.0			9.39	1.16	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	9.250	0.433	1825.0	1207.2	13.812	5.197	3.03		Clay	100.0			8.74	1.16	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	9.200	0.512	1845.0	1217.3	13.600	6.185	3.08		Clay	100.0			8.70	1.16	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	8.150	0.526	1866.3	1227.9	11.755	7.291	3.18		Clay	100.0			7.70	1.15	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	7.820	0.499	1886.3	1237.9	11.110	7.256	3.19		Clay	100.0			7.39	1.15	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	7.370	0.488	1907.5	1248.6	10.278	7.603	3.23		Clay	100.0			6.97	1.15	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	7.940	0.504	1927.5	1258.6	11.086	7.226	3.19		Clay	100.0			7.50	1.15	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	9.140	0.523	1947.5	1268.6	12.875	6.409	3.11		Clay	100.0			8.64	1.14	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	9.180	0.556	1968.8	1279.2	12.813	6.783	3.13		Clay	100.0			8.68	1.14	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	9.860	0.621	1988.8	1289.2	13.753	7.003	3.11		Clay	100.0			9.32	1.14	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	10.490	0.703	2010.0	1299.9	14.594	7.413	3.11		Clay	100.0			9.91	1.14	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	10.440	0.709	2030.0	1309.9	14.390	7.525	3.12		Clay	100.0			9.87	1.13	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	10.230	0.669	2050.0	1319.9	13.948	7.262	3.12		Clay	100.0			9.67	1.13	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	9.750	0.671	2071.3	1330.6	13.099	7.703	3.16		Clay	100.0			9.22	1.13	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	9.960	0.683	2091.3	1340.6	13.299	7.658	3.15		Clay	100.0			9.41	1.13	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	9.120	0.618	2112.5	1351.2	11.936	7.666	3.19		Clay	100.0			8.62	1.13	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	7.970	0.571	2132.5	1361.2	10.143	8.269	3.26		Clay	100.0			7.53	1.12	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	7.620	0.510	2152.5	1371.3	9.544	7.795	3.27		Clay	100.0			7.20	1.12	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	8.060	0.519	2173.8	1381.9	10.092	7.443	3.23		Clay	100.0			7.62	1.12	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	7.650	0.512	2193.8	1391.9	9.416	7.810	3.27		Clay	100.0			7.23	1.12	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	7.850	0.504	2215.0	1402.6	9.615	7.472	3.25		Clay	100.0			7.42	1.11	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	8.720	0.544	2235.0	1412.6	10.764	7.154	3.20		Clay	100.0			8.24	1.11	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	8.210	0.534	2255.0	1422.6	9.957	7.545	3.24		Clay	100.0			7.76	1.11	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	6.970	0.523	2276.3	1433.2	8.138	8.970	3.36		Clay	100.0			6.59	1.11	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	4.490	0.463	2296.3	1443.2	4.631	13.840	3.67		Clay	100.0			4.24	1.11	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	5.260	0.499	2317.5	1453.9	5.642	12.157	3.56		Clay	100.0			4.97	1.10	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	8.080	0.584	2337.5	1463.9	9.442	8.449	3.29		Clay	100.0			7.64	1.10	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	11.530	0.716	2357.5	1473.9	14.046	6.921	3.10		Clay	100.0			10.90	1.10	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	13.820	0.832	2378.8	1484.6	17.016	6.588	3.03		Clay	100.0			13.06	1.10	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	14.200	0.845	2398.8	1494.6	17.397	6.500	3.02		Clay	100.0			13.42	1.10	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	13.920	0.832	2420.0	1505.2	16.888	6.546	3.03		Clay	100.0			13.16	1.09	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	14.620	0.770	2440.0	1515.2	17.687	5.746	2.98		Clay	100.0			13.82	1.09	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	15.540	0.781	2461.3	1525.9	18.756	5.457	2.94		Clay	98.4			14.69	1.09	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	15.180	0.784	2481.3	1535.9	18.152	5.623	2.96		Clay	99.9			14.35	1.09	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	14.820	0.782	2501.3	1545.9	17.555	5.761	2.98		Clay	100.0			14.01	1.09	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	14.200	0.750	2522.5	1556.5	16.625	5.798	3.00		Clay	100.0			13.42	1.08	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	12.790	0.712	2542.5	1566.6	14.706	6.182	3.06		Clay	100.0			12.09	1.08	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	11.290	0.671	2563.8	1577.2	12.691	6.702	3.13		Clay	100.0			10.67	1.08	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	10.550	0.600	2583.8	1587.2	11.666	6.478	3.15		Clay	100.0			9.97	1.08	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	10.550	0.563	2603.8	1597.2	11.580	6.088	3.13		Clay	100.0			9.97	1.08	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	12.970	0.533	2625.0	1607.9	14.500	4.575	2.98		Clay	100.0			12.26	1.08	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	14.780	0.669	2645.0	1617.9	16.636	4.974	2.95		Clay	99.4			13.97	1.07	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	17.310	0.820	2666.3	1628.5	19.621	5.131	2.91		Clay	95.8			16.36	1.07	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	21.950	0.885	2686.3	1638.6	25.153	4.297	2.78		Clay	85.2			20.75	1.07	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	23.090	0.957	2706.3	1648.6	26.371	4.404	2.77		Clay	84.6			21.82	1.07	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	22.410	0.987	2727.5	1659.2	25.369	4.691	2.80		Clay	87.1			21.18	1.07	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	23.090	0.926	2747.5	1669.2	26.020	4.265	2.76		Clay	84.2			21.82	1.06	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	23.230	0.882	2768.8	1679.9	26.009	4.035	2.75		Clay	82.9			21.96	1.06	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.58

Total Settlement:	0.14	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	22.100	0.863	2788.8	1689.9	24.505	4.167	2.78		Clay	85.2			20.89	1.06	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	21.390	0.848	2808.8	1699.9	23.514	4.245	2.80		Clay	86.7			20.22	1.06	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	18.840	0.843	2830.0	1710.5	20.374	4.836	2.88		Clay	93.4			17.81	1.06	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	16.800	0.787	2850.0	1720.6	17.872	5.120	2.94		Clay	98.2			15.88	1.06	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	15.080	0.719	2871.3	1731.2	15.763	5.273	2.99		Clay	100.0			14.25	1.05	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	14.460	0.701	2891.3	1741.2	14.949	5.383	3.01		Clay	100.0			13.67	1.05	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	14.310	0.620	2911.3	1751.2	14.680	4.823	2.99		Clay	100.0			13.53	1.05	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	14.330	0.719	2932.5	1761.9	14.602	5.587	3.03		Clay	100.0			13.54	1.05	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	15.400	1.125	2952.5	1771.9	15.716	8.078	3.11		Clay	100.0			14.56	1.05	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	23.960	1.750	2973.8	1782.5	25.215	7.789	2.96		Clay	99.5			22.65	1.05	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	32.700	2.552	2993.8	1792.6	34.814	8.177	2.88		Clay	93.0			30.91	1.04	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	53.680	2.560	3013.8	1802.6	53.429	4.907	2.59		Sand	69.9		1.8	91.33	1.06	96.81	175.59	0.90	0.512	1.032	0.613	1.277	2.50	0.00	0.00
24.280	43.490	1.989	3035.0	1813.2	46.296	4.739	2.62		Clay	72.4			41.11	1.04	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	31.130	1.447	3055.0	1823.2	32.473	4.887	2.73		Clay	81.8			29.42	1.04	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	23.360	1.256	3076.3	1833.9	23.799	5.755	2.88		Clay	93.5			22.08	1.04	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	18.910	1.115	3096.3	1843.9	18.832	6.424	2.99		Clay	100.0			17.87	1.04	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	17.140	1.018	3116.3	1853.9	16.810	6.533	3.03		Clay	100.0			16.20	1.04	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	15.360	0.921	3137.5	1864.5	14.793	6.680	3.08		Clay	100.0			14.52	1.03	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	16.030	0.915	3157.5	1874.6	15.418	6.331	3.05		Clay	100.0			15.15	1.03	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	17.190	0.935	3178.8	1885.2	16.551	5.995	3.01		Clay	100.0			16.25	1.03	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	19.630	0.943	3198.8	1895.2	19.028	5.229	2.93		Clay	97.0			18.55	1.03	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	20.340	0.903	3218.8	1905.2	19.662	4.823	2.89		Clay	94.3			19.22	1.03	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	19.780	0.821	3240.0	1915.9	18.957	4.519	2.88		Clay	93.8			18.70	1.03	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	18.300	0.798	3260.0	1925.9	17.311	4.789	2.93		Clay	97.5			17.30	1.03	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	17.650	0.809	3281.3	1936.5	16.534	5.054	2.96		Clay	99.9			16.68	1.02	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	17.720	0.762	3301.3	1946.5	16.511	4.741	2.94		Clay	98.5			16.75	1.02	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	17.330	0.808	3321.3	1956.6	16.017	5.158	2.98		Clay	100.0			16.38	1.02	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	16.580	0.852	3342.5	1967.2	15.157	5.716	3.02		Clay	100.0			15.67	1.02	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	15.870	0.860	3362.5	1977.2	14.352	6.063	3.06		Clay	100.0			15.00	1.02	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	14.600	0.821	3383.8	1987.9	12.987	6.359	3.11		Clay	100.0			13.80	1.02	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	15.400	0.826	3403.8	1997.9	13.713	6.030	3.07		Clay	100.0			14.56	1.02	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	18.760	0.920	3425.0	2008.5	16.975	5.394	2.97		Clay	100.0			17.73	1.01	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	20.670	1.025	3445.0	2018.5	18.774	5.410	2.94		Clay	98.1			19.54	1.01	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	21.590	1.084	3465.0	2028.6	19.578	5.456	2.93		Clay	97.3			20.41	1.01	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	21.850	1.161	3486.3	2039.2	19.720	5.776	2.94		Clay	98.4			20.65	1.01	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	20.860	1.172	3506.3	2049.2	18.648	6.136	2.98		Clay	100.0			19.72	1.01	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	20.880	1.143	3527.5	2059.9	18.561	5.979	2.97		Clay	100.0			19.74	1.01	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	20.020	1.058	3547.5	2069.9	17.630	5.798	2.98		Clay	100.0			18.92	1.01	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	19.310	0.968	3567.5	2079.9	16.853	5.521	2.98		Clay	100.0			18.25	1.00	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	18.140	0.916	3588.8	2090.5	15.638	5.603	3.01		Clay	100.0			17.15	1.00	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	17.290	0.861	3608.8	2100.5	14.744	5.559	3.03		Clay	100.0			16.34	1.00	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	17.420	0.866	3630.0	2111.2	14.783	5.548	3.02		Clay	100.0			16.47	1.00	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	17.050	0.838	3650.0	2121.2	14.355	5.505	3.03		Clay	100.0			16.12	1.00	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	16.290	0.814	3670.0	2131.2	13.565	5.634	3.06		Clay	100.0			15.40	1.00	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	14.680	0.744	3691.3	2141.9	11.984	5.798	3.11		Clay	100.0			13.88	1.00	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	13.850	0.674	3711.3	2151.9	11.148	5.616	3.12		Clay	100.0			13.09	1.00	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	12.370	0.595	3732.5	2162.5	9.714	5.668	3.17		Clay	100.0			11.69	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	11.030	0.517	3752.5	2172.5	8.427	5.648	3.22		Clay	100.0			10.43	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	11.140	0.469	3772.5	2182.5	8.480	5.067	3.19		Clay	100.0			10.53	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	12.890	0.445	3793.8	2193.2	10.025	4.049	3.07		Clay	100.0			12.18	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	13.620	0.426	3813.8	2203.2	10.633	3.639	3.02		Clay	100.0			12.87	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	12.030	0.391	3835.0	2213.8	9.136	3.862	3.09		Clay	100.0			11.37	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	11.070	0.312	3855.0	2223.9	8.222	3.415	3.10		Clay	100.0			10.46	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	10.780	0.346	3875.0	2233.9	7.917	3.916	3.15		Clay	100.0			10.19	0.99	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	11.060	0.415	3896.3	2244.5	8.119	4.552	3.18		Clay	100.0			10.45	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	15.480	0.465	3916.3	2254.5	11.995	3.440	2.97		Clay	100.0			14.63	0.98	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	15.610	0.500	3937.5	2265.2	12.044	3.668	2.98		Clay	100.0			14.75	0.98	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	14.360	0.504	3957.5	2275.2	10.884	4.070	3.04		Clay	100.0			13.57	0.98	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	13.670	0.378	3977.5	2285.2	10.223	3.238	3.01		Clay	100.0			12.92	0.98	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	13.980	0.402	3998.8	2295.9	10.437	3.351	3.01		Clay	100.0			13.21	0.98	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	13.540	0.361	4018.8	2305.9	10.001	3.131	3.01		Clay	100.0			12.80	0.98	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	15.620	0.494	4040.0	2316.5	11.742	3.632	2.99		Clay	100.0			14.76	0.98	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	14.560	0.610	4060.0	2326.5	10.771	4.867	3.10		Clay	100.0			13.76	0.98	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	25.500	0.759	4080.0	2336.5	20.081	3.233	2.77		Clay	84.8			24.10	0.97	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	34.220	1.146	4101.3	2347.2	27.411	3.562	2.70		Clay	78.7			32.34	0.97	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	38.190	1.554	4121.3	2357.2	30.654	4.300	2.71		Clay	80.2			36.10	0.97	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	39.910	1.743	4142.5	2367.8	31.961	4.607	2.72		Clay	80.8			37.72	0.97	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	1

PGA (A_{max})	0.58

Total Settlement:	0.14	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	39.720	1.607	4162.5	2377.9	31.658	4.271	2.70		Clay	79.2			37.54	0.97	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	35.150	1.395	4182.5	2387.9	27.689	4.219	2.74		Clay	82.3			33.22	0.97	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	30.720	1.244	4203.8	2398.5	23.863	4.347	2.80		Clay	86.9			29.04	0.97	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	26.500	1.051	4223.8	2408.5	20.251	4.308	2.85		Clay	91.0			25.05	0.97	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	23.830	0.912	4245.0	2419.2	17.946	4.200	2.88		Clay	93.6			22.52	0.97	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	23.910	0.864	4265.0	2429.2	17.930	3.969	2.87		Clay	92.4			22.60	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	25.850	1.005	4285.0	2439.2	19.439	4.240	2.86		Clay	91.7			24.43	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	29.670	1.087	4306.3	2449.9	22.464	3.950	2.79		Clay	86.3			28.04	0.96	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	30.400	1.128	4326.3	2459.9	22.958	3.993	2.79		Clay	85.9			28.73	0.96	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	27.440	1.018	4347.5	2470.5	20.454	4.029	2.83		Clay	89.2			25.94	0.96	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	24.310	0.929	4367.5	2480.5	17.840	4.197	2.88		Clay	93.7			22.98	0.96	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	21.400	0.814	4387.5	2490.5	15.423	4.239	2.94		Clay	97.9			20.23	0.96	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	19.170	0.762	4408.8	2501.2	13.566	4.493	3.00		Clay	100.0			18.12	0.96	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	17.550	0.734	4428.8	2511.2	12.214	4.785	3.05		Clay	100.0			16.59	0.96	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	16.620	0.792	4450.0	2521.8	11.416	5.505	3.11		Clay	100.0			15.71	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	15.530	0.769	4470.0	2531.9	10.502	5.781	3.15		Clay	100.0			14.68	0.95	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	13.950	0.753	4491.3	2542.5	9.207	6.435	3.22		Clay	100.0			13.19	0.95	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	12.130	0.672	4511.3	2552.5	7.737	6.809	3.30		Clay	100.0			11.47	0.95	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	11.460	0.598	4531.3	2562.5	7.176	6.504	3.31		Clay	100.0			10.83	0.95	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	10.620	0.556	4552.5	2573.2	6.485	6.660	3.35		Clay	100.0			10.04	0.95	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	11.010	0.548	4572.5	2583.2	6.754	6.285	3.32		Clay	100.0			10.41	0.95	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	11.720	0.645	4593.8	2593.8	7.266	6.846	3.32		Clay	100.0			11.08	0.95	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	13.230	0.750	4613.8	2603.8	8.390	6.863	3.27		Clay	100.0			12.50	0.95	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	15.610	0.918	4633.8	2613.9	10.171	6.904	3.21		Clay	100.0			14.75	0.95	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	16.720	1.015	4655.0	2624.5	10.968	7.049	3.19		Clay	100.0			15.80	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	19.640	1.098	4675.0	2634.5	13.135	6.347	3.10		Clay	100.0			18.56	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	20.380	1.073	4696.3	2645.2	13.634	5.948	3.07		Clay	100.0			19.26	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	20.190	1.044	4716.3	2655.2	13.432	5.856	3.07		Clay	100.0			19.08	0.94	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	19.020	0.953	4736.3	2665.2	12.496	5.722	3.09		Clay	100.0			17.98	0.94	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	16.410	0.793	4757.5	2675.8	10.487	5.653	3.14		Clay	100.0			15.51	0.94	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	13.710	0.633	4777.5	2685.9	8.430	5.592	3.22		Clay	100.0			12.96	0.94	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	11.240	0.500	4798.8	2696.5	6.557	5.656	3.31		Clay	100.0			10.62	0.94	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	10.230	0.419	4818.8	2706.5	5.779	5.359	3.34		Clay	100.0			9.67	0.94	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	10.280	0.382	4838.8	2716.5	5.787	4.855	3.31		Clay	100.0			9.72	0.94	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	10.790	0.403	4860.0	2727.2	6.131	4.824	3.29		Clay	100.0			10.20	0.94	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	11.750	0.413	4880.0	2737.2	6.803	4.440	3.23		Clay	100.0			11.11	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	13.350	0.450	4901.3	2747.8	7.933	4.131	3.16		Clay	100.0			12.62	0.93	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	14.300	0.456	4921.3	2757.8	8.586	3.851	3.11		Clay	100.0			13.52	0.93	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	14.620	0.459	4941.3	2767.9	8.779	3.780	3.10		Clay	100.0			13.82	0.93	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	14.940	0.518	4962.5	2778.5	8.968	4.158	3.12		Clay	100.0			14.12	0.93	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	18.330	0.554	4982.5	2788.5	11.360	3.496	2.99		Clay	100.0			17.33	0.93	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	21.370	0.596	5003.8	2799.2	13.481	3.158	2.90		Clay	95.3			20.20	0.93	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	21.580	0.731	5023.8	2809.2	13.576	3.835	2.95		Clay	99.2			20.40	0.93	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	22.730	0.796	5043.8	2819.2	14.336	3.940	2.94		Clay	98.3			21.48	0.93	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	24.640	0.847	5065.0	2829.8	15.625	3.830	2.90		Clay	95.3			23.29	0.93	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	26.490	0.972	5085.0	2839.8	16.865	4.060	2.89		Clay	94.5			25.04	0.93	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	29.560	1.031	5106.3	2850.5	18.949	3.819	2.84		Clay	90.0			27.94	0.92	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	28.810	1.099	5126.3	2860.5	18.351	4.188	2.87		Clay	92.9			27.23	0.92	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	25.940	0.991	5146.3	2870.5	16.281	4.240	2.92		Clay	96.4			24.52	0.92	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	22.420	0.922	5167.5	2881.2	13.770	4.648	3.00		Clay	100.0			21.19	0.92	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	20.110	0.763	5187.5	2891.2	12.117	4.354	3.03		Clay	100.0			19.01	0.92	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	19.310	0.714	5208.8	2901.8	11.514	4.272	3.04		Clay	100.0			18.25	0.92	n.a.	n.a.	0.80	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	18.020	0.645	5228.8	2911.8	10.581	4.188	3.06		Clay	100.0			17.03	0.92	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	19.200	0.672	5248.8	2921.9	11.346	4.054	3.03		Clay	100.0			18.15	0.92	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	20.660	0.766	5270.0	2932.5	12.293	4.249	3.01		Clay	100.0			19.53	0.92	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	23.530	0.891	5290.0	2942.5	14.195	4.268	2.97		Clay	100.0			22.24	0.92	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	27.010	0.982	5311.3	2953.2	16.494	4.031	2.90		Clay	95.0			25.53	0.92	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	28.860	1.034	5331.3	2963.2	17.680	3.949	2.87		Clay	92.6			27.28	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	29.390	1.058	5351.3	2973.2	17.970	3.961	2.87		Clay	92.3			27.78	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	28.250	0.991	5372.5	2983.8	17.135	3.876	2.88		Clay	93.1			26.70	0.91	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	27.640	0.927	5392.5	2993.8	16.663	3.717	2.87		Clay	92.9			26.12	0.91	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	25.960	0.790	5413.8	3004.5	15.479	3.399	2.88		Clay	93.0			24.54	0.91	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	24.830	0.668	5433.8	3014.5	14.671	3.023	2.86		Clay	92.1			23.47	0.91	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	24.560	0.637	5455.0	3025.1	14.434	2.917	2.86		Clay	91.8			23.21	0.91	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	23.960	0.623	5475.0	3035.2	13.984	2.937	2.87		Clay	92.8			22.65	0.91	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	24.040	0.582	5495.0	3045.2	13.984	2.733	2.85		Clay	91.3			22.72	0.91	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	23.630	0.638	5516.3	3055.8	13.660	3.054	2.89		Clay	94.3			22.33	0.91	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CPT No.	1

PGA (A_{max})	0.58

Total Settlement:	0.14	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	23.830	0.683	5536.3	3065.8	13.740	3.243	2.90		Clay	95.3			22.52	0.91	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	25.220	0.720	5557.5	3076.5	14.589	3.207	2.88		Clay	93.4			23.84	0.91	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	24.580	0.719	5577.5	3086.5	14.120	3.301	2.90		Clay	94.9			23.23	0.91	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	23.940	0.700	5597.5	3096.5	13.655	3.312	2.91		Clay	95.9			22.63	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	23.610	0.688	5618.8	3107.2	13.389	3.307	2.92		Clay	96.5			22.32	0.90	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	23.380	0.696	5638.8	3117.2	13.192	3.385	2.93		Clay	97.4			22.10	0.90	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	22.890	0.777	5660.0	3127.8	12.827	3.874	2.97		Clay	100.0			21.64	0.90	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	23.250	0.788	5680.0	3137.8	13.009	3.860	2.97		Clay	100.0			21.98	0.90	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	21.800	0.825	5700.0	3147.8	12.040	4.354	3.03		Clay	100.0			20.60	0.90	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	17.180	0.725	5721.3	3158.5	9.067	5.061	3.16		Clay	100.0			16.24	0.90	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	14.220	0.535	5741.3	3168.5	7.164	4.711	3.23		Clay	100.0			13.44	0.90	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	12.010	0.439	5762.5	3179.1	5.743	4.813	3.31		Clay	100.0			11.35	0.90	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	11.160	0.402	5782.5	3189.2	5.186	4.859	3.35		Clay	100.0			10.55	0.90	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	11.590	0.424	5802.5	3199.2	5.432	4.881	3.34		Clay	100.0			10.95	0.90	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	12.020	0.437	5823.8	3209.8	5.675	4.799	3.32		Clay	100.0			11.36	0.90	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	13.110	0.484	5843.8	3219.8	6.328	4.746	3.27		Clay	100.0			12.39	0.90	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.250	0.504	5865.0	3230.5	7.007	4.451	3.22		Clay	100.0			13.47	0.89	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	15.150	0.570	5885.0	3240.5	7.534	4.668	3.21		Clay	100.0			14.32	0.89	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	15.760	0.595	5905.0	3250.5	7.880	4.648	3.19		Clay	100.0			14.90	0.89	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	15.630	0.674	5926.3	3261.1	7.768	5.323	3.23		Clay	100.0			14.77	0.89	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	15.300	0.652	5946.3	3271.2	7.537	5.288	3.24		Clay	100.0			14.46	0.89	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	18.770	0.605	5967.5	3281.8	9.620	3.834	3.07		Clay	100.0			17.74	0.89	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	18.810	0.634	5987.5	3291.8	9.609	4.010	3.08		Clay	100.0			17.78	0.89	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	17.430	0.752	6007.5	3301.8	8.738	5.215	3.19		Clay	100.0			16.47	0.89	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	18.680	0.827	6028.8	3312.5	9.459	5.281	3.16		Clay	100.0			17.66	0.89	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	21.160	0.925	6048.8	3322.5	10.917	5.103	3.10		Clay	100.0			20.00	0.89	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	20.620	0.904	6070.0	3333.1	10.552	5.141	3.12		Clay	100.0			19.49	0.89	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	20.240	0.703	6090.0	3343.2	10.287	4.090	3.07		Clay	100.0			19.13	0.89	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	21.150	0.648	6110.0	3353.2	10.793	3.581	3.01		Clay	100.0			19.99	0.89	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	19.470	1.516	6131.3	3363.8	9.753	9.240	3.31		Clay	100.0			18.40	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	24.520	2.162	6151.3	3373.8	12.712	10.080	3.25		Clay	100.0			23.18	0.88	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	74.970	2.634	6172.5	3384.5	53.723	3.664	2.49		Sand	62.3	129.54		129.54	0.85	110.32	190.79	0.76	0.493	0.889	1.168	2.283	4.63	0.00	0.00
49.540	118.670	2.796	6192.5	3394.5	86.247	2.419	2.22		Sand	40.6	129.54		129.54	0.84	109.27	178.01	0.76	0.493	0.902	0.672	1.246	2.53	0.00	0.00
49.700	137.050	3.586	6212.5	3404.5	99.809	2.677	2.21		Sand	39.7			129.54	0.84	109.08	177.07	0.76	0.492	0.902	0.648	1.193	2.42	0.00	0.00
49.870	133.330	4.225	6233.8	3415.1	96.877	3.245	2.28		Sand	45.4			126.02	0.84	106.03	177.45	0.76	0.492	0.901	0.657	1.213	2.47	0.00	0.00
50.030	116.140	3.545	6253.8	3425.2	83.958	3.136	2.31		Sand	47.8			109.77	0.83	91.10	160.09	0.76	0.491	0.916	0.372	0.611	1.24	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	0.58

Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	400.860	1.189	20.0	20.0	3897.078	0.297	0.70		Unsaturated	0.0			378.88	1.70	644.10	644.10	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	297.040	1.312	41.3	41.3	2010.689	0.442	0.88		Unsaturated	0.0			280.76	1.70	477.29	477.29	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	243.620	1.930	61.3	61.3	1353.248	0.792	1.17		Unsaturated	0.0			230.26	1.70	391.45	391.45	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	239.600	3.017	82.5	82.5	1146.720	1.259	1.38		Unsaturated	0.0			226.47	1.70	384.99	384.99	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	285.800	3.841	102.5	102.5	1227.141	1.344	1.40		Unsaturated	0.0			270.13	1.70	459.22	459.22	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	254.400	4.357	122.5	122.5	999.118	1.713	1.53		Unsaturated	0.0			240.45	1.70	408.77	408.77	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	192.660	4.822	143.8	143.8	698.390	2.504	1.74		Unsaturated	1.8			182.10	1.70	309.57	309.57	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	158.240	4.411	163.8	163.8	537.370	2.789	1.82		Unsaturated	8.8			149.57	1.70	254.26	261.58	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	141.840	3.822	185.0	185.0	453.108	2.696	1.84		Unsaturated	10.2			134.06	1.70	227.91	240.16	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	125.140	3.082	205.0	205.0	379.696	2.465	1.84		Unsaturated	10.3			118.28	1.70	201.08	212.83	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	140.470	2.772	225.0	225.0	406.833	1.975	1.74		Unsaturated	2.4			132.77	1.70	225.71	225.71	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	91.420	2.366	246.3	246.3	252.953	2.592	1.95		Unsaturated	19.1			86.41	1.70	146.89	187.56	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	59.190	2.344	266.3	266.3	157.361	3.970	2.22		Unsaturated	40.6			55.95	1.70	95.11	160.45	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	43.370	1.969	287.5	287.5	110.841	4.556	2.36		Unsaturated	51.6			40.99	1.70	69.69	134.88	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	36.310	1.906	307.5	307.5	89.646	5.271	2.46		Unsaturated	60.2			34.32	1.70	58.34	123.46	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	31.780	1.697	327.5	327.5	75.959	5.369	2.52		Unsaturated	64.2			30.04	1.70	51.06	115.24	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	31.410	1.425	348.8	348.8	72.722	4.561	2.47		Unsaturated	60.9			29.69	1.70	50.47	113.58	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	30.870	1.318	368.8	368.8	69.477	4.295	2.47		Unsaturated	60.3			29.18	1.70	49.60	112.32	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	31.160	1.554	390.0	390.0	68.173	5.019	2.52		Unsaturated	64.9			29.45	1.70	50.07	114.11	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	34.520	1.955	410.0	410.0	73.682	5.698	2.54		Unsaturated	66.5			32.63	1.70	55.47	121.46	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	43.550	2.208	430.0	430.0	90.861	5.095	2.45		Unsaturated	58.9			41.16	1.70	69.98	137.97	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	51.120	2.337	451.3	451.3	104.168	4.593	2.38		Unsaturated	53.2			48.32	1.70	82.14	151.34	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	56.050	2.439	471.3	471.3	111.787	4.369	2.34		Unsaturated	50.3			52.98	1.70	90.06	160.07	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	58.120	2.506	492.5	492.5	113.384	4.330	2.33		Unsaturated	49.8			54.93	1.70	93.39	164.01	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	59.500	2.582	512.5	512.5	113.780	4.358	2.34		Unsaturated	49.9			56.24	1.70	95.60	166.87	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	58.780	2.596	533.8	533.8	110.118	4.437	2.35		Unsaturated	51.1			55.56	1.69	93.69	165.03	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	55.170	2.369	553.8	553.8	101.422	4.315	2.36		Unsaturated	52.0			52.15	1.69	87.96	158.22	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	52.730	2.013	573.8	573.8	95.192	3.838	2.34		Unsaturated	50.3			49.84	1.68	83.95	152.31	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	53.360	1.690	595.0	595.0	94.580	3.185	2.28		Unsaturated	45.5			50.43	1.67	84.13	149.99	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	53.870	1.661	615.0	615.0	93.906	3.101	2.27		Unsaturated	44.9			50.92	1.65	83.91	149.40	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	53.220	1.578	636.3	636.3	91.186	2.983	2.27		Unsaturated	44.6			50.30	1.63	82.16	147.00	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	50.420	1.326	656.3	656.3	85.017	2.648	2.25		Unsaturated	43.2			47.66	1.63	77.83	140.70	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	49.470	1.081	676.3	676.3	82.145	2.200	2.20		Unsaturated	39.4			46.76	1.63	76.12	135.95	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	50.710	0.952	697.5	697.5	82.908	1.891	2.16		Unsaturated	35.4			47.93	1.61	77.29	134.10	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	48.340	1.097	717.5	717.5	77.881	2.285	2.23		Unsaturated	41.6			45.69	1.59	72.87	133.50	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	43.570	1.229	738.8	738.8	69.106	2.844	2.34		Unsaturated	49.9			41.18	1.59	65.45	128.76	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	37.480	1.189	758.8	758.8	58.560	3.205	2.42		Unsaturated	56.9			35.43	1.60	56.57	120.19	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	34.980	1.038	778.8	778.8	53.893	3.002	2.43		Unsaturated	57.4			33.06	1.59	52.67	115.35	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	37.390	0.780	800.0	800.0	56.861	2.107	2.31		Unsaturated	47.6			35.34	1.57	55.61	115.26	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	43.320	0.609	820.0	820.0	65.151	1.419	2.15		Unsaturated	35.1			40.95	1.55	63.50	116.84	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	45.540	0.550	841.3	841.3	67.635	1.218	2.10		Unsaturated	30.7			43.04	1.54	66.12	115.60	0.99	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	47.780	0.580	861.3	861.3	70.149	1.224	2.09		Unsaturated	29.8			45.16	1.51	68.41	117.31	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	50.740	0.535	881.3	871.9	74.063	1.064	2.03		Unsaturated	25.3			47.96	1.51	72.43	115.79	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	47.170	0.526	902.5	882.5	68.375	1.127	2.07		Unsaturated	28.7			44.58	1.51	67.12	114.40	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.380	35.560	0.506	922.5	892.5	51.080	1.442	2.24		Unsaturated	42.0			33.61	1.52	51.04	106.52	0.98	0.370	1.097	n.a.	n.a.	n.a.	0.00	0.00
7.550	24.110	0.509	943.8	903.2	34.198	2.152	2.48		Unsaturated	61.5			22.79	1.55	35.22	94.21	0.98	0.370	1.086	n.a.	n.a.	n.a.	0.00	0.00
7.710	15.110	0.524	963.8	913.2	32.037	3.582	2.65		Unsaturated	74.8			14.28	1.58	22.57	80.57	0.98	0.370	1.077	n.a.	n.a.	n.a.	0.00	0.00
7.870	10.720	0.492	983.8	923.2	22.157	4.805	2.85		Unsaturated	91.1			10.13	1.59	16.14	74.28	0.98	0.370	1.072	n.a.	n.a.	n.a.	0.00	0.00
8.040	8.320	0.420	1005.0	933.9	16.742	5.367	2.97		Clay	100.0			7.86	1.24	n.a.	n.a.	0.98	0.370	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	7.070	0.334	1025.0	943.9	13.895	5.087	3.02		Clay	100.0			6.68	1.24	n.a.	n.a.	0.98	0.374	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	6.360	0.297	1046.3	954.5	12.230	5.081	3.06		Clay	100.0			6.01	1.23	n.a.	n.a.	0.98	0.377	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	5.630	0.260	1066.3	964.5	10.569	5.095	3.11		Clay	100.0			5.32	1.23	n.a.	n.a.	0.98	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	5.340	0.263	1086.3	974.6	9.844	5.474	3.16		Clay	100.0			5.05	1.23	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	5.210	0.262	1107.5	985.2	9.452	5.635	3.18		Clay	100.0			4.92	1.22	n.a.	n.a.	0.98	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	5.630	0.259	1127.5	995.2	10.181	5.120	3.13		Clay	100.0			5.32	1.22	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	5.320	0.263	1148.8	1005.9	9.436	5.548	3.18		Clay	100.0			5.03	1.22	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	5.600	0.267	1168.8	1015.9	9.875	5.319	3.15		Clay	100.0			5.29	1.21	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	5.860	0.278	1188.8	1025.9	10.266	5.281	3.13		Clay	100.0			5.54	1.21	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	5.990	0.304	1210.0	1036.5	10.390	5.651	3.15		Clay	100.0			5.66	1.21	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	6.460	0.340	1230.0	1046.5	11.170	5.817	3.13		Clay	100.0			6.11	1.20	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	7.140	0.383	1251.3	1057.2	12.324	5.873	3.10		Clay	100.0			6.75	1.20	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	7.990	0.435	1271.3	1067.2	13.783	5.919	3.07		Clay	100.0			7.55	1.20	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	8.780	0.479	1291.3	1077.2	15.103	5.894	3.03		Clay	100.0			8.30	1.19	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	9.830	0.516	1312.5	1087.9	16.866	5.624	2.99		Clay	100.0			9.29	1.19	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	10.880	0.547	1332.5	1097.9	18.606	5.354	2.94		Clay	98.1			10.28	1.19	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	11.300	0.569	1353.8	1108.5	19.166	5.357	2.93		Clay	97.4			10.68	1.19	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	10.780	0.567	1373.8	1118.5	18.047	5.616	2.96		Clay	100.0			10.19	1.18	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	9.720	0.533	1393.8	1128.6	15.991	5.903	3.02		Clay	100.0			9.19	1.18	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2

PGA (A_{max})	0.58

Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	9.130	0.507	1415.0	1139.2	14.787	6.020	3.05		Clay	100.0			8.63	1.18	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	8.830	0.478	1435.0	1149.2	14.118	5.893	3.06		Clay	100.0			8.35	1.17	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	8.560	0.472	1456.3	1159.9	13.505	6.029	3.08		Clay	100.0			8.09	1.17	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	9.420	0.513	1476.3	1169.9	14.843	5.903	3.04		Clay	100.0			8.90	1.17	n.a.	n.a.	0.96	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	10.070	0.554	1497.5	1180.5	15.792	5.938	3.02		Clay	100.0			9.52	1.17	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.590	0.547	1517.5	1190.5	14.836	6.197	3.05		Clay	100.0			9.06	1.16	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	9.700	0.542	1537.5	1200.5	14.879	6.070	3.05		Clay	100.0			9.17	1.16	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	9.400	0.533	1558.8	1211.2	14.235	6.184	3.07		Clay	100.0			8.88	1.16	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	9.590	0.526	1578.8	1221.2	14.413	5.971	3.05		Clay	100.0			9.06	1.16	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	9.710	0.528	1600.0	1231.8	14.466	5.928	3.05		Clay	100.0			9.18	1.15	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	9.150	0.509	1620.0	1241.9	13.432	6.102	3.08		Clay	100.0			8.65	1.15	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	8.250	0.461	1640.0	1251.9	11.870	6.210	3.13		Clay	100.0			7.80	1.15	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	7.320	0.408	1661.3	1262.5	10.280	6.283	3.18		Clay	100.0			6.92	1.15	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	6.790	0.374	1681.3	1272.5	9.350	6.283	3.21		Clay	100.0			6.42	1.14	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	6.540	0.369	1702.5	1283.2	8.867	6.485	3.24		Clay	100.0			6.18	1.14	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	7.160	0.383	1722.5	1293.2	9.741	6.087	3.19		Clay	100.0			6.77	1.14	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	8.460	0.428	1742.5	1303.2	11.646	5.635	3.11		Clay	100.0			8.00	1.14	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	9.140	0.499	1763.8	1313.8	12.571	6.036	3.10		Clay	100.0			8.64	1.13	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	10.120	0.518	1783.8	1323.9	13.941	5.612	3.05		Clay	100.0			9.57	1.13	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	9.210	0.473	1805.0	1334.5	12.450	5.694	3.09		Clay	100.0			8.71	1.13	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	8.030	0.388	1825.0	1344.5	10.587	5.453	3.13		Clay	100.0			7.59	1.13	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	7.360	0.333	1845.0	1354.5	9.505	5.168	3.15		Clay	100.0			6.96	1.12	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	6.880	0.320	1866.3	1365.2	8.712	5.379	3.19		Clay	100.0			6.50	1.12	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	6.760	0.340	1886.3	1375.2	8.460	5.842	3.23		Clay	100.0			6.39	1.12	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	7.170	0.382	1907.5	1385.8	8.971	6.148	3.22		Clay	100.0			6.78	1.12	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	8.250	0.440	1927.5	1395.9	10.440	6.042	3.16		Clay	100.0			7.80	1.12	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	9.560	0.487	1947.5	1405.9	12.215	5.674	3.09		Clay	100.0			9.04	1.11	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	10.180	0.512	1968.8	1416.5	12.983	5.566	3.07		Clay	100.0			9.62	1.11	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	10.110	0.544	1988.8	1426.5	12.780	5.968	3.09		Clay	100.0			9.56	1.11	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	10.270	0.545	2010.0	1437.2	12.893	5.886	3.09		Clay	100.0			9.71	1.11	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	10.570	0.571	2030.0	1447.2	13.205	5.978	3.08		Clay	100.0			9.99	1.11	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	10.700	0.586	2050.0	1457.2	13.279	6.057	3.08		Clay	100.0			10.11	1.10	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	11.390	0.603	2071.3	1467.8	14.108	5.826	3.05		Clay	100.0			10.77	1.10	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	11.400	0.601	2091.3	1477.9	14.013	5.807	3.06		Clay	100.0			10.78	1.10	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	11.760	0.592	2112.5	1488.5	14.382	5.527	3.03		Clay	100.0			11.12	1.10	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	12.690	0.573	2132.5	1498.5	15.514	4.933	2.98		Clay	100.0			11.99	1.10	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	13.310	0.599	2152.5	1508.5	16.219	4.894	2.96		Clay	99.7			12.58	1.09	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	15.060	0.676	2173.8	1519.2	18.396	4.835	2.91		Clay	96.1			14.23	1.09	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	19.030	0.848	2193.8	1529.2	23.454	4.728	2.83		Clay	89.3			17.99	1.09	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	17.620	0.921	2215.0	1539.8	21.447	5.576	2.91		Clay	95.4			16.65	1.09	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	13.840	0.821	2235.0	1549.8	16.418	6.455	3.03		Clay	100.0			13.08	1.09	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	11.170	0.695	2255.0	1559.9	12.876	6.921	3.13		Clay	100.0			10.56	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	10.610	0.613	2276.3	1570.5	12.062	6.475	3.14		Clay	100.0			10.03	1.08	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	10.610	0.637	2296.3	1580.5	11.973	6.734	3.15		Clay	100.0			10.03	1.08	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	10.330	0.652	2317.5	1591.2	11.528	7.110	3.18		Clay	100.0			9.76	1.08	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	11.420	0.669	2337.5	1601.2	12.805	6.530	3.12		Clay	100.0			10.79	1.08	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	12.020	0.686	2357.5	1611.2	13.457	6.327	3.09		Clay	100.0			11.36	1.07	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	12.160	0.676	2378.8	1621.8	13.529	6.162	3.08		Clay	100.0			11.49	1.07	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	13.180	0.719	2398.8	1631.9	14.683	6.003	3.05		Clay	100.0			12.46	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	13.790	0.729	2420.0	1642.5	15.318	5.793	3.03		Clay	100.0			13.03	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	14.340	0.772	2440.0	1652.5	15.879	5.887	3.02		Clay	100.0			13.55	1.07	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	14.580	0.796	2461.3	1663.2	16.053	5.961	3.02		Clay	100.0			13.78	1.07	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	15.320	0.819	2481.3	1673.2	16.830	5.819	3.00		Clay	100.0			14.48	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	15.790	0.807	2501.3	1683.2	17.276	5.552	2.97		Clay	100.0			14.92	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	15.410	0.781	2522.5	1693.8	16.706	5.523	2.98		Clay	100.0			14.57	1.06	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	15.390	0.762	2542.5	1703.8	16.573	5.400	2.98		Clay	100.0			14.55	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	15.760	0.753	2563.8	1714.5	16.889	5.200	2.96		Clay	100.0			14.90	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	16.170	0.744	2583.8	1724.5	17.255	5.002	2.94		Clay	98.6			15.28	1.06	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	15.650	0.755	2603.8	1734.5	16.544	5.259	2.97		Clay	100.0			14.79	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	15.570	0.755	2625.0	1745.2	16.339	5.295	2.98		Clay	100.0			14.72	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	16.990	0.766	2645.0	1755.2	17.853	4.887	2.93		Clay	97.1			16.06	1.05	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	18.270	0.753	2666.3	1765.8	19.183	4.445	2.88		Clay	93.1			17.27	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	18.150	0.771	2686.3	1775.8	18.928	4.590	2.89		Clay	94.2			17.16	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	18.210	0.779	2706.3	1785.9	18.878	4.620	2.89		Clay	94.4			17.21	1.05	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	18.000	0.776	2727.5	1796.5	18.521	4.666	2.90		Clay	95.1			17.01	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	18.210	0.745	2747.5	1806.5	18.640	4.424	2.88		Clay	93.7			17.21	1.04	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	18.720	0.780	2768.8	1817.2	19.080	4.499	2.88		Clay	93.5			17.69	1.04	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 2 | PGA (A_{max}) 0.58 | Total Settlement: 0.00 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	17.200	0.760	2788.8	1827.2	17.301	4.809	2.93		Clay	97.6			16.26	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	14.750	0.796	2808.8	1837.2	14.528	5.963	3.05		Clay	100.0			13.94	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	13.880	0.822	2830.0	1847.8	13.492	6.598	3.10		Clay	100.0			13.12	1.04	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	15.680	0.880	2850.0	1857.8	15.346	6.173	3.04		Clay	100.0			14.82	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	19.820	0.989	2871.3	1868.5	19.678	5.377	2.92		Clay	96.8			18.73	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	28.100	1.050	2891.3	1878.5	28.378	3.938	2.71		Clay	80.1			26.56	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	25.410	1.086	2911.3	1888.5	25.368	4.535	2.79		Clay	86.3			24.02	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	22.670	1.003	2932.5	1899.2	22.330	4.729	2.84		Clay	90.5			21.43	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	21.190	0.975	2952.5	1909.2	20.652	4.946	2.88		Clay	93.6			20.03	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	18.870	0.894	2973.8	1919.8	18.109	5.142	2.94		Clay	97.9			17.84	1.03	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	16.900	0.822	2993.8	1929.8	15.963	5.335	2.99		Clay	100.0			15.97	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	14.570	0.705	3013.8	1939.8	13.468	5.395	3.05		Clay	100.0			13.77	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	12.170	0.630	3035.0	1950.5	10.923	5.913	3.14		Clay	100.0			11.50	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	10.150	0.582	3055.0	1960.5	8.796	6.746	3.25		Clay	100.0			9.59	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	8.500	0.520	3076.3	1971.1	7.064	7.475	3.35		Clay	100.0			8.03	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	7.070	0.338	3096.3	1981.2	5.574	6.119	3.38		Clay	100.0			6.68	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	6.380	0.231	3116.3	1991.2	4.843	4.780	3.37		Clay	100.0			6.03	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	6.880	0.238	3137.5	2001.8	5.306	4.472	3.32		Clay	100.0			6.50	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	6.830	0.285	3157.5	2011.8	5.220	5.427	3.38		Clay	100.0			6.46	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	8.020	0.349	3178.8	2022.5	6.359	5.432	3.31		Clay	100.0			7.58	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	11.130	0.392	3198.8	2032.5	9.378	4.113	3.10		Clay	100.0			10.52	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	12.180	0.408	3218.8	2042.5	10.351	3.863	3.05		Clay	100.0			11.51	1.01	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	10.330	0.371	3240.0	2053.2	8.485	4.256	3.14		Clay	100.0			9.76	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	8.840	0.325	3260.0	2063.2	6.989	4.513	3.23		Clay	100.0			8.36	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	8.590	0.310	3281.3	2073.8	6.702	4.457	3.24		Clay	100.0			8.12	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	8.840	0.309	3301.3	2083.8	6.900	4.298	3.22		Clay	100.0			8.36	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	10.110	0.340	3321.3	2093.8	8.071	4.018	3.15		Clay	100.0			9.56	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	11.420	0.372	3342.5	2104.5	9.265	3.818	3.08		Clay	100.0			10.79	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	11.500	0.392	3362.5	2114.5	9.287	3.991	3.09		Clay	100.0			10.87	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	11.840	0.421	3383.8	2125.1	9.551	4.144	3.09		Clay	100.0			11.19	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	11.400	0.434	3403.8	2135.2	9.084	4.479	3.13		Clay	100.0			10.78	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	11.040	0.439	3425.0	2145.8	8.694	4.702	3.16		Clay	100.0			10.43	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	10.680	0.399	3445.0	2155.8	8.310	4.457	3.16		Clay	100.0			10.09	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	11.590	0.392	3465.0	2165.8	9.103	3.979	3.10		Clay	100.0			10.95	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	12.850	0.458	3486.3	2176.5	10.206	4.123	3.07		Clay	100.0			12.15	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	15.310	0.576	3506.3	2186.5	12.401	4.246	3.01		Clay	100.0			14.47	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	20.080	0.820	3527.5	2197.1	16.673	4.479	2.92		Clay	97.0			18.98	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	28.610	1.068	3547.5	2207.1	24.318	3.979	2.77		Clay	84.3			27.04	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	33.330	1.223	3567.5	2217.2	28.456	3.877	2.71		Clay	79.7			31.50	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	29.440	1.175	3588.8	2227.8	24.819	4.249	2.78		Clay	85.3			27.83	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	23.390	0.980	3608.8	2237.8	19.292	4.542	2.88		Clay	93.4			22.11	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	19.270	0.785	3630.0	2248.5	15.526	4.500	2.95		Clay	99.0			18.21	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	16.130	0.677	3650.0	2258.5	12.668	4.733	3.03		Clay	100.0			15.25	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	12.840	0.584	3670.0	2268.5	9.702	5.305	3.15		Clay	100.0			12.14	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	12.030	0.432	3691.3	2279.1	8.937	4.246	3.12		Clay	100.0			11.37	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	12.480	0.401	3711.3	2289.2	9.282	3.773	3.08		Clay	100.0			11.80	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	11.180	0.407	3732.5	2299.8	8.100	4.369	3.17		Clay	100.0			10.57	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	11.350	0.456	3752.5	2309.8	8.203	4.813	3.19		Clay	100.0			10.73	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	12.710	0.541	3772.5	2319.8	9.332	4.999	3.15		Clay	100.0			12.01	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	12.560	0.546	3793.8	2330.5	9.151	5.117	3.16		Clay	100.0			11.87	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	12.000	0.498	3813.8	2340.5	8.625	4.931	3.18		Clay	100.0			11.34	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	11.260	0.451	3835.0	2351.1	7.947	4.831	3.20		Clay	100.0			10.64	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	12.270	0.496	3855.0	2361.1	8.761	4.797	3.16		Clay	100.0			11.60	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	15.350	0.608	3875.0	2371.2	11.313	4.530	3.06		Clay	100.0			14.51	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	19.370	0.730	3896.3	2381.8	14.629	4.191	2.95		Clay	99.1			18.31	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	21.430	0.758	3916.3	2391.8	16.282	3.891	2.89		Clay	94.5			20.26	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	21.880	0.702	3937.5	2402.5	16.576	3.526	2.86		Clay	91.9			20.68	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	20.260	0.757	3957.5	2412.5	15.156	4.138	2.94		Clay	97.8			19.15	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	18.900	0.786	3977.5	2422.5	13.962	4.647	2.99		Clay	100.0			17.86	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	19.790	0.994	3998.8	2433.1	14.624	5.589	3.03		Clay	100.0			18.71	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	36.850	1.067	4018.8	2443.2	28.521	3.063	2.64		Clay	74.2			34.83	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	49.140	1.251	4040.0	2453.8	41.358	2.655	2.48		Sand	61.2	64.92	1.72	111.66	0.95	106.02	184.88	0.86	0.519	0.967	0.890	1.872	3.61	0.00	0.00
32.480	51.980	1.453	4060.0	2463.8	43.753	2.910	2.49		Sand	61.9	64.92	1.72	111.66	0.95	105.87	184.92	0.86	0.518	0.966	0.892	1.874	3.61	0.00	0.00
32.640	48.240	0.971	4080.0	2473.8	40.386	2.101	2.42		Sand	56.5	64.92	1.72	111.66	0.95	105.67	182.68	0.86	0.518	0.966	0.810	1.672	3.22	0.00	0.00
32.810	53.020	1.095	4101.3	2484.5	44.460	2.149	2.39		Sand	54.5	64.92	1.72	111.66	0.94	105.48	181.58	0.86	0.518	0.965	0.774	1.582	3.05	0.00	0.00
32.970	68.690	1.156	4121.3	2494.5	58.003	1.735	2.25		Sand	42.6		1.72	111.67	0.94	105.16	174.47	0.86	0.518	0.967	0.588	1.138	2.20	0.00	0.00
33.140	37.220	0.898	4142.5	2505.1	30.533	2.555	2.57		Sand	68.4	64.92	1.72	111.66	0.94	105.28	186.14	0.85	0.518	0.962	0.941	1.988	3.84	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	2	PGA (A_{max})	0.58	Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	20.200	0.719	4162.5	2515.1	14.408	3.969	2.94		Clay	98.3			19.09	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	16.180	0.521	4182.5	2525.2	11.159	3.694	3.01		Clay	100.0			15.29	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	15.900	0.541	4203.8	2535.8	10.883	3.918	3.03		Clay	100.0			15.03	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	14.560	0.537	4223.8	2545.8	9.779	4.313	3.10		Clay	100.0			13.76	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	12.470	0.540	4245.0	2556.5	8.095	5.216	3.21		Clay	100.0			11.79	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	10.240	0.471	4265.0	2566.5	6.318	5.807	3.33		Clay	100.0			9.68	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	8.860	0.373	4285.0	2576.5	5.214	5.557	3.38		Clay	100.0			8.37	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	9.020	0.316	4306.3	2587.1	5.308	4.599	3.33		Clay	100.0			8.53	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	11.460	0.353	4326.3	2597.1	7.159	3.800	3.17		Clay	100.0			10.83	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	12.820	0.433	4347.5	2607.8	8.165	4.068	3.14		Clay	100.0			12.12	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	16.930	0.503	4367.5	2617.8	11.266	3.411	2.99		Clay	100.0			16.00	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	16.410	0.572	4387.5	2627.8	10.820	4.020	3.04		Clay	100.0			15.51	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	16.190	0.629	4408.8	2638.5	10.601	4.497	3.08		Clay	100.0			15.30	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	16.490	0.671	4428.8	2648.5	10.780	4.700	3.09		Clay	100.0			15.59	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	17.050	0.758	4450.0	2659.1	11.150	5.110	3.10		Clay	100.0			16.12	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	17.170	0.842	4470.0	2669.1	11.191	5.636	3.12		Clay	100.0			16.23	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	18.390	0.892	4491.3	2679.8	12.049	5.522	3.09		Clay	100.0			17.38	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	18.980	0.896	4511.3	2689.8	12.435	5.359	3.07		Clay	100.0			17.94	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	20.260	0.857	4531.3	2699.8	13.330	4.760	3.02		Clay	100.0			19.15	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	20.600	0.958	4552.5	2710.5	13.521	5.227	3.04		Clay	100.0			19.47	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	20.330	1.003	4572.5	2720.5	13.265	5.556	3.06		Clay	100.0			19.22	0.94	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	23.360	0.973	4593.8	2731.1	15.425	4.618	2.96		Clay	99.7			22.08	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	23.560	0.925	4613.8	2741.1	15.507	4.353	2.94		Clay	98.3			22.27	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	20.770	0.847	4633.8	2751.1	13.415	4.587	3.00		Clay	100.0			19.63	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	18.600	0.754	4655.0	2761.8	11.784	4.633	3.05		Clay	100.0			17.58	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	16.650	0.657	4675.0	2771.8	10.327	4.589	3.09		Clay	100.0			15.74	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	14.960	0.527	4696.3	2782.4	9.065	4.175	3.11		Clay	100.0			14.14	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	13.730	0.462	4716.3	2792.5	8.145	4.064	3.15		Clay	100.0			12.98	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	13.910	0.497	4736.3	2802.5	8.237	4.306	3.16		Clay	100.0			13.15	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	16.780	0.641	4757.5	2813.1	10.239	4.449	3.09		Clay	100.0			15.86	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	23.940	0.803	4777.5	2823.1	15.268	3.727	2.90		Clay	95.4			22.63	0.93	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	24.780	0.913	4798.8	2833.8	15.796	4.077	2.92		Clay	96.4			23.42	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	22.300	0.967	4818.8	2843.8	13.989	4.861	3.01		Clay	100.0			21.08	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	23.980	0.992	4838.8	2853.8	15.110	4.601	2.97		Clay	100.0			22.67	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	26.080	1.083	4860.0	2864.4	16.513	4.578	2.93		Clay	97.7			24.65	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	26.290	1.099	4880.0	2874.5	16.594	4.607	2.93		Clay	97.7			24.85	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	26.660	1.123	4901.3	2885.1	16.782	4.638	2.93		Clay	97.6			25.20	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	27.610	1.134	4921.3	2895.1	17.374	4.509	2.91		Clay	96.0			26.10	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	27.280	1.148	4941.3	2905.1	17.080	4.628	2.93		Clay	97.1			25.78	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	26.110	1.105	4962.5	2915.8	16.207	4.678	2.95		Clay	98.7			24.68	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	25.870	1.175	4982.5	2925.8	15.981	5.025	2.97		Clay	100.0			24.45	0.92	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	26.110	1.152	5003.8	2936.4	16.079	4.878	2.96		Clay	99.9			24.68	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	27.830	1.179	5023.8	2946.5	17.185	4.657	2.93		Clay	97.1			26.30	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	28.980	1.274	5043.8	2956.5	17.898	4.814	2.92		Clay	96.7			27.39	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	26.370	1.721	5065.0	2967.1	16.068	7.218	3.07		Clay	100.0			24.92	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	23.870	2.618	5085.0	2977.1	14.328	12.275	3.27		Clay	100.0			22.56	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	53.660	3.176	5106.3	2987.8	34.211	6.215	2.79		Clay	86.4			50.72	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	93.070	3.719	5126.3	2997.8	71.871	4.109	2.44		Sand	58.4	90.79	1.6	145.26	0.90	130.39	215.02	0.81	0.510	0.895	4.924	9.700	19.04	0.00	0.00
41.170	94.920	4.074	5146.3	3007.8	73.210	4.412	2.46		Sand	59.8	90.79	1.6	145.26	0.90	130.28	215.46	0.81	0.509	0.894	5.083	10.003	19.64	0.00	0.00
41.340	96.060	3.625	5167.5	3018.4	73.974	3.878	2.42		Sand	56.2		1.6	145.27	0.90	130.04	213.64	0.81	0.509	0.893	4.464	8.774	17.24	0.00	0.00
41.500	88.430	2.750	5187.5	3028.5	67.816	3.203	2.38		Sand	53.4		1.6	133.73	0.89	118.71	197.89	0.81	0.509	0.908	1.681	3.358	6.60	0.00	0.00
41.670	103.000	1.902	5208.8	3039.1	79.180	1.894	2.17		Sand	36.6		1.6	155.77	0.89	138.98	211.09	0.80	0.509	0.891	3.747	7.349	14.45	0.00	0.00
41.830	108.400	1.544	5228.8	3049.1	83.294	1.460	2.08		Sand	29.2		1.6	163.93	0.89	146.01	209.62	0.80	0.508	0.892	3.398	6.669	13.12	0.00	0.00
41.990	109.460	1.481	5248.8	3059.1	83.983	1.387	2.06		Sand	27.8		1.6	165.53	0.89	147.21	208.63	0.80	0.508	0.893	3.186	6.255	12.31	0.00	0.00
42.160	88.140	1.795	5270.0	3069.8	67.098	2.100	2.25		Sand	43.3	103.46	1.6	165.54	0.90	148.45	229.07	0.80	0.508	0.888	15.113	29.537	58.18	0.00	0.00
42.320	48.200	1.267	5290.0	3079.8	29.583	2.781	2.60		Clay	71.1			45.56	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	31.790	1.090	5311.3	3090.4	18.855	3.741	2.83		Clay	89.7			30.05	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	19.800	0.883	5331.3	3100.5	11.053	5.153	3.10		Clay	100.0			18.71	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	19.570	0.859	5351.3	3110.5	10.863	5.086	3.10		Clay	100.0			18.50	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	19.980	0.851	5372.5	3121.1	11.082	4.920	3.09		Clay	100.0			18.88	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	20.400	0.855	5392.5	3131.1	11.308	4.827	3.08		Clay	100.0			19.28	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	19.020	0.755	5413.8	3141.8	10.385	4.625	3.09		Clay	100.0			17.98	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	17.450	0.663	5433.8	3151.8	9.349	4.499	3.12		Clay	100.0			16.49	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	16.300	0.614	5455.0	3162.4	8.584	4.527	3.15		Clay	100.0			15.41	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	16.260	0.494	5475.0	3172.4	8.525	3.651	3.10		Clay	100.0			15.37	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	16.770	0.570	5495.0	3182.5	8.812	4.063	3.12		Clay	100.0			15.85	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	16.320	0.578	5516.3	3193.1	8.494	4.264	3.14		Clay	100.0			15.43	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 2

PGA (A_{max}) 0.58

Total Settlement: 0.00 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	16.690	0.593	5536.3	3203.1	8.693	4.262	3.13		Clay	100.0			15.78	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	17.270	0.555	5557.5	3213.8	9.018	3.829	3.09		Clay	100.0			16.32	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	16.660	0.487	5577.5	3223.8	8.606	3.507	3.09		Clay	100.0			15.75	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	15.020	0.447	5597.5	3233.8	7.558	3.658	3.15		Clay	100.0			14.20	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	13.440	0.532	5618.8	3244.4	6.553	5.007	3.28		Clay	100.0			12.70	0.89	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.890	0.732	5638.8	3254.4	6.803	6.609	3.33		Clay	100.0			13.13	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	18.280	1.225	5660.0	3265.1	9.464	7.926	3.27		Clay	100.0			17.28	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	28.790	1.899	5680.0	3275.1	15.847	7.316	3.08		Clay	100.0			27.21	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	89.730	2.365	5700.0	3285.1	65.905	2.722	2.34		Sand	50.0	232.25		232.25	0.89	206.80	307.59	0.78	0.501	0.868	#########	########	##########	0.00	0.00
45.770	181.470	2.348	5721.3	3295.8	135.269	1.315	1.89		Sand	14.5	232.25		232.25	0.88	204.54	234.11	0.78	0.501	0.867	23.997	45.776	91.41	0.00	0.00
45.930	238.480	2.633	5741.3	3305.8	178.167	1.118	1.76		Sand	3.7	232.25		232.25	0.86	200.57	200.58	0.78	0.500	0.882	1.953	3.789	7.57	0.00	0.00
46.100	245.720	2.583	5762.5	3316.4	183.339	1.064	1.74		Sand	1.8			232.25	0.86	200.32	200.32	0.78	0.500	0.881	1.925	3.732	7.46	0.00	0.00
46.260	238.830	2.139	5782.5	3326.4	177.861	0.907	1.70		Sand	0.0			225.74	0.86	193.74	193.74	0.78	0.500	0.889	1.351	2.644	5.29	0.00	0.00
46.420	241.650	1.769	5802.5	3336.5	179.709	0.741	1.63		Sand	0.0			228.40	0.86	196.11	196.11	0.78	0.499	0.886	1.528	2.977	5.96	0.00	0.00
46.590	245.140	1.754	5823.8	3347.1	182.038	0.724	1.62		Sand	0.0			231.70	0.86	199.10	199.10	0.78	0.499	0.881	1.797	3.481	6.98	0.00	0.00
46.750	248.370	2.412	5843.8	3357.1	184.183	0.983	1.71		Sand	0.0			234.75	0.86	201.86	201.86	0.78	0.499	0.876	2.102	4.052	8.12	0.00	0.00
46.920	236.850	4.896	5865.0	3367.8	175.253	2.093	1.97		Sand	20.5	234.75		234.75	0.88	207.66	261.04	0.77	0.498	0.861	532.136	1007.486	2021.58	0.00	0.00
47.080	174.560	4.186	5885.0	3377.8	128.386	2.439	2.11		Sand	31.5	234.75		234.75	0.88	207.50	287.61	0.77	0.498	0.860	39415.845	74548.219	149687.97	0.00	0.00
47.240	107.670	4.203	5905.0	3387.8	78.223	4.014	2.41		Sand	55.9	234.75		234.75	0.88	207.34	311.99	0.77	0.498	0.859	#########	########	##########	0.00	0.00
47.410	68.410	3.094	5926.3	3398.4	38.516	4.728	2.67		Clay	76.8			64.66	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	118.820	3.543	5946.3	3408.4	86.274	3.058	2.29		Sand	46.5	122.62	1.72	210.91	0.88	185.98	278.71	0.77	0.497	0.857	7960.385	15008.189	30199.45	0.00	0.00
47.740	129.730	3.553	5967.5	3419.1	94.244	2.803	2.24		Sand	42.2		1.72	210.90	0.88	185.82	274.80	0.77	0.497	0.856	4157.068	7829.015	15765.25	0.00	0.00
47.900	123.690	3.782	5987.5	3429.1	89.614	3.133	2.29		Sand	46.3		1.72	201.08	0.88	177.04	267.26	0.77	0.496	0.855	1290.869	2428.605	4893.91	0.00	0.00
48.060	108.100	4.140	6007.5	3439.1	77.918	3.940	2.41		Sand	55.5		1.72	175.74	0.87	153.71	243.43	0.77	0.496	0.854	61.876	116.293	234.51	0.00	0.00
48.230	121.940	3.925	6028.8	3449.8	88.035	3.301	2.31		Sand	48.0		1.72	198.24	0.88	174.26	265.07	0.77	0.496	0.853	936.875	1758.897	3549.56	0.00	0.00
48.390	82.810	3.143	6048.8	3459.8	58.976	3.939	2.49		Sand	61.9	115.26	1.72	198.25	0.88	174.13	272.50	0.77	0.495	0.852	2877.328	5396.411	10898.06	0.00	0.00
48.560	47.540	2.352	6070.0	3470.4	25.648	5.286	2.83		Clay	89.6			44.93	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	29.150	1.513	6090.0	3480.4	15.001	5.795	3.03		Clay	100.0			27.55	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	21.690	1.153	6110.0	3490.4	10.678	6.187	3.16		Clay	100.0			20.50	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	15.280	0.901	6131.3	3501.1	6.977	7.375	3.36		Clay	100.0			14.44	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	13.210	0.746	6151.3	3511.1	5.773	7.356	3.42		Clay	100.0			12.49	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	12.230	0.700	6172.5	3521.7	5.193	7.660	3.47		Clay	100.0			11.56	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	10.720	0.781	6192.5	3531.8	4.317	10.238	3.61		Clay	100.0			10.13	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	10.710	0.691	6212.5	3541.8	4.294	9.093	3.58		Clay	100.0			10.12	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	15.110	0.886	6233.8	3552.4	6.752	7.386	3.37		Clay	100.0			14.28	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	17.850	1.377	6253.8	3562.4	8.266	9.355	3.36		Clay	100.0			16.87	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.58

Total Settlement:	0.21	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	436.460	1.230	20.0	20.0	4243.182	0.282	0.69		Unsaturated	0.0			412.53	1.70	701.31	701.31	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	281.540	0.956	41.3	41.3	1905.761	0.340	0.77		Unsaturated	0.0			266.11	1.70	452.38	452.38	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	241.040	1.370	61.3	61.3	1338.915	0.568	1.03		Unsaturated	0.0			227.83	1.70	387.30	387.30	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	223.430	1.661	82.5	82.5	1069.317	0.743	1.18		Unsaturated	0.0			211.18	1.70	359.01	359.01	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	223.650	2.362	102.5	102.5	960.240	1.056	1.34		Unsaturated	0.0			211.39	1.70	359.36	359.36	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	202.070	3.231	122.5	122.5	793.550	1.599	1.53		Unsaturated	0.0			190.99	1.70	324.69	324.69	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	160.550	3.711	143.8	143.8	581.948	2.313	1.73		Unsaturated	1.7			151.75	1.70	257.97	257.97	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	128.460	3.933	163.8	163.8	436.187	3.064	1.90		Unsaturated	14.8			121.42	1.70	206.41	237.57	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	104.750	3.748	185.0	185.0	334.547	3.581	2.01		Unsaturated	23.8			99.01	1.70	168.31	225.06	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	85.070	3.337	205.0	205.0	258.017	3.928	2.10		Unsaturated	31.0			80.41	1.70	136.69	201.22	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	66.940	2.620	225.0	225.0	193.703	3.921	2.17		Unsaturated	36.2			63.27	1.70	107.56	172.00	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	62.770	2.359	246.3	246.3	173.574	3.766	2.18		Unsaturated	37.2			59.33	1.70	100.86	164.67	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	59.550	2.140	266.3	266.3	158.321	3.601	2.18		Unsaturated	37.7			56.29	1.70	95.69	158.79	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	58.890	1.932	287.5	287.5	150.638	3.289	2.16		Unsaturated	36.2			55.66	1.70	94.62	156.09	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	54.900	1.630	307.5	307.5	135.739	2.976	2.16		Unsaturated	35.6			51.89	1.70	88.21	147.68	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	52.620	1.337	327.5	327.5	126.027	2.548	2.13		Unsaturated	33.1			49.74	1.70	84.55	140.61	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	51.860	1.100	348.8	348.8	120.333	2.129	2.08		Unsaturated	29.4			49.02	1.70	83.33	134.75	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	49.090	0.894	368.8	368.8	110.730	1.828	2.06		Unsaturated	27.5			46.40	1.70	78.88	126.79	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	46.640	0.838	390.0	390.0	102.254	1.804	2.08		Unsaturated	29.1			44.08	1.70	74.94	124.30	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	46.260	0.936	410.0	410.0	98.891	2.032	2.12		Unsaturated	32.9			43.72	1.70	74.33	127.96	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	48.350	1.081	430.0	430.0	100.925	2.245	2.15		Unsaturated	34.9			45.70	1.70	77.69	134.09	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	44.380	1.290	451.3	451.3	90.373	2.922	2.27		Unsaturated	44.3			41.95	1.70	71.31	133.21	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	36.690	1.442	471.3	471.3	73.012	3.955	2.43		Unsaturated	57.0			34.68	1.70	58.95	123.26	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	34.340	1.453	492.5	492.5	66.795	4.263	2.48		Unsaturated	61.0			32.46	1.70	55.18	119.66	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	33.310	1.333	512.5	512.5	63.481	4.032	2.47		Unsaturated	60.8			31.48	1.70	53.52	117.47	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	34.290	1.052	533.8	533.8	64.029	3.091	2.39		Unsaturated	53.9			32.41	1.70	55.10	117.24	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	34.890	0.752	553.8	553.8	63.952	2.171	2.28		Unsaturated	45.3			32.98	1.70	56.06	114.67	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	34.120	0.568	573.8	573.8	61.412	1.680	2.22		Unsaturated	40.4			32.25	1.70	54.82	110.24	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	36.020	0.477	595.0	595.0	63.673	1.335	2.14		Unsaturated	34.3			34.05	1.70	57.88	109.30	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	38.080	0.438	615.0	615.0	66.223	1.160	2.09		Unsaturated	30.2			35.99	1.70	61.19	109.12	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	38.370	0.458	636.3	636.3	65.590	1.204	2.10		Unsaturated	31.3			36.27	1.70	61.65	110.87	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	38.870	0.621	656.3	656.3	65.414	1.611	2.18		Unsaturated	37.8			36.74	1.70	62.46	117.84	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	38.960	0.884	676.3	676.3	64.573	2.288	2.29		Unsaturated	46.3			36.82	1.68	61.69	122.27	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	30.960	1.058	697.5	697.5	50.394	3.456	2.49		Unsaturated	62.5			29.26	1.69	49.38	112.61	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	22.370	1.084	717.5	717.5	44.355	4.924	2.64		Unsaturated	74.4			21.14	1.70	35.94	97.83	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	16.090	0.813	738.8	738.8	42.560	5.174	2.67		Unsaturated	76.6			15.21	1.70	25.85	85.11	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	15.180	0.551	758.8	758.8	28.680	3.719	2.69		Unsaturated	78.5			14.35	1.70	24.39	83.50	0.99	0.372	1.096	n.a.	n.a.	n.a.	0.00	0.00
6.230	19.170	0.529	778.8	778.8	35.736	2.817	2.54		Unsaturated	66.4			18.12	1.69	30.55	89.34	0.99	0.372	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.400	23.390	0.508	800.0	800.0	35.340	2.209	2.48		Unsaturated	61.2			22.11	1.64	36.25	95.45	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	19.360	0.504	820.0	820.0	28.772	2.658	2.60		Unsaturated	70.8			18.30	1.64	30.02	89.54	0.99	0.372	1.093	n.a.	n.a.	n.a.	0.00	0.00
6.730	12.980	0.466	841.3	841.3	29.859	3.706	2.68		Unsaturated	77.4			12.27	1.66	20.40	78.15	0.99	0.371	1.083	n.a.	n.a.	n.a.	0.00	0.00
6.890	10.980	0.359	861.3	861.3	24.498	3.401	2.72		Unsaturated	80.6			10.38	1.66	17.19	74.43	0.98	0.371	1.078	n.a.	n.a.	n.a.	0.00	0.00
7.050	10.770	0.377	881.3	871.9	23.694	3.654	2.75		Unsaturated	83.1			10.18	1.65	16.75	74.18	0.98	0.371	1.077	n.a.	n.a.	n.a.	0.00	0.00
7.220	9.310	0.351	902.5	882.5	20.076	3.957	2.83		Unsaturated	89.3			8.80	1.64	14.46	71.90	0.98	0.371	1.075	n.a.	n.a.	n.a.	0.00	0.00
7.380	9.340	0.345	922.5	892.5	19.895	3.882	2.83		Unsaturated	89.1			8.83	1.63	14.42	71.82	0.98	0.370	1.074	n.a.	n.a.	n.a.	0.00	0.00
7.550	9.910	0.319	943.8	903.2	20.900	3.384	2.77		Unsaturated	84.7			9.37	1.62	15.18	72.33	0.98	0.370	1.073	n.a.	n.a.	n.a.	0.00	0.00
7.710	14.800	0.355	963.8	913.2	24.370	2.476	2.64		Unsaturated	73.8			13.99	1.58	22.14	79.87	0.98	0.370	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.870	20.690	0.325	983.8	923.2	28.902	1.611	2.46		Unsaturated	60.1			19.56	1.55	30.28	87.52	0.98	0.370	1.080	n.a.	n.a.	n.a.	0.00	0.00
8.040	16.140	0.234	1005.0	933.9	22.248	1.496	2.54		Sand	66.2		1.8	27.46	1.50	41.06	102.84	0.98	0.370	1.089	0.141	0.196	0.53	0.03	0.06
8.200	10.200	0.190	1025.0	943.9	20.527	1.957	2.63		Clay	73.8			9.64	1.24	n.a.	n.a.	0.98	0.374	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	7.040	0.203	1046.3	954.5	13.655	3.118	2.90		Clay	94.7			6.65	1.23	n.a.	n.a.	0.98	0.377	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	5.480	0.205	1066.3	964.5	10.258	4.152	3.07		Clay	100.0			5.18	1.23	n.a.	n.a.	0.98	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	5.070	0.210	1086.3	974.6	9.290	4.643	3.13		Clay	100.0			4.79	1.23	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	4.850	0.208	1107.5	985.2	8.722	4.846	3.17		Clay	100.0			4.58	1.22	n.a.	n.a.	0.98	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	4.900	0.223	1127.5	995.2	8.714	5.136	3.18		Clay	100.0			4.63	1.22	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	4.930	0.210	1148.8	1005.9	8.661	4.831	3.17		Clay	100.0			4.66	1.22	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	4.640	0.195	1168.8	1015.9	7.985	4.796	3.19		Clay	100.0			4.39	1.21	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	4.380	0.182	1188.8	1025.9	7.380	4.800	3.22		Clay	100.0			4.14	1.21	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	4.330	0.168	1210.0	1036.5	7.187	4.502	3.22		Clay	100.0			4.09	1.21	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	4.120	0.165	1230.0	1046.5	6.698	4.719	3.25		Clay	100.0			3.89	1.20	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	4.050	0.163	1251.3	1057.2	6.478	4.760	3.27		Clay	100.0			3.83	1.20	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	4.420	0.169	1271.3	1067.2	7.092	4.458	3.22		Clay	100.0			4.18	1.20	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	4.530	0.197	1291.3	1077.2	7.212	5.059	3.24		Clay	100.0			4.28	1.19	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	5.170	0.236	1312.5	1087.9	8.298	5.220	3.20		Clay	100.0			4.89	1.19	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	6.170	0.310	1332.5	1097.9	10.026	5.638	3.16		Clay	100.0			5.83	1.19	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	6.940	0.360	1353.8	1108.5	11.300	5.743	3.12		Clay	100.0			6.56	1.19	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	7.310	0.427	1373.8	1118.5	11.843	6.450	3.14		Clay	100.0			6.91	1.18	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	8.570	0.466	1393.8	1128.6	13.953	5.914	3.06		Clay	100.0			8.10	1.18	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.58

Total Settlement:	0.21	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	9.090	0.511	1415.0	1139.2	14.717	6.094	3.05		Clay	100.0			8.59	1.18	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	9.160	0.540	1435.0	1149.2	14.693	6.391	3.07		Clay	100.0			8.66	1.17	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	9.580	0.542	1456.3	1159.9	15.264	6.120	3.04		Clay	100.0			9.05	1.17	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	9.690	0.534	1476.3	1169.9	15.304	5.966	3.03		Clay	100.0			9.16	1.17	n.a.	n.a.	0.97	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	8.950	0.455	1497.5	1180.5	13.894	5.550	3.05		Clay	100.0			8.46	1.17	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.160	0.468	1517.5	1190.5	14.114	5.571	3.04		Clay	100.0			8.66	1.16	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	9.450	0.531	1537.5	1200.5	14.462	6.119	3.06		Clay	100.0			8.93	1.16	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	10.880	0.614	1558.8	1211.2	16.679	6.080	3.01		Clay	100.0			10.28	1.16	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	11.940	0.668	1578.8	1221.2	18.262	5.992	2.98		Clay	100.0			11.29	1.16	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	12.320	0.681	1600.0	1231.8	18.704	5.909	2.97		Clay	100.0			11.64	1.15	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	12.520	0.672	1620.0	1241.9	18.859	5.736	2.95		Clay	99.4			11.83	1.15	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	12.400	0.653	1640.0	1251.9	18.500	5.636	2.96		Clay	99.5			11.72	1.15	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	11.550	0.705	1661.3	1262.5	16.981	6.573	3.03		Clay	100.0			10.92	1.15	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	10.380	0.629	1681.3	1272.5	14.993	6.598	3.07		Clay	100.0			9.81	1.14	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	10.390	0.569	1702.5	1283.2	14.867	5.968	3.04		Clay	100.0			9.82	1.14	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	10.100	0.527	1722.5	1293.2	14.288	5.704	3.04		Clay	100.0			9.55	1.14	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	10.010	0.540	1742.5	1303.2	14.025	5.906	3.06		Clay	100.0			9.46	1.14	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	9.100	0.507	1763.8	1313.8	12.510	6.163	3.11		Clay	100.0			8.60	1.13	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	8.450	0.443	1783.8	1323.9	11.418	5.861	3.13		Clay	100.0			7.99	1.13	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	7.720	0.402	1805.0	1334.5	10.217	5.894	3.16		Clay	100.0			7.30	1.13	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	7.610	0.386	1825.0	1344.5	9.963	5.763	3.17		Clay	100.0			7.19	1.13	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	7.910	0.387	1845.0	1354.5	10.317	5.540	3.14		Clay	100.0			7.48	1.12	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	7.310	0.363	1866.3	1365.2	9.342	5.685	3.19		Clay	100.0			6.91	1.12	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	6.710	0.331	1886.3	1375.2	8.387	5.731	3.22		Clay	100.0			6.34	1.12	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	6.330	0.268	1907.5	1385.8	7.759	4.976	3.21		Clay	100.0			5.98	1.12	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	6.140	0.262	1927.5	1395.9	7.417	5.062	3.23		Clay	100.0			5.80	1.12	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	6.210	0.263	1947.5	1405.9	7.449	5.028	3.23		Clay	100.0			5.87	1.11	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	6.270	0.323	1968.8	1416.5	7.463	6.115	3.28		Clay	100.0			5.93	1.11	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	7.320	0.391	1988.8	1426.5	8.869	6.183	3.23		Clay	100.0			6.92	1.11	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	8.450	0.474	2010.0	1437.2	10.361	6.372	3.18		Clay	100.0			7.99	1.11	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	8.630	0.512	2030.0	1447.2	10.524	6.728	3.19		Clay	100.0			8.16	1.11	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	9.320	0.530	2050.0	1457.2	11.385	6.392	3.15		Clay	100.0			8.81	1.10	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	9.460	0.535	2071.3	1467.8	11.479	6.348	3.15		Clay	100.0			8.94	1.10	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	9.440	0.540	2091.3	1477.9	11.360	6.427	3.15		Clay	100.0			8.92	1.10	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	9.330	0.548	2112.5	1488.5	11.117	6.620	3.17		Clay	100.0			8.82	1.10	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	9.580	0.566	2132.5	1498.5	11.363	6.650	3.16		Clay	100.0			9.05	1.10	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	10.090	0.575	2152.5	1508.5	11.950	6.374	3.13		Clay	100.0			9.54	1.09	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	10.560	0.609	2173.8	1519.2	12.471	6.432	3.12		Clay	100.0			9.98	1.09	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	11.810	0.629	2193.8	1529.2	14.012	5.869	3.06		Clay	100.0			11.16	1.09	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	12.230	0.634	2215.0	1539.8	14.446	5.702	3.04		Clay	100.0			11.56	1.09	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	11.180	0.603	2235.0	1549.8	12.985	5.997	3.09		Clay	100.0			10.57	1.09	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	10.180	0.557	2255.0	1559.9	11.607	6.151	3.13		Clay	100.0			9.62	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	9.710	0.500	2276.3	1570.5	10.916	5.838	3.14		Clay	100.0			9.18	1.08	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	9.610	0.468	2296.3	1580.5	10.708	5.525	3.13		Clay	100.0			9.08	1.08	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	9.560	0.445	2317.5	1591.2	10.560	5.293	3.12		Clay	100.0			9.04	1.08	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	9.590	0.450	2337.5	1601.2	10.519	5.345	3.13		Clay	100.0			9.06	1.08	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	9.420	0.496	2357.5	1611.2	10.230	6.019	3.17		Clay	100.0			8.90	1.07	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	10.450	0.549	2378.8	1621.8	11.420	5.926	3.13		Clay	100.0			9.88	1.07	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	10.340	0.563	2398.8	1631.9	11.203	6.163	3.15		Clay	100.0			9.77	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	10.490	0.557	2420.0	1642.5	11.300	6.000	3.14		Clay	100.0			9.91	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	10.510	0.607	2440.0	1652.5	11.243	6.533	3.16		Clay	100.0			9.93	1.07	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	10.530	0.632	2461.3	1663.2	11.183	6.795	3.17		Clay	100.0			9.95	1.07	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	11.600	0.653	2481.3	1673.2	12.383	6.306	3.12		Clay	100.0			10.96	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	12.290	0.654	2501.3	1683.2	13.117	5.924	3.08		Clay	100.0			11.62	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	14.070	0.754	2522.5	1693.8	15.124	5.889	3.03		Clay	100.0			13.30	1.06	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	15.760	0.846	2542.5	1703.8	17.007	5.842	2.99		Clay	100.0			14.90	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	16.880	0.918	2563.8	1714.5	18.196	5.886	2.97		Clay	100.0			15.95	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	16.840	0.908	2583.8	1724.5	18.032	5.839	2.97		Clay	100.0			15.92	1.06	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	16.370	0.892	2603.8	1734.5	17.374	5.921	2.99		Clay	100.0			15.47	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	16.520	0.851	2625.0	1745.2	17.428	5.597	2.97		Clay	100.0			15.61	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	16.330	0.810	2645.0	1755.2	17.101	5.400	2.97		Clay	100.0			15.43	1.05	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	15.350	0.761	2666.3	1765.8	15.876	5.427	2.99		Clay	100.0			14.51	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	14.630	0.760	2686.3	1775.8	14.964	5.723	3.03		Clay	100.0			13.83	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	13.840	0.773	2706.3	1785.9	13.984	6.191	3.07		Clay	100.0			13.08	1.05	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	15.670	0.787	2727.5	1796.5	15.927	5.498	3.00		Clay	100.0			14.81	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	18.880	0.804	2747.5	1806.5	19.381	4.592	2.88		Clay	93.6			17.84	1.04	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	18.370	0.782	2768.8	1817.2	18.695	4.606	2.89		Clay	94.6			17.36	1.04	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.58

