ROCKRIDGE GEOTECHNICAL

Prepared for **Santa Clara County Housing Authority**

GEOTECHNICAL INVESTIGATION
PROPOSED SENIOR HOUSING (NORTH LOT D-1)
EAST SANTA CLARA – PHASE 1
SAN JOSE, CALIFORNIA

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October 12, 2020
Project No. 20-1858

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October 12, 2020
Project No. 20-1858

Ms. Natalie Monk
Santa Clara County Housing Authority
505 W. Julian Street
San Jose, California 95110

Subject: Geotechnical Investigation
Proposed Senior Housing (North Lot D-1)
East Santa Clara – Phase 1
San Jose, California

Dear Ms. Monk,

The attached report presents the results of the geotechnical investigation performed by Rockridge Geotechnical, Inc. for the proposed senior housing building to be constructed on North Lot D-1 of the East Santa Clara – Phase 1 (Phase 1) development area in San Jose, California. Our geotechnical investigation was performed in accordance with our proposal dated May 8, 2020.

The Phase 1 development area consists of an entire city block bounded by East Santa Clara, East St. John, and North 14th and North 15th streets, and an existing parking lot on the northern side of East St. John Street, between North 15th and North 16th streets. The Phase 1 development is composed of five subprojects: proposed open space and infrastructure improvements (Main Site, Lot A-OS), an office building (Main Site-South, Lot A-1), affordable housing buildings (Main Site-East and West, Lots A-2 and A-3), affordable housing building (Main Site–North, Lot A-4), and a senior housing building (North Lot D-1).

The subject property, North Lot D-1, is an existing parking lot on the northern side of East St. John Street, between North 15th and North 16th streets. North Lot D-1 is L-shaped with maximum plan dimensions of about 220 by 250 feet. Plans are to construct a U-shaped senior housing building with maximum plan dimensions of about 180 by 250 feet on North Lot D-1. The proposed building will be 3 and 4 stories high and will be constructed at-grade.

From a geotechnical standpoint, we conclude the site can be developed as planned, provided the recommendations presented in this report are incorporated into the project plans and specifications and implemented during construction. The primary geotechnical concerns at the site are 1) the presence of sand and silty sand layers underlying the site

that are susceptible to liquefaction, and 2) providing adequate foundation support. We conclude the proposed senior housing building may be supported on a mat foundation.

The recommendations contained in our report are based on a limited subsurface exploration. Consequently, variations between expected and actual subsurface conditions may be found in localized areas during construction. Therefore, we should be engaged to observe site grading and foundation installations during which time we may make changes in our recommendations, if deemed necessary.

We appreciate the opportunity to provide our services to you on this project. If you have any questions, please call.

Sincerely yours,
ROCKRIDGE GEOTECHNICAL, INC.

Linda H. J. Liang, P.E., G.E.
Associate Engineer

Craig S. Shields, P.E., G.E.
Principal Geotechnical Engineer

Enclosure

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TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 SCOPE OF SERVICES 1

3.0 FIELD INVESTIGATION AND LABORATORY TESTING 2
- 3.1 Cone Penetration Tests 3
- 3.2 Test Borings 3
- 3.3 Laboratory Testing 5

4.0 SUBSURFACE CONDITIONS 6
- 4.1 Groundwater 6

5.0 SEISMIC CONSIDERATIONS 7
- 5.1 Regional Seismicity 7
- 5.2 Geologic Hazards 9
  - 5.2.1 Ground Shaking 9
  - 5.2.2 Ground Surface Rupture 10
  - 5.2.3 Liquefaction and Associated Hazards 10
  - 5.2.4 Liquefaction-Induced Ground Failure 13
  - 5.2.5 Cyclic Densification 14

6.0 CONCLUSIONS AND RECOMMENDATIONS 14
- 6.1 Design Groundwater Level 15
- 6.2 Foundation Support and Settlement 15
  - 6.2.1 Vapor Retarder 17
- 6.3 Seismic Design 17
- 6.4 Site Preparation and Fill Placement 18
  - 6.4.1 Soil Subgrade Preparation 18
  - 6.4.2 Fill Quality and Compaction 19
  - 6.4.3 Utility Trench Backfill 20
- 6.5 Surface Drainage and Bioswales 20
- 6.6 Excavation and Construction Considerations 21
- 6.7 Soil Corrosivity 22
- 6.8 Exterior Concrete Flatwork 22
- 6.9 Pavement Design 22
  - 6.9.1 Flexible (Asphalt Concrete) Pavement Design 22
  - 6.9.2 Rigid (Portland Cement Concrete) Pavement 23
- 6.10 Non-Permeable Concrete Pavers 24
- 6.11 Permeable Interlocking Concrete Pavers 24

7.0 ADDITIONAL GEOTECHNICAL SERVICES.....27

8.0 LIMITATIONS.....27

REFERENCES

FIGURES

APPENDIX A –Cone Penetration Test Results and Boring Logs

APPENDIX B – Laboratory Test Results

APPENDIX C – Corrosion Evaluation Report

APPENDIX D – Liquefaction Analysis Results

LIST OF FIGURES

Figure 1 Site Location Map

Figure 2a Site Plan – Existing Conditions

Figure 2b Site Plan – Proposed Conditions

Figure 3 Regional Geologic Map

Figure 4 Regional Fault Map

Figure 5 Earthquake Zones of Required Investigations Map

APPENDIX A

Figures A-1 to A-10 Cone Penetration Test Results

Figures A-11 to A-13 Boring Logs

Figure A-14 Classification Chart

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APPENDIX B

Figure B-1	Plasticity Chart
Figures B-2 and B-3	Particle Size Distribution Reports
Figures B-4 to B-7	Triaxial Unconfined Undrained Test Reports
Figures B-8 to B-11	Consolidation Test Reports
Figures B-12 and B-113	R-Value Test Reports

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GEOTECHNICAL INVESTIGATION
PROPOSED SENIOR HOUSING (NORTH LOT D-1)
EAST SANTA CLARA – PHASE 1
San Jose, California

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation performed by Rockridge Geotechnical, Inc. for the proposed senior housing building to be constructed on North Lot D-1 of the East Santa Clara – Phase 1 (Phase 1) development area in San Jose, California. The Phase 1 development area is located to the north and east of the intersection of East Santa Clara Street and North 14th Street, as shown on the Site Location Map, Figure 1.