Total Settlement:	0.21	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	17.700	0.686	2788.8	1827.2	17.848	4.204	2.88		Clay	93.8			16.73	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	16.470	0.635	2808.8	1837.2	16.401	4.213	2.91		Clay	96.1			15.57	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	16.100	0.663	2830.0	1847.8	15.894	4.514	2.94		Clay	98.4			15.22	1.04	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	18.770	0.740	2850.0	1857.8	18.672	4.267	2.87		Clay	92.9			17.74	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	23.040	0.795	2871.3	1868.5	23.125	3.681	2.76		Clay	83.9			21.78	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	24.300	0.832	2891.3	1878.5	24.333	3.641	2.74		Clay	82.3			22.97	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	24.810	0.898	2911.3	1888.5	24.733	3.844	2.75		Clay	83.1			23.45	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	26.650	1.031	2932.5	1899.2	26.521	4.094	2.75		Clay	82.7			25.19	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	27.830	1.126	2952.5	1909.2	27.608	4.273	2.75		Clay	82.7			26.30	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	27.950	1.205	2973.8	1919.8	27.568	4.554	2.77		Clay	84.2			26.42	1.03	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	27.710	1.170	2993.8	1929.8	27.166	4.465	2.76		Clay	84.1			26.19	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	27.650	1.210	3013.8	1939.8	26.954	4.629	2.78		Clay	85.2			26.13	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	26.770	1.197	3035.0	1950.5	25.894	4.740	2.80		Clay	86.8			25.30	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	25.670	1.141	3055.0	1960.5	24.629	4.724	2.81		Clay	88.0			24.26	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	25.340	1.137	3076.3	1971.1	24.150	4.779	2.82		Clay	88.8			23.95	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	24.150	1.116	3096.3	1981.2	22.817	4.939	2.85		Clay	91.0			22.83	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	23.940	1.006	3116.3	1991.2	22.481	4.495	2.83		Clay	89.2			22.63	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	23.090	1.096	3137.5	2001.8	21.502	5.093	2.88		Clay	93.2			21.82	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	23.070	1.573	3157.5	2011.8	21.365	7.319	2.99		Clay	100.0			21.81	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	28.710	1.803	3178.8	2022.5	26.819	6.650	2.89		Clay	94.0			27.14	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	40.820	1.908	3198.8	2032.5	38.594	4.864	2.68		Clay	77.4			38.58	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	65.070	2.322	3218.8	2042.5	61.051	3.658	2.45		Sand	59.2	317.62		317.62	1.01	320.60	458.71	0.90	0.515	1.011	#########	########	##########	0.00	0.00
25.920	113.540	2.171	3240.0	2053.2	107.391	1.939	2.08		Sand	29.7	317.62		317.62	1.01	320.16	419.73	0.89	0.515	1.009	#########	########	##########	0.00	0.00
26.080	144.280	1.698	3260.0	2063.2	136.545	1.190	1.86		Sand	11.8	317.62		317.62	1.01	319.75	343.21	0.89	0.515	1.008	#########	########	##########	0.00	0.00
26.250	184.140	2.054	3281.3	2073.8	174.240	1.126	1.77		Sand	4.5	317.62		317.62	1.01	319.31	319.42	0.89	0.515	1.006	#########	########	##########	0.00	0.00
26.410	219.890	2.518	3301.3	2083.8	207.862	1.154	1.72		Sand	0.9	317.62		317.62	1.00	318.91	318.91	0.89	0.516	1.005	#########	########	##########	0.00	0.00
26.570	254.420	2.798	3321.3	2093.8	240.164	1.107	1.67		Sand	0.0	317.62		317.62	1.00	318.50	318.50	0.89	0.516	1.003	#########	########	##########	0.00	0.00
26.740	277.150	3.173	3342.5	2104.5	261.088	1.152	1.66		Sand	0.0	317.62		317.62	1.00	318.08	318.08	0.89	0.516	1.002	#########	########	##########	0.00	0.00
26.900	307.860	4.003	3362.5	2114.5	289.497	1.308	1.67		Sand	0.0	317.62		317.62	1.00	317.68	317.68	0.89	0.516	1.000	#########	########	##########	0.00	0.00
27.070	320.760	4.170	3383.8	2125.1	300.927	1.307	1.66		Sand	0.0	317.62		317.62	1.00	317.26	317.26	0.89	0.517	0.999	#########	########	##########	0.00	0.00
27.230	336.040	3.890	3403.8	2135.2	314.589	1.164	1.61		Sand	0.0			317.62	1.00	316.86	316.86	0.89	0.517	0.997	#########	########	##########	0.00	0.00
27.400	321.690	3.836	3425.0	2145.8	300.329	1.199	1.63		Sand	0.0			304.05	1.00	302.94	302.94	0.89	0.517	0.996	#########	########	3961018.98	0.00	0.00
27.560	285.170	3.918	3445.0	2155.8	265.423	1.382	1.72		Sand	0.3			269.54	1.00	268.21	268.21	0.89	0.517	0.994	1487.161	3253.456	6292.42	0.00	0.00
27.720	260.800	2.961	3465.0	2165.8	242.032	1.143	1.68		Sand	0.0	269.54		269.54	0.99	267.89	267.89	0.88	0.517	0.993	1416.687	3094.948	5984.10	0.00	0.00
27.890	243.070	1.809	3486.3	2176.5	224.906	0.749	1.56		Sand	0.0	269.54		269.54	0.99	267.54	267.54	0.88	0.517	0.992	1345.510	2935.097	5673.35	0.00	0.00
28.050	227.700	0.710	3506.3	2186.5	210.090	0.314	1.35		Sand	0.0	269.54		269.54	0.99	267.22	267.22	0.88	0.517	0.990	1282.419	2793.585	5398.39	0.00	0.00
28.220	198.010	0.477	3527.5	2197.1	182.031	0.243	1.35		Sand	0.0	269.54		269.54	0.99	266.88	266.88	0.88	0.518	0.989	1219.250	2652.073	5123.59	0.00	0.00
28.380	161.730	1.021	3547.5	2207.1	148.033	0.638	1.66		Sand	0.0	269.54		269.54	0.99	266.56	266.56	0.88	0.518	0.987	1163.197	2526.657	4880.16	0.00	0.00
28.540	126.660	1.185	3567.5	2217.2	115.306	0.949	1.85		Sand	10.9	269.54		269.54	0.99	266.24	282.54	0.88	0.518	0.986	15533.953	33695.894	65068.49	0.00	0.00
28.710	95.150	2.126	3588.8	2227.8	85.995	2.277	2.20		Sand	39.1	269.54		269.54	0.99	265.90	370.82	0.88	0.518	0.985	#########	########	##########	0.00	0.00
28.870	72.060	1.735	3608.8	2237.8	64.571	2.470	2.31		Sand	48.1	269.54		269.54	0.99	265.59	380.34	0.88	0.518	0.983	#########	########	##########	0.00	0.00
29.040	45.900	1.432	3630.0	2248.5	40.422	3.249	2.54		Sand	66.5	269.54		269.54	0.98	265.26	391.64	0.88	0.518	0.982	#########	########	##########	0.00	0.00
29.200	24.520	1.174	3650.0	2258.5	20.098	5.172	2.90		Clay	95.3			23.18	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	26.290	0.813	3670.0	2268.5	21.561	3.326	2.76		Clay	83.5			24.85	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	25.470	0.872	3691.3	2279.1	20.731	3.690	2.80		Clay	86.9			24.07	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	25.120	1.040	3711.3	2289.2	20.326	4.470	2.86		Clay	91.7			23.74	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	27.210	1.167	3732.5	2299.8	22.040	4.605	2.84		Clay	90.3			25.72	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	29.300	1.241	3752.5	2309.8	23.745	4.525	2.81		Clay	87.9			27.69	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	26.860	1.162	3772.5	2319.8	21.531	4.652	2.85		Clay	91.1			25.39	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	22.040	0.993	3793.8	2330.5	17.287	4.929	2.94		Clay	98.2			20.83	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	20.030	0.787	3813.8	2340.5	15.487	4.342	2.94		Clay	98.3			18.93	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	17.810	0.704	3835.0	2351.1	13.519	4.430	2.99		Clay	100.0			16.83	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	17.760	0.706	3855.0	2361.1	13.411	4.458	3.00		Clay	100.0			16.79	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	18.430	0.789	3875.0	2371.2	13.911	4.783	3.00		Clay	100.0			17.42	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	18.020	0.796	3896.3	2381.8	13.496	4.955	3.02		Clay	100.0			17.03	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	17.660	0.743	3916.3	2391.8	13.130	4.729	3.02		Clay	100.0			16.69	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	17.600	0.714	3937.5	2402.5	13.013	4.566	3.01		Clay	100.0			16.64	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	16.730	0.547	3957.5	2412.5	12.229	3.707	2.98		Clay	100.0			15.81	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	16.020	0.490	3977.5	2422.5	11.584	3.491	2.98		Clay	100.0			15.14	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	15.090	0.440	3998.8	2433.1	10.760	3.360	3.00		Clay	100.0			14.26	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	15.190	0.444	4018.8	2443.2	10.790	3.366	3.00		Clay	100.0			14.36	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	15.120	0.442	4040.0	2453.8	10.677	3.370	3.00		Clay	100.0			14.29	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	15.620	0.451	4060.0	2463.8	11.032	3.322	2.99		Clay	100.0			14.76	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	15.850	0.496	4080.0	2473.8	11.165	3.589	3.00		Clay	100.0			14.98	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	16.350	0.568	4101.3	2484.5	11.511	3.969	3.02		Clay	100.0			15.45	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	18.350	0.709	4121.3	2494.5	13.060	4.353	3.00		Clay	100.0			17.34	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	20.630	0.860	4142.5	2505.1	14.817	4.636	2.97		Clay	100.0			19.50	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3	PGA (A_{max})	0.58	Total Settlement:	0.21	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	24.370	0.902	4162.5	2515.1	17.724	4.047	2.88		Clay	93.1			23.03	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	25.850	0.904	4182.5	2525.2	18.818	3.805	2.84		Clay	90.1			24.43	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	26.470	0.917	4203.8	2535.8	19.219	3.762	2.83		Clay	89.3			25.02	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	28.840	1.112	4223.8	2545.8	20.998	4.160	2.83		Clay	89.2			27.26	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	35.850	1.144	4245.0	2556.5	26.386	3.391	2.69		Clay	78.6			33.88	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	39.470	1.204	4265.0	2566.5	29.096	3.224	2.65		Clay	74.8			37.31	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	34.100	1.459	4285.0	2576.5	24.807	4.565	2.80		Clay	87.0			32.23	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	41.120	1.650	4306.3	2587.1	30.124	4.235	2.72		Clay	80.3			38.87	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	50.300	1.891	4326.3	2597.1	37.069	3.928	2.63		Clay	73.2			47.54	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	42.980	1.402	4347.5	2607.8	31.296	3.436	2.64		Clay	74.4			40.62	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	31.210	0.941	4367.5	2617.8	22.176	3.241	2.74		Clay	82.2			29.50	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	24.820	0.702	4387.5	2627.8	17.221	3.102	2.81		Clay	88.1			23.46	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	20.920	0.669	4408.8	2638.5	14.187	3.573	2.92		Clay	96.5			19.77	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	17.390	0.629	4428.8	2648.5	11.460	4.145	3.03		Clay	100.0			16.44	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	15.070	0.623	4450.0	2659.1	9.661	4.851	3.13		Clay	100.0			14.24	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	13.880	0.577	4470.0	2669.1	8.726	4.958	3.17		Clay	100.0			13.12	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	13.300	0.529	4491.3	2679.8	8.250	4.782	3.18		Clay	100.0			12.57	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	12.850	0.502	4511.3	2689.8	7.877	4.740	3.20		Clay	100.0			12.15	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	12.590	0.473	4531.3	2699.8	7.648	4.583	3.20		Clay	100.0			11.90	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	12.170	0.442	4552.5	2710.5	7.300	4.468	3.21		Clay	100.0			11.50	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	12.360	0.462	4572.5	2720.5	7.406	4.584	3.21		Clay	100.0			11.68	0.94	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	12.880	0.471	4593.8	2731.1	7.750	4.450	3.19		Clay	100.0			12.17	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	13.460	0.516	4613.8	2741.1	8.138	4.625	3.18		Clay	100.0			12.72	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	14.470	0.571	4633.8	2751.1	8.835	4.701	3.15		Clay	100.0			13.68	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	15.550	0.624	4655.0	2761.8	9.575	4.718	3.13		Clay	100.0			14.70	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	17.360	0.679	4675.0	2771.8	10.840	4.522	3.07		Clay	100.0			16.41	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	19.440	0.740	4696.3	2782.4	12.286	4.328	3.02		Clay	100.0			18.37	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	21.480	0.892	4716.3	2792.5	13.695	4.663	3.00		Clay	100.0			20.30	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	26.620	1.058	4736.3	2802.5	17.307	4.362	2.91		Clay	95.4			25.16	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	30.090	1.200	4757.5	2813.1	19.701	4.331	2.86		Clay	91.8			28.44	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	29.440	1.202	4777.5	2823.1	19.164	4.444	2.88		Clay	93.1			27.83	0.93	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	26.000	1.045	4798.8	2833.8	16.657	4.429	2.92		Clay	96.8			24.57	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	23.370	0.913	4818.8	2843.8	14.741	4.355	2.96		Clay	99.7			22.09	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	24.860	0.865	4838.8	2853.8	15.727	3.856	2.90		Clay	95.3			23.50	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	25.780	1.013	4860.0	2864.4	16.303	4.338	2.92		Clay	96.9			24.37	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	24.900	1.068	4880.0	2874.5	15.627	4.753	2.96		Clay	100.0			23.53	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	24.190	1.106	4901.3	2885.1	15.070	5.089	2.99		Clay	100.0			22.86	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	23.710	1.003	4921.3	2895.1	14.679	4.721	2.98		Clay	100.0			22.41	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	22.160	0.968	4941.3	2905.1	13.555	4.917	3.02		Clay	100.0			20.95	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	17.230	0.809	4962.5	2915.8	10.117	5.485	3.15		Clay	100.0			16.29	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	14.710	0.851	4982.5	2925.8	8.352	6.967	3.28		Clay	100.0			13.90	0.92	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	14.410	1.234	5003.8	2936.4	8.111	10.364	3.40		Clay	100.0			13.62	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	24.490	1.445	5023.8	2946.5	14.918	6.574	3.07		Clay	100.0			23.15	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	39.760	2.000	5043.8	2956.5	25.191	5.370	2.84		Clay	90.4			37.58	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	38.570	2.354	5065.0	2967.1	24.291	6.532	2.91		Clay	96.1			36.46	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	54.240	2.111	5085.0	2977.1	34.730	4.084	2.66		Clay	75.8			51.27	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	75.670	1.730	5106.3	2987.8	58.159	2.366	2.33		Sand	49.7	151	1.15	173.65	0.91	158.03	245.73	0.81	0.510	0.897	79.683	157.158	308.24	0.00	0.00
41.010	93.420	0.903	5126.3	2997.8	72.149	0.994	2.02		Sand	24.6	151	1.15	173.65	0.90	155.67	212.09	0.81	0.510	0.895	4.010	7.900	15.50	0.00	0.00
41.170	103.350	0.710	5146.3	3007.8	79.893	0.705	1.90		Sand	14.7	151	1.15	173.65	0.88	153.13	179.69	0.81	0.509	0.926	0.717	1.384	2.72	0.00	0.00
41.340	113.370	0.871	5167.5	3018.4	87.673	0.786	1.89		Sand	14.3	151	1.15	173.65	0.88	152.77	177.65	0.81	0.509	0.927	0.662	1.258	2.47	0.00	0.00
41.500	114.530	1.169	5187.5	3028.5	88.437	1.044	1.96		Sand	20.1	151	1.15	173.65	0.89	154.21	198.75	0.81	0.509	0.907	1.763	3.518	6.91	0.00	0.00
41.670	119.120	1.200	5208.8	3039.1	91.893	1.029	1.95		Sand	18.7	151	1.15	173.65	0.88	153.68	194.09	0.80	0.509	0.911	1.376	2.757	5.42	0.00	0.00
41.830	126.290	1.234	5228.8	3049.1	97.380	0.997	1.92		Sand	16.5	151	1.15	173.65	0.88	152.86	185.68	0.80	0.508	0.918	0.922	1.852	3.64	0.00	0.00
41.990	139.310	1.383	5248.8	3059.1	107.447	1.012	1.89		Sand	14.2	151	1.15	173.65	0.87	151.93	176.29	0.80	0.508	0.925	0.629	1.181	2.32	0.00	0.00
42.160	150.640	1.350	5270.0	3069.8	116.144	0.912	1.83		Sand	9.8	151	1.15	173.65	0.87	150.23	158.65	0.80	0.508	0.936	0.358	0.594	1.17	0.01	0.01
42.320	159.860	1.075	5290.0	3079.8	123.170	0.684	1.74		Sand	1.9		1.15	173.76	0.86	149.29	149.29	0.80	0.507	0.940	0.284	0.443	0.87	0.01	0.03
42.490	167.710	1.180	5311.3	3090.4	129.089	0.715	1.73		Sand	1.6		1.15	182.29	0.86	157.16	157.16	0.80	0.507	0.935	0.344	0.565	1.11	0.01	0.01
42.650	168.550	1.199	5331.3	3100.5	129.528	0.723	1.73		Sand	1.7		1.15	183.21	0.86	157.81	157.81	0.80	0.507	0.935	0.350	0.577	1.14	0.01	0.01
42.810	159.480	1.320	5351.3	3110.5	122.241	0.842	1.80		Sand	6.6		1.15	173.35	0.86	148.38	149.72	0.80	0.507	0.939	0.287	0.448	0.88	0.01	0.02
42.980	165.340	1.391	5372.5	3121.1	126.585	0.855	1.79		Sand	6.0		1.15	179.72	0.86	154.12	154.88	0.80	0.506	0.935	0.324	0.524	1.03	0.01	0.02
43.140	185.030	0.904	5392.5	3131.1	141.674	0.496	1.61		Sand	0.0		1.15	201.12	0.87	174.28	174.28	0.80	0.506	0.922	0.584	1.076	2.13	0.00	0.00
43.310	201.770	0.956	5413.8	3141.8	154.410	0.480	1.57		Sand	0.0		1.15	219.32	0.87	191.68	191.68	0.80	0.506	0.905	1.219	2.429	4.80	0.00	0.00
43.470	190.540	1.441	5433.8	3151.8	145.460	0.767	1.71		Sand	0.0	190.71	1.15	219.32	0.87	191.45	191.45	0.79	0.505	0.905	1.206	2.400	4.75	0.00	0.00
43.640	104.600	1.430	5455.0	3162.4	78.762	1.404	2.08		Sand	29.8	190.71	1.15	219.32	0.90	197.26	272.13	0.79	0.505	0.879	2710.815	5244.898	10386.61	0.00	0.00
43.800	52.320	1.285	5475.0	3172.4	38.274	2.592	2.50		Sand	62.7	190.71	1.15	219.32	0.90	197.09	302.29	0.79	0.505	0.879	#########	########	3096772.15	0.00	0.00
43.960	24.440	0.795	5495.0	3182.5	13.633	3.664	2.94		Clay	98.1			23.10	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	15.330	0.452	5516.3	3193.1	7.874	3.598	3.13		Clay	100.0			14.49	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	3

PGA (A_{max})	0.58

Total Settlement:	0.21	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	13.150	0.409	5536.3	3203.1	6.482	3.936	3.22		Clay	100.0			12.43	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	12.390	0.395	5557.5	3213.8	5.981	4.106	3.26		Clay	100.0			11.71	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	12.980	0.427	5577.5	3223.8	6.323	4.188	3.24		Clay	100.0			12.27	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	13.800	0.471	5597.5	3233.8	6.804	4.285	3.22		Clay	100.0			13.04	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	14.550	0.560	5618.8	3244.4	7.237	4.767	3.23		Clay	100.0			13.75	0.89	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	17.950	0.933	5638.8	3254.4	9.298	6.166	3.21		Clay	100.0			16.97	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	21.880	0.710	5660.0	3265.1	11.669	3.728	3.00		Clay	100.0			20.68	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	30.470	0.776	5680.0	3275.1	16.873	2.810	2.80		Clay	86.6			28.80	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	26.180	1.040	5700.0	3285.1	14.203	4.456	2.98		Clay	100.0			24.74	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	33.500	1.967	5721.3	3295.8	18.593	6.420	2.99		Clay	100.0			31.66	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	48.030	2.467	5741.3	3305.8	27.321	5.462	2.82		Clay	88.8			45.40	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	90.740	3.888	5762.5	3316.4	66.332	4.425	2.49		Sand	62.2	87.98	1.8	158.36	0.88	138.70	227.15	0.78	0.500	0.865	12.775	24.316	48.62	0.00	0.00
46.260	93.080	3.544	5782.5	3326.4	67.988	3.929	2.44		Sand	58.5		1.8	158.36	0.87	138.44	225.36	0.78	0.500	0.864	10.975	20.867	41.76	0.00	0.00
46.420	81.120	2.690	5802.5	3336.5	58.876	3.439	2.44		Sand	58.6	87.98	1.8	158.36	0.87	138.30	225.20	0.78	0.499	0.863	10.833	20.577	41.20	0.00	0.00
46.590	57.860	2.533	5823.8	3347.1	32.833	4.610	2.71		Clay	80.1			54.69	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	65.410	2.784	5843.8	3357.1	37.227	4.456	2.66		Clay	76.2			61.82	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	70.510	2.239	5865.0	3367.8	50.630	3.314	2.48		Sand	61.3			66.64	0.81	53.80	117.98	0.77	0.498	0.943	0.167	0.216	0.43	0.03	0.05
47.080	60.520	2.314	5885.0	3377.8	34.092	4.020	2.66		Clay	75.9			57.20	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	44.500	4.025	5905.0	3387.8	24.528	9.689	3.03		Clay	100.0			42.06	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	116.550	3.999	5926.3	3398.4	84.715	3.521	2.34		Sand	50.6	148.31		148.31	0.86	127.47	207.57	0.77	0.497	0.864	2.976	5.654	11.37	0.00	0.00
47.570	156.910	4.073	5946.3	3408.4	114.640	2.646	2.17		Sand	36.2			148.31	0.85	126.35	195.10	0.77	0.497	0.882	1.449	2.810	5.65	0.00	0.00
47.740	147.970	3.656	5967.5	3419.1	107.806	2.521	2.17		Sand	36.4	148.31		148.31	0.85	126.22	195.09	0.77	0.497	0.881	1.448	2.807	5.65	0.00	0.00
47.900	118.320	2.773	5987.5	3429.1	85.627	2.405	2.22		Sand	40.6	148.31		148.31	0.85	126.45	199.38	0.77	0.496	0.874	1.825	3.510	7.07	0.00	0.00
48.060	63.720	2.980	6007.5	3439.1	35.309	4.908	2.71		Clay	79.8			60.23	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	38.410	2.341	6028.8	3449.8	20.521	6.614	2.97		Clay	100.0			36.30	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	22.060	1.550	6048.8	3459.8	11.004	8.143	3.23		Clay	100.0			20.85	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	16.750	1.151	6070.0	3470.4	7.904	8.390	3.35		Clay	100.0			15.83	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	13.820	1.056	6090.0	3480.4	6.192	9.804	3.47		Clay	100.0			13.06	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	11.910	1.076	6110.0	3490.4	5.074	12.152	3.60		Clay	100.0			11.26	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	12.060	0.962	6131.3	3501.1	5.138	10.700	3.56		Clay	100.0			11.40	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	14.910	0.858	6151.3	3511.1	6.741	7.250	3.36		Clay	100.0			14.09	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	19.040	0.735	6172.5	3521.7	9.060	4.608	3.14		Clay	100.0			18.00	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	22.960	0.650	6192.5	3531.8	11.249	3.273	2.98		Clay	100.0			21.70	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	22.980	0.713	6212.5	3541.8	11.222	3.586	3.00		Clay	100.0			21.72	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	22.260	0.780	6233.8	3552.4	10.778	4.076	3.05		Clay	100.0			21.04	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	19.830	0.900	6253.8	3562.4	9.377	5.389	3.17		Clay	100.0			18.74	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.58

Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	245.260	0.768	20.0	20.0	2384.329	0.313	0.72		Unsaturated	0.0			231.81	1.70	394.09	394.09	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	163.830	1.005	41.3	41.3	1108.917	0.613	1.09		Unsaturated	0.0			154.85	1.70	263.24	263.24	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	115.820	1.164	61.3	61.3	643.262	1.005	1.39		Unsaturated	0.0			109.47	1.70	186.10	186.10	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	92.960	1.685	82.5	82.5	444.783	1.813	1.69		Unsaturated	0.0			87.86	1.70	149.37	149.37	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	74.980	1.766	102.5	102.5	321.780	2.357	1.86		Unsaturated	11.9			70.87	1.70	120.48	134.61	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	49.520	1.916	122.5	122.5	194.289	3.875	2.16		Unsaturated	35.8			46.81	1.70	79.57	137.23	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	33.940	1.823	143.8	143.8	122.817	5.383	2.39		Unsaturated	54.2			32.08	1.70	54.53	116.65	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	25.270	1.357	163.8	163.8	85.581	5.387	2.48		Unsaturated	61.8			23.88	1.70	40.60	101.17	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	22.880	1.261	185.0	185.0	72.842	5.533	2.54		Unsaturated	66.0			21.63	1.70	36.76	97.25	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	24.220	1.535	205.0	205.0	73.236	6.363	2.58		Unsaturated	69.6			22.89	1.70	38.92	100.80	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	35.490	2.248	225.0	225.0	102.543	6.354	2.49		Unsaturated	62.5			33.54	1.70	57.03	122.45	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	46.620	2.410	246.3	246.3	128.827	5.183	2.36		Unsaturated	52.2			44.06	1.70	74.91	141.73	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	54.560	2.598	266.3	266.3	145.024	4.774	2.31		Unsaturated	47.5			51.57	1.70	87.67	155.59	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	42.650	2.515	287.5	287.5	108.995	5.917	2.45		Unsaturated	59.3			40.31	1.70	68.53	136.24	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	38.460	2.369	307.5	307.5	94.977	6.184	2.50		Unsaturated	63.4			36.35	1.70	61.80	128.80	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	37.880	2.211	327.5	327.5	90.614	5.862	2.50		Unsaturated	62.9			35.80	1.70	60.87	127.47	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	34.220	1.855	348.8	348.8	79.264	5.448	2.51		Unsaturated	63.7			32.34	1.70	54.98	120.14	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	30.960	1.659	368.8	368.8	69.681	5.391	2.54		Unsaturated	66.3			29.26	1.70	49.75	114.03	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	29.250	1.518	390.0	390.0	63.968	5.225	2.55		Unsaturated	67.4			27.65	1.70	47.00	110.74	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	29.220	1.505	410.0	410.0	62.302	5.188	2.56		Unsaturated	67.8			27.62	1.70	46.95	110.77	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	24.130	1.371	430.0	430.0	68.963	5.731	2.56		Unsaturated	68.1			22.81	1.70	38.77	100.30	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	21.510	1.180	451.3	451.3	59.340	5.546	2.60		Unsaturated	70.6			20.33	1.70	34.56	95.37	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	18.830	1.038	471.3	471.3	50.290	5.581	2.64		Unsaturated	74.6			17.80	1.70	30.26	90.50	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	18.020	0.998	492.5	492.5	46.609	5.616	2.67		Unsaturated	76.5			17.03	1.70	28.95	89.13	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	18.830	1.042	512.5	512.5	47.368	5.610	2.66		Unsaturated	76.1			17.80	1.70	30.26	90.75	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	19.930	1.026	533.8	533.8	48.741	5.219	2.63		Unsaturated	73.6			18.84	1.70	32.02	92.62	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	19.600	1.011	553.8	553.8	46.680	5.229	2.65		Unsaturated	74.7			18.53	1.70	31.49	92.12	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	17.470	1.005	573.8	573.8	59.898	5.847	2.61		Unsaturated	71.8			16.51	1.70	28.07	87.20	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	16.960	1.045	595.0	595.0	56.008	6.269	2.65		Unsaturated	75.2			16.03	1.70	27.25	86.70	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	16.810	1.092	615.0	615.0	53.667	6.616	2.68		Unsaturated	77.6			15.89	1.70	27.01	86.76	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	18.460	1.160	636.3	636.3	57.028	6.393	2.65		Unsaturated	75.3			17.45	1.70	29.66	89.84	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	21.840	1.210	656.3	656.3	46.143	5.626	2.67		Unsaturated	76.8			20.64	1.70	35.09	97.13	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	24.050	1.342	676.3	676.3	49.804	5.661	2.65		Unsaturated	75.2			22.73	1.70	38.64	101.47	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	23.120	1.323	697.5	697.5	46.804	5.808	2.68		Unsaturated	77.3			21.85	1.70	37.15	99.88	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	21.890	1.265	717.5	717.5	60.017	5.877	2.61		Unsaturated	71.9			20.69	1.70	35.17	96.39	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	19.900	1.131	738.8	738.8	52.875	5.792	2.64		Unsaturated	74.4			18.81	1.70	31.98	92.70	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	19.330	1.028	758.8	758.8	49.952	5.426	2.64		Unsaturated	74.0			18.27	1.70	31.06	91.45	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	19.250	0.984	778.8	778.8	48.438	5.218	2.63		Unsaturated	73.7			18.19	1.68	30.58	90.77	0.99	0.372	1.099	n.a.	n.a.	n.a.	0.00	0.00
6.400	17.210	0.814	800.0	800.0	42.025	4.844	2.65		Unsaturated	75.3			16.27	1.67	27.22	86.67	0.99	0.372	1.093	n.a.	n.a.	n.a.	0.00	0.00
6.560	17.180	0.636	820.0	820.0	30.778	3.794	2.68		Unsaturated	77.1			16.24	1.65	26.83	86.46	0.99	0.372	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.730	26.220	0.443	841.3	841.3	38.674	1.716	2.38		Unsaturated	53.3			24.78	1.59	39.47	97.18	0.99	0.371	1.096	n.a.	n.a.	n.a.	0.00	0.00
6.890	39.520	0.410	861.3	861.3	57.912	1.049	2.11		Unsaturated	31.8			37.35	1.54	57.70	106.68	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	57.800	0.495	881.3	871.9	84.459	0.863	1.93		Unsaturated	17.3			54.63	1.52	83.20	111.16	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	71.050	0.482	902.5	882.5	103.325	0.682	1.80		Unsaturated	6.8			67.16	1.53	102.97	104.29	0.98	0.371	1.096	n.a.	n.a.	n.a.	0.00	0.00
7.380	83.030	0.568	922.5	892.5	120.163	0.688	1.75		Unsaturated	2.7			78.48	1.49	117.00	117.00	0.98	0.370	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.550	81.730	0.560	943.8	903.2	117.557	0.689	1.75		Unsaturated	3.4			77.25	1.49	114.94	114.94	0.98	0.370	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.710	72.340	0.435	963.8	913.2	103.386	0.606	1.77		Unsaturated	4.4			68.37	1.51	103.28	103.33	0.98	0.370	1.092	n.a.	n.a.	n.a.	0.00	0.00
7.870	56.400	0.448	983.8	923.2	80.001	0.800	1.93		Unsaturated	17.2			53.31	1.49	79.57	107.04	0.98	0.370	1.093	n.a.	n.a.	n.a.	0.00	0.00
8.040	42.880	0.514	1005.0	933.9	60.293	1.212	2.13		Sand	33.7			40.53	1.47	59.75	111.04	0.98	0.370	1.095	0.154	0.223	0.60	0.03	0.06
8.200	31.670	0.430	1025.0	943.9	44.094	1.380	2.28		Sand	45.1	40.53		40.53	1.45	58.79	118.00	0.98	0.374	1.099	0.167	0.252	0.67	0.03	0.06
8.370	28.640	0.257	1046.3	954.5	39.568	0.914	2.21		Sand	40.1	40.53		40.53	1.45	58.77	114.94	0.98	0.377	1.095	0.161	0.238	0.63	0.03	0.05
8.530	28.730	0.194	1066.3	964.5	39.474	0.689	2.15		Sand	35.2	40.53		40.53	1.45	58.83	111.21	0.98	0.381	1.091	0.154	0.223	0.59	0.03	0.06
8.690	27.860	0.306	1086.3	974.6	38.045	1.120	2.28		Sand	45.1	40.53		40.53	1.43	58.01	117.02	0.98	0.384	1.094	0.165	0.246	0.64	0.03	0.06
8.860	27.720	0.291	1107.5	985.2	37.631	1.069	2.27		Sand	44.5	40.53		40.53	1.43	57.78	116.41	0.98	0.387	1.092	0.164	0.243	0.63	0.03	0.05
9.020	18.930	0.223	1127.5	995.2	25.312	1.215	2.44		Sand	58.5	40.53		40.53	1.41	57.09	121.36	0.98	0.390	1.095	0.174	0.267	0.68	0.03	0.05
9.190	10.480	0.213	1148.8	1005.9	19.696	2.145	2.67		Clay	76.8			9.91	1.22	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	6.860	0.218	1168.8	1015.9	12.355	3.469	2.96		Clay	99.7			6.48	1.21	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	6.460	0.250	1188.8	1025.9	11.435	4.254	3.04		Clay	100.0			6.11	1.21	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	6.190	0.268	1210.0	1036.5	10.776	4.793	3.09		Clay	100.0			5.85	1.21	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	6.000	0.283	1230.0	1046.5	10.291	5.246	3.13		Clay	100.0			5.67	1.20	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	6.080	0.299	1251.3	1057.2	10.319	5.486	3.14		Clay	100.0			5.75	1.20	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	6.130	0.301	1271.3	1067.2	10.297	5.478	3.14		Clay	100.0			5.79	1.20	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	5.500	0.281	1291.3	1077.2	9.013	5.797	3.20		Clay	100.0			5.20	1.19	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	5.060	0.266	1312.5	1087.9	8.096	6.049	3.25		Clay	100.0			4.78	1.19	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	4.700	0.238	1332.5	1097.9	7.348	5.895	3.28		Clay	100.0			4.44	1.19	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	4.230	0.209	1353.8	1108.5	6.411	5.891	3.32		Clay	100.0			4.00	1.19	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	3.830	0.206	1373.8	1118.5	5.620	6.564	3.40		Clay	100.0			3.62	1.18	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	4.050	0.238	1393.8	1128.6	5.942	7.083	3.40		Clay	100.0			3.83	1.18	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4	PGA (A_{max})	0.58	Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	5.790	0.307	1415.0	1139.2	8.923	6.040	3.22		Clay	100.0			5.47	1.18	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	6.660	0.386	1435.0	1149.2	10.342	6.494	3.19		Clay	100.0			6.29	1.17	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	6.920	0.412	1456.3	1159.9	10.677	6.659	3.18		Clay	100.0			6.54	1.17	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	7.330	0.457	1476.3	1169.9	11.269	6.934	3.18		Clay	100.0			6.93	1.17	n.a.	n.a.	0.96	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	7.740	0.526	1497.5	1180.5	11.844	7.518	3.18		Clay	100.0			7.32	1.17	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.810	0.580	1517.5	1190.5	15.205	6.410	3.06		Clay	100.0			9.27	1.16	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	10.900	0.644	1537.5	1200.5	16.878	6.361	3.02		Clay	100.0			10.30	1.16	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	10.340	0.671	1558.8	1211.2	15.787	7.018	3.07		Clay	100.0			9.77	1.16	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	9.050	0.617	1578.8	1221.2	13.529	7.464	3.14		Clay	100.0			8.55	1.16	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	7.300	0.539	1600.0	1231.8	10.553	8.298	3.25		Clay	100.0			6.90	1.15	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	5.910	0.483	1620.0	1241.9	8.214	9.469	3.37		Clay	100.0			5.59	1.15	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	7.940	0.525	1640.0	1251.9	11.375	7.379	3.19		Clay	100.0			7.50	1.15	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	10.980	0.632	1661.3	1262.5	16.078	6.229	3.03		Clay	100.0			10.38	1.15	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	11.610	0.663	1681.3	1272.5	16.926	6.152	3.01		Clay	100.0			10.97	1.14	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	11.670	0.617	1702.5	1283.2	16.863	5.700	2.99		Clay	100.0			11.03	1.14	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	11.320	0.547	1722.5	1293.2	16.175	5.225	2.98		Clay	100.0			10.70	1.14	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	10.360	0.508	1742.5	1303.2	14.562	5.358	3.02		Clay	100.0			9.79	1.14	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	9.490	0.466	1763.8	1313.8	13.104	5.415	3.06		Clay	100.0			8.97	1.13	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	8.550	0.433	1783.8	1323.9	11.569	5.655	3.11		Clay	100.0			8.08	1.13	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	7.740	0.396	1805.0	1334.5	10.247	5.793	3.16		Clay	100.0			7.32	1.13	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	7.720	0.405	1825.0	1344.5	10.126	5.949	3.17		Clay	100.0			7.30	1.13	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	7.930	0.448	1845.0	1354.5	10.347	6.387	3.18		Clay	100.0			7.50	1.12	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	8.530	0.486	1866.3	1365.2	11.130	6.399	3.16		Clay	100.0			8.06	1.12	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	8.700	0.494	1886.3	1375.2	11.281	6.370	3.15		Clay	100.0			8.22	1.12	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	7.780	0.450	1907.5	1385.8	9.851	6.597	3.21		Clay	100.0			7.35	1.12	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	7.040	0.426	1927.5	1395.9	8.706	7.017	3.27		Clay	100.0			6.65	1.12	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	7.030	0.440	1947.5	1405.9	8.616	7.257	3.28		Clay	100.0			6.64	1.11	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	7.410	0.556	1968.8	1416.5	9.072	8.659	3.31		Clay	100.0			7.00	1.11	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	8.850	0.614	1988.8	1426.5	11.014	7.819	3.22		Clay	100.0			8.36	1.11	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	11.060	0.667	2010.0	1437.2	13.993	6.634	3.09		Clay	100.0			10.45	1.11	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	11.290	0.646	2030.0	1447.2	14.200	6.282	3.07		Clay	100.0			10.67	1.11	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	11.380	0.634	2050.0	1457.2	14.212	6.123	3.07		Clay	100.0			10.76	1.10	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	10.930	0.635	2071.3	1467.8	13.482	6.414	3.10		Clay	100.0			10.33	1.10	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	10.870	0.626	2091.3	1477.9	13.295	6.373	3.10		Clay	100.0			10.27	1.10	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	11.180	0.626	2112.5	1488.5	13.603	6.181	3.08		Clay	100.0			10.57	1.10	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	10.550	0.579	2132.5	1498.5	12.658	6.106	3.10		Clay	100.0			9.97	1.10	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	9.910	0.514	2152.5	1508.5	11.712	5.817	3.12		Clay	100.0			9.37	1.09	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	9.320	0.441	2173.8	1519.2	10.839	5.359	3.12		Clay	100.0			8.81	1.09	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	7.680	0.362	2193.8	1529.2	8.610	5.505	3.20		Clay	100.0			7.26	1.09	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	6.950	0.347	2215.0	1539.8	7.588	5.938	3.27		Clay	100.0			6.57	1.09	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	6.550	0.360	2235.0	1549.8	7.010	6.623	3.32		Clay	100.0			6.19	1.09	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	7.560	0.468	2255.0	1559.9	8.248	7.279	3.29		Clay	100.0			7.15	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	10.230	0.594	2276.3	1570.5	11.578	6.538	3.15		Clay	100.0			9.67	1.08	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	12.970	0.683	2296.3	1580.5	14.959	5.777	3.03		Clay	100.0			12.26	1.08	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	13.370	0.699	2317.5	1591.2	15.349	5.727	3.02		Clay	100.0			12.64	1.08	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	14.170	0.674	2337.5	1601.2	16.240	5.181	2.97		Clay	100.0			13.39	1.08	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	13.710	0.684	2357.5	1611.2	15.555	5.460	3.00		Clay	100.0			12.96	1.07	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	12.790	0.685	2378.8	1621.8	14.306	5.903	3.05		Clay	100.0			12.09	1.07	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	13.160	0.715	2398.8	1631.9	14.659	5.976	3.05		Clay	100.0			12.44	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	12.920	0.755	2420.0	1642.5	14.259	6.449	3.08		Clay	100.0			12.21	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	13.250	0.777	2440.0	1652.5	14.560	6.461	3.07		Clay	100.0			12.52	1.07	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	14.210	0.830	2461.3	1663.2	15.608	6.396	3.05		Clay	100.0			13.43	1.07	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	15.220	0.877	2481.3	1673.2	16.710	6.276	3.02		Clay	100.0			14.39	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	15.830	0.879	2501.3	1683.2	17.324	6.026	3.00		Clay	100.0			14.96	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	15.510	0.861	2522.5	1693.8	16.824	6.045	3.01		Clay	100.0			14.66	1.06	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	15.470	0.835	2542.5	1703.8	16.667	5.878	3.00		Clay	100.0			14.62	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	16.050	0.839	2563.8	1714.5	17.227	5.680	2.98		Clay	100.0			15.17	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	16.170	0.838	2583.8	1724.5	17.255	5.632	2.98		Clay	100.0			15.28	1.06	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	16.390	0.803	2603.8	1734.5	17.397	5.321	2.96		Clay	99.7			15.49	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	16.600	0.797	2625.0	1745.2	17.520	5.211	2.95		Clay	99.1			15.69	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	16.480	0.773	2645.0	1755.2	17.272	5.102	2.95		Clay	99.0			15.58	1.05	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	16.290	0.785	2666.3	1765.8	16.940	5.250	2.96		Clay	100.0			15.40	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	15.840	0.746	2686.3	1775.8	16.327	5.146	2.97		Clay	100.0			14.97	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	16.410	0.722	2706.3	1785.9	16.862	4.792	2.94		Clay	98.2			15.51	1.05	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	15.590	0.708	2727.5	1796.5	15.838	4.973	2.97		Clay	100.0			14.74	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	15.430	0.716	2747.5	1806.5	15.562	5.093	2.98		Clay	100.0			14.58	1.04	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	16.510	0.720	2768.8	1817.2	16.648	4.758	2.94		Clay	98.4			15.60	1.04	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.58

Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	17.860	0.741	2788.8	1827.2	18.023	4.499	2.90		Clay	95.0			16.88	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	18.090	0.746	2808.8	1837.2	18.164	4.468	2.90		Clay	94.7			17.10	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	18.360	0.751	2830.0	1847.8	18.340	4.434	2.89		Clay	94.2			17.35	1.04	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	18.980	0.800	2850.0	1857.8	18.898	4.559	2.89		Clay	94.1			17.94	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	20.140	0.887	2871.3	1868.5	20.021	4.744	2.88		Clay	93.4			19.04	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	21.570	1.014	2891.3	1878.5	21.426	5.037	2.88		Clay	93.1			20.39	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	23.250	1.117	2911.3	1888.5	23.081	5.124	2.86		Clay	91.5			21.98	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	23.260	1.127	2932.5	1899.2	22.951	5.172	2.86		Clay	91.9			21.98	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	23.730	1.129	2952.5	1909.2	23.312	5.073	2.85		Clay	91.1			22.43	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	22.680	1.123	2973.8	1919.8	22.078	5.298	2.88		Clay	93.5			21.44	1.03	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	18.570	1.086	2993.8	1929.8	17.694	6.363	3.01		Clay	100.0			17.55	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	14.810	0.964	3013.8	1939.8	13.716	7.243	3.13		Clay	100.0			14.00	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	12.360	0.822	3035.0	1950.5	11.118	7.584	3.21		Clay	100.0			11.68	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	17.670	0.710	3055.0	1960.5	16.468	4.397	2.92		Clay	96.9			16.70	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	19.680	0.588	3076.3	1971.1	18.407	3.240	2.80		Clay	87.2			18.60	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	20.440	0.722	3096.3	1981.2	19.072	3.822	2.84		Clay	89.9			19.32	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	21.700	0.859	3116.3	1991.2	20.231	4.266	2.85		Clay	90.8			20.51	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	25.760	1.015	3137.5	2001.8	24.169	4.197	2.78		Clay	85.7			24.35	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	26.740	1.135	3157.5	2011.8	25.013	4.511	2.79		Clay	86.5			25.27	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	27.570	1.265	3178.8	2022.5	25.692	4.869	2.81		Clay	87.6			26.06	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	29.310	1.394	3198.8	2032.5	27.268	5.032	2.80		Clay	86.9			27.70	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	30.390	1.619	3218.8	2042.5	28.182	5.624	2.82		Clay	88.7			28.72	1.01	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	36.570	1.886	3240.0	2053.2	34.045	5.397	2.75		Clay	83.1			34.57	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	41.530	2.023	3260.0	2063.2	38.678	5.070	2.69		Clay	78.4			39.25	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	36.570	1.975	3281.3	2073.8	33.686	5.655	2.77		Clay	84.5			34.57	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	43.310	1.632	3301.3	2083.8	39.984	3.917	2.60		Clay	71.3			40.94	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	53.580	1.230	3321.3	2093.8	49.332	2.369	2.39		Sand	54.0	55.64	1.8	100.15	1.00	100.54	175.07	0.89	0.516	1.002	0.601	1.211	2.35	0.00	0.00
26.740	58.870	1.088	3342.5	2104.5	54.211	1.902	2.29		Sand	46.5		1.8	100.16	1.00	100.36	171.00	0.89	0.516	1.001	0.521	1.015	1.97	0.00	0.00
26.900	57.280	1.232	3362.5	2114.5	52.569	2.216	2.35		Sand	50.8	55.64	1.8	100.15	1.00	100.18	173.12	0.89	0.516	1.000	0.561	1.110	2.15	0.00	0.00
27.070	49.420	1.498	3383.8	2125.1	45.015	3.138	2.50		Sand	63.0	55.64	1.8	100.15	1.00	100.00	177.74	0.89	0.517	0.999	0.664	1.363	2.64	0.00	0.00
27.230	40.160	1.378	3403.8	2135.2	36.024	3.583	2.61		Clay	71.8			37.96	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	24.610	0.982	3425.0	2145.8	21.342	4.290	2.83		Clay	89.5			23.26	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	16.140	0.866	3445.0	2155.8	13.375	6.003	3.08		Clay	100.0			15.26	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	19.620	0.966	3465.0	2165.8	16.518	5.402	2.98		Clay	100.0			18.54	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	23.660	1.213	3486.3	2176.5	20.140	5.536	2.92		Clay	96.9			22.36	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	23.080	1.137	3506.3	2186.5	19.508	5.330	2.92		Clay	96.8			21.81	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	19.870	0.964	3527.5	2197.1	16.482	5.324	2.98		Clay	100.0			18.78	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	16.750	0.825	3547.5	2207.1	13.571	5.507	3.05		Clay	100.0			15.83	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	15.220	0.769	3567.5	2217.2	12.120	5.720	3.10		Clay	100.0			14.39	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	14.220	0.712	3588.8	2227.8	11.155	5.728	3.13		Clay	100.0			13.44	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	13.160	0.673	3608.8	2237.8	10.149	5.923	3.17		Clay	100.0			12.44	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	12.360	0.639	3630.0	2248.5	9.380	6.060	3.20		Clay	100.0			11.68	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	12.030	0.618	3650.0	2258.5	9.037	6.058	3.21		Clay	100.0			11.37	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	11.700	0.604	3670.0	2268.5	8.697	6.122	3.23		Clay	100.0			11.06	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	11.080	0.569	3691.3	2279.1	8.103	6.164	3.26		Clay	100.0			10.47	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	9.760	0.533	3711.3	2289.2	6.906	6.738	3.33		Clay	100.0			9.22	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	8.230	0.478	3732.5	2299.8	5.534	7.503	3.44		Clay	100.0			7.78	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	7.100	0.375	3752.5	2309.8	4.523	7.179	3.50		Clay	100.0			6.71	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	6.710	0.313	3772.5	2319.8	4.159	6.493	3.50		Clay	100.0			6.34	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	6.440	0.303	3793.8	2330.5	3.899	6.674	3.53		Clay	100.0			6.09	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	7.380	0.356	3813.8	2340.5	4.677	6.512	3.46		Clay	100.0			6.98	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	9.390	0.419	3835.0	2351.1	6.357	5.613	3.32		Clay	100.0			8.88	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	10.290	0.460	3855.0	2361.1	7.083	5.501	3.27		Clay	100.0			9.73	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	10.650	0.468	3875.0	2371.2	7.349	5.374	3.25		Clay	100.0			10.07	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	11.150	0.410	3896.3	2381.8	7.727	4.455	3.19		Clay	100.0			10.54	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	12.450	0.438	3916.3	2391.8	8.773	4.178	3.13		Clay	100.0			11.77	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	13.350	0.478	3937.5	2402.5	9.475	4.198	3.10		Clay	100.0			12.62	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	14.260	0.500	3957.5	2412.5	10.181	4.070	3.07		Clay	100.0			13.48	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	15.140	0.530	3977.5	2422.5	10.858	4.027	3.04		Clay	100.0			14.31	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	15.400	0.548	3998.8	2433.1	11.015	4.090	3.04		Clay	100.0			14.56	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	15.660	0.531	4018.8	2443.2	11.175	3.888	3.02		Clay	100.0			14.80	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	15.440	0.517	4040.0	2453.8	10.938	3.851	3.03		Clay	100.0			14.59	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	16.140	0.488	4060.0	2463.8	11.454	3.461	2.98		Clay	100.0			15.26	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	17.210	0.462	4080.0	2473.8	12.264	3.044	2.93		Clay	97.2			16.27	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	17.290	0.475	4101.3	2484.5	12.268	3.120	2.93		Clay	97.7			16.34	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	17.220	0.473	4121.3	2494.5	12.154	3.122	2.94		Clay	98.0			16.28	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	17.610	0.467	4142.5	2505.1	12.406	3.005	2.92		Clay	96.7			16.64	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.58

Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	17.920	0.487	4162.5	2515.1	12.595	3.073	2.92		Clay	96.7			16.94	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	17.820	0.500	4182.5	2525.2	12.458	3.177	2.93		Clay	97.7			16.84	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	19.710	0.558	4203.8	2535.8	13.888	3.170	2.89		Clay	94.6			18.63	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	21.270	0.775	4223.8	2545.8	15.051	4.045	2.93		Clay	97.5			20.10	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	27.030	0.952	4245.0	2556.5	19.486	3.821	2.83		Clay	89.3			25.55	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	31.440	1.044	4265.0	2566.5	22.839	3.561	2.76		Clay	83.5			29.72	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	30.280	0.856	4285.0	2576.5	21.842	3.042	2.73		Clay	81.2			28.62	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	26.350	0.671	4306.3	2587.1	18.706	2.771	2.76		Clay	83.5			24.91	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	27.060	0.827	4326.3	2597.1	19.172	3.322	2.80		Clay	86.7			25.58	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	28.880	1.079	4347.5	2607.8	20.482	4.041	2.83		Clay	89.2			27.30	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	38.280	1.329	4367.5	2617.8	27.578	3.682	2.70		Clay	79.3			36.18	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	46.040	1.503	4387.5	2627.8	33.371	3.428	2.62		Clay	72.7			43.52	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	42.910	1.524	4408.8	2638.5	30.856	3.744	2.67		Clay	76.8			40.56	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	34.840	1.438	4428.8	2648.5	24.637	4.408	2.79		Clay	86.4			32.93	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	33.170	1.403	4450.0	2659.1	23.275	4.534	2.82		Clay	88.5			31.35	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	29.600	1.250	4470.0	2669.1	20.505	4.567	2.86		Clay	92.0			27.98	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	25.400	0.970	4491.3	2679.8	17.281	4.189	2.89		Clay	94.5			24.01	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	20.090	0.860	4511.3	2689.8	13.261	4.822	3.02		Clay	100.0			18.99	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	19.430	0.800	4531.3	2699.8	12.715	4.658	3.03		Clay	100.0			18.36	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	17.910	0.816	4552.5	2710.5	11.536	5.220	3.09		Clay	100.0			16.93	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	16.720	0.860	4572.5	2720.5	10.611	5.955	3.15		Clay	100.0			15.80	0.94	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	16.240	0.906	4593.8	2731.1	10.211	6.497	3.19		Clay	100.0			15.35	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	16.360	0.889	4613.8	2741.1	10.254	6.329	3.18		Clay	100.0			15.46	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	16.430	0.844	4633.8	2751.1	10.260	5.982	3.17		Clay	100.0			15.53	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	16.200	0.820	4655.0	2761.8	10.046	5.912	3.17		Clay	100.0			15.31	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	16.480	0.852	4675.0	2771.8	10.205	6.022	3.17		Clay	100.0			15.58	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	16.610	0.881	4696.3	2782.4	10.251	6.180	3.18		Clay	100.0			15.70	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	16.690	0.933	4716.3	2792.5	10.265	6.507	3.19		Clay	100.0			15.78	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	17.380	0.977	4736.3	2802.5	10.713	6.506	3.18		Clay	100.0			16.43	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	18.860	1.039	4757.5	2813.1	11.717	6.303	3.14		Clay	100.0			17.83	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	21.550	0.979	4777.5	2823.1	13.574	5.107	3.03		Clay	100.0			20.37	0.93	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	20.680	0.869	4798.8	2833.8	12.902	4.754	3.03		Clay	100.0			19.55	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	18.890	0.710	4818.8	2843.8	11.591	4.309	3.04		Clay	100.0			17.85	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	18.690	0.854	4838.8	2853.8	11.403	5.246	3.10		Clay	100.0			17.67	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	21.720	1.473	4860.0	2864.4	13.469	7.638	3.15		Clay	100.0			20.53	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	30.570	1.801	4880.0	2874.5	19.572	6.403	2.98		Clay	100.0			28.89	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	32.150	1.841	4901.3	2885.1	20.588	6.199	2.95		Clay	99.0			30.39	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	25.210	1.619	4921.3	2895.1	15.716	7.116	3.08		Clay	100.0			23.83	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	21.590	1.240	4941.3	2905.1	13.162	6.487	3.11		Clay	100.0			20.41	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	19.590	0.984	4962.5	2915.8	11.735	5.750	3.11		Clay	100.0			18.52	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	17.020	1.032	4982.5	2925.8	9.931	7.101	3.23		Clay	100.0			16.09	0.92	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	16.900	1.192	5003.8	2936.4	9.807	8.278	3.27		Clay	100.0			15.97	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	26.650	1.296	5023.8	2946.5	16.385	5.369	2.98		Clay	100.0			25.19	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	47.220	1.466	5043.8	2956.5	30.237	3.280	2.64		Clay	74.2			44.63	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	57.350	1.720	5065.0	2967.1	43.755	3.137	2.51		Sand	63.7		1.8	97.57	0.88	85.57	159.43	0.81	0.510	0.941	0.365	0.614	1.20	0.01	0.01
40.680	53.040	1.811	5085.0	2977.1	33.924	3.587	2.63		Clay	73.3			50.13	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	51.160	1.542	5106.3	2987.8	32.537	3.173	2.61		Clay	71.5			48.36	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	44.120	1.134	5126.3	2997.8	27.725	2.728	2.62		Clay	72.4			41.70	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	27.890	0.990	5146.3	3007.8	16.834	3.908	2.88		Clay	93.7			26.36	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	18.070	0.844	5167.5	3018.4	10.261	5.449	3.14		Clay	100.0			17.08	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	20.800	0.835	5187.5	3028.5	12.023	4.585	3.04		Clay	100.0			19.66	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	21.610	1.099	5208.8	3039.1	12.507	5.781	3.09		Clay	100.0			20.43	0.91	n.a.	n.a.	0.80	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	19.340	1.095	5228.8	3049.1	10.971	6.544	3.17		Clay	100.0			18.28	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	17.550	0.925	5248.8	3059.1	9.758	6.195	3.19		Clay	100.0			16.59	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	16.300	0.812	5270.0	3069.8	8.903	5.939	3.21		Clay	100.0			15.41	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	16.340	0.788	5290.0	3079.8	8.893	5.753	3.21		Clay	100.0			15.44	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	16.790	0.834	5311.3	3090.4	9.147	5.901	3.20		Clay	100.0			15.87	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	16.710	0.815	5331.3	3100.5	9.060	5.804	3.20		Clay	100.0			15.79	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	16.280	0.767	5351.3	3110.5	8.747	5.636	3.21		Clay	100.0			15.39	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	15.420	0.706	5372.5	3121.1	8.160	5.547	3.23		Clay	100.0			14.57	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	15.130	0.736	5392.5	3131.1	7.942	5.921	3.25		Clay	100.0			14.30	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	16.860	0.789	5413.8	3141.8	9.010	5.573	3.19		Clay	100.0			15.94	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	19.910	0.952	5433.8	3151.8	10.910	5.537	3.13		Clay	100.0			18.82	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	22.960	1.082	5455.0	3162.4	12.796	5.348	3.06		Clay	100.0			21.70	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	26.100	1.116	5475.0	3172.4	14.728	4.776	2.98		Clay	100.0			24.67	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	27.950	1.101	5495.0	3182.5	15.838	4.370	2.94		Clay	97.8			26.42	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	27.950	0.999	5516.3	3193.1	15.779	3.965	2.91		Clay	95.8			26.42	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4	PGA (A_{max})	0.58	Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	26.170	0.910	5536.3	3203.1	14.612	3.890	2.93		Clay	97.5			24.74	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	23.080	0.822	5557.5	3213.8	12.634	4.047	2.99		Clay	100.0			21.81	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	20.200	0.729	5577.5	3223.8	10.802	4.188	3.05		Clay	100.0			19.09	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	16.550	0.709	5597.5	3233.8	8.505	5.158	3.19		Clay	100.0			15.64	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	14.880	0.649	5618.8	3244.4	7.441	5.373	3.25		Clay	100.0			14.06	0.89	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.200	0.546	5638.8	3254.4	6.379	5.259	3.30		Clay	100.0			12.48	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	11.530	0.489	5660.0	3265.1	5.329	5.625	3.38		Clay	100.0			10.90	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	9.870	0.424	5680.0	3275.1	4.293	6.028	3.47		Clay	100.0			9.33	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	9.280	0.415	5700.0	3285.1	3.915	6.449	3.52		Clay	100.0			8.77	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	8.910	0.449	5721.3	3295.8	3.671	7.429	3.58		Clay	100.0			8.42	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	9.820	0.459	5741.3	3305.8	4.204	6.602	3.50		Clay	100.0			9.28	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	11.100	0.456	5762.5	3316.4	4.956	5.542	3.40		Clay	100.0			10.49	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	11.220	0.399	5782.5	3326.4	5.008	4.794	3.36		Clay	100.0			10.60	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	10.820	0.360	5802.5	3336.5	4.747	4.547	3.37		Clay	100.0			10.23	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	10.060	0.431	5823.8	3347.1	4.271	6.024	3.47		Clay	100.0			9.51	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	12.780	0.436	5843.8	3357.1	5.873	4.420	3.28		Clay	100.0			12.08	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.450	0.483	5865.0	3367.8	6.840	4.191	3.22		Clay	100.0			13.66	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	14.660	0.489	5885.0	3377.8	6.938	4.173	3.21		Clay	100.0			13.86	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.700	0.498	5905.0	3387.8	6.935	4.238	3.21		Clay	100.0			13.89	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	14.080	0.511	5926.3	3398.4	6.542	4.598	3.25		Clay	100.0			13.31	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	12.390	0.551	5946.3	3408.4	5.526	5.848	3.37		Clay	100.0			11.71	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	12.710	0.554	5967.5	3419.1	5.689	5.693	3.36		Clay	100.0			12.01	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	13.710	0.622	5987.5	3429.1	6.250	5.805	3.33		Clay	100.0			12.96	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	15.400	0.646	6007.5	3439.1	7.209	5.208	3.25		Clay	100.0			14.56	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	16.230	0.696	6028.8	3449.8	7.662	5.263	3.23		Clay	100.0			15.34	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	19.180	0.595	6048.8	3459.8	9.339	3.685	3.07		Clay	100.0			18.13	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	16.180	0.621	6070.0	3470.4	7.575	4.721	3.21		Clay	100.0			15.29	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	14.380	0.542	6090.0	3480.4	6.514	4.778	3.27		Clay	100.0			13.59	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	14.610	0.569	6110.0	3490.4	6.621	4.923	3.27		Clay	100.0			13.81	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	13.600	0.535	6131.3	3501.1	6.018	5.078	3.31		Clay	100.0			12.85	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	12.920	0.521	6151.3	3511.1	5.608	5.292	3.34		Clay	100.0			12.21	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	12.610	0.516	6172.5	3521.7	5.409	5.414	3.36		Clay	100.0			11.92	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	12.800	0.482	6192.5	3531.8	5.495	4.965	3.34		Clay	100.0			12.10	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	13.400	0.690	6212.5	3541.8	5.813	6.703	3.39		Clay	100.0			12.67	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	14.720	0.939	6233.8	3552.4	6.533	8.089	3.40		Clay	100.0			13.91	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	24.400	0.919	6253.8	3562.4	11.943	4.321	3.03		Clay	100.0			23.06	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	37.110	0.888	6275.0	3573.1	19.016	2.615	2.74		Clay	81.8			35.08	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	27.460	0.949	6295.0	3583.1	13.571	3.903	2.96		Clay	99.6			25.95	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	18.570	0.759	6315.0	3593.1	8.579	4.923	3.18		Clay	100.0			17.55	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	15.590	0.643	6336.3	3603.8	6.894	5.175	3.27		Clay	100.0			14.74	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	14.900	0.617	6356.3	3613.8	6.487	5.267	3.29		Clay	100.0			14.08	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	14.100	0.495	6377.5	3624.4	6.021	4.534	3.28		Clay	100.0			13.33	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	10.960	0.387	6397.5	3634.4	4.271	4.989	3.43		Clay	100.0			10.36	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	9.570	0.312	6418.8	3645.1	3.490	4.910	3.50		Clay	100.0			9.05	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	9.420	0.337	6438.8	3655.1	3.393	5.432	3.53		Clay	100.0			8.90	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	10.180	0.376	6458.8	3665.1	3.793	5.407	3.49		Clay	100.0			9.62	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	11.390	0.442	6480.0	3675.7	4.434	5.423	3.43		Clay	100.0			10.77	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	13.110	0.531	6500.0	3685.8	5.350	5.385	3.37		Clay	100.0			12.39	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	14.350	0.518	6521.3	3696.4	6.000	4.671	3.29		Clay	100.0			13.56	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	15.950	0.491	6541.3	3706.4	6.842	3.873	3.20		Clay	100.0			15.08	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	14.750	0.466	6561.3	3716.4	6.172	4.060	3.24		Clay	100.0			13.94	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	13.460	0.459	6582.5	3727.1	5.457	4.516	3.31		Clay	100.0			12.72	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	13.710	0.528	6602.5	3737.1	5.571	5.076	3.34		Clay	100.0			12.96	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	14.150	0.479	6623.8	3747.7	5.784	4.423	3.29		Clay	100.0			13.37	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	18.170	0.364	6643.8	3757.8	7.903	2.453	3.03		Clay	100.0			17.17	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	16.680	0.339	6663.8	3767.8	7.085	2.543	3.08		Clay	100.0			15.77	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	12.640	0.357	6685.0	3778.4	4.921	3.835	3.31		Clay	100.0			11.95	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	12.310	0.426	6705.0	3788.4	4.729	4.756	3.38		Clay	100.0			11.64	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	15.080	0.531	6726.3	3799.1	6.168	4.528	3.27		Clay	100.0			14.25	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	15.030	0.593	6746.3	3809.1	6.121	5.088	3.30		Clay	100.0			14.21	0.86	n.a.	n.a.	0.74	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	14.540	0.610	6766.3	3819.1	5.843	5.466	3.34		Clay	100.0			13.74	0.86	n.a.	n.a.	0.73	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	15.150	0.651	6787.5	3829.7	6.139	5.538	3.32		Clay	100.0			14.32	0.86	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	17.240	0.756	6807.5	3839.8	7.207	5.463	3.26		Clay	100.0			16.29	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	20.070	0.900	6828.8	3850.4	8.651	5.406	3.20		Clay	100.0			18.97	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	22.280	0.991	6848.8	3860.4	9.769	5.257	3.15		Clay	100.0			21.06	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	23.980	1.016	6868.8	3870.4	10.617	4.943	3.10		Clay	100.0			22.67	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	25.120	1.043	6890.0	3881.1	11.170	4.813	3.08		Clay	100.0			23.74	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.58

Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
55.280	25.630	1.036	6910.0	3891.1	11.398	4.670	3.06		Clay	100.0			24.22	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	27.390	1.042	6931.3	3901.7	12.263	4.354	3.02		Clay	100.0			25.89	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	30.100	0.978	6951.3	3911.7	13.613	3.674	2.94		Clay	98.2			28.45	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	27.870	0.927	6971.3	3921.8	12.435	3.800	2.98		Clay	100.0			26.34	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	22.790	0.738	6992.5	3932.4	9.813	3.827	3.06		Clay	100.0			21.54	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	20.480	0.653	7012.5	3942.4	8.611	3.845	3.11		Clay	100.0			19.36	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	19.260	0.562	7033.8	3953.1	7.965	3.569	3.12		Clay	100.0			18.20	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	19.120	0.545	7053.8	3963.1	7.869	3.494	3.12		Clay	100.0			18.07	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	18.250	0.546	7073.8	3973.1	7.406	3.710	3.16		Clay	100.0			17.25	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	17.520	0.549	7095.0	3983.7	7.015	3.930	3.19		Clay	100.0			16.56	0.85	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	17.860	0.607	7115.0	3993.8	7.162	4.243	3.20		Clay	100.0			16.88	0.85	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	22.980	0.651	7136.3	4004.4	9.695	3.355	3.04		Clay	100.0			21.72	0.85	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	24.610	0.715	7156.3	4014.4	10.478	3.401	3.01		Clay	100.0			23.26	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	22.920	0.714	7176.3	4024.4	9.607	3.694	3.06		Clay	100.0			21.66	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	22.330	0.740	7197.5	4035.1	9.284	3.950	3.09		Clay	100.0			21.11	0.84	n.a.	n.a.	0.72	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	22.260	0.803	7217.5	4045.1	9.222	4.304	3.12		Clay	100.0			21.04	0.84	n.a.	n.a.	0.71	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	21.200	0.812	7238.8	4055.7	8.670	4.617	3.16		Clay	100.0			20.04	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	19.830	0.772	7258.8	4065.7	7.969	4.763	3.19		Clay	100.0			18.74	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	18.580	0.731	7278.8	4075.8	7.331	4.890	3.23		Clay	100.0			17.56	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	18.740	0.708	7300.0	4086.4	7.385	4.693	3.22		Clay	100.0			17.71	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	18.440	0.666	7320.0	4096.4	7.216	4.503	3.21		Clay	100.0			17.43	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	18.110	0.671	7341.3	4107.1	7.031	4.649	3.23		Clay	100.0			17.12	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	18.550	0.680	7361.3	4117.1	7.223	4.575	3.22		Clay	100.0			17.53	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	18.670	0.697	7382.5	4127.7	7.258	4.655	3.22		Clay	100.0			17.65	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	17.130	0.690	7402.5	4137.7	6.491	5.140	3.29		Clay	100.0			16.19	0.84	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	16.030	0.617	7422.5	4147.7	5.940	5.009	3.31		Clay	100.0			15.15	0.84	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	14.400	0.559	7443.8	4158.4	5.136	5.235	3.37		Clay	100.0			13.61	0.84	n.a.	n.a.	0.71	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	13.260	0.505	7463.8	4168.4	4.572	5.297	3.42		Clay	100.0			12.53	0.84	n.a.	n.a.	0.70	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	12.580	0.468	7485.0	4179.0	4.229	5.297	3.44		Clay	100.0			11.89	0.84	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	13.900	0.497	7505.0	4189.1	4.845	4.902	3.38		Clay	100.0			13.14	0.84	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	18.010	0.595	7525.0	4199.1	6.786	4.178	3.22		Clay	100.0			17.02	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	22.140	0.732	7546.3	4209.7	8.726	3.987	3.12		Clay	100.0			20.93	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	24.380	0.811	7566.3	4219.7	9.762	3.939	3.07		Clay	100.0			23.04	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	25.580	0.887	7587.5	4230.4	10.300	4.072	3.06		Clay	100.0			24.18	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	25.850	0.875	7607.5	4240.4	10.398	3.967	3.05		Clay	100.0			24.43	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	26.080	0.813	7627.5	4250.4	10.477	3.653	3.03		Clay	100.0			24.65	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	24.640	0.743	7648.8	4261.1	9.770	3.571	3.05		Clay	100.0			23.29	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	23.470	0.656	7668.8	4271.1	9.195	3.341	3.05		Clay	100.0			22.18	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	20.690	0.606	7690.0	4281.7	7.868	3.600	3.13		Clay	100.0			19.56	0.83	n.a.	n.a.	0.70	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	18.550	0.586	7710.0	4291.7	6.848	3.990	3.20		Clay	100.0			17.53	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	15.880	0.554	7730.0	4301.7	5.586	4.614	3.31		Clay	100.0			15.01	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	15.350	0.533	7751.3	4312.4	5.322	4.642	3.33		Clay	100.0			14.51	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	13.550	0.488	7771.3	4322.4	4.472	5.047	3.41		Clay	100.0			12.81	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	13.380	0.470	7792.5	4333.0	4.377	4.954	3.42		Clay	100.0			12.65	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	13.570	0.442	7812.5	4343.1	4.450	4.573	3.39		Clay	100.0			12.83	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	13.940	0.461	7832.5	4353.1	4.605	4.598	3.38		Clay	100.0			13.18	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	16.010	0.483	7853.8	4363.7	5.538	3.996	3.28		Clay	100.0			15.13	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	19.570	0.588	7873.8	4373.7	7.149	3.763	3.17		Clay	100.0			18.50	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	21.530	0.686	7895.0	4384.4	8.021	3.900	3.14		Clay	100.0			20.35	0.83	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.320	23.650	0.743	7915.0	4394.4	8.963	3.775	3.09		Clay	100.0			22.35	0.82	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	25.300	0.808	7935.0	4404.4	9.687	3.786	3.07		Clay	100.0			23.91	0.82	n.a.	n.a.	0.69	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.650	25.170	0.892	7956.3	4415.1	9.600	4.208	3.10		Clay	100.0			23.79	0.82	n.a.	n.a.	0.68	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.810	24.640	0.879	7976.3	4425.1	9.334	4.254	3.11		Clay	100.0			23.29	0.82	n.a.	n.a.	0.68	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	23.530	0.834	7997.5	4435.7	8.806	4.272	3.13		Clay	100.0			22.24	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	21.540	0.804	8017.5	4445.7	7.887	4.588	3.19		Clay	100.0			20.36	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	19.570	0.829	8037.5	4455.7	6.980	5.333	3.27		Clay	100.0			18.50	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	20.120	1.226	8058.8	4466.4	7.205	7.617	3.35		Clay	100.0			19.02	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.630	23.970	1.209	8078.8	4476.4	8.905	6.065	3.22		Clay	100.0			22.66	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.800	31.300	0.723	8100.0	4487.0	12.146	2.652	2.90		Clay	94.8			29.58	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.960	31.230	0.642	8120.0	4497.1	12.083	2.363	2.87		Clay	92.7			29.52	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.120	20.090	0.452	8140.0	4507.1	7.109	2.823	3.11		Clay	100.0			18.99	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.290	18.940	0.448	8161.3	4517.7	6.578	3.013	3.15		Clay	100.0			17.90	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.450	16.950	0.480	8181.3	4527.7	5.680	3.736	3.25		Clay	100.0			16.02	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.620	15.980	0.509	8202.5	4538.4	5.235	4.287	3.32		Clay	100.0			15.10	0.82	n.a.	n.a.	0.68	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	16.810	0.689	8222.5	4548.4	5.584	5.423	3.35		Clay	100.0			15.89	0.82	n.a.	n.a.	0.67	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	17.940	1.285	8242.5	4558.4	6.063	9.295	3.47		Clay	100.0			16.96	0.82	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	26.000	0.977	8263.8	4569.0	9.572	4.465	3.11		Clay	100.0			24.57	0.82	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4	PGA (A_{max})	0.58	Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
66.270	45.140	0.952	8283.8	4579.1	17.907	2.322	2.73		Clay	81.1			42.67	0.82	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	30.490	1.185	8305.0	4589.7	11.477	4.501	3.05		Clay	100.0			28.82	0.82	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	29.840	1.324	8325.0	4599.7	11.165	5.157	3.10		Clay	100.0			28.20	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	27.970	1.274	8346.3	4610.4	10.323	5.354	3.14		Clay	100.0			26.44	0.81	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	20.210	1.014	8366.3	4620.4	6.937	6.329	3.32		Clay	100.0			19.10	0.81	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	16.300	0.711	8386.3	4630.4	5.229	5.870	3.39		Clay	100.0			15.41	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	18.450	0.882	8407.5	4641.0	6.139	6.193	3.35		Clay	100.0			17.44	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	18.860	1.502	8427.5	4651.1	6.298	10.257	3.48		Clay	100.0			17.83	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	27.580	1.533	8448.8	4661.7	10.020	6.565	3.20		Clay	100.0			26.07	0.81	n.a.	n.a.	0.67	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	46.960	1.491	8468.8	4671.7	18.291	3.491	2.83		Clay	89.0			44.39	0.81	n.a.	n.a.	0.66	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	29.440	1.748	8488.8	4681.7	10.763	6.936	3.19		Clay	100.0			27.83	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	25.670	2.049	8510.0	4692.4	9.128	9.566	3.34		Clay	100.0			24.26	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	35.710	2.012	8530.0	4702.4	13.374	6.399	3.10		Clay	100.0			33.75	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	36.580	1.606	8551.3	4713.0	13.709	4.971	3.02		Clay	100.0			34.57	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	36.010	1.991	8571.3	4723.0	13.434	6.274	3.09		Clay	100.0			34.04	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	33.200	2.249	8591.3	4733.1	12.214	7.781	3.18		Clay	100.0			31.38	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	65.690	2.105	8612.5	4743.7	25.880	3.430	2.70		Clay	79.3			62.09	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	95.670	2.211	8632.5	4753.7	57.608	2.421	2.34		Sand	50.5			90.43	0.70	63.06	126.00	0.66	0.445	0.894	0.186	0.238	0.54	0.03	0.00
69.230	104.930	2.613	8653.8	4764.4	63.370	2.598	2.34		Sand	49.8			99.18	0.71	69.96	134.42	0.66	0.444	0.886	0.212	0.283	0.64	0.02	0.00
69.390	106.910	4.167	8673.8	4774.4	64.543	4.062	2.47		Sand	60.6			101.05	0.71	71.88	140.94	0.66	0.444	0.880	0.239	0.329	0.74	0.02	0.00
69.550	131.630	4.643	8693.8	4784.4	80.007	3.648	2.37		Sand	52.8			124.41	0.73	91.00	162.43	0.66	0.443	0.854	0.398	0.620	1.40	0.00	0.00
69.720	174.690	4.198	8715.0	4795.0	106.948	2.464	2.16		Sand	35.9			165.11	0.76	125.18	193.38	0.66	0.443	0.801	1.327	2.337	5.27	0.00	0.00
69.880	279.680	3.717	8735.0	4805.0	172.683	1.350	1.83		Sand	9.3			264.35	0.77	204.46	212.51	0.66	0.443	0.754	4.128	6.848	15.47	0.00	0.00
70.050	381.940	3.061	8756.3	4815.7	236.554	0.811	1.57		Sand	0.0			361.00	0.80	290.59	290.59	0.65	0.442	0.753	69963.585	########	262150.95	0.00	0.00
70.210	413.270	1.352	8776.3	4825.7	255.911	0.331	1.29		Sand	0.0			390.61	0.80	314.26	314.26	0.65	0.442	0.753	#########	########	##########	0.00	0.00
70.370	392.340	2.031	8796.3	4835.7	242.554	0.524	1.44		Sand	0.0			370.83	0.80	298.18	298.18	0.65	0.442	0.752	#########	########	1236120.94	0.00	0.00
70.540	359.120	2.357	8817.5	4846.4	221.533	0.664	1.53		Sand	0.0			339.43	0.80	272.77	272.77	0.65	0.441	0.751	3003.311	4964.645	11254.55	0.00	0.00
70.700	280.240	3.080	8837.5	4856.4	172.085	1.117	1.77		Sand	4.6			264.88	0.76	201.89	201.98	0.65	0.441	0.777	2.117	3.617	8.21	0.00	0.00
70.870	301.430	3.918	8858.8	4867.0	185.096	1.319	1.80		Sand	7.1			284.91	0.78	222.25	224.61	0.65	0.440	0.750	10.315	17.022	38.66	0.00	0.00
71.030	285.860	3.691	8878.8	4877.0	175.206	1.311	1.81		Sand	8.2			270.19	0.77	208.09	212.89	0.65	0.440	0.749	4.238	6.988	15.88	0.00	0.00
71.190	265.380	3.544	8898.8	4887.1	162.283	1.358	1.85		Sand	10.9			250.83	0.76	191.44	205.10	0.65	0.440	0.766	2.550	4.299	9.78	0.00	0.00
71.360	272.380	3.562	8920.0	4897.7	166.449	1.330	1.83		Sand	9.7			257.45	0.76	196.56	206.08	0.65	0.439	0.763	2.708	4.545	10.35	0.00	0.00
71.520	289.070	3.387	8940.0	4907.7	176.631	1.190	1.78		Sand	5.5			273.22	0.77	209.32	209.80	0.65	0.439	0.751	3.437	5.680	12.94	0.00	0.00
71.690	339.860	3.067	8961.3	4918.4	207.921	0.914	1.65		Sand	0.0			321.23	0.80	257.14	257.14	0.65	0.438	0.747	316.267	519.729	1185.49	0.00	0.00
71.850	395.960	2.747	8981.3	4928.4	242.448	0.702	1.52		Sand	0.0			374.25	0.80	299.43	299.43	0.65	0.438	0.746	#########	########	1616732.31	0.00	0.00
72.010	453.750	2.811	9001.3	4938.4	277.950	0.626	1.44		Sand	0.0			428.88	0.80	342.95	342.95	0.65	0.438	0.746	#########	########	##########	0.00	0.00
72.180	403.310	4.105	9022.5	4949.0	246.471	1.029	1.64		Sand	0.0			381.20	0.80	304.65	304.65	0.65	0.437	0.745	#########	########	5170093.29	0.00	0.00
72.340	266.200	4.829	9042.5	4959.0	161.563	1.846	1.95		Sand	19.0			251.61	0.79	199.50	246.35	0.64	0.437	0.744	85.434	139.931	320.29	0.00	0.00
72.510	168.240	5.108	9063.8	4969.7	100.967	3.120	2.26		Sand	43.4			159.02	0.75	118.96	192.31	0.64	0.436	0.794	1.258	2.198	5.04	0.00	0.00
72.670	96.420	4.679	9083.8	4979.7	36.901	5.093	2.71		Clay	79.7			91.13	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	61.900	3.074	9103.8	4989.7	22.987	5.360	2.87		Clay	92.7			58.51	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	46.930	2.013	9125.0	5000.4	16.946	4.752	2.94		Clay	97.9			44.36	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	37.360	1.408	9145.0	5010.4	13.088	4.295	3.00		Clay	100.0			35.31	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	29.360	1.207	9166.3	5021.0	9.869	4.871	3.13		Clay	100.0			27.75	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	24.040	1.033	9186.3	5031.0	7.731	5.309	3.23		Clay	100.0			22.72	0.80	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	21.620	0.901	9206.3	5041.1	6.751	5.294	3.28		Clay	100.0			20.43	0.80	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	21.870	0.703	9227.5	5051.7	6.832	4.074	3.21		Clay	100.0			20.67	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	23.390	1.195	9247.5	5061.7	7.415	6.366	3.29		Clay	100.0			22.11	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	25.390	1.931	9268.8	5072.4	8.184	9.303	3.37		Clay	100.0			24.00	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	41.810	2.492	9288.8	5082.4	14.625	6.705	3.08		Clay	100.0			39.52	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	52.150	2.167	9310.0	5093.0	18.651	4.562	2.89		Clay	94.4			49.29	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	45.770	1.962	9330.0	5103.0	16.110	4.772	2.95		Clay	99.3			43.26	0.79	n.a.	n.a.	0.63	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	34.180	1.394	9350.0	5113.0	11.541	4.724	3.06		Clay	100.0			32.31	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	31.450	0.978	9371.3	5123.7	10.447	3.655	3.03		Clay	100.0			29.73	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.130	23.480	0.844	9391.3	5133.7	7.318	4.490	3.21		Clay	100.0			22.19	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.300	17.830	0.749	9412.5	5144.3	5.102	5.709	3.40		Clay	100.0			16.85	0.79	n.a.	n.a.	0.63	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.460	15.760	0.673	9432.5	5154.4	4.285	6.092	3.47		Clay	100.0			14.90	0.79	n.a.	n.a.	0.63	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.620	16.250	0.665	9452.5	5164.4	4.463	5.772	3.45		Clay	100.0			15.36	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.790	16.480	0.680	9473.8	5175.0	4.538	5.789	3.44		Clay	100.0			15.58	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.950	16.660	0.736	9493.8	5185.0	4.595	6.177	3.45		Clay	100.0			15.75	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.120	17.180	0.761	9515.0	5195.7	4.782	6.122	3.44		Clay	100.0			16.24	0.79	n.a.	n.a.	0.63	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.280	18.530	0.790	9535.0	5205.7	5.287	5.741	3.39		Clay	100.0			17.51	0.79	n.a.	n.a.	0.63	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.440	18.730	0.768	9555.0	5215.7	5.350	5.505	3.37		Clay	100.0			17.70	0.79	n.a.	n.a.	0.63	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.610	18.380	0.730	9576.3	5226.3	5.201	5.372	3.37		Clay	100.0			17.37	0.79	n.a.	n.a.	0.63	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.770	18.120	0.719	9596.3	5236.4	5.088	5.396	3.38		Clay	100.0			17.13	0.79	n.a.	n.a.	0.63	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.940	17.370	0.742	9617.5	5247.0	4.788	5.904	3.43		Clay	100.0			16.42	0.79	n.a.	n.a.	0.63	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.100	17.310	0.741	9637.5	5257.0	4.752	5.935	3.43		Clay	100.0			16.36	0.79	n.a.	n.a.	0.62	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.58

Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
77.260	17.670	0.750	9657.5	5267.0	4.876	5.842	3.42		Clay	100.0			16.70	0.79	n.a.	n.a.	0.62	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	18.300	0.739	9678.8	5277.7	5.101	5.491	3.39		Clay	100.0			17.30	0.79	n.a.	n.a.	0.62	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	18.250	0.723	9698.8	5287.7	5.069	5.396	3.38		Clay	100.0			17.25	0.79	n.a.	n.a.	0.62	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	18.050	0.696	9720.0	5298.3	4.979	5.273	3.39		Clay	100.0			17.06	0.78	n.a.	n.a.	0.62	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	18.230	0.683	9740.0	5308.4	5.034	5.113	3.37		Clay	100.0			17.23	0.78	n.a.	n.a.	0.62	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	18.820	0.682	9760.0	5318.4	5.242	4.895	3.35		Clay	100.0			17.79	0.78	n.a.	n.a.	0.62	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	19.140	0.722	9781.3	5329.0	5.348	5.067	3.35		Clay	100.0			18.09	0.78	n.a.	n.a.	0.62	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	19.300	0.751	9801.3	5339.0	5.394	5.218	3.35		Clay	100.0			18.24	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	19.230	0.763	9822.5	5349.7	5.353	5.325	3.36		Clay	100.0			18.18	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	19.210	0.722	9842.5	5359.7	5.332	5.054	3.35		Clay	100.0			18.16	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	18.920	0.679	9862.5	5369.7	5.210	4.856	3.35		Clay	100.0			17.88	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	18.480	0.649	9883.8	5380.3	5.032	4.790	3.36		Clay	100.0			17.47	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	18.510	0.643	9903.8	5390.4	5.031	4.741	3.36		Clay	100.0			17.50	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	18.630	0.635	9925.0	5401.0	5.061	4.644	3.35		Clay	100.0			17.61	0.78	n.a.	n.a.	0.62	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	18.260	0.595	9945.0	5411.0	4.911	4.481	3.35		Clay	100.0			17.26	0.78	n.a.	n.a.	0.62	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	17.510	0.582	9965.0	5421.0	4.622	4.647	3.38		Clay	100.0			16.55	0.78	n.a.	n.a.	0.61	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	17.370	0.633	9986.3	5431.7	4.557	5.117	3.41		Clay	100.0			16.42	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	18.220	0.709	10006.3	5441.7	4.858	5.362	3.40		Clay	100.0			17.22	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	19.180	0.711	10027.5	5452.3	5.196	5.015	3.36		Clay	100.0			18.13	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	19.940	0.748	10047.5	5462.3	5.461	5.016	3.34		Clay	100.0			18.85	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	20.340	0.782	10067.5	5472.4	5.594	5.108	3.34		Clay	100.0			19.22	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	20.940	0.730	10088.8	5483.0	5.798	4.593	3.30		Clay	100.0			19.79	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	20.330	0.662	10108.8	5493.0	5.562	4.331	3.30		Clay	100.0			19.22	0.78	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	19.230	0.633	10130.0	5503.7	5.147	4.466	3.33		Clay	100.0			18.18	0.78	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	19.110	0.613	10150.0	5513.7	5.091	4.366	3.33		Clay	100.0			18.06	0.78	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	19.340	0.597	10170.0	5523.7	5.161	4.187	3.32		Clay	100.0			18.28	0.78	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	19.290	0.563	10191.3	5534.3	5.130	3.967	3.31		Clay	100.0			18.23	0.78	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	18.740	0.537	10211.3	5544.4	4.918	3.941	3.32		Clay	100.0			17.71	0.78	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	18.030	0.555	10232.5	5555.0	4.649	4.295	3.36		Clay	100.0			17.04	0.78	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	18.340	0.577	10252.5	5565.0	4.749	4.368	3.36		Clay	100.0			17.33	0.77	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	18.740	0.710	10273.8	5575.7	4.879	5.221	3.39		Clay	100.0			17.71	0.77	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	19.910	0.817	10293.8	5585.7	5.286	5.535	3.38		Clay	100.0			18.82	0.77	n.a.	n.a.	0.61	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	22.880	0.723	10313.8	5595.7	6.335	4.077	3.24		Clay	100.0			21.63	0.77	n.a.	n.a.	0.60	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	24.710	0.671	10335.0	5606.3	6.972	3.435	3.16		Clay	100.0			23.36	0.77	n.a.	n.a.	0.60	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	22.370	0.668	10355.0	5616.3	6.122	3.884	3.24		Clay	100.0			21.14	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	21.750	0.624	10376.3	5627.0	5.887	3.766	3.24		Clay	100.0			20.56	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	22.770	0.679	10396.3	5637.0	6.234	3.866	3.23		Clay	100.0			21.52	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	23.380	0.671	10416.3	5647.0	6.436	3.690	3.21		Clay	100.0			22.10	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	25.430	0.837	10437.5	5657.7	7.145	4.139	3.20		Clay	100.0			24.04	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	25.840	0.927	10457.5	5667.7	7.273	4.496	3.21		Clay	100.0			24.42	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	22.550	0.891	10478.8	5678.3	6.097	5.146	3.31		Clay	100.0			21.31	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	26.540	0.832	10498.8	5688.3	7.486	3.909	3.17		Clay	100.0			25.09	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	24.620	0.801	10518.8	5698.4	6.795	4.137	3.21		Clay	100.0			23.27	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	24.240	0.784	10540.0	5709.0	6.646	4.134	3.22		Clay	100.0			22.91	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	24.040	0.784	10560.0	5719.0	6.561	4.180	3.23		Clay	100.0			22.72	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	23.490	0.782	10581.3	5729.7	6.353	4.295	3.25		Clay	100.0			22.20	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	22.830	0.748	10601.3	5739.7	6.108	4.268	3.26		Clay	100.0			21.58	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	22.420	0.725	10621.3	5749.7	5.951	4.235	3.27		Clay	100.0			21.19	0.77	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	21.880	0.700	10642.5	5760.3	5.749	4.225	3.28		Clay	100.0			20.68	0.77	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.300	21.550	0.772	10662.5	5770.3	5.621	4.759	3.32		Clay	100.0			20.37	0.77	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.470	21.770	1.186	10683.8	5781.0	5.684	7.220	3.42		Clay	100.0			20.58	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.630	25.200	1.893	10703.8	5791.0	6.855	9.539	3.43		Clay	100.0			23.82	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.790	39.840	1.992	10723.8	5801.0	11.887	5.777	3.11		Clay	100.0			37.66	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.960	59.170	1.762	10745.0	5811.7	18.514	3.275	2.80		Clay	87.3			55.93	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.120	51.630	1.920	10765.0	5821.7	15.888	4.152	2.92		Clay	96.6			48.80	0.77	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.290	35.570	1.860	10786.3	5832.3	10.348	6.162	3.17		Clay	100.0			33.62	0.77	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.450	36.910	1.321	10806.3	5842.3	10.786	4.194	3.06		Clay	100.0			34.89	0.76	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.610	38.660	0.973	10826.3	5852.3	11.362	2.927	2.95		Clay	98.6			36.54	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.780	32.680	0.745	10847.5	5863.0	9.298	2.733	3.00		Clay	100.0			30.89	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.940	22.380	0.852	10867.5	5873.0	5.771	5.025	3.32		Clay	100.0			21.15	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.110	19.700	1.275	10888.8	5883.6	4.846	8.942	3.53		Clay	100.0			18.62	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.270	24.650	2.048	10908.8	5893.7	6.514	10.670	3.48		Clay	100.0			23.30	0.76	n.a.	n.a.	0.59	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.430	42.510	2.609	10928.8	5903.7	12.550	7.042	3.15		Clay	100.0			40.18	0.76	n.a.	n.a.	0.59	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.600	66.220	3.078	10950.0	5914.3	20.542	5.067	2.89		Clay	94.3			62.59	0.76	n.a.	n.a.	0.59	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.760	72.380	2.295	10970.0	5924.3	22.583	3.430	2.75		Clay	83.0			68.41	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.930	47.590	1.360	10991.3	5935.0	14.185	3.232	2.89		Clay	94.4			44.98	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.090	31.410	1.115	11011.3	5945.0	8.715	4.305	3.14		Clay	100.0			29.69	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.58

Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
88.250	25.310	0.964	11031.3	5955.0	6.648	4.869	3.26		Clay	100.0			23.92	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.420	23.240	0.930	11052.5	5965.7	5.939	5.248	3.32		Clay	100.0			21.97	0.76	n.a.	n.a.	0.59	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.580	22.820	0.910	11072.5	5975.7	5.785	5.263	3.33		Clay	100.0			21.57	0.76	n.a.	n.a.	0.59	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.750	22.460	0.943	11093.8	5986.3	5.651	5.577	3.35		Clay	100.0			21.23	0.76	n.a.	n.a.	0.58	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	25.400	1.021	11113.8	5996.3	6.618	5.145	3.28		Clay	100.0			24.01	0.76	n.a.	n.a.	0.58	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	30.700	1.221	11133.8	6006.3	8.369	4.857	3.18		Clay	100.0			29.02	0.76	n.a.	n.a.	0.58	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	34.240	1.439	11155.0	6017.0	9.527	5.020	3.15		Clay	100.0			32.36	0.76	n.a.	n.a.	0.58	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	37.170	1.640	11175.0	6027.0	10.480	5.192	3.12		Clay	100.0			35.13	0.76	n.a.	n.a.	0.58	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	39.060	1.748	11196.3	6037.6	11.084	5.222	3.10		Clay	100.0			36.92	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	41.240	1.808	11216.3	6047.7	11.784	5.075	3.08		Clay	100.0			38.98	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	41.790	1.808	11237.5	6058.3	11.941	4.999	3.07		Clay	100.0			39.50	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	41.950	1.787	11257.5	6068.3	11.971	4.919	3.06		Clay	100.0			39.65	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	41.370	1.762	11277.5	6078.3	11.757	4.932	3.07		Clay	100.0			39.10	0.76	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	41.100	1.765	11298.8	6089.0	11.644	4.978	3.07		Clay	100.0			38.85	0.76	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.550	40.740	1.713	11318.8	6099.0	11.504	4.882	3.07		Clay	100.0			38.51	0.76	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	38.930	1.688	11340.0	6109.6	10.888	5.075	3.10		Clay	100.0			36.80	0.76	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	34.990	1.627	11360.0	6119.6	9.579	5.552	3.17		Clay	100.0			33.07	0.76	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	32.320	1.564	11380.0	6129.7	8.689	5.872	3.22		Clay	100.0			30.55	0.76	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	29.730	1.532	11401.3	6140.3	7.827	6.375	3.28		Clay	100.0			28.10	0.75	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.370	29.630	1.443	11421.3	6150.3	7.778	6.034	3.26		Clay	100.0			28.01	0.75	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.540	30.270	1.394	11442.5	6161.0	7.969	5.676	3.24		Clay	100.0			28.61	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	30.050	1.325	11462.5	6171.0	7.882	5.448	3.23		Clay	100.0			28.40	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	30.920	1.317	11482.5	6181.0	8.147	5.232	3.21		Clay	100.0			29.22	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	32.670	1.317	11503.8	6191.6	8.695	4.893	3.17		Clay	100.0			30.88	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	32.490	1.360	11523.8	6201.7	8.620	5.087	3.18		Clay	100.0			30.71	0.75	n.a.	n.a.	0.58	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	31.750	1.360	11545.0	6212.3	8.363	5.236	3.20		Clay	100.0			30.01	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	31.300	1.482	11565.0	6222.3	8.202	5.807	3.24		Clay	100.0			29.58	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	33.820	1.379	11585.0	6232.3	8.994	4.918	3.16		Clay	100.0			31.97	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	40.740	1.078	11606.3	6243.0	11.192	3.087	2.96		Clay	100.0			38.51	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.010	39.540	1.176	11626.3	6253.0	10.787	3.485	3.01		Clay	100.0			37.37	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.180	30.340	1.011	11647.5	6263.6	7.828	4.123	3.16		Clay	100.0			28.68	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.340	24.860	0.868	11667.5	6273.6	6.065	4.561	3.28		Clay	100.0			23.50	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.500	23.710	0.897	11687.5	6283.7	5.687	5.022	3.33		Clay	100.0			22.41	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.670	24.180	0.960	11708.8	6294.3	5.823	5.236	3.33		Clay	100.0			22.85	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.830	25.110	0.936	11728.8	6304.3	6.106	4.865	3.29		Clay	100.0			23.73	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.000	24.740	0.868	11750.0	6315.0	5.975	4.603	3.29		Clay	100.0			23.38	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.160	24.850	0.773	11770.0	6325.0	5.997	4.073	3.26		Clay	100.0			23.49	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.320	24.010	0.712	11790.0	6335.0	5.719	3.928	3.26		Clay	100.0			22.69	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.490	21.820	0.653	11811.3	6345.6	5.016	4.102	3.32		Clay	100.0			20.62	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.650	21.850	0.610	11831.3	6355.7	5.014	3.825	3.30		Clay	100.0			20.65	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.820	22.650	0.710	11852.5	6366.3	5.254	4.247	3.31		Clay	100.0			21.41	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.980	23.940	0.798	11872.5	6376.3	5.647	4.432	3.30		Clay	100.0			22.63	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.140	25.050	0.892	11892.5	6386.3	5.983	4.669	3.29		Clay	100.0			23.68	0.75	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.310	25.330	0.900	11913.8	6397.0	6.057	4.644	3.28		Clay	100.0			23.94	0.75	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.470	26.790	0.794	11933.8	6407.0	6.500	3.814	3.21		Clay	100.0			25.32	0.75	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.640	28.190	0.912	11955.0	6417.6	6.922	4.108	3.21		Clay	100.0			26.64	0.75	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.800	28.210	1.008	11975.0	6427.6	6.915	4.534	3.23		Clay	100.0			26.66	0.75	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.960	32.690	1.192	11995.0	6437.7	8.293	4.464	3.16		Clay	100.0			30.90	0.75	n.a.	n.a.	0.57	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.130	38.530	1.295	12016.3	6448.3	10.087	3.981	3.07		Clay	100.0			36.42	0.75	n.a.	n.a.	0.57	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.290	40.580	1.181	12036.3	6458.3	10.703	3.417	3.01		Clay	100.0			38.36	0.74	n.a.	n.a.	0.57	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.460	41.150	0.979	12057.5	6469.0	10.858	2.787	2.95		Clay	98.9			38.89	0.74	n.a.	n.a.	0.56	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.620	30.860	0.837	12077.5	6479.0	7.662	3.372	3.12		Clay	100.0			29.17	0.74	n.a.	n.a.	0.56	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.780	29.230	0.838	12097.5	6489.0	7.145	3.615	3.16		Clay	100.0			27.63	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.950	30.000	1.134	12118.8	6499.6	7.367	4.737	3.22		Clay	100.0			28.36	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.110	35.420	1.672	12138.8	6509.6	9.018	5.698	3.20		Clay	100.0			33.48	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.280	48.970	2.125	12160.0	6520.3	13.156	4.955	3.03		Clay	100.0			46.29	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.440	54.100	2.082	12180.0	6530.3	14.704	4.336	2.96		Clay	99.7			51.13	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.600	55.840	2.134	12200.0	6540.3	15.210	4.291	2.94		Clay	98.5			52.78	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.770	55.150	2.787	12221.3	6551.0	14.972	5.683	3.03		Clay	100.0			52.13	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.930	51.880	2.822	12241.3	6561.0	13.949	6.166	3.07		Clay	100.0			49.04	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.100	67.430	2.971	12262.5	6571.6	18.656	4.846	2.91		Clay	95.8			63.73	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.260	67.440	2.375	12282.5	6581.6	18.627	3.875	2.85		Clay	90.8			63.74	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.430	56.700	2.128	12303.8	6592.3	15.336	4.209	2.94		Clay	97.9			53.59	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.590	60.340	2.273	12323.8	6602.3	16.412	4.195	2.91		Clay	96.0			57.03	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.750	44.510	2.203	12343.8	6612.3	11.596	5.746	3.12		Clay	100.0			42.07	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.920	63.790	2.310	12365.0	6623.0	17.396	4.010	2.88		Clay	93.4			60.29	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.080	75.180	2.067	12385.0	6633.0	20.801	2.996	2.74		Clay	82.2			71.06	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	4

PGA (A_{max})	0.58

Total Settlement:	0.39	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
99.250	63.790	2.893	12406.3	6643.6	17.336	5.023	2.94		Clay	98.5			60.29	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.410	55.340	2.976	12426.3	6653.6	14.767	6.057	3.05		Clay	100.0			52.31	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.570	66.640	2.678	12446.3	6663.6	18.133	4.433	2.89		Clay	94.5			62.99	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.740	72.430	2.817	12467.5	6674.3	19.836	4.255	2.85		Clay	91.2			68.46	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.900	68.580	3.326	12487.5	6684.3	18.652	5.336	2.94		Clay	98.0			64.82	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
100.070	60.930	3.023	12508.8	6694.9	16.333	5.529	2.99		Clay	100.0			57.59	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.58

Total Settlement:	0.13	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	477.180	0.982	20.0	20.0	4639.063	0.206	0.57		Unsaturated	0.0			451.02	1.70	766.74	766.74	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	248.540	1.330	41.3	41.3	1682.366	0.535	0.98		Unsaturated	0.0			234.91	1.70	399.36	399.36	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	165.130	1.413	61.3	61.3	917.201	0.856	1.26		Unsaturated	0.0			156.08	1.70	265.33	265.33	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	96.740	1.905	82.5	82.5	462.877	1.970	1.71		Unsaturated	0.2			91.44	1.70	155.44	155.44	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	83.190	2.029	102.5	102.5	357.037	2.441	1.85		Unsaturated	11.1			78.63	1.70	133.67	145.75	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	55.620	2.525	122.5	122.5	218.251	4.544	2.19		Unsaturated	38.3			52.57	1.70	89.37	151.53	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	49.490	3.071	143.8	143.8	179.207	6.214	2.35		Unsaturated	51.2			46.78	1.70	79.52	147.14	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	57.180	3.420	163.8	163.8	194.001	5.990	2.32		Unsaturated	48.7			54.05	1.70	91.88	161.54	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	50.750	3.437	185.0	185.0	161.931	6.785	2.41		Unsaturated	55.6			47.97	1.70	81.55	151.57	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	48.710	3.089	205.0	205.0	147.604	6.355	2.41		Unsaturated	55.4			46.04	1.70	78.27	147.31	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	48.370	3.086	225.0	225.0	139.877	6.394	2.42		Unsaturated	56.6			45.72	1.70	77.72	147.06	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	45.500	3.238	246.3	246.3	125.724	7.135	2.49		Unsaturated	61.8			43.01	1.70	73.11	142.89	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	49.760	3.239	266.3	266.3	132.234	6.526	2.44		Unsaturated	58.3			47.03	1.70	79.95	150.51	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	50.420	3.366	287.5	287.5	128.919	6.696	2.46		Unsaturated	59.5			47.66	1.70	81.02	152.28	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	50.480	2.981	307.5	307.5	124.780	5.924	2.42		Unsaturated	56.6			47.71	1.70	81.11	151.39	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	50.370	2.581	327.5	327.5	120.621	5.141	2.38		Unsaturated	53.3			47.61	1.70	80.93	149.85	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	35.000	2.117	348.8	348.8	81.080	6.080	2.54		Unsaturated	66.2			33.08	1.70	56.24	122.38	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	28.780	1.738	368.8	368.8	91.825	6.078	2.51		Unsaturated	63.6			27.20	1.70	46.24	108.88	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	22.510	1.653	390.0	390.0	68.901	7.406	2.65		Unsaturated	75.1			21.28	1.70	36.17	98.25	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	19.670	1.564	410.0	410.0	58.034	8.034	2.73		Unsaturated	81.0			18.59	1.70	31.61	93.23	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	20.830	1.420	430.0	430.0	59.447	6.887	2.67		Unsaturated	76.3			19.69	1.70	33.47	94.95	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	19.810	1.198	451.3	451.3	54.600	6.117	2.65		Unsaturated	75.1			18.72	1.70	31.83	92.62	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	17.020	1.190	471.3	471.3	71.233	7.091	2.63		Unsaturated	73.2			16.09	1.70	27.35	86.50	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	16.660	1.323	492.5	492.5	66.655	8.058	2.69		Unsaturated	78.1			15.75	1.70	26.77	86.53	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	23.000	1.448	512.5	512.5	58.003	6.366	2.65		Unsaturated	74.8			21.74	1.70	36.96	99.21	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	26.930	1.558	533.8	533.8	66.092	5.844	2.58		Unsaturated	69.6			25.45	1.70	43.27	106.41	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	26.450	1.589	553.8	553.8	63.228	6.071	2.61		Unsaturated	71.6			25.00	1.70	42.50	105.81	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	26.590	1.653	573.8	573.8	61.984	6.283	2.62		Unsaturated	73.0			25.13	1.70	42.72	106.36	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	28.390	1.737	595.0	595.0	64.536	6.185	2.61		Unsaturated	71.6			26.83	1.70	45.62	109.85	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	26.880	1.757	615.0	615.0	59.648	6.612	2.65		Unsaturated	75.2			25.41	1.70	43.19	107.36	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	25.390	1.600	636.3	636.3	54.957	6.380	2.66		Unsaturated	76.1			24.00	1.70	40.80	104.40	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	25.410	1.570	656.3	656.3	53.801	6.260	2.66		Unsaturated	76.0			24.02	1.70	40.83	104.44	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	23.920	1.549	676.3	676.3	69.743	6.568	2.61		Unsaturated	71.6			22.61	1.70	38.43	100.55	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	18.690	1.386	697.5	697.5	52.591	7.556	2.73		Unsaturated	81.5			17.67	1.70	30.03	91.25	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.810	17.300	1.172	726.3	726.3	46.642	6.917	2.74		Unsaturated	81.9			16.35	1.70	27.80	88.40	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	16.800	1.095	738.8	738.8	44.482	6.663	2.74		Unsaturated	82.0			15.88	1.70	26.99	87.37	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	16.120	0.980	758.8	758.8	41.491	6.228	2.74		Unsaturated	81.9			15.24	1.70	25.90	85.93	0.99	0.372	1.098	n.a.	n.a.	n.a.	0.00	0.00
6.230	14.240	0.941	778.8	778.8	35.571	6.794	2.81		Unsaturated	87.8			13.46	1.70	22.88	82.72	0.99	0.372	1.093	n.a.	n.a.	n.a.	0.00	0.00
6.400	13.040	0.816	800.0	800.0	31.600	6.457	2.83		Unsaturated	89.3			12.33	1.70	20.95	80.36	0.99	0.372	1.089	n.a.	n.a.	n.a.	0.00	0.00
6.560	13.000	0.794	820.0	820.0	30.707	6.306	2.83		Unsaturated	89.4			12.29	1.68	20.62	79.95	0.99	0.372	1.086	n.a.	n.a.	n.a.	0.00	0.00
6.730	13.300	0.799	841.3	841.3	30.620	6.202	2.83		Unsaturated	89.1			12.57	1.65	20.80	80.14	0.99	0.371	1.084	n.a.	n.a.	n.a.	0.00	0.00
6.890	13.580	0.780	861.3	861.3	30.536	5.928	2.81		Unsaturated	88.0			12.84	1.63	20.96	80.24	0.98	0.371	1.082	n.a.	n.a.	n.a.	0.00	0.00
7.050	13.180	0.743	881.3	881.3	28.912	5.835	2.82		Unsaturated	89.0			12.46	1.62	20.13	79.27	0.98	0.371	1.079	n.a.	n.a.	n.a.	0.00	0.00
7.220	12.210	0.560	902.5	902.5	26.058	4.760	2.80		Unsaturated	86.7			11.54	1.60	18.51	76.90	0.98	0.371	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.380	12.010	0.443	922.5	922.5	25.038	3.835	2.75		Unsaturated	82.7			11.35	1.59	18.03	75.80	0.98	0.370	1.073	n.a.	n.a.	n.a.	0.00	0.00
7.550	11.590	0.445	943.8	934.4	23.798	4.000	2.78		Unsaturated	85.0			10.95	1.58	17.30	75.13	0.98	0.370	1.071	n.a.	n.a.	n.a.	0.00	0.00
7.710	10.350	0.511	963.8	944.4	20.898	5.182	2.89		Unsaturated	94.4			9.78	1.58	15.41	73.64	0.98	0.370	1.070	n.a.	n.a.	n.a.	0.00	0.00
7.870	9.740	0.526	983.8	954.4	19.380	5.687	2.94		Unsaturated	98.5			9.21	1.57	14.45	72.74	0.98	0.370	1.068	n.a.	n.a.	n.a.	0.00	0.00
8.040	9.380	0.458	1005.0	965.1	18.398	5.158	2.93		Clay	97.6			8.87	1.23	n.a.	n.a.	0.98	0.370	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	8.740	0.425	1025.0	975.1	16.876	5.168	2.96		Clay	99.9			8.26	1.23	n.a.	n.a.	0.98	0.374	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	8.590	0.366	1046.3	985.7	16.367	4.536	2.93		Clay	97.8			8.12	1.22	n.a.	n.a.	0.98	0.377	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	8.440	0.339	1066.3	995.7	15.881	4.281	2.93		Clay	97.3			7.98	1.22	n.a.	n.a.	0.98	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	7.840	0.318	1086.3	1005.8	14.510	4.359	2.96		Clay	100.0			7.41	1.22	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	7.430	0.326	1107.5	1016.4	13.531	4.742	3.01		Clay	100.0			7.02	1.21	n.a.	n.a.	0.98	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	7.030	0.313	1127.5	1026.4	12.600	4.845	3.04		Clay	100.0			6.64	1.21	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	6.660	0.312	1148.8	1037.1	11.736	5.128	3.08		Clay	100.0			6.29	1.21	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	6.560	0.306	1168.8	1047.1	11.414	5.122	3.09		Clay	100.0			6.20	1.20	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	6.000	0.298	1188.8	1057.1	10.227	5.504	3.15		Clay	100.0			5.67	1.20	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	5.850	0.268	1210.0	1067.7	9.825	5.102	3.14		Clay	100.0			5.53	1.20	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	5.460	0.246	1230.0	1077.7	8.991	5.073	3.17		Clay	100.0			5.16	1.19	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	5.080	0.239	1251.3	1088.4	8.185	5.372	3.22		Clay	100.0			4.80	1.19	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	5.300	0.242	1271.3	1098.4	8.493	5.195	3.19		Clay	100.0			5.01	1.19	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	6.160	0.249	1291.3	1108.4	9.950	4.521	3.10		Clay	100.0			5.82	1.19	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	6.280	0.248	1312.5	1119.1	10.051	4.408	3.09		Clay	100.0			5.94	1.18	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	5.590	0.275	1332.5	1129.1	8.722	5.575	3.20		Clay	100.0			5.28	1.18	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	5.920	0.330	1353.8	1139.7	9.201	6.290	3.22		Clay	100.0			5.60	1.18	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	6.600	0.449	1373.8	1149.7	10.286	7.598	3.23		Clay	100.0			6.24	1.17	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	7.670	0.538	1393.8	1159.8	12.025	7.714	3.19		Clay	100.0			7.25	1.17	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.58

Total Settlement:	0.13	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	8.820	0.604	1415.0	1170.4	13.863	7.447	3.13		Clay	100.0			8.34	1.17	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	10.510	0.621	1435.0	1180.4	16.592	6.336	3.03		Clay	100.0			9.93	1.17	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	10.500	0.637	1456.3	1191.1	16.409	6.519	3.04		Clay	100.0			9.92	1.16	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	10.240	0.649	1476.3	1201.1	15.822	6.830	3.06		Clay	100.0			9.68	1.16	n.a.	n.a.	0.96	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	10.780	0.694	1497.5	1211.7	16.557	6.919	3.05		Clay	100.0			10.19	1.16	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	11.190	0.710	1517.5	1221.7	17.076	6.806	3.04		Clay	100.0			10.58	1.16	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	11.140	0.725	1537.5	1231.7	16.840	6.987	3.05		Clay	100.0			10.53	1.15	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	11.020	0.719	1558.8	1242.4	16.485	7.024	3.06		Clay	100.0			10.42	1.15	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	10.570	0.660	1578.8	1252.4	15.619	6.745	3.06		Clay	100.0			9.99	1.15	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	11.000	0.635	1600.0	1263.0	16.152	6.223	3.03		Clay	100.0			10.40	1.15	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	11.490	0.654	1620.0	1273.1	16.779	6.120	3.01		Clay	100.0			10.86	1.14	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	12.100	0.644	1640.0	1283.1	17.583	5.709	2.98		Clay	100.0			11.44	1.14	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	12.530	0.648	1661.3	1293.7	18.086	5.538	2.96		Clay	99.7			11.84	1.14	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	12.130	0.599	1681.3	1303.7	17.319	5.302	2.96		Clay	99.8			11.47	1.14	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	11.830	0.589	1702.5	1314.4	16.706	5.365	2.97		Clay	100.0			11.18	1.13	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	10.870	0.613	1722.5	1324.4	15.115	6.128	3.05		Clay	100.0			10.27	1.13	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	10.530	0.637	1742.5	1334.4	14.477	6.598	3.08		Clay	100.0			9.95	1.13	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	10.850	0.714	1763.8	1345.0	14.822	7.160	3.10		Clay	100.0			10.26	1.13	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	12.030	0.820	1783.8	1355.1	16.439	7.364	3.07		Clay	100.0			11.37	1.12	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	11.610	0.867	1805.0	1365.7	15.681	8.095	3.12		Clay	100.0			10.97	1.12	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	10.690	0.658	1825.0	1375.7	14.214	6.730	3.09		Clay	100.0			10.10	1.12	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	9.660	0.587	1845.0	1385.7	12.611	6.719	3.13		Clay	100.0			9.13	1.12	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	8.950	0.661	1866.3	1396.4	11.482	8.249	3.22		Clay	100.0			8.46	1.12	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	10.410	0.691	1886.3	1406.4	13.463	7.296	3.13		Clay	100.0			9.84	1.11	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	12.490	0.725	1907.5	1417.0	16.282	6.282	3.03		Clay	100.0			11.81	1.11	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	13.380	0.722	1927.5	1427.1	17.401	5.816	2.98		Clay	100.0			12.65	1.11	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	13.790	0.781	1947.5	1437.1	17.837	6.090	2.99		Clay	100.0			13.03	1.11	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	14.570	0.848	1968.8	1447.7	18.768	6.239	2.98		Clay	100.0			13.77	1.11	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	14.230	0.931	1988.8	1457.7	18.159	7.031	3.03		Clay	100.0			13.45	1.10	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	13.070	0.917	2010.0	1468.4	16.433	7.604	3.08		Clay	100.0			12.35	1.10	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	12.560	0.935	2030.0	1478.4	15.618	8.096	3.12		Clay	100.0			11.87	1.10	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	13.470	0.875	2050.0	1488.4	16.723	7.033	3.05		Clay	100.0			12.73	1.10	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	14.660	0.915	2071.3	1499.0	18.177	6.718	3.01		Clay	100.0			13.86	1.10	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	15.040	0.902	2091.3	1509.1	18.547	6.443	2.99		Clay	100.0			14.22	1.09	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	15.730	0.867	2112.5	1519.7	19.311	5.910	2.96		Clay	99.5			14.87	1.09	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	15.710	0.831	2132.5	1529.7	19.146	5.675	2.95		Clay	98.7			14.85	1.09	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	14.150	0.732	2152.5	1539.7	16.982	5.596	2.98		Clay	100.0			13.37	1.09	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	11.720	0.630	2173.8	1550.4	13.717	5.928	3.07		Clay	100.0			11.08	1.09	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	9.660	0.553	2193.8	1560.4	10.976	6.463	3.17		Clay	100.0			9.13	1.08	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	9.060	0.436	2215.0	1571.0	10.124	5.486	3.15		Clay	100.0			8.56	1.08	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	9.130	0.450	2235.0	1581.0	10.136	5.611	3.15		Clay	100.0			8.63	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	9.190	0.492	2255.0	1591.1	10.135	6.105	3.18		Clay	100.0			8.69	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	10.530	0.535	2276.3	1601.7	11.727	5.693	3.11		Clay	100.0			9.95	1.08	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	11.320	0.669	2296.3	1611.7	12.622	6.577	3.12		Clay	100.0			10.70	1.07	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	13.010	0.683	2317.5	1622.4	14.610	5.766	3.04		Clay	100.0			12.30	1.07	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	14.630	0.702	2337.5	1632.4	16.493	5.216	2.97		Clay	100.0			13.83	1.07	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	14.920	0.694	2357.5	1642.4	16.733	5.053	2.96		Clay	99.6			14.10	1.07	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	15.120	0.758	2378.8	1653.0	16.855	5.441	2.98		Clay	100.0			14.29	1.07	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	15.960	0.865	2398.8	1663.1	17.751	5.863	2.98		Clay	100.0			15.09	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	16.520	0.970	2420.0	1673.7	18.295	6.338	2.99		Clay	100.0			15.61	1.06	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	17.320	1.011	2440.0	1683.7	19.124	6.280	2.98		Clay	100.0			16.37	1.06	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	17.960	1.022	2461.3	1694.4	19.747	6.110	2.96		Clay	99.7			16.98	1.06	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	18.130	1.019	2481.3	1704.4	19.819	6.034	2.95		Clay	99.3			17.14	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	17.710	1.016	2501.3	1714.4	19.201	6.173	2.97		Clay	100.0			16.74	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	16.660	0.980	2522.5	1725.0	17.853	6.361	3.00		Clay	100.0			15.75	1.06	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	15.620	0.938	2542.5	1735.0	16.540	6.535	3.04		Clay	100.0			14.76	1.05	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	15.560	0.916	2563.8	1745.7	16.358	6.413	3.03		Clay	100.0			14.71	1.05	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	14.540	0.919	2583.8	1755.7	15.092	6.935	3.08		Clay	100.0			13.74	1.05	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	14.020	0.942	2603.8	1765.7	14.406	7.406	3.12		Clay	100.0			13.25	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	14.870	0.919	2625.0	1776.4	15.264	6.776	3.07		Clay	100.0			14.05	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	17.230	0.949	2645.0	1786.4	17.810	5.966	2.98		Clay	100.0			16.29	1.05	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	18.650	0.964	2666.3	1797.0	19.273	5.568	2.94		Clay	98.1			17.63	1.04	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	19.190	0.918	2686.3	1807.0	19.753	5.142	2.91		Clay	95.7			18.14	1.04	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	18.880	0.847	2706.3	1817.1	19.292	4.835	2.90		Clay	94.9			17.84	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	17.710	0.782	2727.5	1827.7	17.887	4.785	2.92		Clay	96.6			16.74	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	18.380	0.812	2747.5	1837.7	18.508	4.774	2.91		Clay	95.7			17.37	1.04	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	20.470	0.882	2768.8	1848.4	20.652	4.619	2.86		Clay	92.0			19.35	1.04	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.58

Total Settlement:	0.13	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	20.690	1.016	2788.8	1858.4	20.766	5.267	2.90		Clay	94.9			19.56	1.03	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	19.110	1.004	2808.8	1868.4	18.953	5.669	2.95		Clay	99.0			18.06	1.03	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	16.990	0.906	2830.0	1879.0	16.578	5.816	3.00		Clay	100.0			16.06	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	14.260	0.798	2850.0	1889.0	13.589	6.220	3.08		Clay	100.0			13.48	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	14.190	0.830	2871.3	1899.7	13.428	6.507	3.10		Clay	100.0			13.41	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	17.820	1.023	2891.3	1909.7	17.149	6.249	3.01		Clay	100.0			16.84	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	22.490	1.200	2911.3	1919.7	21.914	5.705	2.91		Clay	95.4			21.26	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	25.500	1.206	2932.5	1930.4	24.901	5.017	2.83		Clay	89.1			24.10	1.02	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	24.540	1.163	2952.5	1940.4	23.773	5.043	2.84		Clay	90.4			23.19	1.02	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	22.800	1.047	2973.8	1951.0	21.848	4.912	2.86		Clay	92.0			21.55	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	22.130	0.951	2993.8	1961.0	21.043	4.607	2.86		Clay	91.5			20.92	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	22.240	0.960	3013.8	1971.0	21.038	4.628	2.86		Clay	91.6			21.02	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	23.070	1.031	3035.0	1981.7	21.752	4.784	2.86		Clay	91.5			21.81	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	23.510	0.939	3055.0	1991.7	22.074	4.270	2.82		Clay	88.5			22.22	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	23.100	1.004	3076.3	2002.3	21.537	4.658	2.85		Clay	91.1			21.83	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	21.580	0.961	3096.3	2012.4	19.909	4.797	2.89		Clay	93.9			20.40	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	20.430	0.918	3116.3	2022.4	18.663	4.867	2.91		Clay	95.9			19.31	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	19.000	0.909	3137.5	2033.0	17.148	5.216	2.96		Clay	99.7			17.96	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	18.050	0.845	3157.5	2043.0	16.124	5.129	2.97		Clay	100.0			17.06	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	17.060	0.603	3178.8	2053.7	15.066	3.900	2.92		Clay	96.7			16.12	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	14.760	0.623	3198.8	2063.7	12.754	4.732	3.03		Clay	100.0			13.95	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	11.530	0.702	3218.8	2073.7	9.568	7.072	3.24		Clay	100.0			10.90	1.01	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	16.090	0.915	3240.0	2084.4	13.884	6.324	3.08		Clay	100.0			15.21	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	21.430	0.883	3260.0	2094.4	18.908	4.462	2.88		Clay	93.6			20.26	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	18.430	0.732	3281.3	2105.0	15.952	4.359	2.93		Clay	97.6			17.42	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	13.990	0.467	3301.3	2115.0	11.668	3.783	3.00		Clay	100.0			13.22	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	11.420	0.376	3321.3	2125.0	9.185	3.850	3.09		Clay	100.0			10.79	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	9.940	0.414	3342.5	2135.7	7.743	5.008	3.22		Clay	100.0			9.40	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	12.120	0.354	3362.5	2145.7	9.730	3.392	3.04		Clay	100.0			11.46	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	12.730	0.412	3383.8	2156.3	10.238	3.728	3.04		Clay	100.0			12.03	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	12.340	0.573	3403.8	2166.4	9.821	5.384	3.15		Clay	100.0			11.66	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	15.180	0.779	3425.0	2177.0	12.373	5.781	3.10		Clay	100.0			14.35	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	18.230	0.942	3445.0	2187.0	15.096	5.706	3.03		Clay	100.0			17.23	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	19.640	1.068	3465.0	2197.0	16.302	5.965	3.01		Clay	100.0			18.56	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	20.840	1.101	3486.3	2207.7	17.300	5.764	2.98		Clay	100.0			19.70	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	20.910	1.122	3506.3	2217.7	17.276	5.858	2.99		Clay	100.0			19.76	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	18.900	0.997	3527.5	2228.3	15.380	5.818	3.03		Clay	100.0			17.86	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	15.650	0.878	3547.5	2238.3	12.399	6.328	3.12		Clay	100.0			14.79	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	11.970	0.678	3567.5	2248.4	9.061	6.651	3.24		Clay	100.0			11.31	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	8.740	0.454	3588.8	2259.0	6.149	6.541	3.37		Clay	100.0			8.26	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	6.660	0.254	3608.8	2269.0	4.280	5.225	3.44		Clay	100.0			6.29	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	5.380	0.132	3630.0	2279.7	3.128	3.691	3.47		Clay	100.0			5.09	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	4.670	0.115	3650.0	2289.7	2.485	4.049	3.58		Clay	100.0			4.41	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	4.330	0.157	3670.0	2299.7	2.170	6.309	3.73		Clay	100.0			4.09	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	4.750	0.198	3691.3	2310.3	2.514	6.831	3.69		Clay	100.0			4.49	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	5.720	0.224	3711.3	2320.4	3.331	5.802	3.55		Clay	100.0			5.41	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	6.100	0.259	3732.5	2331.0	3.633	6.127	3.53		Clay	100.0			5.77	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	6.640	0.334	3752.5	2341.0	4.070	7.020	3.53		Clay	100.0			6.28	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	8.510	0.416	3772.5	2351.0	5.635	6.276	3.39		Clay	100.0			8.04	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	10.450	0.491	3793.8	2361.7	7.243	5.745	3.28		Clay	100.0			9.88	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	11.940	0.513	3813.8	2371.7	8.461	5.117	3.19		Clay	100.0			11.29	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	12.030	0.488	3835.0	2382.3	8.490	4.825	3.17		Clay	100.0			11.37	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	12.060	0.405	3855.0	2392.3	8.471	3.998	3.13		Clay	100.0			11.40	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	11.770	0.344	3875.0	2402.4	8.186	3.501	3.11		Clay	100.0			11.12	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	11.440	0.369	3896.3	2413.0	7.867	3.890	3.15		Clay	100.0			10.81	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	11.720	0.369	3916.3	2423.0	8.058	3.781	3.13		Clay	100.0			11.08	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	13.390	0.389	3937.5	2433.7	9.386	3.409	3.05		Clay	100.0			12.66	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	14.080	0.412	3957.5	2443.7	9.904	3.405	3.03		Clay	100.0			13.31	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	13.440	0.280	3977.5	2453.7	9.334	2.442	2.97		Clay	100.0			12.70	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	12.710	0.392	3998.8	2464.3	8.693	3.657	3.10		Clay	100.0			12.01	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	13.030	0.423	4018.8	2474.4	8.908	3.838	3.10		Clay	100.0			12.32	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	10.230	0.448	4040.0	2485.0	6.608	5.458	3.29		Clay	100.0			9.67	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	14.230	0.444	4060.0	2495.0	9.780	3.641	3.05		Clay	100.0			13.45	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	14.180	0.409	4080.0	2505.0	9.693	3.372	3.04		Clay	100.0			13.40	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	13.970	0.445	4101.3	2515.7	9.476	3.730	3.07		Clay	100.0			13.20	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	14.710	0.457	4121.3	2525.7	10.017	3.610	3.04		Clay	100.0			13.90	0.95	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	15.390	0.483	4142.5	2536.3	10.502	3.628	3.03		Clay	100.0			14.55	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.58

Total Settlement:	0.13	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	16.120	0.525	4162.5	2546.3	11.027	3.742	3.02		Clay	100.0			15.24	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	17.610	0.761	4182.5	2556.4	12.141	4.903	3.06		Clay	100.0			16.64	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	22.400	1.036	4203.8	2567.0	15.815	5.101	2.98		Clay	100.0			21.17	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	32.910	1.118	4223.8	2577.0	23.902	3.631	2.75		Clay	82.7			31.11	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	32.530	1.081	4245.0	2587.7	23.502	3.554	2.75		Clay	82.7			30.75	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	24.440	0.880	4265.0	2597.7	17.175	3.943	2.88		Clay	93.4			23.10	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	20.640	1.042	4285.0	2607.7	14.187	5.631	3.04		Clay	100.0			19.51	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	24.040	0.895	4306.3	2618.3	16.718	4.090	2.90		Clay	94.9			22.72	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	20.440	0.806	4326.3	2628.3	13.908	4.408	2.98		Clay	100.0			19.32	0.94	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	16.300	0.667	4347.5	2639.0	10.706	4.720	3.09		Clay	100.0			15.41	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	15.250	0.547	4367.5	2649.0	9.865	4.185	3.09		Clay	100.0			14.41	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	13.730	0.523	4387.5	2659.0	8.677	4.530	3.15		Clay	100.0			12.98	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	13.110	0.485	4408.8	2669.7	8.170	4.448	3.17		Clay	100.0			12.39	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	14.020	0.524	4428.8	2679.7	8.811	4.437	3.14		Clay	100.0			13.25	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	15.550	0.551	4450.0	2690.3	9.906	4.136	3.08		Clay	100.0			14.70	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	15.910	0.599	4470.0	2700.3	10.128	4.381	3.09		Clay	100.0			15.04	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	15.300	0.548	4491.3	2711.0	9.631	4.197	3.09		Clay	100.0			14.46	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	14.160	0.482	4511.3	2721.0	8.750	4.049	3.12		Clay	100.0			13.38	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	13.930	0.516	4531.3	2731.0	8.542	4.425	3.15		Clay	100.0			13.17	0.93	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	15.100	0.659	4552.5	2741.7	9.355	5.136	3.16		Clay	100.0			14.27	0.93	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	15.580	0.764	4572.5	2751.7	9.662	5.746	3.18		Clay	100.0			14.73	0.93	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	15.440	0.776	4593.8	2762.3	9.516	5.902	3.19		Clay	100.0			14.59	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	15.630	0.698	4613.8	2772.3	9.612	5.239	3.15		Clay	100.0			14.77	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	15.570	0.556	4633.8	2782.3	9.527	4.194	3.10		Clay	100.0			14.72	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	14.150	0.396	4655.0	2793.0	8.466	3.350	3.08		Clay	100.0			13.37	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	12.630	0.372	4675.0	2803.0	7.344	3.615	3.15		Clay	100.0			11.94	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	12.040	0.321	4696.3	2813.6	6.889	3.310	3.15		Clay	100.0			11.38	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	11.640	0.296	4716.3	2823.7	6.574	3.189	3.16		Clay	100.0			11.00	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	10.460	0.296	4736.3	2833.7	5.711	3.654	3.25		Clay	100.0			9.89	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	10.230	0.317	4757.5	2844.3	5.521	4.040	3.28		Clay	100.0			9.67	0.92	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	10.840	0.330	4777.5	2854.3	5.922	3.901	3.25		Clay	100.0			10.25	0.92	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	11.290	0.398	4798.8	2865.0	6.206	4.472	3.27		Clay	100.0			10.67	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	11.540	0.346	4818.8	2875.0	6.352	3.786	3.22		Clay	100.0			10.91	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	11.500	0.360	4838.8	2885.0	6.295	3.961	3.23		Clay	100.0			10.87	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	11.480	0.377	4860.0	2895.6	6.251	4.160	3.25		Clay	100.0			10.85	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	11.270	0.414	4880.0	2905.7	6.078	4.687	3.29		Clay	100.0			10.65	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	12.030	0.430	4901.3	2916.3	6.570	4.492	3.25		Clay	100.0			11.37	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	11.510	0.446	4921.3	2926.3	6.185	4.924	3.29		Clay	100.0			10.88	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	10.990	0.427	4941.3	2936.3	5.803	5.009	3.32		Clay	100.0			10.39	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	11.250	0.426	4962.5	2947.0	5.951	4.854	3.30		Clay	100.0			10.63	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	10.260	0.385	4982.5	2957.0	5.254	4.954	3.35		Clay	100.0			9.70	0.92	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	10.020	0.370	5003.8	2967.6	5.067	4.917	3.36		Clay	100.0			9.47	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	10.000	0.325	5023.8	2977.7	5.030	4.336	3.33		Clay	100.0			9.45	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	9.910	0.327	5043.8	2987.7	4.946	4.419	3.34		Clay	100.0			9.37	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	9.980	0.297	5065.0	2998.3	4.968	3.983	3.32		Clay	100.0			9.43	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	10.120	0.253	5085.0	3008.3	5.038	3.332	3.27		Clay	100.0			9.57	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	9.990	0.324	5106.3	3019.0	4.927	4.353	3.34		Clay	100.0			9.44	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	11.320	0.405	5126.3	3029.0	5.782	4.622	3.30		Clay	100.0			10.70	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	15.030	0.512	5146.3	3039.0	8.198	4.112	3.15		Clay	100.0			14.21	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	17.230	0.685	5167.5	3049.6	9.605	4.674	3.12		Clay	100.0			16.29	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	21.170	0.808	5187.5	3059.7	12.143	4.348	3.02		Clay	100.0			20.01	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	24.100	0.851	5208.8	3070.3	14.002	3.958	2.95		Clay	99.0			22.78	0.91	n.a.	n.a.	0.80	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	25.420	0.939	5228.8	3080.3	14.807	4.119	2.94		Clay	98.3			24.03	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	27.300	0.953	5248.8	3090.3	15.970	3.861	2.90		Clay	94.9			25.80	0.90	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	29.080	1.073	5270.0	3101.0	17.056	4.056	2.89		Clay	94.2			27.49	0.90	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	26.020	0.935	5290.0	3111.0	15.027	3.999	2.93		Clay	97.3			24.59	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	23.840	0.767	5311.3	3121.6	13.573	3.622	2.94		Clay	98.0			22.53	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	22.470	0.670	5331.3	3131.7	12.648	3.381	2.94		Clay	98.5			21.24	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	22.050	0.644	5351.3	3141.7	12.334	3.323	2.95		Clay	98.9			20.84	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	22.000	0.718	5372.5	3152.3	12.254	3.715	2.98		Clay	100.0			20.79	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	22.650	0.687	5392.5	3162.3	12.620	3.444	2.95		Clay	99.0			21.41	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	23.930	0.719	5413.8	3173.0	13.377	3.389	2.92		Clay	97.0			22.62	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	24.180	0.701	5433.8	3183.0	13.486	3.265	2.91		Clay	96.0			22.85	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	23.170	0.666	5455.0	3193.6	12.802	3.256	2.93		Clay	97.4			21.90	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	22.320	0.671	5475.0	3203.6	12.225	3.428	2.96		Clay	99.7			21.10	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	20.550	0.578	5495.0	3213.7	11.079	3.248	2.98		Clay	100.0			19.42	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	19.600	0.488	5516.3	3224.3	10.447	2.898	2.97		Clay	100.0			18.53	0.89	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	5

PGA (A_{max})	0.58

Total Settlement:	0.13	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	17.960	0.879	5536.3	3234.3	9.394	5.783	3.19		Clay	100.0			16.98	0.89	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	16.990	1.214	5557.5	3245.0	8.759	8.539	3.32		Clay	100.0			16.06	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	37.970	1.428	5577.5	3255.0	21.617	4.058	2.81		Clay	87.9			35.89	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	52.070	1.690	5597.5	3265.0	30.182	3.429	2.65		Clay	75.3			49.22	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	44.100	1.410	5618.8	3275.6	25.211	3.415	2.71		Clay	79.9			41.68	0.89	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	34.480	1.026	5638.8	3285.6	19.272	3.239	2.79		Clay	86.0			32.59	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	22.590	0.743	5660.0	3296.3	11.989	3.759	2.99		Clay	100.0			21.35	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	16.010	0.683	5680.0	3306.3	7.967	5.189	3.22		Clay	100.0			15.13	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	18.380	0.535	5700.0	3316.3	9.366	3.447	3.05		Clay	100.0			17.37	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	20.760	0.548	5721.3	3327.0	10.760	3.062	2.98		Clay	100.0			19.62	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	15.530	0.594	5741.3	3337.0	7.587	4.691	3.21		Clay	100.0			14.68	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	16.670	0.651	5762.5	3347.6	8.238	4.722	3.18		Clay	100.0			15.76	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	19.050	0.758	5782.5	3357.6	9.625	4.692	3.12		Clay	100.0			18.01	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	20.110	0.652	5802.5	3367.7	10.220	3.790	3.05		Clay	100.0			19.01	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	20.360	0.863	5823.8	3378.3	10.330	4.948	3.11		Clay	100.0			19.24	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	19.210	1.143	5843.8	3388.3	9.614	7.017	3.23		Clay	100.0			18.16	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	26.430	1.148	5865.0	3399.0	13.826	4.886	3.01		Clay	100.0			24.98	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	40.960	1.137	5885.0	3409.0	22.304	2.990	2.72		Clay	80.3			38.71	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	54.070	1.285	5905.0	3419.0	38.010	2.513	2.49		Sand	62.2			51.11	0.79	40.28	100.86	0.77	0.498	0.949	0.138	0.166	0.33	0.03	0.06
47.410	37.340	1.295	5926.3	3429.6	20.047	3.767	2.82		Clay	88.2			35.29	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	23.130	1.178	5946.3	3439.6	11.720	5.846	3.12		Clay	100.0			21.86	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	18.710	1.038	5967.5	3450.3	9.116	6.599	3.23		Clay	100.0			17.68	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	19.130	1.156	5987.5	3460.3	9.327	7.161	3.25		Clay	100.0			18.08	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	24.850	0.997	6007.5	3470.3	12.590	4.564	3.02		Clay	100.0			23.49	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	50.300	0.888	6028.8	3481.0	34.846	1.879	2.44		Sand	58.1			47.54	0.78	36.91	95.45	0.77	0.496	0.949	0.132	0.155	0.31	0.03	0.06
48.390	44.500	0.895	6048.8	3491.0	23.762	2.158	2.61		Clay	71.6			42.06	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	21.730	0.644	6070.0	3501.6	10.678	3.445	3.01		Clay	100.0			20.54	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	19.240	0.489	6090.0	3511.6	9.224	3.016	3.03		Clay	100.0			18.19	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	15.630	0.563	6110.0	3521.6	7.142	4.474	3.22		Clay	100.0			14.77	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	16.170	0.624	6131.3	3532.3	7.420	4.765	3.22		Clay	100.0			15.28	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	16.490	0.589	6151.3	3542.3	7.574	4.390	3.19		Clay	100.0			15.59	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	14.960	0.604	6172.5	3552.9	6.684	5.083	3.27		Clay	100.0			14.14	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	15.920	0.602	6192.5	3563.0	7.198	4.692	3.23		Clay	100.0			15.05	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	16.610	0.636	6212.5	3573.0	7.559	4.707	3.21		Clay	100.0			15.70	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	16.560	0.675	6233.8	3583.6	7.503	5.023	3.23		Clay	100.0			15.65	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	390.990	1.973	20.0	20.0	3801.121	0.505	0.93		Unsaturated	0.0			369.56	1.70	628.24	628.24	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	422.640	3.144	41.3	41.3	2860.946	0.744	1.09		Unsaturated	0.0			399.47	1.70	679.10	679.10	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	300.020	4.238	61.3	61.3	1666.575	1.413	1.39		Unsaturated	0.0			283.57	1.70	482.07	482.07	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	259.730	4.481	82.5	82.5	1243.078	1.725	1.50		Unsaturated	0.0			245.49	1.70	417.34	417.34	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	201.560	4.274	102.5	102.5	865.375	2.121	1.64		Unsaturated	0.0			190.51	1.70	323.87	323.87	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	130.770	3.793	122.5	122.5	513.463	2.902	1.85		Unsaturated	10.7			123.60	1.70	210.12	223.66	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	81.360	3.159	143.8	143.8	294.778	3.886	2.07		Unsaturated	28.4			76.90	1.70	130.73	190.00	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	61.730	2.986	163.8	163.8	209.460	4.844	2.22		Unsaturated	41.0			58.35	1.70	99.19	165.81	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	49.560	2.499	185.0	185.0	158.127	5.051	2.31		Unsaturated	47.4			46.84	1.70	79.63	145.44	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	37.380	1.899	205.0	205.0	113.199	5.095	2.39		Unsaturated	54.3			35.33	1.70	60.06	123.72	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	35.390	1.642	225.0	225.0	102.254	4.655	2.39		Unsaturated	53.9			33.45	1.70	56.86	119.51	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	35.330	1.647	246.3	246.3	97.546	4.677	2.40		Unsaturated	55.1			33.39	1.70	56.77	119.80	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	36.720	1.781	266.3	266.3	97.488	4.867	2.41		Unsaturated	56.2			34.71	1.70	59.00	123.03	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	37.620	1.879	287.5	287.5	96.097	5.013	2.43		Unsaturated	57.3			35.56	1.70	60.45	125.26	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	37.900	1.868	307.5	307.5	93.589	4.948	2.43		Unsaturated	57.5			35.82	1.70	60.90	125.90	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	36.790	1.879	327.5	327.5	87.995	5.130	2.46		Unsaturated	59.8			34.77	1.70	59.11	124.35	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	35.640	1.891	348.8	348.8	82.570	5.333	2.49		Unsaturated	62.2			33.69	1.70	57.27	122.68	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	33.820	1.853	368.8	368.8	76.156	5.508	2.52		Unsaturated	64.9			31.97	1.70	54.34	119.61	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	31.660	1.757	390.0	390.0	69.274	5.584	2.55		Unsaturated	67.3			29.92	1.70	50.87	115.73	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	28.840	1.654	410.0	410.0	61.486	5.776	2.60		Unsaturated	70.9			27.26	1.70	46.34	110.64	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	27.160	1.526	430.0	430.0	77.701	5.664	2.53		Unsaturated	65.2			25.67	1.70	43.64	105.92	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	27.760	1.499	451.3	451.3	76.764	5.444	2.52		Unsaturated	64.4			26.24	1.70	44.60	106.97	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	28.390	1.520	471.3	471.3	76.146	5.398	2.52		Unsaturated	64.3			26.83	1.70	45.62	108.26	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	27.750	1.462	492.5	492.5	72.125	5.315	2.53		Unsaturated	65.1			26.23	1.70	44.59	107.13	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	22.980	1.338	512.5	512.5	57.952	5.890	2.62		Unsaturated	72.7			21.72	1.70	36.92	98.81	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	19.280	1.197	533.8	533.8	47.129	6.298	2.70		Unsaturated	79.2			18.22	1.70	30.98	92.16	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	17.400	1.134	553.8	553.8	61.844	6.624	2.64		Unsaturated	74.4			16.45	1.70	27.96	87.50	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	17.450	0.961	573.8	573.8	40.445	5.599	2.71		Unsaturated	79.8			16.49	1.70	28.04	88.42	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	16.510	1.021	595.0	595.0	54.496	6.297	2.66		Unsaturated	75.9			15.60	1.70	26.53	85.88	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	16.300	1.060	615.0	615.0	52.008	6.626	2.69		Unsaturated	78.3			15.41	1.70	26.19	85.81	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	20.870	1.014	636.3	636.3	45.049	4.933	2.64		Unsaturated	74.0			19.73	1.70	33.53	94.65	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	22.840	0.850	656.3	656.3	48.288	3.774	2.53		Unsaturated	65.7			21.59	1.70	36.70	97.10	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	29.620	0.657	676.3	676.3	48.957	2.242	2.37		Unsaturated	52.9			28.00	1.70	47.59	107.35	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	36.590	0.733	697.5	697.5	59.663	2.022	2.28		Unsaturated	45.4			34.58	1.67	57.80	116.91	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	33.540	0.722	717.5	717.5	53.858	2.177	2.33		Unsaturated	49.8			31.70	1.66	52.78	112.66	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	26.440	0.789	738.8	738.8	41.704	3.025	2.51		Unsaturated	64.0			24.99	1.68	41.88	103.39	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	19.000	0.743	758.8	758.8	36.083	3.988	2.64		Unsaturated	74.3			17.96	1.70	30.53	90.80	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	20.030	0.600	778.8	770.6	37.647	3.055	2.55		Unsaturated	66.9			18.93	1.69	31.95	91.25	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	13.640	0.479	800.0	781.3	33.893	3.614	2.63		Unsaturated	73.5			12.89	1.70	21.92	79.52	0.99	0.372	1.090	n.a.	n.a.	n.a.	0.00	0.00
6.560	10.870	0.443	820.0	791.3	26.438	4.230	2.76		Unsaturated	83.6			10.27	1.70	17.47	75.17	0.99	0.372	1.086	n.a.	n.a.	n.a.	0.00	0.00
6.730	10.920	0.447	841.3	801.9	26.185	4.254	2.76		Unsaturated	84.0			10.32	1.70	17.55	75.32	0.99	0.371	1.085	n.a.	n.a.	n.a.	0.00	0.00
6.890	10.260	0.511	861.3	812.0	24.212	5.203	2.85		Unsaturated	90.7			9.70	1.70	16.49	74.68	0.98	0.371	1.083	n.a.	n.a.	n.a.	0.00	0.00
7.050	11.290	0.505	881.3	822.0	26.398	4.651	2.79		Unsaturated	85.8			10.67	1.69	18.06	76.21	0.98	0.371	1.083	n.a.	n.a.	n.a.	0.00	0.00
7.220	10.110	0.483	902.5	832.6	23.201	4.999	2.85		Unsaturated	90.8			9.56	1.69	16.14	74.24	0.98	0.371	1.081	n.a.	n.a.	n.a.	0.00	0.00
7.380	9.710	0.462	922.5	842.6	21.952	4.994	2.87		Unsaturated	92.2			9.18	1.68	15.42	73.45	0.98	0.370	1.079	n.a.	n.a.	n.a.	0.00	0.00
7.550	11.410	0.478	943.8	853.3	25.638	4.371	2.78		Unsaturated	85.1			10.78	1.66	17.89	75.90	0.98	0.370	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.710	10.350	0.369	963.8	863.3	22.862	3.742	2.77		Unsaturated	84.6			9.78	1.66	16.21	73.65	0.98	0.370	1.077	n.a.	n.a.	n.a.	0.00	0.00
7.870	8.420	0.311	983.8	873.3	18.157	3.927	2.86		Unsaturated	91.8			7.96	1.66	13.21	70.51	0.98	0.370	1.075	n.a.	n.a.	n.a.	0.00	0.00
8.040	7.840	0.288	1005.0	883.9	16.602	3.929	2.89		Clay	94.2			7.41	1.26	n.a.	n.a.	0.98	0.370	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	7.850	0.284	1025.0	894.0	16.416	3.868	2.89		Clay	94.2			7.42	1.26	n.a.	n.a.	0.98	0.374	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	7.860	0.311	1046.3	904.6	16.221	4.232	2.92		Clay	96.5			7.43	1.25	n.a.	n.a.	0.98	0.377	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	7.880	0.350	1066.3	914.6	16.065	4.763	2.95		Clay	99.3			7.45	1.25	n.a.	n.a.	0.98	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	7.880	0.333	1086.3	924.6	15.870	4.535	2.94		Clay	98.6			7.45	1.24	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	7.730	0.298	1107.5	935.3	15.346	4.146	2.93		Clay	97.5			7.31	1.24	n.a.	n.a.	0.98	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	6.920	0.249	1127.5	945.3	13.448	3.910	2.96		Clay	99.9			6.54	1.24	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	6.630	0.210	1148.8	955.9	12.670	3.470	2.95		Clay	99.0			6.27	1.23	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	6.170	0.189	1168.8	966.0	11.565	3.384	2.98		Clay	100.0			5.83	1.23	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	5.510	0.189	1188.8	976.0	10.073	3.849	3.06		Clay	100.0			5.21	1.23	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	5.200	0.185	1210.0	986.6	9.315	4.015	3.10		Clay	100.0			4.91	1.22	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	7.530	0.205	1230.0	996.6	13.877	2.959	2.88		Clay	93.2			7.12	1.22	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	10.700	0.253	1251.3	1007.3	20.003	2.512	2.71		Clay	79.6			10.11	1.22	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	9.250	0.372	1271.3	1017.3	16.936	4.314	2.91		Clay	95.7			8.74	1.21	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	9.060	0.494	1291.3	1027.3	16.382	5.876	3.01		Clay	100.0			8.56	1.21	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	9.360	0.539	1312.5	1037.9	16.771	6.190	3.01		Clay	100.0			8.85	1.21	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	10.010	0.567	1332.5	1048.0	17.832	6.068	2.99		Clay	100.0			9.46	1.20	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	11.640	0.591	1353.8	1058.6	20.713	5.386	2.91		Clay	95.5			11.00	1.20	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	12.160	0.613	1373.8	1068.6	21.473	5.346	2.89		Clay	94.4			11.49	1.20	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	11.760	0.569	1393.8	1078.6	20.513	5.143	2.90		Clay	94.7			11.12	1.19	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	11.960	0.562	1415.0	1089.3	20.661	4.994	2.89		Clay	93.8			11.30	1.19	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	12.480	0.591	1435.0	1099.3	21.400	5.027	2.88		Clay	93.1			11.80	1.19	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	13.220	0.641	1456.3	1109.9	22.509	5.131	2.87		Clay	92.2			12.50	1.19	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	13.530	0.685	1476.3	1119.9	22.844	5.353	2.87		Clay	92.8			12.79	1.18	n.a.	n.a.	0.96	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	13.850	0.710	1497.5	1130.6	23.176	5.421	2.87		Clay	92.8			13.09	1.18	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	14.310	0.702	1517.5	1140.6	23.762	5.181	2.85		Clay	91.1			13.53	1.18	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	14.480	0.687	1537.5	1150.6	23.833	5.007	2.84		Clay	90.2			13.69	1.17	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	14.510	0.660	1558.8	1161.3	23.648	4.810	2.83		Clay	89.4			13.71	1.17	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	14.470	0.627	1578.8	1171.3	23.360	4.580	2.82		Clay	88.6			13.68	1.17	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	14.280	0.604	1600.0	1181.9	22.810	4.477	2.82		Clay	88.7			13.50	1.17	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	14.950	0.596	1620.0	1191.9	23.726	4.214	2.79		Clay	86.3			14.13	1.16	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	16.010	0.654	1640.0	1202.0	25.276	4.303	2.78		Clay	85.1			15.13	1.16	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	17.200	0.741	1661.3	1212.6	26.999	4.528	2.77		Clay	84.6			16.26	1.16	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	19.190	0.844	1681.3	1222.6	30.017	4.599	2.74		Clay	82.3			18.14	1.16	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	20.200	0.952	1702.5	1233.3	31.378	4.918	2.75		Clay	82.8			19.09	1.15	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	20.950	1.066	1722.5	1243.3	32.316	5.305	2.76		Clay	83.9			19.80	1.15	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	21.920	1.121	1742.5	1253.3	33.590	5.326	2.75		Clay	83.1			20.72	1.15	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	21.820	1.126	1763.8	1263.9	33.132	5.377	2.76		Clay	83.6			20.62	1.15	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	20.540	1.013	1783.8	1273.9	30.846	5.157	2.77		Clay	84.4			19.41	1.14	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	18.270	0.901	1805.0	1284.6	27.040	5.188	2.81		Clay	87.8			17.27	1.14	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	18.310	0.858	1825.0	1294.6	26.877	4.931	2.80		Clay	86.8			17.31	1.14	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	17.740	0.827	1845.0	1304.6	25.782	4.919	2.81		Clay	87.8			16.77	1.14	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	16.280	0.743	1866.3	1315.3	23.337	4.842	2.84		Clay	89.9			15.39	1.13	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	13.860	0.689	1886.3	1325.3	19.493	5.333	2.92		Clay	96.8			13.10	1.13	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	12.350	0.676	1907.5	1335.9	17.061	5.927	3.00		Clay	100.0			11.67	1.13	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	11.470	0.666	1927.5	1345.9	15.612	6.339	3.04		Clay	100.0			10.84	1.13	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	11.880	0.760	1947.5	1355.9	16.087	6.971	3.06		Clay	100.0			11.23	1.12	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	13.530	0.806	1968.8	1366.6	18.360	6.426	3.00		Clay	100.0			12.79	1.12	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	14.450	0.839	1988.8	1376.6	19.549	6.234	2.97		Clay	100.0			13.66	1.12	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	14.590	0.825	2010.0	1387.2	19.586	6.076	2.96		Clay	99.8			13.79	1.12	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	14.880	0.795	2030.0	1397.3	19.846	5.732	2.94		Clay	98.1			14.06	1.12	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	14.730	0.723	2050.0	1407.3	19.477	5.276	2.92		Clay	96.6			13.92	1.11	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	13.960	0.666	2071.3	1417.9	18.230	5.153	2.93		Clay	97.8			13.19	1.11	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	14.420	0.680	2091.3	1427.9	18.732	5.082	2.92		Clay	96.8			13.63	1.11	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	15.320	0.725	2112.5	1438.6	19.830	5.080	2.90		Clay	95.3			14.48	1.11	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	15.580	0.713	2132.5	1448.6	20.038	4.912	2.89		Clay	94.2			14.73	1.11	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	15.160	0.677	2152.5	1458.6	19.311	4.804	2.90		Clay	94.7			14.33	1.10	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	14.910	0.652	2173.8	1469.3	18.817	4.719	2.90		Clay	95.0			14.09	1.10	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	15.190	0.679	2193.8	1479.3	19.054	4.817	2.90		Clay	95.1			14.36	1.10	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	15.660	0.671	2215.0	1489.9	19.535	4.611	2.88		Clay	93.4			14.80	1.10	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	15.690	0.673	2235.0	1499.9	19.431	4.619	2.88		Clay	93.6			14.83	1.10	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	15.550	0.691	2255.0	1509.9	19.103	4.791	2.90		Clay	94.9			14.70	1.09	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	14.920	0.660	2276.3	1520.6	18.127	4.787	2.92		Clay	96.3			14.10	1.09	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	13.920	0.612	2296.3	1530.6	16.689	4.791	2.94		Clay	98.5			13.16	1.09	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	13.060	0.659	2317.5	1541.2	15.444	5.541	3.01		Clay	100.0			12.34	1.09	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	13.810	0.740	2337.5	1551.3	16.298	5.851	3.01		Clay	100.0			13.05	1.09	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	15.050	0.765	2357.5	1561.3	17.769	5.517	2.96		Clay	100.0			14.22	1.08	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	16.460	0.794	2378.8	1571.9	19.429	5.198	2.92		Clay	96.3			15.56	1.08	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	16.720	0.805	2398.8	1581.9	19.622	5.187	2.91		Clay	96.0			15.80	1.08	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	16.840	0.836	2420.0	1592.6	19.629	5.346	2.92		Clay	96.7			15.92	1.08	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	16.310	0.801	2440.0	1602.6	18.832	5.306	2.93		Clay	97.6			15.42	1.08	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	15.690	0.804	2461.3	1613.2	17.926	5.558	2.96		Clay	100.0			14.83	1.07	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	15.740	0.830	2481.3	1623.3	17.865	5.724	2.97		Clay	100.0			14.88	1.07	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	17.530	0.849	2501.3	1633.3	19.935	5.213	2.91		Clay	95.7			16.57	1.07	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	17.910	0.814	2522.5	1643.9	20.255	4.887	2.89		Clay	93.8			16.93	1.07	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	17.420	0.802	2542.5	1653.9	19.528	4.966	2.90		Clay	95.1			16.47	1.07	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	17.310	0.799	2563.8	1664.6	19.258	4.982	2.91		Clay	95.6			16.36	1.07	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	17.090	0.845	2583.8	1674.6	18.868	5.346	2.93		Clay	97.7			16.15	1.06	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	16.480	0.889	2603.8	1684.6	18.020	5.854	2.98		Clay	100.0			15.58	1.06	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	18.070	0.940	2625.0	1695.2	19.770	5.611	2.93		Clay	97.7			17.08	1.06	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	18.520	0.968	2645.0	1705.3	20.170	5.626	2.93		Clay	97.2			17.50	1.06	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	17.770	0.901	2666.3	1715.9	19.158	5.481	2.94		Clay	97.9			16.80	1.06	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	17.030	0.822	2686.3	1725.9	18.178	5.237	2.94		Clay	98.2			16.10	1.06	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	15.730	0.745	2706.3	1735.9	16.564	5.181	2.97		Clay	100.0			14.87	1.05	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	14.590	0.659	2727.5	1746.6	15.145	4.981	2.99		Clay	100.0			13.79	1.05	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	14.350	0.667	2747.5	1756.6	14.774	5.141	3.00		Clay	100.0			13.56	1.05	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	13.970	0.667	2768.8	1767.2	14.243	5.303	3.02		Clay	100.0			13.20	1.05	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6	PGA (A_{max})	0.58	Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc=1\,atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	16.560	0.707	2788.8	1777.2	17.066	4.661	2.93		Clay	97.3			15.65	1.05	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	20.440	0.814	2808.8	1787.3	21.301	4.274	2.83		Clay	89.4			19.32	1.05	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	21.700	0.797	2830.0	1797.9	22.565	3.927	2.79		Clay	86.0			20.51	1.04	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	21.750	0.852	2850.0	1807.9	22.484	4.190	2.81		Clay	87.6			20.56	1.04	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	22.610	0.903	2871.3	1818.6	23.287	4.265	2.80		Clay	87.1			21.37	1.04	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	24.340	1.046	2891.3	1828.6	25.041	4.569	2.80		Clay	86.8			23.01	1.04	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	25.070	1.056	2911.3	1838.6	25.687	4.472	2.78		Clay	85.6			23.70	1.04	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	25.930	1.097	2932.5	1849.2	26.458	4.485	2.77		Clay	84.9			24.51	1.04	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	26.890	1.284	2952.5	1859.3	27.338	5.052	2.80		Clay	86.9			25.42	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	35.030	1.733	2973.8	1869.9	35.877	5.166	2.72		Clay	80.7			33.11	1.03	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	51.080	2.303	2993.8	1879.9	49.721	4.645	2.59		Sand	70.2	54.54	1.8	98.17	1.04	102.36	182.84	0.91	0.511	1.026	0.816	1.789	3.50	0.00	0.00
24.110	57.700	2.604	3013.8	1889.9	56.200	4.635	2.55		Sand	67.2		1.8	98.17	1.04	102.18	181.82	0.90	0.512	1.024	0.782	1.698	3.32	0.00	0.00
24.280	56.670	2.589	3035.0	1900.6	55.004	4.694	2.56		Sand	68.0	54.54	1.8	98.17	1.04	101.98	181.79	0.90	0.512	1.023	0.781	1.694	3.31	0.00	0.00
24.440	45.060	2.094	3055.0	1910.6	45.570	4.810	2.63		Clay	73.1			42.59	1.03	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	28.800	0.707	3076.3	1921.2	27.569	2.593	2.61		Mixed	71.4		1.8	49.00	1.05	51.24	117.07	0.90	0.513	1.012	0.165	0.228	0.44	0.03	0.05
24.770	19.540	0.614	3096.3	1931.2	18.632	3.413	2.81		Clay	88.0			18.47	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	14.390	0.560	3116.3	1941.3	13.220	4.363	3.00		Clay	100.0			13.60	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	17.610	0.666	3137.5	1951.9	16.437	4.152	2.91		Clay	95.7			16.64	1.02	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	17.120	0.625	3157.5	1961.9	15.843	4.023	2.91		Clay	96.0			16.18	1.02	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	18.590	0.654	3178.8	1972.6	17.237	3.848	2.87		Clay	92.7			17.57	1.02	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	19.450	0.756	3198.8	1982.6	18.008	4.234	2.88		Clay	93.7			18.38	1.02	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	21.360	0.919	3218.8	1992.6	19.824	4.651	2.88		Clay	93.3			20.19	1.02	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	23.120	1.015	3240.0	2003.2	21.465	4.720	2.86		Clay	91.5			21.85	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	24.520	1.066	3260.0	2013.2	22.739	4.655	2.83		Clay	89.7			23.18	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	25.490	1.087	3281.3	2023.9	23.568	4.559	2.82		Clay	88.3			24.09	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	25.350	1.074	3301.3	2033.9	23.304	4.533	2.82		Clay	88.4			23.96	1.01	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	25.080	1.047	3321.3	2043.9	22.916	4.469	2.82		Clay	88.6			23.71	1.01	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	25.390	1.034	3342.5	2054.6	23.089	4.360	2.81		Clay	87.8			24.00	1.01	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	25.370	1.080	3362.5	2064.6	22.948	4.560	2.82		Clay	89.0			23.98	1.01	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	25.250	1.108	3383.8	2075.2	22.704	4.703	2.84		Clay	90.0			23.87	1.01	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	25.190	1.134	3403.8	2085.2	22.528	4.828	2.85		Clay	90.8			23.81	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	24.470	1.159	3425.0	2095.9	21.716	5.091	2.87		Clay	93.0			23.13	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	24.160	1.068	3445.0	2105.9	21.309	4.758	2.86		Clay	91.9			22.84	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	23.120	0.992	3465.0	2115.9	20.216	4.638	2.87		Clay	92.7			21.85	1.00	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	21.730	0.945	3486.3	2126.6	18.797	4.727	2.90		Clay	95.0			20.54	1.00	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	20.500	0.889	3506.3	2136.6	17.549	4.744	2.92		Clay	96.9			19.38	1.00	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	17.740	0.781	3527.5	2147.2	14.881	4.887	2.99		Clay	100.0			16.77	1.00	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	15.090	0.631	3547.5	2157.2	12.346	4.736	3.04		Clay	100.0			14.26	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	13.270	0.492	3567.5	2167.2	10.600	4.283	3.07		Clay	100.0			12.54	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	11.920	0.402	3588.8	2177.9	9.299	3.970	3.09		Clay	100.0			11.27	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	11.350	0.364	3608.8	2187.9	8.726	3.813	3.11		Clay	100.0			10.73	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	11.110	0.332	3630.0	2198.5	8.456	3.575	3.10		Clay	100.0			10.50	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	11.270	0.330	3650.0	2208.6	8.553	3.497	3.09		Clay	100.0			10.65	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	11.380	0.331	3670.0	2218.6	8.605	3.467	3.09		Clay	100.0			10.76	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	11.480	0.316	3691.3	2229.2	8.644	3.276	3.07		Clay	100.0			10.85	0.99	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	11.750	0.322	3711.3	2239.2	8.837	3.257	3.06		Clay	100.0			11.11	0.99	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	11.740	0.330	3732.5	2249.9	8.777	3.339	3.07		Clay	100.0			11.10	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	11.690	0.351	3752.5	2259.9	8.685	3.572	3.09		Clay	100.0			11.05	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	12.050	0.359	3772.5	2269.9	8.955	3.531	3.08		Clay	100.0			11.39	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	12.400	0.354	3793.8	2280.6	9.211	3.370	3.05		Clay	100.0			11.72	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	12.510	0.361	3813.8	2290.6	9.258	3.401	3.06		Clay	100.0			11.82	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	12.130	0.389	3835.0	2301.2	8.876	3.808	3.10		Clay	100.0			11.47	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	11.830	0.416	3855.0	2311.2	8.569	4.199	3.14		Clay	100.0			11.18	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	11.480	0.443	3875.0	2321.2	8.222	4.640	3.18		Clay	100.0			10.85	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	12.000	0.431	3896.3	2331.9	8.621	4.290	3.14		Clay	100.0			11.34	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	12.710	0.432	3916.3	2341.9	9.182	4.019	3.10		Clay	100.0			12.01	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	13.190	0.449	3937.5	2352.5	9.540	4.000	3.09		Clay	100.0			12.47	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	12.960	0.477	3957.5	2362.6	9.296	4.340	3.12		Clay	100.0			12.25	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	13.460	0.475	3977.5	2372.6	9.670	4.141	3.09		Clay	100.0			12.72	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	14.980	0.469	3998.8	2383.2	10.893	3.610	3.01		Clay	100.0			14.16	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	14.620	0.473	4018.8	2393.2	10.539	3.752	3.03		Clay	100.0			13.82	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	12.570	0.444	4040.0	2403.9	8.778	4.210	3.13		Clay	100.0			11.88	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	10.650	0.384	4060.0	2413.9	7.142	4.459	3.22		Clay	100.0			10.07	0.97	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	9.580	0.383	4080.0	2423.9	6.221	5.085	3.30		Clay	100.0			9.05	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	11.200	0.387	4101.3	2434.5	7.516	4.233	3.18		Clay	100.0			10.59	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	17.170	0.472	4121.3	2444.6	12.362	3.122	2.93		Clay	97.5			16.23	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	21.700	0.532	4142.5	2455.2	15.990	2.710	2.80		Clay	87.4			20.51	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6	PGA (A_{max})	0.58	Total Settlement:	0.05 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	24.640	0.608	4162.5	2465.2	18.302	2.696	2.76		Clay	83.5			23.29	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	25.220	0.736	4182.5	2475.2	18.688	3.183	2.79		Clay	86.4			23.84	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	27.440	0.833	4203.8	2485.9	20.386	3.288	2.77		Clay	84.8			25.94	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	29.990	0.885	4223.8	2495.9	22.339	3.175	2.73		Clay	81.5			28.35	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	30.290	0.931	4245.0	2506.5	22.475	3.306	2.74		Clay	82.3			28.63	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	29.420	0.917	4265.0	2516.6	21.686	3.362	2.76		Clay	83.6			27.81	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	30.160	0.883	4285.0	2526.6	22.178	3.151	2.73		Clay	81.6			28.51	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	27.280	0.756	4306.3	2537.2	19.807	3.008	2.76		Clay	83.6			25.78	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	25.650	0.820	4326.3	2547.2	18.441	3.490	2.82		Clay	88.8			24.24	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	25.080	0.885	4347.5	2557.9	17.910	3.863	2.86		Clay	91.8			23.71	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	23.220	0.928	4367.5	2567.9	16.384	4.409	2.93		Clay	97.1			21.95	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	23.300	0.919	4387.5	2577.9	16.375	4.352	2.92		Clay	96.8			22.02	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	21.090	0.871	4408.8	2588.5	14.592	4.614	2.98		Clay	100.0			19.93	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	17.830	0.751	4428.8	2598.6	12.019	4.809	3.05		Clay	100.0			16.85	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	14.980	0.637	4450.0	2609.2	9.777	4.991	3.14		Clay	100.0			14.16	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	13.350	0.591	4470.0	2619.2	8.487	5.318	3.20		Clay	100.0			12.62	0.95	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	13.270	0.570	4491.3	2629.9	8.384	5.171	3.20		Clay	100.0			12.54	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	13.770	0.561	4511.3	2639.9	8.723	4.871	3.17		Clay	100.0			13.02	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	15.580	0.594	4531.3	2649.9	10.049	4.461	3.10		Clay	100.0			14.73	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	16.940	0.684	4552.5	2660.5	11.023	4.662	3.08		Clay	100.0			16.01	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	16.260	0.676	4572.5	2670.5	10.465	4.836	3.10		Clay	100.0			15.37	0.94	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	15.110	0.639	4593.8	2681.2	9.558	4.983	3.14		Clay	100.0			14.28	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	13.500	0.525	4613.8	2691.2	8.318	4.686	3.17		Clay	100.0			12.76	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	12.710	0.464	4633.8	2701.2	7.695	4.468	3.19		Clay	100.0			12.01	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	12.500	0.441	4655.0	2711.9	7.502	4.334	3.19		Clay	100.0			11.81	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	13.320	0.448	4675.0	2721.9	8.070	4.083	3.15		Clay	100.0			12.59	0.94	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	13.970	0.448	4696.3	2732.5	8.506	3.858	3.12		Clay	100.0			13.20	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	14.450	0.436	4716.3	2742.5	8.818	3.607	3.09		Clay	100.0			13.66	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	14.230	0.437	4736.3	2752.6	8.619	3.682	3.10		Clay	100.0			13.45	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	14.540	0.555	4757.5	2763.2	8.802	4.561	3.15		Clay	100.0			13.74	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	16.270	0.681	4777.5	2773.2	10.011	4.904	3.12		Clay	100.0			15.38	0.93	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	18.550	0.663	4798.8	2783.9	11.603	4.107	3.02		Clay	100.0			17.53	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	19.090	0.613	4818.8	2793.9	11.941	3.675	2.99		Clay	100.0			18.04	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	17.940	0.595	4838.8	2803.9	11.071	3.832	3.02		Clay	100.0			16.96	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	17.390	0.652	4860.0	2814.5	10.631	4.358	3.07		Clay	100.0			16.44	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	17.570	0.666	4880.0	2824.5	10.713	4.403	3.07		Clay	100.0			16.61	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	21.150	0.785	4901.3	2835.2	13.191	4.198	2.99		Clay	100.0			19.99	0.93	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	20.300	0.814	4921.3	2845.2	12.540	4.561	3.03		Clay	100.0			19.19	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	22.920	0.794	4941.3	2855.2	14.324	3.882	2.94		Clay	98.0			21.66	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	22.410	0.805	4962.5	2865.9	13.908	4.041	2.96		Clay	99.6			21.18	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	20.190	0.878	4982.5	2875.9	12.308	4.959	3.05		Clay	100.0			19.08	0.92	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	21.060	0.877	5003.8	2886.5	12.858	4.725	3.03		Clay	100.0			19.91	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	19.760	0.737	5023.8	2896.5	11.909	4.273	3.03		Clay	100.0			18.68	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	21.760	0.481	5043.8	2906.6	13.238	2.499	2.85		Clay	91.1			20.57	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	16.520	0.435	5065.0	2917.2	9.590	3.107	3.02		Clay	100.0			15.61	0.92	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	14.300	0.387	5085.0	2927.2	8.033	3.291	3.10		Clay	100.0			13.52	0.92	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	15.280	0.481	5106.3	2937.9	8.664	3.779	3.11		Clay	100.0			14.44	0.92	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	17.720	0.500	5126.3	2947.9	10.283	3.301	3.01		Clay	100.0			16.75	0.92	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	18.320	0.599	5146.3	2957.9	10.647	3.803	3.03		Clay	100.0			17.32	0.92	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	19.620	0.557	5167.5	2968.5	11.478	3.271	2.97		Clay	100.0			18.54	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	19.770	0.588	5187.5	2978.5	11.533	3.421	2.98		Clay	100.0			18.69	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	19.970	0.545	5208.8	2989.2	11.619	3.137	2.95		Clay	99.4			18.88	0.91	n.a.	n.a.	0.80	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	20.760	0.645	5228.8	2999.2	12.100	3.553	2.97		Clay	100.0			19.62	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	22.810	0.731	5248.8	3009.2	13.416	3.619	2.94		Clay	98.3			21.56	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	24.810	0.746	5270.0	3019.9	14.686	3.363	2.89		Clay	94.2			23.45	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	25.250	0.772	5290.0	3029.9	14.921	3.415	2.89		Clay	94.1			23.87	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	25.910	0.802	5311.3	3040.5	15.296	3.447	2.88		Clay	93.6			24.49	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	26.190	0.892	5331.3	3050.5	15.423	3.791	2.91		Clay	95.4			24.75	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	25.600	0.900	5351.3	3060.5	14.981	3.926	2.92		Clay	97.0			24.20	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	25.200	0.849	5372.5	3071.2	14.661	3.772	2.92		Clay	96.7			23.82	0.91	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	23.880	0.811	5392.5	3081.2	13.750	3.828	2.95		Clay	98.8			22.57	0.91	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	24.170	0.765	5413.8	3091.8	13.884	3.563	2.93		Clay	97.0			22.84	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	24.670	0.842	5433.8	3101.9	14.155	3.836	2.94		Clay	98.0			23.32	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	25.400	0.868	5455.0	3112.5	14.569	3.828	2.93		Clay	97.2			24.01	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	26.400	0.930	5475.0	3122.5	15.156	3.929	2.92		Clay	96.7			24.95	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	27.260	0.964	5495.0	3132.5	15.650	3.934	2.91		Clay	95.8			25.77	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	26.610	0.996	5516.3	3143.2	15.177	4.174	2.94		Clay	98.0			25.15	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6	PGA (A_{max})	0.58	Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	26.190	0.916	5536.3	3153.2	14.856	3.911	2.93		Clay	97.1			24.75	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	24.990	0.899	5557.5	3163.8	14.041	4.047	2.96		Clay	99.4			23.62	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	23.050	0.708	5577.5	3173.9	12.768	3.494	2.95		Clay	98.9			21.79	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	21.060	0.685	5597.5	3183.9	11.471	3.753	3.00		Clay	100.0			19.91	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	19.640	0.670	5618.8	3194.5	10.537	3.983	3.05		Clay	100.0			18.56	0.90	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	20.300	0.631	5638.8	3204.5	10.910	3.609	3.01		Clay	100.0			19.19	0.90	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	20.040	0.589	5660.0	3215.2	10.706	3.422	3.01		Clay	100.0			18.94	0.90	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	19.370	0.553	5680.0	3225.2	10.251	3.343	3.01		Clay	100.0			18.31	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	19.250	0.567	5700.0	3235.2	10.138	3.460	3.03		Clay	100.0			18.19	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	20.210	0.591	5721.3	3245.8	10.690	3.406	3.00		Clay	100.0			19.10	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	20.740	0.548	5741.3	3255.9	10.977	3.065	2.97		Clay	100.0			19.60	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	19.270	0.524	5762.5	3266.5	10.034	3.197	3.01		Clay	100.0			18.21	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	17.760	0.471	5782.5	3276.5	9.076	3.168	3.04		Clay	100.0			16.79	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	16.420	0.376	5802.5	3286.5	8.227	2.781	3.05		Clay	100.0			15.52	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	14.670	0.310	5823.8	3297.2	7.132	2.638	3.09		Clay	100.0			13.87	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	13.280	0.271	5843.8	3307.2	6.264	2.616	3.13		Clay	100.0			12.55	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	13.330	0.253	5865.0	3317.8	6.268	2.432	3.12		Clay	100.0			12.60	0.89	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	14.470	0.231	5885.0	3327.8	6.928	2.004	3.04		Clay	100.0			13.68	0.89	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.620	0.219	5905.0	3337.9	6.991	1.880	3.02		Clay	100.0			13.82	0.89	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	13.760	0.219	5926.3	3348.5	6.449	2.028	3.07		Clay	100.0			13.01	0.89	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	13.530	0.238	5946.3	3358.5	6.287	2.252	3.10		Clay	100.0			12.79	0.89	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	14.430	0.252	5967.5	3369.2	6.795	2.205	3.07		Clay	100.0			13.64	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	14.570	0.273	5987.5	3379.2	6.852	2.361	3.08		Clay	100.0			13.77	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	14.590	0.296	6007.5	3389.2	6.837	2.557	3.10		Clay	100.0			13.79	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	14.510	0.324	6028.8	3399.8	6.762	2.814	3.12		Clay	100.0			13.71	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	15.030	0.344	6048.8	3409.9	7.042	2.864	3.11		Clay	100.0			14.21	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	15.480	0.372	6070.0	3420.5	7.277	2.987	3.11		Clay	100.0			14.63	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	16.590	0.403	6090.0	3430.5	7.897	2.975	3.08		Clay	100.0			15.68	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	16.540	0.489	6110.0	3440.5	7.839	3.624	3.13		Clay	100.0			15.63	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	16.750	0.541	6131.3	3451.2	7.930	3.954	3.15		Clay	100.0			15.83	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	18.580	0.553	6151.3	3461.2	8.959	3.564	3.08		Clay	100.0			17.56	0.88	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	19.310	0.590	6172.5	3471.8	9.346	3.638	3.07		Clay	100.0			18.25	0.88	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	18.780	0.634	6192.5	3481.8	9.009	4.040	3.11		Clay	100.0			17.75	0.88	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	18.290	0.662	6212.5	3491.9	8.697	4.363	3.14		Clay	100.0			17.29	0.88	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	18.920	0.558	6233.8	3502.5	9.024	3.530	3.07		Clay	100.0			17.88	0.88	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	17.940	0.437	6253.8	3512.5	8.434	2.951	3.05		Clay	100.0			16.96	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	16.060	0.364	6275.0	3523.2	7.336	2.816	3.09		Clay	100.0			15.18	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	14.360	0.422	6295.0	3533.2	6.347	3.764	3.22		Clay	100.0			13.57	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	14.850	0.381	6315.0	3543.2	6.600	3.261	3.17		Clay	100.0			14.04	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	15.640	0.353	6336.3	3553.8	7.019	2.832	3.11		Clay	100.0			14.78	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	15.990	0.363	6356.3	3563.9	7.190	2.835	3.10		Clay	100.0			15.11	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	15.780	0.362	6377.5	3574.5	7.045	2.877	3.11		Clay	100.0			14.91	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	16.430	0.435	6397.5	3584.5	7.382	3.285	3.13		Clay	100.0			15.53	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	17.230	0.461	6418.8	3595.2	7.800	3.290	3.11		Clay	100.0			16.29	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	18.820	0.544	6438.8	3605.2	8.655	3.488	3.09		Clay	100.0			17.79	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	19.570	0.519	6458.8	3615.2	9.040	3.175	3.05		Clay	100.0			18.50	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	21.530	0.438	6480.0	3625.8	10.089	2.396	2.94		Clay	98.2			20.35	0.87	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	21.160	0.393	6500.0	3635.8	9.852	2.194	2.93		Clay	97.2			20.00	0.87	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	16.910	0.346	6521.3	3646.5	7.486	2.536	3.06		Clay	100.0			15.98	0.87	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	15.770	0.332	6541.3	3656.5	6.837	2.653	3.11		Clay	100.0			14.91	0.87	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	16.910	0.402	6561.3	3666.5	7.435	2.947	3.10		Clay	100.0			15.98	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	18.570	0.530	6582.5	3677.2	8.310	3.467	3.10		Clay	100.0			17.55	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	20.670	0.679	6602.5	3687.2	9.421	3.907	3.08		Clay	100.0			19.54	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	20.270	0.711	6623.8	3697.8	9.172	4.192	3.11		Clay	100.0			19.16	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	19.160	0.650	6643.8	3707.8	8.543	4.101	3.13		Clay	100.0			18.11	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	17.460	0.550	6663.8	3717.8	7.600	3.895	3.16		Clay	100.0			16.50	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	17.340	0.528	6685.0	3728.5	7.508	3.772	3.16		Clay	100.0			16.39	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	17.550	0.506	6705.0	3738.5	7.595	3.560	3.14		Clay	100.0			16.59	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	17.840	0.472	6726.3	3749.1	7.723	3.258	3.11		Clay	100.0			16.86	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	17.910	0.434	6746.3	3759.2	7.734	2.986	3.09		Clay	100.0			16.93	0.86	n.a.	n.a.	0.74	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	18.380	0.413	6766.3	3769.2	7.958	2.756	3.06		Clay	100.0			17.37	0.86	n.a.	n.a.	0.73	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	19.220	0.340	6787.5	3779.8	8.374	2.150	2.98		Clay	100.0			18.17	0.86	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	19.410	0.371	6807.5	3789.8	8.447	2.320	3.00		Clay	100.0			18.35	0.86	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	18.760	0.356	6828.8	3800.5	8.076	2.317	3.01		Clay	100.0			17.73	0.86	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	17.810	0.335	6848.8	3810.5	7.551	2.331	3.04		Clay	100.0			16.83	0.86	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	17.070	0.355	6868.8	3820.5	7.138	2.603	3.09		Clay	100.0			16.13	0.86	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	17.580	0.384	6890.0	3831.2	7.379	2.715	3.08		Clay	100.0			16.62	0.86	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
55.280	19.210	0.439	6910.0	3841.2	8.203	2.787	3.05		Clay	100.0			18.16	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	19.760	0.598	6931.3	3851.8	8.461	3.669	3.11		Clay	100.0			18.68	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	22.730	0.649	6951.3	3861.8	9.972	3.368	3.03		Clay	100.0			21.48	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	22.570	0.741	6971.3	3871.8	9.858	3.884	3.07		Clay	100.0			21.33	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	23.610	0.679	6992.5	3882.5	10.361	3.375	3.01		Clay	100.0			22.32	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	24.700	0.745	7012.5	3892.5	10.890	3.515	3.01		Clay	100.0			23.35	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	27.190	0.775	7033.8	3903.1	12.130	3.272	2.95		Clay	99.0			25.70	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	28.420	0.787	7053.8	3913.2	12.723	3.162	2.92		Clay	97.0			26.86	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	25.470	0.731	7073.8	3923.2	11.181	3.331	2.98		Clay	100.0			24.07	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	24.370	0.590	7095.0	3933.8	10.586	2.832	2.96		Clay	100.0			23.03	0.85	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	23.350	0.556	7115.0	3943.8	10.037	2.811	2.98		Clay	100.0			22.07	0.85	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	22.590	0.503	7136.3	3954.5	9.620	2.642	2.98		Clay	100.0			21.35	0.85	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	23.960	0.597	7156.3	3964.5	10.282	2.928	2.98		Clay	100.0			22.65	0.85	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	25.420	0.740	7176.3	3974.5	10.986	3.390	2.99		Clay	100.0			24.03	0.85	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	28.110	0.829	7197.5	3985.1	12.301	3.382	2.95		Clay	99.3			26.57	0.85	n.a.	n.a.	0.72	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	30.380	0.905	7217.5	3995.2	13.402	3.381	2.92		Clay	96.9			28.71	0.85	n.a.	n.a.	0.71	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	30.640	0.942	7238.8	4005.8	13.491	3.488	2.93		Clay	97.4			28.96	0.85	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	30.880	1.011	7258.8	4015.8	13.572	3.709	2.94		Clay	98.5			29.19	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	33.260	1.092	7278.8	4025.8	14.715	3.687	2.91		Clay	96.1			31.44	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	34.240	1.103	7300.0	4036.5	15.157	3.604	2.90		Clay	94.8			32.36	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	32.990	1.072	7320.0	4046.5	14.496	3.655	2.92		Clay	96.4			31.18	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	32.320	1.061	7341.3	4057.1	14.123	3.702	2.93		Clay	97.4			30.55	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	32.860	1.120	7361.3	4067.2	14.349	3.838	2.93		Clay	97.7			31.06	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	32.240	1.117	7382.5	4077.8	14.002	3.914	2.95		Clay	98.8			30.47	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	32.640	1.035	7402.5	4087.8	14.159	3.577	2.92		Clay	96.6			30.85	0.84	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	33.500	1.015	7422.5	4097.8	14.539	3.407	2.90		Clay	94.8			31.66	0.84	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	33.980	1.011	7443.8	4108.5	14.730	3.341	2.89		Clay	94.0			32.12	0.84	n.a.	n.a.	0.71	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	35.600	0.988	7463.8	4118.5	15.476	3.101	2.85		Clay	91.1			33.65	0.84	n.a.	n.a.	0.70	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	38.560	1.001	7485.0	4129.1	16.864	2.874	2.80		Clay	87.1			36.45	0.84	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	38.200	0.968	7505.0	4139.1	16.645	2.810	2.80		Clay	87.0			36.11	0.84	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	36.620	0.963	7525.0	4149.2	15.838	2.932	2.83		Clay	89.3			34.61	0.84	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	35.230	0.956	7546.3	4159.8	15.124	3.039	2.85		Clay	91.3			33.30	0.84	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	33.080	0.913	7566.3	4169.8	14.052	3.115	2.89		Clay	93.9			31.27	0.84	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	30.050	0.833	7587.5	4180.5	12.561	3.171	2.93		Clay	97.4			28.40	0.84	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	27.770	0.700	7607.5	4190.5	11.438	2.919	2.94		Clay	98.4			26.25	0.84	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	28.300	0.743	7627.5	4200.5	11.659	3.036	2.95		Clay	98.6			26.75	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	31.450	0.750	7648.8	4211.1	13.120	2.713	2.88		Clay	93.0			29.73	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	37.400	0.916	7668.8	4221.2	15.904	2.730	2.81		Clay	87.7			35.35	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	32.210	1.075	7690.0	4231.8	13.406	3.789	2.95		Clay	99.3			30.44	0.83	n.a.	n.a.	0.70	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	41.510	1.649	7710.0	4241.8	17.754	4.380	2.90		Clay	94.8			39.23	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	50.790	1.546	7730.0	4251.8	22.073	3.295	2.75		Clay	82.7			48.01	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	46.020	1.602	7751.3	4262.5	19.775	3.802	2.82		Clay	88.8			43.50	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	35.790	1.373	7771.3	4272.5	14.935	4.303	2.95		Clay	99.1			33.83	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	36.430	1.523	7792.5	4283.1	15.192	4.681	2.97		Clay	100.0			34.43	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	44.590	2.679	7812.5	4293.1	18.953	6.584	2.99		Clay	100.0			42.15	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	45.670	3.410	7832.5	4303.2	19.406	8.166	3.05		Clay	100.0			43.17	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	82.750	4.732	7853.8	4313.8	36.545	6.004	2.76		Clay	84.0			78.21	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	94.540	4.661	7873.8	4323.8	41.909	5.144	2.67		Clay	76.8			89.36	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	98.950	4.127	7895.0	4334.5	43.836	4.344	2.61		Clay	71.5			93.53	0.83	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.390	96.610	4.438	7923.8	4348.9	42.608	4.790	2.65		Clay	74.6			91.31	0.83	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	138.830	4.829	7935.0	4354.5	88.858	3.581	2.34		Sand	50.0			131.22	0.77	100.70	173.35	0.69	0.458	0.857	0.565	0.960	2.09	0.00	0.00
63.650	170.310	4.659	7956.3	4365.1	109.458	2.801	2.20		Sand	38.8			160.97	0.79	126.54	197.88	0.68	0.458	0.814	1.680	3.010	6.57	0.00	0.00
63.810	173.030	2.839	7976.3	4375.1	111.114	1.680	2.03		Sand	25.3			163.54	0.77	126.02	178.83	0.68	0.458	0.848	0.693	1.217	2.66	0.00	0.00
63.980	183.110	3.531	7997.5	4385.8	117.590	1.971	2.06		Sand	28.0			173.07	0.78	135.44	194.91	0.68	0.457	0.819	1.435	2.587	5.66	0.00	0.00
64.140	190.020	3.754	8017.5	4395.8	121.981	2.018	2.06		Sand	27.7			179.60	0.79	141.36	201.50	0.68	0.457	0.804	2.059	3.643	7.98	0.00	0.00
64.300	210.740	3.366	8037.5	4405.8	135.408	1.628	1.96		Sand	19.8			199.19	0.79	156.50	200.50	0.68	0.456	0.806	1.944	3.448	7.56	0.00	0.00
64.470	287.240	2.609	8058.8	4416.5	185.287	0.921	1.69		Sand	0.0			271.49	0.80	216.39	216.39	0.68	0.456	0.779	5.436	9.319	20.44	0.00	0.00
64.630	346.430	1.181	8078.8	4426.5	223.751	0.345	1.35		Sand	0.0			327.44	0.82	269.50	269.50	0.68	0.456	0.779	1806.547	3094.379	6792.72	0.00	0.00
64.800	386.590	1.581	8100.0	4437.1	249.688	0.413	1.36		Sand	0.0			365.40	0.82	300.55	300.55	0.68	0.455	0.778	#########	########	2072029.66	0.00	0.00
64.960	374.200	1.685	8120.0	4447.1	241.323	0.455	1.40		Sand	0.0			353.69	0.82	290.75	290.75	0.68	0.455	0.777	72116.876	########	271165.58	0.00	0.00
65.120	259.090	2.150	8140.0	4457.2	166.080	0.843	1.70		Sand	0.0			244.89	0.77	189.57	189.57	0.68	0.454	0.826	1.102	2.002	4.41	0.00	0.00
65.290	166.240	3.232	8161.3	4467.8	105.479	1.993	2.10		Sand	30.9			157.13	0.77	120.50	181.44	0.68	0.454	0.839	0.770	1.366	3.01	0.00	0.00
65.450	92.760	2.593	8181.3	4477.8	57.612	2.924	2.40		Sand	55.1			87.67	0.72	62.94	127.66	0.68	0.454	0.901	0.190	0.248	0.55	0.02	0.00
65.620	56.300	1.759	8202.5	4488.5	23.259	3.370	2.73		Clay	81.8			53.21	0.82	n.a.	n.a.	0.68	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	28.460	0.747	8222.5	4498.5	10.825	3.069	2.97		Clay	100.0			26.90	0.82	n.a.	n.a.	0.67	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	22.570	0.418	8242.5	4508.5	8.184	2.265	3.00		Clay	100.0			21.33	0.82	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	20.080	0.373	8263.8	4519.1	7.058	2.337	3.07		Clay	100.0			18.98	0.82	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 6