The Phase 1 development area consists of an entire city block bounded by East Santa Clara, East St. John, and North 14th and North 15th streets, and an existing parking lot on the northern side of East St. John Street, between North 15th and North 16th streets, as shown on the Site Plan – Existing Conditions, Figure 2a. The Phase 1 development is composed of five subprojects: proposed open space and infrastructure improvements (Main Site, Lot A-OS), an office building (Main Site-South, Lot A-1), affordable housing buildings (Main Site-East and West, Lots A-2 and A-3), affordable housing building (Main Site–North, Lot A-4), and a senior housing building (North Lot D-1), as shown on the Site Plan – Proposed Conditions, Figure 2b.

The subject property, North Lot D-1, is an existing parking lot on the northern side of East St. John Street, between North 15th and North 16th streets. North Lot D-1 is L-shaped with maximum plan dimensions of about 220 by 250 feet. Plans are to construct a U-shaped senior housing building with maximum plan dimensions of about 180 by 250 feet on North Lot D-1. The proposed building will be 3 and 4 stories high and will be constructed at-grade.

2.0 SCOPE OF SERVICES

Our investigation was performed in general accordance with our proposal dated May 8, 2020. Our scope of services consisted of exploring subsurface conditions at the Phase 1 development area by advancing 10 cone penetration tests (CPTs), drilling three test borings, performing

laboratory tests on selected soil samples, and performing engineering analyses to develop conclusions and recommendations regarding the following for the proposed senior housing building on North Lot D-1:

- subsurface conditions
- site seismicity and seismic hazards, including the potential for liquefaction and liquefaction-induced ground failure
- the most appropriate foundation type for the proposed building
- design criteria for the recommended foundation type, including vertical and lateral capacities
- estimates of foundation settlement
- design groundwater level
- subgrade preparation for slab-on-grade floors and exterior flatwork
- site grading and excavation, including criteria for fill quality and compaction
- surface drainage and bioswales
- flexible and rigid pavement design
- impermeable and permeable pavers
- 2019 California Building Code (CBC) site class and design spectral response acceleration parameters
- corrosivity of the near-surface soil and the potential effects on buried concrete and metal structures and foundations, and recommendations for corrosion protection
- construction considerations.

3.0 FIELD INVESTIGATION AND LABORATORY TESTING

Our subsurface investigation for the Phase 1 development area consisted of advancing ten CPTs, drilling three test borings, and performing laboratory analysis on selected soil samples. Two CPTs (designated as CPT-1 and CPT-2) and one boring (designated as Boring B-1) are located within North Lot D-1. Prior to performing our field investigation, we obtained a drilling permit from the Santa Clara Valley Water District (SCVWD) and contacted Underground Service Alert (USA) to notify them of our work, as required by law. We also retained Precision Locating,

LLC, a private utility locator, to check the CPT and boring locations were clear of buried utilities. Details of the field investigation and laboratory testing are described below.

3.1 Cone Penetration Tests

The CPTs, designated as CPT-1 through CPT-10, were performed on June 3 through 5, 2020 by ConeTec of San Leandro, California to provide in-situ soil data at the approximate locations shown on Figures 2a and 2b. We attempted to advance a CPT at the location designated as CPT-6a; however, we encountered concrete rubble that extended to the maximum pre-drill depth of 9 feet. Therefore, we moved the CPT location and performed CPT-6 near Boring B-2. CPT-1 through CPT-4 were advanced to depths of 60 to 61.8 feet below the ground surface (bgs); CPT-6 to CPT-8 and CPT-10 were advanced to depths of 81.4 to 81.7 feet bgs; and CPT-5 and CPT-9 encountered early refusal in very dense sand at depths of 89.7 and 64.6 feet, respectively.

The CPTs were performed by hydraulically pushing a 1.7-inch-diameter cone-tipped probe with a projected area of 15 square centimeters into the ground. The cone-tipped probe measured tip resistance and the friction sleeve behind the cone tip measured frictional resistance. Electrical strain gauges within the cone continuously measured soil parameters for the entire depth advanced. Soil data, including tip resistance and frictional resistance, were recorded by a computer while the test was conducted. The cone used for CPT-5 and CPT-9 also measures the in-situ soil shear wave velocity in approximately three-foot intervals. Accumulated data were processed by computer to provide engineering information such as the types and approximate strength characteristics of the soil encountered. The CPT logs showing tip resistance and friction ratio, as well as interpreted soil behavior type and shear wave velocities, are presented in Appendix A on Figures A-1 through A-10. Upon completion, the CPT holes were backfilled with cement grout in accordance with SCVWD requirements.

3.2 Test Borings

Three test borings, designated as Boring B-1 through B-3, were drilled on June 3 through 5, 2020 by Pitcher Services, LLC of East Palo Alto, California at the approximate locations shown on Figures 2a and 2b. Borings B-1, B-2, and B-3 were drilled to depths of 51.5, 86.5 and 81.5 feet

bgs, respectively. The borings were advanced using a truck-mounted drill rig equipped with rotary-wash drilling capabilities. A six-inch-inside-diameter (ID) bucket auger was used to advance borings B-1 and B-3 to depths of approximately 14 and 9 feet, near where free groundwater was first encountered. Once free groundwater was encountered, a six-inch ID casing was advanced and drilling was switched to rotary-wash to the final depths. A bucket auger was used to advance Boring B-2 to a depth of about five feet bgs, casing was set and the drilling method was then switched to rotary-wash drilling below a depth of about five feet bgs due to abundant concrete and asphalt rubble in the upper five feet.

During drilling, our field engineer logged the soil encountered and obtained representative samples for visual classification and laboratory testing. Boring logs show changes in subsurface stratigraphy that are based on observation by our field engineer and drill rig operator during drilling. The contacts/transitions between various soil layers were sometimes based on changes in the cuttings or drill operations. The final boring logs were developed based on laboratory test data and the conditions recorded on the field logs and are presented on Figures A-11 through A-13 in Appendix A. The soil encountered in the borings was classified in accordance with the classification chart shown on Figure A-14.

Soil samples were obtained using the following samplers:

- Sprague and Henwood (S&H) split-barrel sampler with a 3.0-inch outside diameter and 2.5-inch inside diameter, lined with 2.43-inch inside diameter stainless steel tubes.
- Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside and 1.5-inch inside diameter, without liners.
- Shelby tubes (ST) with a 3.0-inch outside diameter and 2.875-inch inside diameter, stainless steel.