PGA (A_{max}) 0.58

Total Settlement: 0.05 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
66.270	19.560	0.360	8283.8	4529.1	6.808	2.334	3.08		Clay	100.0			18.49	0.82	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	21.020	0.398	8305.0	4539.8	7.431	2.358	3.05		Clay	100.0			19.87	0.82	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	21.670	0.482	8325.0	4549.8	7.696	2.755	3.07		Clay	100.0			20.48	0.82	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	23.690	0.556	8346.3	4560.4	8.559	2.849	3.04		Clay	100.0			22.39	0.82	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	29.220	1.046	8366.3	4570.5	10.956	4.178	3.05		Clay	100.0			27.62	0.82	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	33.100	1.281	8386.3	4580.5	12.622	4.430	3.02		Clay	100.0			31.29	0.82	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	37.510	1.334	8407.5	4591.1	14.509	4.006	2.94		Clay	98.3			35.45	0.82	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	39.590	1.373	8427.5	4601.1	15.377	3.882	2.91		Clay	96.0			37.42	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	38.340	1.331	8448.8	4611.8	14.795	3.900	2.93		Clay	97.2			36.24	0.81	n.a.	n.a.	0.67	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	35.710	1.253	8468.8	4621.8	13.621	3.982	2.96		Clay	99.9			33.75	0.81	n.a.	n.a.	0.66	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	32.870	1.134	8488.8	4631.8	12.360	3.961	2.99		Clay	100.0			31.07	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	31.140	1.065	8510.0	4642.4	11.582	3.961	3.02		Clay	100.0			29.43	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	30.130	1.099	8530.0	4652.5	11.119	4.248	3.05		Clay	100.0			28.48	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	28.870	0.976	8551.3	4663.1	10.548	3.968	3.05		Clay	100.0			27.29	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	26.530	0.822	8571.3	4673.1	9.520	3.694	3.07		Clay	100.0			25.08	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	25.180	0.717	8591.3	4683.1	8.919	3.433	3.07		Clay	100.0			23.80	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	24.810	0.689	8612.5	4693.8	8.737	3.361	3.07		Clay	100.0			23.45	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	23.960	0.777	8632.5	4703.8	8.352	3.954	3.13		Clay	100.0			22.65	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	23.480	0.797	8653.8	4714.4	8.125	4.163	3.15		Clay	100.0			22.19	0.81	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	23.750	0.837	8673.8	4724.5	8.218	4.309	3.16		Clay	100.0			22.45	0.81	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	22.770	0.813	8693.8	4734.5	7.783	4.415	3.18		Clay	100.0			21.52	0.81	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	23.490	0.687	8715.0	4745.1	8.064	3.589	3.12		Clay	100.0			22.20	0.81	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	23.330	0.620	8735.0	4755.1	7.976	3.268	3.10		Clay	100.0			22.05	0.81	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	22.110	0.654	8756.3	4765.8	7.441	3.685	3.15		Clay	100.0			20.90	0.81	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	21.670	0.633	8776.3	4775.8	7.237	3.660	3.16		Clay	100.0			20.48	0.81	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	22.270	0.536	8796.3	4785.8	7.469	3.001	3.10		Clay	100.0			21.05	0.81	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	22.010	0.495	8817.5	4796.4	7.339	2.813	3.09		Clay	100.0			20.80	0.81	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	20.360	0.477	8837.5	4806.5	6.633	2.989	3.14		Clay	100.0			19.24	0.81	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	20.380	0.551	8858.8	4817.1	6.622	3.454	3.18		Clay	100.0			19.26	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	23.190	0.623	8878.8	4827.1	7.769	3.322	3.11		Clay	100.0			21.92	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	23.990	0.609	8898.8	4837.1	8.079	3.118	3.08		Clay	100.0			22.67	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	24.170	0.548	8920.0	4847.8	8.132	2.782	3.05		Clay	100.0			22.84	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	24.040	0.485	8940.0	4857.8	8.057	2.478	3.03		Clay	100.0			22.72	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	24.320	0.614	8961.3	4868.4	8.150	3.094	3.08		Clay	100.0			22.99	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	25.550	0.663	8981.3	4878.5	8.634	3.149	3.06		Clay	100.0			24.15	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	26.820	0.675	9001.3	4888.5	9.131	3.023	3.03		Clay	100.0			25.35	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	25.220	0.654	9022.5	4899.1	8.454	3.160	3.07		Clay	100.0			23.84	0.80	n.a.	n.a.	0.65	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	24.420	0.627	9042.5	4909.1	8.107	3.149	3.08		Clay	100.0			23.08	0.80	n.a.	n.a.	0.64	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	24.110	0.670	9063.8	4919.8	7.959	3.424	3.11		Clay	100.0			22.79	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	25.020	0.685	9083.8	4929.8	8.308	3.343	3.09		Clay	100.0			23.65	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	27.420	0.631	9103.8	4939.8	9.259	2.758	3.00		Clay	100.0			25.92	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	26.860	0.597	9125.0	4950.4	9.008	2.679	3.01		Clay	100.0			25.39	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	25.050	0.641	9145.0	4960.5	8.256	3.128	3.08		Clay	100.0			23.68	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	26.530	0.661	9166.3	4971.1	8.830	3.010	3.04		Clay	100.0			25.08	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	28.300	0.735	9186.3	4981.1	9.519	3.102	3.02		Clay	100.0			26.75	0.80	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	27.850	0.924	9206.3	4991.1	9.315	3.975	3.09		Clay	100.0			26.32	0.80	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	28.710	1.080	9227.5	5001.8	9.635	4.481	3.11		Clay	100.0			27.14	0.80	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	31.810	0.986	9247.5	5011.8	10.849	3.625	3.02		Clay	100.0			30.07	0.80	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	35.770	0.893	9268.8	5022.4	12.399	2.867	2.91		Clay	95.7			33.81	0.80	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	35.350	0.766	9288.8	5032.4	12.203	2.496	2.88		Clay	93.4			33.41	0.80	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	31.230	0.755	9310.0	5043.1	10.539	2.842	2.96		Clay	100.0			29.52	0.80	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	29.400	0.874	9330.0	5053.1	9.790	3.534	3.05		Clay	100.0			27.79	0.79	n.a.	n.a.	0.63	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	27.290	0.823	9350.0	5063.1	8.933	3.641	3.09		Clay	100.0			25.79	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	28.000	0.786	9371.3	5073.8	9.190	3.371	3.06		Clay	100.0			26.47	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.130	29.490	0.800	9391.3	5083.8	9.754	3.227	3.02		Clay	100.0			27.87	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.300	29.500	0.769	9412.5	5094.4	9.734	3.101	3.01		Clay	100.0			27.88	0.79	n.a.	n.a.	0.63	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.460	29.470	0.760	9432.5	5104.4	9.699	3.070	3.01		Clay	100.0			27.85	0.79	n.a.	n.a.	0.63	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.620	30.100	0.785	9452.5	5114.5	9.922	3.095	3.01		Clay	100.0			28.45	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.790	30.000	0.806	9473.8	5125.1	9.859	3.190	3.02		Clay	100.0			28.36	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.950	29.910	0.845	9493.8	5135.1	9.800	3.356	3.03		Clay	100.0			28.27	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.120	30.170	0.866	9515.0	5145.8	9.877	3.409	3.03		Clay	100.0			28.52	0.79	n.a.	n.a.	0.63	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.280	29.960	0.892	9535.0	5155.8	9.773	3.540	3.05		Clay	100.0			28.32	0.79	n.a.	n.a.	0.63	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.440	30.730	0.904	9555.0	5165.8	10.048	3.484	3.03		Clay	100.0			29.05	0.79	n.a.	n.a.	0.63	0.428	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.610	31.070	0.967	9576.3	5176.4	10.154	3.677	3.04		Clay	100.0			29.37	0.79	n.a.	n.a.	0.63	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.770	31.630	1.039	9596.3	5186.4	10.347	3.871	3.05		Clay	100.0			29.90	0.79	n.a.	n.a.	0.63	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.940	31.640	1.129	9617.5	5197.1	10.326	4.206	3.07		Clay	100.0			29.91	0.79	n.a.	n.a.	0.63	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.100	32.570	1.131	9637.5	5207.1	10.659	4.074	3.05		Clay	100.0			30.78	0.79	n.a.	n.a.	0.62	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP	CPT No. 6	PGA (A_{max}) 0.58	Total Settlement: 0.05 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
77.260	34.210	1.209	9657.5	5217.1	11.263	4.115	3.04		Clay	100.0			32.33	0.79	n.a.	n.a.	0.62	0.426	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	35.920	1.236	9678.8	5227.8	11.891	3.976	3.01		Clay	100.0			33.95	0.79	n.a.	n.a.	0.62	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	38.130	1.246	9698.8	5237.8	12.708	3.744	2.97		Clay	100.0			36.04	0.79	n.a.	n.a.	0.62	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	40.750	1.335	9720.0	5248.4	13.677	3.719	2.94		Clay	98.3			38.52	0.79	n.a.	n.a.	0.62	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	43.330	1.352	9740.0	5258.4	14.628	3.514	2.90		Clay	95.3			40.95	0.79	n.a.	n.a.	0.62	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	41.060	1.565	9760.0	5268.4	13.735	4.324	2.98		Clay	100.0			38.81	0.79	n.a.	n.a.	0.62	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	35.030	1.447	9781.3	5279.1	11.418	4.802	3.07		Clay	100.0			33.11	0.79	n.a.	n.a.	0.62	0.424	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	31.850	1.177	9801.3	5289.1	10.191	4.367	3.09		Clay	100.0			30.10	0.79	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	28.180	0.917	9822.5	5299.7	8.781	3.939	3.11		Clay	100.0			26.64	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	26.020	0.731	9842.5	5309.8	7.947	3.465	3.11		Clay	100.0			24.59	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	27.210	0.722	9862.5	5319.8	8.376	3.239	3.08		Clay	100.0			25.72	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	29.700	0.804	9883.8	5330.4	9.289	3.247	3.04		Clay	100.0			28.07	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	31.240	0.875	9903.8	5340.4	9.845	3.327	3.03		Clay	100.0			29.53	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	30.740	0.840	9925.0	5351.1	9.635	3.257	3.03		Clay	100.0			29.05	0.78	n.a.	n.a.	0.62	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	29.780	0.840	9945.0	5361.1	9.255	3.386	3.05		Clay	100.0			28.15	0.78	n.a.	n.a.	0.62	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	29.330	0.725	9965.0	5371.1	9.066	2.979	3.03		Clay	100.0			27.72	0.78	n.a.	n.a.	0.61	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	29.650	0.786	9986.3	5381.8	9.163	3.189	3.04		Clay	100.0			28.02	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	28.610	0.780	10006.3	5391.8	8.757	3.303	3.07		Clay	100.0			27.04	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	29.710	0.828	10027.5	5402.4	9.143	3.351	3.06		Clay	100.0			28.08	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	29.020	0.739	10047.5	5412.4	8.867	3.080	3.05		Clay	100.0			27.43	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	28.710	0.705	10067.5	5422.4	8.733	2.977	3.04		Clay	100.0			27.14	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	27.490	0.734	10088.8	5433.1	8.263	3.270	3.09		Clay	100.0			25.98	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	27.860	0.754	10108.8	5443.1	8.380	3.307	3.08		Clay	100.0			26.33	0.78	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	29.260	0.796	10130.0	5453.7	8.873	3.290	3.06		Clay	100.0			27.66	0.78	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	29.760	0.902	10150.0	5463.8	9.036	3.654	3.08		Clay	100.0			28.13	0.78	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	29.430	0.944	10170.0	5473.8	8.895	3.878	3.10		Clay	100.0			27.82	0.78	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	30.000	0.865	10191.3	5484.4	9.082	3.473	3.07		Clay	100.0			28.36	0.78	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	31.010	0.747	10211.3	5494.4	9.429	2.885	3.01		Clay	100.0			29.31	0.78	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	30.710	0.733	10232.5	5505.1	9.298	2.865	3.01		Clay	100.0			29.03	0.78	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	29.470	0.794	10252.5	5515.1	8.828	3.263	3.06		Clay	100.0			27.85	0.78	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	29.490	0.824	10273.8	5525.7	8.814	3.383	3.07		Clay	100.0			27.87	0.78	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	29.420	0.822	10293.8	5535.8	8.770	3.388	3.07		Clay	100.0			27.81	0.78	n.a.	n.a.	0.61	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	30.180	0.811	10313.8	5545.8	9.024	3.239	3.05		Clay	100.0			28.53	0.78	n.a.	n.a.	0.60	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	30.790	0.846	10335.0	5556.4	9.223	3.300	3.05		Clay	100.0			29.10	0.78	n.a.	n.a.	0.60	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	31.210	0.793	10355.0	5566.4	9.353	3.047	3.02		Clay	100.0			29.50	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	31.950	0.746	10376.3	5577.1	9.597	2.788	2.99		Clay	100.0			30.20	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.170	31.640	0.838	10396.3	5587.1	9.465	3.171	3.03		Clay	100.0			29.91	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	32.940	0.707	10416.3	5597.1	9.909	2.548	2.96		Clay	99.8			31.13	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	32.420	1.055	10437.5	5607.7	9.701	3.879	3.07		Clay	100.0			30.64	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	32.360	1.095	10457.5	5617.8	9.659	4.034	3.08		Clay	100.0			30.59	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	37.870	0.892	10478.8	5628.4	11.595	2.733	2.92		Clay	96.7			35.79	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	34.830	0.838	10498.8	5638.4	10.493	2.834	2.97		Clay	100.0			32.92	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	32.270	0.940	10518.8	5648.4	9.564	3.479	3.05		Clay	100.0			30.50	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	31.790	1.210	10540.0	5659.1	9.373	4.564	3.13		Clay	100.0			30.05	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	34.890	1.243	10560.0	5669.1	10.446	4.199	3.07		Clay	100.0			32.98	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	45.340	1.957	10581.3	5679.7	14.103	4.887	3.01		Clay	100.0			42.85	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	52.120	2.780	10601.3	5689.7	16.457	5.937	3.01		Clay	100.0			49.26	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	52.810	2.554	10621.3	5699.8	16.667	5.376	2.98		Clay	100.0			49.91	0.77	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	76.150	2.432	10642.5	5710.4	24.807	3.433	2.72		Clay	80.5			71.98	0.77	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.300	61.450	2.560	10662.5	5720.4	19.620	4.562	2.88		Clay	93.1			58.08	0.77	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.470	51.140	2.798	10683.8	5731.1	15.982	6.108	3.03		Clay	100.0			48.34	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.630	61.090	2.609	10703.8	5741.1	19.417	4.681	2.89		Clay	93.9			57.74	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.790	84.750	2.936	10723.8	5751.1	27.608	3.698	2.70		Clay	79.4			80.10	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.960	75.840	3.341	10745.0	5761.7	24.461	4.741	2.82		Clay	88.2			71.68	0.77	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.120	67.190	3.064	10765.0	5771.8	21.417	4.958	2.87		Clay	92.7			63.51	0.77	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.290	75.630	3.130	10786.3	5782.4	24.293	4.457	2.80		Clay	87.0			71.48	0.77	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.450	67.600	3.743	10806.3	5792.4	21.475	6.018	2.93		Clay	97.2			63.89	0.77	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.610	62.680	3.674	10826.3	5802.4	19.739	6.415	2.97		Clay	100.0			59.24	0.77	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.780	86.590	4.005	10847.5	5813.1	27.925	4.934	2.79		Clay	85.8			81.84	0.77	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.940	109.450	3.958	10867.5	5823.1	35.725	3.805	2.63		Clay	73.4			103.45	0.77	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.110	123.900	4.263	10888.8	5833.7	67.430	3.599	2.42		Sand	56.5			117.11	0.66	77.35	146.53	0.59	0.407	0.843	0.267	0.367	0.90	0.01	0.00
87.270	136.510	3.795	10908.8	5843.7	74.539	2.896	2.32		Sand	48.6			129.03	0.67	86.29	154.43	0.59	0.406	0.831	0.321	0.459	1.13	0.01	0.00
87.430	151.930	2.883	10928.8	5853.8	83.232	1.969	2.17		Sand	36.3			143.60	0.67	96.63	158.69	0.59	0.406	0.824	0.358	0.524	1.29	0.00	0.00
87.600	158.110	2.593	10950.0	5864.4	86.659	1.698	2.11		Sand	31.8			149.44	0.67	100.44	158.38	0.59	0.406	0.824	0.355	0.519	1.28	0.00	0.00
87.760	153.620	3.480	10970.0	5874.4	84.033	2.349	2.22		Sand	40.4			145.20	0.68	98.49	164.52	0.59	0.405	0.814	0.423	0.638	1.57	0.00	0.00
87.930	146.970	4.006	10991.3	5885.1	80.182	2.831	2.29		Sand	46.3			138.91	0.68	93.89	162.73	0.59	0.405	0.817	0.401	0.599	1.48	0.00	0.00
88.090	140.820	4.156	11011.3	5895.1	76.625	3.071	2.33		Sand	49.4			133.10	0.67	89.32	158.69	0.59	0.405	0.823	0.358	0.523	1.29	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
88.250	163.580	2.890	11031.3	5905.1	89.432	1.828	2.12		Sand	32.7			154.61	0.68	104.70	164.73	0.59	0.405	0.813	0.426	0.642	1.59	0.00	0.00
88.420	174.950	2.576	11052.5	5915.7	95.773	1.520	2.04		Sand	26.6			165.36	0.68	111.85	164.46	0.59	0.404	0.813	0.422	0.636	1.57	0.00	0.00
88.580	162.980	3.502	11072.5	5925.7	88.925	2.224	2.18		Sand	37.7			154.05	0.68	105.10	170.41	0.59	0.404	0.802	0.510	0.793	1.96	0.00	0.00
88.750	147.740	4.019	11093.8	5936.4	80.240	2.827	2.29		Sand	46.2			139.64	0.67	94.10	162.96	0.58	0.404	0.815	0.404	0.603	1.49	0.00	0.00
88.910	146.000	2.868	11113.8	5946.4	79.185	2.042	2.19		Sand	38.5			138.00	0.66	91.65	154.45	0.58	0.404	0.828	0.321	0.458	1.13	0.01	0.00
89.070	161.610	2.253	11133.8	5956.4	87.907	1.444	2.06		Sand	27.6			152.75	0.66	101.22	153.44	0.58	0.403	0.829	0.313	0.444	1.10	0.01	0.00
89.240	154.230	2.636	11155.0	5967.1	83.669	1.773	2.13		Sand	33.7			145.78	0.67	97.01	156.43	0.58	0.403	0.825	0.337	0.486	1.21	0.01	0.00
89.400	122.880	3.072	11175.0	5977.1	65.963	2.619	2.33		Sand	49.0			116.14	0.65	75.16	140.62	0.58	0.403	0.847	0.237	0.315	0.78	0.02	0.00
89.570	84.880	2.450	11196.3	5987.7	26.481	3.090	2.67		Clay	76.4			80.23	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	111.810	3.229	11216.3	5997.7	59.623	3.040	2.40		Sand	55.2			105.68	0.64	67.39	133.37	0.58	0.402	0.855	0.208	0.267	0.66	0.02	0.00
89.900	112.240	3.251	11237.5	6008.4	59.805	3.049	2.40		Sand	55.2			106.09	0.64	67.64	133.69	0.58	0.402	0.855	0.209	0.269	0.67	0.02	0.00
90.060	86.860	3.078	11257.5	6018.4	26.994	3.790	2.72		Clay	80.5			82.10	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	108.660	2.846	11277.5	6028.4	57.690	2.762	2.38		Sand	53.7			102.70	0.63	64.88	129.60	0.58	0.401	0.859	0.196	0.247	0.61	0.02	0.00
90.390	127.500	2.693	11298.8	6039.1	68.173	2.210	2.26		Sand	44.1			120.51	0.65	77.73	141.16	0.58	0.401	0.845	0.240	0.318	0.79	0.02	0.00
90.550	133.230	2.730	11318.8	6049.1	71.315	2.140	2.24		Sand	42.2			125.93	0.65	81.71	144.93	0.58	0.401	0.839	0.258	0.350	0.87	0.01	0.00
90.720	130.200	2.491	11340.0	6059.7	69.554	2.001	2.23		Sand	41.2			123.06	0.64	79.27	141.20	0.58	0.401	0.844	0.240	0.318	0.79	0.02	0.00
90.880	132.310	2.223	11360.0	6069.7	70.668	1.756	2.18		Sand	37.7			125.06	0.64	80.29	139.82	0.58	0.400	0.846	0.234	0.308	0.77	0.02	0.00
91.040	135.970	1.955	11380.0	6079.7	72.645	1.500	2.13		Sand	33.4			128.52	0.64	82.20	138.09	0.58	0.400	0.848	0.226	0.296	0.74	0.02	0.00
91.210	136.730	2.108	11401.3	6090.4	72.999	1.608	2.15		Sand	34.9			129.23	0.64	82.96	140.52	0.58	0.400	0.844	0.237	0.313	0.78	0.02	0.00
91.370	133.450	2.732	11421.3	6100.4	71.108	2.139	2.24		Sand	42.3			126.13	0.65	81.54	144.74	0.58	0.400	0.838	0.257	0.347	0.87	0.01	0.00
91.540	128.420	3.496	11442.5	6111.0	68.242	2.849	2.34		Sand	50.3			121.38	0.65	78.51	145.45	0.58	0.399	0.837	0.261	0.354	0.89	0.01	0.00
91.700	123.640	3.435	11462.5	6121.1	65.525	2.913	2.36		Sand	51.8			116.86	0.64	75.03	141.73	0.58	0.399	0.842	0.242	0.322	0.81	0.02	0.00
91.860	130.470	2.910	11482.5	6131.1	69.258	2.333	2.28		Sand	45.0			123.32	0.64	79.42	143.83	0.58	0.399	0.839	0.253	0.339	0.85	0.01	0.00
92.030	159.750	2.029	11503.8	6141.7	85.436	1.318	2.04		Sand	26.2			150.99	0.65	97.75	147.10	0.58	0.399	0.834	0.271	0.369	0.93	0.01	0.00
92.190	179.920	1.561	11523.8	6151.7	96.542	0.896	1.89		Sand	14.4			170.06	0.62	106.08	127.65	0.58	0.398	0.859	0.190	0.237	0.59	0.02	0.00
92.360	184.950	1.490	11545.0	6162.4	99.239	0.831	1.86		Sand	12.0			174.81	0.62	107.66	121.71	0.57	0.398	0.865	0.175	0.212	0.53	0.03	0.00
92.520	184.070	1.314	11565.0	6172.4	98.666	0.737	1.83		Sand	9.7			173.98	0.60	104.83	111.75	0.57	0.398	0.875	0.155	0.180	0.45	0.03	0.00
92.680	182.200	1.196	11585.0	6182.4	97.546	0.678	1.82		Sand	8.3			172.21	0.59	102.37	106.01	0.57	0.398	0.881	0.146	0.166	0.42	0.03	0.00
92.850	175.300	1.289	11606.3	6193.1	93.644	0.761	1.86		Sand	11.8			165.69	0.60	99.91	112.79	0.57	0.398	0.874	0.157	0.183	0.46	0.03	0.00
93.010	169.730	1.382	11626.3	6203.1	90.488	0.843	1.90		Sand	14.9			160.43	0.61	98.32	120.79	0.57	0.397	0.865	0.173	0.208	0.52	0.03	0.00
93.180	167.680	0.944	11647.5	6213.7	89.274	0.583	1.81		Sand	7.9			158.49	0.58	91.36	94.17	0.57	0.397	0.891	0.130	0.143	0.36	0.03	0.00
93.340	163.470	1.117	11667.5	6223.7	86.877	0.708	1.87		Sand	12.4			154.51	0.59	91.57	106.12	0.57	0.397	0.880	0.146	0.166	0.42	0.03	0.00
93.500	161.460	1.246	11687.5	6233.7	85.694	0.801	1.90		Sand	15.3			152.61	0.60	92.31	115.62	0.57	0.397	0.870	0.162	0.191	0.48	0.03	0.00
93.670	158.110	1.072	11708.8	6244.4	83.772	0.704	1.88		Sand	13.4			149.44	0.59	88.28	105.41	0.57	0.396	0.880	0.145	0.164	0.41	0.03	0.00
93.830	164.370	1.241	11728.8	6254.4	87.141	0.783	1.89		Sand	14.4			155.36	0.60	93.52	114.14	0.57	0.396	0.871	0.159	0.187	0.47	0.03	0.00
94.000	161.750	1.787	11750.0	6265.0	85.622	1.146	2.00		Sand	23.0			152.88	0.63	96.93	140.21	0.57	0.396	0.840	0.235	0.309	0.78	0.02	0.00
94.160	167.910	2.204	11770.0	6275.1	88.929	1.360	2.04		Sand	25.9			158.71	0.65	102.85	152.58	0.57	0.396	0.822	0.307	0.428	1.08	0.01	0.00
94.320	185.010	2.202	11790.0	6285.1	98.231	1.229	1.97		Sand	21.0			174.87	0.65	113.74	155.01	0.57	0.395	0.818	0.325	0.460	1.16	0.01	0.00
94.490	199.350	1.975	11811.3	6295.7	106.000	1.021	1.90		Sand	14.7			188.42	0.64	120.05	143.94	0.57	0.395	0.835	0.253	0.338	0.86	0.01	0.00
94.650	201.250	1.443	11831.3	6305.7	106.951	0.738	1.81		Sand	7.5			190.22	0.60	114.81	117.10	0.57	0.395	0.867	0.165	0.195	0.49	0.03	0.00
94.820	196.650	1.922	11852.5	6316.4	104.338	1.008	1.90		Sand	14.9			185.87	0.63	117.83	141.94	0.57	0.395	0.837	0.243	0.322	0.81	0.02	0.00
94.980	195.400	2.126	11872.5	6326.4	103.567	1.122	1.93		Sand	17.5			184.69	0.64	119.09	151.61	0.57	0.395	0.822	0.300	0.416	1.05	0.01	0.00
95.140	202.920	1.863	11892.5	6336.4	107.587	0.946	1.87		Sand	12.6			191.80	0.63	120.30	137.05	0.57	0.394	0.843	0.222	0.287	0.73	0.02	0.00
95.310	213.270	1.959	11913.8	6347.0	113.139	0.945	1.85		Sand	11.3			201.58	0.63	126.92	139.40	0.57	0.394	0.840	0.232	0.302	0.77	0.02	0.00
95.470	217.800	2.138	11933.8	6357.1	115.515	1.009	1.87		Sand	12.2			205.86	0.64	131.48	147.41	0.57	0.394	0.828	0.272	0.370	0.94	0.01	0.00
95.640	219.020	2.155	11955.0	6367.7	116.077	1.011	1.86		Sand	12.1			207.01	0.64	132.26	147.94	0.57	0.394	0.827	0.276	0.375	0.95	0.01	0.00
95.800	221.120	2.128	11975.0	6377.7	117.124	0.989	1.85		Sand	11.4			209.00	0.64	132.99	146.12	0.57	0.394	0.829	0.265	0.357	0.91	0.01	0.00
95.960	218.900	2.285	11995.0	6387.7	115.819	1.073	1.88		Sand	13.6			206.90	0.65	133.56	154.35	0.57	0.393	0.816	0.320	0.450	1.14	0.01	0.00
96.130	222.270	2.375	12016.3	6398.4	117.549	1.098	1.88		Sand	13.7			210.09	0.65	136.38	157.91	0.57	0.393	0.810	0.351	0.502	1.28	0.00	0.00
96.290	215.830	2.117	12036.3	6408.4	113.953	1.009	1.87		Sand	12.6			204.00	0.64	129.71	146.74	0.57	0.393	0.828	0.268	0.363	0.92	0.01	0.00
96.460	193.720	1.545	12057.5	6419.0	101.855	0.823	1.85		Sand	11.1			183.10	0.61	110.78	122.04	0.56	0.393	0.860	0.176	0.212	0.54	0.03	0.00
96.620	177.680	1.827	12077.5	6429.1	93.072	1.064	1.95		Sand	19.1			167.94	0.63	105.49	140.99	0.56	0.393	0.836	0.239	0.313	0.80	0.02	0.00
96.780	175.900	1.600	12097.5	6439.1	92.030	0.942	1.92		Sand	16.8			166.26	0.62	102.30	130.85	0.56	0.392	0.849	0.200	0.250	0.64	0.02	0.00
96.950	178.910	1.305	12118.8	6449.7	93.578	0.755	1.86		Sand	11.6			169.10	0.59	99.96	112.45	0.56	0.392	0.869	0.156	0.181	0.46	0.03	0.00
97.110	180.160	1.094	12138.8	6459.7	94.176	0.629	1.81		Sand	7.8			170.28	0.57	97.77	100.45	0.56	0.392	0.881	0.138	0.154	0.39	0.03	0.00
97.280	159.880	2.239	12160.0	6470.4	83.131	1.456	2.08		Sand	29.2			151.12	0.64	96.28	149.98	0.56	0.392	0.821	0.288	0.395	1.01	0.01	0.00
97.440	131.640	3.181	12180.0	6480.4	67.809	2.534	2.31		Sand	47.6			124.42	0.63	78.32	143.85	0.56	0.392	0.830	0.253	0.336	0.86	0.01	0.00
97.600	103.990	3.299	12200.0	6490.4	30.165	3.370	2.65		Clay	74.9			98.29	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.770	95.720	3.069	12221.3	6501.0	27.568	3.425	2.68		Clay	77.6			90.47	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.930	125.290	2.604	12241.3	6511.1	64.211	2.185	2.28		Sand	45.3			118.42	0.62	73.32	136.37	0.56	0.391	0.840	0.219	0.281	0.72	0.02	0.00
98.100	145.320	2.677	12262.5	6521.7	74.937	1.923	2.19		Sand	38.4			137.35	0.63	87.02	148.67	0.56	0.391	0.822	0.280	0.381	0.97	0.01	0.00
98.260	155.720	3.385	12282.5	6531.7	80.469	2.263	2.22		Sand	40.6			147.18	0.65	95.23	160.57	0.56	0.391	0.802	0.377	0.545	1.39	0.00	0.00
98.430	164.760	3.572	12303.8	6542.4	85.257	2.252	2.20		Sand	39.0			155.73	0.65	101.94	167.67	0.56	0.390	0.788	0.467	0.698	1.79	0.00	0.00
98.590	181.330	3.417	12323.8	6552.4	94.087	1.951	2.13		Sand	33.1			171.39	0.66	113.73	176.12	0.56	0.390	0.770	0.625	0.975	2.50	0.00	0.00
98.750	202.760	2.331	12343.8	6562.4	105.511	1.186	1.94		Sand	18.3			191.64	0.64	123.35	158.69	0.56	0.390	0.805	0.358	0.512	1.31	0.00	0.00
98.920	223.460	2.534	12365.0	6573.0	116.521	1.166	1.90		Sand	15.3			211.21	0.65	137.30	164.67	0.56	0.390	0.793	0.425	0.626	1.60	0.00	0.00
99.080	237.600	2.734	12385.0	6583.0	124.004	1.182	1.89		Sand	14.1			224.57	0.66	147.54	171.15	0.56	0.390	0.780	0.523	0.796	2.04	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6	PGA (A_{max})	0.58	Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
99.250	247.440	2.852	12406.3	6593.7	129.167	1.182	1.88		Sand	13.0			233.88	0.66	154.49	174.75	0.56	0.390	0.772	0.594	0.919	2.36	0.00	0.00
99.410	246.370	2.597	12426.3	6603.7	128.491	1.081	1.85		Sand	11.1			232.86	0.65	150.81	163.52	0.56	0.389	0.795	0.411	0.600	1.54	0.00	0.00
99.570	242.420	2.758	12446.3	6613.7	126.277	1.167	1.88		Sand	13.3			229.13	0.66	150.32	171.33	0.56	0.389	0.779	0.527	0.801	2.06	0.00	0.00
99.740	240.620	2.436	12467.5	6624.4	125.208	1.039	1.85		Sand	10.8			227.43	0.64	145.41	157.01	0.56	0.389	0.806	0.343	0.484	1.24	0.01	0.00
99.900	238.640	3.836	12487.5	6634.4	124.051	1.651	1.99		Sand	22.2			225.56	0.69	156.49	207.31	0.56	0.389	0.672	2.927	4.329	11.13	0.00	0.00
100.070	245.390	4.963	12508.8	6645.0	127.546	2.075	2.06		Sand	27.4			231.94	0.72	166.26	230.55	0.56	0.389	0.657	17.244	24.912	64.09	0.00	0.00
100.230	283.840	5.397	12528.8	6655.0	147.937	1.944	1.99		Sand	22.3			268.28	0.74	198.29	255.82	0.56	0.389	0.656	266.710	385.061	991.06	0.00	0.00
100.390	313.770	5.336	12548.8	6665.1	163.761	1.735	1.93		Sand	17.0			296.57	0.74	219.11	260.86	0.56	0.388	0.656	519.002	748.789	1928.00	0.00	0.00
100.560	328.050	4.270	12570.0	6675.7	171.223	1.327	1.83		Sand	9.0			310.07	0.71	221.51	229.08	0.56	0.388	0.655	15.116	21.793	56.14	0.00	0.00
100.720	329.880	4.373	12590.0	6685.7	172.063	1.351	1.83		Sand	9.4			311.80	0.72	223.72	232.56	0.56	0.388	0.655	20.729	29.864	76.96	0.00	0.00
100.890	323.990	4.652	12611.3	6696.4	168.791	1.464	1.86		Sand	11.9			306.23	0.73	222.31	241.55	0.56	0.388	0.654	50.569	72.802	187.69	0.00	0.00
101.050	322.940	4.950	12631.3	6706.4	168.102	1.563	1.88		Sand	13.7			305.24	0.74	224.63	252.22	0.56	0.388	0.654	170.031	244.619	630.89	0.00	0.00
101.210	327.460	4.785	12651.3	6716.4	170.369	1.490	1.86		Sand	12.1			309.51	0.73	225.98	246.46	0.56	0.388	0.653	86.492	124.348	320.83	0.00	0.00
101.380	330.630	4.605	12672.5	6727.0	171.909	1.420	1.85		Sand	10.7			312.50	0.72	226.17	240.20	0.56	0.387	0.653	43.925	63.105	162.88	0.00	0.00
101.540	339.070	4.655	12692.5	6737.0	176.247	1.399	1.83		Sand	9.7			320.48	0.73	232.73	243.05	0.55	0.387	0.653	59.326	85.172	219.93	0.00	0.00
101.710	349.490	4.708	12713.8	6747.7	181.617	1.372	1.82		Sand	8.5			330.33	0.73	241.17	247.38	0.55	0.387	0.652	95.966	137.674	355.64	0.00	0.00
101.870	322.040	4.111	12733.8	6757.7	166.959	1.302	1.83		Sand	9.2			304.39	0.71	214.67	222.51	0.55	0.387	0.652	8.691	12.459	32.20	0.00	0.00
102.030	310.730	3.449	12753.8	6767.7	160.853	1.133	1.79		Sand	6.6			293.70	0.68	200.98	202.44	0.55	0.387	0.686	2.175	3.280	8.48	0.00	0.00
102.200	294.150	3.179	12775.0	6778.4	151.965	1.105	1.80		Sand	7.3			278.02	0.67	186.09	188.73	0.55	0.387	0.730	1.059	1.702	4.40	0.00	0.00
102.360	250.630	2.830	12795.0	6788.4	128.882	1.159	1.87		Sand	12.6			236.89	0.65	154.37	173.02	0.55	0.387	0.770	0.558	0.850	2.20	0.00	0.00
102.530	174.210	2.504	12816.3	6799.0	88.480	1.492	2.06		Sand	28.2			164.66	0.63	104.44	158.23	0.55	0.386	0.799	0.354	0.500	1.29	0.00	0.00
102.690	90.820	2.204	12836.3	6809.0	24.791	2.611	2.64		Clay	74.5			85.84	0.73	n.a.	n.a.	0.55	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
102.850	64.570	1.342	12856.3	6819.1	17.053	2.307	2.74		Clay	82.3			61.03	0.73	n.a.	n.a.	0.55	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
103.020	63.180	1.282	12877.5	6829.7	16.616	2.259	2.75		Clay	82.6			59.72	0.73	n.a.	n.a.	0.55	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
103.180	52.600	1.403	12897.5	6839.7	13.495	3.040	2.89		Clay	94.5			49.72	0.73	n.a.	n.a.	0.55	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
103.350	53.400	1.447	12918.8	6850.4	13.705	3.082	2.89		Clay	94.4			50.47	0.73	n.a.	n.a.	0.55	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
103.510	50.230	1.686	12938.8	6860.4	12.758	3.852	2.97		Clay	100.0			47.48	0.73	n.a.	n.a.	0.55	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
103.670	49.420	1.686	12958.8	6870.4	12.500	3.927	2.99		Clay	100.0			46.71	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
103.840	47.880	1.588	12980.0	6881.0	12.030	3.836	2.99		Clay	100.0			45.26	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.000	44.630	1.430	13000.0	6891.0	11.067	3.751	3.02		Clay	100.0			42.18	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.170	45.430	1.347	13021.3	6901.7	11.278	3.460	2.99		Clay	100.0			42.94	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.330	43.690	1.282	13041.3	6911.7	10.755	3.450	3.01		Clay	100.0			41.29	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.490	45.140	1.449	13061.3	6921.7	11.156	3.753	3.01		Clay	100.0			42.67	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.660	44.910	1.693	13082.5	6932.4	11.069	4.411	3.06		Clay	100.0			42.45	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.820	46.920	1.669	13102.5	6942.4	11.630	4.135	3.03		Clay	100.0			44.35	0.73	n.a.	n.a.	0.55	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.990	46.700	1.454	13123.8	6953.0	11.546	3.622	2.99		Clay	100.0			44.14	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.150	44.200	1.282	13143.8	6963.0	10.808	3.407	3.00		Clay	100.0			41.78	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.320	38.890	1.063	13165.0	6973.7	9.266	3.290	3.05		Clay	100.0			36.76	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.480	35.750	0.992	13185.0	6983.7	8.350	3.403	3.09		Clay	100.0			33.79	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.640	35.760	0.961	13205.0	6993.7	8.338	3.294	3.08		Clay	100.0			33.80	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.810	36.090	0.972	13226.3	7004.3	8.417	3.296	3.08		Clay	100.0			34.11	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.970	36.370	0.916	13246.3	7014.4	8.482	3.080	3.06		Clay	100.0			34.38	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.140	35.210	0.784	13267.5	7025.0	8.136	2.744	3.05		Clay	100.0			33.28	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.300	35.770	0.628	13287.5	7035.0	8.280	2.156	2.99		Clay	100.0			33.81	0.73	n.a.	n.a.	0.55	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.460	33.210	0.563	13307.5	7045.0	7.539	2.119	3.02		Clay	100.0			31.39	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.630	31.430	0.623	13328.8	7055.7	7.020	2.515	3.08		Clay	100.0			29.71	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.790	31.810	0.668	13348.8	7065.7	7.115	2.658	3.09		Clay	100.0			30.07	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.960	35.010	0.593	13370.0	7076.3	8.006	2.093	2.99		Clay	100.0			33.09	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.120	36.100	0.596	13390.0	7086.4	8.299	2.027	2.97		Clay	100.0			34.12	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.280	35.840	0.716	13410.0	7096.4	8.211	2.457	3.02		Clay	100.0			33.88	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.450	34.290	0.800	13431.3	7107.0	7.760	2.903	3.08		Clay	100.0			32.41	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.610	36.810	0.886	13451.3	7117.0	8.454	2.946	3.05		Clay	100.0			34.79	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.780	38.520	0.704	13472.5	7127.7	8.918	2.215	2.97		Clay	100.0			36.41	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.940	37.210	0.624	13492.5	7137.7	8.536	2.048	2.96		Clay	100.0			35.17	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.100	33.950	0.564	13512.5	7147.7	7.609	2.074	3.01		Clay	100.0			32.09	0.73	n.a.	n.a.	0.55	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.270	31.610	0.608	13533.8	7158.3	6.941	2.448	3.08		Clay	100.0			29.88	0.73	n.a.	n.a.	0.55	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.430	31.880	0.539	13553.8	7168.4	7.004	2.146	3.05		Clay	100.0			30.13	0.72	n.a.	n.a.	0.55	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.600	31.510	0.532	13575.0	7179.0	6.887	2.150	3.06		Clay	100.0			29.78	0.72	n.a.	n.a.	0.55	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.760	30.570	0.648	13595.0	7189.0	6.614	2.725	3.12		Clay	100.0			28.89	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.920	31.880	0.696	13615.0	7199.0	6.966	2.777	3.11		Clay	100.0			30.13	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.090	32.490	0.734	13636.3	7209.7	7.122	2.858	3.11		Clay	100.0			30.71	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.250	32.410	0.720	13656.3	7219.7	7.087	2.814	3.11		Clay	100.0			30.63	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.420	32.870	0.719	13677.5	7230.3	7.201	2.761	3.10		Clay	100.0			31.07	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.580	32.550	0.721	13697.5	7240.3	7.099	2.806	3.10		Clay	100.0			30.77	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.740	33.120	0.919	13717.5	7250.4	7.244	3.498	3.15		Clay	100.0			31.30	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.910	33.550	0.989	13738.8	7261.0	7.349	3.705	3.16		Clay	100.0			31.71	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.070	35.830	1.139	13758.8	7271.0	7.963	3.933	3.15		Clay	100.0			33.87	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6	PGA (A_{max})	0.58	Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
110.240	39.370	1.353	13780.0	7281.7	8.921	4.165	3.12		Clay	100.0			37.21	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.400	36.470	1.237	13800.0	7291.7	8.111	4.182	3.15		Clay	100.0			34.47	0.72	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.560	34.400	0.995	13820.0	7301.7	7.530	3.618	3.14		Clay	100.0			32.51	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.730	32.740	0.784	13841.3	7312.3	7.062	3.036	3.13		Clay	100.0			30.95	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.890	30.850	0.667	13861.3	7322.4	6.533	2.789	3.13		Clay	100.0			29.16	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.060	30.340	0.676	13882.5	7333.0	6.382	2.887	3.15		Clay	100.0			28.68	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.220	30.550	0.646	13902.5	7343.0	6.428	2.736	3.14		Clay	100.0			28.88	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.380	31.370	0.684	13922.5	7353.0	6.639	2.800	3.13		Clay	100.0			29.65	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.550	31.890	0.658	13943.8	7363.7	6.768	2.641	3.11		Clay	100.0			30.14	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.710	31.900	0.711	13963.8	7373.7	6.759	2.855	3.13		Clay	100.0			30.15	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.880	33.290	0.774	13985.0	7384.3	7.123	2.944	3.11		Clay	100.0			31.47	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.040	33.200	0.728	14005.0	7394.3	7.086	2.778	3.10		Clay	100.0			31.38	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.200	33.540	0.743	14025.0	7404.4	7.165	2.799	3.10		Clay	100.0			31.70	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.370	33.860	0.659	14046.3	7415.0	7.239	2.454	3.07		Clay	100.0			32.00	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.530	32.520	0.632	14066.3	7425.0	6.865	2.479	3.09		Clay	100.0			30.74	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.700	32.730	0.573	14087.5	7435.7	6.909	2.230	3.06		Clay	100.0			30.94	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.860	32.440	0.670	14107.5	7445.7	6.819	2.639	3.11		Clay	100.0			30.66	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.020	32.370	0.751	14127.5	7455.7	6.788	2.969	3.13		Clay	100.0			30.60	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.190	34.170	0.871	14148.8	7466.3	7.258	3.216	3.13		Clay	100.0			32.30	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.350	36.660	0.947	14168.8	7476.4	7.912	3.201	3.10		Clay	100.0			34.65	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.520	35.470	0.865	14190.0	7487.0	7.580	3.049	3.10		Clay	100.0			33.53	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.680	34.350	0.822	14210.0	7497.0	7.268	3.016	3.11		Clay	100.0			32.47	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.850	33.610	0.790	14231.3	7507.7	7.058	2.983	3.12		Clay	100.0			31.77	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.010	33.800	0.781	14251.3	7517.7	7.096	2.929	3.12		Clay	100.0			31.95	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.170	33.060	0.755	14271.3	7527.7	6.888	2.913	3.12		Clay	100.0			31.25	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.340	32.710	0.730	14292.5	7538.3	6.782	2.857	3.13		Clay	100.0			30.92	0.72	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.500	32.690	0.738	14312.5	7548.3	6.765	2.891	3.13		Clay	100.0			30.90	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.670	33.000	0.848	14333.8	7559.0	6.835	3.281	3.16		Clay	100.0			31.19	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.830	33.640	0.999	14353.8	7569.0	6.993	3.774	3.18		Clay	100.0			31.80	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
114.990	34.500	1.043	14373.8	7579.0	7.208	3.820	3.17		Clay	100.0			32.61	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.160	37.050	1.045	14395.0	7589.7	7.867	3.501	3.12		Clay	100.0			35.02	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.320	36.470	0.980	14415.0	7599.7	7.701	3.350	3.12		Clay	100.0			34.47	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.490	35.300	0.883	14436.3	7610.3	7.380	3.145	3.12		Clay	100.0			33.36	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.650	34.460	0.777	14456.3	7620.3	7.147	2.852	3.11		Clay	100.0			32.57	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.810	33.580	0.782	14476.3	7630.3	6.905	2.967	3.13		Clay	100.0			31.74	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
115.980	34.520	0.720	14497.5	7641.0	7.138	2.641	3.09		Clay	100.0			32.63	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.140	35.560	0.740	14517.5	7651.0	7.398	2.614	3.07		Clay	100.0			33.61	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.310	35.800	0.755	14538.8	7661.6	7.448	2.645	3.07		Clay	100.0			33.84	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.470	36.740	1.104	14558.8	7671.7	7.680	3.747	3.15		Clay	100.0			34.73	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.630	40.570	2.154	14578.8	7681.7	8.665	6.472	3.25		Clay	100.0			38.35	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.800	74.180	3.305	14600.0	7692.3	17.389	4.941	2.94		Clay	98.1			70.11	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
116.960	83.420	4.587	14620.0	7702.3	19.763	6.027	2.95		Clay	99.3			78.85	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.130	87.580	4.797	14641.3	7713.0	20.812	5.976	2.94		Clay	97.8			82.78	0.71	n.a.	n.a.	0.54	0.380	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.290	81.870	4.548	14661.3	7723.0	19.303	6.102	2.97		Clay	100.0			77.38	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.450	65.340	3.620	14681.3	7733.0	15.000	6.241	3.05		Clay	100.0			61.76	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.620	54.730	3.008	14702.5	7743.7	12.237	6.348	3.13		Clay	100.0			51.73	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.780	48.610	2.647	14722.5	7753.7	10.640	6.418	3.17		Clay	100.0			45.95	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
117.950	42.670	2.659	14743.8	7764.3	9.092	7.533	3.27		Clay	100.0			40.33	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.110	41.170	2.615	14763.8	7774.3	8.692	7.738	3.29		Clay	100.0			38.91	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.270	40.680	2.665	14783.8	7784.3	8.553	8.005	3.31		Clay	100.0			38.45	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.440	39.300	2.659	14805.0	7795.0	8.184	8.336	3.33		Clay	100.0			37.15	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.600	38.040	2.498	14825.0	7805.0	7.848	8.156	3.34		Clay	100.0			35.95	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.770	37.160	2.218	14846.3	7815.6	7.610	7.457	3.33		Clay	100.0			35.12	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
118.930	36.200	1.990	14866.3	7825.7	7.352	6.918	3.32		Clay	100.0			34.22	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
119.090	33.410	1.800	14886.3	7835.7	6.628	6.932	3.36		Clay	100.0			31.58	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
119.260	31.730	1.683	14907.5	7846.3	6.188	6.934	3.38		Clay	100.0			29.99	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
119.420	32.410	1.659	14927.5	7856.3	6.351	6.649	3.36		Clay	100.0			30.63	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
119.590	31.550	1.804	14948.8	7867.0	6.121	7.492	3.40		Clay	100.0			29.82	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
119.750	32.610	1.901	14968.8	7877.0	6.379	7.565	3.39		Clay	100.0			30.82	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
119.910	36.370	1.689	14988.8	7887.0	7.322	5.849	3.28		Clay	100.0			34.38	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
120.080	40.150	1.407	15010.0	7897.6	8.267	4.311	3.16		Clay	100.0			37.95	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
120.240	39.040	1.132	15030.0	7907.7	7.973	3.591	3.12		Clay	100.0			36.90	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
120.410	37.020	1.108	15051.3	7918.3	7.450	3.757	3.16		Clay	100.0			34.99	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
120.570	35.770	0.861	15071.3	7928.3	7.122	3.049	3.12		Clay	100.0			33.81	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
120.730	36.240	0.749	15091.3	7938.3	7.229	2.609	3.08		Clay	100.0			34.25	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
120.900	37.220	0.981	15112.5	7949.0	7.464	3.306	3.13		Clay	100.0			35.18	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.060	39.270	1.227	15132.5	7959.0	7.967	3.870	3.14		Clay	100.0			37.12	0.71	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
121.230	45.800	1.189	15153.8	7969.6	9.592	3.109	3.02		Clay	100.0			43.29	0.70	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.390	54.790	2.136	15173.8	7979.7	11.831	4.525	3.04		Clay	100.0			51.79	0.70	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.560	55.730	3.939	15195.0	7990.3	12.048	8.184	3.20		Clay	100.0			52.67	0.70	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.720	90.320	5.056	15215.0	8000.3	20.677	6.113	2.94		Clay	98.5			85.37	0.70	n.a.	n.a.	0.54	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
121.880	149.100	5.392	15235.0	8010.3	35.325	3.811	2.63		Clay	73.7			140.93	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.050	171.270	4.965	15256.3	8021.0	79.443	3.034	2.32		Sand	48.2			161.88	0.61	98.58	169.76	0.54	0.382	0.745	0.499	0.718	1.88	0.00	0.00
122.210	164.180	3.755	15276.3	8031.0	75.948	2.399	2.26		Sand	43.4			155.18	0.60	92.41	159.10	0.54	0.382	0.769	0.362	0.496	1.30	0.00	0.00
122.380	115.920	3.071	15297.5	8041.6	26.928	2.837	2.64		Clay	74.0			109.57	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.540	68.540	2.594	15317.5	8051.6	15.123	4.260	2.94		Clay	98.5			64.78	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.700	64.360	2.670	15337.5	8061.7	14.064	4.710	3.00		Clay	100.0			60.83	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
122.870	62.600	2.758	15358.8	8072.3	13.607	5.022	3.02		Clay	100.0			59.17	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.030	60.160	2.535	15378.8	8082.3	12.984	4.831	3.03		Clay	100.0			56.86	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.200	67.740	2.958	15400.0	8093.0	14.838	4.927	2.99		Clay	100.0			64.03	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.360	72.900	2.463	15420.0	8103.0	16.090	3.778	2.89		Clay	94.2			68.90	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.520	50.040	1.846	15440.0	8113.0	10.433	4.362	3.08		Clay	100.0			47.30	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.690	43.500	1.252	15461.3	8123.6	8.806	3.500	3.08		Clay	100.0			41.12	0.70	n.a.	n.a.	0.54	0.382	n.a.	n.a.	n.a.	n.a.	0.00	0.00
123.850	42.360	1.071	15481.3	8133.7	8.513	3.094	3.06		Clay	100.0			40.04	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.020	39.570	1.392	15502.5	8144.3	7.814	4.374	3.18		Clay	100.0			37.40	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.180	38.860	1.973	15522.5	8154.3	7.628	6.346	3.28		Clay	100.0			36.73	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.340	56.330	2.384	15542.5	8164.3	11.895	4.909	3.06		Clay	100.0			53.24	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.510	60.760	2.405	15563.8	8175.0	12.961	4.539	3.01		Clay	100.0			57.43	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.670	53.750	2.815	15583.8	8185.0	11.230	6.126	3.14		Clay	100.0			50.80	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
124.840	44.290	2.533	15605.0	8195.6	8.904	6.941	3.26		Clay	100.0			41.86	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.000	36.910	2.719	15625.0	8205.6	7.092	9.343	3.41		Clay	100.0			34.89	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.160	62.130	2.580	15645.0	8215.7	13.220	4.751	3.02		Clay	100.0			58.72	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.330	72.190	2.358	15666.3	8226.3	15.647	3.664	2.89		Clay	94.3			68.23	0.70	n.a.	n.a.	0.54	0.383	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.490	58.900	2.226	15686.3	8236.3	12.398	4.359	3.02		Clay	100.0			55.67	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.660	43.250	1.619	15707.5	8247.0	8.584	4.573	3.16		Clay	100.0			40.88	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.820	40.930	1.301	15727.5	8257.0	8.009	3.933	3.14		Clay	100.0			38.69	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
125.980	41.980	1.296	15747.5	8267.0	8.251	3.799	3.12		Clay	100.0			39.68	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.150	37.320	1.215	15768.8	8277.6	7.112	4.129	3.20		Clay	100.0			35.27	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.310	35.290	1.058	15788.8	8287.6	6.611	3.863	3.21		Clay	100.0			33.36	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.480	34.680	1.039	15810.0	8298.3	6.453	3.880	3.22		Clay	100.0			32.78	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.640	33.330	1.077	15830.0	8308.3	6.118	4.239	3.26		Clay	100.0			31.50	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.800	34.300	1.131	15850.0	8318.3	6.341	4.288	3.25		Clay	100.0			32.42	0.70	n.a.	n.a.	0.54	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
126.970	35.430	1.118	15871.3	8329.0	6.602	4.068	3.22		Clay	100.0			33.49	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.130	35.180	1.085	15891.3	8339.0	6.532	3.984	3.22		Clay	100.0			33.25	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.300	34.980	1.058	15912.5	8349.6	6.473	3.914	3.22		Clay	100.0			33.06	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.460	34.490	1.077	15932.5	8359.6	6.346	4.059	3.23		Clay	100.0			32.60	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.620	34.920	1.119	15952.5	8369.7	6.438	4.152	3.23		Clay	100.0			33.01	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.790	36.000	1.205	15973.8	8380.3	6.685	4.300	3.23		Clay	100.0			34.03	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
127.950	36.900	1.325	15993.8	8390.3	6.890	4.585	3.24		Clay	100.0			34.88	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.120	38.520	1.350	16015.0	8401.0	7.264	4.426	3.21		Clay	100.0			36.41	0.70	n.a.	n.a.	0.54	0.385	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.280	38.210	1.350	16035.0	8411.0	7.179	4.471	3.21		Clay	100.0			36.12	0.69	n.a.	n.a.	0.54	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.440	37.410	1.266	16055.0	8421.0	6.978	4.307	3.21		Clay	100.0			35.36	0.69	n.a.	n.a.	0.54	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.610	37.170	1.186	16076.3	8431.6	6.910	4.071	3.20		Clay	100.0			35.13	0.69	n.a.	n.a.	0.54	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.770	35.980	1.118	16096.3	8441.6	6.618	4.001	3.22		Clay	100.0			34.01	0.69	n.a.	n.a.	0.54	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
128.940	35.100	1.084	16117.5	8452.3	6.399	4.007	3.23		Clay	100.0			33.18	0.69	n.a.	n.a.	0.54	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
129.100	34.310	1.048	16137.5	8462.3	6.202	3.993	3.24		Clay	100.0			32.43	0.69	n.a.	n.a.	0.54	0.386	n.a.	n.a.	n.a.	n.a.	0.00	0.00
129.270	33.600	1.031	16158.8	8472.9	6.024	4.039	3.25		Clay	100.0			31.76	0.69	n.a.	n.a.	0.55	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
129.430	33.610	1.019	16178.8	8483.0	6.017	3.994	3.25		Clay	100.0			31.77	0.69	n.a.	n.a.	0.55	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
129.590	33.830	0.943	16198.8	8493.0	6.059	3.666	3.23		Clay	100.0			31.98	0.69	n.a.	n.a.	0.55	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
129.760	33.590	1.050	16220.0	8503.6	5.993	4.122	3.26		Clay	100.0			31.75	0.69	n.a.	n.a.	0.55	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
129.920	34.310	1.009	16240.0	8513.6	6.152	3.851	3.23		Clay	100.0			32.43	0.69	n.a.	n.a.	0.55	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
130.090	35.300	1.003	16261.3	8524.3	6.375	3.693	3.21		Clay	100.0			33.36	0.69	n.a.	n.a.	0.55	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
130.250	34.950	0.884	16281.3	8534.3	6.283	3.298	3.19		Clay	100.0			33.03	0.69	n.a.	n.a.	0.55	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
130.410	34.310	0.968	16301.3	8544.3	6.123	3.700	3.22		Clay	100.0			32.43	0.69	n.a.	n.a.	0.55	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
130.580	34.310	0.974	16322.5	8554.9	6.113	3.723	3.23		Clay	100.0			32.43	0.69	n.a.	n.a.	0.55	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
130.740	36.910	1.076	16342.5	8565.0	6.711	3.744	3.19		Clay	100.0			34.89	0.69	n.a.	n.a.	0.55	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
130.910	37.310	0.988	16363.8	8575.6	6.793	3.390	3.17		Clay	100.0			35.26	0.69	n.a.	n.a.	0.55	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
131.070	35.760	1.003	16383.8	8585.6	6.422	3.638	3.20		Clay	100.0			33.80	0.69	n.a.	n.a.	0.55	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
131.230	34.930	1.017	16403.8	8595.6	6.219	3.806	3.23		Clay	100.0			33.02	0.69	n.a.	n.a.	0.55	0.388	n.a.	n.a.	n.a.	n.a.	0.00	0.00
131.400	35.280	1.071	16425.0	8606.3	6.290	3.956	3.23		Clay	100.0			33.35	0.69	n.a.	n.a.	0.55	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
131.560	35.210	1.093	16445.0	8616.3	6.264	4.049	3.24		Clay	100.0			33.28	0.69	n.a.	n.a.	0.55	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
131.730	35.600	1.115	16466.3	8626.9	6.345	4.074	3.23		Clay	100.0			33.65	0.69	n.a.	n.a.	0.55	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
131.890	35.960	1.048	16486.3	8637.0	6.418	3.783	3.21		Clay	100.0			33.99	0.69	n.a.	n.a.	0.55	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.050	35.820	0.986	16506.3	8647.0	6.376	3.577	3.20		Clay	100.0			33.86	0.69	n.a.	n.a.	0.55	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6	PGA (A_{max})	0.58	Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
132.220	35.520	0.971	16527.5	8657.6	6.296	3.562	3.21		Clay	100.0			33.57	0.69	n.a.	n.a.	0.55	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.380	35.100	0.986	16547.5	8667.6	6.190	3.677	3.22		Clay	100.0			33.18	0.69	n.a.	n.a.	0.55	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.550	35.020	0.947	16568.8	8678.3	6.162	3.543	3.21		Clay	100.0			33.10	0.69	n.a.	n.a.	0.55	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.710	34.160	0.913	16588.8	8688.3	5.954	3.531	3.22		Clay	100.0			32.29	0.69	n.a.	n.a.	0.55	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
132.870	34.350	0.871	16608.8	8698.3	5.989	3.342	3.21		Clay	100.0			32.47	0.69	n.a.	n.a.	0.55	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.040	34.380	1.031	16630.0	8708.9	5.986	3.954	3.25		Clay	100.0			32.50	0.69	n.a.	n.a.	0.55	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.200	35.890	1.195	16650.0	8719.0	6.323	4.335	3.25		Clay	100.0			33.92	0.69	n.a.	n.a.	0.55	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.370	36.930	1.223	16671.3	8729.6	6.551	4.276	3.24		Clay	100.0			34.91	0.69	n.a.	n.a.	0.55	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.530	36.860	1.171	16691.3	8739.6	6.525	4.105	3.23		Clay	100.0			34.84	0.69	n.a.	n.a.	0.55	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.690	36.580	1.157	16711.3	8749.6	6.452	4.100	3.23		Clay	100.0			34.57	0.69	n.a.	n.a.	0.55	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
133.860	37.020	1.160	16732.5	8760.3	6.542	4.047	3.22		Clay	100.0			34.99	0.69	n.a.	n.a.	0.55	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.020	38.160	1.169	16752.5	8770.3	6.792	3.925	3.20		Clay	100.0			36.07	0.69	n.a.	n.a.	0.55	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.190	36.850	1.175	16773.8	8780.9	6.483	4.127	3.23		Clay	100.0			34.83	0.69	n.a.	n.a.	0.55	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.350	35.800	1.143	16793.8	8791.0	6.234	4.172	3.25		Clay	100.0			33.84	0.69	n.a.	n.a.	0.55	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.510	35.930	1.099	16813.8	8801.0	6.255	3.994	3.24		Clay	100.0			33.96	0.69	n.a.	n.a.	0.55	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.680	34.510	0.766	16835.0	8811.6	5.922	2.937	3.18		Clay	100.0			32.62	0.69	n.a.	n.a.	0.55	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
134.840	32.520	0.649	16855.0	8821.6	5.462	2.693	3.19		Clay	100.0			30.74	0.69	n.a.	n.a.	0.55	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.010	30.710	0.696	16876.3	8832.3	5.043	3.126	3.26		Clay	100.0			29.03	0.69	n.a.	n.a.	0.55	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.170	31.550	0.725	16896.3	8842.3	5.225	3.137	3.24		Clay	100.0			29.82	0.69	n.a.	n.a.	0.55	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.330	34.180	0.647	16916.3	8852.3	5.811	2.515	3.15		Clay	100.0			32.31	0.69	n.a.	n.a.	0.55	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.500	35.600	0.724	16937.5	8862.9	6.122	2.668	3.15		Clay	100.0			33.65	0.69	n.a.	n.a.	0.55	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.660	33.700	0.791	16957.5	8873.0	5.685	3.138	3.21		Clay	100.0			31.85	0.69	n.a.	n.a.	0.55	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.830	35.560	0.892	16978.8	8883.6	6.095	3.295	3.20		Clay	100.0			33.61	0.68	n.a.	n.a.	0.55	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
135.990	38.780	0.939	16998.8	8893.6	6.810	3.099	3.14		Clay	100.0			36.65	0.68	n.a.	n.a.	0.55	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.150	39.770	0.973	17018.8	8903.6	7.022	3.112	3.13		Clay	100.0			37.59	0.68	n.a.	n.a.	0.55	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.320	38.400	0.959	17040.0	8914.3	6.704	3.210	3.16		Clay	100.0			36.29	0.68	n.a.	n.a.	0.56	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.480	38.510	1.061	17060.0	8924.3	6.719	3.538	3.18		Clay	100.0			36.40	0.68	n.a.	n.a.	0.56	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.650	43.670	1.663	17081.3	8934.9	7.863	4.733	3.20		Clay	100.0			41.28	0.68	n.a.	n.a.	0.56	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.810	47.760	2.302	17101.3	8944.9	8.767	5.870	3.22		Clay	100.0			45.14	0.68	n.a.	n.a.	0.56	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
136.980	68.130	2.263	17122.5	8955.6	13.303	3.798	2.96		Clay	99.5			64.40	0.68	n.a.	n.a.	0.56	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.140	73.710	2.311	17142.5	8965.6	14.531	3.548	2.91		Clay	95.7			69.67	0.68	n.a.	n.a.	0.56	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.300	62.320	1.984	17162.5	8975.6	11.974	3.692	2.99		Clay	100.0			58.90	0.68	n.a.	n.a.	0.56	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.470	51.900	1.837	17183.8	8986.3	9.639	4.242	3.10		Clay	100.0			49.05	0.68	n.a.	n.a.	0.56	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.630	51.420	2.389	17203.8	8996.3	9.519	5.579	3.17		Clay	100.0			48.60	0.68	n.a.	n.a.	0.56	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.800	62.680	2.538	17225.0	9006.9	12.006	4.694	3.05		Clay	100.0			59.24	0.68	n.a.	n.a.	0.56	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
137.960	70.970	2.466	17245.0	9016.9	13.829	3.956	2.95		Clay	99.3			67.08	0.68	n.a.	n.a.	0.56	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.120	54.300	2.014	17265.0	9027.0	10.118	4.409	3.09		Clay	100.0			51.32	0.68	n.a.	n.a.	0.56	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.290	46.330	1.578	17286.3	9037.6	8.340	4.188	3.14		Clay	100.0			43.79	0.68	n.a.	n.a.	0.56	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.450	47.850	2.304	17306.3	9047.6	8.665	5.877	3.22		Clay	100.0			45.23	0.68	n.a.	n.a.	0.56	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.620	47.010	2.616	17327.5	9058.3	8.467	6.821	3.27		Clay	100.0			44.43	0.68	n.a.	n.a.	0.56	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.780	46.030	2.430	17347.5	9068.3	8.239	6.504	3.26		Clay	100.0			43.51	0.68	n.a.	n.a.	0.56	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
138.940	56.480	2.007	17367.5	9078.3	10.530	4.199	3.06		Clay	100.0			53.38	0.68	n.a.	n.a.	0.56	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.110	50.250	1.965	17388.8	9088.9	9.144	4.729	3.14		Clay	100.0			47.50	0.68	n.a.	n.a.	0.56	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.270	50.400	2.258	17408.8	9098.9	9.165	5.416	3.18		Clay	100.0			47.64	0.68	n.a.	n.a.	0.56	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.440	58.580	2.349	17430.0	9109.6	10.948	4.711	3.08		Clay	100.0			55.37	0.68	n.a.	n.a.	0.56	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.600	64.440	2.073	17450.0	9119.6	12.219	3.721	2.98		Clay	100.0			60.91	0.68	n.a.	n.a.	0.56	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.760	60.450	1.608	17470.0	9129.6	11.329	3.109	2.96		Clay	99.9			57.14	0.68	n.a.	n.a.	0.56	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
139.930	47.800	1.174	17491.3	9140.3	8.546	3.007	3.05		Clay	100.0			45.18	0.68	n.a.	n.a.	0.56	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.090	37.570	1.367	17511.3	9150.3	6.298	4.742	3.28		Clay	100.0			35.51	0.68	n.a.	n.a.	0.56	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.260	36.420	1.120	17532.5	9160.9	6.037	4.050	3.25		Clay	100.0			34.42	0.68	n.a.	n.a.	0.56	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.420	36.610	1.028	17552.5	9170.9	6.070	3.695	3.23		Clay	100.0			34.60	0.68	n.a.	n.a.	0.56	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.580	37.160	0.851	17572.5	9180.9	6.181	2.999	3.17		Clay	100.0			35.12	0.68	n.a.	n.a.	0.56	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.750	36.110	0.765	17593.8	9191.6	5.943	2.800	3.17		Clay	100.0			34.13	0.68	n.a.	n.a.	0.56	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
140.910	35.020	0.751	17613.8	9201.6	5.698	2.864	3.19		Clay	100.0			33.10	0.68	n.a.	n.a.	0.56	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
141.080	35.200	0.880	17635.0	9212.2	5.728	3.336	3.22		Clay	100.0			33.27	0.68	n.a.	n.a.	0.57	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
141.240	36.580	0.982	17655.0	9222.3	6.019	3.537	3.22		Clay	100.0			34.57	0.68	n.a.	n.a.	0.57	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
141.400	38.460	1.075	17675.0	9232.3	6.417	3.628	3.20		Clay	100.0			36.35	0.68	n.a.	n.a.	0.57	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
141.570	39.590	1.088	17696.3	9242.9	6.652	3.538	3.18		Clay	100.0			37.42	0.68	n.a.	n.a.	0.57	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
141.730	39.050	1.087	17716.3	9252.9	6.526	3.601	3.19		Clay	100.0			36.91	0.68	n.a.	n.a.	0.57	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
141.900	38.890	1.073	17737.5	9263.6	6.482	3.572	3.20		Clay	100.0			36.76	0.68	n.a.	n.a.	0.57	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
142.060	40.340	1.107	17757.5	9273.6	6.785	3.518	3.18		Clay	100.0			38.13	0.68	n.a.	n.a.	0.57	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
142.220	39.940	1.146	17777.5	9283.6	6.689	3.691	3.19		Clay	100.0			37.75	0.68	n.a.	n.a.	0.57	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
142.390	40.590	1.213	17798.8	9294.3	6.819	3.828	3.19		Clay	100.0			38.36	0.68	n.a.	n.a.	0.57	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
142.550	41.560	1.343	17818.8	9304.3	7.018	4.113	3.20		Clay	100.0			39.28	0.68	n.a.	n.a.	0.57	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
142.720	41.710	1.384	17840.0	9314.9	7.040	4.220	3.21		Clay	100.0			39.42	0.68	n.a.	n.a.	0.57	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
142.880	41.450	1.410	17860.0	9324.9	6.975	4.335	3.22		Clay	100.0			39.18	0.68	n.a.	n.a.	0.57	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
143.040	41.060	1.371	17880.0	9334.9	6.882	4.267	3.22		Clay	100.0			38.81	0.68	n.a.	n.a.	0.57	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	6

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
143.210	40.660	1.376	17901.3	9345.6	6.786	4.338	3.23		Clay	100.0			38.43	0.68	n.a.	n.a.	0.57	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
143.370	41.020	1.332	17921.3	9355.6	6.854	4.156	3.21		Clay	100.0			38.77	0.68	n.a.	n.a.	0.57	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
143.540	40.710	1.233	17942.5	9366.2	6.777	3.886	3.20		Clay	100.0			38.48	0.68	n.a.	n.a.	0.57	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
143.700	39.280	1.097	17962.5	9376.3	6.463	3.621	3.20		Clay	100.0			37.13	0.68	n.a.	n.a.	0.57	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
143.860	38.230	1.046	17982.5	9386.3	6.230	3.579	3.21		Clay	100.0			36.13	0.68	n.a.	n.a.	0.57	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
144.030	37.380	0.899	18003.8	9396.9	6.040	3.167	3.19		Clay	100.0			35.33	0.67	n.a.	n.a.	0.57	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
144.290	37.180	0.807	18036.3	9413.2	5.983	2.865	3.17		Clay	100.0			35.14	0.67	n.a.	n.a.	0.57	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
144.360	36.430	0.801	18045.0	9417.6	5.820	2.921	3.19		Clay	100.0			34.43	0.67	n.a.	n.a.	0.57	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
144.520	35.960	0.854	18065.0	9427.6	5.712	3.172	3.21		Clay	100.0			33.99	0.67	n.a.	n.a.	0.57	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
144.690	37.650	0.904	18086.3	9438.2	6.062	3.161	3.19		Clay	100.0			35.59	0.67	n.a.	n.a.	0.57	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
144.850	38.430	0.934	18106.3	9448.3	6.218	3.180	3.18		Clay	100.0			36.32	0.67	n.a.	n.a.	0.57	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
145.010	37.050	0.875	18126.3	9458.3	5.918	3.127	3.20		Clay	100.0			35.02	0.67	n.a.	n.a.	0.58	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
145.180	38.730	0.742	18147.5	9468.9	6.264	2.502	3.12		Clay	100.0			36.61	0.67	n.a.	n.a.	0.58	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
145.340	38.370	0.644	18167.5	9478.9	6.179	2.199	3.10		Clay	100.0			36.27	0.67	n.a.	n.a.	0.58	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
145.510	38.130	0.674	18188.8	9489.6	6.119	2.321	3.12		Clay	100.0			36.04	0.67	n.a.	n.a.	0.58	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
145.670	37.840	0.798	18208.8	9499.6	6.050	2.777	3.16		Clay	100.0			35.77	0.67	n.a.	n.a.	0.58	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
145.830	40.420	0.930	18228.8	9509.6	6.584	2.971	3.15		Clay	100.0			38.20	0.67	n.a.	n.a.	0.58	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
146.000	43.530	1.150	18250.0	9520.2	7.228	3.341	3.14		Clay	100.0			41.14	0.67	n.a.	n.a.	0.58	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
146.160	46.760	1.306	18270.0	9530.3	7.896	3.472	3.12		Clay	100.0			44.20	0.67	n.a.	n.a.	0.58	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
146.420	44.480	1.308	18302.5	9546.5	7.401	3.701	3.16		Clay	100.0			42.04	0.67	n.a.	n.a.	0.58	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
146.490	42.040	1.134	18311.3	9550.9	6.886	3.448	3.16		Clay	100.0			39.74	0.67	n.a.	n.a.	0.58	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
146.650	39.880	0.968	18331.3	9560.9	6.425	3.153	3.17		Clay	100.0			37.69	0.67	n.a.	n.a.	0.58	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
146.820	40.280	1.563	18352.5	9571.6	6.499	5.026	3.28		Clay	100.0			38.07	0.67	n.a.	n.a.	0.58	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
146.980	43.730	1.704	18372.5	9581.6	7.210	4.933	3.24		Clay	100.0			41.33	0.67	n.a.	n.a.	0.58	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
147.150	59.390	1.689	18393.8	9592.2	10.465	3.365	3.01		Clay	100.0			56.13	0.67	n.a.	n.a.	0.58	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
147.310	46.030	1.564	18413.8	9602.2	7.670	4.247	3.18		Clay	100.0			43.51	0.67	n.a.	n.a.	0.58	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
147.470	40.950	1.144	18433.8	9612.3	6.603	3.604	3.19		Clay	100.0			38.71	0.67	n.a.	n.a.	0.58	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
147.640	44.660	1.044	18455.0	9622.9	7.364	2.945	3.10		Clay	100.0			42.21	0.67	n.a.	n.a.	0.58	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
147.800	39.270	1.271	18475.0	9632.9	6.235	4.232	3.25		Clay	100.0			37.12	0.67	n.a.	n.a.	0.58	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
147.970	38.860	1.879	18496.3	9643.6	6.141	6.344	3.36		Clay	100.0			36.73	0.67	n.a.	n.a.	0.58	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
148.130	45.200	2.429	18516.3	9653.6	7.446	6.757	3.31		Clay	100.0			42.72	0.67	n.a.	n.a.	0.58	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
148.290	63.550	3.528	18536.3	9663.6	11.234	6.499	3.16		Clay	100.0			60.07	0.67	n.a.	n.a.	0.58	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
148.460	62.670	4.189	18557.5	9674.2	11.038	7.845	3.22		Clay	100.0			59.23	0.67	n.a.	n.a.	0.59	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
148.620	97.430	4.241	18577.5	9684.3	18.203	4.811	2.92		Clay	96.3			92.09	0.67	n.a.	n.a.	0.59	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
148.790	123.130	4.458	18598.8	9694.9	23.483	3.916	2.77		Clay	84.9			116.38	0.67	n.a.	n.a.	0.59	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
148.950	120.550	4.937	18618.8	9704.9	22.925	4.438	2.82		Clay	88.4			113.94	0.67	n.a.	n.a.	0.59	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
149.110	117.800	4.488	18638.8	9714.9	22.333	4.137	2.81		Clay	87.5			111.34	0.67	n.a.	n.a.	0.59	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
149.280	113.380	3.315	18660.0	9725.6	21.397	3.186	2.75		Clay	82.8			107.16	0.67	n.a.	n.a.	0.59	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
149.440	73.060	3.043	18680.0	9735.6	13.090	4.776	3.02		Clay	100.0			69.05	0.67	n.a.	n.a.	0.59	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
149.610	57.920	3.189	18701.3	9746.2	9.967	6.565	3.20		Clay	100.0			54.74	0.67	n.a.	n.a.	0.59	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
149.770	69.610	2.548	18721.3	9756.2	12.351	4.230	3.01		Clay	100.0			65.79	0.67	n.a.	n.a.	0.59	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
149.930	55.180	1.778	18741.3	9766.3	9.381	3.882	3.08		Clay	100.0			52.16	0.67	n.a.	n.a.	0.59	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.58

Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	335.090	1.667	20.0	20.0	3257.659	0.498	0.92		Unsaturated	0.0			316.72	1.70	538.42	538.42	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	155.700	2.190	41.3	41.3	1053.880	1.406	1.44		Unsaturated	0.0			147.16	1.70	250.18	250.18	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	150.750	2.747	61.3	61.3	837.314	1.823	1.58		Unsaturated	0.0			142.49	1.70	242.23	242.23	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	115.130	2.675	82.5	82.5	550.907	2.324	1.75		Unsaturated	2.7			108.82	1.70	184.99	184.99	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	68.390	2.416	102.5	102.5	293.479	3.535	2.03		Unsaturated	25.6			64.64	1.70	109.89	160.41	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	42.970	2.328	122.5	122.5	168.558	5.425	2.32		Unsaturated	48.3			40.61	1.70	69.04	132.54	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	35.190	2.129	143.8	143.8	127.350	6.061	2.42		Unsaturated	56.9			33.26	1.70	56.54	120.13	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	34.750	1.980	163.8	163.8	117.791	5.710	2.42		Unsaturated	56.7			32.84	1.70	55.84	119.18	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	33.930	1.939	185.0	185.0	108.164	5.731	2.44		Unsaturated	58.6			32.07	1.70	54.52	118.08	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	31.680	1.796	205.0	205.0	95.890	5.688	2.47		Unsaturated	60.8			29.94	1.70	50.90	114.13	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	35.480	1.516	225.0	225.0	102.514	4.287	2.36		Unsaturated	51.6			33.53	1.70	57.01	118.80	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	45.480	1.389	246.3	246.3	125.669	3.061	2.19		Unsaturated	38.1			42.99	1.70	73.08	131.17	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	78.270	1.189	266.3	266.3	208.201	1.522	1.81		Unsaturated	8.2			73.98	1.70	125.76	129.48	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	114.550	0.910	287.5	287.5	293.361	0.795	1.50		Unsaturated	0.0			108.27	1.70	184.06	184.06	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	135.840	0.561	307.5	307.5	336.423	0.413	1.26		Unsaturated	0.0			128.39	1.70	218.27	218.27	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	124.870	0.400	327.5	327.5	299.609	0.321	1.23		Unsaturated	0.0			118.02	1.70	200.64	200.64	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	102.330	0.529	348.8	348.8	237.836	0.518	1.44		Unsaturated	0.0			96.72	1.70	164.42	164.42	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	72.780	0.734	368.8	368.8	164.368	1.012	1.75		Unsaturated	3.3			68.79	1.70	116.94	116.95	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	50.820	0.859	390.0	390.0	111.456	1.697	2.03		Unsaturated	25.5			48.03	1.70	81.66	126.96	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	33.620	0.896	410.0	410.0	71.750	2.682	2.31		Unsaturated	47.6			31.78	1.70	54.02	113.24	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	27.980	0.968	430.0	430.0	58.215	3.487	2.45		Unsaturated	59.2			26.45	1.70	44.96	106.04	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	23.140	0.864	451.3	451.3	46.900	3.769	2.54		Unsaturated	66.4			21.87	1.70	37.18	97.88	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	19.030	0.777	471.3	471.3	50.831	4.135	2.55		Unsaturated	66.7			17.99	1.70	30.58	89.44	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	15.480	0.627	492.5	492.5	39.948	4.113	2.62		Unsaturated	72.5			14.63	1.70	24.87	83.17	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	23.870	0.538	512.5	512.5	45.351	2.277	2.40		Unsaturated	55.3			22.56	1.70	38.35	96.42	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	38.040	0.569	533.8	533.8	71.086	1.507	2.14		Unsaturated	34.1			35.95	1.70	61.12	113.05	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	37.830	0.784	553.8	553.8	69.384	2.086	2.24		Unsaturated	42.3			35.76	1.70	60.79	118.87	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	38.290	0.848	573.8	573.8	68.981	2.230	2.26		Unsaturated	44.0			36.19	1.70	61.52	120.83	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	45.100	0.803	595.0	595.0	79.858	1.793	2.15		Unsaturated	35.1			42.63	1.70	72.47	127.89	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	58.940	0.792	615.0	615.0	102.795	1.351	1.99		Unsaturated	22.0			55.71	1.70	94.57	135.37	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	62.120	0.705	636.3	636.3	106.527	1.141	1.93		Unsaturated	17.1			58.71	1.70	99.60	128.99	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	51.420	0.679	656.3	656.3	86.714	1.328	2.04		Unsaturated	26.0			48.60	1.68	81.57	127.65	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	38.390	0.711	676.3	676.3	63.620	1.869	2.24		Unsaturated	41.9			36.29	1.69	61.21	119.17	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	31.660	0.679	697.5	697.5	51.547	2.168	2.35		Unsaturated	50.8			29.92	1.70	50.73	110.51	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	29.000	0.632	717.5	717.5	46.489	2.208	2.39		Unsaturated	53.9			27.41	1.69	46.31	106.09	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	27.220	0.568	738.8	738.8	42.951	2.115	2.40		Unsaturated	55.0			25.73	1.68	43.21	102.52	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	19.660	0.534	758.8	758.8	30.433	2.767	2.59		Unsaturated	70.2			18.58	1.70	31.59	91.45	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	12.280	0.496	778.8	778.8	30.538	4.172	2.71		Unsaturated	79.6			11.61	1.70	19.73	77.60	0.99	0.372	1.089	n.a.	n.a.	n.a.	0.00	0.00
6.400	8.630	0.538	800.0	800.0	20.575	6.541	2.97		Unsaturated	100.0			8.16	1.70	13.87	72.10	0.99	0.372	1.083	n.a.	n.a.	n.a.	0.00	0.00
6.560	8.520	0.583	820.0	820.0	19.780	7.189	3.01		Unsaturated	100.0			8.05	1.70	13.69	71.87	0.99	0.372	1.081	n.a.	n.a.	n.a.	0.00	0.00
6.730	11.330	0.594	841.3	841.3	25.936	5.448	2.84		Unsaturated	90.0			10.71	1.67	17.88	76.44	0.99	0.371	1.082	n.a.	n.a.	n.a.	0.00	0.00
6.890	41.100	0.585	861.3	861.3	60.252	1.438	2.18		Unsaturated	37.4			38.85	1.52	59.24	113.59	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	38.880	0.515	881.3	881.3	56.299	1.338	2.18		Unsaturated	37.7			36.75	1.52	55.84	109.61	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	26.150	0.429	902.5	902.5	37.193	1.667	2.38		Unsaturated	53.8			24.72	1.54	38.11	95.61	0.98	0.371	1.088	n.a.	n.a.	n.a.	0.00	0.00
7.380	15.440	0.394	922.5	922.5	25.315	2.629	2.64		Unsaturated	74.1			14.59	1.57	22.92	80.91	0.98	0.370	1.076	n.a.	n.a.	n.a.	0.00	0.00
7.550	9.430	0.290	943.8	934.4	19.174	3.234	2.79		Unsaturated	86.1			8.91	1.59	14.20	71.21	0.98	0.370	1.069	n.a.	n.a.	n.a.	0.00	0.00
7.710	10.790	0.208	963.8	944.4	21.830	2.016	2.62		Unsaturated	72.6			10.20	1.58	16.13	71.89	0.98	0.370	1.069	n.a.	n.a.	n.a.	0.00	0.00
7.870	11.990	0.214	983.8	954.4	18.975	1.861	2.65		Unsaturated	75.0			11.33	1.56	17.72	74.33	0.98	0.370	1.069	n.a.	n.a.	n.a.	0.00	0.00
8.040	7.180	0.192	1005.0	965.1	13.838	2.880	2.87		Clay	92.7			6.79	1.23	n.a.	n.a.	0.98	0.370	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	5.690	0.198	1025.0	975.1	10.620	3.824	3.04		Clay	100.0			5.38	1.23	n.a.	n.a.	0.98	0.374	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	6.200	0.195	1046.3	985.7	11.518	3.435	2.98		Clay	100.0			5.86	1.22	n.a.	n.a.	0.98	0.377	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	5.400	0.138	1066.3	995.7	9.775	2.844	2.99		Clay	100.0			5.10	1.22	n.a.	n.a.	0.98	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	4.950	0.123	1086.3	1005.8	8.763	2.789	3.03		Clay	100.0			4.68	1.22	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	4.670	0.112	1107.5	1016.4	8.100	2.716	3.05		Clay	100.0			4.41	1.21	n.a.	n.a.	0.98	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	4.910	0.105	1127.5	1026.4	8.469	2.409	3.00		Clay	100.0			4.64	1.21	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	4.870	0.152	1148.8	1037.1	8.284	3.534	3.10		Clay	100.0			4.60	1.21	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	5.050	0.356	1168.8	1047.1	8.530	7.968	3.31		Clay	100.0			4.77	1.20	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	7.710	0.286	1188.8	1057.1	13.463	4.021	2.97		Clay	100.0			7.29	1.20	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	8.470	0.286	1210.0	1067.7	14.732	3.639	2.91		Clay	95.8			8.01	1.20	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	7.140	0.363	1230.0	1077.7	12.109	5.568	3.09		Clay	100.0			6.75	1.19	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	7.820	0.480	1251.3	1088.4	13.220	6.672	3.11		Clay	100.0			7.39	1.19	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	9.610	0.613	1271.3	1098.4	16.341	6.833	3.05		Clay	100.0			9.08	1.19	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	11.450	0.634	1291.3	1108.4	19.495	5.872	2.95		Clay	99.1			10.82	1.19	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	11.850	0.639	1312.5	1119.1	20.006	5.710	2.93		Clay	97.8			11.20	1.18	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	11.980	0.630	1332.5	1129.1	20.041	5.567	2.93		Clay	97.1			11.32	1.18	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	11.780	0.614	1353.8	1139.7	19.484	5.532	2.93		Clay	97.7			11.13	1.18	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	11.550	0.621	1373.8	1149.7	18.897	5.717	2.95		Clay	99.3			10.92	1.17	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	11.340	0.580	1393.8	1159.8	18.354	5.450	2.95		Clay	98.9			10.72	1.17	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.58

Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	10.820	0.553	1415.0	1170.4	17.281	5.469	2.97		Clay	100.0			10.23	1.17	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	10.040	0.537	1435.0	1180.4	15.795	5.757	3.01		Clay	100.0			9.49	1.17	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	9.660	0.513	1456.3	1191.1	14.998	5.740	3.03		Clay	100.0			9.13	1.16	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	9.870	0.540	1476.3	1201.1	15.206	5.912	3.03		Clay	100.0			9.33	1.16	n.a.	n.a.	0.96	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	10.660	0.576	1497.5	1211.7	16.359	5.813	3.00		Clay	100.0			10.08	1.16	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	11.860	0.641	1517.5	1221.7	18.173	5.772	2.97		Clay	100.0			11.21	1.16	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	11.450	0.619	1537.5	1231.7	17.343	5.798	2.98		Clay	100.0			10.82	1.15	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	10.380	0.554	1558.8	1242.4	15.455	5.775	3.02		Clay	100.0			9.81	1.15	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	9.050	0.455	1578.8	1252.4	13.192	5.512	3.06		Clay	100.0			8.55	1.15	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	8.950	0.399	1600.0	1263.0	12.905	4.893	3.04		Clay	100.0			8.46	1.15	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	9.300	0.392	1620.0	1273.1	13.338	4.612	3.01		Clay	100.0			8.79	1.14	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	9.060	0.363	1640.0	1283.1	12.844	4.403	3.01		Clay	100.0			8.56	1.14	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	8.170	0.309	1661.3	1293.7	11.346	4.209	3.04		Clay	100.0			7.72	1.14	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	7.000	0.254	1681.3	1303.7	9.449	4.117	3.10		Clay	100.0			6.62	1.14	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	7.090	0.273	1702.5	1314.4	9.493	4.379	3.11		Clay	100.0			6.70	1.13	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	7.600	0.328	1722.5	1324.4	10.176	4.870	3.11		Clay	100.0			7.18	1.13	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	8.030	0.370	1742.5	1334.4	10.730	5.169	3.11		Clay	100.0			7.59	1.13	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	8.030	0.366	1763.8	1345.0	10.629	5.124	3.11		Clay	100.0			7.59	1.13	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	8.130	0.324	1783.8	1355.1	10.683	4.475	3.08		Clay	100.0			7.68	1.12	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	8.260	0.350	1805.0	1365.7	10.775	4.756	3.09		Clay	100.0			7.81	1.12	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	8.640	0.387	1825.0	1375.7	11.234	5.002	3.09		Clay	100.0			8.17	1.12	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	10.130	0.432	1845.0	1385.7	13.289	4.692	3.01		Clay	100.0			9.57	1.12	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	10.030	0.459	1866.3	1396.4	13.029	5.040	3.04		Clay	100.0			9.48	1.12	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	9.810	0.413	1886.3	1406.4	12.609	4.659	3.03		Clay	100.0			9.27	1.11	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	9.990	0.414	1907.5	1417.0	12.754	4.584	3.02		Clay	100.0			9.44	1.11	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	10.410	0.488	1927.5	1427.1	13.239	5.165	3.04		Clay	100.0			9.84	1.11	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	11.320	0.512	1947.5	1437.1	14.399	4.946	3.00		Clay	100.0			10.70	1.11	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	11.990	0.547	1968.8	1447.7	15.204	4.966	2.98		Clay	100.0			11.33	1.11	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	12.420	0.561	1988.8	1457.7	15.676	4.907	2.97		Clay	100.0			11.74	1.10	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	11.530	0.633	2010.0	1468.4	14.336	6.018	3.06		Clay	100.0			10.90	1.10	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	10.330	0.619	2030.0	1478.4	12.602	6.645	3.13		Clay	100.0			9.76	1.10	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	10.140	0.589	2050.0	1488.4	12.248	6.456	3.13		Clay	100.0			9.58	1.10	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	10.090	0.519	2071.3	1499.0	12.080	5.728	3.10		Clay	100.0			9.54	1.10	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	10.300	0.473	2091.3	1509.1	12.265	5.114	3.06		Clay	100.0			9.74	1.09	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	10.450	0.465	2112.5	1519.7	12.363	4.954	3.05		Clay	100.0			9.88	1.09	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	11.240	0.502	2132.5	1529.7	13.301	4.935	3.03		Clay	100.0			10.62	1.09	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	12.010	0.547	2152.5	1539.7	14.202	5.002	3.01		Clay	100.0			11.35	1.09	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	12.570	0.559	2173.8	1550.4	14.813	4.870	2.99		Clay	100.0			11.88	1.09	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	13.510	0.574	2193.8	1560.4	15.910	4.622	2.95		Clay	98.9			12.77	1.08	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.810	14.190	0.570	2226.3	1576.7	16.588	4.356	2.92		Clay	96.5			13.41	1.08	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	13.890	0.566	2235.0	1581.0	16.157	4.434	2.93		Clay	97.6			13.13	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	13.020	0.557	2255.0	1591.1	14.949	4.681	2.97		Clay	100.0			12.31	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	12.080	0.487	2276.3	1601.7	13.663	4.452	2.99		Clay	100.0			11.42	1.08	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	10.380	0.392	2296.3	1611.7	11.456	4.249	3.04		Clay	100.0			9.81	1.07	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	9.070	0.444	2317.5	1622.4	9.753	5.606	3.17		Clay	100.0			8.57	1.07	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	10.580	0.489	2337.5	1632.4	11.531	5.193	3.09		Clay	100.0			10.00	1.07	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	10.970	0.508	2357.5	1642.4	11.923	5.188	3.08		Clay	100.0			10.37	1.07	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	10.700	0.516	2378.8	1653.0	11.507	5.428	3.10		Clay	100.0			10.11	1.07	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	10.630	0.533	2398.8	1663.1	11.341	5.648	3.12		Clay	100.0			10.05	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	10.840	0.603	2420.0	1673.7	11.507	6.258	3.14		Clay	100.0			10.25	1.06	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	11.490	0.632	2440.0	1683.7	12.199	6.152	3.12		Clay	100.0			10.86	1.06	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	10.970	0.626	2461.3	1694.4	11.496	6.428	3.15		Clay	100.0			10.37	1.06	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	10.400	0.592	2481.3	1704.4	10.748	6.460	3.17		Clay	100.0			9.83	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	10.140	0.581	2501.3	1714.4	10.370	6.539	3.19		Clay	100.0			9.58	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	10.930	0.583	2522.5	1725.0	11.210	6.032	3.14		Clay	100.0			10.33	1.06	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	11.660	0.596	2542.5	1735.0	11.975	5.739	3.10		Clay	100.0			11.02	1.05	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	11.350	0.595	2563.8	1745.7	11.535	5.908	3.12		Clay	100.0			10.73	1.05	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	10.640	0.584	2583.8	1755.7	10.649	6.243	3.17		Clay	100.0			10.06	1.05	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	9.810	0.567	2603.8	1765.7	9.637	6.662	3.22		Clay	100.0			9.27	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	9.790	0.571	2625.0	1776.4	9.545	6.731	3.22		Clay	100.0			9.25	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	10.570	0.616	2645.0	1786.4	10.353	6.658	3.19		Clay	100.0			9.99	1.05	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	12.150	0.683	2666.3	1797.0	12.039	6.315	3.13		Clay	100.0			11.48	1.04	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	14.070	0.667	2686.3	1807.0	14.086	5.238	3.02		Clay	100.0			13.30	1.04	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	13.640	0.674	2706.3	1817.1	13.524	5.483	3.05		Clay	100.0			12.89	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	11.260	0.621	2727.5	1827.7	10.829	6.272	3.16		Clay	100.0			10.64	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	9.870	0.587	2747.5	1837.7	9.247	6.909	3.24		Clay	100.0			9.33	1.04	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	10.050	0.558	2768.8	1848.4	9.377	6.440	3.22		Clay	100.0			9.50	1.04	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7	PGA (A_{max})	0.58	Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	10.940	0.539	2788.8	1858.4	10.273	5.649	3.15		Clay	100.0			10.34	1.03	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	11.220	0.523	2808.8	1868.4	10.507	5.332	3.13		Clay	100.0			10.60	1.03	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	10.770	0.503	2830.0	1879.0	9.957	5.379	3.15		Clay	100.0			10.18	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	10.420	0.478	2850.0	1889.0	9.523	5.310	3.16		Clay	100.0			9.85	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	10.240	0.474	2871.3	1899.7	9.269	5.379	3.17		Clay	100.0			9.68	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	10.690	0.498	2891.3	1909.7	9.682	5.385	3.16		Clay	100.0			10.10	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	12.340	0.512	2911.3	1919.7	11.340	4.706	3.07		Clay	100.0			11.66	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	13.170	0.541	2932.5	1930.4	12.126	4.625	3.04		Clay	100.0			12.45	1.02	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	16.180	0.565	2952.5	1940.4	15.156	3.845	2.92		Clay	96.2			15.29	1.02	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	19.450	0.591	2973.8	1951.0	18.414	3.290	2.81		Clay	87.6			18.38	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	19.660	0.607	2993.8	1961.0	18.524	3.343	2.81		Clay	87.7			18.58	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	19.980	0.625	3013.8	1971.0	18.744	3.385	2.81		Clay	87.7			18.88	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	20.520	0.723	3035.0	1981.7	19.178	3.806	2.83		Clay	89.6			19.40	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	23.290	0.818	3055.0	1991.7	21.853	3.760	2.79		Clay	85.9			22.01	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	26.060	0.962	3076.3	2002.3	24.493	3.923	2.76		Clay	83.8			24.63	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	26.520	1.074	3096.3	2012.4	24.818	4.301	2.78		Clay	85.6			25.07	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	27.830	1.094	3116.3	2022.4	25.981	4.166	2.76		Clay	83.7			26.30	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	29.810	1.246	3137.5	2033.0	27.783	4.413	2.75		Clay	83.3			28.18	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	31.330	1.317	3157.5	2043.0	29.125	4.428	2.74		Clay	82.2			29.61	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	32.120	1.320	3178.8	2053.7	29.733	4.322	2.73		Clay	81.1			30.36	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	30.300	1.277	3198.8	2063.7	27.815	4.450	2.76		Clay	83.5			28.64	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	26.950	1.084	3218.8	2073.7	24.440	4.279	2.79		Clay	85.9			25.47	1.01	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	23.760	0.948	3240.0	2084.4	21.244	4.282	2.83		Clay	89.6			22.46	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	23.250	0.967	3260.0	2094.4	20.646	4.472	2.85		Clay	91.3			21.98	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	24.580	0.941	3281.3	2105.0	21.795	4.100	2.81		Clay	87.9			23.23	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	25.280	0.952	3301.3	2115.0	22.344	4.029	2.80		Clay	86.8			23.89	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	24.020	0.957	3321.3	2125.0	21.044	4.279	2.83		Clay	89.8			22.70	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	25.440	0.970	3342.5	2135.7	22.259	4.082	2.80		Clay	87.2			24.05	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	27.800	1.038	3362.5	2145.7	24.345	3.974	2.77		Clay	84.3			26.28	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	28.380	1.098	3383.8	2156.3	24.753	4.115	2.77		Clay	84.6			26.82	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	28.750	1.132	3403.8	2166.4	24.971	4.183	2.77		Clay	84.8			27.17	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	28.560	1.150	3425.0	2177.0	24.665	4.282	2.78		Clay	85.7			26.99	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	27.910	1.223	3445.0	2187.0	23.948	4.669	2.82		Clay	88.4			26.38	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	27.410	1.205	3465.0	2197.0	23.375	4.693	2.83		Clay	89.2			25.91	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	27.140	1.108	3486.3	2207.7	23.008	4.364	2.81		Clay	87.9			25.65	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	25.340	0.981	3506.3	2217.7	21.272	4.161	2.82		Clay	88.9			23.95	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	23.000	0.651	3527.5	2228.3	19.060	3.063	2.78		Clay	85.1			21.74	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	20.770	0.675	3547.5	2238.3	16.973	3.552	2.86		Clay	91.4			19.63	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	19.060	0.715	3567.5	2248.4	15.368	4.136	2.93		Clay	97.4			18.02	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	22.720	0.740	3588.8	2259.0	18.526	3.535	2.82		Clay	88.9			21.47	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	23.630	0.803	3608.8	2269.0	19.238	3.678	2.82		Clay	88.8			22.33	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	22.710	0.875	3630.0	2279.7	18.332	4.187	2.87		Clay	93.0			21.47	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	22.380	0.922	3650.0	2289.7	17.954	4.484	2.90		Clay	95.0			21.15	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	21.970	0.907	3670.0	2299.7	17.511	4.503	2.91		Clay	95.8			20.77	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	20.780	0.792	3691.3	2310.3	16.391	4.181	2.91		Clay	95.9			19.64	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	19.050	0.666	3711.3	2320.4	14.820	3.875	2.93		Clay	97.0			18.01	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	17.940	0.593	3732.5	2331.0	13.791	3.689	2.94		Clay	97.9			16.96	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	16.560	0.537	3752.5	2341.0	12.545	3.660	2.97		Clay	100.0			15.65	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	16.050	0.445	3772.5	2351.0	12.049	3.140	2.94		Clay	98.4			15.17	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	14.580	0.386	3793.8	2361.7	10.741	3.040	2.97		Clay	100.0			13.78	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	13.880	0.377	3813.8	2371.7	10.097	3.152	3.01		Clay	100.0			13.12	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	13.520	0.424	3835.0	2382.3	9.740	3.658	3.06		Clay	100.0			12.78	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	14.600	0.376	3855.0	2392.3	10.594	2.968	2.97		Clay	100.0			13.80	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	16.870	0.374	3875.0	2402.4	12.432	2.505	2.87		Clay	93.0			15.95	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	17.020	0.440	3896.3	2413.0	12.492	2.918	2.91		Clay	95.9			16.09	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	19.130	0.562	3916.3	2423.0	14.174	3.270	2.90		Clay	94.6			18.08	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	22.710	0.601	3937.5	2433.7	17.045	2.900	2.80		Clay	87.0			21.47	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	24.050	0.530	3957.5	2443.7	18.064	2.400	2.73		Clay	81.5			22.73	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	25.080	0.527	3977.5	2453.7	18.822	2.281	2.70		Clay	79.3			23.71	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	26.010	0.526	3998.8	2464.3	19.487	2.192	2.68		Clay	77.5			24.58	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	25.310	0.519	4018.8	2474.4	18.834	2.227	2.70		Clay	78.8			23.92	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	23.300	0.516	4040.0	2485.0	17.127	2.425	2.75		Clay	83.2			22.02	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	22.290	0.505	4060.0	2495.0	16.240	2.491	2.78		Clay	85.2			21.07	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	22.950	0.508	4080.0	2505.0	16.694	2.431	2.76		Clay	84.0			21.69	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	23.420	0.513	4101.3	2515.7	16.989	2.401	2.75		Clay	83.2			22.14	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	22.440	0.490	4121.3	2525.7	16.138	2.402	2.77		Clay	84.7			21.21	0.95	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	22.490	0.552	4142.5	2536.3	16.101	2.704	2.80		Clay	87.2			21.26	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7	PGA (A_{max})	0.58	Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	24.290	0.671	4162.5	2546.3	17.444	3.023	2.80		Clay	87.2			22.96	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	30.460	0.741	4182.5	2556.4	22.195	2.611	2.68		Clay	77.5			28.79	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	30.970	0.762	4203.8	2567.0	22.492	2.639	2.68		Clay	77.4			29.27	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	27.540	0.739	4223.8	2577.0	19.735	2.905	2.75		Clay	83.0			26.03	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	25.030	0.674	4245.0	2587.7	17.705	2.943	2.79		Clay	86.3			23.66	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	26.300	0.737	4265.0	2597.7	18.607	3.047	2.78		Clay	85.6			24.86	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	27.950	0.919	4285.0	2607.7	19.793	3.561	2.80		Clay	87.3			26.42	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	29.050	1.113	4306.3	2618.3	20.545	4.137	2.83		Clay	89.7			27.46	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	31.360	1.168	4326.3	2628.3	22.217	3.999	2.80		Clay	86.8			29.64	0.94	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	31.390	0.902	4347.5	2639.0	22.142	3.088	2.73		Clay	81.2			29.67	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	30.100	1.034	4367.5	2649.0	21.077	3.704	2.79		Clay	86.5			28.45	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	32.430	1.224	4387.5	2659.0	22.742	4.047	2.79		Clay	86.5			30.65	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	38.400	1.550	4408.8	2669.7	27.116	4.281	2.75		Clay	83.2			36.29	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	41.160	1.675	4428.8	2679.7	29.067	4.300	2.73		Clay	81.5			38.90	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	39.600	1.472	4450.0	2690.3	27.785	3.938	2.72		Clay	80.6			37.43	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	33.940	1.235	4470.0	2700.3	23.482	3.896	2.77		Clay	84.8			32.08	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	28.310	0.935	4491.3	2711.0	19.229	3.587	2.82		Clay	88.3			26.76	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	23.570	0.787	4511.3	2721.0	15.667	3.692	2.89		Clay	94.5			22.28	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	16.440	0.660	4531.3	2731.0	10.380	4.655	3.10		Clay	100.0			15.54	0.93	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	14.350	0.646	4552.5	2741.7	8.808	5.354	3.19		Clay	100.0			13.56	0.93	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	14.100	0.621	4572.5	2751.7	8.587	5.253	3.19		Clay	100.0			13.33	0.93	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	13.560	0.541	4593.8	2762.3	8.155	4.802	3.19		Clay	100.0			12.82	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	13.010	0.523	4613.8	2772.3	7.721	4.887	3.21		Clay	100.0			12.30	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	12.000	0.430	4633.8	2782.3	6.960	4.437	3.22		Clay	100.0			11.34	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	11.970	0.419	4655.0	2793.0	6.905	4.346	3.22		Clay	100.0			11.31	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	11.680	0.385	4675.0	2803.0	6.666	4.116	3.22		Clay	100.0			11.04	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	11.770	0.368	4696.3	2813.6	6.697	3.902	3.20		Clay	100.0			11.12	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	12.160	0.384	4716.3	2823.7	6.943	3.916	3.19		Clay	100.0			11.49	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	12.330	0.401	4736.3	2833.7	7.031	4.021	3.20		Clay	100.0			11.65	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	13.760	0.331	4757.5	2844.3	8.003	2.911	3.07		Clay	100.0			13.01	0.92	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	14.390	0.326	4777.5	2854.3	8.409	2.720	3.04		Clay	100.0			13.60	0.92	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	13.860	0.397	4798.8	2865.0	8.001	3.462	3.11		Clay	100.0			13.10	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	17.330	0.535	4818.8	2875.0	10.380	3.584	3.03		Clay	100.0			16.38	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	18.700	0.684	4838.8	2885.0	11.286	4.204	3.04		Clay	100.0			17.67	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	18.030	0.814	4860.0	2895.6	10.775	5.216	3.11		Clay	100.0			17.04	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	18.350	0.520	4880.0	2905.7	10.951	3.267	2.99		Clay	100.0			17.34	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	23.580	0.395	4901.3	2916.3	14.491	1.869	2.75		Clay	82.9			22.29	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	20.870	0.492	4921.3	2926.3	12.582	2.674	2.89		Clay	93.9			19.73	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	14.900	0.514	4941.3	2936.3	8.466	4.136	3.14		Clay	100.0			14.08	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	16.390	0.465	4962.5	2947.0	9.439	3.342	3.04		Clay	100.0			15.49	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	18.780	0.509	4982.5	2957.0	11.017	3.125	2.97		Clay	100.0			17.75	0.92	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	16.100	0.518	5003.8	2967.6	9.164	3.811	3.09		Clay	100.0			15.22	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	16.400	0.560	5023.8	2977.7	9.328	4.033	3.10		Clay	100.0			15.50	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	16.540	0.583	5043.8	2987.7	9.384	4.162	3.10		Clay	100.0			15.63	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	17.640	0.490	5065.0	2998.3	10.077	3.241	3.01		Clay	100.0			16.67	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	19.530	0.479	5085.0	3008.3	11.294	2.817	2.94		Clay	98.0			18.46	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	17.540	0.586	5106.3	3019.0	9.928	3.909	3.07		Clay	100.0			16.58	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	16.200	0.637	5126.3	3029.0	9.004	4.673	3.15		Clay	100.0			15.31	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	19.980	0.456	5146.3	3039.0	11.456	2.618	2.91		Clay	96.2			18.88	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	21.520	0.624	5167.5	3049.6	12.419	3.295	2.94		Clay	98.5			20.34	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	19.230	0.660	5187.5	3059.7	10.875	3.967	3.04		Clay	100.0			18.18	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	21.660	0.692	5208.8	3070.3	12.413	3.633	2.97		Clay	100.0			20.47	0.91	n.a.	n.a.	0.80	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	26.070	0.705	5228.8	3080.3	15.229	3.004	2.85		Clay	90.9			24.64	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	24.010	0.690	5248.8	3090.3	13.840	3.226	2.90		Clay	95.0			22.69	0.90	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	21.580	0.636	5270.0	3101.0	12.219	3.359	2.95		Clay	99.3			20.40	0.90	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	21.090	0.614	5290.0	3111.0	11.858	3.328	2.96		Clay	100.0			19.93	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	21.790	0.463	5311.3	3121.6	12.259	2.420	2.87		Clay	92.7			20.60	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	23.380	0.494	5331.3	3131.7	13.229	2.384	2.84		Clay	90.2			22.10	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	21.340	0.520	5351.3	3141.7	11.882	2.785	2.92		Clay	96.4			20.17	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	24.400	0.703	5372.5	3152.3	13.776	3.237	2.90		Clay	95.2			23.06	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	27.390	1.024	5392.5	3162.3	15.617	4.147	2.93		Clay	97.0			25.89	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	26.100	1.269	5413.8	3173.0	14.745	5.426	3.02		Clay	100.0			24.67	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	28.320	1.353	5433.8	3183.0	16.088	5.286	2.98		Clay	100.0			26.77	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	26.610	1.286	5455.0	3193.6	14.956	5.384	3.01		Clay	100.0			25.15	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	26.530	1.239	5475.0	3203.6	14.853	5.206	3.01		Clay	100.0			25.08	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	27.020	1.223	5495.0	3213.7	15.106	5.040	2.99		Clay	100.0			25.54	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	29.440	1.273	5516.3	3224.3	16.551	4.769	2.94		Clay	98.6			27.83	0.89	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.58

Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	31.190	1.278	5536.3	3234.3	17.575	4.496	2.91		Clay	95.7			29.48	0.89	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	30.270	1.222	5557.5	3245.0	16.944	4.445	2.92		Clay	96.4			28.61	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	27.640	1.032	5577.5	3255.0	15.270	4.152	2.93		Clay	97.7			26.12	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	25.630	0.866	5597.5	3265.0	13.986	3.793	2.94		Clay	98.1			24.22	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	23.360	0.775	5618.8	3275.6	12.548	3.773	2.98		Clay	100.0			22.08	0.89	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	22.400	0.764	5638.8	3285.6	11.919	3.900	3.00		Clay	100.0			21.17	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	22.100	0.812	5660.0	3296.3	11.692	4.212	3.03		Clay	100.0			20.89	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	21.770	0.777	5680.0	3306.3	11.451	4.106	3.03		Clay	100.0			20.58	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	20.970	0.747	5700.0	3316.3	10.928	4.124	3.05		Clay	100.0			19.82	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	19.280	0.641	5721.3	3327.0	9.870	3.906	3.07		Clay	100.0			18.22	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	17.390	0.582	5741.3	3337.0	8.702	4.009	3.12		Clay	100.0			16.44	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	16.230	0.518	5762.5	3347.6	7.975	3.881	3.14		Clay	100.0			15.34	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	16.290	0.493	5782.5	3357.6	7.981	3.679	3.13		Clay	100.0			15.40	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	15.300	0.498	5802.5	3367.7	7.363	4.015	3.18		Clay	100.0			14.46	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	16.170	0.558	5823.8	3378.3	7.849	4.211	3.17		Clay	100.0			15.28	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	17.320	0.608	5843.8	3388.3	8.499	4.220	3.14		Clay	100.0			16.37	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	17.250	0.593	5865.0	3399.0	8.425	4.143	3.14		Clay	100.0			16.30	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.260	0.505	5885.0	3409.0	7.813	3.794	3.14		Clay	100.0			15.37	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	15.860	0.450	5905.0	3419.0	7.550	3.485	3.13		Clay	100.0			14.99	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	15.390	0.445	5926.3	3429.6	7.247	3.581	3.16		Clay	100.0			14.55	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	16.050	0.484	5946.3	3439.6	7.604	3.699	3.15		Clay	100.0			15.17	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	16.500	0.470	5967.5	3450.3	7.835	3.475	3.12		Clay	100.0			15.60	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	17.250	0.507	5987.5	3460.3	8.240	3.558	3.11		Clay	100.0			16.30	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	17.790	0.532	6007.5	3470.3	8.522	3.597	3.10		Clay	100.0			16.81	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	18.330	0.598	6028.8	3481.0	8.800	3.905	3.11		Clay	100.0			17.33	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	18.670	0.668	6048.8	3491.0	8.963	4.266	3.12		Clay	100.0			17.65	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	19.850	0.760	6070.0	3501.6	9.604	4.517	3.11		Clay	100.0			18.76	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	20.860	0.788	6090.0	3511.6	10.146	4.423	3.09		Clay	100.0			19.72	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	21.390	0.784	6110.0	3521.6	10.413	4.278	3.07		Clay	100.0			20.22	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	21.720	0.673	6131.3	3532.3	10.562	3.609	3.02		Clay	100.0			20.53	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	24.310	0.672	6151.3	3542.3	11.989	3.166	2.95		Clay	98.7			22.98	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	21.850	0.700	6172.5	3552.9	10.562	3.730	3.03		Clay	100.0			20.65	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	17.770	0.712	6192.5	3563.0	8.237	4.854	3.19		Clay	100.0			16.80	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	19.160	0.667	6212.5	3573.0	8.986	4.157	3.12		Clay	100.0			18.11	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	19.830	0.765	6233.8	3583.6	9.328	4.575	3.13		Clay	100.0			18.74	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	20.910	0.795	6253.8	3593.6	9.897	4.471	3.10		Clay	100.0			19.76	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	20.750	0.779	6275.0	3604.3	9.773	4.424	3.10		Clay	100.0			19.61	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	19.120	0.678	6295.0	3614.3	8.839	4.243	3.13		Clay	100.0			18.07	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	20.280	0.671	6315.0	3624.3	9.449	3.921	3.08		Clay	100.0			19.17	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	20.400	0.714	6336.3	3635.0	9.481	4.141	3.10		Clay	100.0			19.28	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	19.350	0.685	6356.3	3645.0	8.874	4.238	3.13		Clay	100.0			18.29	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	18.630	0.680	6377.5	3655.6	8.448	4.405	3.15		Clay	100.0			17.61	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	18.750	0.687	6397.5	3665.6	8.485	4.417	3.15		Clay	100.0			17.72	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	18.490	0.667	6418.8	3676.3	8.313	4.367	3.16		Clay	100.0			17.48	0.86	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	17.630	0.571	6438.8	3686.3	7.819	3.960	3.15		Clay	100.0			16.66	0.86	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	17.290	0.565	6458.8	3696.3	7.608	4.018	3.17		Clay	100.0			16.34	0.86	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	17.160	0.498	6480.0	3706.9	7.510	3.574	3.14		Clay	100.0			16.22	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	16.340	0.459	6500.0	3717.0	7.043	3.506	3.16		Clay	100.0			15.44	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	15.570	0.424	6521.3	3727.6	6.604	3.445	3.18		Clay	100.0			14.72	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	15.400	0.405	6541.3	3737.6	6.490	3.337	3.18		Clay	100.0			14.56	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	16.150	0.441	6561.3	3747.6	6.868	3.426	3.16		Clay	100.0			15.26	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	17.190	0.432	6582.5	3758.3	7.396	3.111	3.11		Clay	100.0			16.25	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	17.440	0.434	6602.5	3768.3	7.504	3.069	3.11		Clay	100.0			16.48	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	16.760	0.425	6623.8	3778.9	7.117	3.163	3.13		Clay	100.0			15.84	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	16.310	0.397	6643.8	3789.0	6.856	3.054	3.14		Clay	100.0			15.42	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	15.810	0.384	6663.8	3799.0	6.569	3.077	3.15		Clay	100.0			14.94	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	15.640	0.393	6685.0	3809.6	6.456	3.199	3.17		Clay	100.0			14.78	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	16.230	0.410	6705.0	3819.6	6.743	3.186	3.15		Clay	100.0			15.34	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	16.650	0.436	6726.3	3830.3	6.938	3.283	3.15		Clay	100.0			15.74	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	16.620	0.462	6746.3	3840.3	6.899	3.490	3.17		Clay	100.0			15.71	0.85	n.a.	n.a.	0.74	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	16.890	0.471	6766.3	3850.3	7.016	3.486	3.16		Clay	100.0			15.96	0.85	n.a.	n.a.	0.73	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	17.610	0.479	6787.5	3860.9	7.364	3.369	3.14		Clay	100.0			16.64	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	19.080	0.543	6807.5	3871.0	8.099	3.461	3.11		Clay	100.0			18.03	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	21.270	0.635	6828.8	3881.6	9.200	3.554	3.07		Clay	100.0			20.10	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	23.000	0.689	6848.8	3891.6	10.060	3.520	3.03		Clay	100.0			21.74	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	23.260	0.702	6868.8	3901.6	10.163	3.542	3.03		Clay	100.0			21.98	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	23.940	0.751	6890.0	3912.3	10.477	3.666	3.03		Clay	100.0			22.63	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.58

Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1\,atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
55.280	23.800	0.837	6910.0	3922.3	10.374	4.113	3.06		Clay	100.0			22.50	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	24.590	0.913	6931.3	3932.9	10.742	4.322	3.06		Clay	100.0			23.24	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	26.080	1.033	6951.3	3942.9	11.466	4.571	3.06		Clay	100.0			24.65	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	26.450	1.110	6971.3	3953.0	11.619	4.834	3.07		Clay	100.0			25.00	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	28.920	1.133	6992.5	3963.6	12.829	4.457	3.01		Clay	100.0			27.33	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	31.200	1.115	7012.5	3973.6	13.939	4.025	2.96		Clay	99.5			29.49	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	30.120	1.066	7033.8	3984.3	13.354	4.006	2.97		Clay	100.0			28.47	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	29.320	1.039	7053.8	3994.3	12.915	4.029	2.98		Clay	100.0			27.71	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	28.370	1.007	7073.8	4004.3	12.403	4.055	3.00		Clay	100.0			26.81	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	28.840	0.941	7095.0	4014.9	12.599	3.720	2.97		Clay	100.0			27.26	0.84	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	30.730	0.965	7115.0	4025.0	13.502	3.552	2.93		Clay	97.7			29.05	0.84	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	31.690	1.023	7136.3	4035.6	13.937	3.638	2.93		Clay	97.3			29.95	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	29.860	1.097	7156.3	4045.6	12.993	4.175	2.99		Clay	100.0			28.22	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	27.560	1.017	7176.3	4055.6	11.822	4.242	3.03		Clay	100.0			26.05	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	27.170	1.012	7197.5	4066.3	11.594	4.292	3.04		Clay	100.0			25.68	0.84	n.a.	n.a.	0.72	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	28.340	1.046	7217.5	4076.3	12.134	4.228	3.02		Clay	100.0			26.79	0.84	n.a.	n.a.	0.71	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	28.770	1.188	7238.8	4086.9	12.308	4.723	3.04		Clay	100.0			27.19	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	29.140	1.161	7258.8	4096.9	12.453	4.549	3.03		Clay	100.0			27.54	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	28.550	1.105	7278.8	4107.0	12.131	4.435	3.03		Clay	100.0			26.98	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	26.850	0.962	7300.0	4117.6	11.269	4.144	3.04		Clay	100.0			25.38	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	26.870	0.902	7320.0	4127.6	11.246	3.885	3.02		Clay	100.0			25.40	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	25.780	0.812	7341.3	4138.3	10.685	3.674	3.02		Clay	100.0			24.37	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	24.790	0.748	7361.3	4148.3	10.177	3.544	3.03		Clay	100.0			23.43	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	26.020	0.696	7382.5	4158.9	10.738	3.119	2.98		Clay	100.0			24.59	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	26.280	0.704	7402.5	4168.9	10.832	3.117	2.98		Clay	100.0			24.84	0.84	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	25.520	0.777	7422.5	4178.9	10.437	3.564	3.02		Clay	100.0			24.12	0.84	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	25.090	0.773	7443.8	4189.6	10.201	3.617	3.04		Clay	100.0			23.71	0.84	n.a.	n.a.	0.71	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	24.550	0.775	7463.8	4199.6	9.914	3.724	3.05		Clay	100.0			23.20	0.83	n.a.	n.a.	0.70	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	24.160	0.821	7485.0	4210.2	9.699	4.020	3.08		Clay	100.0			22.84	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	25.370	0.853	7505.0	4220.3	10.245	3.944	3.06		Clay	100.0			23.98	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	27.980	0.998	7525.0	4230.3	11.450	4.121	3.03		Clay	100.0			26.45	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	37.550	1.019	7546.3	4240.9	15.929	3.017	2.83		Clay	89.7			35.49	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	34.590	0.989	7566.3	4250.9	14.494	3.211	2.88		Clay	93.6			32.69	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	32.110	0.764	7587.5	4261.6	13.289	2.696	2.87		Clay	92.5			30.35	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	30.140	0.603	7607.5	4271.6	12.331	2.289	2.86		Clay	91.5			28.49	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	29.620	0.590	7627.5	4281.6	12.054	2.285	2.86		Clay	92.1			28.00	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	29.290	0.628	7648.8	4292.3	11.866	2.465	2.89		Clay	94.0			27.68	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	29.470	0.626	7668.8	4302.3	11.917	2.442	2.88		Clay	93.7			27.85	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	29.240	0.750	7690.0	4312.9	11.776	2.955	2.93		Clay	97.8			27.64	0.83	n.a.	n.a.	0.70	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	28.510	0.809	7710.0	4322.9	11.407	3.282	2.97		Clay	100.0			26.95	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	27.680	0.800	7730.0	4332.9	10.993	3.359	2.99		Clay	100.0			26.16	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	28.180	0.784	7751.3	4343.6	11.191	3.225	2.97		Clay	100.0			26.64	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	24.150	0.693	7771.3	4353.6	9.309	3.420	3.05		Clay	100.0			22.83	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	23.570	0.698	7792.5	4364.2	9.016	3.547	3.08		Clay	100.0			22.28	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	23.300	0.754	7812.5	4374.3	8.867	3.886	3.10		Clay	100.0			22.02	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	24.360	0.751	7832.5	4384.3	9.326	3.673	3.07		Clay	100.0			23.02	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	24.850	0.841	7853.8	4394.9	9.522	4.018	3.09		Clay	100.0			23.49	0.82	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	22.740	1.476	7873.8	4404.9	8.537	7.848	3.30		Clay	100.0			21.49	0.82	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	25.540	2.647	7895.0	4415.6	9.780	12.260	3.39		Clay	100.0			24.14	0.82	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.320	87.870	3.294	7915.0	4425.6	37.921	3.926	2.62		Clay	72.6			83.05	0.82	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	186.220	3.517	7935.0	4435.6	118.979	1.929	2.05		Sand	27.2			176.01	0.78	137.33	195.69	0.69	0.458	0.815	1.495	2.680	5.85	0.00	0.00
63.650	102.690	2.285	7956.3	4446.3	64.364	2.315	2.30		Sand	46.7			97.06	0.73	70.44	133.47	0.68	0.458	0.897	0.209	0.280	0.61	0.02	0.00
63.810	52.250	1.541	7976.3	4456.3	21.660	3.193	2.74		Clay	82.5			49.39	0.82	n.a.	n.a.	0.68	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	26.030	0.908	7997.5	4466.9	9.864	4.122	3.08		Clay	100.0			24.60	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	21.870	0.793	8017.5	4476.9	7.979	4.438	3.18		Clay	100.0			20.67	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	18.260	0.765	8037.5	4486.9	6.348	5.370	3.30		Clay	100.0			17.26	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	16.110	0.633	8058.8	4497.6	5.372	5.237	3.36		Clay	100.0			15.23	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.630	15.450	0.590	8078.8	4507.6	5.063	5.173	3.37		Clay	100.0			14.60	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.800	15.070	0.564	8100.0	4518.2	4.878	5.121	3.39		Clay	100.0			14.24	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.960	14.830	0.535	8120.0	4528.3	4.757	4.963	3.39		Clay	100.0			14.02	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.120	14.900	0.535	8140.0	4538.3	4.773	4.942	3.38		Clay	100.0			14.08	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.290	15.420	0.546	8161.3	4548.9	4.986	4.819	3.36		Clay	100.0			14.57	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.450	15.800	0.553	8181.3	4558.9	5.137	4.725	3.35		Clay	100.0			14.93	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.620	15.780	0.529	8202.5	4569.6	5.112	4.528	3.34		Clay	100.0			14.91	0.82	n.a.	n.a.	0.68	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	16.070	0.540	8222.5	4579.6	5.223	4.515	3.33		Clay	100.0			15.19	0.82	n.a.	n.a.	0.67	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	17.380	0.534	8242.5	4589.6	5.778	4.029	3.27		Clay	100.0			16.43	0.82	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	17.480	0.560	8263.8	4600.2	5.803	4.194	3.27		Clay	100.0			16.52	0.81	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	7

PGA (A_{max})	0.58

Total Settlement:	0.00	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
66.270	17.710	0.843	8283.8	4610.3	5.886	6.215	3.37		Clay	100.0			16.74	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	19.900	1.572	8305.0	4620.9	6.816	9.981	3.45		Clay	100.0			18.81	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	29.760	1.332	8325.0	4630.9	11.055	5.204	3.10		Clay	100.0			28.13	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	49.670	0.916	8346.3	4641.6	19.604	2.013	2.66		Clay	75.6			46.95	0.81	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	52.820	0.658	8366.3	4651.6	31.005	1.353	2.40		Sand	54.7			49.92	0.66	33.08	89.52	0.67	0.450	0.923	0.125	0.140	0.31	0.04	0.00
67.090	32.660	0.625	8386.3	4661.6	12.213	2.196	2.85		Clay	90.9			30.87	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	20.650	0.566	8407.5	4672.2	7.040	3.440	3.16		Clay	100.0			19.52	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	22.080	0.655	8427.5	4682.3	7.631	3.668	3.14		Clay	100.0			20.87	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	24.120	0.826	8448.8	4692.9	8.479	4.150	3.14		Clay	100.0			22.80	0.81	n.a.	n.a.	0.67	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	26.530	0.931	8468.8	4702.9	9.482	4.174	3.10		Clay	100.0			25.08	0.81	n.a.	n.a.	0.66	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	29.900	1.079	8488.8	4712.9	10.887	4.205	3.05		Clay	100.0			28.26	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	31.690	1.203	8510.0	4723.6	11.616	4.386	3.04		Clay	100.0			29.95	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	33.010	1.119	8530.0	4733.6	12.145	3.893	2.99		Clay	100.0			31.20	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	30.050	1.000	8551.3	4744.2	10.866	3.879	3.03		Clay	100.0			28.40	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	28.550	0.885	8571.3	4754.2	10.207	3.649	3.04		Clay	100.0			26.98	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	28.950	1.027	8591.3	4764.3	10.350	4.164	3.07		Clay	100.0			27.36	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	31.140	1.166	8612.5	4774.9	11.240	4.345	3.05		Clay	100.0			29.43	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	32.790	1.197	8632.5	4784.9	11.901	4.204	3.02		Clay	100.0			30.99	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	31.880	1.062	8653.8	4795.6	11.491	3.856	3.01		Clay	100.0			30.13	0.81	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	29.390	0.936	8673.8	4805.6	10.427	3.735	3.04		Clay	100.0			27.78	0.81	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	26.660	0.841	8693.8	4815.6	9.267	3.767	3.08		Clay	100.0			25.20	0.80	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	26.280	0.757	8715.0	4826.2	9.085	3.452	3.07		Clay	100.0			24.84	0.80	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	24.350	0.699	8735.0	4836.2	8.264	3.497	3.10		Clay	100.0			23.02	0.80	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	21.800	0.693	8756.3	4846.9	7.189	3.975	3.18		Clay	100.0			20.60	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	21.250	0.632	8776.3	4856.9	6.943	3.748	3.18		Clay	100.0			20.09	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	21.380	0.653	8796.3	4866.9	6.978	3.845	3.19		Clay	100.0			20.21	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	20.340	0.727	8817.5	4877.6	6.532	4.561	3.25		Clay	100.0			19.22	0.80	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	20.360	0.672	8837.5	4887.6	6.523	4.217	3.23		Clay	100.0			19.24	0.80	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	22.400	0.663	8858.8	4898.2	7.338	3.687	3.16		Clay	100.0			21.17	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	20.120	0.573	8878.8	4908.2	6.390	3.655	3.21		Clay	100.0			19.02	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	19.350	0.542	8898.8	4918.3	6.059	3.639	3.22		Clay	100.0			18.29	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	18.730	0.531	8920.0	4928.9	5.790	3.720	3.25		Clay	100.0			17.70	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	18.100	0.503	8940.0	4938.9	5.519	3.688	3.26		Clay	100.0			17.11	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	19.190	0.529	8961.3	4949.6	5.944	3.594	3.23		Clay	100.0			18.14	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	18.420	0.456	8981.3	4959.6	5.617	3.270	3.23		Clay	100.0			17.41	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	17.310	0.402	9001.3	4969.6	5.155	3.134	3.25		Clay	100.0			16.36	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	16.870	0.418	9022.5	4980.2	4.963	3.378	3.28		Clay	100.0			15.95	0.80	n.a.	n.a.	0.65	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	16.880	0.474	9042.5	4990.2	4.953	3.839	3.31		Clay	100.0			15.95	0.80	n.a.	n.a.	0.64	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	17.650	0.496	9063.8	5000.9	5.246	3.783	3.29		Clay	100.0			16.68	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	18.670	0.511	9083.8	5010.9	5.639	3.615	3.25		Clay	100.0			17.65	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	18.720	0.560	9103.8	5020.9	5.644	3.950	3.27		Clay	100.0			17.69	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	19.200	0.574	9125.0	5031.6	5.818	3.919	3.26		Clay	100.0			18.15	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	20.110	0.623	9145.0	5041.6	6.164	4.010	3.24		Clay	100.0			19.01	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	20.800	0.677	9166.3	5052.2	6.420	4.175	3.24		Clay	100.0			19.66	0.79	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	22.490	0.741	9186.3	5062.2	7.071	4.142	3.20		Clay	100.0			21.26	0.79	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	24.000	0.763	9206.3	5072.3	7.648	3.935	3.16		Clay	100.0			22.68	0.79	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	23.960	0.716	9227.5	5082.9	7.612	3.703	3.15		Clay	100.0			22.65	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	24.430	0.713	9247.5	5092.9	7.778	3.601	3.13		Clay	100.0			23.09	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	28.420	0.783	9268.8	5103.6	9.321	3.290	3.04		Clay	100.0			26.86	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	26.900	0.844	9288.8	5113.6	8.705	3.793	3.10		Clay	100.0			25.43	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	27.310	0.854	9310.0	5124.2	8.842	3.769	3.10		Clay	100.0			25.81	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	26.360	0.819	9330.0	5134.2	8.451	3.773	3.11		Clay	100.0			24.91	0.79	n.a.	n.a.	0.63	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	26.480	0.817	9350.0	5144.2	8.477	3.745	3.11		Clay	100.0			25.03	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	25.290	1.962	9371.3	5154.9	7.994	9.520	3.38		Clay	100.0			23.90	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.130	26.070	1.695	9391.3	5164.9	8.277	7.928	3.32		Clay	100.0			24.64	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.300	33.400	1.620	9412.5	5175.5	11.088	5.645	3.13		Clay	100.0			31.57	0.79	n.a.	n.a.	0.63	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8	PGA (A_{max})	0.58	Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	381.580	1.158	20.0	20.0	3709.637	0.303	0.71		Unsaturated	0.0			360.66	1.70	613.12	613.12	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	198.990	1.269	41.3	41.3	1346.934	0.638	1.08		Unsaturated	0.0			188.08	1.70	319.74	319.74	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	140.080	1.985	61.3	61.3	778.037	1.417	1.49		Unsaturated	0.0			132.40	1.70	225.08	225.08	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	104.710	2.198	82.5	82.5	501.028	2.100	1.72		Unsaturated	0.9			98.97	1.70	168.25	168.25	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	61.120	2.560	102.5	102.5	262.258	4.192	2.12		Unsaturated	32.7			57.77	1.70	98.21	156.79	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	36.460	3.141	122.5	122.5	142.985	8.630	2.53		Unsaturated	65.0			34.46	1.70	58.58	125.10	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	52.280	3.536	143.8	143.8	189.324	6.772	2.37		Unsaturated	52.8			49.41	1.70	84.00	153.54	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	56.050	3.628	163.8	163.8	190.161	6.482	2.36		Unsaturated	51.4			52.98	1.70	90.06	160.60	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	60.910	3.348	185.0	185.0	194.408	5.506	2.29		Unsaturated	46.1			57.57	1.70	97.87	167.66	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	43.640	3.121	205.0	205.0	132.208	7.168	2.48		Unsaturated	61.0			41.25	1.70	70.12	138.81	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	41.440	2.275	225.0	225.0	119.790	5.504	2.40		Unsaturated	55.3			39.17	1.70	66.59	132.40	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	40.850	2.424	246.3	246.3	112.841	5.951	2.45		Unsaturated	58.8			38.61	1.70	65.64	132.36	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	39.060	2.435	266.3	266.3	103.723	6.254	2.49		Unsaturated	61.9			36.92	1.70	62.76	129.62	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	39.450	2.336	287.5	287.5	100.789	5.944	2.48		Unsaturated	61.0			37.29	1.70	63.39	130.18	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	37.550	2.278	307.5	307.5	92.721	6.091	2.51		Unsaturated	63.4			35.49	1.70	60.34	126.94	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	35.380	2.218	327.5	327.5	84.608	6.299	2.54		Unsaturated	66.3			33.44	1.70	56.85	123.18	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	31.800	2.138	348.8	348.8	105.598	6.760	2.51		Unsaturated	63.7			30.06	1.70	51.10	115.14	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	30.790	2.067	368.8	368.8	98.280	6.754	2.53		Unsaturated	65.1			29.10	1.70	49.47	113.41	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	30.660	1.990	390.0	390.0	94.066	6.531	2.53		Unsaturated	65.1			28.98	1.70	49.26	113.13	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	29.920	1.934	410.0	410.0	88.594	6.508	2.54		Unsaturated	66.2			28.28	1.70	48.08	111.87	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	26.220	1.798	430.0	430.0	74.990	6.913	2.61		Unsaturated	71.4			24.78	1.70	42.13	105.30	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	25.730	1.518	451.3	451.3	71.105	5.953	2.57		Unsaturated	68.5			24.32	1.70	41.34	103.69	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	28.640	1.597	471.3	471.3	76.822	5.622	2.53		Unsaturated	65.2			27.07	1.70	46.02	109.00	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	33.130	1.389	492.5	492.5	64.424	4.225	2.48		Unsaturated	61.6			31.31	1.70	53.23	117.34	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	33.480	1.113	512.5	512.5	63.808	3.349	2.41		Unsaturated	56.0			31.64	1.70	53.80	116.32	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	46.830	0.610	533.8	533.8	87.628	1.309	2.03		Unsaturated	25.4			44.26	1.70	75.25	119.23	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	48.820	0.520	553.8	553.8	89.690	1.070	1.97		Unsaturated	20.2			46.14	1.70	78.44	113.08	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	41.230	0.590	573.8	573.8	74.318	1.441	2.11		Unsaturated	31.9			38.97	1.70	66.25	117.10	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	33.260	0.769	595.0	595.0	58.754	2.333	2.33		Unsaturated	49.2			31.44	1.70	53.44	113.24	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	30.090	0.932	615.0	615.0	52.215	3.131	2.45		Unsaturated	59.2			28.44	1.70	48.35	110.38	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	25.250	0.942	636.3	636.3	42.975	3.778	2.57		Unsaturated	68.6			23.87	1.70	40.57	102.72	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	23.390	0.739	656.3	656.3	39.141	3.205	2.55		Unsaturated	67.0			22.11	1.70	37.58	98.53	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	21.960	0.772	676.3	676.3	45.414	3.568	2.54		Unsaturated	65.8			20.76	1.70	35.29	95.32	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	19.730	0.860	697.5	697.5	39.836	4.436	2.64		Unsaturated	74.4			18.65	1.70	31.70	92.34	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	14.410	0.832	717.5	717.5	39.167	5.920	2.74		Unsaturated	82.0			13.62	1.70	23.15	82.37	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	12.380	0.666	738.8	738.8	32.516	5.547	2.77		Unsaturated	84.9			11.70	1.70	19.89	78.48	0.99	0.372	1.095	n.a.	n.a.	n.a.	0.00	0.00
6.070	15.900	0.551	758.8	758.8	30.076	3.549	2.66		Unsaturated	76.2			15.03	1.70	25.55	84.65	0.99	0.372	1.097	n.a.	n.a.	n.a.	0.00	0.00
6.230	26.280	0.608	778.8	778.8	40.338	2.347	2.45		Unsaturated	59.0			24.84	1.64	40.81	100.69	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	24.730	0.574	800.0	800.0	37.400	2.358	2.48		Unsaturated	61.2			23.37	1.63	38.13	97.84	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	17.440	0.626	820.0	820.0	31.255	3.677	2.66		Unsaturated	76.0			16.48	1.65	27.22	86.79	0.99	0.372	1.091	n.a.	n.a.	n.a.	0.00	0.00
6.730	13.370	0.616	841.3	841.3	30.786	4.759	2.74		Unsaturated	82.5			12.64	1.66	20.94	79.55	0.99	0.371	1.084	n.a.	n.a.	n.a.	0.00	0.00
6.890	13.880	0.620	861.3	861.3	31.232	4.613	2.73		Unsaturated	81.4			13.12	1.63	21.43	80.05	0.98	0.371	1.082	n.a.	n.a.	n.a.	0.00	0.00
7.050	17.610	0.676	881.3	881.3	38.966	3.935	2.61		Unsaturated	72.0			16.64	1.59	26.54	85.26	0.98	0.371	1.083	n.a.	n.a.	n.a.	0.00	0.00
7.220	17.200	0.573	902.5	902.5	28.744	3.421	2.67		Unsaturated	76.5			16.26	1.58	25.62	84.80	0.98	0.371	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.380	14.880	0.506	922.5	922.5	31.260	3.511	2.65		Unsaturated	74.9			14.06	1.57	22.13	80.03	0.98	0.370	1.075	n.a.	n.a.	n.a.	0.00	0.00
7.550	11.000	0.463	943.8	943.8	22.311	4.399	2.82		Unsaturated	88.9			10.40	1.57	16.36	74.33	0.98	0.370	1.070	n.a.	n.a.	n.a.	0.00	0.00
7.710	16.510	0.363	963.8	963.8	26.271	2.263	2.59		Unsaturated	69.8			15.60	1.53	23.91	81.46	0.98	0.370	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.870	11.380	0.312	983.8	983.8	22.136	2.861	2.71		Unsaturated	79.5			10.76	1.54	16.56	73.48	0.98	0.370	1.066	n.a.	n.a.	n.a.	0.00	0.00
8.040	8.310	0.245	1005.0	1005.0	15.537	3.135	2.85		Clay	91.2			7.85	1.22	n.a.	n.a.	0.98	0.370	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	6.040	0.233	1025.0	1025.0	10.785	4.215	3.06		Clay	100.0			5.71	1.21	n.a.	n.a.	0.98	0.374	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	5.840	0.249	1046.3	1041.9	10.206	4.689	3.10		Clay	100.0			5.52	1.21	n.a.	n.a.	0.98	0.377	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	5.830	0.244	1066.3	1051.9	10.071	4.603	3.10		Clay	100.0			5.51	1.20	n.a.	n.a.	0.98	0.381	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	6.120	0.281	1086.3	1061.9	10.503	5.030	3.11		Clay	100.0			5.78	1.20	n.a.	n.a.	0.98	0.384	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	6.640	0.306	1107.5	1072.6	11.349	5.031	3.09		Clay	100.0			6.28	1.20	n.a.	n.a.	0.98	0.387	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	7.290	0.339	1127.5	1082.6	12.426	5.035	3.06		Clay	100.0			6.89	1.19	n.a.	n.a.	0.98	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	7.220	0.365	1148.8	1093.2	12.158	5.488	3.09		Clay	100.0			6.82	1.19	n.a.	n.a.	0.98	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	7.360	0.350	1168.8	1103.2	12.283	5.169	3.07		Clay	100.0			6.96	1.19	n.a.	n.a.	0.97	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	7.150	0.335	1188.8	1113.2	11.777	5.110	3.08		Clay	100.0			6.76	1.18	n.a.	n.a.	0.97	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	6.440	0.247	1210.0	1123.9	10.384	4.235	3.07		Clay	100.0			6.09	1.18	n.a.	n.a.	0.97	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	5.830	0.181	1230.0	1133.9	9.198	3.465	3.06		Clay	100.0			5.51	1.18	n.a.	n.a.	0.97	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	5.060	0.127	1251.3	1144.5	7.749	2.864	3.08		Clay	100.0			4.78	1.18	n.a.	n.a.	0.97	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	4.360	0.141	1271.3	1154.6	6.452	3.775	3.21		Clay	100.0			4.12	1.17	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	4.120	0.226	1291.3	1164.6	5.967	6.502	3.38		Clay	100.0			3.89	1.17	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	5.550	0.309	1312.5	1175.2	8.328	6.314	3.25		Clay	100.0			5.25	1.17	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	8.300	0.416	1332.5	1185.2	12.881	5.455	3.07		Clay	100.0			7.84	1.17	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	8.850	0.517	1353.8	1195.9	13.669	6.326	3.09		Clay	100.0			8.36	1.16	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	9.550	0.572	1373.8	1205.9	14.700	6.455	3.07		Clay	100.0			9.03	1.16	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	9.960	0.654	1393.8	1215.9	15.237	7.057	3.08		Clay	100.0			9.41	1.16	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	10.320	0.710	1415.0	1226.6	15.674	7.387	3.09		Clay	100.0			9.75	1.15	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	11.330	0.750	1435.0	1236.6	17.164	7.062	3.05		Clay	100.0			10.71	1.15	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	11.490	0.720	1456.3	1247.2	17.258	6.688	3.03		Clay	100.0			10.86	1.15	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	11.150	0.694	1476.3	1257.2	16.563	6.662	3.04		Clay	100.0			10.54	1.15	n.a.	n.a.	0.96	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	10.620	0.627	1497.5	1267.9	15.571	6.353	3.05		Clay	100.0			10.04	1.14	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	11.100	0.687	1517.5	1277.9	16.185	6.639	3.05		Clay	100.0			10.49	1.14	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	11.580	0.685	1537.5	1287.9	16.789	6.336	3.02		Clay	100.0			10.95	1.14	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	12.480	0.683	1558.8	1298.5	18.021	5.836	2.97		Clay	100.0			11.80	1.14	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	12.820	0.706	1578.8	1308.6	18.388	5.868	2.97		Clay	100.0			12.12	1.14	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	13.270	0.751	1600.0	1319.2	18.905	6.018	2.97		Clay	100.0			12.54	1.13	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	13.360	0.810	1620.0	1329.2	18.883	6.454	2.99		Clay	100.0			12.63	1.13	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	13.250	0.785	1640.0	1339.2	18.563	6.314	2.99		Clay	100.0			12.52	1.13	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	13.080	0.759	1661.3	1349.9	18.149	6.194	2.99		Clay	100.0			12.36	1.13	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	12.210	0.699	1681.3	1359.9	16.721	6.146	3.01		Clay	100.0			11.54	1.12	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	11.140	0.680	1702.5	1370.5	15.014	6.607	3.07		Clay	100.0			10.53	1.12	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	10.150	0.629	1722.5	1380.5	13.457	6.775	3.11		Clay	100.0			9.59	1.12	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	9.670	0.606	1742.5	1390.6	12.655	6.888	3.14		Clay	100.0			9.14	1.12	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	9.830	0.593	1763.8	1401.2	12.772	6.626	3.12		Clay	100.0			9.29	1.11	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	10.380	0.600	1783.8	1411.2	13.447	6.319	3.09		Clay	100.0			9.81	1.11	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	10.630	0.644	1805.0	1421.9	13.683	6.616	3.10		Clay	100.0			10.05	1.11	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	10.810	0.677	1825.0	1431.9	13.824	6.842	3.11		Clay	100.0			10.22	1.11	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	10.750	0.702	1845.0	1441.9	13.631	7.143	3.12		Clay	100.0			10.16	1.11	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	10.250	0.650	1866.3	1452.5	12.828	6.979	3.14		Clay	100.0			9.69	1.10	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	9.180	0.580	1886.3	1462.6	11.264	7.043	3.18		Clay	100.0			8.68	1.10	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	8.830	0.483	1907.5	1473.2	10.693	6.131	3.16		Clay	100.0			8.35	1.10	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	9.420	0.539	1927.5	1483.2	11.403	6.368	3.15		Clay	100.0			8.90	1.10	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	10.640	0.658	1947.5	1493.2	12.947	6.803	3.13		Clay	100.0			10.06	1.10	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	12.030	0.695	1968.8	1503.9	14.690	6.294	3.06		Clay	100.0			11.37	1.09	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	13.300	0.698	1988.8	1513.9	16.257	5.672	3.00		Clay	100.0			12.57	1.09	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	13.300	0.723	2010.0	1524.5	16.130	5.879	3.01		Clay	100.0			12.57	1.09	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	12.890	0.762	2030.0	1534.5	15.477	6.415	3.05		Clay	100.0			12.18	1.09	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	12.900	0.802	2050.0	1544.6	15.377	6.752	3.07		Clay	100.0			12.19	1.09	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	13.150	0.839	2071.3	1555.2	15.579	6.925	3.07		Clay	100.0			12.43	1.08	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	13.470	0.831	2091.3	1565.2	15.876	6.688	3.05		Clay	100.0			12.73	1.08	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	14.420	0.841	2112.5	1575.9	16.961	6.292	3.02		Clay	100.0			13.63	1.08	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	14.830	0.861	2132.5	1585.9	17.358	6.252	3.01		Clay	100.0			14.02	1.08	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	14.670	0.848	2152.5	1595.9	17.036	6.235	3.01		Clay	100.0			13.87	1.08	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	14.970	0.776	2173.8	1606.5	17.283	5.591	2.98		Clay	100.0			14.15	1.08	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	13.170	0.661	2193.8	1616.6	14.937	5.473	3.02		Clay	100.0			12.45	1.07	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	10.990	0.518	2215.0	1627.2	12.147	5.237	3.07		Clay	100.0			10.39	1.07	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	9.670	0.447	2235.0	1637.2	10.448	5.229	3.12		Clay	100.0			9.14	1.07	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	9.700	0.441	2255.0	1647.2	10.408	5.144	3.12		Clay	100.0			9.17	1.07	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	10.160	0.545	2276.3	1657.9	10.884	6.040	3.15		Clay	100.0			9.60	1.07	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	11.340	0.686	2296.3	1667.9	12.221	6.731	3.14		Clay	100.0			10.72	1.06	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	13.400	0.768	2317.5	1678.5	14.586	6.272	3.06		Clay	100.0			12.67	1.06	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	14.770	0.831	2337.5	1688.5	16.110	6.106	3.02		Clay	100.0			13.96	1.06	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	15.940	0.888	2357.5	1698.6	17.381	6.016	2.99		Clay	100.0			15.07	1.06	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	17.830	0.948	2378.8	1709.2	19.472	5.694	2.94		Clay	98.4			16.85	1.06	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	18.830	1.007	2398.8	1719.2	20.510	5.714	2.93		Clay	97.1			17.80	1.06	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	18.860	0.995	2420.0	1729.9	20.406	5.639	2.92		Clay	97.0			17.83	1.05	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	18.440	0.977	2440.0	1739.9	19.795	5.675	2.94		Clay	97.9			17.43	1.05	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	17.380	0.930	2461.3	1750.5	18.451	5.757	2.96		Clay	100.0			16.43	1.05	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	16.540	0.901	2481.3	1760.5	17.380	5.891	2.99		Clay	100.0			15.63	1.05	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	15.470	0.874	2501.3	1770.5	16.062	6.144	3.03		Clay	100.0			14.62	1.05	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	14.760	0.828	2522.5	1781.2	15.157	6.135	3.05		Clay	100.0			13.95	1.05	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	13.830	0.774	2542.5	1791.2	14.023	6.166	3.07		Clay	100.0			13.07	1.04	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	13.040	0.705	2563.8	1801.8	13.051	5.996	3.09		Clay	100.0			12.33	1.04	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	12.310	0.705	2583.8	1811.9	12.162	6.395	3.13		Clay	100.0			11.64	1.04	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	11.300	0.674	2603.8	1821.9	10.976	6.745	3.18		Clay	100.0			10.68	1.04	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	10.610	0.655	2625.0	1832.5	10.147	7.041	3.22		Clay	100.0			10.03	1.04	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	11.400	0.678	2645.0	1842.5	10.939	6.724	3.18		Clay	100.0			10.78	1.04	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	12.380	0.747	2666.3	1853.2	11.922	6.760	3.15		Clay	100.0			11.70	1.04	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	13.600	0.790	2686.3	1863.2	13.157	6.444	3.11		Clay	100.0			12.85	1.03	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	13.420	0.750	2706.3	1873.2	12.884	6.213	3.10		Clay	100.0			12.68	1.03	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	11.870	0.605	2727.5	1883.9	11.154	5.758	3.13		Clay	100.0			11.22	1.03	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	10.260	0.538	2747.5	1893.9	9.384	6.059	3.20		Clay	100.0			9.70	1.03	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	9.370	0.495	2768.8	1904.5	8.386	6.200	3.25		Clay	100.0			8.86	1.03	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8	PGA (A_{max})	0.58	Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	10.310	0.489	2788.8	1914.5	9.314	5.480	3.18		Clay	100.0			9.74	1.03	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	12.710	0.563	2808.8	1924.5	11.749	4.976	3.07		Clay	100.0			12.01	1.03	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	14.480	0.701	2830.0	1935.2	13.503	5.362	3.05		Clay	100.0			13.69	1.02	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	16.270	0.842	2850.0	1945.2	15.263	5.673	3.02		Clay	100.0			15.38	1.02	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	18.400	0.903	2871.3	1955.8	17.347	5.324	2.96		Clay	99.8			17.39	1.02	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	19.260	0.955	2891.3	1965.9	18.124	5.363	2.95		Clay	98.9			18.20	1.02	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	20.340	0.978	2911.3	1975.9	19.115	5.177	2.92		Clay	96.7			19.22	1.02	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	23.030	0.992	2932.5	1986.5	21.710	4.602	2.85		Clay	90.6			21.77	1.02	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	23.260	1.001	2952.5	1996.5	21.822	4.595	2.84		Clay	90.5			21.98	1.02	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	22.580	0.981	2973.8	2007.2	21.018	4.649	2.86		Clay	91.7			21.34	1.01	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	22.270	0.994	2993.8	2017.2	20.596	4.787	2.87		Clay	92.9			21.05	1.01	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	22.400	1.150	3013.8	2027.2	20.613	5.505	2.91		Clay	96.1			21.17	1.01	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	22.900	1.161	3035.0	2037.8	20.985	5.431	2.90		Clay	95.4			21.64	1.01	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	22.700	1.111	3055.0	2047.9	20.678	5.249	2.90		Clay	94.9			21.46	1.01	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	21.310	0.978	3076.3	2058.5	19.210	4.944	2.91		Clay	95.5			20.14	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	20.190	0.842	3096.3	2068.5	18.024	4.515	2.90		Clay	95.1			19.08	1.01	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	19.230	0.520	3116.3	2078.5	17.004	2.941	2.80		Clay	87.4			18.18	1.00	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	18.400	0.550	3137.5	2089.2	16.113	3.269	2.85		Clay	91.1			17.39	1.00	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	18.460	0.597	3157.5	2099.2	16.084	3.537	2.87		Clay	92.8			17.45	1.00	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	20.140	0.726	3178.8	2109.8	17.585	3.913	2.87		Clay	92.6			19.04	1.00	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	20.280	0.817	3198.8	2119.9	17.624	4.375	2.90		Clay	95.0			19.17	1.00	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	20.670	0.924	3218.8	2129.9	17.898	4.847	2.92		Clay	96.9			19.54	1.00	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	21.210	0.888	3240.0	2140.5	18.304	4.532	2.90		Clay	94.8			20.05	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	20.370	0.764	3260.0	2150.5	17.428	4.076	2.88		Clay	93.7			19.25	1.00	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	17.930	0.628	3281.3	2161.2	15.075	3.857	2.92		Clay	96.4			16.95	0.99	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	17.520	0.609	3301.3	2171.2	14.618	3.838	2.93		Clay	97.2			16.56	0.99	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	18.900	0.691	3321.3	2181.2	15.807	4.009	2.91		Clay	96.0			17.86	0.99	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	20.190	0.784	3342.5	2191.8	16.898	4.236	2.90		Clay	95.4			19.08	0.99	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	20.720	0.829	3362.5	2201.9	17.293	4.354	2.90		Clay	95.4			19.58	0.99	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	21.560	0.802	3383.8	2212.5	17.960	4.035	2.87		Clay	92.7			20.38	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	21.790	0.743	3403.8	2222.5	18.077	3.698	2.84		Clay	90.6			20.60	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	20.830	0.739	3425.0	2233.2	17.121	3.864	2.88		Clay	93.0			19.69	0.99	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	19.560	0.692	3445.0	2243.2	15.904	3.881	2.90		Clay	95.1			18.49	0.98	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	18.760	0.650	3465.0	2253.2	15.114	3.817	2.91		Clay	96.1			17.73	0.98	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	18.710	0.587	3486.3	2263.8	14.990	3.461	2.89		Clay	94.3			17.68	0.98	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	17.280	0.590	3506.3	2273.9	13.657	3.799	2.95		Clay	98.8			16.33	0.98	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	15.610	0.518	3527.5	2284.5	12.122	3.738	2.98		Clay	100.0			14.75	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	15.460	0.556	3547.5	2294.5	11.930	4.062	3.01		Clay	100.0			14.61	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	15.610	0.495	3567.5	2304.5	11.999	3.581	2.98		Clay	100.0			14.75	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	14.960	0.579	3588.8	2315.2	11.373	4.399	3.05		Clay	100.0			14.14	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	13.590	0.485	3608.8	2325.2	10.137	4.114	3.07		Clay	100.0			12.84	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	14.020	0.356	3630.0	2335.8	10.450	2.918	2.97		Clay	100.0			13.25	0.97	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	12.560	0.394	3650.0	2345.8	9.152	3.666	3.08		Clay	100.0			11.87	0.97	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	13.700	0.539	3670.0	2355.9	10.073	4.544	3.10		Clay	100.0			12.95	0.97	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	18.180	0.689	3691.3	2366.5	13.805	4.217	2.97		Clay	100.0			17.18	0.97	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	18.250	0.791	3711.3	2376.5	13.797	4.823	3.01		Clay	100.0			17.25	0.97	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	17.890	0.770	3732.5	2387.2	13.425	4.805	3.02		Clay	100.0			16.91	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	17.160	0.685	3752.5	2397.2	12.751	4.485	3.02		Clay	100.0			16.22	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	16.930	0.696	3772.5	2407.2	12.499	4.626	3.03		Clay	100.0			16.00	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	17.670	0.715	3793.8	2417.8	13.047	4.530	3.01		Clay	100.0			16.70	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	18.900	0.763	3813.8	2427.8	13.999	4.491	2.98		Clay	100.0			17.86	0.96	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	19.070	0.793	3835.0	2438.5	14.068	4.621	2.99		Clay	100.0			18.02	0.96	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	18.800	0.766	3855.0	2448.5	13.782	4.540	2.99		Clay	100.0			17.77	0.96	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	17.540	0.628	3875.0	2458.5	12.693	4.024	2.99		Clay	100.0			16.58	0.96	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	15.920	0.519	3896.3	2469.2	11.317	3.713	3.01		Clay	100.0			15.05	0.96	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	16.410	0.499	3916.3	2479.2	11.659	3.454	2.98		Clay	100.0			15.51	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	15.830	0.544	3937.5	2489.8	11.134	3.927	3.03		Clay	100.0			14.96	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	16.750	0.581	3957.5	2499.8	11.818	3.933	3.01		Clay	100.0			15.83	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	20.470	0.430	3977.5	2509.9	14.727	2.327	2.80		Clay	86.7			19.35	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	18.170	0.328	3998.8	2520.5	12.831	2.031	2.81		Clay	88.0			17.17	0.95	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	15.730	0.328	4018.8	2530.5	10.844	2.393	2.91		Clay	96.0			14.87	0.95	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	13.480	0.379	4040.0	2541.2	9.020	3.309	3.06		Clay	100.0			12.74	0.95	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	15.550	0.442	4060.0	2551.2	10.599	3.271	3.00		Clay	100.0			14.70	0.95	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	16.430	0.469	4080.0	2561.2	11.237	3.261	2.98		Clay	100.0			15.53	0.95	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	15.680	0.535	4101.3	2571.8	10.599	3.925	3.04		Clay	100.0			14.82	0.95	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	15.450	0.658	4121.3	2581.8	10.372	4.914	3.11		Clay	100.0			14.60	0.95	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	17.710	0.796	4142.5	2592.5	12.065	5.089	3.07		Clay	100.0			16.74	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	23.090	1.096	4162.5	2602.5	16.145	5.214	2.98		Clay	100.0			21.82	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	29.900	1.533	4182.5	2612.5	21.289	5.514	2.90		Clay	95.3			28.26	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	35.190	1.714	4203.8	2623.2	25.228	5.180	2.83		Clay	89.5			33.26	0.94	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	42.660	2.063	4223.8	2633.2	30.798	5.089	2.76		Clay	84.1			40.32	0.94	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	58.800	2.506	4245.0	2643.8	42.876	4.421	2.62		Clay	72.5			55.58	0.94	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	63.810	3.007	4265.0	2653.8	46.482	4.876	2.62		Clay	73.0			60.31	0.94	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	74.460	3.376	4285.0	2663.8	60.920	4.669	2.53		Sand	65.5	113.72	1.36	154.66	0.94	144.86	236.26	0.85	0.518	0.931	29.535	60.489	116.86	0.00	0.00
34.450	80.750	3.529	4306.3	2674.5	66.078	4.490	2.50		Sand	62.6	113.72	1.36	154.66	0.94	144.65	234.95	0.85	0.517	0.930	26.004	53.189	102.78	0.00	0.00
34.610	84.240	3.744	4326.3	2684.5	68.875	4.562	2.49		Sand	62.1	113.72	1.36	154.66	0.93	144.48	234.53	0.85	0.517	0.929	24.973	51.019	98.61	0.00	0.00
34.780	95.170	2.997	4347.5	2695.1	77.884	3.223	2.34		Sand	50.3	113.72	1.36	154.66	0.93	144.06	228.36	0.84	0.517	0.927	14.198	28.968	56.00	0.00	0.00
34.940	105.110	3.546	4367.5	2705.2	86.040	3.445	2.33		Sand	49.7	113.72	1.36	154.66	0.93	143.87	227.79	0.84	0.517	0.926	13.503	27.517	53.21	0.00	0.00
35.100	108.740	3.496	4387.5	2715.2	88.902	3.281	2.31		Sand	47.6	113.72	1.36	154.66	0.93	143.65	226.23	0.84	0.517	0.925	11.812	24.043	46.50	0.00	0.00
35.270	114.270	3.301	4408.8	2725.8	93.325	2.945	2.26		Sand	43.7	113.72	1.36	154.66	0.93	143.34	223.03	0.84	0.517	0.924	9.061	18.420	35.64	0.00	0.00
35.430	115.440	2.615	4428.8	2735.8	94.118	2.310	2.18		Sand	37.3	113.72	1.36	154.66	0.92	142.89	216.61	0.84	0.517	0.923	5.524	11.216	21.71	0.00	0.00
35.600	120.320	2.440	4450.0	2746.5	97.975	2.066	2.13		Sand	33.5		1.36	154.66	0.92	142.49	211.71	0.84	0.517	0.922	3.907	7.922	15.34	0.00	0.00
35.760	112.750	2.441	4470.0	2756.5	91.520	2.209	2.17		Sand	36.8	113.72	1.36	154.66	0.92	142.52	215.66	0.84	0.516	0.921	5.156	10.443	20.22	0.00	0.00
35.930	94.600	2.694	4491.3	2767.1	76.333	2.917	2.31		Sand	48.2	113.72	1.36	154.66	0.92	142.81	225.52	0.84	0.516	0.920	11.130	22.515	43.61	0.00	0.00
36.090	64.160	2.227	4511.3	2777.2	51.073	3.597	2.50		Sand	63.1	113.72	1.36	154.66	0.92	143.01	233.03	0.84	0.516	0.918	21.667	43.778	84.82	0.00	0.00
36.250	37.390	1.815	4531.3	2787.2	25.204	5.168	2.83		Clay	89.5			35.34	0.93	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	27.570	1.232	4552.5	2797.8	18.081	4.872	2.92		Clay	96.7			26.06	0.93	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	37.060	1.207	4572.5	2807.8	24.769	3.472	2.72		Clay	80.8			35.03	0.93	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	33.440	0.989	4593.8	2818.5	22.099	3.175	2.74		Clay	81.8			31.61	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	40.000	1.486	4613.8	2828.5	26.653	3.942	2.73		Clay	81.7			37.81	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	49.240	1.518	4633.8	2838.5	33.062	3.235	2.61		Clay	71.6			46.54	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	45.470	1.990	4655.0	2849.1	30.285	4.611	2.74		Clay	82.1			42.98	0.92	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	72.590	2.857	4675.0	2859.2	57.123	4.067	2.51		Sand	63.5	180.89	1.41	255.05	0.92	235.58	352.09	0.83	0.515	0.910	#########	########	##########	0.00	0.00
37.570	114.140	4.019	4696.3	2869.8	90.731	3.595	2.33		Sand	49.6	180.89	1.41	255.05	0.92	235.35	343.37	0.83	0.515	0.909	#########	########	##########	0.00	0.00
37.730	160.740	4.910	4716.3	2879.8	128.320	3.100	2.19		Sand	38.0	180.89	1.41	255.05	0.92	235.14	331.23	0.83	0.514	0.908	#########	########	##########	0.00	0.00
37.890	184.640	5.313	4736.3	2889.8	147.420	2.915	2.13		Sand	33.3	180.89	1.41	255.05	0.92	234.92	323.98	0.83	0.514	0.906	#########	########	##########	0.00	0.00
38.060	191.380	6.062	4757.5	2900.5	152.582	3.207	2.15		Sand	35.2		1.41	255.05	0.92	234.69	326.79	0.83	0.514	0.905	#########	########	##########	0.00	0.00
38.220	187.170	7.035	4777.5	2910.5	148.918	3.807	2.22		Sand	40.5		1.41	249.44	0.92	229.32	327.20	0.82	0.514	0.904	#########	########	##########	0.00	0.00
38.390	168.880	6.802	4798.8	2921.1	133.925	4.086	2.27		Sand	44.7		1.41	225.07	0.92	206.71	303.20	0.82	0.513	0.903	#########	########	3841866.98	0.00	0.00
38.550	143.080	6.288	4818.8	2931.2	112.968	4.470	2.35		Sand	50.7		1.41	190.68	0.92	174.97	267.78	0.82	0.513	0.902	1394.440	2767.863	5392.71	0.00	0.00
38.710	144.670	5.284	4838.8	2941.2	114.042	3.714	2.28		Sand	45.4		1.41	192.80	0.92	176.76	266.26	0.82	0.513	0.901	1113.682	2208.071	4303.86	0.00	0.00
38.880	124.090	4.306	4860.0	2951.8	97.359	3.540	2.31		Sand	47.6	136.74	1.41	192.80	0.92	176.59	267.70	0.82	0.513	0.900	1378.174	2729.188	5322.00	0.00	0.00
39.040	91.050	3.371	4880.0	2961.8	70.791	3.805	2.42		Sand	56.8	136.74	1.41	192.80	0.92	176.44	273.07	0.82	0.513	0.899	3145.841	6222.652	12139.63	0.00	0.00
39.210	62.560	2.927	4901.3	2972.5	40.444	4.869	2.67		Clay	76.3			59.13	0.91	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	68.590	2.560	4921.3	2982.5	52.647	3.871	2.52		Sand	64.2			64.83	0.86	55.46	120.87	0.82	0.512	0.957	0.173	0.231	0.45	0.03	0.05
39.530	55.840	2.066	4941.3	2992.5	35.669	3.871	2.64		Clay	73.8			52.78	0.91	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	33.910	1.828	4962.5	3003.1	20.931	5.815	2.93		Clay	97.0			32.05	0.91	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	23.590	1.557	4982.5	3013.2	14.004	7.381	3.12		Clay	100.0			22.30	0.91	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	27.900	1.410	5003.8	3023.8	16.799	5.551	2.98		Clay	100.0			26.37	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	28.240	1.381	5023.8	3033.8	16.961	5.369	2.97		Clay	100.0			26.69	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	22.150	1.057	5043.8	3043.8	12.897	5.383	3.06		Clay	100.0			20.94	0.91	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	16.350	0.823	5065.0	3054.5	9.047	5.958	3.21		Clay	100.0			15.45	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	15.230	0.654	5085.0	3064.5	8.280	5.156	3.20		Clay	100.0			14.40	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	15.420	0.855	5106.3	3075.1	8.368	6.644	3.27		Clay	100.0			14.57	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	13.940	1.212	5126.3	3085.1	7.375	10.649	3.44		Clay	100.0			13.18	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	20.840	1.500	5146.3	3095.2	11.804	8.210	3.21		Clay	100.0			19.70	0.90	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	40.500	1.279	5167.5	3105.8	24.416	3.372	2.72		Clay	80.5			38.28	0.90	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	37.890	1.170	5187.5	3115.8	22.656	3.314	2.74		Clay	82.1			35.81	0.90	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	24.390	1.068	5208.8	3126.5	13.936	4.904	3.01		Clay	100.0			23.05	0.90	n.a.	n.a.	0.80	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	23.300	0.849	5228.8	3136.5	13.190	4.105	2.98		Clay	100.0			22.02	0.90	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	21.370	0.865	5248.8	3146.5	11.915	4.615	3.05		Clay	100.0			20.20	0.90	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	21.730	0.835	5270.0	3157.1	12.096	4.372	3.03		Clay	100.0			20.54	0.90	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	20.480	0.827	5290.0	3167.2	11.262	4.637	3.07		Clay	100.0			19.36	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	19.150	0.739	5311.3	3177.8	10.381	4.482	3.09		Clay	100.0			18.10	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	17.490	0.629	5331.3	3187.8	9.301	4.244	3.11		Clay	100.0			16.53	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	16.220	0.570	5351.3	3197.8	8.471	4.205	3.14		Clay	100.0			15.33	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	15.840	0.549	5372.5	3208.5	8.199	4.176	3.15		Clay	100.0			14.97	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	16.360	0.604	5392.5	3218.5	8.491	4.423	3.15		Clay	100.0			15.46	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	17.470	0.641	5413.8	3229.1	9.144	4.345	3.12		Clay	100.0			16.51	0.89	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	17.780	0.615	5433.8	3239.1	9.301	4.085	3.10		Clay	100.0			16.81	0.89	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	17.470	0.602	5455.0	3249.8	9.073	4.081	3.11		Clay	100.0			16.51	0.89	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	18.620	0.629	5475.0	3259.8	9.744	3.961	3.08		Clay	100.0			17.60	0.89	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	20.820	0.772	5495.0	3269.8	11.054	4.269	3.05		Clay	100.0			19.68	0.89	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	22.300	0.892	5516.3	3280.5	11.914	4.564	3.04		Clay	100.0			21.08	0.89	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	25.290	1.014	5536.3	3290.5	13.689	4.504	2.99		Clay	100.0			23.90	0.89	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	26.470	1.086	5557.5	3301.1	14.353	4.584	2.98		Clay	100.0			25.02	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	26.850	1.119	5577.5	3311.1	14.534	4.649	2.98		Clay	100.0			25.38	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	26.410	1.055	5597.5	3321.1	14.219	4.467	2.98		Clay	100.0			24.96	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	25.450	0.963	5618.8	3331.8	13.591	4.254	2.98		Clay	100.0			24.05	0.89	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	25.090	0.883	5638.8	3341.8	13.328	3.966	2.97		Clay	100.0			23.71	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	24.700	0.861	5660.0	3352.4	13.047	3.937	2.97		Clay	100.0			23.35	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	23.430	0.845	5680.0	3362.5	12.247	4.103	3.01		Clay	100.0			22.15	0.88	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	21.300	0.827	5700.0	3372.5	10.942	4.481	3.07		Clay	100.0			20.13	0.88	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	20.160	0.745	5721.3	3383.1	10.227	4.307	3.08		Clay	100.0			19.05	0.88	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	18.970	0.694	5741.3	3393.1	9.489	4.308	3.11		Clay	100.0			17.93	0.88	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	17.180	0.653	5762.5	3403.8	8.402	4.568	3.16		Clay	100.0			16.24	0.88	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	15.410	0.542	5782.5	3413.8	7.334	4.326	3.20		Clay	100.0			14.57	0.88	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	13.260	0.473	5802.5	3423.8	6.051	4.568	3.28		Clay	100.0			12.53	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	12.000	0.408	5823.8	3434.5	5.292	4.494	3.32		Clay	100.0			11.34	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	11.760	0.405	5843.8	3444.5	5.132	4.580	3.34		Clay	100.0			11.12	0.88	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	12.080	0.456	5865.0	3455.1	5.295	4.988	3.35		Clay	100.0			11.42	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	13.570	0.485	5885.0	3465.1	6.134	4.560	3.27		Clay	100.0			12.83	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	15.030	0.540	5905.0	3475.1	6.951	4.469	3.23		Clay	100.0			14.21	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	16.380	0.501	5926.3	3485.8	7.698	3.730	3.14		Clay	100.0			15.48	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	16.300	0.489	5946.3	3495.8	7.625	3.667	3.14		Clay	100.0			15.41	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	15.650	0.476	5967.5	3506.4	7.225	3.759	3.17		Clay	100.0			14.79	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	15.400	0.492	5987.5	3516.5	7.056	3.963	3.19		Clay	100.0			14.56	0.87	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	15.350	0.477	6007.5	3526.5	7.002	3.863	3.19		Clay	100.0			14.51	0.87	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	15.320	0.529	6028.8	3537.1	6.958	4.300	3.22		Clay	100.0			14.48	0.87	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	15.310	0.537	6048.8	3547.1	6.927	4.367	3.22		Clay	100.0			14.47	0.87	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	15.760	0.486	6070.0	3557.8	7.153	3.821	3.18		Clay	100.0			14.90	0.87	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	16.090	0.455	6090.0	3567.8	7.313	3.486	3.15		Clay	100.0			15.21	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	16.160	0.498	6110.0	3577.8	7.326	3.799	3.17		Clay	100.0			15.27	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	16.860	0.514	6131.3	3588.5	7.688	3.728	3.14		Clay	100.0			15.94	0.87	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	17.770	0.572	6151.3	3598.5	8.167	3.892	3.13		Clay	100.0			16.80	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	17.730	0.614	6172.5	3609.1	8.115	4.191	3.15		Clay	100.0			16.76	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	18.750	0.620	6192.5	3619.1	8.651	3.961	3.12		Clay	100.0			17.72	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	19.250	0.645	6212.5	3629.1	8.897	3.993	3.11		Clay	100.0			18.19	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	19.010	0.738	6233.8	3639.8	8.733	4.646	3.16		Clay	100.0			17.97	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	19.850	0.807	6253.8	3649.8	9.164	4.823	3.15		Clay	100.0			18.76	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	21.610	0.856	6275.0	3660.4	10.093	4.635	3.10		Clay	100.0			20.43	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	21.360	0.784	6295.0	3670.5	9.924	4.304	3.09		Clay	100.0			20.19	0.86	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	20.200	0.743	6315.0	3680.5	9.261	4.361	3.12		Clay	100.0			19.09	0.86	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	19.560	0.793	6336.3	3691.1	8.882	4.835	3.16		Clay	100.0			18.49	0.86	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	19.590	0.827	6356.3	3701.1	8.869	5.040	3.17		Clay	100.0			18.52	0.86	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	21.220	0.883	6377.5	3711.8	9.716	4.895	3.13		Clay	100.0			20.06	0.86	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	21.650	0.879	6397.5	3721.8	9.915	4.766	3.12		Clay	100.0			20.46	0.86	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	22.310	0.902	6418.8	3732.4	10.235	4.720	3.10		Clay	100.0			21.09	0.86	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	21.120	0.802	6438.8	3742.4	9.566	4.482	3.11		Clay	100.0			19.96	0.86	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	18.350	0.687	6458.8	3752.5	8.059	4.541	3.18		Clay	100.0			17.34	0.86	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	16.950	0.606	6480.0	3763.1	7.287	4.421	3.21		Clay	100.0			16.02	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	16.890	0.582	6500.0	3773.1	7.230	4.264	3.20		Clay	100.0			15.96	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	16.020	0.550	6521.3	3783.8	6.744	4.312	3.23		Clay	100.0			15.14	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	15.350	0.534	6541.3	3793.8	6.368	4.423	3.25		Clay	100.0			14.51	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	14.790	0.499	6561.3	3803.8	6.052	4.336	3.27		Clay	100.0			13.98	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	14.870	0.445	6582.5	3814.4	6.071	3.844	3.24		Clay	100.0			14.05	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	14.260	0.393	6602.5	3824.5	5.731	3.582	3.24		Clay	100.0			13.48	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	13.870	0.370	6623.8	3835.1	5.506	3.502	3.25		Clay	100.0			13.11	0.85	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	14.660	0.412	6643.8	3845.1	5.897	3.634	3.23		Clay	100.0			13.86	0.85	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	16.410	0.769	6663.8	3855.1	6.785	5.882	3.30		Clay	100.0			15.51	0.85	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	19.760	0.772	6685.0	3865.8	8.494	4.702	3.17		Clay	100.0			18.68	0.85	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	26.450	0.841	6705.0	3875.8	11.919	3.642	2.98		Clay	100.0			25.00	0.85	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	25.910	0.815	6726.3	3886.4	11.603	3.616	2.99		Clay	100.0			24.49	0.85	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	24.390	0.826	6746.3	3896.4	10.788	3.928	3.04		Clay	100.0			23.05	0.85	n.a.	n.a.	0.74	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	26.680	0.902	6766.3	3906.5	11.927	3.872	3.00		Clay	100.0			25.22	0.85	n.a.	n.a.	0.73	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	29.280	1.039	6787.5	3917.1	13.217	4.012	2.97		Clay	100.0			27.67	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	32.310	1.178	6807.5	3927.1	14.721	4.074	2.94		Clay	98.3			30.54	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	35.250	1.278	6828.8	3937.8	16.169	4.013	2.90		Clay	95.4			33.32	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	36.520	1.312	6848.8	3947.8	16.767	3.963	2.89		Clay	94.1			34.52	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	33.070	1.310	6868.8	3957.8	14.976	4.420	2.96		Clay	99.6			31.26	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	31.880	1.253	6890.0	3968.4	14.331	4.406	2.97		Clay	100.0			30.13	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
55.280	31.250	1.141	6910.0	3978.4	13.973	4.105	2.96		Clay	99.8			29.54	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	30.180	1.003	6931.3	3989.1	13.394	3.753	2.95		Clay	99.1			28.53	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	28.270	0.880	6951.3	3999.1	12.400	3.550	2.96		Clay	100.0			26.72	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	26.630	0.801	6971.3	4009.1	11.546	3.460	2.98		Clay	100.0			25.17	0.84	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	25.550	0.722	6992.5	4019.8	10.973	3.272	2.99		Clay	100.0			24.15	0.84	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	24.540	0.671	7012.5	4029.8	10.439	3.188	3.00		Clay	100.0			23.19	0.84	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	25.980	0.719	7033.8	4040.4	11.119	3.201	2.98		Clay	100.0			24.56	0.84	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	27.840	0.872	7053.8	4050.4	12.005	3.587	2.98		Clay	100.0			26.31	0.84	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	27.860	1.019	7073.8	4060.5	11.980	4.190	3.02		Clay	100.0			26.33	0.84	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	25.290	0.997	7095.0	4071.1	10.681	4.584	3.08		Clay	100.0			23.90	0.84	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	22.190	0.761	7115.0	4081.1	9.131	4.085	3.11		Clay	100.0			20.97	0.84	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	20.810	0.635	7136.3	4091.8	8.428	3.682	3.11		Clay	100.0			19.67	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	21.430	0.770	7156.3	4101.8	8.704	4.313	3.14		Clay	100.0			20.26	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	23.810	0.926	7176.3	4111.8	9.836	4.580	3.11		Clay	100.0			22.50	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	25.380	1.008	7197.5	4122.4	10.567	4.629	3.09		Clay	100.0			23.99	0.84	n.a.	n.a.	0.72	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	26.720	1.076	7217.5	4132.4	11.185	4.654	3.07		Clay	100.0			25.26	0.84	n.a.	n.a.	0.71	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	30.600	1.086	7238.8	4143.1	13.024	4.024	2.98		Clay	100.0			28.92	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	32.310	1.091	7258.8	4153.1	13.812	3.805	2.94		Clay	98.5			30.54	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	31.040	1.122	7278.8	4163.1	13.164	4.095	2.98		Clay	100.0			29.34	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	30.420	1.116	7300.0	4173.8	12.828	4.168	2.99		Clay	100.0			28.75	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	29.460	1.165	7320.0	4183.8	12.333	4.514	3.03		Clay	100.0			27.84	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	28.120	1.040	7341.3	4194.4	11.658	4.255	3.03		Clay	100.0			26.58	0.83	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	27.530	0.958	7361.3	4204.4	11.345	4.016	3.03		Clay	100.0			26.02	0.83	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	27.290	0.932	7382.5	4215.1	11.197	3.949	3.03		Clay	100.0			25.79	0.83	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	27.370	0.989	7402.5	4225.1	11.204	4.179	3.04		Clay	100.0			25.87	0.83	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	28.440	1.032	7422.5	4235.1	11.678	4.174	3.03		Clay	100.0			26.88	0.83	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	29.500	1.095	7443.8	4245.8	12.143	4.246	3.02		Clay	100.0			27.88	0.83	n.a.	n.a.	0.71	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	31.170	1.099	7463.8	4255.8	12.895	4.005	2.98		Clay	100.0			29.46	0.83	n.a.	n.a.	0.70	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	32.810	1.155	7485.0	4266.4	13.626	3.972	2.96		Clay	99.8			31.01	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	32.600	1.210	7505.0	4276.4	13.491	4.194	2.98		Clay	100.0			30.81	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	31.400	1.180	7525.0	4286.4	12.895	4.269	3.00		Clay	100.0			29.68	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	29.190	1.059	7546.3	4297.1	11.830	4.166	3.02		Clay	100.0			27.59	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	26.540	0.864	7566.3	4307.1	10.567	3.797	3.04		Clay	100.0			25.09	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	24.700	0.652	7587.5	4317.7	9.684	3.118	3.02		Clay	100.0			23.35	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	21.530	0.589	7607.5	4327.8	8.192	3.320	3.09		Clay	100.0			20.35	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	21.920	0.525	7627.5	4337.8	8.348	2.897	3.05		Clay	100.0			20.72	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	19.930	0.547	7648.8	4348.4	7.408	3.395	3.13		Clay	100.0			18.84	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	18.710	0.598	7668.8	4358.4	6.826	4.023	3.21		Clay	100.0			17.68	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	25.030	0.733	7690.0	4369.1	9.698	3.460	3.04		Clay	100.0			23.66	0.83	n.a.	n.a.	0.70	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	27.510	0.951	7710.0	4379.1	10.804	4.022	3.04		Clay	100.0			26.00	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	29.170	1.202	7730.0	4389.1	11.531	4.750	3.07		Clay	100.0			27.57	0.82	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	37.900	1.343	7751.3	4399.7	15.467	3.946	2.92		Clay	96.2			35.82	0.82	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	34.260	1.220	7771.3	4409.8	13.776	4.018	2.96		Clay	99.8			32.38	0.82	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	29.240	1.068	7792.5	4420.4	11.467	4.214	3.04		Clay	100.0			27.64	0.82	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	28.160	0.950	7812.5	4430.4	10.949	3.917	3.03		Clay	100.0			26.62	0.82	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	27.480	0.879	7832.5	4440.4	10.613	3.732	3.03		Clay	100.0			25.97	0.82	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	27.480	0.924	7853.8	4451.1	10.583	3.924	3.04		Clay	100.0			25.97	0.82	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	25.950	0.911	7873.8	4461.1	9.869	4.140	3.08		Clay	100.0			24.53	0.82	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	29.750	1.000	7895.0	4471.7	11.540	3.877	3.01		Clay	100.0			28.12	0.82	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.320	30.580	1.086	7915.0	4481.8	11.880	4.080	3.01		Clay	100.0			28.90	0.82	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	31.900	1.093	7935.0	4491.8	12.437	3.911	2.99		Clay	100.0			30.15	0.82	n.a.	n.a.	0.69	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.650	30.740	0.982	7956.3	4502.4	11.888	3.668	2.99		Clay	100.0			29.05	0.82	n.a.	n.a.	0.68	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.810	26.810	0.880	7976.3	4512.4	10.115	3.857	3.06		Clay	100.0			25.34	0.82	n.a.	n.a.	0.68	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	24.420	0.810	7997.5	4523.1	9.030	3.965	3.10		Clay	100.0			23.08	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	22.340	0.772	8017.5	4533.1	8.088	4.209	3.16		Clay	100.0			21.12	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	20.700	0.764	8037.5	4543.1	7.344	4.577	3.21		Clay	100.0			19.57	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	19.550	0.723	8058.8	4553.7	6.817	4.656	3.24		Clay	100.0			18.48	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.630	17.880	0.631	8078.8	4563.8	6.065	4.558	3.28		Clay	100.0			16.90	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.800	17.170	0.559	8100.0	4574.4	5.736	4.259	3.28		Clay	100.0			16.23	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.960	16.190	0.500	8120.0	4584.4	5.292	4.125	3.30		Clay	100.0			15.30	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.120	16.260	0.535	8140.0	4594.4	5.306	4.390	3.32		Clay	100.0			15.37	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.290	17.510	0.604	8161.3	4605.1	5.832	4.501	3.29		Clay	100.0			16.55	0.81	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.450	19.540	0.616	8181.3	4615.1	6.695	3.989	3.21		Clay	100.0			18.47	0.81	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.620	18.780	0.614	8202.5	4625.7	6.347	4.184	3.24		Clay	100.0			17.75	0.81	n.a.	n.a.	0.68	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	18.320	0.542	8222.5	4635.7	6.130	3.815	3.23		Clay	100.0			17.32	0.81	n.a.	n.a.	0.67	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	18.400	0.553	8242.5	4645.8	6.147	3.870	3.23		Clay	100.0			17.39	0.81	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	18.490	0.565	8263.8	4656.4	6.167	3.936	3.24		Clay	100.0			17.48	0.81	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
66.270	18.340	0.542	8283.8	4666.4	6.085	3.820	3.23		Clay	100.0			17.33	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	17.890	0.434	8305.0	4677.1	5.874	3.158	3.20		Clay	100.0			16.91	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	17.010	0.383	8325.0	4687.1	5.482	2.981	3.21		Clay	100.0			16.08	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	17.070	0.364	8346.3	4697.7	5.491	2.822	3.20		Clay	100.0			16.13	0.81	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	17.600	0.476	8366.3	4707.7	5.700	3.546	3.24		Clay	100.0			16.64	0.81	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	19.580	0.741	8386.3	4717.8	6.523	4.816	3.27		Clay	100.0			18.51	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	27.270	0.967	8407.5	4728.4	9.756	4.193	3.09		Clay	100.0			25.78	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	32.500	1.119	8427.5	4738.4	11.939	3.956	3.00		Clay	100.0			30.72	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	31.170	1.093	8448.8	4749.1	11.348	4.056	3.03		Clay	100.0			29.46	0.81	n.a.	n.a.	0.67	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	30.080	1.134	8468.8	4759.1	10.862	4.386	3.06		Clay	100.0			28.43	0.81	n.a.	n.a.	0.66	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	30.860	1.279	8488.8	4769.1	11.162	4.804	3.08		Clay	100.0			29.17	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	34.170	1.293	8510.0	4779.7	12.517	4.324	3.01		Clay	100.0			32.30	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	33.590	1.291	8530.0	4789.7	12.245	4.403	3.02		Clay	100.0			31.75	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	30.380	0.986	8551.3	4800.4	10.876	3.778	3.03		Clay	100.0			28.71	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	25.230	0.805	8571.3	4810.4	8.708	3.842	3.11		Clay	100.0			23.85	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	22.850	0.687	8591.3	4820.4	7.698	3.705	3.14		Clay	100.0			21.60	0.80	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	22.190	0.647	8612.5	4831.1	7.404	3.619	3.15		Clay	100.0			20.97	0.80	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	22.500	0.549	8632.5	4841.1	7.512	3.020	3.10		Clay	100.0			21.27	0.80	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	23.010	0.474	8653.8	4851.7	7.702	2.537	3.05		Clay	100.0			21.75	0.80	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	22.350	0.566	8673.8	4861.7	7.410	3.144	3.12		Clay	100.0			21.12	0.80	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	22.650	0.897	8693.8	4871.8	7.514	4.902	3.22		Clay	100.0			21.41	0.80	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	26.650	1.092	8715.0	4882.4	9.132	4.897	3.15		Clay	100.0			25.19	0.80	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	36.040	1.309	8735.0	4892.4	12.948	4.133	2.99		Clay	100.0			34.06	0.80	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	40.640	1.406	8756.3	4903.1	14.792	3.878	2.93		Clay	97.1			38.41	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	41.620	1.685	8776.3	4913.1	15.156	4.526	2.96		Clay	99.8			39.34	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	41.310	1.231	8796.3	4923.1	14.995	3.336	2.88		Clay	93.5			39.05	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	38.970	1.180	8817.5	4933.7	14.010	3.415	2.91		Clay	95.9			36.83	0.80	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	36.560	0.864	8837.5	4943.7	13.003	2.689	2.88		Clay	93.1			34.56	0.80	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	24.020	0.657	8858.8	4954.4	7.908	3.354	3.11		Clay	100.0			22.70	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	19.020	0.489	8878.8	4964.4	5.874	3.353	3.22		Clay	100.0			17.98	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	18.340	0.508	8898.8	4974.4	5.585	3.659	3.25		Clay	100.0			17.33	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	18.580	0.567	8920.0	4985.1	5.665	4.018	3.27		Clay	100.0			17.56	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	19.700	0.618	8940.0	4995.1	6.098	4.058	3.25		Clay	100.0			18.62	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	21.520	0.681	8961.3	5005.7	6.808	3.999	3.21		Clay	100.0			20.34	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	22.320	0.791	8981.3	5015.7	7.109	4.439	3.22		Clay	100.0			21.10	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	23.770	0.745	9001.3	5025.7	7.668	3.868	3.15		Clay	100.0			22.47	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	28.070	0.965	9022.5	5036.4	9.355	4.097	3.10		Clay	100.0			26.53	0.80	n.a.	n.a.	0.65	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	27.750	1.275	9042.5	5046.4	9.206	5.490	3.18		Clay	100.0			26.23	0.80	n.a.	n.a.	0.64	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	31.680	1.828	9063.8	5057.0	10.737	6.733	3.19		Clay	100.0			29.94	0.79	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	40.400	1.866	9083.8	5067.1	14.153	5.205	3.02		Clay	100.0			38.19	0.79	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	57.030	1.880	9103.8	5077.1	20.673	3.583	2.79		Clay	86.3			53.90	0.79	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	52.060	1.532	9125.0	5087.7	18.671	3.226	2.80		Clay	86.8			49.21	0.79	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	46.630	1.389	9145.0	5097.7	16.500	3.303	2.85		Clay	90.7			44.07	0.79	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	39.200	1.255	9166.3	5108.4	13.553	3.625	2.94		Clay	98.0			37.05	0.79	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	29.360	1.012	9186.3	5118.4	9.678	4.085	3.09		Clay	100.0			27.75	0.79	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	26.850	1.129	9206.3	5128.4	8.676	5.077	3.18		Clay	100.0			25.38	0.79	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	29.380	1.490	9227.5	5139.1	9.638	6.017	3.19		Clay	100.0			27.77	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	36.240	1.635	9247.5	5149.1	12.280	5.171	3.07		Clay	100.0			34.25	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	48.420	1.727	9268.8	5159.7	16.972	3.944	2.88		Clay	93.7			45.77	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	39.840	1.868	9288.8	5169.7	13.616	5.309	3.04		Clay	100.0			37.66	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	38.160	1.496	9310.0	5180.4	12.935	4.464	3.01		Clay	100.0			36.07	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	36.630	1.258	9330.0	5190.4	12.317	3.934	2.99		Clay	100.0			34.62	0.79	n.a.	n.a.	0.63	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	29.340	1.011	9350.0	5200.4	9.486	4.099	3.09		Clay	100.0			27.73	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	25.780	0.881	9371.3	5211.0	8.096	4.176	3.15		Clay	100.0			24.37	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.130	24.070	0.813	9391.3	5221.1	7.422	4.198	3.19		Clay	100.0			22.75	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.300	24.830	0.744	9412.5	5231.7	7.693	3.699	3.14		Clay	100.0			23.47	0.79	n.a.	n.a.	0.63	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.460	29.720	1.708	9432.5	5241.7	9.540	6.833	3.23		Clay	100.0			28.09	0.79	n.a.	n.a.	0.63	0.430	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.620	26.380	3.550	9452.5	5251.7	8.246	16.396	3.53		Clay	100.0			24.93	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.790	72.270	4.633	9473.8	5262.4	25.666	6.860	2.91		Clay	95.9			68.31	0.79	n.a.	n.a.	0.63	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.950	153.510	5.580	9493.8	5272.4	89.077	3.751	2.35		Sand	51.1			145.09	0.72	104.56	178.84	0.63	0.429	0.809	0.693	1.162	2.71	0.00	0.00
76.120	270.850	6.332	9515.0	5283.0	159.171	2.380	2.04		Sand	26.1			256.00	0.79	201.10	269.03	0.63	0.428	0.726	1681.113	2683.254	6264.62	0.00	0.00
76.280	377.160	6.813	9535.0	5293.0	222.546	1.829	1.86		Sand	11.8			356.48	0.79	279.89	301.17	0.63	0.428	0.725	#########	########	2351385.55	0.00	0.00
76.440	440.900	6.686	9555.0	5303.1	260.386	1.533	1.76		Sand	3.6			416.73	0.78	327.03	327.04	0.63	0.428	0.724	#########	########	##########	0.00	0.00
76.610	429.070	5.616	9576.3	5313.7	253.063	1.324	1.71		Sand	0.1			405.55	0.78	318.09	318.09	0.63	0.427	0.724	#########	########	##########	0.00	0.00
76.770	397.790	5.078	9596.3	5323.7	234.179	1.292	1.73		Sand	1.2			375.98	0.78	294.75	294.75	0.63	0.427	0.723	#########	########	599871.19	0.00	0.00
76.940	403.020	4.726	9617.5	5334.4	237.052	1.187	1.70		Sand	0.0			380.93	0.78	298.47	298.47	0.63	0.427	0.723	#########	########	1307566.66	0.00	0.00
77.100	409.580	3.111	9637.5	5344.4	240.726	0.769	1.55		Sand	0.0			387.13	0.78	303.18	303.18	0.62	0.426	0.722	#########	########	3677679.87	0.00	0.00