The S&H and SPT samplers were driven with a 140-pound, automatic hammer falling 30 inches per drop. The samplers were driven up to 18 inches and the hammer blows required to drive the samplers were recorded every six inches and are presented on the boring logs. A “blow count” is defined as the number of hammer blows per six inches of penetration or 50 blows for six inches or less of penetration. The blow counts used for this conversion were: (1) the last two blow

counts if the sampler was driven more than 12 inches, (2) the last one blow count if the sampler was driven more than six inches but less than 12 inches, and (3) the only blow count if the sampler was driven six inches or less. The blow counts required to drive the S&H and SPT samplers were converted to approximate SPT N-values using factors of 0.84 and 1.44, respectively, to account for sampler type and approximate hammer energy. The converted SPT N-values are presented on the boring logs.

Shelby tubes were advanced using a piston sampler to obtain relatively undisturbed samples of clayey soils. At sample locations where a Shelby tube was used, the hydraulic pressure applied to advance the sampler is presented on the boring logs.

Upon completion of drilling, the boreholes were backfilled in accordance with SCVWD requirements. The soil cuttings generated by the borings were left onsite adjacent to the boreholes.

3.3 Laboratory Testing

We re-examined the soil samples obtained from our borings to confirm the field classifications and selected representative samples for laboratory testing. Samples were tested to determine moisture content, dry density, particle size distribution, Atterberg limits, strength, and compressibility. The results of the laboratory tests are presented on the boring logs and on Figures B-1 through B-11 in Appendix B.

We obtained two near-surface soil samples (Samples R-1 and R-2) from depths of 0.5 to 1.5 feet bgs at the approximate locations shown on Figures 2a and 2b. Samples R-1 and R-2 were tested to measure resistance value (R-value) for flexible pavement design. The R-value test results are presented on Figures B-12 and B-13 in Appendix B.

We selected five near-surface soil samples obtained from the borings for corrosivity tests. The corrosivity of the near-surface soil was tested and evaluated by Project X of Murrieta, California. The corrosion evaluation report is presented in Appendix C.

4.0 SUBSURFACE CONDITIONS

Regional geologic information (Figure 3) indicates North Lot D-1 is underlain by Holocene-age alluvium (Qha). Alluvial deposits generally consist of a mixture of fine-grained and coarse-grained deposits and are deposited by rivers and streams. For our field investigation, we advanced CPT-1 and CPT-2 and drilled Boring B-1 within North Lot D-1. The results of our CPTs and boring indicate that North Lot D-1 is underlain by alluvium that extends to the maximum depth explored of 61.8 feet bgs. Where explored, the alluvium consists of predominantly clay with variable sand content and is interbedded with relatively thin layers of sand and silty sand. The clay encountered in the upper 45 feet is medium stiff to stiff and the clay becomes stiff to very stiff below a depth of 45 feet bgs. The sand and silty sand layers are generally less than two feet thick, except a five-foot thick layer of silty sand was encountered in CPT-1 and Boring B-1 at depths of about 4 and 5.5 feet bgs, respectively. The sand and silty sand layers are generally loose to medium dense above a depth of 45 feet bgs and dense to very dense below a depth of 45 feet bgs.

4.1 Groundwater

Groundwater was measured in Borings B-1 and B-3 during drilling and prior to start of rotary-wash drilling at depths of 14.5 and 9.5 feet bgs, respectively. Pore pressure dissipation tests performed at the CPTs (CPT-1 through CPT-4, CPT-5, and CPT-7 to CPT-10) indicated groundwater levels at 8 to 13 feet bgs. The seismic hazard zone report prepared by the California Geological Survey (CGS) for the San Jose East and West Quadrangles (2002) indicates the historic high groundwater level at the site vicinity is less than 10 feet bgs. The groundwater level at the site is expected to fluctuate several feet seasonally, depending on the amount of annual rainfall. For design purposes, we estimate the highest groundwater level at the project site will be approximately 6 feet bgs.

5.0 SEISMIC CONSIDERATIONS

The San Francisco Bay Area is considered to be one of the more seismically active regions in the world. The results of our evaluation regarding seismic considerations for the project site are presented in the following sections.

5.1 Regional Seismicity

The site is located in the Coast Ranges geomorphic province of California that is characterized by northwest-trending valleys and ridges. These topographic features are controlled by folds and faults that resulted from the collision of the Farallon plate and North American plate and subsequent strike-slip faulting along the San Andreas Fault system. The San Andreas fault is more than 600 miles long from Point Arena in the north to the Gulf of California in the south. The Coast Ranges province is bounded on the east by the Great Valley and on the west by the Pacific Ocean.

The major active faults in the area are the Hayward, Calaveras and San Andreas faults. These and other faults in the region are shown on Figure 4. For these and other active faults within a 50-kilometer radius of the site, the distance from the site and estimated characteristic moment magnitude[1] [Petersen et al. (2014) & Thompson et al. (2016)] are summarized in Table 1. These references are based on the Third Uniform California Earthquake Rupture Forecast (UCERF3), prepared by Field et al. (2013).

[1] Moment magnitude (M_w) is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area.

TABLE 1
Regional Faults and Seismicity

Fault Name	Approximate Distance (km)	Direction from Site	Characteristic Moment Magnitude
Total Hayward + Rodgers Creek (RC+HN+HS+HE)	8.4	East	7.58
Hayward (Extension, HE)	8.4	East	6.18
Hayward (South, HS)	8.9	Northeast	7.00
Total Calaveras (CN+CC+CS+CE)	11	East	7.43
Calaveras (Central, CC)	11	East	6.85
Monte Vista - Shannon	13	Southwest	7.14
Calaveras (North, CN)	14	Northeast	6.86
Total North San Andreas (SAO+SAN+SAP+SAS)	21	Southwest	8.04
North San Andreas (Peninsula, SAP)	21	Southwest	7.38
North San Andreas (Santa Cruz Mts, SAS)	22	Southwest	7.15
Sargent	24	Southwest	6.71
Butano	24	Southwest	6.93
Zayante-Vergeles (2011 CFM)	29	Southwest	7.48
Zayante-Vergeles	30	Southwest	7.00
Las Positas	30	North	6.50
Greenville (South)	33	East	6.64
Greenville (North)	35	East	6.86
Mount Diablo Thrust South	43	North	6.50
Mount Diablo Thrust	43	North	6.67
San Gregorio (North)	44	West	7.44
Calaveras (South, CS)	45	Southeast	6.38
Mount Diablo Thrust North CFM	48	North	6.72

Since 1800, four major earthquakes have been recorded on the San Andreas fault. In 1836, an earthquake with an estimated maximum intensity of VII on the Modified Mercalli (MM) scale occurred east of Monterey Bay on the San Andreas fault (Toppozada and Borchardt 1998). The estimated moment magnitude, M_w, for this earthquake is about 6.25. In 1838, an earthquake occurred with an estimated intensity of about VIII-IX (MM), corresponding to an M_w of about 7.5. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of loss of lives and property damage. This earthquake created a surface rupture along the San Andreas fault from Shelter Cove to San Juan Bautista approximately 470 kilometers in length. It had a maximum intensity of XI (MM), an M_w of about 7.9, and was felt

560 kilometers away in Oregon, Nevada, and Los Angeles. The Loma Prieta Earthquake of October 17, 1989 had an M_w of 6.9 and occurred about 34 kilometers south of the site.