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
77.260	398.690	2.876	9657.5	5354.4	234.024	0.730	1.54		Sand	0.0			376.83	0.78	294.97	294.97	0.62	0.426	0.721	#########	########	627606.00	0.00	0.00
77.430	393.020	2.928	9678.8	5365.0	230.420	0.754	1.56		Sand	0.0			371.47	0.78	290.62	290.62	0.62	0.425	0.721	70353.236	########	262247.70	0.00	0.00
77.590	333.380	1.732	9698.8	5375.1	194.830	0.527	1.51		Sand	0.0			315.10	0.77	243.74	243.74	0.62	0.425	0.720	63.990	101.406	238.53	0.00	0.00
77.760	337.090	1.616	9720.0	5385.7	196.829	0.486	1.48		Sand	0.0			318.61	0.78	247.25	247.25	0.62	0.425	0.720	94.550	149.712	352.47	0.00	0.00
77.920	307.280	1.882	9740.0	5395.7	178.996	0.622	1.58		Sand	0.0			290.43	0.75	218.05	218.05	0.62	0.424	0.719	6.147	9.725	22.91	0.00	0.00
78.080	258.000	3.013	9760.0	5405.7	149.683	1.190	1.83		Sand	9.5			243.86	0.72	175.26	183.52	0.62	0.424	0.794	0.840	1.434	3.38	0.00	0.00
78.250	172.530	2.994	9781.3	5416.4	99.036	1.786	2.08		Sand	29.7			163.07	0.71	115.58	173.80	0.62	0.424	0.813	0.574	0.929	2.19	0.00	0.00
78.410	77.370	2.250	9801.3	5426.4	26.710	3.105	2.67		Clay	76.3			73.13	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	37.560	1.504	9822.5	5437.0	12.010	4.605	3.04		Clay	100.0			35.50	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	25.960	0.817	9842.5	5447.0	7.725	3.882	3.15		Clay	100.0			24.54	0.78	n.a.	n.a.	0.62	0.423	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	23.530	0.758	9862.5	5457.1	6.816	4.073	3.21		Clay	100.0			22.24	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	22.980	0.699	9883.8	5467.7	6.598	3.875	3.21		Clay	100.0			21.72	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	22.330	0.785	9903.8	5477.7	6.345	4.515	3.26		Clay	100.0			21.11	0.78	n.a.	n.a.	0.62	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	23.080	0.813	9925.0	5488.4	6.602	4.487	3.24		Clay	100.0			21.81	0.78	n.a.	n.a.	0.62	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	24.620	0.791	9945.0	5498.4	7.147	4.024	3.19		Clay	100.0			23.27	0.78	n.a.	n.a.	0.62	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	23.880	0.795	9965.0	5508.4	6.861	4.206	3.21		Clay	100.0			22.57	0.78	n.a.	n.a.	0.61	0.421	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	23.750	0.771	9986.3	5519.0	6.797	4.109	3.21		Clay	100.0			22.45	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	24.290	0.876	10006.3	5529.1	6.977	4.542	3.23		Clay	100.0			22.96	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	25.450	0.867	10027.5	5539.7	7.378	4.244	3.19		Clay	100.0			24.05	0.78	n.a.	n.a.	0.61	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	26.810	0.869	10047.5	5549.7	7.851	3.991	3.15		Clay	100.0			25.34	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	27.700	0.884	10067.5	5559.7	8.154	3.898	3.13		Clay	100.0			26.18	0.78	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	28.910	0.786	10088.8	5570.4	8.569	3.293	3.08		Clay	100.0			27.33	0.77	n.a.	n.a.	0.61	0.419	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	29.910	0.810	10108.8	5580.4	8.908	3.257	3.06		Clay	100.0			28.27	0.77	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	29.160	0.724	10130.0	5591.0	8.619	3.004	3.05		Clay	100.0			27.56	0.77	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	25.910	0.713	10150.0	5601.0	7.440	3.423	3.14		Clay	100.0			24.49	0.77	n.a.	n.a.	0.61	0.418	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	24.690	0.700	10170.0	5611.1	6.988	3.571	3.17		Clay	100.0			23.34	0.77	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	25.230	0.668	10191.3	5621.7	7.163	3.319	3.14		Clay	100.0			23.85	0.77	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	25.390	0.626	10211.3	5631.7	7.204	3.087	3.12		Clay	100.0			24.00	0.77	n.a.	n.a.	0.61	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.860	23.340	0.605	10232.5	5642.4	6.460	3.322	3.18		Clay	100.0			22.06	0.77	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.020	23.020	0.620	10252.5	5652.4	6.331	3.463	3.20		Clay	100.0			21.76	0.77	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.190	24.460	0.620	10273.8	5663.0	6.824	3.209	3.15		Clay	100.0			23.12	0.77	n.a.	n.a.	0.61	0.416	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.350	25.000	0.688	10293.8	5673.0	6.999	3.464	3.16		Clay	100.0			23.63	0.77	n.a.	n.a.	0.61	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.510	25.710	0.681	10313.8	5683.0	7.233	3.314	3.14		Clay	100.0			24.30	0.77	n.a.	n.a.	0.60	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.680	25.740	0.659	10335.0	5693.7	7.226	3.202	3.13		Clay	100.0			24.33	0.77	n.a.	n.a.	0.60	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	24.970	0.624	10355.0	5703.7	6.940	3.152	3.14		Clay	100.0			23.60	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	24.910	0.536	10376.3	5714.3	6.903	2.716	3.11		Clay	100.0			23.54	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.230	24.650	0.729	10403.8	5728.1	6.790	3.747	3.19		Clay	100.0			23.30	0.77	n.a.	n.a.	0.60	0.414	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.330	24.870	0.801	10416.3	5734.4	6.858	4.073	3.21		Clay	100.0			23.51	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.500	30.280	0.645	10437.5	5745.0	8.725	2.574	3.01		Clay	100.0			28.62	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.660	34.840	0.707	10457.5	5755.0	10.291	2.387	2.93		Clay	97.5			32.93	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.830	28.450	0.765	10478.8	5765.7	8.051	3.294	3.10		Clay	100.0			26.89	0.77	n.a.	n.a.	0.60	0.413	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	25.850	0.730	10498.8	5775.7	7.134	3.543	3.16		Clay	100.0			24.43	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	25.560	0.675	10518.8	5785.7	7.018	3.326	3.15		Clay	100.0			24.16	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	26.220	0.639	10540.0	5796.4	7.229	3.050	3.12		Clay	100.0			24.78	0.77	n.a.	n.a.	0.60	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.480	25.560	0.575	10560.0	5806.4	6.985	2.835	3.11		Clay	100.0			24.16	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	24.780	0.611	10581.3	5817.0	6.701	3.136	3.15		Clay	100.0			23.42	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	25.260	0.649	10601.3	5827.0	6.851	3.251	3.15		Clay	100.0			23.88	0.77	n.a.	n.a.	0.60	0.411	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.970	25.720	0.657	10621.3	5837.0	6.993	3.219	3.14		Clay	100.0			24.31	0.77	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.140	25.850	0.699	10642.5	5847.7	7.021	3.406	3.15		Clay	100.0			24.43	0.76	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.300	26.070	0.690	10662.5	5857.7	7.081	3.326	3.15		Clay	100.0			24.64	0.76	n.a.	n.a.	0.60	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.470	25.890	0.674	10683.8	5868.3	7.003	3.281	3.15		Clay	100.0			24.47	0.76	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.630	25.780	0.643	10703.8	5878.4	6.950	3.149	3.14		Clay	100.0			24.37	0.76	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.790	25.890	0.646	10723.8	5888.4	6.972	3.146	3.14		Clay	100.0			24.47	0.76	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.960	25.350	0.608	10745.0	5899.0	6.773	3.041	3.14		Clay	100.0			23.96	0.76	n.a.	n.a.	0.59	0.409	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.120	25.230	0.601	10765.0	5909.0	6.718	3.029	3.14		Clay	100.0			23.85	0.76	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.290	25.430	0.611	10786.3	5919.7	6.770	3.051	3.14		Clay	100.0			24.04	0.76	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.450	25.370	0.640	10806.3	5929.7	6.735	3.203	3.16		Clay	100.0			23.98	0.76	n.a.	n.a.	0.59	0.408	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.610	25.970	0.679	10826.3	5939.7	6.922	3.303	3.15		Clay	100.0			24.55	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.780	27.460	0.693	10847.5	5950.3	7.407	3.144	3.12		Clay	100.0			25.95	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.940	29.470	0.729	10867.5	5960.4	8.065	3.034	3.08		Clay	100.0			27.85	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.110	29.970	0.688	10888.8	5971.0	8.215	2.806	3.05		Clay	100.0			28.33	0.76	n.a.	n.a.	0.59	0.407	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.270	28.230	0.660	10908.8	5981.0	7.616	2.897	3.09		Clay	100.0			26.68	0.76	n.a.	n.a.	0.59	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.430	28.280	1.442	10928.8	5991.0	7.617	6.322	3.28		Clay	100.0			26.73	0.76	n.a.	n.a.	0.59	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.600	28.920	2.741	10950.0	6001.7	7.813	11.692	3.45		Clay	100.0			27.33	0.76	n.a.	n.a.	0.59	0.406	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.760	73.020	3.260	10970.0	6011.7	22.468	4.827	2.85		Clay	90.8			69.02	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.930	87.480	2.849	10991.3	6022.3	27.227	3.475	2.69		Clay	78.3			82.68	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.090	72.030	1.856	11011.3	6032.4	22.056	2.790	2.70		Clay	79.1			68.08	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1\,atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
88.250	41.850	1.378	11031.3	6042.4	12.027	3.793	2.99		Clay	100.0			39.56	0.76	n.a.	n.a.	0.59	0.405	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.420	25.290	0.816	11052.5	6053.0	6.530	4.128	3.23		Clay	100.0			23.90	0.76	n.a.	n.a.	0.59	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.580	20.370	0.642	11072.5	6063.0	4.893	4.326	3.34		Clay	100.0			19.25	0.76	n.a.	n.a.	0.59	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.750	20.140	0.512	11093.8	6073.7	4.805	3.510	3.30		Clay	100.0			19.04	0.76	n.a.	n.a.	0.58	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	19.690	0.519	11113.8	6083.7	4.646	3.673	3.32		Clay	100.0			18.61	0.76	n.a.	n.a.	0.58	0.404	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	20.930	0.559	11133.8	6093.7	5.042	3.637	3.29		Clay	100.0			19.78	0.76	n.a.	n.a.	0.58	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	21.720	0.606	11155.0	6104.3	5.289	3.751	3.28		Clay	100.0			20.53	0.76	n.a.	n.a.	0.58	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	23.030	0.682	11175.0	6114.4	5.705	3.907	3.26		Clay	100.0			21.77	0.76	n.a.	n.a.	0.58	0.403	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	24.400	0.826	11196.3	6125.0	6.139	4.395	3.27		Clay	100.0			23.06	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	27.050	0.951	11216.3	6135.0	6.990	4.433	3.22		Clay	100.0			25.57	0.76	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	28.960	1.031	11237.5	6145.7	7.596	4.417	3.19		Clay	100.0			27.37	0.75	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	30.610	1.042	11257.5	6155.7	8.116	4.169	3.15		Clay	100.0			28.93	0.75	n.a.	n.a.	0.58	0.402	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	34.140	1.146	11277.5	6165.7	9.245	4.020	3.10		Clay	100.0			32.27	0.75	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	38.340	1.210	11298.8	6176.3	10.586	3.701	3.03		Clay	100.0			36.24	0.75	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.550	42.740	1.319	11318.8	6186.4	11.988	3.556	2.98		Clay	100.0			40.40	0.75	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	45.160	1.339	11340.0	6197.0	12.745	3.391	2.94		Clay	98.4			42.68	0.75	n.a.	n.a.	0.58	0.401	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	44.640	1.247	11360.0	6207.0	12.554	3.201	2.93		Clay	97.6			42.19	0.75	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	45.860	1.298	11380.0	6217.0	12.923	3.232	2.92		Clay	97.0			43.35	0.75	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	46.890	1.409	11401.3	6227.7	13.228	3.422	2.93		Clay	97.5			44.32	0.75	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.370	48.060	1.594	11421.3	6237.7	13.579	3.763	2.95		Clay	98.8			45.43	0.75	n.a.	n.a.	0.58	0.400	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.540	45.310	1.689	11442.5	6248.3	12.672	4.267	3.00		Clay	100.0			42.83	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.700	40.580	1.645	11462.5	6258.3	11.137	4.722	3.08		Clay	100.0			38.36	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.860	36.820	1.536	11482.5	6268.4	9.916	4.942	3.13		Clay	100.0			34.80	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.030	32.850	1.325	11503.8	6279.0	8.631	4.890	3.17		Clay	100.0			31.05	0.75	n.a.	n.a.	0.58	0.399	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.190	31.300	1.154	11523.8	6289.0	8.122	4.518	3.17		Clay	100.0			29.58	0.75	n.a.	n.a.	0.58	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.360	31.290	1.052	11545.0	6299.7	8.101	4.122	3.15		Clay	100.0			29.57	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	32.020	1.049	11565.0	6309.7	8.317	3.998	3.13		Clay	100.0			30.26	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	30.920	1.017	11585.0	6319.7	7.952	4.047	3.15		Clay	100.0			29.22	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	31.810	1.006	11606.3	6330.3	8.217	3.867	3.13		Clay	100.0			30.07	0.75	n.a.	n.a.	0.57	0.398	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.010	31.930	1.007	11626.3	6340.3	8.238	3.857	3.13		Clay	100.0			30.18	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.180	33.780	1.003	11647.5	6351.0	8.804	3.588	3.09		Clay	100.0			31.93	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.340	31.550	1.138	11667.5	6361.0	8.086	4.425	3.17		Clay	100.0			29.82	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.500	33.150	1.732	11687.5	6371.0	8.572	6.343	3.24		Clay	100.0			31.33	0.75	n.a.	n.a.	0.57	0.397	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.670	43.310	1.573	11708.8	6381.7	11.739	4.199	3.03		Clay	100.0			40.94	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
93.830	34.940	1.470	11728.8	6391.7	9.098	5.056	3.16		Clay	100.0			33.02	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.000	31.300	1.325	11750.0	6402.3	7.942	5.210	3.22		Clay	100.0			29.58	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.160	36.700	1.264	11770.0	6412.3	9.611	4.101	3.09		Clay	100.0			34.69	0.75	n.a.	n.a.	0.57	0.396	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.320	39.900	1.276	11790.0	6422.4	10.590	3.752	3.03		Clay	100.0			37.71	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.490	41.380	1.563	11811.3	6433.0	11.029	4.406	3.06		Clay	100.0			39.11	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.650	37.710	1.259	11831.3	6443.0	9.869	3.961	3.07		Clay	100.0			35.64	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.820	44.050	1.282	11852.5	6453.7	11.815	3.363	2.97		Clay	100.0			41.64	0.75	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.980	37.160	1.204	11872.5	6463.7	9.661	3.856	3.07		Clay	100.0			35.12	0.74	n.a.	n.a.	0.57	0.395	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.140	30.100	1.114	11892.5	6473.7	7.462	4.613	3.21		Clay	100.0			28.45	0.74	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.310	32.900	1.066	11913.8	6484.3	8.310	3.958	3.13		Clay	100.0			31.10	0.74	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.470	38.210	1.047	11933.8	6494.3	9.930	3.246	3.02		Clay	100.0			36.12	0.74	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.640	37.530	1.012	11955.0	6505.0	9.701	3.208	3.02		Clay	100.0			35.47	0.74	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.800	30.220	0.862	11975.0	6515.0	7.439	3.559	3.14		Clay	100.0			28.56	0.74	n.a.	n.a.	0.57	0.394	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.960	28.330	0.792	11995.0	6525.0	6.845	3.546	3.17		Clay	100.0			26.78	0.74	n.a.	n.a.	0.57	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.130	28.850	0.675	12016.3	6535.7	6.990	2.953	3.12		Clay	100.0			27.27	0.74	n.a.	n.a.	0.57	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.290	28.560	0.634	12036.3	6545.7	6.888	2.814	3.12		Clay	100.0			26.99	0.74	n.a.	n.a.	0.57	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.460	25.840	0.659	12057.5	6556.3	6.043	3.327	3.20		Clay	100.0			24.42	0.74	n.a.	n.a.	0.56	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.620	25.820	0.696	12077.5	6566.3	6.025	3.519	3.22		Clay	100.0			24.40	0.74	n.a.	n.a.	0.56	0.393	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.780	27.400	0.768	12097.5	6576.3	6.493	3.595	3.20		Clay	100.0			25.90	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
96.950	28.250	0.826	12118.8	6587.0	6.738	3.720	3.19		Clay	100.0			26.70	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.110	28.760	0.851	12138.8	6597.0	6.879	3.752	3.19		Clay	100.0			27.18	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.280	28.780	0.832	12160.0	6607.6	6.871	3.666	3.18		Clay	100.0			27.20	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.440	28.690	0.800	12180.0	6617.7	6.830	3.542	3.17		Clay	100.0			27.12	0.74	n.a.	n.a.	0.56	0.392	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.600	28.780	0.786	12200.0	6627.7	6.844	3.463	3.17		Clay	100.0			27.20	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.770	28.310	0.764	12221.3	6638.3	6.688	3.440	3.17		Clay	100.0			26.76	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
97.930	28.210	0.833	12241.3	6648.3	6.645	3.772	3.20		Clay	100.0			26.66	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.100	28.450	0.898	12262.5	6659.0	6.703	4.022	3.21		Clay	100.0			26.89	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.260	30.020	0.999	12282.5	6669.0	7.161	4.183	3.20		Clay	100.0			28.37	0.74	n.a.	n.a.	0.56	0.391	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.430	31.150	1.076	12303.8	6679.6	7.485	4.304	3.19		Clay	100.0			29.44	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.590	31.810	1.082	12323.8	6689.7	7.668	4.217	3.18		Clay	100.0			30.07	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.750	32.200	1.119	12343.8	6699.7	7.770	4.298	3.18		Clay	100.0			30.43	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
98.920	32.460	1.078	12365.0	6710.3	7.832	4.100	3.16		Clay	100.0			30.68	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.080	32.420	0.965	12385.0	6720.3	7.805	3.680	3.14		Clay	100.0			30.64	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	8

PGA (A_{max})	0.58

Total Settlement:	0.05	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
99.250	30.510	0.741	12406.3	6731.0	7.222	3.047	3.12		Clay	100.0			28.84	0.74	n.a.	n.a.	0.56	0.390	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.410	28.780	0.688	12426.3	6741.0	6.695	3.050	3.15		Clay	100.0			27.20	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.570	27.060	0.767	12446.3	6751.0	6.173	3.680	3.22		Clay	100.0			25.58	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.740	28.230	0.854	12467.5	6761.6	6.506	3.884	3.21		Clay	100.0			26.68	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
99.900	29.820	0.888	12487.5	6771.7	6.963	3.765	3.18		Clay	100.0			28.19	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00
100.070	30.240	0.949	12508.8	6782.3	7.073	3.955	3.19		Clay	100.0			28.58	0.74	n.a.	n.a.	0.56	0.389	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP	CPT No. 9	PGA (A_{max}) 0.58	Total Settlement: 0.02 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	294.350	0.890	20.0	20.0	2861.584	0.302	0.70		Unsaturated	0.0			278.21	1.70	472.96	472.96	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	196.430	1.097	41.3	41.3	1329.604	0.559	1.03		Unsaturated	0.0			185.66	1.70	315.62	315.62	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	148.650	1.447	61.3	61.3	825.647	0.973	1.33		Unsaturated	0.0			140.50	1.70	238.85	238.85	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	123.240	1.750	82.5	82.5	589.728	1.420	1.54		Unsaturated	0.0			116.48	1.70	198.02	198.02	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	128.100	1.861	102.5	102.5	549.902	1.453	1.56		Unsaturated	0.0			121.08	1.70	205.83	205.83	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	127.880	2.255	122.5	122.5	502.110	1.764	1.66		Unsaturated	0.0			120.87	1.70	205.48	205.48	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	112.970	2.575	143.8	143.8	409.407	2.280	1.80		Unsaturated	6.7			106.78	1.70	181.52	183.08	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	86.590	2.822	163.8	163.8	293.926	3.262	2.00		Unsaturated	23.2			81.84	1.70	139.13	189.55	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	61.210	2.719	185.0	185.0	195.367	4.448	2.21		Unsaturated	39.7			57.85	1.70	98.35	163.79	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	61.510	1.996	205.0	205.0	186.473	3.251	2.11		Unsaturated	31.5			58.14	1.70	98.83	156.15	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	102.550	2.502	225.0	225.0	296.920	2.443	1.89		Unsaturated	14.4			96.93	1.70	164.78	190.84	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	137.810	3.234	246.3	246.3	381.484	2.349	1.82		Unsaturated	8.8			130.26	1.70	221.43	228.14	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	97.200	3.516	266.3	266.3	258.642	3.622	2.07		Unsaturated	28.6			91.87	1.70	156.18	220.66	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	77.690	3.400	287.5	287.5	198.845	4.384	2.20		Unsaturated	39.0			73.43	1.70	124.83	195.97	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	54.870	3.036	307.5	307.5	135.664	5.549	2.38		Unsaturated	53.1			51.86	1.70	88.17	158.96	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	48.360	2.558	327.5	327.5	115.792	5.306	2.40		Unsaturated	55.0			45.71	1.70	77.71	146.43	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	45.200	2.185	348.8	348.8	104.827	4.853	2.39		Unsaturated	54.6			42.72	1.70	72.63	139.80	1.00	0.377	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	44.120	2.237	368.8	368.8	99.477	5.090	2.42		Unsaturated	57.0			41.70	1.70	70.89	138.48	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	68.530	2.401	390.0	390.0	150.447	3.513	2.19		Unsaturated	38.1			64.77	1.70	110.11	176.92	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	140.860	3.501	410.0	410.0	302.020	2.489	1.90		Unsaturated	14.6			133.14	1.58	210.33	240.97	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	208.800	4.185	430.0	430.0	437.342	2.006	1.73		Unsaturated	1.7			197.35	1.52	300.49	300.49	1.00	0.376	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	207.640	4.271	451.3	451.3	424.524	2.059	1.75		Unsaturated	3.0			196.26	1.50	295.04	295.04	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	155.610	4.644	471.3	471.3	311.190	2.989	1.96		Unsaturated	19.5			147.08	1.49	218.59	270.02	1.00	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	110.530	4.302	492.5	492.5	216.063	3.900	2.14		Unsaturated	34.0			104.47	1.52	159.10	232.58	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	84.970	3.825	512.5	512.5	162.697	4.516	2.26		Unsaturated	43.6			80.31	1.59	127.42	203.04	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	59.780	3.010	533.8	533.8	111.999	5.057	2.39		Unsaturated	54.3			56.50	1.68	94.73	167.83	0.99	0.375	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	51.860	2.678	553.8	553.8	95.307	5.192	2.44		Unsaturated	58.4			49.02	1.70	83.29	154.82	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	44.160	2.428	573.8	573.8	79.636	5.534	2.51		Unsaturated	64.0			41.74	1.70	70.96	140.75	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	38.250	2.049	595.0	595.0	67.648	5.398	2.55		Unsaturated	67.0			36.15	1.70	61.46	129.29	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	29.820	1.645	615.0	615.0	66.247	5.573	2.57		Unsaturated	68.3			28.19	1.70	47.91	112.13	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	21.960	1.246	636.3	636.3	47.438	5.756	2.67		Unsaturated	76.7			20.76	1.70	35.29	97.37	0.99	0.374	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	16.840	1.094	656.3	656.3	50.322	6.623	2.70		Unsaturated	79.0			15.92	1.70	27.06	87.04	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	18.250	0.828	676.3	676.3	37.622	4.620	2.67		Unsaturated	76.8			17.25	1.70	29.32	89.64	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	23.640	0.852	697.5	697.5	38.344	3.660	2.60		Unsaturated	70.7			22.34	1.70	37.98	99.80	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	30.330	0.841	717.5	717.5	48.648	2.806	2.44		Unsaturated	58.3			28.67	1.68	48.04	109.73	0.99	0.373	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	33.370	0.740	738.8	738.8	52.789	2.243	2.35		Unsaturated	51.0			31.54	1.64	51.86	112.01	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	32.030	0.810	758.8	758.8	49.958	2.560	2.41		Unsaturated	55.5			30.27	1.63	49.32	110.45	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	39.520	0.819	778.8	778.8	60.966	2.093	2.28		Unsaturated	45.7			37.35	1.58	59.12	118.70	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	48.070	0.734	800.0	800.0	73.278	1.541	2.13		Unsaturated	33.8			45.43	1.55	70.32	124.00	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.560	51.840	0.635	820.0	820.0	78.088	1.235	2.05		Unsaturated	27.1			49.00	1.54	75.28	121.94	0.99	0.372	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.730	58.370	0.468	841.3	841.3	86.868	0.807	1.90		Unsaturated	15.1			55.17	1.56	85.96	108.08	0.99	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.890	56.900	0.498	861.3	861.3	83.661	0.881	1.94		Unsaturated	18.0			53.78	1.53	82.26	111.91	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.050	47.380	0.602	881.3	871.9	69.116	1.282	2.10		Unsaturated	31.2			44.78	1.51	67.40	117.76	0.98	0.371	1.100	n.a.	n.a.	n.a.	0.00	0.00
7.220	32.030	0.770	902.5	882.5	46.217	2.439	2.42		Unsaturated	56.4			30.27	1.53	46.21	106.77	0.98	0.371	1.098	n.a.	n.a.	n.a.	0.00	0.00
7.380	24.170	0.733	922.5	892.5	34.504	3.092	2.58		Unsaturated	69.4			22.84	1.55	35.38	96.19	0.98	0.370	1.089	n.a.	n.a.	n.a.	0.00	0.00
7.550	17.270	0.642	943.8	903.2	37.197	3.824	2.62		Unsaturated	72.5			16.32	1.58	25.74	84.31	0.98	0.370	1.080	n.a.	n.a.	n.a.	0.00	0.00
7.710	12.420	0.616	963.8	913.2	26.146	5.160	2.82		Unsaturated	88.5			11.74	1.59	18.69	77.33	0.98	0.370	1.075	n.a.	n.a.	n.a.	0.00	0.00
7.870	12.410	0.683	983.8	923.2	25.819	5.727	2.85		Unsaturated	91.4			11.73	1.58	18.55	77.45	0.98	0.370	1.074	n.a.	n.a.	n.a.	0.00	0.00
8.040	15.220	0.721	1005.0	933.9	31.520	4.902	2.75		Clay	82.6			14.39	1.24	n.a.	n.a.	0.98	0.370	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	20.330	0.748	1025.0	943.9	32.960	3.772	2.65		Mixed	75.2	70.96	1.4	99.34	1.28	127.41	216.50	0.98	0.374	1.100	5.480	13.261	35.48	0.00	0.00
8.370	18.890	0.652	1046.3	954.5	30.308	3.550	2.66		Mixed	76.0	70.96	1.4	99.34	1.28	127.01	216.16	0.98	0.377	1.100	5.347	12.939	34.29	0.00	0.00
8.530	26.310	0.640	1066.3	964.5	36.086	2.481	2.50		Sand	63.2	70.96	1.4	99.34	1.28	127.05	212.58	0.98	0.381	1.100	4.147	10.036	26.37	0.00	0.00
8.690	30.940	0.817	1086.3	974.6	42.335	2.688	2.47		Sand	60.9	70.96	1.4	99.34	1.28	126.79	211.39	0.98	0.384	1.100	3.824	9.255	24.12	0.00	0.00
8.860	65.260	1.392	1107.5	985.2	89.631	2.151	2.17		Sand	36.7	70.96	1.4	99.34	1.29	128.10	197.75	0.98	0.387	1.100	1.668	4.037	10.43	0.00	0.00
9.020	75.080	1.408	1127.5	995.2	102.699	1.889	2.09		Sand	30.2		1.4	99.35	1.30	128.66	190.26	0.98	0.390	1.100	1.139	2.755	7.06	0.00	0.00
9.190	67.230	1.627	1148.8	1005.9	91.378	2.441	2.20		Sand	39.4	70.96	1.4	99.34	1.28	127.05	199.09	0.98	0.393	1.100	1.795	4.345	11.05	0.00	0.00
9.350	38.770	0.760	1168.8	1015.9	52.090	1.991	2.32		Sand	48.6	70.96	1.4	99.34	1.27	125.97	204.51	0.97	0.396	1.100	2.460	5.953	15.03	0.00	0.00
9.510	25.620	0.729	1188.8	1025.9	33.971	2.914	2.57		Sand	68.5	70.96	1.4	99.34	1.26	124.77	211.30	0.97	0.399	1.100	3.801	9.199	23.06	0.00	0.00
9.680	19.740	0.556	1210.0	1036.5	29.806	2.907	2.61		Mixed	71.9	70.96	1.4	99.34	1.25	124.32	211.66	0.97	0.402	1.100	3.896	9.428	23.46	0.00	0.00
9.840	23.230	0.448	1230.0	1046.5	30.394	1.982	2.50		Sand	63.0	70.96	1.4	99.34	1.25	124.26	208.91	0.97	0.405	1.100	3.243	7.848	19.40	0.00	0.00
10.010	17.140	0.375	1251.3	1057.2	25.371	2.268	2.60		Mixed	70.8	70.96	1.4	99.34	1.24	123.68	210.55	0.97	0.407	1.100	3.615	8.748	21.48	0.00	0.00
10.170	12.270	0.357	1271.3	1067.2	21.804	3.068	2.73		Clay	81.5			11.60	1.20	n.a.	n.a.	0.97	0.410	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	11.280	0.375	1291.3	1077.2	19.744	3.525	2.80		Clay	87.2			10.66	1.19	n.a.	n.a.	0.97	0.412	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	11.150	0.391	1312.5	1087.9	19.292	3.727	2.83		Clay	89.0			10.54	1.19	n.a.	n.a.	0.97	0.415	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	11.100	0.384	1332.5	1097.9	19.007	3.681	2.83		Clay	89.1			10.49	1.19	n.a.	n.a.	0.97	0.417	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	10.940	0.381	1353.8	1108.5	18.517	3.710	2.84		Clay	90.0			10.34	1.19	n.a.	n.a.	0.97	0.420	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	10.920	0.393	1373.8	1118.5	18.297	3.843	2.85		Clay	91.1			10.32	1.18	n.a.	n.a.	0.97	0.422	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	10.770	0.368	1393.8	1128.6	17.851	3.656	2.85		Clay	90.7			10.18	1.18	n.a.	n.a.	0.97	0.425	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9	PGA (A_{max})	0.58	Total Settlement:	0.02	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	10.870	0.366	1415.0	1139.2	17.842	3.599	2.84		Clay	90.4			10.27	1.18	n.a.	n.a.	0.97	0.427	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	10.260	0.336	1435.0	1149.2	16.607	3.521	2.86		Clay	91.8			9.70	1.17	n.a.	n.a.	0.97	0.429	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	9.940	0.309	1456.3	1159.9	15.885	3.354	2.86		Clay	92.0			9.40	1.17	n.a.	n.a.	0.97	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	9.250	0.302	1476.3	1169.9	14.552	3.549	2.91		Clay	95.6			8.74	1.17	n.a.	n.a.	0.96	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	9.240	0.278	1497.5	1180.5	14.386	3.270	2.89		Clay	94.2			8.73	1.17	n.a.	n.a.	0.96	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	9.340	0.301	1517.5	1190.5	14.416	3.506	2.91		Clay	95.6			8.83	1.16	n.a.	n.a.	0.96	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	8.890	0.397	1537.5	1200.5	13.529	4.882	3.02		Clay	100.0			8.40	1.16	n.a.	n.a.	0.96	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	10.390	0.527	1558.8	1211.2	15.870	5.479	3.00		Clay	100.0			9.82	1.16	n.a.	n.a.	0.96	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	11.680	0.650	1578.8	1221.2	17.836	5.970	2.98		Clay	100.0			11.04	1.16	n.a.	n.a.	0.96	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	12.590	0.677	1600.0	1231.8	19.142	5.741	2.95		Clay	99.0			11.90	1.15	n.a.	n.a.	0.96	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	11.950	0.634	1620.0	1241.9	17.941	5.689	2.97		Clay	100.0			11.29	1.15	n.a.	n.a.	0.96	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	10.960	0.572	1640.0	1251.9	16.200	5.639	3.00		Clay	100.0			10.36	1.15	n.a.	n.a.	0.96	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	10.730	0.557	1661.3	1262.5	15.682	5.625	3.01		Clay	100.0			10.14	1.15	n.a.	n.a.	0.96	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	11.450	0.561	1681.3	1272.5	16.674	5.284	2.97		Clay	100.0			10.82	1.14	n.a.	n.a.	0.96	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	12.300	0.598	1702.5	1283.2	17.844	5.224	2.95		Clay	98.7			11.63	1.14	n.a.	n.a.	0.96	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	12.460	0.617	1722.5	1293.2	17.938	5.321	2.95		Clay	98.9			11.78	1.14	n.a.	n.a.	0.96	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	12.740	0.638	1742.5	1303.2	18.215	5.378	2.95		Clay	98.8			12.04	1.14	n.a.	n.a.	0.96	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	13.370	0.630	1763.8	1313.8	19.010	5.045	2.92		Clay	96.2			12.64	1.13	n.a.	n.a.	0.95	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	13.910	0.669	1783.8	1323.9	19.667	5.137	2.91		Clay	95.7			13.15	1.13	n.a.	n.a.	0.95	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	13.890	0.712	1805.0	1334.5	19.464	5.483	2.93		Clay	97.5			13.13	1.13	n.a.	n.a.	0.95	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	14.930	0.740	1825.0	1344.5	20.851	5.277	2.90		Clay	94.8			14.11	1.13	n.a.	n.a.	0.95	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	14.920	0.731	1845.0	1354.5	20.668	5.225	2.90		Clay	94.8			14.10	1.12	n.a.	n.a.	0.95	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	14.600	0.697	1866.3	1365.2	20.022	5.101	2.90		Clay	95.1			13.80	1.12	n.a.	n.a.	0.95	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	14.510	0.651	1886.3	1375.2	19.731	4.796	2.89		Clay	94.1			13.71	1.12	n.a.	n.a.	0.95	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	13.960	0.638	1907.5	1385.8	18.770	4.906	2.91		Clay	95.9			13.19	1.12	n.a.	n.a.	0.95	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	13.080	0.604	1927.5	1395.9	17.360	4.984	2.94		Clay	98.3			12.36	1.12	n.a.	n.a.	0.95	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	12.680	0.581	1947.5	1405.9	16.653	4.966	2.95		Clay	99.3			11.98	1.11	n.a.	n.a.	0.95	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	11.650	0.552	1968.8	1416.5	15.059	5.176	3.00		Clay	100.0			11.01	1.11	n.a.	n.a.	0.95	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	10.840	0.530	1988.8	1426.5	13.804	5.380	3.04		Clay	100.0			10.25	1.11	n.a.	n.a.	0.95	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	10.300	0.483	2010.0	1437.2	12.935	5.198	3.05		Clay	100.0			9.74	1.11	n.a.	n.a.	0.95	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	10.070	0.448	2030.0	1447.2	12.514	4.950	3.05		Clay	100.0			9.52	1.11	n.a.	n.a.	0.94	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	10.370	0.434	2050.0	1457.2	12.826	4.639	3.02		Clay	100.0			9.80	1.10	n.a.	n.a.	0.94	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	9.550	0.420	2071.3	1467.8	11.601	4.928	3.07		Clay	100.0			9.03	1.10	n.a.	n.a.	0.94	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	9.080	0.395	2091.3	1477.9	10.873	4.918	3.09		Clay	100.0			8.58	1.10	n.a.	n.a.	0.94	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	8.620	0.346	2112.5	1488.5	10.163	4.574	3.10		Clay	100.0			8.15	1.10	n.a.	n.a.	0.94	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	8.460	0.317	2132.5	1498.5	9.868	4.293	3.09		Clay	100.0			8.00	1.10	n.a.	n.a.	0.94	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	8.450	0.346	2152.5	1508.5	9.776	4.686	3.12		Clay	100.0			7.99	1.09	n.a.	n.a.	0.94	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	9.470	0.394	2173.8	1519.2	11.036	4.694	3.08		Clay	100.0			8.95	1.09	n.a.	n.a.	0.94	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	10.460	0.478	2193.8	1529.2	12.246	5.105	3.06		Clay	100.0			9.89	1.09	n.a.	n.a.	0.94	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	10.360	0.539	2215.0	1539.8	12.018	5.823	3.11		Clay	100.0			9.79	1.09	n.a.	n.a.	0.94	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	11.420	0.547	2235.0	1549.8	13.295	5.307	3.05		Clay	100.0			10.79	1.09	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	11.720	0.586	2255.0	1559.9	13.581	5.533	3.05		Clay	100.0			11.08	1.08	n.a.	n.a.	0.94	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	12.470	0.614	2276.3	1570.5	14.431	5.418	3.03		Clay	100.0			11.79	1.08	n.a.	n.a.	0.93	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	12.950	0.701	2296.3	1580.5	14.934	5.937	3.04		Clay	100.0			12.24	1.08	n.a.	n.a.	0.93	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	12.340	0.679	2317.5	1591.2	14.054	6.071	3.07		Clay	100.0			11.66	1.08	n.a.	n.a.	0.93	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	12.050	0.639	2337.5	1601.2	13.592	5.871	3.07		Clay	100.0			11.39	1.08	n.a.	n.a.	0.93	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	12.170	0.644	2357.5	1611.2	13.644	5.857	3.07		Clay	100.0			11.50	1.07	n.a.	n.a.	0.93	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	11.480	0.639	2378.8	1621.8	12.690	6.213	3.11		Clay	100.0			10.85	1.07	n.a.	n.a.	0.93	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	10.550	0.621	2398.8	1631.9	11.460	6.639	3.16		Clay	100.0			9.97	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	10.250	0.623	2420.0	1642.5	11.008	6.889	3.18		Clay	100.0			9.69	1.07	n.a.	n.a.	0.93	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	11.350	0.620	2440.0	1652.5	12.260	6.124	3.11		Clay	100.0			10.73	1.07	n.a.	n.a.	0.93	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	12.580	0.607	2461.3	1663.2	13.648	5.352	3.04		Clay	100.0			11.89	1.07	n.a.	n.a.	0.93	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	13.040	0.588	2481.3	1673.2	14.104	4.981	3.01		Clay	100.0			12.33	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	12.460	0.559	2501.3	1683.2	13.319	4.990	3.03		Clay	100.0			11.78	1.06	n.a.	n.a.	0.93	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	12.400	0.572	2522.5	1693.8	13.152	5.135	3.04		Clay	100.0			11.72	1.06	n.a.	n.a.	0.92	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.340	12.130	0.599	2542.5	1703.8	12.746	5.518	3.07		Clay	100.0			11.47	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.510	12.550	0.620	2563.8	1714.5	13.145	5.505	3.06		Clay	100.0			11.86	1.06	n.a.	n.a.	0.92	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.670	13.560	0.664	2583.8	1724.5	14.228	5.410	3.03		Clay	100.0			12.82	1.06	n.a.	n.a.	0.92	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.830	13.610	0.700	2603.8	1734.5	14.192	5.688	3.05		Clay	100.0			12.86	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.000	13.320	0.720	2625.0	1745.2	13.761	5.997	3.07		Clay	100.0			12.59	1.05	n.a.	n.a.	0.92	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.160	13.350	0.700	2645.0	1755.2	13.705	5.822	3.06		Clay	100.0			12.62	1.05	n.a.	n.a.	0.92	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	13.750	0.682	2666.3	1765.8	14.064	5.493	3.04		Clay	100.0			13.00	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	13.350	0.681	2686.3	1775.8	13.523	5.675	3.06		Clay	100.0			12.62	1.05	n.a.	n.a.	0.92	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.650	12.940	0.695	2706.3	1785.9	12.976	5.997	3.09		Clay	100.0			12.23	1.05	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.820	13.510	0.699	2727.5	1796.5	13.522	5.756	3.06		Clay	100.0			12.77	1.04	n.a.	n.a.	0.92	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.980	14.440	0.724	2747.5	1806.5	14.466	5.541	3.03		Clay	100.0			13.65	1.04	n.a.	n.a.	0.92	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.150	14.900	0.740	2768.8	1817.2	14.876	5.471	3.02		Clay	100.0			14.08	1.04	n.a.	n.a.	0.91	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 9 | PGA (A_{max}) 0.58 | Total Settlement: 0.02 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'_{vc}=1\,atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	14.920	0.774	2788.8	1827.2	14.805	5.724	3.03		Clay	100.0			14.10	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.470	14.090	0.767	2808.8	1837.2	13.810	6.046	3.07		Clay	100.0			13.32	1.04	n.a.	n.a.	0.91	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.640	13.880	0.776	2830.0	1847.8	13.492	6.225	3.09		Clay	100.0			13.12	1.04	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.800	13.550	0.734	2850.0	1857.8	13.053	6.054	3.09		Clay	100.0			12.81	1.03	n.a.	n.a.	0.91	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
22.970	14.270	0.731	2871.3	1868.5	13.738	5.698	3.06		Clay	100.0			13.49	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.130	14.630	0.765	2891.3	1878.5	14.037	5.803	3.05		Clay	100.0			13.83	1.03	n.a.	n.a.	0.91	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.290	15.760	0.813	2911.3	1888.5	15.149	5.682	3.02		Clay	100.0			14.90	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.460	16.580	0.830	2932.5	1899.2	15.916	5.494	3.00		Clay	100.0			15.67	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.620	16.590	0.830	2952.5	1909.2	15.833	5.491	3.00		Clay	100.0			15.68	1.03	n.a.	n.a.	0.91	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.790	17.280	0.810	2973.8	1919.8	16.453	5.126	2.97		Clay	100.0			16.33	1.03	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
23.950	17.090	0.773	2993.8	1929.8	16.160	4.957	2.96		Clay	100.0			16.15	1.02	n.a.	n.a.	0.91	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.110	15.030	0.763	3013.8	1939.8	13.942	5.644	3.05		Clay	100.0			14.21	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.280	12.380	0.702	3035.0	1950.5	11.138	6.466	3.16		Clay	100.0			11.70	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.440	9.870	0.613	3055.0	1960.5	8.511	7.347	3.29		Clay	100.0			9.33	1.02	n.a.	n.a.	0.90	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.610	8.210	0.530	3076.3	1971.1	6.770	7.941	3.39		Clay	100.0			7.76	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.770	6.600	0.482	3096.3	1981.2	5.100	9.537	3.53		Clay	100.0			6.24	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
24.930	6.320	0.493	3116.3	1991.2	4.783	10.347	3.57		Clay	100.0			5.97	1.02	n.a.	n.a.	0.90	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.100	6.880	0.622	3137.5	2001.8	5.306	11.719	3.57		Clay	100.0			6.50	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.260	11.370	0.739	3157.5	2011.8	9.734	7.544	3.25		Clay	100.0			10.75	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	23.830	0.805	3178.8	2022.5	21.993	3.618	2.77		Clay	84.8			22.52	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	22.340	0.847	3198.8	2032.5	20.409	4.083	2.83		Clay	89.5			21.12	1.01	n.a.	n.a.	0.90	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	19.080	0.876	3218.8	2042.5	17.107	5.014	2.95		Clay	98.8			18.03	1.01	n.a.	n.a.	0.90	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	16.290	0.889	3240.0	2053.2	14.290	6.063	3.06		Clay	100.0			15.40	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.080	12.590	0.802	3260.0	2063.2	10.624	7.315	3.21		Clay	100.0			11.90	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.250	10.750	1.029	3281.3	2073.8	8.785	11.293	3.40		Clay	100.0			10.16	1.01	n.a.	n.a.	0.89	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.410	18.110	1.229	3301.3	2083.8	15.797	7.464	3.09		Clay	100.0			17.12	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	46.550	1.208	3321.3	2093.8	42.652	2.692	2.47		Sand	60.7		1.8	79.20	1.00	79.53	150.78	0.89	0.516	1.002	0.294	0.494	0.96	0.01	0.02
26.740	33.930	1.585	3342.5	2104.5	30.657	4.914	2.75		Clay	83.4			32.07	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	26.610	2.150	3362.5	2114.5	23.579	8.624	3.01		Clay	100.0			25.15	1.00	n.a.	n.a.	0.89	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	42.620	2.247	3383.8	2125.1	38.518	5.489	2.72		Clay	80.5			40.28	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	43.600	1.997	3403.8	2135.2	39.246	4.767	2.67		Clay	76.5			41.21	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	28.390	1.648	3425.0	2145.8	24.865	6.177	2.89		Clay	94.1			26.83	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	24.880	1.273	3445.0	2155.8	21.484	5.499	2.90		Clay	95.0			23.52	1.00	n.a.	n.a.	0.89	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	21.020	1.141	3465.0	2165.8	17.811	5.914	2.98		Clay	100.0			19.87	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	17.790	1.029	3486.3	2176.5	14.746	6.413	3.07		Clay	100.0			16.81	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	17.190	0.924	3506.3	2186.5	14.120	5.988	3.06		Clay	100.0			16.25	0.99	n.a.	n.a.	0.88	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	17.380	0.779	3527.5	2197.1	14.215	4.987	3.01		Clay	100.0			16.43	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	16.690	0.714	3547.5	2207.1	13.516	4.788	3.01		Clay	100.0			15.78	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	16.100	0.665	3567.5	2217.2	12.914	4.642	3.02		Clay	100.0			15.22	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	14.910	0.613	3588.8	2227.8	11.774	4.672	3.05		Clay	100.0			14.09	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	14.060	0.593	3608.8	2237.8	10.953	4.838	3.09		Clay	100.0			13.29	0.99	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	12.780	0.534	3630.0	2248.5	9.753	4.868	3.13		Clay	100.0			12.08	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	12.080	0.441	3650.0	2258.5	9.081	4.302	3.12		Clay	100.0			11.42	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	11.150	0.407	3670.0	2268.5	8.212	4.368	3.16		Clay	100.0			10.54	0.98	n.a.	n.a.	0.88	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	10.970	0.402	3691.3	2279.1	8.007	4.401	3.17		Clay	100.0			10.37	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	10.780	0.415	3711.3	2289.2	7.797	4.652	3.20		Clay	100.0			10.19	0.98	n.a.	n.a.	0.87	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	10.680	0.423	3732.5	2299.8	7.665	4.802	3.21		Clay	100.0			10.09	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.020	10.660	0.405	3752.5	2309.8	7.606	4.614	3.20		Clay	100.0			10.08	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.180	10.570	0.396	3772.5	2319.8	7.487	4.563	3.20		Clay	100.0			9.99	0.98	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	10.570	0.375	3793.8	2330.5	7.443	4.325	3.19		Clay	100.0			9.99	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	10.500	0.352	3813.8	2340.5	7.343	4.100	3.18		Clay	100.0			9.92	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	9.880	0.339	3835.0	2351.1	6.773	4.254	3.22		Clay	100.0			9.34	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	9.670	0.343	3855.0	2361.1	6.558	4.428	3.24		Clay	100.0			9.14	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	10.130	0.402	3875.0	2371.2	6.910	4.901	3.25		Clay	100.0			9.57	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	12.320	0.479	3896.3	2381.8	8.709	4.616	3.15		Clay	100.0			11.64	0.97	n.a.	n.a.	0.87	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	14.920	0.502	3916.3	2391.8	10.839	3.871	3.03		Clay	100.0			14.10	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	15.190	0.494	3937.5	2402.5	11.006	3.739	3.02		Clay	100.0			14.36	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	13.890	0.527	3957.5	2412.5	9.875	4.424	3.10		Clay	100.0			13.13	0.97	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	14.040	0.580	3977.5	2422.5	9.949	4.814	3.12		Clay	100.0			13.27	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	13.200	0.617	3998.8	2433.1	9.207	5.506	3.18		Clay	100.0			12.48	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	12.250	0.607	4018.8	2443.2	8.383	5.931	3.23		Clay	100.0			11.58	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.320	11.890	0.575	4040.0	2453.8	8.045	5.830	3.24		Clay	100.0			11.24	0.96	n.a.	n.a.	0.86	0.519	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	12.630	0.514	4060.0	2463.8	8.605	4.844	3.17		Clay	100.0			11.94	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	13.010	0.489	4080.0	2473.8	8.869	4.459	3.14		Clay	100.0			12.30	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	12.070	0.456	4101.3	2484.5	8.066	4.551	3.18		Clay	100.0			11.41	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	11.920	0.428	4121.3	2494.5	7.905	4.342	3.17		Clay	100.0			11.27	0.96	n.a.	n.a.	0.86	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	12.470	0.433	4142.5	2505.1	8.302	4.161	3.14		Clay	100.0			11.79	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.58

Total Settlement:	0.02	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	14.970	0.440	4162.5	2515.1	10.249	3.415	3.02		Clay	100.0			14.15	0.96	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	16.630	0.487	4182.5	2525.2	11.515	3.348	2.97		Clay	100.0			15.72	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	18.040	0.516	4203.8	2535.8	12.571	3.237	2.93		Clay	97.8			17.05	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	18.280	0.528	4223.8	2545.8	12.702	3.268	2.93		Clay	97.7			17.28	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	18.380	0.537	4245.0	2556.5	12.719	3.301	2.94		Clay	97.9			17.37	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	17.820	0.527	4265.0	2566.5	12.225	3.356	2.95		Clay	99.3			16.84	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	16.970	0.527	4285.0	2576.5	11.510	3.554	2.99		Clay	100.0			16.04	0.95	n.a.	n.a.	0.85	0.518	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	18.190	0.501	4306.3	2587.1	12.397	3.126	2.93		Clay	97.5			17.19	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	17.620	0.467	4326.3	2597.1	11.903	3.020	2.94		Clay	97.9			16.65	0.95	n.a.	n.a.	0.85	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	15.020	0.421	4347.5	2607.8	9.852	3.277	3.02		Clay	100.0			14.20	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	14.500	0.370	4367.5	2617.8	9.410	3.006	3.02		Clay	100.0			13.71	0.95	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	13.570	0.523	4387.5	2627.8	8.658	4.598	3.16		Clay	100.0			12.83	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	14.430	0.705	4408.8	2638.5	9.267	5.767	3.19		Clay	100.0			13.64	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	19.450	0.822	4428.8	2648.5	13.015	4.770	3.03		Clay	100.0			18.38	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	24.400	0.757	4450.0	2659.1	16.678	3.415	2.85		Clay	91.1			23.06	0.94	n.a.	n.a.	0.84	0.517	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	19.830	0.703	4470.0	2669.1	13.184	3.996	2.97		Clay	100.0			18.74	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	16.650	0.726	4491.3	2679.8	10.750	5.043	3.11		Clay	100.0			15.74	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	12.950	0.903	4511.3	2689.8	7.952	8.446	3.35		Clay	100.0			12.24	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	28.600	0.925	4531.3	2699.8	19.508	3.512	2.81		Clay	87.4			27.03	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	31.940	0.913	4552.5	2710.5	21.888	3.078	2.73		Clay	81.4			30.19	0.94	n.a.	n.a.	0.84	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	25.260	0.905	4572.5	2720.5	16.890	3.938	2.89		Clay	93.8			23.88	0.94	n.a.	n.a.	0.83	0.516	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	22.680	0.787	4593.8	2731.1	14.927	3.863	2.92		Clay	96.7			21.44	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	20.900	0.700	4613.8	2741.1	13.566	3.766	2.95		Clay	98.8			19.75	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	19.420	0.602	4633.8	2751.1	12.433	3.518	2.96		Clay	99.8			18.36	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	17.330	0.572	4655.0	2761.8	10.864	3.813	3.03		Clay	100.0			16.38	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	15.940	0.537	4675.0	2771.8	9.815	3.951	3.07		Clay	100.0			15.07	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	15.440	0.514	4696.3	2782.4	9.410	3.925	3.09		Clay	100.0			14.59	0.93	n.a.	n.a.	0.83	0.515	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	15.090	0.513	4716.3	2792.5	9.119	4.027	3.10		Clay	100.0			14.26	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	14.030	0.477	4736.3	2802.5	8.323	4.087	3.14		Clay	100.0			13.26	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	13.920	0.448	4757.5	2813.1	8.205	3.883	3.13		Clay	100.0			13.16	0.93	n.a.	n.a.	0.83	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	13.770	0.466	4777.5	2823.1	8.063	4.095	3.15		Clay	100.0			13.02	0.93	n.a.	n.a.	0.82	0.514	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	13.360	0.472	4798.8	2833.8	7.736	4.306	3.18		Clay	100.0			12.63	0.93	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	12.190	0.454	4818.8	2843.8	6.879	4.643	3.24		Clay	100.0			11.52	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	12.130	0.442	4838.8	2853.8	6.805	4.554	3.24		Clay	100.0			11.47	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	12.000	0.443	4860.0	2864.4	6.682	4.627	3.25		Clay	100.0			11.34	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	11.450	0.444	4880.0	2874.5	6.269	4.925	3.29		Clay	100.0			10.82	0.92	n.a.	n.a.	0.82	0.513	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	11.370	0.415	4901.3	2885.1	6.183	4.652	3.28		Clay	100.0			10.75	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	11.570	0.389	4921.3	2895.1	6.293	4.270	3.25		Clay	100.0			10.94	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	11.300	0.375	4941.3	2905.1	6.078	4.242	3.26		Clay	100.0			10.68	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	11.520	0.398	4962.5	2915.8	6.200	4.399	3.26		Clay	100.0			10.89	0.92	n.a.	n.a.	0.82	0.512	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	13.050	0.433	4982.5	2925.8	7.218	4.096	3.19		Clay	100.0			12.33	0.92	n.a.	n.a.	0.82	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	16.690	0.511	5003.8	2936.4	9.663	3.604	3.05		Clay	100.0			15.78	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	18.610	0.659	5023.8	2946.5	10.927	4.091	3.04		Clay	100.0			17.59	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	19.820	0.734	5043.8	2956.5	11.702	4.240	3.03		Clay	100.0			18.73	0.92	n.a.	n.a.	0.81	0.511	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	20.740	0.735	5065.0	2967.1	12.273	4.034	3.00		Clay	100.0			19.60	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	20.150	0.736	5085.0	2977.1	11.829	4.182	3.02		Clay	100.0			19.05	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	18.560	0.664	5106.3	2987.8	10.715	4.146	3.05		Clay	100.0			17.54	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	16.770	0.605	5126.3	2997.8	9.478	4.259	3.10		Clay	100.0			15.85	0.91	n.a.	n.a.	0.81	0.510	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	15.100	0.487	5146.3	3007.8	8.330	3.888	3.13		Clay	100.0			14.27	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	14.020	0.448	5167.5	3018.4	7.578	3.914	3.16		Clay	100.0			13.25	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	13.850	0.424	5187.5	3028.5	7.434	3.763	3.16		Clay	100.0			13.09	0.91	n.a.	n.a.	0.81	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	14.080	0.443	5208.8	3039.1	7.552	3.863	3.16		Clay	100.0			13.31	0.91	n.a.	n.a.	0.80	0.509	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	13.620	0.587	5228.8	3049.1	7.219	5.335	3.26		Clay	100.0			12.87	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	15.880	0.725	5248.8	3059.1	8.666	5.469	3.20		Clay	100.0			15.01	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	21.650	0.934	5270.0	3069.8	12.389	4.914	3.05		Clay	100.0			20.46	0.91	n.a.	n.a.	0.80	0.508	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	24.230	0.921	5290.0	3079.8	14.017	4.269	2.97		Clay	100.0			22.90	0.91	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	29.570	0.742	5311.3	3090.4	17.418	2.755	2.78		Clay	85.3			27.95	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	31.950	0.555	5331.3	3100.5	18.890	1.896	2.66		Clay	75.5			30.20	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	24.980	0.706	5351.3	3110.5	14.342	3.165	2.88		Clay	93.6			23.61	0.90	n.a.	n.a.	0.80	0.507	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	21.070	0.769	5372.5	3121.1	11.780	4.184	3.02		Clay	100.0			19.91	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	25.840	0.861	5392.5	3131.1	14.783	3.722	2.92		Clay	96.2			24.42	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	31.050	1.045	5413.8	3141.8	18.043	3.688	2.84		Clay	90.6			29.35	0.90	n.a.	n.a.	0.80	0.506	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	30.900	1.141	5433.8	3151.8	17.884	4.048	2.87		Clay	92.9			29.21	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	28.680	1.135	5455.0	3162.4	16.413	4.372	2.92		Clay	96.9			27.11	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	24.820	0.988	5475.0	3172.4	13.921	4.475	2.99		Clay	100.0			23.46	0.90	n.a.	n.a.	0.79	0.505	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	21.670	0.791	5495.0	3182.5	11.892	4.181	3.02		Clay	100.0			20.48	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	19.680	0.634	5516.3	3193.1	10.599	3.748	3.03		Clay	100.0			18.60	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.58

Total Settlement:	0.02	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	18.630	0.573	5536.3	3203.1	9.904	3.609	3.05		Clay	100.0			17.61	0.90	n.a.	n.a.	0.79	0.504	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	16.850	0.488	5557.5	3213.8	8.757	3.467	3.08		Clay	100.0			15.93	0.90	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	14.470	0.507	5577.5	3223.8	7.247	4.343	3.20		Clay	100.0			13.68	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	13.680	0.483	5597.5	3233.8	6.730	4.435	3.24		Clay	100.0			12.93	0.89	n.a.	n.a.	0.79	0.503	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	13.920	0.452	5618.8	3244.4	6.849	4.065	3.21		Clay	100.0			13.16	0.89	n.a.	n.a.	0.79	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	13.810	0.426	5638.8	3254.4	6.754	3.875	3.20		Clay	100.0			13.05	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	14.120	0.426	5660.0	3265.1	6.916	3.770	3.19		Clay	100.0			13.35	0.89	n.a.	n.a.	0.78	0.502	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	15.690	0.452	5680.0	3275.1	7.847	3.514	3.12		Clay	100.0			14.83	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	16.760	0.531	5700.0	3285.1	8.468	3.815	3.12		Clay	100.0			15.84	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	18.990	0.611	5721.3	3295.8	9.788	3.788	3.06		Clay	100.0			17.95	0.89	n.a.	n.a.	0.78	0.501	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	21.450	0.655	5741.3	3305.8	11.241	3.525	3.00		Clay	100.0			20.27	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	22.810	0.726	5762.5	3316.4	12.018	3.641	2.98		Clay	100.0			21.56	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	23.260	0.672	5782.5	3326.4	12.247	3.299	2.95		Clay	98.9			21.98	0.89	n.a.	n.a.	0.78	0.500	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	22.730	0.654	5802.5	3336.5	11.886	3.296	2.96		Clay	99.7			21.48	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	20.600	0.601	5823.8	3347.1	10.569	3.399	3.01		Clay	100.0			19.47	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	19.090	0.564	5843.8	3357.1	9.632	3.488	3.05		Clay	100.0			18.04	0.89	n.a.	n.a.	0.78	0.499	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	18.090	0.520	5865.0	3367.8	9.002	3.433	3.07		Clay	100.0			17.10	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	16.270	0.472	5885.0	3377.8	7.891	3.542	3.12		Clay	100.0			15.38	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	14.440	0.407	5905.0	3387.8	6.782	3.545	3.18		Clay	100.0			13.65	0.88	n.a.	n.a.	0.77	0.498	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	12.810	0.406	5926.3	3398.4	5.795	4.123	3.27		Clay	100.0			12.11	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	12.330	0.423	5946.3	3408.4	5.490	4.520	3.31		Clay	100.0			11.65	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	14.570	0.497	5967.5	3419.1	6.777	4.292	3.22		Clay	100.0			13.77	0.88	n.a.	n.a.	0.77	0.497	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	16.430	0.695	5987.5	3429.1	7.837	5.173	3.22		Clay	100.0			15.53	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	17.440	0.772	6007.5	3439.1	8.395	5.349	3.21		Clay	100.0			16.48	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	19.810	0.484	6028.8	3449.8	9.737	2.880	3.00		Clay	100.0			18.72	0.88	n.a.	n.a.	0.77	0.496	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	19.760	0.393	6048.8	3459.8	9.674	2.349	2.95		Clay	99.0			18.68	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	14.690	0.299	6070.0	3470.4	6.717	2.561	3.10		Clay	100.0			13.88	0.88	n.a.	n.a.	0.77	0.495	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	12.910	0.271	6090.0	3480.4	5.669	2.745	3.18		Clay	100.0			12.20	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.880	11.600	0.310	6110.0	3490.4	4.896	3.633	3.30		Clay	100.0			10.96	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.050	13.310	0.341	6131.3	3501.1	5.852	3.329	3.22		Clay	100.0			12.58	0.88	n.a.	n.a.	0.76	0.494	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.210	15.450	0.398	6151.3	3511.1	7.049	3.219	3.14		Clay	100.0			14.60	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.380	15.960	0.406	6172.5	3521.7	7.311	3.152	3.12		Clay	100.0			15.09	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.540	14.560	0.383	6192.5	3531.8	6.492	3.337	3.18		Clay	100.0			13.76	0.87	n.a.	n.a.	0.76	0.493	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.700	13.610	0.369	6212.5	3541.8	5.931	3.515	3.22		Clay	100.0			12.86	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
49.870	13.250	0.359	6233.8	3552.4	5.705	3.542	3.24		Clay	100.0			12.52	0.87	n.a.	n.a.	0.76	0.492	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	14.070	0.383	6253.8	3562.4	6.144	3.503	3.21		Clay	100.0			13.30	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	14.820	0.400	6275.0	3573.1	6.539	3.421	3.18		Clay	100.0			14.01	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.360	15.600	0.461	6295.0	3583.1	6.951	3.703	3.18		Clay	100.0			14.74	0.87	n.a.	n.a.	0.76	0.491	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.520	15.150	0.452	6315.0	3593.1	6.675	3.766	3.20		Clay	100.0			14.32	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.690	14.710	0.432	6336.3	3603.8	6.405	3.742	3.21		Clay	100.0			13.90	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.850	14.520	0.472	6356.3	3613.8	6.277	4.158	3.24		Clay	100.0			13.72	0.87	n.a.	n.a.	0.75	0.490	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.020	15.220	0.505	6377.5	3624.4	6.639	4.193	3.23		Clay	100.0			14.39	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.180	17.520	0.518	6397.5	3634.4	7.881	3.620	3.13		Clay	100.0			16.56	0.87	n.a.	n.a.	0.75	0.489	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.350	19.690	0.634	6418.8	3645.1	9.043	3.848	3.09		Clay	100.0			18.61	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	19.010	0.734	6438.8	3655.1	8.640	4.648	3.16		Clay	100.0			17.97	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	20.690	0.780	6458.8	3665.1	9.528	4.466	3.11		Clay	100.0			19.56	0.87	n.a.	n.a.	0.75	0.488	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	23.250	0.768	6480.0	3675.7	10.888	3.839	3.03		Clay	100.0			21.98	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	22.690	0.702	6500.0	3685.8	10.549	3.609	3.02		Clay	100.0			21.45	0.86	n.a.	n.a.	0.75	0.487	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	22.990	0.693	6521.3	3696.4	10.675	3.510	3.01		Clay	100.0			21.73	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	24.040	0.732	6541.3	3706.4	11.207	3.525	3.00		Clay	100.0			22.72	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	20.940	0.815	6561.3	3716.4	9.503	4.617	3.12		Clay	100.0			19.79	0.86	n.a.	n.a.	0.74	0.486	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	20.290	0.784	6582.5	3727.1	9.122	4.614	3.14		Clay	100.0			19.18	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	23.780	0.936	6602.5	3737.1	10.960	4.571	3.07		Clay	100.0			22.48	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	23.920	0.939	6623.8	3747.7	10.998	4.558	3.07		Clay	100.0			22.61	0.86	n.a.	n.a.	0.74	0.485	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	25.870	0.866	6643.8	3757.8	12.001	3.838	3.00		Clay	100.0			24.45	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	30.380	1.098	6663.8	3767.8	14.358	4.060	2.95		Clay	98.9			28.71	0.86	n.a.	n.a.	0.74	0.484	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	27.830	1.215	6685.0	3778.4	12.962	4.960	3.04		Clay	100.0			26.30	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	28.030	1.235	6705.0	3788.4	13.028	5.004	3.04		Clay	100.0			26.49	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	29.450	1.002	6726.3	3799.1	13.733	3.839	2.95		Clay	98.9			27.84	0.86	n.a.	n.a.	0.74	0.483	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	28.130	1.115	6746.3	3809.1	12.999	4.502	3.01		Clay	100.0			26.59	0.86	n.a.	n.a.	0.74	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	34.080	1.230	6766.3	3819.1	16.075	4.006	2.91		Clay	95.5			32.21	0.86	n.a.	n.a.	0.73	0.482	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	38.530	1.362	6787.5	3829.7	18.349	3.877	2.85		Clay	91.2			36.42	0.86	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	55.100	1.237	6807.5	3839.8	36.273	2.393	2.49		Sand	62.3			52.08	0.74	38.64	98.79	0.73	0.481	0.937	0.136	0.160	0.33	0.03	0.00
54.630	36.730	1.297	6828.8	3850.4	17.305	3.893	2.87		Clay	92.9			34.72	0.85	n.a.	n.a.	0.73	0.481	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	24.320	0.904	6848.8	3860.4	10.826	4.325	3.06		Clay	100.0			22.99	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	23.840	0.724	6868.8	3870.4	10.544	3.547	3.02		Clay	100.0			22.53	0.85	n.a.	n.a.	0.73	0.480	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	21.870	0.560	6890.0	3881.1	9.495	3.039	3.02		Clay	100.0			20.67	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.58

Total Settlement:	0.02	(Inches)