In 1868, an earthquake with an estimated maximum intensity of X on the MM scale occurred on the southern segment (between San Leandro and Fremont) of the Hayward fault. The estimated M_w for the earthquake is 7.0. In 1861, an earthquake of unknown magnitude (probably an M_w of about 6.5) was reported on the Calaveras fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill earthquake (M_w = 6.2).

As a part of the UCERF3 project, researchers estimated that the probability of at least one $M_w \geq$ 6.7 earthquake occurring in the greater San Francisco Bay Area during a 30-year period (starting in 2014) is 72 percent. The highest probabilities are assigned to sections of the Hayward (South), Calaveras (Central), and the North San Andreas (Santa Cruz Mountains) faults. The respective probabilities are approximately 25, 21 , and 17 percent.

5.2 Geologic Hazards

Because the project site is in a seismically active region, we evaluated the potential for earthquake-induced geologic hazards including ground shaking, ground surface rupture, liquefaction,[2] lateral spreading,[3] and cyclic densification[4]. We used the results of our field investigation to evaluate the potential of these phenomena occurring at the project site.

5.2.1 Ground Shaking

The seismicity of the site is governed by the activities of the Hayward and San Andreas faults, although ground shaking from future earthquakes on other nearby faults shown in Table 1 will also be felt at the site. The intensity of earthquake ground motion at the site will depend upon

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2 Liquefaction is a phenomenon where loose, saturated, cohesionless soil experiences temporary reduction in strength during cyclic loading such as that produced by earthquakes.

3 Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.

4 Cyclic densification is a phenomenon in which non-saturated, cohesionless soil is compacted by earthquake vibrations, causing ground-surface settlement.

the characteristics of the generating fault, distance to the earthquake epicenter, and magnitude and duration of the earthquake. We judge that strong to very strong ground shaking could occur at the site during a large earthquake on one of the nearby faults.

5.2.2 Ground Surface Rupture

Historically, ground surface displacements closely follow the trace of geologically young faults. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the site. We therefore conclude the risk of fault offset at the site from a known active fault is very low. In a seismically active area, the remote possibility exists for future faulting in areas where no faults previously existed; however, we conclude the risk of surface faulting and consequent secondary ground failure from previously unknown faults is also very low.

5.2.3 Liquefaction and Associated Hazards

When a saturated, cohesionless soil liquefies, it experiences a temporary loss of shear strength created by a transient rise in excess pore pressure generated by strong ground motion. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Flow failure, lateral spreading, differential settlement, loss of bearing strength, ground fissures and sand boils are evidence of excess pore pressure generation and liquefaction.

The site is located within a zone of liquefaction potential as shown on the map titled *State of California Earthquake Zones of Required Investigation, San Jose East and West Quadrangles,* prepared by the California Geological Survey (CGS), released February 7, 2002 (Figure 5). CGS has provided recommendations for procedures and report content for site investigations performed within seismic hazard zones in Special Publication 117 (SP-117), titled *Guidelines for Evaluating and Mitigating Seismic Hazard Zones in California*, dated September 11, 2008. SP-117 recommends subsurface investigations in mapped liquefaction hazard zones be performed using rotary-wash borings and/or cone penetration tests (CPTs). We evaluated liquefaction potential at the North Lot D-1 site using the data collected in our CPT-1 and CPT-2.

Our liquefaction triggering analyses using CPT data was performed using the methodology proposed by Boulanger and Idriss (2014). Calculated settlements were then modified using the methodology proposed by Cetin et al. (2009) to account for the depth of the liquefiable layers. These methods are used to estimate a factor of safety against liquefaction triggering by taking the ratio of soil strength (resistance of the soil to cyclic shaking) to the seismic demand that can be expected from a design-level seismic event. Specifically, the following two terms are used in the liquefaction-triggering analyses:

- Cyclic Resistance Ratio (CRR), which quantifies the soil's resistance to cyclic shaking; a function of soil depth, depth of groundwater, earthquake magnitude, and overall soil behavior
- Cyclic Stress Ratio (CSR), which quantifies the stresses that may develop during cyclic shaking.

The factor of safety (FS) against liquefaction triggering can be expressed as the ratio of CRR over CSR. For our analyses, if the FS for a soil layer is less than 1.3, it is considered possible that the soil layer may liquefy during a large seismic event. For our calculations of estimated liquefaction-induced settlement, we assumed layers with a FS equal to or greater than 1.3 will not experience liquefaction-induced settlement.

CRR calculations are based on CPT tip resistance. The CPT tip pressures were normalized/corrected for overburden pressure, fines content, and thin layers, where appropriate. The CPT method also utilizes the soil behavior type index (I_c) and the exponential factor "n" applied to the Normalized Cone Resistance "q" to evaluate the cohesive nature of the soil. All of these are included in our analyses.

The CSR is obtained using the equations presented Boulanger and Idriss (2014) publication and is based on the density of the soil, the depth to design groundwater, the estimated peak horizontal acceleration at the ground surface (a_{max}), and a stress reduction coefficient (r_d).

The primary design parameters used in our liquefaction triggering calculations are summarized below in Table 2.

TABLE 2
Values Used in Liquefaction Evaluation

Parameter	Value
Depth to groundwater (Historic depth to high groundwater)	6 feet below ground surface
Peak Ground Acceleration (PGA)	0.67g*
Predominant Earthquake Moment Magnitude (M_w)	8.04
Factor of Safety for Liquefaction Triggering	1.3
CPT conversion factor for tip resistance to SPT N-value	4 to 5 (depending on silt content)

* Value obtained from 2019 CBC and corresponds to the Maximum Considered Earthquake Geometric Mean (MCE_G) peak ground acceleration adjusted for site effects (PGA_M).

Liquefaction susceptibility was assessed using the software CLiq v3.0.2.4 (GeoLogismiki, 2019). CLiq uses measured field CPT data and assesses liquefaction susceptibility and post-earthquake vertical settlement, given a user-defined earthquake magnitude and peak ground acceleration (PGA). We performed the liquefaction triggering analyses using the methodology proposed by Boulanger and Idriss (2014). We also used the relationship proposed by Zhang, Robertson, and Brachman (2002) to estimate post-liquefaction volumetric strains and corresponding ground surface settlement; a relationship that is an extension of the work by Ishihara and Yoshimine (1992). In our analyses, soil that has a significant amount of plastic fines, which is defined as an I_c greater than 2.6, was considered too cohesive to liquefy. Soil with a corrected cone tip resistance q_{c1N} greater than 160 tons per square foot (tsf) was considered too dense to liquefy. Because the predominant earthquake is a moment magnitude 8.04, the CRR has been scaled to a moment magnitude of 7.5 using magnitude scaling factors developed by Boulanger and Idriss (2014).

The results of our liquefaction analyses, which are presented in Appendix D, indicate there are thin layers of granular soil (primarily sand, silty sand, and sandy silt) below a depth of about 6 feet bgs that are susceptible to liquefaction during a major earthquake. The layers vary from 0.4

to 3.2 feet thick. We estimate total and differential settlements associated with liquefaction at the site during an MCE event generating a PGA_M of 0.67g will be up to one inch and 1/2 inch across a horizontal distance of 30 feet, respectively. A summary of our CPT data, as well as other pertinent parameters regarding liquefaction triggering and associated settlement, are presented below in Table 3.

TABLE 3
Summary of Liquefaction Potential Analyses Results from CPT Data

CPT Number	Approx. Depth (feet)	Layer Thickness (feet)	Avg. $(q_{c1N})_{cs}$ (tsf)	$(N_1)_{60\text{-}cs}$	Avg. I_C	Avg. CSR_{EQ}	Avg. $CRR_{7.5}$	Avg. Factor of Safety	Avg. Volumetric Strain, ε_v (%)	Estimated Vertical Settlement (in)
CPT-1	6.1	3.20	108	22	2.3	0.51	0.15	0.3	1.93	0.60
	23.3	1.48	100	26	2.4	0.76	0.14	0.2	1.38	0.19
	32.3	1.14	102	20	2.1	0.79	0.14	0.2	1.01	0.15
Total Estimated Settlement in CPT-1										**0.94**
CPT-2	8.1	0.41	123	25	1.7	0.56	0.21	0.4	1.69	0.10
	21.9	0.49	93	23	2.5	0.74	0.13	0.2	1.55	0.11
	30.5	1.40	91	23	2.3	0.78	0.13	0.2	1.21	0.09
Total Estimated Settlement in CPT-2										**0.30**

5.2.4 Liquefaction-Induced Ground Failure

The potential for liquefaction-induced ground failure depends on the thickness of the liquefiable soil layer relative to the thickness of the overlying non-liquefiable material. Ishihara (1985) presented empirical relationship that provides criteria that can be used to evaluate whether liquefaction-induced ground failure, such as sand boils, would be expected to occur under a given level of shaking for a liquefiable layer of given thickness overlain by a resistant, or protective, surficial layer.

We evaluated the potential for surface manifestation of liquefaction using an empirical relationship developed by Ishihara (1985). On the basis of our evaluation, we conclude the potentially liquefiable layers are sufficiently thin, have high enough fines content, and/or are

relatively dense, such that the potential for surface manifestations from liquefaction, such as sand boils and loss of bearing capacity, is low.

Lateral spreading is a phenomenon in which a surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. The surficial blocks are transported downslope or in the direction of a free face, such as a channel, by earthquake and gravitational forces. Lateral spreading is generally the most pervasive and damaging type of liquefaction-induced ground failure generated by earthquakes. Although numerous thin, potentially liquefiable layers were encountered, the layers do not appear to be continuous and the topography of the site and surrounding area is relatively flat. Therefore, we conclude the risk of lateral spreading is low.

5.2.5 Cyclic Densification

Seismically induced compaction (also referred to as cyclic densification) of non-saturated granular soil (granular soil above groundwater table) can occur during an earthquake, resulting in settlement of the ground surface and overlying improvements. Based on the boring and CPT data, we conclude the potential for cyclic densification of the soil above the groundwater table is low due to its cohesion.

6.0 CONCLUSIONS AND RECOMMENDATIONS

From a geotechnical standpoint, we conclude the site can be developed as planned, provided the recommendations presented in this report are incorporated into the project plans and specifications and implemented during construction. The primary geotechnical concerns at the site are the following:

- the presence of sand and silty sand layers underlying the site that are susceptible to liquefaction, and
- providing adequate foundation support.

Our conclusions and recommendations regarding foundation support and other geotechnical aspects of the proposed senior housing building to be constructed on North Lot D-1 are presented in this section.

6.1 Design Groundwater Level

As discussed in Section 4.1, groundwater was encountered in the borings and CPTs at depths of 8 to 14.5 feet bgs, and historic high groundwater level at the site vicinity is less than 10 feet bgs. Based on the existing groundwater level data, we conclude a groundwater depth of 6 feet bgs should be used for design. Considering the proposed senior housing building will be constructed at-grade, we do not anticipate any structural elements to extend below the design groundwater level. However, below-grade walls, building foundations, and mat/floor slabs extending below the design groundwater level, if any, should be waterproofed and designed to resist hydrostatic pressures.

6.2 Foundation Support and Settlement

The factors influencing the selection of a safe, economical foundation system are adequate foundation support, total and differential settlement of the structure resulting from new building loads, and liquefaction-induced ground settlement. Based on the results of our investigation, we anticipate the foundation of the proposed senior housing building at North Lot D-1 will be underlain by alluvium that can provide adequate foundation support for light to moderate loads under static conditions. However, the foundation level is underlain by potentially liquefiable soil layers at a depth of 6 feet bgs in localized areas that may result in liquefaction-induced settlement and reduction in bearing capacity for shallow foundations. On the basis of our experience, we judge the anticipated total and differential settlements due to static foundation loads and post-liquefaction reconsolidation will exceed the typical tolerance of a conventional spread footing foundation system. In addition, spread footings bearing on localized liquefiable layers may experience bearing failures during a major seismic event.

We conclude a mat foundation would be the most appropriate foundation system for the proposed senior housing building. We estimate total settlement of a properly designed and constructed mat foundation under static load conditions will be less than one inch and differential settlement will be less than 1/2 inch over a horizontal distance of 30 feet. As discussed in Sections 5.2.3, an additional one inch of total settlement and 1/2 inch of differential settlement of the building may occur due to post-liquefaction reconsolidation during a major earthquake.