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)
55.280	19.040	0.431	6910.0	3891.1	8.011	2.762	3.06		Clay	100.0			18.00	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	17.820	0.427	6931.3	3901.7	7.358	2.977	3.11		Clay	100.0			16.84	0.85	n.a.	n.a.	0.73	0.479	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	15.560	0.469	6951.3	3911.7	6.179	3.880	3.23		Clay	100.0			14.71	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	17.380	0.462	6971.3	3921.8	7.086	3.321	3.15		Clay	100.0			16.43	0.85	n.a.	n.a.	0.73	0.478	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	19.260	0.483	6992.5	3932.4	8.017	3.065	3.08		Clay	100.0			18.20	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	18.520	0.569	7012.5	3942.4	7.617	3.791	3.15		Clay	100.0			17.50	0.85	n.a.	n.a.	0.72	0.477	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	19.610	0.674	7033.8	3953.1	8.142	4.190	3.15		Clay	100.0			18.53	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	20.240	0.789	7053.8	3963.1	8.434	4.723	3.17		Clay	100.0			19.13	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	20.330	0.819	7073.8	3973.1	8.453	4.875	3.18		Clay	100.0			19.22	0.85	n.a.	n.a.	0.72	0.476	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	21.190	0.780	7095.0	3983.7	8.857	4.422	3.14		Clay	100.0			20.03	0.85	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	21.820	0.743	7115.0	3993.8	9.146	4.070	3.11		Clay	100.0			20.62	0.85	n.a.	n.a.	0.72	0.475	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	23.140	0.723	7136.3	4004.4	9.775	3.692	3.06		Clay	100.0			21.87	0.85	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	23.760	0.686	7156.3	4014.4	10.055	3.401	3.03		Clay	100.0			22.46	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	23.800	0.692	7176.3	4024.4	10.045	3.425	3.03		Clay	100.0			22.50	0.84	n.a.	n.a.	0.72	0.474	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	24.260	0.848	7197.5	4035.1	10.241	4.102	3.07		Clay	100.0			22.93	0.84	n.a.	n.a.	0.72	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	28.630	1.036	7217.5	4045.1	12.371	4.138	3.00		Clay	100.0			27.06	0.84	n.a.	n.a.	0.71	0.473	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	33.050	1.121	7238.8	4055.7	14.513	3.809	2.93		Clay	97.2			31.24	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	29.500	1.075	7258.8	4065.7	12.726	4.155	3.00		Clay	100.0			27.88	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	22.750	0.910	7278.8	4075.8	9.378	4.764	3.14		Clay	100.0			21.50	0.84	n.a.	n.a.	0.71	0.472	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	21.540	0.675	7300.0	4086.4	8.756	3.772	3.10		Clay	100.0			20.36	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	26.770	0.710	7320.0	4096.4	11.283	3.072	2.96		Clay	99.8			25.30	0.84	n.a.	n.a.	0.71	0.471	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	27.060	1.228	7341.3	4107.1	11.390	5.249	3.10		Clay	100.0			25.58	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	29.140	1.481	7361.3	4117.1	12.368	5.817	3.10		Clay	100.0			27.54	0.84	n.a.	n.a.	0.71	0.470	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	69.740	1.789	7382.5	4127.7	44.697	2.708	2.46		Sand	59.7			65.92	0.73	47.93	109.99	0.71	0.470	0.923	0.152	0.185	0.39	0.03	0.00
59.220	69.160	1.374	7402.5	4137.7	44.244	2.099	2.39		Sand	54.1			65.37	0.72	47.31	107.41	0.71	0.469	0.924	0.148	0.178	0.38	0.03	0.00
59.380	46.200	1.094	7422.5	4147.7	20.488	2.574	2.71		Clay	79.4			43.67	0.84	n.a.	n.a.	0.71	0.469	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	25.780	0.852	7443.8	4158.4	10.609	3.861	3.04		Clay	100.0			24.37	0.84	n.a.	n.a.	0.71	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	21.050	0.786	7463.8	4168.4	8.309	4.540	3.17		Clay	100.0			19.90	0.84	n.a.	n.a.	0.70	0.468	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	26.360	0.838	7485.0	4179.0	10.824	3.705	3.02		Clay	100.0			24.91	0.84	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	25.710	0.849	7505.0	4189.1	10.483	3.865	3.04		Clay	100.0			24.30	0.84	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	25.440	0.855	7525.0	4199.1	10.325	3.942	3.05		Clay	100.0			24.05	0.83	n.a.	n.a.	0.70	0.467	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	27.000	0.847	7546.3	4209.7	11.035	3.646	3.01		Clay	100.0			25.52	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	30.150	0.847	7566.3	4219.7	12.497	3.211	2.93		Clay	97.8			28.50	0.83	n.a.	n.a.	0.70	0.466	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	29.630	0.884	7587.5	4230.4	12.215	3.421	2.96		Clay	99.7			28.01	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	27.310	0.923	7607.5	4240.4	11.087	3.927	3.03		Clay	100.0			25.81	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	25.090	0.906	7627.5	4250.4	10.011	4.258	3.09		Clay	100.0			23.71	0.83	n.a.	n.a.	0.70	0.465	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	23.420	0.890	7648.8	4261.1	9.198	4.543	3.13		Clay	100.0			22.14	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	23.660	0.912	7668.8	4271.1	9.284	4.599	3.13		Clay	100.0			22.36	0.83	n.a.	n.a.	0.70	0.464	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	24.700	0.934	7690.0	4281.7	9.741	4.480	3.11		Clay	100.0			23.35	0.83	n.a.	n.a.	0.70	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	25.450	0.973	7710.0	4291.7	10.064	4.503	3.10		Clay	100.0			24.05	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	23.680	0.888	7730.0	4301.7	9.213	4.479	3.13		Clay	100.0			22.38	0.83	n.a.	n.a.	0.69	0.463	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	21.370	0.836	7751.3	4312.4	8.114	4.781	3.19		Clay	100.0			20.20	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	21.450	0.821	7771.3	4322.4	8.127	4.676	3.18		Clay	100.0			20.27	0.83	n.a.	n.a.	0.69	0.462	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	26.660	0.719	7792.5	4333.0	10.507	3.159	2.99		Clay	100.0			25.20	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	28.070	0.833	7812.5	4343.1	11.128	3.446	2.99		Clay	100.0			26.53	0.83	n.a.	n.a.	0.69	0.461	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	26.250	0.881	7832.5	4353.1	10.261	3.944	3.06		Clay	100.0			24.81	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	26.520	0.860	7853.8	4363.7	10.355	3.805	3.04		Clay	100.0			25.07	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.990	26.240	0.801	7873.8	4373.7	10.199	3.589	3.03		Clay	100.0			24.80	0.83	n.a.	n.a.	0.69	0.460	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.160	25.010	0.766	7895.0	4384.4	9.608	3.638	3.06		Clay	100.0			23.64	0.83	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.320	26.210	0.711	7915.0	4394.4	10.128	3.197	3.01		Clay	100.0			24.77	0.82	n.a.	n.a.	0.69	0.459	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.480	30.210	0.747	7935.0	4404.4	11.916	2.847	2.92		Clay	96.7			28.55	0.82	n.a.	n.a.	0.69	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.650	31.910	0.867	7956.3	4415.1	12.653	3.105	2.92		Clay	96.8			30.16	0.82	n.a.	n.a.	0.68	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.810	33.000	1.500	7976.3	4425.1	13.113	5.169	3.04		Clay	100.0			31.19	0.82	n.a.	n.a.	0.68	0.458	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	34.740	2.420	7997.5	4435.7	13.861	7.873	3.15		Clay	100.0			32.84	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	44.940	2.339	8017.5	4445.7	18.414	5.714	2.96		Clay	99.9			42.48	0.82	n.a.	n.a.	0.68	0.457	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	48.940	2.876	8037.5	4455.7	20.163	6.402	2.97		Clay	100.0			46.26	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	34.890	3.015	8058.8	4466.4	13.819	9.769	3.21		Clay	100.0			32.98	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.630	71.080	3.776	8078.8	4476.4	29.953	5.633	2.80		Clay	87.3			67.18	0.82	n.a.	n.a.	0.68	0.456	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.800	84.900	4.447	8100.0	4487.0	36.037	5.500	2.74		Clay	82.1			80.25	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.960	71.540	4.573	8120.0	4497.1	30.011	6.776	2.86		Clay	91.8			67.62	0.82	n.a.	n.a.	0.68	0.455	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.120	79.360	4.005	8140.0	4507.1	33.410	5.320	2.75		Clay	83.2			75.01	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.290	78.010	3.140	8161.3	4517.7	32.729	4.248	2.69		Clay	78.2			73.73	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.450	57.490	2.495	8181.3	4527.7	23.588	4.673	2.82		Clay	88.8			54.34	0.82	n.a.	n.a.	0.68	0.454	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.620	64.230	2.169	8202.5	4538.4	26.498	3.607	2.71		Clay	79.9			60.71	0.82	n.a.	n.a.	0.68	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	49.550	1.559	8222.5	4548.4	19.980	3.432	2.79		Clay	86.3			46.83	0.82	n.a.	n.a.	0.67	0.453	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	29.650	1.295	8242.5	4558.4	11.201	5.072	3.09		Clay	100.0			28.02	0.82	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	20.140	1.024	8263.8	4569.0	7.007	6.398	3.32		Clay	100.0			19.04	0.82	n.a.	n.a.	0.67	0.452	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	9

PGA (A_{max})	0.58

Total Settlement:	0.02	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
66.270	19.180	0.957	8283.8	4579.1	6.568	6.362	3.34		Clay	100.0			18.13	0.82	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	17.820	0.844	8305.0	4589.7	5.956	6.177	3.36		Clay	100.0			16.84	0.82	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	17.170	0.797	8325.0	4599.7	5.656	6.125	3.38		Clay	100.0			16.23	0.81	n.a.	n.a.	0.67	0.451	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	16.820	0.701	8346.3	4610.4	5.486	5.542	3.36		Clay	100.0			15.90	0.81	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	16.660	0.725	8366.3	4620.4	5.401	5.807	3.38		Clay	100.0			15.75	0.81	n.a.	n.a.	0.67	0.450	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	16.410	0.707	8386.3	4630.4	5.277	5.784	3.39		Clay	100.0			15.51	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	16.520	0.687	8407.5	4641.0	5.308	5.576	3.38		Clay	100.0			15.61	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	17.250	0.666	8427.5	4651.1	5.606	5.107	3.34		Clay	100.0			16.30	0.81	n.a.	n.a.	0.67	0.449	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	17.940	0.695	8448.8	4661.7	5.884	5.064	3.32		Clay	100.0			16.96	0.81	n.a.	n.a.	0.67	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	19.060	0.632	8468.8	4671.7	6.347	4.265	3.25		Clay	100.0			18.02	0.81	n.a.	n.a.	0.66	0.448	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	18.030	0.577	8488.8	4681.7	5.889	4.187	3.27		Clay	100.0			17.04	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	17.610	0.565	8510.0	4692.4	5.692	4.232	3.28		Clay	100.0			16.64	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	17.980	0.604	8530.0	4702.4	5.833	4.400	3.28		Clay	100.0			16.99	0.81	n.a.	n.a.	0.66	0.447	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	19.470	0.675	8551.3	4713.0	6.448	4.440	3.25		Clay	100.0			18.40	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	21.850	0.740	8571.3	4723.0	7.438	4.211	3.19		Clay	100.0			20.65	0.81	n.a.	n.a.	0.66	0.446	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	23.070	0.828	8591.3	4733.1	7.933	4.410	3.18		Clay	100.0			21.81	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	22.920	0.790	8612.5	4743.7	7.848	4.246	3.17		Clay	100.0			21.66	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	22.550	0.771	8632.5	4753.7	7.671	4.231	3.18		Clay	100.0			21.31	0.81	n.a.	n.a.	0.66	0.445	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	20.870	0.753	8653.8	4764.4	6.945	4.551	3.23		Clay	100.0			19.73	0.81	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	18.870	0.741	8673.8	4774.4	6.088	5.100	3.31		Clay	100.0			17.84	0.81	n.a.	n.a.	0.66	0.444	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	19.500	0.757	8693.8	4784.4	6.334	4.996	3.29		Clay	100.0			18.43	0.81	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	19.210	0.834	8715.0	4795.0	6.195	5.613	3.32		Clay	100.0			18.16	0.81	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	19.690	0.876	8735.0	4805.0	6.378	5.717	3.32		Clay	100.0			18.61	0.81	n.a.	n.a.	0.66	0.443	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	22.530	0.801	8756.3	4815.7	7.539	4.411	3.19		Clay	100.0			21.29	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	23.800	0.874	8776.3	4825.7	8.045	4.502	3.18		Clay	100.0			22.50	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	23.090	0.992	8796.3	4835.7	7.731	5.306	3.23		Clay	100.0			21.82	0.80	n.a.	n.a.	0.65	0.442	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	25.030	0.961	8817.5	4846.4	8.510	4.658	3.16		Clay	100.0			23.66	0.80	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	25.400	0.989	8837.5	4856.4	8.641	4.715	3.16		Clay	100.0			24.01	0.80	n.a.	n.a.	0.65	0.441	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	23.190	0.999	8858.8	4867.0	7.709	5.323	3.23		Clay	100.0			21.92	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	23.190	0.905	8878.8	4877.0	7.689	4.828	3.21		Clay	100.0			21.92	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	21.550	0.839	8898.8	4887.1	6.998	4.907	3.25		Clay	100.0			20.37	0.80	n.a.	n.a.	0.65	0.440	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	19.830	0.749	8920.0	4897.7	6.276	4.875	3.28		Clay	100.0			18.74	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	18.510	0.717	8940.0	4907.7	5.722	5.106	3.33		Clay	100.0			17.50	0.80	n.a.	n.a.	0.65	0.439	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	18.420	0.757	8961.3	4918.4	5.668	5.428	3.35		Clay	100.0			17.41	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	19.230	0.846	8981.3	4928.4	5.981	5.742	3.34		Clay	100.0			18.18	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	19.900	1.023	9001.3	4938.4	6.237	6.644	3.37		Clay	100.0			18.81	0.80	n.a.	n.a.	0.65	0.438	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	24.080	0.878	9022.5	4949.0	7.908	4.487	3.18		Clay	100.0			22.76	0.80	n.a.	n.a.	0.65	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	28.230	0.814	9042.5	4959.0	9.562	3.431	3.05		Clay	100.0			26.68	0.80	n.a.	n.a.	0.64	0.437	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	26.210	0.859	9063.8	4969.7	8.724	3.963	3.11		Clay	100.0			24.77	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	21.820	0.839	9083.8	4979.7	6.939	4.853	3.25		Clay	100.0			20.62	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	21.620	0.863	9103.8	4989.7	6.841	5.057	3.26		Clay	100.0			20.43	0.80	n.a.	n.a.	0.64	0.436	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	21.960	0.784	9125.0	5000.4	6.958	4.504	3.23		Clay	100.0			20.76	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	21.430	0.811	9145.0	5010.4	6.729	4.810	3.26		Clay	100.0			20.26	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	21.210	0.783	9166.3	5021.0	6.623	4.710	3.26		Clay	100.0			20.05	0.80	n.a.	n.a.	0.64	0.435	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	22.280	0.801	9186.3	5031.0	7.031	4.529	3.22		Clay	100.0			21.06	0.80	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	22.320	0.823	9206.3	5041.1	7.029	4.646	3.23		Clay	100.0			21.10	0.80	n.a.	n.a.	0.64	0.434	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	22.010	0.848	9227.5	5051.7	6.887	4.872	3.25		Clay	100.0			20.80	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	23.870	0.894	9247.5	5061.7	7.605	4.642	3.20		Clay	100.0			22.56	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	25.190	0.888	9268.8	5072.4	8.105	4.318	3.16		Clay	100.0			23.81	0.79	n.a.	n.a.	0.64	0.433	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	23.870	0.888	9288.8	5082.4	7.566	4.618	3.20		Clay	100.0			22.56	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	23.400	0.881	9310.0	5093.0	7.361	4.699	3.22		Clay	100.0			22.12	0.79	n.a.	n.a.	0.64	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	23.300	0.897	9330.0	5103.0	7.304	4.815	3.23		Clay	100.0			22.02	0.79	n.a.	n.a.	0.63	0.432	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	23.650	0.908	9350.0	5113.0	7.422	4.783	3.22		Clay	100.0			22.35	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	24.640	0.971	9371.3	5123.7	7.789	4.865	3.21		Clay	100.0			23.29	0.79	n.a.	n.a.	0.63	0.431	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10

PGA (A_{max})	0.84

Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
0.160	232.920	0.430	20.0	20.0	2264.359	0.184	0.50		Unsaturated	0.0			220.15	1.70	374.26	374.26	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.330	144.230	0.584	41.3	41.3	976.233	0.405	0.96		Unsaturated	0.0			136.32	1.70	231.75	231.75	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.490	109.760	0.728	61.3	61.3	609.596	0.663	1.25		Unsaturated	0.0			103.74	1.70	176.36	176.36	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.660	100.780	1.111	82.5	82.5	482.216	1.103	1.49		Unsaturated	0.0			95.26	1.70	161.93	161.93	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.820	94.020	1.571	102.5	102.5	403.547	1.671	1.68		Unsaturated	0.0			88.87	1.70	151.07	151.07	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
0.980	68.930	2.091	122.5	122.5	270.537	3.036	1.99		Unsaturated	22.5			65.15	1.70	110.76	155.14	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.150	64.820	2.180	143.8	143.8	234.799	3.367	2.06		Unsaturated	28.1			61.27	1.70	104.15	157.84	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.310	121.750	2.355	163.8	163.8	413.388	1.936	1.73		Unsaturated	1.5			115.08	1.70	195.63	195.63	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.480	71.020	2.601	185.0	185.0	226.726	3.668	2.10		Unsaturated	31.3			67.13	1.70	114.12	174.34	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.640	69.180	2.405	205.0	205.0	209.764	3.482	2.10		Unsaturated	31.2			65.39	1.70	111.16	170.67	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.800	88.480	2.156	225.0	225.0	256.138	2.440	1.93		Unsaturated	17.1			83.63	1.70	142.17	175.99	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
1.970	215.960	1.666	246.3	246.3	598.012	0.772	1.31		Unsaturated	0.0			204.12	1.70	347.01	347.01	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.130	332.090	1.578	266.3	266.3	884.523	0.475	1.04		Unsaturated	0.0			313.88	1.70	533.60	533.60	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.300	350.320	1.312	287.5	287.5	897.925	0.375	0.95		Unsaturated	0.0			331.12	1.69	560.64	560.64	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.460	318.020	1.005	307.5	307.5	788.123	0.316	0.92		Unsaturated	0.0			300.59	1.66	500.00	500.00	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.620	254.520	0.951	327.5	327.5	611.095	0.374	1.05		Unsaturated	0.0			240.57	1.64	393.56	393.56	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.790	167.660	1.589	348.8	348.8	389.935	0.948	1.49		Unsaturated	0.0			158.47	1.61	254.99	254.99	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
2.950	99.520	1.664	368.8	368.8	224.911	1.675	1.83		Unsaturated	9.1			94.06	1.70	159.91	166.51	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.120	52.930	1.809	390.0	390.0	116.102	3.430	2.25		Unsaturated	42.9			50.03	1.70	85.05	149.53	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.280	31.880	1.705	410.0	410.0	68.014	5.382	2.55		Unsaturated	66.8			30.13	1.70	51.22	116.05	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.440	30.060	1.767	430.0	430.0	86.063	5.922	2.52		Unsaturated	64.2			28.41	1.70	48.30	111.68	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.610	37.440	2.156	451.3	451.3	76.168	5.793	2.54		Unsaturated	66.2			35.39	1.70	60.16	127.44	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.770	45.070	2.385	471.3	471.3	89.796	5.320	2.47		Unsaturated	60.4			42.60	1.70	72.42	141.56	1.00	0.543	1.100	n.a.	n.a.	n.a.	0.00	0.00
3.940	37.970	2.266	492.5	492.5	73.907	6.006	2.56		Unsaturated	67.9			35.89	1.70	61.01	128.92	1.00	0.542	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.100	33.480	2.085	512.5	512.5	84.730	6.277	2.54		Unsaturated	66.2			31.64	1.70	53.80	119.22	1.00	0.542	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.270	31.990	1.869	533.8	533.8	78.635	5.892	2.54		Unsaturated	66.0			30.24	1.70	51.40	116.10	1.00	0.542	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.430	29.970	1.820	553.8	553.8	71.732	6.130	2.58		Unsaturated	69.1			28.33	1.70	48.16	112.61	1.00	0.542	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.590	28.210	1.688	573.8	573.8	65.801	6.046	2.60		Unsaturated	70.6			26.66	1.70	45.33	109.27	1.00	0.542	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.760	24.760	1.776	595.0	595.0	56.197	7.260	2.70		Unsaturated	79.0			23.40	1.70	39.78	103.56	1.00	0.542	1.100	n.a.	n.a.	n.a.	0.00	0.00
4.920	26.850	1.728	615.0	615.0	59.581	6.510	2.65		Unsaturated	74.8			25.38	1.70	43.14	107.23	1.00	0.542	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.090	18.080	1.740	636.3	636.3	55.833	9.796	2.80		Unsaturated	87.3			17.09	1.70	29.05	90.70	1.00	0.541	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.250	25.580	1.577	656.3	656.3	54.165	6.245	2.66		Unsaturated	75.8			24.18	1.70	41.10	104.76	1.00	0.541	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.410	21.050	1.514	676.3	676.3	61.255	7.310	2.68		Unsaturated	77.3			19.90	1.70	33.82	95.56	1.00	0.541	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.580	22.300	1.306	697.5	697.5	62.943	5.948	2.60		Unsaturated	71.2			21.08	1.70	35.83	97.11	1.00	0.541	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.740	24.630	0.999	717.5	717.5	48.909	4.114	2.56		Unsaturated	67.5			23.28	1.70	39.58	101.21	1.00	0.541	1.100	n.a.	n.a.	n.a.	0.00	0.00
5.910	26.010	0.805	738.8	738.8	41.016	3.140	2.53		Unsaturated	65.3			24.58	1.68	41.25	102.88	1.00	0.541	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.070	41.190	0.793	758.8	758.8	64.416	1.944	2.24		Unsaturated	42.5			38.93	1.60	62.11	120.66	1.00	0.540	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.230	25.260	0.617	778.8	778.8	38.749	2.482	2.48		Unsaturated	61.4			23.88	1.65	39.33	99.44	1.00	0.540	1.100	n.a.	n.a.	n.a.	0.00	0.00
6.400	12.150	0.473	800.0	800.0	29.375	4.026	2.71		Unsaturated	79.7			11.48	1.70	19.52	77.35	0.99	0.540	1.087	n.a.	n.a.	n.a.	0.00	0.00
6.560	6.560	0.471	820.0	820.0	15.000	7.660	3.11		Unsaturated	100.0			6.20	1.70	10.54	67.75	0.99	0.540	1.078	n.a.	n.a.	n.a.	0.00	0.00
6.730	5.340	0.550	841.3	841.3	11.695	11.178	3.30		Unsaturated	100.0			5.05	1.70	8.58	65.18	0.99	0.540	1.074	n.a.	n.a.	n.a.	0.00	0.00
6.890	4.980	0.589	861.3	861.3	10.565	12.938	3.38		Unsaturated	100.0			4.71	1.70	8.00	64.42	0.99	0.539	1.072	n.a.	n.a.	n.a.	0.00	0.00
7.050	4.890	0.587	881.3	871.9	10.206	13.200	3.40		Unsaturated	100.0			4.62	1.69	7.81	64.16	0.99	0.539	1.071	n.a.	n.a.	n.a.	0.00	0.00
7.220	5.010	0.598	902.5	882.5	10.331	13.111	3.39		Unsaturated	100.0			4.74	1.68	7.94	64.33	0.99	0.539	1.070	n.a.	n.a.	n.a.	0.00	0.00
7.380	5.250	0.630	922.5	892.5	10.731	13.164	3.38		Unsaturated	100.0			4.96	1.66	8.25	64.75	0.99	0.539	1.069	n.a.	n.a.	n.a.	0.00	0.00
7.550	5.530	0.628	943.8	903.2	11.201	12.412	3.35		Unsaturated	100.0			5.23	1.65	8.62	65.23	0.99	0.539	1.069	n.a.	n.a.	n.a.	0.00	0.00
7.710	5.830	0.603	963.8	913.2	11.713	11.266	3.31		Unsaturated	100.0			5.51	1.64	9.02	65.75	0.99	0.539	1.068	n.a.	n.a.	n.a.	0.00	0.00
7.870	5.780	0.569	983.8	923.2	11.456	10.760	3.30		Unsaturated	100.0			5.46	1.63	8.89	65.58	0.99	0.538	1.067	n.a.	n.a.	n.a.	0.00	0.00
8.040	5.490	0.541	1005.0	933.9	10.681	10.841	3.32		Clay	100.0			5.19	1.24	n.a.	n.a.	0.99	0.540	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.200	5.270	0.533	1025.0	943.9	10.081	11.208	3.35		Clay	100.0			4.98	1.24	n.a.	n.a.	0.99	0.545	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.370	4.990	0.542	1046.3	954.5	9.359	12.136	3.40		Clay	100.0			4.72	1.23	n.a.	n.a.	0.99	0.550	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.530	4.690	0.539	1066.3	964.5	8.619	12.971	3.44		Clay	100.0			4.43	1.23	n.a.	n.a.	0.99	0.555	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.690	4.510	0.570	1086.3	974.6	8.141	14.372	3.49		Clay	100.0			4.26	1.23	n.a.	n.a.	0.99	0.560	n.a.	n.a.	n.a.	n.a.	0.00	0.00
8.860	4.860	0.631	1107.5	985.2	8.742	14.653	3.48		Clay	100.0			4.59	1.22	n.a.	n.a.	0.99	0.565	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.020	5.530	0.687	1127.5	995.2	9.980	13.839	3.42		Clay	100.0			5.23	1.22	n.a.	n.a.	0.99	0.569	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.190	5.980	0.710	1148.8	1005.9	10.748	13.125	3.38		Clay	100.0			5.65	1.22	n.a.	n.a.	0.99	0.574	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.350	6.580	0.719	1168.8	1015.9	11.804	11.990	3.32		Clay	100.0			6.22	1.21	n.a.	n.a.	0.99	0.578	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.510	7.080	0.729	1188.8	1025.9	12.644	11.240	3.28		Clay	100.0			6.69	1.21	n.a.	n.a.	0.99	0.583	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.680	6.870	0.727	1210.0	1036.5	12.088	11.598	3.30		Clay	100.0			6.49	1.21	n.a.	n.a.	0.99	0.587	n.a.	n.a.	n.a.	n.a.	0.00	0.00
9.840	6.820	0.730	1230.0	1046.5	11.858	11.765	3.31		Clay	100.0			6.45	1.20	n.a.	n.a.	0.99	0.591	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.010	7.650	0.760	1251.3	1057.2	13.289	10.824	3.25		Clay	100.0			7.23	1.20	n.a.	n.a.	0.99	0.596	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.170	8.490	0.803	1271.3	1067.2	14.720	10.224	3.20		Clay	100.0			8.02	1.20	n.a.	n.a.	0.99	0.600	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.330	8.630	0.821	1291.3	1077.2	14.824	10.278	3.20		Clay	100.0			8.16	1.19	n.a.	n.a.	0.99	0.604	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.500	8.940	0.824	1312.5	1087.9	15.229	9.941	3.19		Clay	100.0			8.45	1.19	n.a.	n.a.	0.99	0.608	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.660	9.030	0.793	1332.5	1097.9	15.236	9.479	3.17		Clay	100.0			8.53	1.19	n.a.	n.a.	0.99	0.611	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.830	8.550	0.759	1353.8	1108.5	14.205	9.634	3.20		Clay	100.0			8.08	1.19	n.a.	n.a.	0.99	0.615	n.a.	n.a.	n.a.	n.a.	0.00	0.00
10.990	7.650	0.708	1373.8	1118.5	12.450	10.174	3.26		Clay	100.0			7.23	1.18	n.a.	n.a.	0.99	0.619	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.150	6.930	0.665	1393.8	1128.6	11.046	10.669	3.31		Clay	100.0			6.55	1.18	n.a.	n.a.	0.99	0.622	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10

PGA (A_{max})	0.84

Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
11.320	6.120	0.612	1415.0	1139.2	9.502	11.315	3.37		Clay	100.0			5.78	1.18	n.a.	n.a.	0.98	0.626	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.480	5.510	0.556	1435.0	1149.2	8.341	11.610	3.42		Clay	100.0			5.21	1.17	n.a.	n.a.	0.98	0.630	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.650	5.330	0.550	1456.3	1159.9	7.935	11.949	3.45		Clay	100.0			5.04	1.17	n.a.	n.a.	0.98	0.633	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.810	5.110	0.569	1476.3	1169.9	7.474	13.020	3.49		Clay	100.0			4.83	1.17	n.a.	n.a.	0.98	0.636	n.a.	n.a.	n.a.	n.a.	0.00	0.00
11.980	5.220	0.603	1497.5	1180.5	7.575	13.491	3.50		Clay	100.0			4.93	1.17	n.a.	n.a.	0.98	0.640	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.140	6.350	0.685	1517.5	1190.5	9.393	12.244	3.40		Clay	100.0			6.00	1.16	n.a.	n.a.	0.98	0.643	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.300	7.640	0.744	1537.5	1200.5	11.447	10.834	3.30		Clay	100.0			7.22	1.16	n.a.	n.a.	0.98	0.646	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.470	8.320	0.770	1558.8	1211.2	12.452	10.206	3.26		Clay	100.0			7.86	1.16	n.a.	n.a.	0.98	0.649	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.630	9.010	0.826	1578.8	1221.2	13.463	10.049	3.23		Clay	100.0			8.52	1.16	n.a.	n.a.	0.98	0.652	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.800	9.280	0.864	1600.0	1231.8	13.768	10.193	3.22		Clay	100.0			8.77	1.15	n.a.	n.a.	0.98	0.655	n.a.	n.a.	n.a.	n.a.	0.00	0.00
12.960	9.280	0.858	1620.0	1241.9	13.641	10.126	3.23		Clay	100.0			8.77	1.15	n.a.	n.a.	0.98	0.658	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.120	8.180	0.842	1640.0	1251.9	11.758	11.439	3.31		Clay	100.0			7.73	1.15	n.a.	n.a.	0.98	0.661	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.290	7.070	0.795	1661.3	1262.5	9.884	12.748	3.40		Clay	100.0			6.68	1.15	n.a.	n.a.	0.98	0.664	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.450	6.700	0.763	1681.3	1272.5	9.209	13.024	3.42		Clay	100.0			6.33	1.14	n.a.	n.a.	0.98	0.667	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.620	7.050	0.781	1702.5	1283.2	9.662	12.593	3.40		Clay	100.0			6.66	1.14	n.a.	n.a.	0.98	0.669	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.780	7.480	0.793	1722.5	1293.2	10.236	11.974	3.37		Clay	100.0			7.07	1.14	n.a.	n.a.	0.98	0.672	n.a.	n.a.	n.a.	n.a.	0.00	0.00
13.940	8.120	0.796	1742.5	1303.2	11.125	10.974	3.31		Clay	100.0			7.67	1.14	n.a.	n.a.	0.98	0.675	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.110	8.640	0.814	1763.8	1313.8	11.810	10.496	3.28		Clay	100.0			8.17	1.13	n.a.	n.a.	0.98	0.677	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.270	8.630	0.816	1783.8	1323.9	11.690	10.543	3.29		Clay	100.0			8.16	1.13	n.a.	n.a.	0.98	0.680	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.440	8.920	0.820	1805.0	1334.5	12.016	10.229	3.27		Clay	100.0			8.43	1.13	n.a.	n.a.	0.98	0.682	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.600	8.830	0.887	1825.0	1344.5	11.777	11.206	3.30		Clay	100.0			8.35	1.13	n.a.	n.a.	0.98	0.685	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.760	8.040	0.876	1845.0	1354.5	10.509	12.312	3.37		Clay	100.0			7.60	1.12	n.a.	n.a.	0.98	0.687	n.a.	n.a.	n.a.	n.a.	0.00	0.00
14.930	7.390	0.842	1866.3	1365.2	9.459	13.034	3.42		Clay	100.0			6.98	1.12	n.a.	n.a.	0.98	0.690	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.090	7.460	0.845	1886.3	1375.2	9.478	12.971	3.41		Clay	100.0			7.05	1.12	n.a.	n.a.	0.98	0.692	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.260	7.760	0.791	1907.5	1385.8	9.823	11.622	3.37		Clay	100.0			7.33	1.12	n.a.	n.a.	0.98	0.694	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.420	8.400	0.844	1927.5	1395.9	10.655	11.346	3.34		Clay	100.0			7.94	1.12	n.a.	n.a.	0.97	0.696	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.580	8.380	0.870	1947.5	1405.9	10.536	11.752	3.35		Clay	100.0			7.92	1.11	n.a.	n.a.	0.97	0.699	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.750	8.790	0.875	1968.8	1416.5	11.021	11.215	3.32		Clay	100.0			8.31	1.11	n.a.	n.a.	0.97	0.701	n.a.	n.a.	n.a.	n.a.	0.00	0.00
15.910	9.580	0.884	1988.8	1426.5	12.037	10.296	3.27		Clay	100.0			9.05	1.11	n.a.	n.a.	0.97	0.703	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.080	9.860	0.917	2010.0	1437.2	12.323	10.353	3.26		Clay	100.0			9.32	1.11	n.a.	n.a.	0.97	0.705	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.240	10.540	0.958	2030.0	1447.2	13.163	10.062	3.24		Clay	100.0			9.96	1.11	n.a.	n.a.	0.97	0.707	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.400	10.900	0.989	2050.0	1457.2	13.553	10.019	3.22		Clay	100.0			10.30	1.10	n.a.	n.a.	0.97	0.709	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.570	10.960	1.003	2071.3	1467.8	13.522	10.105	3.23		Clay	100.0			10.36	1.10	n.a.	n.a.	0.97	0.711	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.730	11.380	0.982	2091.3	1477.9	13.986	9.506	3.20		Clay	100.0			10.76	1.10	n.a.	n.a.	0.97	0.713	n.a.	n.a.	n.a.	n.a.	0.00	0.00
16.900	10.650	0.934	2112.5	1488.5	12.890	9.733	3.23		Clay	100.0			10.07	1.10	n.a.	n.a.	0.97	0.715	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.060	9.470	0.885	2132.5	1498.5	11.216	10.531	3.30		Clay	100.0			8.95	1.10	n.a.	n.a.	0.97	0.717	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.220	7.790	0.826	2152.5	1508.5	8.901	12.296	3.42		Clay	100.0			7.36	1.09	n.a.	n.a.	0.97	0.719	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.390	8.200	0.860	2173.8	1519.2	9.364	12.089	3.40		Clay	100.0			7.75	1.09	n.a.	n.a.	0.97	0.721	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.550	10.640	0.910	2193.8	1529.2	12.481	9.534	3.24		Clay	100.0			10.06	1.09	n.a.	n.a.	0.97	0.722	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.720	10.930	0.965	2215.0	1539.8	12.758	9.822	3.24		Clay	100.0			10.33	1.09	n.a.	n.a.	0.97	0.724	n.a.	n.a.	n.a.	n.a.	0.00	0.00
17.880	10.520	0.920	2235.0	1549.8	12.133	9.784	3.25		Clay	100.0			9.94	1.09	n.a.	n.a.	0.97	0.726	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.040	10.790	0.923	2255.0	1559.9	12.389	9.557	3.24		Clay	100.0			10.20	1.08	n.a.	n.a.	0.97	0.728	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.210	10.350	0.981	2276.3	1570.5	11.731	10.650	3.29		Clay	100.0			9.78	1.08	n.a.	n.a.	0.97	0.729	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.370	10.060	0.967	2296.3	1580.5	11.277	10.846	3.31		Clay	100.0			9.51	1.08	n.a.	n.a.	0.97	0.731	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.540	10.270	0.928	2317.5	1591.2	11.452	10.184	3.28		Clay	100.0			9.71	1.08	n.a.	n.a.	0.97	0.733	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.700	10.090	0.930	2337.5	1601.2	11.143	10.426	3.30		Clay	100.0			9.54	1.08	n.a.	n.a.	0.97	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
18.860	12.020	0.989	2357.5	1611.2	13.457	9.119	3.20		Clay	100.0			11.36	1.07	n.a.	n.a.	0.97	0.736	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.030	15.410	1.078	2378.8	1621.8	17.536	7.579	3.06		Clay	100.0			14.57	1.07	n.a.	n.a.	0.97	0.737	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.190	14.580	1.203	2398.8	1631.9	16.399	8.989	3.13		Clay	100.0			13.78	1.07	n.a.	n.a.	0.97	0.739	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.360	12.740	1.293	2420.0	1642.5	14.040	11.216	3.25		Clay	100.0			12.04	1.07	n.a.	n.a.	0.96	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.520	12.480	1.679	2440.0	1652.5	13.628	14.912	3.34		Clay	100.0			11.80	1.07	n.a.	n.a.	0.96	0.742	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.690	19.510	1.852	2461.3	1663.2	21.982	10.132	3.08		Clay	100.0			18.44	1.07	n.a.	n.a.	0.96	0.743	n.a.	n.a.	n.a.	n.a.	0.00	0.00
19.850	34.120	2.775	2481.3	1673.2	39.302	8.441	2.85		Clay	91.0			32.25	1.06	n.a.	n.a.	0.96	0.745	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.010	51.180	3.353	2501.3	1683.2	59.327	6.715	2.66		Clay	75.7			48.37	1.06	n.a.	n.a.	0.96	0.746	n.a.	n.a.	n.a.	n.a.	0.00	0.00
20.180	78.200	3.858	2522.5	1693.8	81.280	5.015	2.47		Sand	60.9	102.73		102.73	1.08	110.85	190.97	0.96	0.748	1.053	1.178	2.729	3.65	0.00	0.00
20.340	90.910	3.688	2542.5	1703.8	94.418	4.114	2.37		Sand	52.3	102.73		102.73	1.08	110.75	187.26	0.96	0.749	1.049	0.990	2.285	3.05	0.00	0.00
20.510	90.890	3.584	2563.8	1714.5	94.092	4.000	2.36		Sand	51.6	102.73		102.73	1.08	110.53	186.65	0.96	0.750	1.048	0.963	2.219	2.96	0.00	0.00
20.670	108.690	3.703	2583.8	1724.5	112.444	3.448	2.26		Sand	43.7			102.73	1.08	110.46	181.87	0.96	0.752	1.044	0.784	1.736	2.31	0.00	0.00
20.830	104.010	3.148	2603.8	1734.5	107.223	3.065	2.23		Sand	41.6	102.73		102.73	1.07	110.29	180.11	0.96	0.753	1.042	0.729	1.590	2.11	0.00	0.00
21.000	77.920	2.730	2625.0	1745.2	79.731	3.563	2.37		Sand	52.3	102.73		102.73	1.07	109.86	186.14	0.96	0.754	1.043	0.941	2.156	2.86	0.00	0.00
21.160	48.250	2.777	2645.0	1755.2	53.473	5.918	2.65		Clay	74.7			45.60	1.05	n.a.	n.a.	0.96	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.330	54.010	3.057	2666.3	1765.8	59.663	5.803	2.61		Clay	71.7			51.05	1.05	n.a.	n.a.	0.96	0.757	n.a.	n.a.	n.a.	n.a.	0.00	0.00
21.490	107.740	3.015	2686.3	1775.8	109.774	2.834	2.20		Sand	39.0	211.1		211.10	1.05	221.09	315.18	0.96	0.758	1.053	#########	########	##########	0.00	0.00
21.650	164.620	2.592	2706.3	1785.9	167.976	1.588	1.89		Sand	14.1	211.1		211.10	1.05	220.92	250.16	0.96	0.759	1.051	132.750	306.912	404.33	0.00	0.00
21.820	222.850	1.890	2727.5	1796.5	227.199	0.853	1.60		Sand	0.0	211.1		211.10	1.05	221.78	221.78	0.96	0.760	1.049	8.202	18.930	24.90	0.00	0.00
21.980	223.340	1.373	2747.5	1806.5	227.059	0.619	1.50		Sand	0.0			211.10	1.05	221.42	221.42	0.96	0.761	1.047	7.971	18.369	24.13	0.00	0.00
22.150	203.450	1.349	2768.8	1817.2	206.096	0.668	1.56		Sand	0.0			192.30	1.05	202.10	202.10	0.96	0.763	1.041	2.132	4.883	6.40	0.00	0.00

CPT No.	10	PGA (A_{max})	0.84	Total Settlement:	0.42 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
22.310	180.210	1.301	2788.8	1827.2	181.882	0.728	1.62		Sand	0.0			170.33	1.05	179.52	179.52	0.96	0.764	1.031	0.712	1.529	2.00	0.00	0.00
22.470	152.050	0.988	2808.8	1837.2	152.810	0.656	1.65		Sand	0.0			143.71	1.06	152.07	152.07	0.96	0.765	1.023	0.303	0.524	0.69	0.02	0.04
22.640	133.520	0.975	2830.0	1847.8	133.617	0.738	1.73		Sand	1.3			126.20	1.06	133.79	133.79	0.96	0.766	1.019	0.210	0.321	0.42	0.02	0.05
22.800	128.080	1.176	2850.0	1857.8	127.759	0.929	1.81		Sand	7.7			121.06	1.06	128.13	130.91	0.96	0.767	1.018	0.200	0.301	0.39	0.02	0.05
22.970	127.290	1.327	2871.3	1868.5	126.589	1.055	1.85		Sand	10.9			120.31	1.05	126.82	137.93	0.95	0.768	1.018	0.226	0.354	0.46	0.02	0.04
23.130	131.780	1.460	2891.3	1878.5	130.745	1.120	1.86		Sand	11.5			124.56	1.05	130.84	144.09	0.95	0.769	1.018	0.254	0.414	0.54	0.02	0.04
23.290	159.640	1.390	2911.3	1888.5	158.262	0.879	1.72		Sand	0.8			150.89	1.05	157.75	157.75	0.95	0.770	1.019	0.349	0.628	0.82	0.01	0.03
23.460	193.440	1.385	2932.5	1899.2	191.529	0.721	1.60		Sand	0.0			182.84	1.04	189.75	189.75	0.95	0.771	1.025	1.111	2.507	3.25	0.00	0.00
23.620	220.120	1.572	2952.5	1909.2	217.564	0.719	1.56		Sand	0.0			208.05	1.03	214.80	214.80	0.95	0.772	1.031	4.847	10.992	14.24	0.00	0.00
23.790	225.610	1.530	2973.8	1919.8	222.397	0.683	1.54		Sand	0.0			213.24	1.03	219.65	219.65	0.95	0.773	1.029	6.942	15.718	20.34	0.00	0.00
23.950	236.030	1.593	2993.8	1929.8	232.122	0.679	1.53		Sand	0.0			223.09	1.03	229.18	229.18	0.95	0.774	1.028	15.262	34.504	44.59	0.00	0.00
24.110	250.570	1.314	3013.8	1939.8	245.866	0.528	1.43		Sand	0.0			236.83	1.02	242.60	242.60	0.95	0.775	1.026	56.556	127.668	164.80	0.00	0.00
24.280	236.430	0.968	3035.0	1950.5	231.263	0.412	1.39		Sand	0.0	236.83		236.83	1.02	242.24	242.24	0.95	0.776	1.024	54.407	122.621	158.09	0.00	0.00
24.440	221.070	0.686	3055.0	1960.5	215.579	0.313	1.34		Sand	0.0	236.83		236.83	1.02	241.90	241.90	0.95	0.776	1.023	52.495	118.134	152.14	0.00	0.00
24.610	198.620	0.465	3076.3	1971.1	193.001	0.236	1.32		Sand	0.0	236.83		236.83	1.02	241.54	241.54	0.95	0.777	1.021	50.553	113.584	146.11	0.00	0.00
24.770	165.750	1.015	3096.3	1981.2	160.395	0.618	1.62		Sand	0.0	236.83		236.83	1.02	241.21	241.21	0.95	0.778	1.020	48.806	109.495	140.70	0.00	0.00
24.930	109.640	1.530	3116.3	1991.2	105.310	1.416	1.99		Sand	22.5	236.83		236.83	1.02	240.66	305.31	0.95	0.779	1.018	#########	########	4611790.38	0.00	0.00
25.100	50.000	1.379	3137.5	2001.8	47.064	2.848	2.46		Sand	59.5	236.83		236.83	1.01	240.32	356.16	0.95	0.780	1.017	#########	########	##########	0.00	0.00
25.260	30.310	1.200	3157.5	2011.8	28.562	4.176	2.73		Clay	81.3			28.65	1.01	n.a.	n.a.	0.95	0.781	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.430	20.070	1.025	3178.8	2022.5	18.275	5.545	2.96		Clay	99.4			18.97	1.01	n.a.	n.a.	0.95	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.590	18.200	1.154	3198.8	2032.5	16.335	6.953	3.06		Clay	100.0			17.20	1.01	n.a.	n.a.	0.95	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.750	31.230	1.370	3218.8	2042.5	29.004	4.625	2.75		Clay	83.3			29.52	1.01	n.a.	n.a.	0.95	0.783	n.a.	n.a.	n.a.	n.a.	0.00	0.00
25.920	50.260	1.282	3240.0	2053.2	46.672	2.636	2.44		Sand	57.9	54.1	1.8	97.38	1.01	98.46	174.02	0.95	0.784	1.006	0.579	1.161	1.48	0.00	0.00
26.080	57.240	1.004	3260.0	2063.2	53.230	1.805	2.28		Sand	45.8		1.8	97.38	1.01	98.31	168.00	0.95	0.785	1.005	0.472	0.902	1.15	0.01	0.01
26.250	48.270	0.769	3281.3	2073.8	44.519	1.649	2.32		Sand	48.6	54.1	1.8	97.38	1.01	98.11	169.38	0.94	0.785	1.004	0.493	0.952	1.21	0.01	0.01
26.410	30.040	0.869	3301.3	2083.8	27.247	3.059	2.65		Clay	75.4			28.39	1.00	n.a.	n.a.	0.94	0.786	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.570	19.830	0.853	3321.3	2093.8	17.355	4.694	2.92		Clay	97.0			18.74	1.00	n.a.	n.a.	0.94	0.787	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.740	17.660	0.907	3342.5	2104.5	15.195	5.671	3.02		Clay	100.0			16.69	1.00	n.a.	n.a.	0.94	0.787	n.a.	n.a.	n.a.	n.a.	0.00	0.00
26.900	19.100	0.985	3362.5	2114.5	16.476	5.654	2.99		Clay	100.0			18.05	1.00	n.a.	n.a.	0.94	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.070	20.900	1.054	3383.8	2125.1	18.077	5.487	2.96		Clay	99.5			19.75	1.00	n.a.	n.a.	0.94	0.789	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.230	21.940	1.112	3403.8	2135.2	18.957	5.494	2.94		Clay	98.2			20.74	1.00	n.a.	n.a.	0.94	0.789	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.400	22.510	1.106	3425.0	2145.8	19.384	5.317	2.92		Clay	96.9			21.28	1.00	n.a.	n.a.	0.94	0.790	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.560	22.940	1.200	3445.0	2155.8	19.684	5.656	2.94		Clay	97.9			21.68	1.00	n.a.	n.a.	0.94	0.791	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.720	23.550	1.389	3465.0	2165.8	20.147	6.367	2.96		Clay	100.0			22.26	0.99	n.a.	n.a.	0.94	0.791	n.a.	n.a.	n.a.	n.a.	0.00	0.00
27.890	23.650	1.360	3486.3	2176.5	20.131	6.206	2.96		Clay	99.6			22.35	0.99	n.a.	n.a.	0.94	0.792	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.050	21.580	1.166	3506.3	2186.5	18.136	5.878	2.97		Clay	100.0			20.40	0.99	n.a.	n.a.	0.94	0.793	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.220	19.300	0.962	3527.5	2197.1	15.963	5.486	3.00		Clay	100.0			18.24	0.99	n.a.	n.a.	0.94	0.793	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.380	16.090	0.801	3547.5	2207.1	12.973	5.592	3.07		Clay	100.0			15.21	0.99	n.a.	n.a.	0.94	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.540	12.690	0.700	3567.5	2217.2	9.838	6.415	3.20		Clay	100.0			11.99	0.99	n.a.	n.a.	0.94	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.710	10.000	0.594	3588.8	2227.8	7.367	7.241	3.33		Clay	100.0			9.45	0.99	n.a.	n.a.	0.94	0.795	n.a.	n.a.	n.a.	n.a.	0.00	0.00
28.870	8.690	0.514	3608.8	2237.8	6.154	7.459	3.40		Clay	100.0			8.21	0.99	n.a.	n.a.	0.94	0.795	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.040	8.890	0.452	3630.0	2248.5	6.293	6.392	3.35		Clay	100.0			8.40	0.98	n.a.	n.a.	0.94	0.796	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.200	8.730	0.450	3650.0	2258.5	6.115	6.511	3.37		Clay	100.0			8.25	0.98	n.a.	n.a.	0.94	0.796	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.360	8.630	0.547	3670.0	2268.5	5.991	8.044	3.43		Clay	100.0			8.16	0.98	n.a.	n.a.	0.94	0.797	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.530	12.700	0.738	3691.3	2279.1	9.525	6.801	3.23		Clay	100.0			12.00	0.98	n.a.	n.a.	0.93	0.797	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.690	24.850	0.653	3711.3	2289.2	20.090	2.841	2.74		Clay	82.0			23.49	0.98	n.a.	n.a.	0.93	0.798	n.a.	n.a.	n.a.	n.a.	0.00	0.00
29.860	37.330	0.714	3732.5	2299.8	32.152	2.014	2.48		Sand	61.8	48.4	1.8	87.12	0.97	84.32	157.26	0.93	0.798	0.986	0.345	0.597	0.75	0.02	0.03
30.020	51.210	0.754	3752.5	2309.8	44.630	1.528	2.30		Sand	46.9		1.8	87.12	0.97	84.11	150.80	0.93	0.799	0.986	0.294	0.486	0.61	0.02	0.04
30.180	26.760	0.585	3772.5	2319.8	21.444	2.352	2.67		Clay	76.3			25.29	0.98	n.a.	n.a.	0.93	0.799	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.350	15.490	0.492	3793.8	2330.5	11.666	3.622	2.99		Clay	100.0			14.64	0.97	n.a.	n.a.	0.93	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.510	9.940	0.468	3813.8	2340.5	6.864	5.822	3.30		Clay	100.0			9.40	0.97	n.a.	n.a.	0.93	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.680	8.080	0.433	3835.0	2351.1	5.242	7.025	3.44		Clay	100.0			7.64	0.97	n.a.	n.a.	0.93	0.801	n.a.	n.a.	n.a.	n.a.	0.00	0.00
30.840	8.820	0.410	3855.0	2361.1	5.838	5.954	3.36		Clay	100.0			8.34	0.97	n.a.	n.a.	0.93	0.801	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.000	10.960	0.418	3875.0	2371.2	7.610	4.636	3.20		Clay	100.0			10.36	0.97	n.a.	n.a.	0.93	0.801	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.170	10.880	0.481	3896.3	2381.8	7.500	5.384	3.25		Clay	100.0			10.28	0.97	n.a.	n.a.	0.93	0.802	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.330	9.690	0.470	3916.3	2391.8	6.465	6.084	3.33		Clay	100.0			9.16	0.97	n.a.	n.a.	0.93	0.802	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.500	18.840	0.492	3937.5	2402.5	14.045	2.917	2.87		Clay	92.5			17.81	0.97	n.a.	n.a.	0.93	0.803	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.660	14.580	0.791	3957.5	2412.5	10.447	6.276	3.17		Clay	100.0			13.78	0.97	n.a.	n.a.	0.93	0.803	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.820	16.890	1.426	3977.5	2422.5	12.302	9.568	3.24		Clay	100.0			15.96	0.96	n.a.	n.a.	0.93	0.803	n.a.	n.a.	n.a.	n.a.	0.00	0.00
31.990	33.170	1.712	3998.8	2433.1	25.622	5.493	2.84		Clay	90.5			31.35	0.96	n.a.	n.a.	0.93	0.804	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.150	51.910	1.613	4018.8	2443.2	43.894	3.232	2.52		Sand	64.3		1.8	88.32	0.95	83.48	156.92	0.93	0.804	0.976	0.342	0.584	0.73	0.02	0.03
32.320	39.670	1.406	4040.0	2453.8	30.687	3.734	2.67		Clay	76.8			37.50	0.96	n.a.	n.a.	0.93	0.804	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.480	25.770	0.943	4060.0	2463.8	19.271	3.972	2.84		Clay	90.4			24.36	0.96	n.a.	n.a.	0.92	0.805	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.640	22.200	0.862	4080.0	2473.8	16.299	4.274	2.92		Clay	96.6			20.98	0.96	n.a.	n.a.	0.92	0.805	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.810	19.980	0.826	4101.3	2484.5	14.433	4.607	2.98		Clay	100.0			18.88	0.96	n.a.	n.a.	0.92	0.805	n.a.	n.a.	n.a.	n.a.	0.00	0.00
32.970	17.550	0.832	4121.3	2494.5	12.419	5.372	3.07		Clay	100.0			16.59	0.96	n.a.	n.a.	0.92	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.140	16.370	0.736	4142.5	2505.1	11.416	5.149	3.09		Clay	100.0			15.47	0.96	n.a.	n.a.	0.92	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10	PGA (A_{max})	0.84	Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
33.300	15.700	0.700	4162.5	2515.1	10.829	5.142	3.11		Clay	100.0			14.84	0.96	n.a.	n.a.	0.92	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.460	15.820	0.676	4182.5	2525.2	10.874	4.924	3.10		Clay	100.0			14.95	0.95	n.a.	n.a.	0.92	0.807	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.630	17.230	0.738	4203.8	2535.8	11.932	4.879	3.06		Clay	100.0			16.29	0.95	n.a.	n.a.	0.92	0.807	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.790	18.540	0.849	4223.8	2545.8	12.906	5.166	3.05		Clay	100.0			17.52	0.95	n.a.	n.a.	0.92	0.807	n.a.	n.a.	n.a.	n.a.	0.00	0.00
33.960	17.940	0.959	4245.0	2556.5	12.375	6.064	3.11		Clay	100.0			16.96	0.95	n.a.	n.a.	0.92	0.807	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.120	18.220	0.958	4265.0	2566.5	12.537	5.956	3.10		Clay	100.0			17.22	0.95	n.a.	n.a.	0.92	0.808	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.280	17.990	0.910	4285.0	2576.5	12.302	5.740	3.10		Clay	100.0			17.00	0.95	n.a.	n.a.	0.92	0.808	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.450	17.020	0.845	4306.3	2587.1	11.493	5.680	3.12		Clay	100.0			16.09	0.95	n.a.	n.a.	0.92	0.808	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.610	16.780	0.822	4326.3	2597.1	11.256	5.621	3.12		Clay	100.0			15.86	0.95	n.a.	n.a.	0.92	0.808	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.780	15.600	0.805	4347.5	2607.8	10.297	5.993	3.17		Clay	100.0			14.74	0.95	n.a.	n.a.	0.92	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
34.940	14.990	0.745	4367.5	2617.8	9.784	5.821	3.18		Clay	100.0			14.17	0.95	n.a.	n.a.	0.92	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.100	13.950	0.726	4387.5	2627.8	8.948	6.177	3.22		Clay	100.0			13.19	0.94	n.a.	n.a.	0.92	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.270	13.580	0.691	4408.8	2638.5	8.623	6.072	3.23		Clay	100.0			12.84	0.94	n.a.	n.a.	0.92	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.430	13.460	0.620	4428.8	2648.5	8.492	5.512	3.21		Clay	100.0			12.72	0.94	n.a.	n.a.	0.92	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.600	12.730	0.561	4450.0	2659.1	7.901	5.339	3.23		Clay	100.0			12.03	0.94	n.a.	n.a.	0.91	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.760	12.540	0.517	4470.0	2669.1	7.722	5.013	3.22		Clay	100.0			11.85	0.94	n.a.	n.a.	0.91	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
35.930	13.140	0.528	4491.3	2679.8	8.131	4.845	3.19		Clay	100.0			12.42	0.94	n.a.	n.a.	0.91	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.090	14.020	0.601	4511.3	2689.8	8.747	5.106	3.18		Clay	100.0			13.25	0.94	n.a.	n.a.	0.91	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.250	15.990	0.698	4531.3	2699.8	10.167	5.086	3.13		Clay	100.0			15.11	0.94	n.a.	n.a.	0.91	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.420	18.840	0.814	4552.5	2710.5	12.222	4.916	3.05		Clay	100.0			17.81	0.94	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.580	21.860	0.929	4572.5	2720.5	14.390	4.745	2.99		Clay	100.0			20.66	0.94	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.750	22.900	1.100	4593.8	2731.1	15.088	5.338	3.01		Clay	100.0			21.64	0.93	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
36.910	23.240	1.197	4613.8	2741.1	15.273	5.718	3.02		Clay	100.0			21.97	0.93	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.070	23.010	1.172	4633.8	2751.1	15.043	5.663	3.02		Clay	100.0			21.75	0.93	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.240	23.220	1.082	4655.0	2761.8	15.130	5.177	3.00		Clay	100.0			21.95	0.93	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.400	23.280	0.803	4675.0	2771.8	15.111	3.833	2.92		Clay	96.2			22.00	0.93	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.570	22.090	0.794	4696.3	2782.4	14.190	4.021	2.95		Clay	99.0			20.88	0.93	n.a.	n.a.	0.91	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.730	21.210	0.789	4716.3	2792.5	13.502	4.186	2.98		Clay	100.0			20.05	0.93	n.a.	n.a.	0.91	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
37.890	23.780	0.796	4736.3	2802.5	15.281	3.715	2.90		Clay	95.3			22.48	0.93	n.a.	n.a.	0.91	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.060	21.460	0.780	4757.5	2813.1	13.566	4.088	2.97		Clay	100.0			20.28	0.93	n.a.	n.a.	0.91	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.220	19.340	0.787	4777.5	2823.1	12.009	4.643	3.05		Clay	100.0			18.28	0.93	n.a.	n.a.	0.91	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.390	21.580	0.944	4798.8	2833.8	13.537	4.923	3.02		Clay	100.0			20.40	0.93	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.550	21.960	1.153	4818.8	2843.8	13.750	5.899	3.07		Clay	100.0			20.76	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.710	24.790	0.998	4838.8	2853.8	15.678	4.461	2.94		Clay	98.5			23.43	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
38.880	38.010	1.130	4860.0	2864.4	24.842	3.175	2.70		Clay	78.7			35.93	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.040	31.640	1.401	4880.0	2874.5	20.317	4.797	2.88		Clay	93.3			29.91	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.210	35.420	1.557	4901.3	2885.1	22.855	4.723	2.84		Clay	89.9			33.48	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.370	38.340	1.803	4921.3	2895.1	24.786	5.025	2.83		Clay	89.3			36.24	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.530	36.160	1.704	4941.3	2905.1	23.193	5.059	2.85		Clay	91.1			34.18	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.700	29.770	1.341	4962.5	2915.8	18.718	4.914	2.91		Clay	96.0			28.14	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
39.860	23.610	1.068	4982.5	2925.8	14.436	5.055	3.01		Clay	100.0			22.32	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.030	19.300	0.933	5003.8	2936.4	11.441	5.557	3.11		Clay	100.0			18.24	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.190	18.360	0.881	5023.8	2946.5	10.757	5.561	3.13		Clay	100.0			17.35	0.92	n.a.	n.a.	0.90	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.350	15.990	0.797	5043.8	2956.5	9.111	5.917	3.20		Clay	100.0			15.11	0.92	n.a.	n.a.	0.90	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.520	15.700	0.775	5065.0	2967.1	8.876	5.884	3.21		Clay	100.0			14.84	0.91	n.a.	n.a.	0.90	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.680	17.790	0.796	5085.0	2977.1	10.243	5.217	3.13		Clay	100.0			16.81	0.91	n.a.	n.a.	0.90	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
40.850	21.030	0.856	5106.3	2987.8	12.368	4.630	3.03		Clay	100.0			19.88	0.91	n.a.	n.a.	0.90	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.010	24.520	0.926	5126.3	2997.8	14.649	4.217	2.95		Clay	99.1			23.18	0.91	n.a.	n.a.	0.90	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.170	27.900	1.056	5146.3	3007.8	16.841	4.168	2.90		Clay	95.1			26.37	0.91	n.a.	n.a.	0.89	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.340	30.960	1.171	5167.5	3018.4	18.802	4.128	2.86		Clay	92.0			29.26	0.91	n.a.	n.a.	0.89	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.500	31.430	1.306	5187.5	3028.5	19.044	4.529	2.88		Clay	93.7			29.71	0.91	n.a.	n.a.	0.89	0.813	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.670	29.680	1.316	5208.8	3039.1	17.818	4.861	2.93		Clay	97.1			28.05	0.91	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.830	29.210	1.206	5228.8	3049.1	17.445	4.535	2.91		Clay	96.1			27.61	0.91	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
41.990	27.360	1.107	5248.8	3059.1	16.172	4.474	2.93		Clay	97.8			25.86	0.91	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.160	25.420	1.024	5270.0	3069.8	14.845	4.495	2.96		Clay	100.0			24.03	0.91	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.320	24.500	0.999	5290.0	3079.8	14.193	4.573	2.98		Clay	100.0			23.16	0.91	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.490	24.090	1.002	5311.3	3090.4	13.871	4.675	3.00		Clay	100.0			22.77	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.650	22.790	0.986	5331.3	3100.5	12.982	4.898	3.03		Clay	100.0			21.54	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.810	21.380	0.889	5351.3	3110.5	12.027	4.755	3.05		Clay	100.0			20.21	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
42.980	20.340	0.789	5372.5	3121.1	11.312	4.470	3.06		Clay	100.0			19.22	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.140	18.710	0.687	5392.5	3131.1	10.229	4.289	3.08		Clay	100.0			17.68	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.310	17.430	0.578	5413.8	3141.8	9.373	3.926	3.09		Clay	100.0			16.47	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.470	16.350	0.487	5433.8	3151.8	8.651	3.573	3.09		Clay	100.0			15.45	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.640	15.700	0.465	5455.0	3162.4	8.204	3.585	3.11		Clay	100.0			14.84	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.800	15.610	0.521	5475.0	3172.4	8.115	4.045	3.15		Clay	100.0			14.75	0.90	n.a.	n.a.	0.89	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
43.960	17.240	0.518	5495.0	3182.5	9.108	3.572	3.07		Clay	100.0			16.29	0.90	n.a.	n.a.	0.88	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.130	16.650	0.564	5516.3	3193.1	8.701	4.056	3.12		Clay	100.0			15.74	0.90	n.a.	n.a.	0.88	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10

PGA (A_{max})	0.84

Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
44.290	15.010	0.558	5536.3	3203.1	7.644	4.561	3.20		Clay	100.0			14.19	0.90	n.a.	n.a.	0.88	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.460	13.850	0.530	5557.5	3213.8	6.890	4.791	3.25		Clay	100.0			13.09	0.90	n.a.	n.a.	0.88	0.812	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.620	13.400	0.529	5577.5	3223.8	6.583	4.985	3.27		Clay	100.0			12.67	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.780	14.070	0.872	5597.5	3233.8	6.971	7.736	3.37		Clay	100.0			13.30	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
44.950	16.200	0.920	5618.8	3244.4	8.255	6.873	3.28		Clay	100.0			15.31	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.110	18.850	0.897	5638.8	3254.4	9.852	5.598	3.16		Clay	100.0			17.82	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.280	21.990	0.896	5660.0	3265.1	11.736	4.674	3.06		Clay	100.0			20.78	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.440	20.380	0.782	5680.0	3275.1	10.711	4.458	3.07		Clay	100.0			19.26	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.600	18.830	0.762	5700.0	3285.1	9.729	4.767	3.12		Clay	100.0			17.80	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.770	18.780	0.777	5721.3	3295.8	9.661	4.878	3.13		Clay	100.0			17.75	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
45.930	18.790	0.838	5741.3	3305.8	9.631	5.265	3.15		Clay	100.0			17.76	0.89	n.a.	n.a.	0.88	0.811	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.100	19.250	0.768	5762.5	3316.4	9.871	4.692	3.12		Clay	100.0			18.19	0.89	n.a.	n.a.	0.88	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.260	20.840	0.581	5782.5	3326.4	10.792	3.235	2.99		Clay	100.0			19.70	0.89	n.a.	n.a.	0.88	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.420	19.870	0.547	5802.5	3336.5	10.172	3.225	3.01		Clay	100.0			18.78	0.89	n.a.	n.a.	0.88	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.590	16.580	0.536	5823.8	3347.1	8.167	3.922	3.14		Clay	100.0			15.67	0.89	n.a.	n.a.	0.88	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.750	15.010	0.525	5843.8	3357.1	7.202	4.341	3.21		Clay	100.0			14.19	0.89	n.a.	n.a.	0.87	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
46.920	14.560	0.565	5865.0	3367.8	6.905	4.857	3.25		Clay	100.0			13.76	0.88	n.a.	n.a.	0.87	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.080	14.300	0.624	5885.0	3377.8	6.725	5.496	3.29		Clay	100.0			13.52	0.88	n.a.	n.a.	0.87	0.810	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.240	15.050	0.637	5905.0	3387.8	7.142	5.264	3.26		Clay	100.0			14.22	0.88	n.a.	n.a.	0.87	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.410	15.530	0.612	5926.3	3398.4	7.396	4.866	3.23		Clay	100.0			14.68	0.88	n.a.	n.a.	0.87	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.570	14.180	0.552	5946.3	3408.4	6.576	4.926	3.27		Clay	100.0			13.40	0.88	n.a.	n.a.	0.87	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.740	13.930	0.532	5967.5	3419.1	6.403	4.860	3.28		Clay	100.0			13.17	0.88	n.a.	n.a.	0.87	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
47.900	14.080	0.506	5987.5	3429.1	6.466	4.564	3.26		Clay	100.0			13.31	0.88	n.a.	n.a.	0.87	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.060	15.710	0.583	6007.5	3439.1	7.389	4.590	3.21		Clay	100.0			14.85	0.88	n.a.	n.a.	0.87	0.809	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.230	14.450	1.087	6028.8	3449.8	6.630	9.506	3.44		Clay	100.0			13.66	0.88	n.a.	n.a.	0.87	0.808	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.390	17.590	1.854	6048.8	3459.8	8.420	12.727	3.45		Clay	100.0			16.63	0.88	n.a.	n.a.	0.87	0.808	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.560	41.690	3.920	6070.0	3470.4	22.277	10.140	3.08		Clay	100.0			39.40	0.88	n.a.	n.a.	0.87	0.808	n.a.	n.a.	n.a.	n.a.	0.00	0.00
48.720	119.770	4.594	6090.0	3480.4	86.024	3.936	2.38		Sand	53.2			113.20	0.83	93.81	166.16	0.87	0.808	0.908	0.445	0.758	0.94	0.01	0.02
48.880	283.600	4.281	6110.0	3490.4	206.459	1.526	1.82		Sand	8.4			268.05	0.87	232.84	238.64	0.87	0.808	0.850	37.444	70.008	86.67	0.00	0.00
49.050	323.850	2.144	6131.3	3501.1	235.713	0.668	1.52		Sand	0.0			306.10	0.88	268.02	268.02	0.87	0.808	0.849	1443.967	2696.838	3339.61	0.00	0.00
49.210	302.970	2.271	6151.3	3511.1	220.049	0.757	1.57		Sand	0.0			286.36	0.87	249.98	249.98	0.87	0.807	0.848	129.851	242.272	300.08	0.00	0.00
49.380	261.810	3.120	6172.5	3521.7	189.552	1.206	1.76		Sand	4.2			247.46	0.85	210.72	210.77	0.87	0.807	0.847	3.667	6.836	8.47	0.00	0.00
49.540	199.010	2.762	6192.5	3531.8	143.331	1.410	1.90		Sand	14.8			188.10	0.84	157.13	184.23	0.86	0.807	0.887	0.866	1.660	2.06	0.00	0.00
49.700	122.430	2.820	6212.5	3541.8	87.174	2.363	2.21		Sand	39.7			115.72	0.82	94.74	159.29	0.86	0.807	0.911	0.364	0.591	0.73	0.02	0.03
49.870	72.700	2.895	6233.8	3552.4	39.175	4.161	2.63		Clay	73.2			68.71	0.87	n.a.	n.a.	0.86	0.807	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.030	56.410	2.603	6253.8	3562.4	29.914	4.885	2.76		Clay	83.8			53.32	0.87	n.a.	n.a.	0.86	0.806	n.a.	n.a.	n.a.	n.a.	0.00	0.00
50.200	125.420	1.784	6275.0	3573.1	88.944	1.459	2.06		Sand	27.5			118.54	0.81	95.70	146.78	0.86	0.806	0.919	0.269	0.403	0.50	0.02	0.00
50.360	216.650	1.255	6295.0	3583.1	155.076	0.588	1.62		Sand	0.0			204.77	0.82	168.10	168.10	0.86	0.806	0.901	0.473	0.811	1.01	0.01	0.00
50.520	226.060	0.936	6315.0	3593.1	161.678	0.420	1.52		Sand	0.0			213.67	0.83	176.36	176.36	0.86	0.806	0.892	0.630	1.142	1.42	0.00	0.00
50.690	228.150	0.991	6336.3	3603.8	162.945	0.440	1.53		Sand	0.0			215.64	0.83	178.03	178.03	0.86	0.806	0.890	0.672	1.230	1.53	0.00	0.00
50.850	209.340	0.992	6356.3	3613.8	149.108	0.481	1.58		Sand	0.0			197.86	0.81	160.96	160.96	0.86	0.805	0.906	0.381	0.623	0.77	0.01	0.00
51.020	163.740	2.232	6377.5	3624.4	115.949	1.390	1.96		Sand	19.6			154.76	0.82	126.27	165.86	0.86	0.805	0.901	0.441	0.743	0.92	0.01	0.00
51.180	90.380	1.999	6397.5	3634.4	62.875	2.293	2.30		Sand	47.0			85.43	0.79	67.40	129.82	0.86	0.805	0.927	0.197	0.267	0.33	0.02	0.00
51.350	46.580	1.776	6418.8	3645.1	23.797	4.094	2.78		Clay	85.6			44.03	0.87	n.a.	n.a.	0.86	0.805	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.510	16.960	0.927	6438.8	3655.1	7.519	6.743	3.31		Clay	100.0			16.03	0.87	n.a.	n.a.	0.86	0.804	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.670	15.970	0.630	6458.8	3665.1	6.952	4.948	3.25		Clay	100.0			15.09	0.87	n.a.	n.a.	0.86	0.804	n.a.	n.a.	n.a.	n.a.	0.00	0.00
51.840	16.320	0.640	6480.0	3675.7	7.117	4.896	3.24		Clay	100.0			15.43	0.86	n.a.	n.a.	0.86	0.804	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.000	16.130	0.664	6500.0	3685.8	6.989	5.158	3.26		Clay	100.0			15.25	0.86	n.a.	n.a.	0.86	0.804	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.170	16.880	0.692	6521.3	3696.4	7.369	5.078	3.24		Clay	100.0			15.95	0.86	n.a.	n.a.	0.85	0.803	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.330	18.170	0.794	6541.3	3706.4	8.040	5.329	3.22		Clay	100.0			17.17	0.86	n.a.	n.a.	0.85	0.803	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.490	20.720	0.988	6561.3	3716.4	9.385	5.668	3.18		Clay	100.0			19.58	0.86	n.a.	n.a.	0.85	0.803	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.660	27.340	1.312	6582.5	3727.1	12.905	5.456	3.07		Clay	100.0			25.84	0.86	n.a.	n.a.	0.85	0.803	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.820	37.170	1.224	6602.5	3737.1	18.126	3.614	2.84		Clay	90.0			35.13	0.86	n.a.	n.a.	0.85	0.802	n.a.	n.a.	n.a.	n.a.	0.00	0.00
52.990	30.650	1.009	6623.8	3747.7	14.589	3.689	2.92		Clay	96.4			28.97	0.86	n.a.	n.a.	0.85	0.802	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.150	21.930	0.820	6643.8	3757.8	9.904	4.406	3.10		Clay	100.0			20.73	0.86	n.a.	n.a.	0.85	0.802	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.310	22.580	0.781	6663.8	3767.8	10.217	4.056	3.07		Clay	100.0			21.34	0.86	n.a.	n.a.	0.85	0.802	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.480	24.770	1.000	6685.0	3778.4	11.342	4.667	3.07		Clay	100.0			23.41	0.86	n.a.	n.a.	0.85	0.801	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.640	24.990	1.274	6705.0	3788.4	11.423	5.890	3.13		Clay	100.0			23.62	0.86	n.a.	n.a.	0.85	0.801	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.810	37.200	1.243	6726.3	3799.1	17.813	3.673	2.85		Clay	90.8			35.16	0.86	n.a.	n.a.	0.85	0.801	n.a.	n.a.	n.a.	n.a.	0.00	0.00
53.970	30.670	0.991	6746.3	3809.1	14.333	3.629	2.92		Clay	96.5			28.99	0.86	n.a.	n.a.	0.85	0.801	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.130	26.330	0.758	6766.3	3819.1	12.017	3.302	2.96		Clay	99.5			24.89	0.86	n.a.	n.a.	0.85	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.300	22.140	0.918	6787.5	3829.7	9.790	4.898	3.13		Clay	100.0			20.93	0.86	n.a.	n.a.	0.85	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.460	19.410	1.036	6807.5	3839.8	8.337	6.472	3.26		Clay	100.0			18.35	0.85	n.a.	n.a.	0.85	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.630	17.060	0.898	6828.8	3850.4	7.088	6.579	3.32		Clay	100.0			16.12	0.85	n.a.	n.a.	0.85	0.800	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.790	16.200	0.798	6848.8	3860.4	6.619	6.245	3.33		Clay	100.0			15.31	0.85	n.a.	n.a.	0.84	0.799	n.a.	n.a.	n.a.	n.a.	0.00	0.00
54.950	15.280	0.729	6868.8	3870.4	6.121	6.155	3.35		Clay	100.0			14.44	0.85	n.a.	n.a.	0.84	0.799	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.120	13.990	0.733	6890.0	3881.1	5.434	6.955	3.43		Clay	100.0			13.22	0.85	n.a.	n.a.	0.84	0.799	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No. 10 | PGA (A_{max}) 0.84 | Total Settlement: 0.42 (Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
55.280	14.020	0.684	6910.0	3891.1	5.430	6.470	3.41		Clay	100.0			13.25	0.85	n.a.	n.a.	0.84	0.798	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.450	15.240	0.639	6931.3	3901.7	6.035	5.430	3.32		Clay	100.0			14.40	0.85	n.a.	n.a.	0.84	0.798	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.610	14.390	0.624	6951.3	3911.7	5.580	5.718	3.37		Clay	100.0			13.60	0.85	n.a.	n.a.	0.84	0.798	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.770	14.050	0.628	6971.3	3921.8	5.388	5.946	3.39		Clay	100.0			13.28	0.85	n.a.	n.a.	0.84	0.798	n.a.	n.a.	n.a.	n.a.	0.00	0.00
55.940	15.010	0.657	6992.5	3932.4	5.856	5.710	3.35		Clay	100.0			14.19	0.85	n.a.	n.a.	0.84	0.797	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.100	16.150	0.690	7012.5	3942.4	6.414	5.457	3.30		Clay	100.0			15.26	0.85	n.a.	n.a.	0.84	0.797	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.270	17.690	0.725	7033.8	3953.1	7.171	5.115	3.25		Clay	100.0			16.72	0.85	n.a.	n.a.	0.84	0.797	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.430	19.320	0.747	7053.8	3963.1	7.970	4.727	3.19		Clay	100.0			18.26	0.85	n.a.	n.a.	0.84	0.796	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.590	20.550	0.767	7073.8	3973.1	8.564	4.509	3.15		Clay	100.0			19.42	0.85	n.a.	n.a.	0.84	0.796	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.760	21.370	0.624	7095.0	3983.7	8.948	3.498	3.07		Clay	100.0			20.20	0.85	n.a.	n.a.	0.84	0.796	n.a.	n.a.	n.a.	n.a.	0.00	0.00
56.920	21.490	0.692	7115.0	3993.8	8.980	3.858	3.10		Clay	100.0			20.31	0.85	n.a.	n.a.	0.84	0.796	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.090	22.300	0.639	7136.3	4004.4	9.356	3.409	3.05		Clay	100.0			21.08	0.85	n.a.	n.a.	0.84	0.795	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.250	23.850	0.649	7156.3	4014.4	10.100	3.200	3.01		Clay	100.0			22.54	0.84	n.a.	n.a.	0.84	0.795	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.410	26.450	0.712	7176.3	4024.4	11.362	3.115	2.96		Clay	99.9			25.00	0.84	n.a.	n.a.	0.84	0.795	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.580	26.830	0.715	7197.5	4035.1	11.515	3.079	2.95		Clay	99.3			25.36	0.84	n.a.	n.a.	0.83	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.740	27.170	0.743	7217.5	4045.1	11.649	3.152	2.95		Clay	99.4			25.68	0.84	n.a.	n.a.	0.83	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
57.910	26.860	0.785	7238.8	4055.7	11.461	3.379	2.98		Clay	100.0			25.39	0.84	n.a.	n.a.	0.83	0.794	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.070	26.000	0.817	7258.8	4065.7	11.004	3.654	3.01		Clay	100.0			24.57	0.84	n.a.	n.a.	0.83	0.793	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.230	27.020	0.832	7278.8	4075.8	11.473	3.559	2.99		Clay	100.0			25.54	0.84	n.a.	n.a.	0.83	0.793	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.400	27.780	0.801	7300.0	4086.4	11.810	3.320	2.96		Clay	100.0			26.26	0.84	n.a.	n.a.	0.83	0.793	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.560	25.490	0.754	7320.0	4096.4	10.658	3.452	3.01		Clay	100.0			24.09	0.84	n.a.	n.a.	0.83	0.792	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.730	22.870	0.730	7341.3	4107.1	9.349	3.800	3.08		Clay	100.0			21.62	0.84	n.a.	n.a.	0.83	0.792	n.a.	n.a.	n.a.	n.a.	0.00	0.00
58.890	20.570	0.659	7361.3	4117.1	8.205	3.899	3.13		Clay	100.0			19.44	0.84	n.a.	n.a.	0.83	0.792	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.060	18.890	0.647	7382.5	4127.7	7.364	4.258	3.19		Clay	100.0			17.85	0.84	n.a.	n.a.	0.83	0.792	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.220	18.230	0.621	7402.5	4137.7	7.023	4.274	3.21		Clay	100.0			17.23	0.84	n.a.	n.a.	0.83	0.791	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.380	18.440	0.580	7422.5	4147.7	7.102	3.939	3.19		Clay	100.0			17.43	0.84	n.a.	n.a.	0.83	0.791	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.550	18.480	0.570	7443.8	4158.4	7.098	3.863	3.18		Clay	100.0			17.47	0.84	n.a.	n.a.	0.83	0.791	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.710	18.110	0.883	7463.8	4168.4	6.899	6.138	3.31		Clay	100.0			17.12	0.84	n.a.	n.a.	0.83	0.790	n.a.	n.a.	n.a.	n.a.	0.00	0.00
59.880	17.800	0.910	7485.0	4179.0	6.728	6.474	3.33		Clay	100.0			16.82	0.84	n.a.	n.a.	0.83	0.790	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.040	23.240	0.932	7505.0	4189.1	9.304	4.784	3.14		Clay	100.0			21.97	0.84	n.a.	n.a.	0.83	0.790	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.200	31.710	0.886	7525.0	4199.1	13.311	3.170	2.91		Clay	95.8			29.97	0.83	n.a.	n.a.	0.82	0.789	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.370	32.460	0.923	7546.3	4209.7	13.629	3.217	2.90		Clay	95.4			30.68	0.83	n.a.	n.a.	0.82	0.789	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.530	31.680	0.870	7566.3	4219.7	13.222	3.118	2.91		Clay	95.6			29.94	0.83	n.a.	n.a.	0.82	0.789	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.700	29.160	0.795	7587.5	4230.4	11.992	3.132	2.94		Clay	98.4			27.56	0.83	n.a.	n.a.	0.82	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
60.860	27.120	0.711	7607.5	4240.4	10.997	3.051	2.97		Clay	100.0			25.63	0.83	n.a.	n.a.	0.82	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.020	26.240	0.755	7627.5	4250.4	10.553	3.367	3.01		Clay	100.0			24.80	0.83	n.a.	n.a.	0.82	0.788	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.190	25.470	0.860	7648.8	4261.1	10.160	3.973	3.06		Clay	100.0			24.07	0.83	n.a.	n.a.	0.82	0.787	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.350	24.530	0.861	7668.8	4271.1	9.691	4.159	3.09		Clay	100.0			23.19	0.83	n.a.	n.a.	0.82	0.787	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.520	24.270	0.847	7690.0	4281.7	9.541	4.144	3.09		Clay	100.0			22.94	0.83	n.a.	n.a.	0.82	0.787	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.680	24.010	0.800	7710.0	4291.7	9.392	3.968	3.09		Clay	100.0			22.69	0.83	n.a.	n.a.	0.82	0.786	n.a.	n.a.	n.a.	n.a.	0.00	0.00
61.840	23.870	1.135	7730.0	4301.7	9.301	5.674	3.19		Clay	100.0			22.56	0.83	n.a.	n.a.	0.82	0.786	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.010	23.850	1.560	7751.3	4312.4	9.264	7.811	3.28		Clay	100.0			22.54	0.83	n.a.	n.a.	0.82	0.786	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.170	29.670	1.837	7771.3	4322.4	11.931	7.125	3.17		Clay	100.0			28.04	0.83	n.a.	n.a.	0.82	0.785	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.340	38.720	2.752	7792.5	4333.0	16.074	7.904	3.10		Clay	100.0			36.60	0.83	n.a.	n.a.	0.82	0.785	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.500	34.360	3.862	7812.5	4343.1	14.024	12.682	3.29		Clay	100.0			32.48	0.83	n.a.	n.a.	0.82	0.784	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.660	68.790	4.663	7832.5	4353.1	29.806	7.188	2.88		Clay	93.4			65.02	0.83	n.a.	n.a.	0.82	0.784	n.a.	n.a.	n.a.	n.a.	0.00	0.00
62.830	118.840	4.281	7853.8	4363.7	75.633	3.726	2.40		Sand	54.7			112.33	0.75	84.36	154.78	0.81	0.784	0.879	0.324	0.491	0.63	0.02	0.00
62.990	170.250	4.518	7873.8	4373.7	109.338	2.717	2.19		Sand	38.0			160.92	0.78	126.28	196.82	0.81	0.783	0.816	1.587	2.848	3.64	0.00	0.00
63.160	215.350	4.904	7895.0	4384.4	138.812	2.320	2.07		Sand	28.4			203.54	0.81	164.67	230.58	0.81	0.783	0.781	17.291	29.727	37.96	0.00	0.00
63.320	233.740	4.928	7915.0	4394.4	150.709	2.145	2.02		Sand	24.5			220.93	0.82	180.16	240.57	0.81	0.783	0.781	45.645	78.402	100.17	0.00	0.00
63.480	187.950	4.492	7935.0	4404.4	120.533	2.441	2.12		Sand	33.0			177.65	0.79	140.71	208.79	0.81	0.782	0.786	3.218	5.563	7.11	0.00	0.00
63.650	108.670	3.199	7956.3	4415.1	68.504	3.056	2.36		Sand	51.9			102.71	0.74	75.66	142.58	0.81	0.782	0.890	0.246	0.348	0.44	0.02	0.00
63.810	53.310	2.388	7976.3	4425.1	22.292	4.842	2.85		Clay	91.1			50.39	0.82	n.a.	n.a.	0.81	0.782	n.a.	n.a.	n.a.	n.a.	0.00	0.00
63.980	25.850	1.670	7997.5	4435.7	9.852	7.640	3.25		Clay	100.0			24.43	0.82	n.a.	n.a.	0.81	0.781	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.140	21.230	1.037	8017.5	4445.7	7.747	6.024	3.27		Clay	100.0			20.07	0.82	n.a.	n.a.	0.81	0.781	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.300	20.960	0.835	8037.5	4455.7	7.604	4.931	3.22		Clay	100.0			19.81	0.82	n.a.	n.a.	0.81	0.781	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.470	17.850	0.765	8058.8	4466.4	6.189	5.534	3.32		Clay	100.0			16.87	0.82	n.a.	n.a.	0.81	0.780	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.630	15.710	0.713	8078.8	4476.4	5.214	6.113	3.41		Clay	100.0			14.85	0.82	n.a.	n.a.	0.81	0.780	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.800	14.550	0.734	8100.0	4487.0	4.680	6.993	3.48		Clay	100.0			13.75	0.82	n.a.	n.a.	0.81	0.779	n.a.	n.a.	n.a.	n.a.	0.00	0.00
64.960	14.460	0.745	8120.0	4497.1	4.625	7.161	3.49		Clay	100.0			13.67	0.82	n.a.	n.a.	0.81	0.779	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.120	16.600	0.722	8140.0	4507.1	5.560	5.764	3.37		Clay	100.0			15.69	0.82	n.a.	n.a.	0.81	0.779	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.290	17.060	0.752	8161.3	4517.7	5.746	5.795	3.36		Clay	100.0			16.12	0.82	n.a.	n.a.	0.81	0.778	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.450	16.660	0.792	8181.3	4527.7	5.552	6.302	3.39		Clay	100.0			15.75	0.82	n.a.	n.a.	0.81	0.778	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.620	17.920	0.917	8202.5	4538.4	6.090	6.634	3.37		Clay	100.0			16.94	0.82	n.a.	n.a.	0.80	0.778	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.780	23.410	1.055	8222.5	4548.4	8.486	5.467	3.21		Clay	100.0			22.13	0.82	n.a.	n.a.	0.80	0.777	n.a.	n.a.	n.a.	n.a.	0.00	0.00
65.940	26.560	1.273	8242.5	4558.4	9.845	5.673	3.17		Clay	100.0			25.10	0.82	n.a.	n.a.	0.80	0.777	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.110	29.090	1.403	8263.8	4569.0	10.925	5.622	3.13		Clay	100.0			27.50	0.82	n.a.	n.a.	0.80	0.777	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10