The mat foundation should be founded on firm native soil or engineered fill. We recommend the mat be designed using allowable bearing pressures of 2,000 pounds per square foot (psf) for dead-plus-live loads and 2,600 psf for total loads (including wind and seismic loads); we anticipate the average bearing pressure will be significantly lower. To evaluate the pressure distribution beneath the mat foundation, we recommend a modulus of vertical subgrade reaction (K_S) of 7 pounds per cubic inch (pci) be used. This value has been corrected to take into account the mat width and may be increased by 1/3 for total load conditions. In addition, the mat should be sufficiently stiff to tolerate a differential settlement (static plus seismic) of one inch over a horizontal distance of 30 feet. Once the structural engineer estimates the distribution of bearing stress on the bottom of the mat, we should review the distribution and revise the modulus of subgrade reaction, if appropriate.

Lateral loads can be resisted by a combination of passive pressure on the vertical faces of the mat and friction along the bottom of the mat. Lateral resistance may be computed using an equivalent fluid weight (triangular distribution) of 260 pounds per cubic foot (pcf) for sustained loads and 1,300 psf for transient loads; the upper foot of soil should be ignored unless confined by a slab or pavement. Frictional resistance should be computed using a base friction coefficient of 0.35 where the mat is in contact with the soil. Where a vapor retarder is placed beneath the mat, a base friction coefficient of 0.20 should be used. The passive pressure and frictional resistance values include a factor of safety of at least 1.5 and may be used in combination without further reduction.

The edges of the mat should be thickened such that the mat edge is bottomed at least nine inches below the adjacent soil subgrade. In addition, we recommend the mat be founded below an imaginary plane extending up at an inclination of 1.5:1 (horizontal:vertical) from the base of any vault, utility trench, bioswale/ storm water treatment area, etc. If the design bottom-of-mat elevation is above this plane, the edge of mat can either be deepened, or over-excavated below the zone-of-influence line and replaced with controlled low-strength material (CLSM) with a 28-day unconfined compressive strength of at least 100 pounds per square inch (psi).

The mat subgrade should be free of loose, weak, or disturbed material. If loose sand or soft clay is encountered at the mat subgrade, those materials should be removed and the resulting excavation should be backfilled with compacted fill. The mat subgrade should be prepared as recommended in Section 6.4.1. The subgrade should be kept in a moist condition until it is covered with the vapor retarder. We should check the foundation subgrade prior to placement of the vapor retarder.

6.2.1 Vapor Retarder

Where water vapor transmission through the mat slab is undesirable, we recommend installing a water vapor retarder beneath the mat. The vapor retarder may be placed directly on the smooth, compacted soil subgrade. The retarder should meet the requirements for Class A vapor retarders stated in ASTM E1745 and should be placed in accordance with the requirements of ASTM E1643. These requirements include overlapping seams by six inches, taping seams, and sealing penetrations in the vapor retarder.

Concrete mixes with high water/cement (w/c) ratios result in excess water in the concrete, which increases the cure time and results in excessive vapor transmission through the slab. Therefore, concrete for the mat foundations should have a low w/c ratio - less than 0.45. If necessary, workability should be increased by adding plasticizers. In addition, the mats should be properly cured. Before floor coverings, if any, are placed, the contractor should check that the concrete surface and the moisture emission levels (if emission testing is required) meet the manufacturer's requirements.

6.3 Seismic Design

Results of shear wave velocity measurements at the CPT-5 and CPT-9 locations indicate the average shear wave velocity is 760 foot per second for the upper 100 feet of soil. Therefore, in accordance with the 2019 CBC, the site is classified as a Site Class D (stiff soil). The latitude and longitude of the site are 37.3442° and -121.8775°, respectively. For design in accordance with 2019 CBC, we recommend the following:

- Site Class D - stiff soil
- S_S = 1.5, S_1 = 0.6g

The 2019 CBC is based on the guidelines contained within ASCE 7-16 which stipulates that where S_1 is greater than 0.2 times gravity (g) for Site Class D, a ground motion hazard analysis is needed unless the seismic response coefficient (C_s) value will be calculated as outlined in Section 11.4.8, Exception 2. Assuming the C_s value will be calculated as outlined in Section 11.4.8, Exception 2, we recommend the following seismic design parameters:

- F_a = 1.0, F_v = 1.7
- S_{MS} = 1.50g, S_{M1} = 1.02g
- S_{DS} = 1.00g, S_{D1} = 0.68g
- Seismic Design Category D for Risk Factors I, II, and III

6.4 Site Preparation and Fill Placement

Any vegetation and organic topsoil should be stripped in areas to receive improvements (i.e., building or flatwork). Site demolition should include the removal of all existing underground utilities and buried foundations, if any. In general, abandoned underground utilities should be removed to the property line or service connections and properly capped or plugged with concrete. Where existing utility lines are outside of the proposed building footprint or will not interfere with the proposed construction, they may be abandoned in place provided the lines are filled with lean concrete or cement grout to the property line. Any excavations created during demolition should be properly backfilled with compacted fill under the observation of our field engineer.

6.4.1 Soil Subgrade Preparation

In areas that will receive fill or improvements (i.e. building pad subgrade and site wall subgrade), the soil subgrade should be scarified to a depth of at least eight inches, moisture-conditioned to

near optimum moisture content, and compacted to at least 90 percent relative compaction[5]. If the subgrade is within eight inches of finished subgrade in areas to receive vehicular traffic, it should be moisture-conditioned to near optimum moisture content and compacted to at least 95 percent relative compaction. The soil subgrade should be kept moist until it is covered by fill.

6.4.2 Fill Quality and Compaction

Material excavated at the site will primarily consist of clays and sands that may be reused as fill or backfill. If imported fill (select fill) is required, it should be free of organic matter, contain no rocks or lumps larger than three inches in greatest dimension, have a liquid limit less than 40 and plasticity index less than 12, and be approved by the Geotechnical Engineer. Samples of proposed select fill material should be submitted to the Geotechnical Engineer at least three business days prior to use at the site. The grading contractor should provide analytical test results or other suitable environmental documentation indicating the imported fill is free of hazardous materials at least three days before use at the site. If this data is not available, up to two weeks should be allowed to perform analytical testing on the proposed imported material.

Fill consisting of excavated on-site soil should be placed in lifts not exceeding eight inches in loose thickness, moisture-conditioned to near optimum moisture content, and compacted to at least 90 percent relative compaction. Fill consisting of imported select fill should be placed in lifts not exceeding eight inches in loose thickness, moisture-conditioned to near optimum moisture content, and compacted to at least 90 percent relative compaction. Fill consisting of clean sand or gravel (defined as soil with less than five percent fines by weight) or more than five feet thick should be compacted to at least 95 percent relative compaction. Fill placed within six inches of soil subgrade for pavement (concrete or asphalt concrete) that will be subjected to vehicular traffic, as well as the overlying Class 2 aggregate base, should be compacted to at least 95 percent relative compaction and be non-yielding.

[5] Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557 laboratory compaction procedure.

6.4.3 Utility Trench Backfill

The thickness and type of bedding material required for utilities will depend on the soil conditions at the utility trench bottom. As a minimum, bedding should extend at least D/4 (with D equal to the outside pipe diameter) below the bottom of the pipe. However, the bedding should be at least four inches thick. This minimum bedding thickness and either clean sand, rod mill or pea gravel bedding material is adequate for shallow trenches above the groundwater level.

Bedding of utility trenches extending below the groundwater level should consist of drain rock with filter fabric placed between the drain rock and soil. Backfill of utility trenches below the groundwater should consist of drain rock with filter fabric placed between the drain rock and soil; alternatively, backfill of utility trenches below the groundwater may consist of controlled low strength material (CLSM) with minimum 28-day unconfined compressive strength of 100 pound per square inch (psi).

Backfill for utility trenches should be compacted according to the recommendations presented for general site fill. Jetting of trench backfill should not be permitted. If sand or gravel with less than five percent fines (particles passing the No. 200 sieve) is used, it should be compacted to at least 95 percent relative compaction. Pea gravel, drain rock, and rod mill should be mechanically tamped in 12-inch lifts where placed beneath pavements. Special care should be taken when backfilling utility trenches in pavement areas. Poor compaction may cause excessive settlements, resulting in damage to the pavement section.

6.5 Surface Drainage and Bioswales

Positive surface drainage should be provided around the building to direct surface water away from the foundations. To reduce the potential for water ponding adjacent to the building, we recommend the ground surface within a horizontal distance of five feet from the building slope down away from the building with a surface gradient of at least two percent in unpaved areas and one percent in paved areas. In addition, roof downspouts should be discharged into controlled drainage facilities to keep the water away from the foundations.

Care should be taken to minimize the potential for subsurface water to collect beneath pavements and pedestrian walkways. Where landscape beds and tree wells are immediately adjacent to pavements and flatwork, we recommend vertical cutoff barriers be incorporated into the design to prevent irrigation water from saturating the subgrade and aggregate base. These barriers may consist of either flexible impermeable membranes or deepened concrete curbs.

The primary concerns with the proposed bio-retention areas are: 1) providing suitable support for foundations and curbs constructed near the bio-retention areas, and 2) potential for subsurface water from the bio-retention areas to migrate (and possibly build up) beneath pavements and the proposed building. Consequently, we recommended that bioswales constructed at the site be provided with underdrains and/or drain inlets; and bioswales should be constructed at least five feet from the building. The subdrain pipes should be installed eight inches above the bottom of the infiltration area for treatment areas that are at least five feet away from the new building and pavements. The intent of this recommendation is to allow infiltration into the underlying soil, but to reduce the potential for bio-retention areas to flood during periods of heavy rainfall.

Where bio-retention areas are constructed within five feet of the new building and pavements, the bottom of the treatment area should be lined with an impermeable liner. Where a vertical curb or foundation is constructed near a bio-retention area, the curb and the edge of the foundation should be founded below an imaginary line extending up at an inclination of 1.5:1 (horizontal: vertical) from the base of the bio-retention area.

6.6 Excavation and Construction Considerations

The soil to be excavated consists predominantly of clays and sands, which can be excavated with conventional earth-moving equipment such as loaders and backhoes. Removal of existing on-site improvements, including pavements and buried foundation, if any, will require equipment capable of breaking concrete.

Excavation and trenching should be performed in accordance with the requirements of the California Occupational Safety and Health Administration (CAL-OSHA) Trenching and Excavation Standards as a minimum. Excavations deeper than four feet should be sloped or

shored to prevent collapse of the soil into the excavation. For planning purposes, a maximum cut slope inclination of 1:1 (horizontal:vertical) may be assumed, which corresponds to OSHA Type B soil. If seepage is observed or granular soil is encountered in the cut slopes during construction, the slopes should have a maximum inclination of 1.5:1, which corresponds to OSHA Type C soil.

6.7 Soil Corrosivity

Corrosivity testing was performed by Project X Corrosion Engineers of Murrieta, California on five near-surface samples obtained from the borings at depths ranging from 1.25 to 6.5 feet bgs. Based on the results of the corrosivity tests, Project X performed a corrosion evaluation for the project and provided corrosion control recommendations. The Corrosion Evaluation Report prepared by Project X is attached in Appendix C.

6.8 Exterior Concrete Flatwork

We recommend a minimum of four inches of Class 2 aggregate base be placed below exterior concrete flatwork, including patio slabs and sidewalks; the aggregate base should extend at least six inches beyond the slab edges where adjacent to landscaping. Class 2 aggregate base beneath exterior slabs-on-grade, such as patios and sidewalks, should be compacted to at least 90 percent relative compaction.

6.9 Pavement Design

The following sections present geotechnical recommendations for the design and construction of flexible and concrete vehicular pavements.

6.9.1 Flexible (Asphalt Concrete) Pavement Design

The State of California flexible pavement design method, Topic 633 of the Caltrans Highway Design Manual dated July 2008 and revised 2012, was used to develop the recommended asphalt concrete (AC) pavement sections. The results of resistance value (R-value) tests, R-1 and R-2, performed on near-surface soil samples consisting of sand/gravel mixtures indicates R-values of

23 and 28, respectively. Based on R-value test results and accounting for subgrade soil variability across the site, we selected an R-value of 15 for pavement design.

Table 4 presents our pavement section recommendations for traffic indices (TIs) of 4.5 through 7.0. Actual TIs should be determined through a civil engineer's analysis of expected automobile and truck traffic at the site.

TABLE 4
Recommended Asphalt Pavement Sections

TI	Asphaltic Concrete (inches)	Class 2 Aggregate Base R = 78 (inches)
4.5	2.5	8.0
5.0	3.0	8.0
5.5	3.0	10.0
6.0	3.5	10.5
6.5	4.0	11.5
7.0	4.0	13.0

The soil subgrade beneath AC pavements should be prepared and compacted in accordance with the recommendations presented in Section 6.4 of this report. In addition, the subgrade should be a firm and non-yielding surface. The subgrade should be proof-rolled to confirm it is non-yielding prior to placing the aggregate base. The Class 2 aggregate base should be moisture-conditioned to near optimum moisture content and compacted to at least 95 percent relative compaction.