PGA (A_{max})	0.84

Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
66.270	31.540	1.533	8283.8	4579.1	11.967	5.596	3.10		Clay	100.0			29.81	0.82	n.a.	n.a.	0.80	0.776	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.440	33.530	1.761	8305.0	4589.7	12.801	5.995	3.09		Clay	100.0			31.69	0.82	n.a.	n.a.	0.80	0.776	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.600	47.050	2.021	8325.0	4599.7	18.648	4.712	2.90		Clay	95.2			44.47	0.81	n.a.	n.a.	0.80	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.770	50.220	2.146	8346.3	4610.4	19.975	4.661	2.88		Clay	93.1			47.47	0.81	n.a.	n.a.	0.80	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
66.930	46.700	2.215	8366.3	4620.4	18.404	5.211	2.93		Clay	97.8			44.14	0.81	n.a.	n.a.	0.80	0.775	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.090	55.890	2.307	8386.3	4630.4	22.329	4.462	2.83		Clay	89.2			52.83	0.81	n.a.	n.a.	0.80	0.774	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.260	54.810	2.530	8407.5	4641.0	21.808	4.999	2.87		Clay	92.4			51.81	0.81	n.a.	n.a.	0.80	0.774	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.420	50.340	2.476	8427.5	4651.1	19.835	5.368	2.92		Clay	96.5			47.58	0.81	n.a.	n.a.	0.80	0.774	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.590	44.600	2.279	8448.8	4661.7	17.322	5.645	2.98		Clay	100.0			42.16	0.81	n.a.	n.a.	0.80	0.773	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.750	42.250	1.722	8468.8	4671.7	16.275	4.530	2.94		Clay	97.9			39.93	0.81	n.a.	n.a.	0.80	0.773	n.a.	n.a.	n.a.	n.a.	0.00	0.00
67.910	39.940	1.518	8488.8	4681.7	15.249	4.253	2.94		Clay	98.2			37.75	0.81	n.a.	n.a.	0.80	0.772	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.080	35.040	1.137	8510.0	4692.4	13.121	3.693	2.95		Clay	99.3			33.12	0.81	n.a.	n.a.	0.80	0.772	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.240	31.480	1.224	8530.0	4702.4	11.575	4.496	3.05		Clay	100.0			29.75	0.81	n.a.	n.a.	0.80	0.772	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.410	32.850	1.557	8551.3	4713.0	12.126	5.450	3.09		Clay	100.0			31.05	0.81	n.a.	n.a.	0.79	0.771	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.570	44.510	1.891	8571.3	4723.0	17.033	4.700	2.93		Clay	97.5			42.07	0.81	n.a.	n.a.	0.79	0.771	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.730	51.950	2.314	8591.3	4733.1	20.137	4.856	2.89		Clay	93.8			49.10	0.81	n.a.	n.a.	0.79	0.770	n.a.	n.a.	n.a.	n.a.	0.00	0.00
68.900	57.920	2.424	8612.5	4743.7	22.604	4.522	2.83		Clay	89.2			54.74	0.81	n.a.	n.a.	0.79	0.770	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.060	49.850	2.093	8632.5	4753.7	19.157	4.597	2.89		Clay	93.9			47.12	0.81	n.a.	n.a.	0.79	0.770	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.230	40.440	1.648	8653.8	4764.4	15.160	4.564	2.96		Clay	100.0			38.22	0.81	n.a.	n.a.	0.79	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.390	32.950	1.323	8673.8	4774.4	11.986	4.625	3.05		Clay	100.0			31.14	0.81	n.a.	n.a.	0.79	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.550	27.420	1.056	8693.8	4784.4	9.645	4.578	3.12		Clay	100.0			25.92	0.81	n.a.	n.a.	0.79	0.769	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.720	24.280	0.854	8715.0	4795.0	8.310	4.288	3.15		Clay	100.0			22.95	0.81	n.a.	n.a.	0.79	0.768	n.a.	n.a.	n.a.	n.a.	0.00	0.00
69.880	24.280	0.900	8735.0	4805.0	8.288	4.519	3.17		Clay	100.0			22.95	0.81	n.a.	n.a.	0.79	0.768	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.050	23.680	0.976	8756.3	4815.7	8.016	5.057	3.21		Clay	100.0			22.38	0.80	n.a.	n.a.	0.79	0.767	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.210	27.870	0.780	8776.3	4825.7	9.732	3.323	3.03		Clay	100.0			26.34	0.80	n.a.	n.a.	0.79	0.767	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.370	29.370	0.685	8796.3	4835.7	10.328	2.743	2.96		Clay	100.0			27.76	0.80	n.a.	n.a.	0.79	0.767	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.540	25.530	0.824	8817.5	4846.4	8.716	3.902	3.11		Clay	100.0			24.13	0.80	n.a.	n.a.	0.79	0.766	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.700	23.970	0.860	8837.5	4856.4	8.052	4.398	3.17		Clay	100.0			22.66	0.80	n.a.	n.a.	0.79	0.766	n.a.	n.a.	n.a.	n.a.	0.00	0.00
70.870	24.780	0.799	8858.8	4867.0	8.363	3.926	3.13		Clay	100.0			23.42	0.80	n.a.	n.a.	0.79	0.765	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.030	25.380	0.751	8878.8	4877.0	8.587	3.588	3.10		Clay	100.0			23.99	0.80	n.a.	n.a.	0.79	0.765	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.190	22.780	0.706	8898.8	4887.1	7.502	3.849	3.16		Clay	100.0			21.53	0.80	n.a.	n.a.	0.78	0.765	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.360	20.090	0.683	8920.0	4897.7	6.383	4.369	3.25		Clay	100.0			18.99	0.80	n.a.	n.a.	0.78	0.764	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.520	19.820	0.638	8940.0	4907.7	6.255	4.154	3.24		Clay	100.0			18.73	0.80	n.a.	n.a.	0.78	0.764	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.690	20.560	0.620	8961.3	4918.4	6.539	3.858	3.21		Clay	100.0			19.43	0.80	n.a.	n.a.	0.78	0.763	n.a.	n.a.	n.a.	n.a.	0.00	0.00
71.850	21.520	0.646	8981.3	4928.4	6.911	3.794	3.19		Clay	100.0			20.34	0.80	n.a.	n.a.	0.78	0.763	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.010	20.240	0.630	9001.3	4938.4	6.374	4.001	3.23		Clay	100.0			19.13	0.80	n.a.	n.a.	0.78	0.763	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.180	20.610	0.736	9022.5	4949.0	6.506	4.574	3.25		Clay	100.0			19.48	0.80	n.a.	n.a.	0.78	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.340	22.240	0.765	9042.5	4959.0	7.146	4.315	3.21		Clay	100.0			21.02	0.80	n.a.	n.a.	0.78	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.510	23.290	0.756	9063.8	4969.7	7.549	4.030	3.17		Clay	100.0			22.01	0.80	n.a.	n.a.	0.78	0.762	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.670	23.110	0.816	9083.8	4979.7	7.458	4.392	3.20		Clay	100.0			21.84	0.80	n.a.	n.a.	0.78	0.761	n.a.	n.a.	n.a.	n.a.	0.00	0.00
72.830	22.950	0.840	9103.8	4989.7	7.374	4.567	3.21		Clay	100.0			21.69	0.80	n.a.	n.a.	0.78	0.761	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.000	22.320	0.773	9125.0	5000.4	7.102	4.351	3.21		Clay	100.0			21.10	0.80	n.a.	n.a.	0.78	0.760	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.160	21.790	0.729	9145.0	5010.4	6.873	4.232	3.22		Clay	100.0			20.60	0.80	n.a.	n.a.	0.78	0.760	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.330	21.550	0.679	9166.3	5021.0	6.758	4.001	3.21		Clay	100.0			20.37	0.80	n.a.	n.a.	0.78	0.760	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.490	21.880	0.648	9186.3	5031.0	6.872	3.747	3.19		Clay	100.0			20.68	0.80	n.a.	n.a.	0.78	0.759	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.650	21.530	0.616	9206.3	5041.1	6.716	3.637	3.19		Clay	100.0			20.35	0.80	n.a.	n.a.	0.78	0.759	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.820	22.530	0.710	9227.5	5051.7	7.093	3.965	3.19		Clay	100.0			21.29	0.79	n.a.	n.a.	0.78	0.758	n.a.	n.a.	n.a.	n.a.	0.00	0.00
73.980	23.520	0.801	9247.5	5061.7	7.466	4.240	3.19		Clay	100.0			22.23	0.79	n.a.	n.a.	0.77	0.758	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.150	23.140	0.858	9268.8	5072.4	7.297	4.639	3.22		Clay	100.0			21.87	0.79	n.a.	n.a.	0.77	0.758	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.310	22.680	0.835	9288.8	5082.4	7.097	4.628	3.23		Clay	100.0			21.44	0.79	n.a.	n.a.	0.77	0.757	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.480	22.400	0.833	9310.0	5093.0	6.968	4.694	3.24		Clay	100.0			21.17	0.79	n.a.	n.a.	0.77	0.757	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.640	21.680	0.757	9330.0	5103.0	6.669	4.447	3.24		Clay	100.0			20.49	0.79	n.a.	n.a.	0.77	0.756	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.800	20.910	0.759	9350.0	5113.0	6.350	4.677	3.27		Clay	100.0			19.76	0.79	n.a.	n.a.	0.77	0.756	n.a.	n.a.	n.a.	n.a.	0.00	0.00
74.970	20.790	0.798	9371.3	5123.7	6.286	4.953	3.29		Clay	100.0			19.65	0.79	n.a.	n.a.	0.77	0.756	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.130	22.810	0.868	9391.3	5133.7	7.057	4.790	3.24		Clay	100.0			21.56	0.79	n.a.	n.a.	0.77	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.300	22.960	0.918	9412.5	5144.3	7.097	5.028	3.25		Clay	100.0			21.70	0.79	n.a.	n.a.	0.77	0.755	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.460	23.270	0.955	9432.5	5154.4	7.199	5.146	3.25		Clay	100.0			21.99	0.79	n.a.	n.a.	0.77	0.754	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.620	24.080	0.992	9452.5	5164.4	7.495	5.127	3.23		Clay	100.0			22.76	0.79	n.a.	n.a.	0.77	0.754	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.790	25.440	1.087	9473.8	5175.0	8.001	5.249	3.22		Clay	100.0			24.05	0.79	n.a.	n.a.	0.77	0.754	n.a.	n.a.	n.a.	n.a.	0.00	0.00
75.950	26.640	1.186	9493.8	5185.0	8.445	5.418	3.21		Clay	100.0			25.18	0.79	n.a.	n.a.	0.77	0.753	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.120	28.000	1.271	9515.0	5195.7	8.947	5.470	3.19		Clay	100.0			26.47	0.79	n.a.	n.a.	0.77	0.753	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.280	29.490	1.332	9535.0	5205.7	9.498	5.389	3.17		Clay	100.0			27.87	0.79	n.a.	n.a.	0.77	0.752	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.440	30.590	1.344	9555.0	5215.7	9.898	5.205	3.14		Clay	100.0			28.91	0.79	n.a.	n.a.	0.77	0.752	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.610	30.270	1.375	9576.3	5226.3	9.751	5.397	3.16		Clay	100.0			28.61	0.79	n.a.	n.a.	0.77	0.752	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.770	30.670	1.365	9596.3	5236.4	9.882	5.274	3.15		Clay	100.0			28.99	0.79	n.a.	n.a.	0.77	0.751	n.a.	n.a.	n.a.	n.a.	0.00	0.00
76.940	32.310	1.346	9617.5	5247.0	10.483	4.896	3.11		Clay	100.0			30.54	0.79	n.a.	n.a.	0.76	0.751	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.100	33.280	1.304	9637.5	5257.0	10.828	4.581	3.08		Clay	100.0			31.46	0.79	n.a.	n.a.	0.76	0.750	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10	PGA (A_{max})	0.84	Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	q_{c1N-CS}	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
77.260	32.750	1.320	9657.5	5267.0	10.602	4.729	3.09		Clay	100.0			30.95	0.79	n.a.	n.a.	0.76	0.750	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.430	31.520	1.174	9678.8	5277.7	10.111	4.398	3.09		Clay	100.0			29.79	0.79	n.a.	n.a.	0.76	0.750	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.590	29.410	0.998	9698.8	5287.7	9.290	4.065	3.10		Clay	100.0			27.80	0.79	n.a.	n.a.	0.76	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.760	27.230	0.822	9720.0	5298.3	8.444	3.673	3.11		Clay	100.0			25.74	0.78	n.a.	n.a.	0.76	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
77.920	25.260	0.882	9740.0	5308.4	7.682	4.325	3.18		Clay	100.0			23.88	0.78	n.a.	n.a.	0.76	0.749	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.080	27.980	1.022	9760.0	5318.4	8.687	4.423	3.14		Clay	100.0			26.45	0.78	n.a.	n.a.	0.76	0.748	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.250	30.700	0.966	9781.3	5329.0	9.686	3.742	3.06		Clay	100.0			29.02	0.78	n.a.	n.a.	0.76	0.748	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.410	27.650	0.899	9801.3	5339.0	8.522	3.950	3.12		Clay	100.0			26.13	0.78	n.a.	n.a.	0.76	0.747	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.580	27.070	0.783	9822.5	5349.7	8.284	3.535	3.10		Clay	100.0			25.59	0.78	n.a.	n.a.	0.76	0.747	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.740	27.490	0.828	9842.5	5359.7	8.422	3.668	3.11		Clay	100.0			25.98	0.78	n.a.	n.a.	0.76	0.747	n.a.	n.a.	n.a.	n.a.	0.00	0.00
78.900	28.700	0.959	9862.5	5369.7	8.853	4.035	3.11		Clay	100.0			27.13	0.78	n.a.	n.a.	0.76	0.746	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.070	29.220	1.116	9883.8	5380.3	9.025	4.598	3.14		Clay	100.0			27.62	0.78	n.a.	n.a.	0.76	0.746	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.230	30.010	1.159	9903.8	5390.4	9.297	4.623	3.13		Clay	100.0			28.36	0.78	n.a.	n.a.	0.76	0.745	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.400	30.700	1.131	9925.0	5401.0	9.531	4.394	3.11		Clay	100.0			29.02	0.78	n.a.	n.a.	0.76	0.745	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.560	30.190	1.093	9945.0	5411.0	9.321	4.333	3.11		Clay	100.0			28.53	0.78	n.a.	n.a.	0.76	0.745	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.720	29.510	1.013	9965.0	5421.0	9.049	4.131	3.11		Clay	100.0			27.89	0.78	n.a.	n.a.	0.76	0.744	n.a.	n.a.	n.a.	n.a.	0.00	0.00
79.890	28.360	1.022	9986.3	5431.7	8.604	4.373	3.14		Clay	100.0			26.81	0.78	n.a.	n.a.	0.75	0.744	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.050	28.560	1.008	10006.3	5441.7	8.658	4.279	3.14		Clay	100.0			26.99	0.78	n.a.	n.a.	0.75	0.743	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.220	31.370	1.037	10027.5	5452.3	9.668	3.936	3.08		Clay	100.0			29.65	0.78	n.a.	n.a.	0.75	0.743	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.380	31.000	1.015	10047.5	5462.3	9.511	3.909	3.08		Clay	100.0			29.30	0.78	n.a.	n.a.	0.75	0.743	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.540	30.490	0.985	10067.5	5472.4	9.304	3.868	3.09		Clay	100.0			28.82	0.78	n.a.	n.a.	0.75	0.742	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.710	30.210	1.002	10088.8	5483.0	9.179	3.983	3.10		Clay	100.0			28.55	0.78	n.a.	n.a.	0.75	0.742	n.a.	n.a.	n.a.	n.a.	0.00	0.00
80.870	30.440	1.042	10108.8	5493.0	9.243	4.106	3.10		Clay	100.0			28.77	0.78	n.a.	n.a.	0.75	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.040	31.480	1.212	10130.0	5503.7	9.599	4.589	3.12		Clay	100.0			29.75	0.78	n.a.	n.a.	0.75	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.200	35.450	1.433	10150.0	5513.7	11.018	4.716	3.08		Clay	100.0			33.51	0.78	n.a.	n.a.	0.75	0.741	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.360	42.170	2.244	10170.0	5523.7	13.428	6.051	3.08		Clay	100.0			39.86	0.78	n.a.	n.a.	0.75	0.740	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.530	83.020	2.801	10191.3	5534.3	28.160	3.594	2.69		Clay	78.2			78.47	0.78	n.a.	n.a.	0.75	0.740	n.a.	n.a.	n.a.	n.a.	0.00	0.00
81.690	126.110	3.947	10211.3	5544.4	70.656	3.262	2.37		Sand	52.9			119.20	0.68	80.76	149.44	0.75	0.739	0.847	0.285	0.401	0.54	0.02	0.00
81.860	146.530	4.121	10232.5	5555.0	82.494	2.914	2.29		Sand	46.3			138.50	0.69	96.10	165.55	0.75	0.739	0.822	0.437	0.671	0.91	0.01	0.00
82.020	138.470	4.216	10252.5	5565.0	77.716	3.162	2.34		Sand	49.8			130.88	0.69	89.96	159.70	0.75	0.739	0.831	0.368	0.548	0.74	0.02	0.00
82.190	161.090	3.865	10273.8	5575.7	90.807	2.478	2.21		Sand	39.9			152.26	0.70	106.89	174.55	0.75	0.738	0.806	0.590	0.952	1.29	0.00	0.00
82.350	168.920	5.285	10293.8	5585.7	95.275	3.227	2.28		Sand	45.6			159.66	0.71	114.09	187.72	0.75	0.738	0.777	1.011	1.729	2.34	0.00	0.00
82.510	165.450	4.735	10313.8	5595.7	93.167	2.954	2.26		Sand	43.8			156.38	0.71	110.87	182.48	0.75	0.738	0.789	0.804	1.352	1.83	0.00	0.00
82.680	112.460	5.051	10335.0	5606.3	38.275	4.708	2.67		Clay	76.8			106.29	0.77	n.a.	n.a.	0.75	0.737	n.a.	n.a.	n.a.	n.a.	0.00	0.00
82.840	117.850	5.068	10355.0	5616.3	40.123	4.498	2.64		Clay	74.5			111.39	0.77	n.a.	n.a.	0.75	0.737	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.010	186.760	2.959	10376.3	5627.0	105.240	1.630	2.04		Sand	25.9			176.52	0.70	124.07	177.67	0.74	0.736	0.798	0.663	1.085	1.47	0.00	0.00
83.170	219.510	2.788	10396.3	5637.0	124.106	1.301	1.92		Sand	16.3			207.48	0.70	145.65	177.27	0.74	0.736	0.798	0.653	1.065	1.45	0.00	0.00
83.330	220.380	3.708	10416.3	5647.0	124.494	1.723	2.00		Sand	23.2			208.30	0.73	151.54	204.08	0.74	0.736	0.729	2.397	3.846	5.23	0.00	0.00
83.500	193.610	4.741	10437.5	5657.7	108.897	2.517	2.16		Sand	36.1			183.00	0.73	132.85	202.94	0.74	0.735	0.732	2.239	3.607	4.91	0.00	0.00
83.660	166.960	4.648	10457.5	5667.7	93.404	2.874	2.25		Sand	43.1			157.81	0.71	111.40	182.59	0.74	0.735	0.786	0.807	1.354	1.84	0.00	0.00
83.830	101.700	4.531	10478.8	5678.3	33.975	4.697	2.71		Clay	79.7			96.12	0.77	n.a.	n.a.	0.74	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
83.990	80.450	4.266	10498.8	5688.3	26.440	5.673	2.84		Clay	90.5			76.04	0.77	n.a.	n.a.	0.74	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.150	92.720	2.551	10518.8	5698.4	30.697	2.917	2.60		Clay	71.2			87.64	0.77	n.a.	n.a.	0.74	0.734	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.320	98.800	2.591	10540.0	5709.0	53.820	2.770	2.41		Sand	55.5			93.38	0.64	59.77	123.77	0.74	0.733	0.873	0.180	0.222	0.30	0.03	0.00
84.480	72.690	3.680	10560.0	5719.0	23.574	5.460	2.87		Clay	92.5			68.71	0.77	n.a.	n.a.	0.74	0.733	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.650	66.510	1.958	10581.3	5729.7	21.369	3.198	2.75		Clay	82.9			62.86	0.77	n.a.	n.a.	0.74	0.733	n.a.	n.a.	n.a.	n.a.	0.00	0.00
84.810	199.510	3.095	10601.3	5739.7	111.455	1.593	2.01		Sand	24.0			188.57	0.70	132.77	183.90	0.74	0.732	0.780	0.854	1.436	1.96	0.00	0.00
84.970	270.380	3.482	10621.3	5749.7	151.988	1.314	1.86		Sand	11.6			255.56	0.72	183.86	200.07	0.74	0.732	0.737	1.897	3.076	4.20	0.00	0.00
85.140	143.680	4.313	10642.5	5760.3	79.260	3.117	2.32		Sand	49.0			135.80	0.68	92.51	162.50	0.74	0.731	0.821	0.399	0.597	0.82	0.01	0.00
85.300	220.040	4.518	10662.5	5770.3	122.891	2.104	2.07		Sand	28.6			207.98	0.73	152.69	216.63	0.74	0.731	0.699	5.534	8.511	11.64	0.00	0.00
85.470	122.350	4.067	10683.8	5781.0	66.909	3.475	2.41		Sand	55.8			115.64	0.66	76.49	145.17	0.74	0.731	0.846	0.260	0.355	0.49	0.02	0.00
85.630	69.900	2.734	10703.8	5791.0	22.293	4.236	2.81		Clay	88.0			66.07	0.77	n.a.	n.a.	0.74	0.730	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.790	49.610	1.878	10723.8	5801.0	15.255	4.244	2.94		Clay	98.2			46.89	0.77	n.a.	n.a.	0.74	0.730	n.a.	n.a.	n.a.	n.a.	0.00	0.00
85.960	40.340	1.655	10745.0	5811.7	12.034	4.734	3.05		Clay	100.0			38.13	0.77	n.a.	n.a.	0.74	0.729	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.120	37.810	1.620	10765.0	5821.7	11.140	4.996	3.09		Clay	100.0			35.74	0.77	n.a.	n.a.	0.74	0.729	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.290	39.420	1.543	10786.3	5832.3	11.668	4.536	3.05		Clay	100.0			37.26	0.77	n.a.	n.a.	0.73	0.729	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.450	41.020	1.771	10806.3	5842.3	12.193	4.971	3.06		Clay	100.0			38.77	0.76	n.a.	n.a.	0.73	0.728	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.610	40.770	2.002	10826.3	5852.3	12.083	5.663	3.10		Clay	100.0			38.53	0.76	n.a.	n.a.	0.73	0.728	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.780	44.260	2.078	10847.5	5863.0	13.248	5.351	3.05		Clay	100.0			41.83	0.76	n.a.	n.a.	0.73	0.728	n.a.	n.a.	n.a.	n.a.	0.00	0.00
86.940	46.310	2.156	10867.5	5873.0	13.920	5.273	3.03		Clay	100.0			43.77	0.76	n.a.	n.a.	0.73	0.727	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.110	45.850	2.116	10888.8	5883.6	13.735	5.238	3.03		Clay	100.0			43.34	0.76	n.a.	n.a.	0.73	0.727	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.270	44.950	2.041	10908.8	5893.7	13.403	5.168	3.04		Clay	100.0			42.49	0.76	n.a.	n.a.	0.73	0.726	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.430	43.440	1.986	10928.8	5903.7	12.865	5.229	3.05		Clay	100.0			41.06	0.76	n.a.	n.a.	0.73	0.726	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.600	43.220	1.977	10950.0	5914.3	12.764	5.237	3.06		Clay	100.0			40.85	0.76	n.a.	n.a.	0.73	0.726	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.760	44.010	1.957	10970.0	5924.3	13.006	5.080	3.04		Clay	100.0			41.60	0.76	n.a.	n.a.	0.73	0.725	n.a.	n.a.	n.a.	n.a.	0.00	0.00
87.930	44.110	1.993	10991.3	5935.0	13.012	5.162	3.05		Clay	100.0			41.69	0.76	n.a.	n.a.	0.73	0.725	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.090	44.540	2.010	11011.3	5945.0	13.132	5.150	3.04		Clay	100.0			42.10	0.76	n.a.	n.a.	0.73	0.725	n.a.	n.a.	n.a.	n.a.	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10	PGA (A_{max})	0.84	Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{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_σ for Sand	$CRR_{M=7.5,\ \sigma'vc=1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
88.250	46.470	1.935	11031.3	5955.0	13.755	4.725	3.00		Clay	100.0			43.92	0.76	n.a.	n.a.	0.73	0.724	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.420	42.190	1.753	11052.5	5965.7	12.292	4.780	3.05		Clay	100.0			39.88	0.76	n.a.	n.a.	0.73	0.724	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.580	37.260	1.442	11072.5	5975.7	10.618	4.544	3.08		Clay	100.0			35.22	0.76	n.a.	n.a.	0.73	0.724	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.750	34.160	1.253	11093.8	5986.3	9.560	4.378	3.11		Clay	100.0			32.29	0.76	n.a.	n.a.	0.73	0.723	n.a.	n.a.	n.a.	n.a.	0.00	0.00
88.910	35.170	1.264	11113.8	5996.3	9.877	4.269	3.09		Clay	100.0			33.24	0.76	n.a.	n.a.	0.73	0.723	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.070	37.910	1.390	11133.8	6006.3	10.770	4.298	3.06		Clay	100.0			35.83	0.76	n.a.	n.a.	0.73	0.722	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.240	40.390	1.518	11155.0	6017.0	11.571	4.359	3.04		Clay	100.0			38.18	0.76	n.a.	n.a.	0.73	0.722	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.400	41.460	1.569	11175.0	6027.0	11.904	4.374	3.03		Clay	100.0			39.19	0.76	n.a.	n.a.	0.73	0.722	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.570	41.650	1.574	11196.3	6037.6	11.942	4.365	3.03		Clay	100.0			39.37	0.76	n.a.	n.a.	0.72	0.721	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.730	41.400	1.510	11216.3	6047.7	11.837	4.220	3.02		Clay	100.0			39.13	0.76	n.a.	n.a.	0.72	0.721	n.a.	n.a.	n.a.	n.a.	0.00	0.00
89.900	39.750	1.392	11237.5	6058.3	11.268	4.080	3.03		Clay	100.0			37.57	0.76	n.a.	n.a.	0.72	0.721	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.060	36.620	1.554	11257.5	6068.3	10.214	5.013	3.12		Clay	100.0			34.61	0.76	n.a.	n.a.	0.72	0.720	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.220	36.030	2.027	11277.5	6078.3	10.000	6.670	3.21		Clay	100.0			34.05	0.76	n.a.	n.a.	0.72	0.720	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.390	47.220	2.396	11298.8	6089.0	13.654	5.762	3.06		Clay	100.0			44.63	0.76	n.a.	n.a.	0.72	0.720	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.550	69.310	2.806	11318.8	6099.0	20.873	4.408	2.85		Clay	90.7			65.51	0.76	n.a.	n.a.	0.72	0.719	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.720	73.040	3.407	11340.0	6109.6	22.054	5.057	2.87		Clay	92.4			69.04	0.76	n.a.	n.a.	0.72	0.719	n.a.	n.a.	n.a.	n.a.	0.00	0.00
90.880	70.690	4.231	11360.0	6119.6	21.246	6.509	2.95		Clay	99.3			66.81	0.76	n.a.	n.a.	0.72	0.718	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.040	89.230	4.459	11380.0	6129.7	27.258	5.338	2.82		Clay	88.3			84.34	0.76	n.a.	n.a.	0.72	0.718	n.a.	n.a.	n.a.	n.a.	0.00	0.00
91.210	132.050	4.178	11401.3	6140.3	70.105	3.306	2.38		Sand	53.4			124.81	0.65	81.27	150.31	0.72	0.718	0.829	0.291	0.403	0.56	0.02	0.00
91.370	170.770	3.008	11421.3	6150.3	91.509	1.822	2.11		Sand	32.1			161.41	0.67	108.24	168.23	0.72	0.717	0.799	0.475	0.723	1.01	0.01	0.00
91.540	185.130	2.647	11442.5	6161.0	99.378	1.475	2.02		Sand	24.9			174.98	0.67	117.16	167.69	0.72	0.717	0.799	0.467	0.708	0.99	0.01	0.00
91.700	179.720	2.747	11462.5	6171.0	96.298	1.579	2.05		Sand	27.4			169.87	0.67	113.72	167.99	0.72	0.717	0.799	0.471	0.716	1.00	0.01	0.00
91.860	171.910	3.135	11482.5	6181.0	91.895	1.887	2.12		Sand	32.8			162.49	0.67	109.10	170.20	0.72	0.716	0.794	0.507	0.779	1.09	0.01	0.00
92.030	160.260	3.601	11503.8	6191.6	85.373	2.331	2.21		Sand	39.9			151.47	0.67	101.19	167.42	0.72	0.716	0.799	0.463	0.701	0.98	0.01	0.00
92.190	145.470	3.820	11523.8	6201.7	77.133	2.734	2.29		Sand	46.3			137.50	0.66	90.42	158.40	0.72	0.716	0.815	0.355	0.513	0.72	0.02	0.00
92.360	114.980	3.894	11545.0	6212.3	35.158	3.566	2.62		Clay	72.3			108.68	0.75	n.a.	n.a.	0.72	0.715	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.520	78.110	4.720	11565.0	6222.3	23.248	6.526	2.93		Clay	97.1			73.83	0.75	n.a.	n.a.	0.72	0.715	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.680	86.740	3.077	11585.0	6232.3	25.977	3.801	2.73		Clay	81.6			81.98	0.75	n.a.	n.a.	0.72	0.715	n.a.	n.a.	n.a.	n.a.	0.00	0.00
92.850	125.530	2.789	11606.3	6243.0	65.882	2.329	2.29		Sand	46.2			118.65	0.63	75.20	139.21	0.72	0.714	0.842	0.231	0.302	0.42	0.02	0.00
93.010	159.340	3.061	11626.3	6253.0	84.414	1.994	2.17		Sand	36.3			150.60	0.66	99.33	161.96	0.72	0.714	0.807	0.392	0.576	0.81	0.01	0.00
93.180	183.690	2.680	11647.5	6263.6	97.713	1.507	2.04		Sand	25.9			173.62	0.67	115.49	167.48	0.71	0.714	0.797	0.464	0.700	0.98	0.01	0.00
93.340	176.030	2.529	11667.5	6273.6	93.425	1.486	2.05		Sand	26.7			166.38	0.66	109.59	161.93	0.71	0.713	0.807	0.392	0.575	0.81	0.01	0.00
93.500	168.560	2.325	11687.5	6283.7	89.248	1.429	2.05		Sand	26.9			159.32	0.65	103.70	155.37	0.71	0.713	0.818	0.328	0.465	0.65	0.02	0.00
93.670	158.220	2.131	11708.8	6294.3	83.500	1.399	2.06		Sand	28.2			149.55	0.64	96.04	148.18	0.71	0.713	0.828	0.277	0.378	0.53	0.02	0.00
93.830	144.080	2.376	11728.8	6304.3	75.685	1.719	2.16		Sand	35.5			136.18	0.64	87.07	146.15	0.71	0.712	0.831	0.265	0.358	0.50	0.02	0.00
94.000	134.120	2.993	11750.0	6315.0	70.166	2.334	2.27		Sand	44.7			126.77	0.64	80.90	145.50	0.71	0.712	0.832	0.261	0.352	0.49	0.02	0.00
94.160	126.540	2.739	11770.0	6325.0	65.961	2.270	2.28		Sand	45.6			119.60	0.63	75.37	139.06	0.71	0.712	0.841	0.230	0.300	0.42	0.02	0.00
94.320	125.410	2.453	11790.0	6335.0	65.286	2.053	2.26		Sand	43.4			118.53	0.63	74.27	136.42	0.71	0.711	0.844	0.220	0.283	0.40	0.02	0.00
94.490	124.960	2.667	11811.3	6345.6	64.980	2.240	2.28		Sand	45.6			118.11	0.63	74.10	137.51	0.71	0.711	0.842	0.224	0.290	0.41	0.02	0.00
94.650	118.890	3.134	11831.3	6355.7	61.613	2.774	2.36		Sand	52.1			112.37	0.62	70.22	135.76	0.71	0.711	0.844	0.217	0.278	0.39	0.02	0.00
94.820	99.050	2.920	11852.5	6366.3	29.255	3.135	2.64		Clay	74.1			93.62	0.75	n.a.	n.a.	0.71	0.710	n.a.	n.a.	n.a.	n.a.	0.00	0.00
94.980	76.010	3.112	11872.5	6376.3	21.979	4.441	2.83		Clay	89.5			71.84	0.75	n.a.	n.a.	0.71	0.710	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.140	67.500	3.708	11892.5	6386.3	19.277	6.024	2.96		Clay	100.0			63.80	0.75	n.a.	n.a.	0.71	0.710	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.310	54.540	3.217	11913.8	6397.0	15.189	6.621	3.07		Clay	100.0			51.55	0.75	n.a.	n.a.	0.71	0.709	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.470	73.840	3.041	11933.8	6407.0	21.187	4.480	2.85		Clay	90.7			69.79	0.75	n.a.	n.a.	0.71	0.709	n.a.	n.a.	n.a.	n.a.	0.00	0.00
95.640	131.680	2.792	11955.0	6417.6	68.223	2.221	2.27		Sand	44.2			124.46	0.63	78.40	142.06	0.71	0.709	0.834	0.244	0.322	0.45	0.02	0.00
95.800	149.320	3.094	11975.0	6427.6	77.730	2.159	2.22		Sand	40.3			141.13	0.64	91.00	155.09	0.71	0.708	0.814	0.326	0.459	0.65	0.02	0.00
95.960	173.330	3.304	11995.0	6437.7	90.675	1.975	2.14		Sand	34.3			163.83	0.66	108.53	171.16	0.71	0.708	0.784	0.524	0.801	1.13	0.01	0.00
96.130	201.320	3.298	12016.3	6448.3	105.749	1.688	2.05		Sand	26.7			190.28	0.68	128.74	184.59	0.71	0.708	0.753	0.879	1.435	2.03	0.00	0.00
96.290	221.830	2.778	12036.3	6458.3	116.758	1.287	1.93		Sand	17.6			209.67	0.67	139.56	174.76	0.71	0.707	0.776	0.594	0.925	1.31	0.00	0.00
96.460	232.340	2.608	12057.5	6469.0	122.338	1.153	1.89		Sand	13.8			219.60	0.66	144.09	166.53	0.71	0.707	0.793	0.450	0.671	0.95	0.01	0.00
96.620	240.480	2.579	12077.5	6479.0	126.635	1.100	1.86		Sand	11.8			227.30	0.65	148.33	163.71	0.71	0.707	0.798	0.413	0.607	0.86	0.01	0.00
96.780	243.250	2.700	12097.5	6489.0	128.027	1.138	1.87		Sand	12.4			229.91	0.66	151.24	168.75	0.71	0.706	0.788	0.483	0.728	1.03	0.01	0.00
96.950	243.650	2.758	12118.8	6499.6	128.132	1.161	1.87		Sand	12.8			230.29	0.66	152.04	171.24	0.70	0.706	0.782	0.525	0.801	1.13	0.01	0.00
97.110	239.480	2.747	12138.8	6509.6	125.781	1.177	1.88		Sand	13.6			226.35	0.66	149.40	171.46	0.70	0.706	0.781	0.529	0.808	1.14	0.01	0.00
97.280	234.700	2.705	12160.0	6520.3	123.099	1.183	1.89		Sand	14.3			221.83	0.66	146.07	170.37	0.70	0.705	0.783	0.510	0.774	1.10	0.01	0.00
97.440	212.550	2.877	12180.0	6530.3	111.081	1.393	1.97		Sand	20.8			200.90	0.67	133.77	177.43	0.70	0.705	0.768	0.657	1.032	1.46	0.00	0.00
97.600	178.950	3.210	12200.0	6540.3	92.927	1.857	2.11		Sand	32.2			169.14	0.66	111.63	172.46	0.70	0.705	0.778	0.548	0.839	1.19	0.01	0.00
97.770	171.100	3.696	12221.3	6551.0	88.629	2.240	2.19		Sand	38.0			161.72	0.66	106.70	172.62	0.70	0.704	0.778	0.551	0.844	1.20	0.01	0.00
97.930	182.010	2.714	12241.3	6561.0	94.412	1.543	2.05		Sand	27.3			172.03	0.65	112.18	166.06	0.70	0.704	0.791	0.444	0.658	0.93	0.01	0.00
98.100	221.060	2.763	12262.5	6571.6	115.274	1.286	1.94		Sand	17.9			208.94	0.66	138.01	173.98	0.70	0.704	0.774	0.578	0.891	1.27	0.00	0.00
98.260	315.040	2.685	12282.5	6581.6	165.547	0.869	1.71		Sand	0.0			297.77	0.70	207.04	207.04	0.70	0.703	0.676	2.877	4.276	6.08	0.00	0.00
98.430	475.810	2.287	12303.8	6592.3	251.499	0.487	1.40		Sand	0.0			449.73	0.74	333.23	333.23	0.70	0.703	0.659	#########	########	##########	0.00	0.00
98.590	530.660	2.562	12323.8	6602.3	280.652	0.488	1.37		Sand	0.0			501.57	0.74	371.50	371.50	0.70	0.703	0.659	#########	########	##########	0.00	0.00
98.750	553.030	2.389	12343.8	6612.3	292.395	0.437	1.32		Sand	0.0			522.71	0.74	387.00	387.00	0.70	0.703	0.658	#########	########	##########	0.00	0.00
98.920	606.390	2.793	12365.0	6623.0	320.662	0.465	1.31		Sand	0.0			573.15	0.74	424.16	424.16	0.70	0.702	0.658	#########	########	##########	0.00	0.00
99.080	694.530	3.180	12385.0	6633.0	367.468	0.462	1.27		Sand	0.0			656.46	0.74	485.62	485.62	0.70	0.702	0.657	#########	########	##########	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10

PGA (A_{max})	0.84

Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5,\ \sigma'vc = 1\ atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
99.250	673.530	3.850	12406.3	6643.6	355.966	0.577	1.34		Sand	0.0			636.61	0.74	470.74	470.74	0.70	0.702	0.657	#########	########	##########	0.00	0.00
99.410	650.100	4.111	12426.3	6653.6	343.204	0.638	1.39		Sand	0.0			614.46	0.74	454.18	454.18	0.70	0.701	0.656	#########	########	##########	0.00	0.00
99.570	617.650	3.685	12446.3	6663.6	325.657	0.603	1.38		Sand	0.0			583.79	0.74	431.34	431.34	0.70	0.701	0.656	#########	########	##########	0.00	0.00
99.740	650.650	3.138	12467.5	6674.3	342.954	0.487	1.30		Sand	0.0			614.98	0.74	454.20	454.20	0.70	0.701	0.655	#########	########	##########	0.00	0.00
99.900	635.920	2.462	12487.5	6684.3	334.859	0.391	1.25		Sand	0.0			601.06	0.74	443.74	443.74	0.70	0.700	0.655	#########	########	##########	0.00	0.00
100.070	597.990	3.128	12508.8	6694.9	314.432	0.529	1.35		Sand	0.0			565.21	0.74	417.10	417.10	0.70	0.700	0.654	#########	########	##########	0.00	0.00
100.230	614.380	2.966	12528.8	6705.0	322.894	0.488	1.32		Sand	0.0			580.70	0.74	428.36	428.36	0.70	0.700	0.654	#########	########	##########	0.00	0.00
100.390	654.450	1.523	12548.8	6715.0	343.908	0.235	1.10		Sand	0.0			618.57	0.74	456.12	456.12	0.70	0.700	0.654	#########	########	##########	0.00	0.00
100.560	693.530	2.621	12570.0	6725.6	364.349	0.381	1.21		Sand	0.0			655.51	0.74	483.15	483.15	0.70	0.699	0.653	#########	########	##########	0.00	0.00
100.720	704.060	3.802	12590.0	6735.6	369.651	0.545	1.31		Sand	0.0			665.46	0.74	490.29	490.29	0.70	0.699	0.653	#########	########	##########	0.00	0.00
100.890	651.580	4.682	12611.3	6746.3	341.574	0.726	1.43		Sand	0.0			615.86	0.74	453.56	453.56	0.70	0.699	0.652	#########	########	##########	0.00	0.00
101.050	651.700	4.721	12631.3	6756.3	341.379	0.732	1.43		Sand	0.0			615.97	0.74	453.47	453.47	0.70	0.698	0.652	#########	########	##########	0.00	0.00
101.210	609.440	4.377	12651.3	6766.3	318.784	0.726	1.45		Sand	0.0			576.03	0.74	423.89	423.89	0.69	0.698	0.651	#########	########	##########	0.00	0.00
101.380	469.190	3.578	12672.5	6776.9	244.455	0.773	1.55		Sand	0.0			443.47	0.74	326.21	326.21	0.69	0.698	0.651	#########	########	##########	0.00	0.00
101.540	401.820	2.967	12692.5	6787.0	208.714	0.750	1.59		Sand	0.0			379.79	0.74	279.26	279.26	0.69	0.697	0.650	8751.886	12522.073	17953.38	0.00	0.00
101.710	406.150	4.537	12713.8	6797.6	210.829	1.135	1.71		Sand	0.1			383.88	0.73	282.15	282.15	0.69	0.697	0.650	14495.019	20724.277	29725.76	0.00	0.00
101.870	495.470	3.755	12733.8	6807.6	257.736	0.768	1.53		Sand	0.0			468.31	0.73	344.07	344.07	0.69	0.697	0.649	#########	########	##########	0.00	0.00
102.030	579.440	3.187	12753.8	6817.6	301.757	0.556	1.38		Sand	0.0			547.67	0.73	402.22	402.22	0.69	0.697	0.649	#########	########	##########	0.00	0.00
102.200	583.190	3.263	12775.0	6828.3	303.489	0.566	1.39		Sand	0.0			551.22	0.73	404.66	404.66	0.69	0.696	0.649	#########	########	##########	0.00	0.00
102.360	600.470	3.511	12795.0	6838.3	312.347	0.591	1.39		Sand	0.0			567.55	0.73	416.49	416.49	0.69	0.696	0.648	#########	########	##########	0.00	0.00
102.530	595.870	3.128	12816.3	6848.9	309.682	0.531	1.36		Sand	0.0			563.20	0.73	413.13	413.13	0.69	0.696	0.648	#########	########	##########	0.00	0.00
102.690	530.430	3.572	12836.3	6859.0	275.096	0.682	1.47		Sand	0.0			501.35	0.73	367.62	367.62	0.69	0.696	0.647	#########	########	##########	0.00	0.00
102.850	471.880	3.364	12856.3	6869.0	244.175	0.723	1.53		Sand	0.0			446.01	0.73	326.91	326.91	0.69	0.695	0.647	#########	########	##########	0.00	0.00
103.020	501.180	2.707	12877.5	6879.6	259.339	0.547	1.43		Sand	0.0			473.71	0.73	347.07	347.07	0.69	0.695	0.646	#########	########	##########	0.00	0.00
103.180	543.600	2.120	12897.5	6889.6	281.366	0.395	1.31		Sand	0.0			513.80	0.73	376.30	376.30	0.69	0.695	0.646	#########	########	##########	0.00	0.00
103.350	535.500	1.554	12918.8	6900.3	276.903	0.294	1.24		Sand	0.0			506.14	0.73	370.54	370.54	0.69	0.694	0.645	#########	########	##########	0.00	0.00
103.510	515.200	2.006	12938.8	6910.3	266.080	0.394	1.33		Sand	0.0			486.96	0.73	356.36	356.36	0.69	0.694	0.645	#########	########	##########	0.00	0.00
103.670	464.030	2.358	12958.8	6920.3	239.138	0.515	1.44		Sand	0.0			438.59	0.73	320.84	320.84	0.69	0.694	0.645	#########	########	##########	0.00	0.00
103.840	411.180	2.221	12980.0	6930.9	211.348	0.549	1.49		Sand	0.0			388.64	0.73	284.19	284.19	0.69	0.694	0.644	20886.208	29594.311	42667.03	0.00	0.00
104.000	310.890	2.815	13000.0	6941.0	158.852	0.925	1.74		Sand	2.0			293.85	0.67	198.05	198.05	0.69	0.693	0.695	1.696	2.593	3.74	0.00	0.00
104.170	195.690	3.147	13021.3	6951.6	98.651	1.663	2.06		Sand	28.0			184.96	0.65	120.30	176.89	0.69	0.693	0.756	0.643	0.992	1.43	0.00	0.00
104.330	108.630	3.822	13041.3	6961.6	29.335	3.743	2.69		Clay	78.1			102.67	0.73	n.a.	n.a.	0.69	0.693	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.490	104.920	4.250	13061.3	6971.6	28.226	4.320	2.74		Clay	82.4			99.17	0.73	n.a.	n.a.	0.69	0.693	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.660	101.150	4.232	13082.5	6982.3	27.100	4.473	2.77		Clay	84.2			95.60	0.73	n.a.	n.a.	0.69	0.692	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.820	84.240	2.914	13102.5	6992.3	22.221	3.751	2.78		Clay	85.4			79.62	0.73	n.a.	n.a.	0.69	0.692	n.a.	n.a.	n.a.	n.a.	0.00	0.00
104.990	94.980	2.854	13123.8	7002.9	25.252	3.228	2.70		Clay	78.6			89.77	0.73	n.a.	n.a.	0.69	0.692	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.150	110.770	3.057	13143.8	7013.0	29.716	2.934	2.61		Clay	72.2			104.70	0.73	n.a.	n.a.	0.69	0.692	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.320	116.970	3.446	13165.0	7023.6	31.433	3.121	2.61		Clay	72.1			110.56	0.73	n.a.	n.a.	0.69	0.691	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.480	114.720	3.574	13185.0	7033.6	30.746	3.306	2.64		Clay	74.0			108.43	0.73	n.a.	n.a.	0.69	0.691	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.640	117.350	3.517	13205.0	7043.6	31.446	3.176	2.62		Clay	72.5			110.92	0.73	n.a.	n.a.	0.69	0.691	n.a.	n.a.	n.a.	n.a.	0.00	0.00
105.810	126.200	3.214	13226.3	7054.3	61.906	2.688	2.35		Sand	51.2			119.28	0.60	71.47	136.96	0.69	0.691	0.828	0.222	0.281	0.41	0.02	0.00
105.970	129.420	3.345	13246.3	7064.3	63.522	2.724	2.35		Sand	50.9			122.33	0.60	73.65	139.59	0.68	0.690	0.824	0.233	0.298	0.43	0.02	0.00
106.140	119.540	3.433	13267.5	7074.9	31.917	3.041	2.60		Clay	71.1			112.99	0.73	n.a.	n.a.	0.68	0.690	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.300	113.150	3.311	13287.5	7084.9	30.066	3.108	2.63		Clay	73.2			106.95	0.73	n.a.	n.a.	0.68	0.690	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.460	111.250	3.206	13307.5	7095.0	29.485	3.065	2.63		Clay	73.4			105.15	0.73	n.a.	n.a.	0.68	0.690	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.630	96.660	3.134	13328.8	7105.6	25.331	3.482	2.72		Clay	80.2			91.36	0.73	n.a.	n.a.	0.68	0.689	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.790	86.580	2.956	13348.8	7115.6	22.459	3.700	2.77		Clay	84.8			81.83	0.73	n.a.	n.a.	0.68	0.689	n.a.	n.a.	n.a.	n.a.	0.00	0.00
106.960	82.740	2.183	13370.0	7126.3	21.345	2.870	2.72		Clay	80.6			78.20	0.73	n.a.	n.a.	0.68	0.689	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.120	79.830	2.189	13390.0	7136.3	20.497	2.993	2.74		Clay	82.6			75.45	0.73	n.a.	n.a.	0.68	0.689	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.280	64.480	1.989	13410.0	7146.3	16.169	3.442	2.86		Clay	92.1			60.95	0.73	n.a.	n.a.	0.68	0.688	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.450	49.010	1.542	13431.3	7156.9	11.819	3.645	2.99		Clay	100.0			46.32	0.73	n.a.	n.a.	0.68	0.688	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.610	42.810	1.148	13451.3	7166.9	10.070	3.182	3.01		Clay	100.0			40.46	0.72	n.a.	n.a.	0.68	0.688	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.780	37.210	1.087	13472.5	7177.6	8.491	3.568	3.10		Clay	100.0			35.17	0.72	n.a.	n.a.	0.68	0.688	n.a.	n.a.	n.a.	n.a.	0.00	0.00
107.940	38.290	1.492	13492.5	7187.6	8.777	4.730	3.16		Clay	100.0			36.19	0.72	n.a.	n.a.	0.68	0.687	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.100	50.220	2.504	13512.5	7197.6	12.077	5.762	3.10		Clay	100.0			47.47	0.72	n.a.	n.a.	0.68	0.687	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.270	59.410	2.846	13533.8	7208.3	14.606	5.405	3.02		Clay	100.0			56.15	0.72	n.a.	n.a.	0.68	0.687	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.430	79.800	3.025	13553.8	7218.3	20.233	4.142	2.84		Clay	90.1			75.43	0.72	n.a.	n.a.	0.68	0.687	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.600	90.100	3.166	13575.0	7228.9	23.050	3.801	2.77		Clay	84.7			85.16	0.72	n.a.	n.a.	0.68	0.687	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.760	89.070	3.871	13595.0	7238.9	22.731	4.705	2.84		Clay	90.0			84.19	0.72	n.a.	n.a.	0.68	0.686	n.a.	n.a.	n.a.	n.a.	0.00	0.00
108.920	87.110	4.137	13615.0	7249.0	22.156	5.152	2.87		Clay	92.7			82.33	0.72	n.a.	n.a.	0.68	0.686	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.090	94.000	2.918	13636.3	7259.6	24.018	3.347	2.72		Clay	80.8			88.85	0.72	n.a.	n.a.	0.68	0.686	n.a.	n.a.	n.a.	n.a.	0.00	0.00
109.250	171.250	2.392	13656.3	7269.6	83.845	1.455	2.07		Sand	29.0			161.86	0.61	98.97	152.88	0.68	0.686	0.798	0.309	0.419	0.61	0.02	0.00
109.420	417.450	2.562	13677.5	7280.3	209.233	0.624	1.53		Sand	0.0			394.57	0.72	284.80	284.80	0.68	0.685	0.629	23365.279	32348.737	47196.14	0.00	0.00
109.580	566.290	2.334	13697.5	7290.3	284.875	0.417	1.32		Sand	0.0			535.25	0.72	386.21	386.21	0.68	0.685	0.629	#########	########	##########	0.00	0.00
109.740	582.870	2.952	13717.5	7300.3	293.112	0.512	1.37		Sand	0.0			550.92	0.72	397.37	397.37	0.68	0.685	0.628	#########	########	##########	0.00	0.00
109.910	554.520	4.614	13738.8	7310.9	278.477	0.842	1.54		Sand	0.0			524.12	0.72	377.90	377.90	0.68	0.685	0.628	#########	########	##########	0.00	0.00
110.070	447.710	6.540	13758.8	7320.9	224.006	1.484	1.79		Sand	5.9			423.17	0.72	305.00	305.92	0.68	0.685	0.628	#########	########	3724349.02	0.00	0.00

CORNERSTONE EARTH GROUP

CPT No.	10	PGA (A_{max})	0.84	Total Settlement:	0.42	(Inches)

Depth (ft)	q_c (tsf)	f_s (tsf)	σ_{vc} (psf)	Insitu σ'_{vc} (psf)	Q	F (%)	I_c	Layer "Plastic" PI > 7	Flag Soil Type	Fines (%)	q_{cN} near interfaces (soft layer)	Thin Layer Factor (K_H)	Interpreted q_{cN}	C_N	q_{c1N}	$q_{c1N\text{-}CS}$	Stress Reduction Coeff, r_d	CSR	K_σ for Sand	$CRR_{M=7.5, \sigma'vc = 1 atm}$	CRR	Factor of Safety (CRR/CSR)	Vertical Strain ε_v	Settlement (Inches)
110.240	224.890	6.627	13780.0	7331.6	110.695	3.040	2.22		Sand	40.7			212.56	0.69	146.79	224.76	0.68	0.684	0.627	10.443	14.410	21.06	0.00	0.00
110.400	147.200	6.222	13800.0	7341.6	38.221	4.435	2.65		Clay	75.4			139.13	0.72	n.a.	n.a.	0.68	0.684	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.560	102.130	5.960	13820.0	7351.6	25.905	6.259	2.88		Clay	93.4			96.53	0.72	n.a.	n.a.	0.68	0.684	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.730	122.520	5.539	13841.3	7362.3	31.403	4.792	2.74		Clay	82.2			115.80	0.72	n.a.	n.a.	0.68	0.684	n.a.	n.a.	n.a.	n.a.	0.00	0.00
110.890	111.660	4.526	13861.3	7372.3	28.412	4.321	2.74		Clay	82.2			105.54	0.72	n.a.	n.a.	0.68	0.684	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.060	93.590	4.514	13882.5	7382.9	23.473	5.210	2.86		Clay	91.5			88.46	0.72	n.a.	n.a.	0.68	0.683	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.220	82.570	5.641	13902.5	7392.9	20.457	7.459	3.01		Clay	100.0			78.04	0.72	n.a.	n.a.	0.68	0.683	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.380	93.660	6.862	13922.5	7402.9	23.423	7.915	2.98		Clay	100.0			88.53	0.72	n.a.	n.a.	0.68	0.683	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.550	160.260	8.484	13943.8	7413.6	41.353	5.535	2.70		Clay	79.0			151.47	0.72	n.a.	n.a.	0.68	0.683	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.710	159.060	8.547	13963.8	7423.6	40.971	5.620	2.71		Clay	79.6			150.34	0.72	n.a.	n.a.	0.67	0.683	n.a.	n.a.	n.a.	n.a.	0.00	0.00
111.880	146.790	7.297	13985.0	7434.2	37.609	5.219	2.71		Clay	79.8			138.74	0.72	n.a.	n.a.	0.67	0.682	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.040	122.840	5.116	14005.0	7444.3	31.121	4.416	2.72		Clay	80.4			116.11	0.72	n.a.	n.a.	0.67	0.682	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.200	95.980	4.445	14025.0	7454.3	23.870	4.996	2.84		Clay	90.1			90.72	0.72	n.a.	n.a.	0.67	0.682	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.370	79.170	4.781	14046.3	7464.9	19.330	6.627	2.99		Clay	100.0			74.83	0.72	n.a.	n.a.	0.67	0.682	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.530	87.790	5.605	14066.3	7474.9	21.607	6.940	2.97		Clay	100.0			82.98	0.72	n.a.	n.a.	0.67	0.682	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.700	111.420	6.129	14087.5	7485.6	27.887	5.872	2.84		Clay	90.0			105.31	0.72	n.a.	n.a.	0.67	0.681	n.a.	n.a.	n.a.	n.a.	0.00	0.00
112.860	129.770	6.025	14107.5	7495.6	32.744	4.909	2.73		Clay	81.7			122.66	0.72	n.a.	n.a.	0.67	0.681	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.020	143.640	5.371	14127.5	7505.6	36.393	3.933	2.63		Clay	73.7			135.77	0.72	n.a.	n.a.	0.67	0.681	n.a.	n.a.	n.a.	n.a.	0.00	0.00
113.190	165.970	4.372	14148.8	7516.3	79.686	2.752	2.28		Sand	45.7			156.87	0.62	97.29	166.65	0.67	0.681	0.764	0.452	0.650	0.96	0.01	0.00
113.350	183.780	4.155	14168.8	7526.3	88.554	2.351	2.20		Sand	39.2			173.71	0.63	109.94	177.72	0.67	0.681	0.737	0.664	1.005	1.48	0.00	0.00
113.520	186.570	4.207	14190.0	7536.9	89.883	2.344	2.20		Sand	38.8			176.34	0.64	112.00	179.88	0.67	0.681	0.731	0.723	1.104	1.62	0.00	0.00
113.680	181.540	4.326	14210.0	7546.9	87.301	2.480	2.22		Sand	40.9			171.59	0.63	108.39	177.18	0.67	0.680	0.738	0.650	0.982	1.44	0.00	0.00
113.850	179.640	4.471	14231.3	7557.6	86.284	2.591	2.24		Sand	42.3			169.79	0.63	107.09	176.63	0.67	0.680	0.739	0.637	0.959	1.41	0.00	0.00
114.010	179.580	4.236	14251.3	7567.6	86.192	2.456	2.22		Sand	41.0			169.74	0.63	106.71	175.14	0.67	0.680	0.743	0.603	0.901	1.32	0.00	0.00
114.170	184.130	3.868	14271.3	7577.6	88.403	2.186	2.18		Sand	37.4			174.04	0.63	109.42	175.46	0.67	0.680	0.742	0.610	0.912	1.34	0.00	0.00
114.340	188.130	2.293	14292.5	7588.2	90.332	1.267	2.01		Sand	23.8			177.82	0.60	107.07	153.71	0.67	0.680	0.789	0.315	0.426	0.63	0.02	0.00
114.500	187.130	3.028	14312.5	7598.3	89.769	1.682	2.10		Sand	30.6			176.87	0.62	109.50	167.88	0.67	0.680	0.760	0.470	0.678	1.00	0.01	0.00
114.670	190.280	2.648	14333.8	7608.9	91.271	1.446	2.05		Sand	26.6			179.85	0.61	110.11	162.47	0.67	0.679	0.771	0.398	0.561	0.83	0.01	0.00
114.830	184.270	3.074	14353.8	7618.9	88.212	1.736	2.11		Sand	31.8			174.17	0.62	107.55	167.08	0.67	0.679	0.761	0.458	0.658	0.97	0.01	0.00
114.990	184.470	3.014	14373.8	7628.9	88.249	1.700	2.10		Sand	31.3			174.36	0.62	107.45	166.31	0.67	0.679	0.762	0.447	0.640	0.94	0.01	0.00
115.160	177.140	3.222	14395.0	7639.6	84.536	1.896	2.15		Sand	35.0			167.43	0.61	102.87	165.04	0.67	0.679	0.765	0.430	0.612	0.90	0.01	0.00
115.320	179.750	3.340	14415.0	7649.6	85.773	1.936	2.15		Sand	35.2			169.90	0.62	104.87	167.64	0.67	0.679	0.759	0.466	0.671	0.99	0.01	0.00
115.490	188.040	3.417	14436.3	7660.2	89.826	1.889	2.13		Sand	33.4			177.73	0.62	110.78	172.94	0.67	0.679	0.746	0.557	0.821	1.21	0.01	0.00
115.650	197.100	3.319	14456.3	7670.3	94.260	1.748	2.09		Sand	30.4			186.29	0.63	116.79	176.25	0.67	0.678	0.737	0.628	0.940	1.39	0.00	0.00
115.810	197.050	3.412	14476.3	7680.3	94.169	1.797	2.10		Sand	31.1			186.25	0.63	116.96	177.44	0.67	0.678	0.734	0.657	0.987	1.46	0.00	0.00
115.980	206.220	4.752	14497.5	7690.9	98.645	2.388	2.18		Sand	37.0			194.91	0.65	126.57	196.21	0.67	0.678	0.675	1.536	2.282	3.37	0.00	0.00
116.140	217.630	5.253	14517.5	7700.9	104.229	2.497	2.17		Sand	36.9			205.70	0.66	136.21	207.95	0.67	0.678	0.627	3.048	4.201	6.20	0.00	0.00
116.310	192.070	5.666	14538.8	7711.6	91.496	3.066	2.28		Sand	45.2			181.54	0.64	116.62	190.63	0.67	0.678	0.694	1.159	1.769	2.61	0.00	0.00
116.470	217.630	5.162	14558.8	7721.6	104.079	2.454	2.17		Sand	36.5			205.70	0.66	135.91	207.12	0.67	0.678	0.630	2.892	4.006	5.91	0.00	0.00
116.630	239.460	4.558	14578.8	7731.6	114.801	1.963	2.07		Sand	28.5			226.33	0.67	151.38	214.74	0.67	0.678	0.611	4.826	6.490	9.58	0.00	0.00
116.800	242.720	5.760	14600.0	7742.2	116.327	2.447	2.14		Sand	33.8			229.41	0.69	157.15	229.97	0.67	0.677	0.611	16.372	22.002	32.48	0.00	0.00
116.960	241.490	4.081	14620.0	7752.3	115.640	1.743	2.03		Sand	25.3			228.25	0.66	150.81	207.89	0.67	0.677	0.625	3.037	4.175	6.16	0.00	0.00
117.130	233.120	4.670	14641.3	7762.9	111.425	2.068	2.09		Sand	30.5			220.34	0.67	146.62	212.39	0.67	0.677	0.610	4.095	5.496	8.12	0.00	0.00
117.290	226.370	4.749	14661.3	7772.9	108.020	2.168	2.12		Sand	32.4			213.96	0.66	141.53	209.06	0.67	0.677	0.619	3.275	4.457	6.58	0.00	0.00
117.450	222.440	5.253	14681.3	7782.9	106.008	2.442	2.16		Sand	35.9			210.25	0.66	139.43	210.84	0.67	0.677	0.609	3.685	4.941	7.30	0.00	0.00
117.620	223.220	4.981	14702.5	7793.6	106.315	2.307	2.14		Sand	34.4			210.98	0.66	139.44	209.06	0.67	0.677	0.618	3.275	4.451	6.58	0.00	0.00
117.780	224.900	4.275	14722.5	7803.6	107.068	1.965	2.09		Sand	30.1			212.57	0.65	138.89	202.55	0.67	0.677	0.647	2.188	3.112	4.60	0.00	0.00
117.950	225.970	3.832	14743.8	7814.2	107.517	1.753	2.05		Sand	27.2			213.58	0.65	138.04	196.56	0.67	0.677	0.670	1.565	2.307	3.41	0.00	0.00
118.110	220.100	3.725	14763.8	7824.2	104.558	1.751	2.06		Sand	27.8			208.03	0.64	133.35	192.15	0.67	0.676	0.685	1.248	1.883	2.78	0.00	0.00
118.270	216.460	3.702	14783.8	7834.3	102.698	1.771	2.07		Sand	28.6			204.59	0.64	130.59	190.06	0.67	0.676	0.692	1.128	1.717	2.54	0.00	0.00
118.440	207.350	3.614	14805.0	7844.9	98.151	1.807	2.09		Sand	30.2			195.98	0.63	123.74	184.35	0.67	0.676	0.710	0.870	1.337	1.98	0.00	0.00
118.600	192.240	3.647	14825.0	7854.9	90.671	1.973	2.14		Sand	34.3			181.70	0.62	113.01	176.62	0.67	0.676	0.732	0.637	0.948	1.40	0.00	0.00
118.770	183.600	3.887	14846.3	7865.6	86.369	2.206	2.19		Sand	38.2			173.53	0.62	107.23	173.49	0.67	0.676	0.739	0.568	0.834	1.23	0.00	0.00
118.930	178.010	3.786	14866.3	7875.6	83.570	2.220	2.20		Sand	39.2			168.25	0.61	103.03	169.13	0.67	0.676	0.750	0.489	0.704	1.04	0.01	0.00
119.090	171.750	3.819	14886.3	7885.6	80.447	2.325	2.23		Sand	41.2			162.33	0.61	98.60	165.28	0.67	0.676	0.759	0.433	0.612	0.91	0.01	0.00
119.260	171.910	3.762	14907.5	7896.2	80.466	2.287	2.22		Sand	40.8			162.49	0.61	98.57	164.93	0.67	0.676	0.759	0.428	0.605	0.90	0.01	0.00
119.420	173.370	3.610	14927.5	7906.3	81.124	2.176	2.21		Sand	39.4			163.87	0.61	99.32	164.73	0.66	0.675	0.759	0.426	0.600	0.89	0.01	0.00
119.590	171.020	2.669	14948.8	7916.9	79.916	1.632	2.12		Sand	32.9			161.64	0.59	95.77	154.03	0.66	0.675	0.781	0.318	0.426	0.63	0.02	0.00
119.750	170.570	3.661	14968.8	7926.9	79.641	2.245	2.22		Sand	40.6			161.22	0.60	97.32	163.22	0.66	0.675	0.762	0.407	0.569	0.84	0.01	0.00
119.910	173.110	4.059	14988.8	7936.9	80.825	2.451	2.24		Sand	42.4			163.62	0.61	99.55	167.34	0.66	0.675	0.753	0.462	0.658	0.97	0.01	0.00

DEPARTMENT OF PLANNING, BUILDING AND CODE ENFORCEMENT

Purpose of the Compliance Checklist

In 2020, the City adopted a Greenhouse Gas Reduction Strategy (GHGRS) that outlines the actions the City will undertake to achieve its proportional share of State greenhouse gas (GHG) emission reductions for the interim target year 2030. The purpose of the Greenhouse Gas Reduction Strategy Compliance Checklist (Checklist) is to:

- Implement GHG reduction strategies from the 2030 GHGRS to new development projects.
- Provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).

The 2030 GHGRS presents the City's comprehensive path to reduce GHG emissions to achieve the 2030 reduction target, based on SB 32, BAAQMD, and OPR. Additionally, the 2030 GHGRS leverages other important City plans and policies; including the General Plan, Climate Smart San José, and the City Municipal Code in identifying reductions strategies that achieve the City's target. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of greenhouse gases. Accordingly, the City of San José's 2030 GHGRS represents San José's qualified climate action plan in compliance with CEQA.

As described in the 2030 GHGRS, these GHG reductions will occur through a combination of City initiatives in various plans and policies and will provide reductions from both existing and new developments. This Compliance Checklist specifically applies to proposed discretionary projects that require environmental review pursuant to CEQA. Therefore, the Checklist is a critical implementation tool in the City's overall strategy to reduce GHG emissions. Implementation of applicable reduction actions in new development projects will help the City achieve incremental reductions toward its target. Per the 2030 GHGRS, the City will monitor strategy implementation and make updates, as necessary, to maintain an appropriate trajectory to the 2030 GHG target.

Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the GHGRS.

Instructions for Compliance Checklist

Applicants shall complete the following sections to demonstrate conformance with the City of San José 2030 Greenhouse Gas Reduction Strategy for the proposed project. All projects must complete Section A. General Plan Policy Conformance and Section B. Greenhouse Gas Reduction Strategies. Projects that propose alternative GHG mitigation measures must also complete Section C. Alternative Project Measures and Additional GHG Reductions.

A. General Plan Policy Compliance

Projects need to demonstrate consistency with the Envision San José 2040 General Plan's relevant policies for Land Use & Design, Transportation, Green Building, and Water Conservation, enumerated in Table A. All applicants shall complete the following steps.

1. Complete Table A, Item #1 to demonstrate the project's consistency with the General Plan Land Use and Circulation Diagram.
2. Complete Table A, Items #2 through #4 to demonstrate the project's consistency with General Plan policies[1] related to green building; pedestrian, bicycle & transit site design; and water conservation and urban forestry, as applicable. For each policy listed, mark the relevant yes/no check boxes to indicate project consistency, and provide a qualitative description of how the policy is implemented in the proposed project or why the policy is not applicable to the proposed project. Qualitative descriptions can be included in Table A or provided as separate attachments. This explanation will provide the basis for analysis in the CEQA document.

B. Greenhouse Gas Reduction Strategies

Table B identifies the GHGRS strategies and recommended consistency options. Projects need to demonstrate consistency with the GHGRS reduction strategies listed in Table B or document why the strategies are not applicable or are infeasible. The corresponding GHGRS strategies are indicated in the table to provide additional context, with the full text of the strategies preceding Table B.

Residential projects must complete Table B, Part 1 and 2; Non-residential projects must complete Table B, Part 2 only. All applicants shall complete the following steps for Table B.

1. Review the project consistency options described in the column titled 'GHGRS Strategy and Consistency Options'.
2. Use the check boxes in the column titled "Project Conformance" to indicate if the strategy is 'Proposed', 'Not Applicable', 'Not Feasible', or if there is an 'Alternative Measure Proposed'.

[1] The lists in items # 2-4 do not represent all General Plan policies but allow projects to demonstrate consistency and achievement of policies that are related to quantified reduction estimates in the 2030 GHGRS.

3. Provide a qualitative analysis of the proposed project's compliance with the GHGRS strategies in the column titled "Description of Project Measure". This will be the basis for CEQA analysis to demonstrate compliance with the 2030 GHGRS and by extension, with SB 32. The qualitative analysis should provide:

   a. A description of which consistency options are included as part of the proposed project, or

   b. A description of why the strategy is not applicable to the proposed project, or

   c. A description of why the consistency options are infeasible. If applicants select 'Not Feasible' or 'Alternative Measure Proposed', they must complete Table C to document what alternative project measures will be implemented to achieve a similar level of greenhouse gas reduction and how those reduction estimates were calculated.

C. Alternative Project Measures and Additional GHG Reductions

Projects that propose alternative GHG mitigation measures to those identified in Table B or propose to include additional GHG mitigation measures beyond those described in Tables A and B, shall provide a summary explanation of the proposed measures and demonstrate efficiency or greenhouse gas reductions achievable though the proposed measures. Documentation for these alternative or additional project measures shall be documented in Table C. Any applicants who select 'Not Feasible' or 'Alternative Measure Proposed' in Table B must complete the following steps for Table C.

1. In the column titled "Description of Proposed Measure" provide a qualitative description of what measure will be implemented, why it is proposed, and how it will reduce GHG emissions.

2. In the column titled "Description of GHG Reduction Estimate" demonstrate how the alternative project measure would achieve the same or greater level of greenhouse gas reductions as the GHGRS strategy it replaces. Documentation or calculation files can be attached separately.

3. In the column titled "Proposed Measure Implementation" identify how the measure will be implemented: incorporated as part of the project design or as an additional measure that is not part of the project (e.g., purchase of carbon offsets).

Compliance Checklist

Evaluation of Project Conformance with the 2030 Greenhouse Gas Reduction Strategy

Table A: General Plan Consistency

Development Type: ☐ Commercial ☐ Residential ☐ Office ☐ Other: Specify

1) Consistency with the Land Use/Transportation Diagram (Land Use and Density)	**Yes**	**No**
Is the proposed Project consistent with the Land Use/Transportation Diagram?	X	☐
If not, and the proposed project includes a General Plan Amendment, does the proposed amendment decrease GHG emissions (in absolute terms or per capita, per employee, per service population) below the level assumed in the GHGRS based on the existing planned land use? (The project could have a higher density, mix of uses, or other features that would reduce GHG emissions compared to the planned land use).[2]	☐	☐
If not, would the proposed project and the General Plan Amendment increase GHG emissions (in absolute terms or per capita, per employee, per service population)? Project is not consistent with GHGRS and further modeling will be required to determine if additional mitigation measures are necessary.	☐	☐

Response documentation: *[Either here or as an attachment]*

See attachment for comments.

[2] For example, a General Plan Amendment to change use from single-family residential to multi-family residential or a General Plan Amendment to change the use from regional-serving commercial to mixed-use urban in a transit-served area might reduce travel demand, and therefore GHG emissions from mobile sources.

2) Implementation of Green Building Measures	**Yes**	**No**
***MS-2.2**: Encourage maximized use of on-site generation of renewable energy for all new and existing buildings.*	☐	☐
Not applicable	X	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-2.3**: Encourage consideration of solar orientation, including building placement, landscaping, design and construction techniques for new construction to minimize energy consumption.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-2.7**: Encourage the installation of solar panels or other clean energy power generation sources over parking areas.*	☐	X
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-2.11**: Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically, target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g., design to maximize cross ventilation and interior daylight) and through site design techniques (e.g., orienting buildings on sites to maximize the effectiveness of passive solar design).*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-16.2**: Promote neighborhood-based distributed clean/renewable energy generation to improve local energy security and to reduce the amount of energy wasted in transmitting electricity over long distances.*	☐	☐
Not applicable	X	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

3) Pedestrian, Bicycle & Transit Site Design Measures	Yes	No
***CD-2.1**: Promote the Circulation Goals and Policies in the Envision San José 2040 General Plan. Create streets that promote pedestrian and bicycle transportation by following applicable goals and policies in the Circulation section of the Envision San José 2040 General Plan.*		
a) Design the street network for its safe shared use by pedestrians, bicyclists, and vehicles. Include elements that increase driver awareness.	X	☐
b) Create a comfortable and safe pedestrian environment by implementing wider sidewalks, shade structures, attractive street furniture, street trees, reduced traffic speeds, pedestrian-oriented lighting, mid-block pedestrian crossings, pedestrian-activated crossing lights, bulb-outs and curb extensions at intersections, and on-street parking that buffers pedestrians from vehicles.	X	☐
c) Consider support for reduced parking requirements, alternative parking arrangements, and Transportation Demand Management strategies to reduce area dedicated to parking and increase area dedicated to employment, housing, parks, public art, or other amenities. Encourage de-coupled parking to ensure that the value and cost of parking are considered in real estate and business transactions.	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

***CD-2.5**: Integrate Green Building Goals and Policies of the Envision San José 2040 General Plan into site design to create healthful environments. Consider factors such as shaded parking areas, pedestrian connections, minimization of impervious surfaces, incorporation of stormwater treatment measures, appropriate building orientations, etc.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

	Yes	No
***CD-2.11**: Within the Downtown and Urban Village Overlay areas, consistent with the minimum density requirements of the pertaining Land Use/Transportation Diagram designation, avoid the construction of surface parking lots except as an interim use, so that long-term development of the site will result in a cohesive urban form. In these areas, whenever possible, use structured parking, rather than surface parking, to fulfill parking requirements. Encourage the incorporation of alternative uses, such as parks, above parking structures.*	☐	☐
Not applicable	X	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***CD-3.2**: Prioritize pedestrian and bicycle connections to transit, community facilities (including schools), commercial areas, and other areas serving daily needs. Ensure that the design of new facilities can accommodate significant anticipated future increases in bicycle and pedestrian activity.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***CD-3.4**: Encourage pedestrian cross-access connections between adjacent properties and require pedestrian and bicycle connections to streets and other public spaces, with particular attention and priority given to providing convenient access to transit facilities. Provide pedestrian and vehicular connections with cross-access easements within and between new and existing developments to encourage walking and minimize interruptions by parking areas and curb cuts.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***LU-3.5**: Balance the need for parking to support a thriving Downtown with the need to minimize the impacts of parking upon a vibrant pedestrian and transit oriented urban environment. Provide for the needs of bicyclists and pedestrians, including adequate bicycle parking areas and design measures to promote bicyclist and pedestrian safety.*	☐	☐
Not applicable	X	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

	Yes	No
TR-2.8: *Require new development to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
TR-7.1: *Require large employers to develop TDM programs to reduce the vehicle trips and vehicle miles generated by their employees through the use of shuttles, provision for car-sharing, bicycle sharing, carpool, parking strategies, transit incentives and other measures.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
TR-8.5: *Promote participation in car share programs to minimize the need for parking spaces in new and existing development.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

4) Water Conservation and Urban Forestry Measures	Yes	No
MS-3.1*: Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial and developer-installed residential development unless for recreation needs or other area functions.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

	Yes	No
***MS-3.2**: Promote the use of green building technology or techniques that can help reduce the depletion of the City's potable water supply, as building codes permit. For example, promote the use of captured rainwater, graywater, or recycled water as the preferred source for non-potable water needs such as irrigation and building cooling, consistent with Building Codes or other regulations.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-19.4**: Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-21.3**: Ensure that San José's Community Forest is comprised of species that have low water requirements and are well adapted to its Mediterranean climate. Select and plant diverse species to prevent monocultures that are vulnerable to pest invasions. Furthermore, consider the appropriate placement of tree species and their lifespan to ensure the perpetuation of the Community Forest.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-26.1**: As a condition of new development, require the planting and maintenance of both street trees and trees on private property to achieve a level of tree coverage in compliance with and that implements City laws, policies or guidelines.*	X	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

	Yes	No
ER-8.7*: Encourage stormwater reuse for beneficial uses in existing infrastructure and future development through the installation of rain barrels, cisterns, or other water storage and reuse facilities.*	☐	X
Not applicable	☐	☐

Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]

GHGRS Strategies

GHGRS #1: The City will implement the San José Clean Energy program to provide residents and businesses access to cleaner energy at competitive rates.

GHGRS #2: The City will implement its building reach code ordinance (adopted September 2019) and its prohibition of natural gas infrastructure ordinance (adopted October 2019) to guide the city's new construction toward zero net carbon (ZNC) buildings.

GHGRS #3: The City will expand development of rooftop solar energy through the provision of technical assistance and supportive financial incentives to make progress toward the Climate Smart San José goal of becoming a one-gigawatt solar city.

GHGRS #4: The City will support a transition to building decarbonization through increased efficiency improvements in the existing building stock and reduced use of natural gas appliances and equipment.

GHGRS #5: As an expansion to Climate Smart San José, the City will update its Zero Waste Strategic Plan and reassess zero waste strategies. Throughout the development of the update, the City will continue to divert 90 percent of waste away from landfills through source reduction, recycling, food recovery and composting, and other strategies.

GHGRS #6: The City will continue to be a partner in the Caltrain Modernization Project to enhance local transit opportunities while simultaneously improving the city's air quality.

GHGRS #7: The City will expand its water conservation efforts to achieve and sustain long-term per capita reductions that ensure a reliable water supply with a changing climate, through regional partnerships, sustainable landscape designs, green infrastructure, and water-efficient technology and systems.

Table B: 2030 Greenhouse Gas Reduction Strategy Compliance

GHGRS Strategy and Consistency Options	Description of Project Measure	Project Conformance
PART 1: RESIDENTIAL PROJECTS ONLY		
Zero Net Carbon Residential Construction 1. Achieve/exceed the City's Reach Code, and 2. Exclude natural gas infrastructure in new construction, or 3. Install on-site renewable energy systems or participate in a community solar program to offset 100% of the project's estimated energy demand, or 4. Participate in San José Clean Energy at the Total Green level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project until which time SJCE achieves 100% carbon-free electricity for all accounts. **Supports Strategies**: GHGRS #1, GHGRS #2, GHGRS #3	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.*	[ ] Proposed [X] Not Applicable [ ] Not Feasible* [ ] Alternative Measure Proposed ** The 2030 GHGRS assumed this strategy would be feasible for 50% of residential units constructed between 2020 and 2030.*
PART 2: RESIDENTIAL AND NON-RESIDENTIAL PROJECTS		
Renewable Energy Development 1. Install solar panels, solar hot water, or other clean energy power generation sources on development sites, or 2. Participate in community solar programs to support development of renewable energy in the community, or 3. Participate in San José Clean Energy at the Total Green level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project. **Supports Strategies**: GHGRS #1, GHGRS #3	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.*	[ ] See Part 1 (Residential projects only) [ ] Proposed [ ] Not Applicable [ ] Not Feasible [X] Alternative Measure Proposed

GHGRS Strategy and Consistency Options	Description of Project Measure	Project Conformance
Building Retrofits – Natural Gas[3] This strategy only applies to projects that include a retrofit of an existing building. If the proposed project does not include a retrofit, select "Not Applicable" in the Project Conformance column. 1. Replace an existing natural gas appliance with an electric alternative (e.g., space heater, water heater, clothes dryer), or 2. Replace an existing natural gas appliance with a high-efficiency model **Supports Strategies:** GHGRS #4	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.*	☐ Proposed ☒ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed
Zero Waste Goal 1. Provide space for organic waste (e.g., food scraps, yard waste) collection containers, and/or 2. Exceed the City's construction & demolition waste diversion requirement. **Supports Strategies:** GHGRS #5	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.*	☒ Proposed ☐ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed

[3] GHGRS Strategy #4 applies to existing building retrofits and not to new construction; Strategy #2 applies to new construction to reduce natural gas related GHG emissions

GHGRS Strategy and Consistency Options	Description of Project Measure	Project Conformance
Caltrain Modernization 1. For projects located within ½ mile of a Caltrain station, establish a program through which to provide project tenants and/or residents with free or reduced Caltrain passes or 2. Develop a program that provides project tenants and/or residents with options to reduce their vehicle miles traveled (e.g., a TDM program), which could include transit passes, bike lockers and showers, or other strategies to reduce project related VMT. **Supports Strategies:** GHGRS #6	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.*	X Proposed ☐ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed
Water Conservation 1. Install high-efficiency appliances/fixtures to reduce water use, and/or include water-sensitive landscape design, and/or 2. Provide access to reclaimed water for outdoor water use on the project site. **Supports Strategies:** GHGRS #7	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.*	X Proposed ☐ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed

Table C: Applicant Proposed Greenhouse Gas Reduction Measures

Description of Proposed Measure	Description of GHG Reduction Estimate	Proposed Measure Implementation
[Describe the proposed project measure and why it is proposed] See attachment. **Supports Strategies/Sectors:** GHGRS #	*[Demonstrate the effectiveness of the proposed measure to reduce the project's GHG emissions.* *Include a description of how your measure will reduce emissions and provide supporting quantification documentation/assumptions.]*	☒ Part of Design ☐ Additional Measure
[Describe the proposed project measure and why it is proposed] **Supports Strategies/Sectors:** GHGRS #	*[Demonstrate the effectiveness of the proposed measure to reduce the project's GHG emissions.* *Include a description of how your measure will reduce emissions and provide supporting quantification documentation/assumptions.]*	☐ Part of Design ☐ Additional Measure
[Describe the proposed project measure and why it is proposed] **Supports Strategies/Sectors:** GHGRS #	*[Demonstrate the effectiveness of the proposed measure to reduce the project's GHG emissions.* *Include a description of how your measure will reduce emissions and provide supporting quantification documentation/assumptions.]*	☐ Part of Design ☐ Additional Measure
[Describe the proposed project measure and why it is proposed] **Supports Strategies/Sectors:** GHGRS #	*[Demonstrate the effectiveness of the proposed measure to reduce the project's GHG emissions.* *Include a description of how your measure will reduce emissions and provide supporting quantification documentation/assumptions.]*	☐ Part of Design ☐ Additional Measure

GHGRS Compliance Checklist

Trade Zone Boulevard Technology Park

(Attachment)

Table A: General Plan Consistency

1) Consistency with the Land Use/Transportation Diagram
   The project site is designated as TEC – Transit Employment Center in the Envision San José 2040 General Plan. The project is consistent with the existing General Plan designation on the site.

2) Implementation of Green Building Measures
   MS-2.2: The project owner will participate in the San Jose Clean Energy (SJCE) at the Total Green Level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level. As a result, onsite renewable energy generation is not needed to offset the project's emissions.

   MS-2.3: Unlike typical structures, such as the proposed advanced manufacturing building which will utilize windows to take advantage of sun exposure to reduce energy consumption, one of the primary concerns of data center structures is interior cooling. As a result, the data center buildings are designed with minimal windows and sun exposure to the data hall areas to reduce energy consumption associated with cooling.

   MS-2.7: Due to site constraints and City parking requirements, it is not feasible to include solar panels on the roof of the proposed parking garage as it would reduce the number of parking spaces below the required level. The project owner will participate in the SJCE at the Total Green Level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level. As a result, onsite renewable energy generation is not needed to offset the project's emissions.

   MS-2.11: The project would be built in accordance with Title 24 and CalGreen, and would include green building measures to reduce energy consumption. The project would also utilize lighting control to reduce energy usage for new exterior lighting and air economization for building cooling. Water efficient landscaping and ultralow flow plumbing fixtures in the buildings would be implemented to limit water consumption.

   MS-16.2: The project owner will participate in the SJCE at the Total Green Level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level. As a result, onsite renewable energy generation is not needed to offset the project's emissions.

3) <u>Pedestrian, Bicycle & Transit Site Design Measures</u>

CD-2.1: The project will replace the existing sidewalks along the Ringwood Avenue and Trade Zone Boulevard frontages of the site. To enhance walkability, the project would install a landscape buffer between the sidewalk and Trade Zone Boulevard. There are existing buffered bike lanes along the site's Ringwood Avenue and Trade Zone Boulevard frontages which allow bike access to the Milpitas BART station. No other street improvements are required by the project.

CD-2.5: The project would be built in accordance with Title 24 and CalGreen, and would include green building measures to reduce energy consumption. Stormwater treatment is implemented in various locations to treat runoff from impervious surfaces. The parking garage provides shading to vehicles parked on the lower levels.

CD-2.11: The project is not within a Downtown or Urban Village overlay.

CD3.2: The project will replace the existing sidewalks along the Ringwood Avenue and Trade Zone Boulevard frontages of the site. To enhance walkability, the project would install a landscape buffer between the sidewalk and Trade Zone Boulevard. On-site sidewalks are provided connecting to the public streets. The project will provide 19 on-site spaces for bicycles.

CD3.4: The project will replace the existing sidewalks along the Ringwood Avenue and Trade Zone Boulevard frontages of the site. To enhance walkability, the project would install a landscape buffer between the sidewalk and Trade Zone Boulevard. There are existing buffered bike lanes along the site's Ringwood Avenue and Trade Zone Boulevard frontages which allow bike access to the Milpitas BART station. The project will provide 19 on-site spaces for bicycles.

LU-3.5: The project is not located in the Downtown area.

TR-2.8: The project will replace the existing sidewalks along the Ringwood Avenue and Trade Zone Boulevard frontages of the site. To enhance walkability, the project would install a landscape buffer between the sidewalk and Trade Zone Boulevard. There are existing buffered bike lanes along the site's Ringwood Avenue and Trade Zone Boulevard frontages which allow bike access to the Milpitas BART station. The project will provide 19 on-site spaces for bicycles.

TR-7.1: The project would be required to implement a TDM program to reduce vehicle trips and VMT.

TR-8.5: The required TDM Program would include a car share program as a component.

4) <u>Water Conservation and Urban Forestry Measures</u>

MS-3.1: The project includes water efficient landscaping.

MS-3.2: The data center buildings would utilize an air-cooled chilled water system which would eliminate water consumption associated with building cooling. The project would utilize recycled water for landscape irrigation.

MS-19.4: The project would utilize recycled water for landscape irrigation.

MS-21.3: The plant species have low water requirements and are suitable for San Jose's climate.

MS-26.1: The project will meet conditions of approval required for street trees and trees on private property.

ER-8.7: The project is not proposing any rain barrels, cisterns, or other water storage facilities. The designers do not believe rainwater harvesting or the use of water storage facilities is feasible in Santa Clara County. Rainfall comes in a 3- or 4-month period at a time when irrigation is at its minimum. Storage of water for use during the dry weather has the potential for vector problems. Storage of water for use in chillers is not applicable because the project is using air-cooled chillers.

Table B: 2030 Greenhouse Gas Reduction Strategy Compliance

<u>Zero Net Carbon Residential Construction:</u>
The project is not a residential project.

<u>Renewable Energy Development</u>
Compliance with this policy is demonstrated by employing one or more of the following options. The project proposes an Alternative Measure (see response to Table C below) that would allow it to either comply with Number 3 (i.e., participate at the Total Green Level) or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level.

1. The project is not proposing onsite renewable energy generation. The project owner will participate in the SJCE at the Total Green Level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level. As a result, onsite renewable energy generation is not needed to offset the project's emissions.
2. The project is not proposing to participate in community solar programs.
3. The project owner will participate in the SJCE at the Total Green Level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level.

<u>Building Retrofits – Natural Gas</u>
1&2. Not Applicable – The project does not include any retrofit of existing buildings.

<u>Zero Waste Goal</u>
1. Proposed - The project will be providing organic waste container.
2. Proposed - The project will exceed the City's construction and demolition waste diversion requirements.

<u>Caltrain Modernization</u>

1. Not applicable - The project is not within ½ mile of a Caltrain station.
2. Proposed – The project would be required to implement a TDM program to reduce vehicle trips and VMT.

Water Conservation

1. Proposed - The project will include high-efficiency fixtures to reduce water usage, consistent with the Cal Green Code requirements. The data center buildings would utilize an air-cooled chilled water system which would eliminate water consumption associated with building cooling.
2. Proposed - The project would utilize recycled water for landscape irrigation.

Table C: Applicant Proposed Greenhouse Gas Reduction Measures

Description of Proposed Measure:

The project owner shall participate in the SJCE at the Total Green Level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project, or enter into an electricity contract with SJCE or participate in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level.

Description of GHG Reduction Estimate:

By either participating in SJCE's Total Green Level or participating in a clean energy program that accomplishes the same goals of 100% carbon-free electricity as the SJCE Total Green Level, all GHG emissions associated with the project's electricity consumption would be offset.