For all impermeable pavement types, to prevent irrigation water from entering the pavement sections, curbs adjacent to landscaped areas should extend through the aggregate base and at least three inches into the underlying soil.

6.9.2 Rigid (Portland Cement Concrete) Pavement

The Portland-cement concrete (PCC) pavement section design is based on a maximum single-axle load of 20,000 pounds, a maximum tandem axle of 32,000 pounds, and truck traffic consisting of several garbage trucks per week. The recommended rigid pavement section for

these axle loads is 6.5 inches of Portland-cement concrete over six inches of Class 2 aggregate base. For areas that will receive fire truck traffic, the pavement section should consist of seven inches of Portland-cement concrete over six inches of Class 2 aggregate base.

The modulus of rupture and unconfined compressive strength of the concrete should be at least 500 and 3,200 psi at 28 days, respectively. Contraction joints should be placed at a 15-foot spacing. Where the outer edge of a concrete pavement meets asphalt pavement, the concrete slab should be thickened by 50 percent at a taper not to exceed a slope of 1 in 10. For loading docks or bus stops, we recommend the concrete slab be reinforced with a minimum of No. 4 bars at 16 inches on center in both directions.

Recommendations for subgrade preparation and aggregate base compaction for concrete pavement are the same as those we have described above for asphalt concrete pavement. Recommendations for pavements adjacent to irrigated landscaped areas, bio-swales, or other storm water treatment areas are also the same as those presented above for asphalt concrete pavement.

6.10 Non-Permeable Concrete Pavers

We recommend non-permeable pedestrian pavers and sand bedding be underlain by at least four inches of Class 2 aggregate base compacted to at least 90 percent relative compaction. We recommend non-permeable pavers subject to vehicular traffic be underlain by Class 2 aggregate base compacted to at least 95 percent relative compaction. The aggregate base thickness beneath non-permeable pavers subject to vehicular traffic should be consistent with that recommended above in Table 4 in Section 6.9.1 for asphalt pavement. The appropriate TI should be determined by the project civil engineer.

6.11 Permeable Interlocking Concrete Pavers

We recommend permeable interlocking concrete pavements (ICP) be designed in accordance with the guidelines presented by the Interlocking Concrete Pavement Institute (ICPI 2005). These guidelines include specific recommendations for permeable aggregate subbase, base, and bedding courses to be placed beneath ICP pavements. We recommend permeable pavements for

vehicular and pedestrian traffic be designed for partial exfiltration of water into the subgrade soil. This requires installing a subdrain system at the base of the pervious aggregate materials, which are underlain by a filter fabric.

The soil subgrade beneath ICP pavements should be prepared and compacted in accordance with the recommendations presented in Section 6.4 of the geotechnical report. In addition, the subgrade for vehicular pavers should be a firm and non-yielding surface. The subgrade should be proof-rolled under the observation of our field engineer to confirm it is non-yielding prior to placing the filter fabric and aggregate base materials. The soil subgrade at the bottom of the permeable section should slope down toward the drain pipe trench at a gradient of at least two percent. The perforated pipe should slope down to a suitable outlet at a minimum gradient of one percent. The pipe should be placed with the perforations down on a minimum of two inches of permeable subbase.

ICPI's guidelines call for 1-1/2 to 2 inches of bedding material consisting of ASTM No. 8 aggregate directly below the pavers. This material is also recommended for fill material between the pavers. As shown in Table 5 below, this material consists of fine gravel with 10 to 30 percent sand.

TABLE 5
Gradation Requirements for ASTM No. 8 Aggregate

Sieve Size	Percentage Passing Sieve
1/2 inch	100
3/8 inch	85 – 100
No. 4	10 – 30
No. 8	0 – 10
No. 16	0 – 5

The ASTM No. 8 bedding should be underlain by a permeable base course of ASTM No. 57 crushed aggregate. As shown in Table 6, ASTM No. 57 aggregate consists of open-graded gravel with a gradation between that of the 3/4-inch drain rock and the ASTM No. 8 aggregate.

TABLE 6
Gradation Requirements for ASTM No. 57 Aggregate

Sieve Size	Percentage Passing Sieve
1-1/2 inch	100
1 inch	95 – 100
1/2 inch	25 – 60
No. 4	0 – 10
No. 8	0 – 5

The ASTM No. 57 permeable base course should be underlain by a permeable subbase course of ASTM No. 2 crushed aggregate. The gradation requirements for ASTM No. 2 crushed aggregate subbase are presented in Table 7.

TABLE 7
Gradation Requirements for ASTM No. 2 Aggregate

Sieve Size	Percentage Passing Sieve
3 inch	100
2-1/2 inch	90-100
2 inch	35-70
1-1/2 inch	0-15
3/4 inch	0 -5

The No. 2 aggregate subbase course should be placed in lifts not exceeding six inches in loose thickness and compacted using a smooth-drum roller, operated in static (non-vibratory) mode. The subsequent course of No. 57 aggregate may be placed in one lift and should be compacted with a smooth-drum roller in vibratory mode with sufficient passes to create an unyielding surface. Placement and compaction of the permeable aggregate base and subbase should be performed under the observation of our field engineer. Following compaction of the No. 57 aggregate, the No. 8 bedding, not exceeding 2 inches in loose thickness, should be placed and screeded to a level, undisturbed surface immediately prior to paver installation.

The required thicknesses of the permeable aggregate base and subbase courses depends on the infiltration and water storage design requirements, as well as the traffic loading demand. Based on design TI of 6.0, as provided to us by the project civil engineer, our recommendations for the minimum permeable ICP pavement sections (based on traffic demand) are presented in Table 8.

Also included in Table 8 is a recommended section for permeable ICPs subject to pedestrian traffic only.

TABLE 8
Recommended Pavement Sections for
Permeable Interlocking Concrete Pavers

TI	ASTM No. 8 Bedding Aggregate (inches)	ASTM No. 57 Stone Base (inches)	ASTM No. 2 Stone Subbase (inches)
Pedestrian	1.5-2.0	4.0 (10)	6.0 (0)
6.0	1.5-2.0	4.0	8.0

The above recommended ICP pavement sections are based on the ICPI technical guidelines (ICPI 2005). From a geotechnical standpoint, it is acceptable to design the pedestrian ICP section to exclude the No. 2 subbase course, in which case the No. 57 base course should be increased to 10 inches. From a geotechnical standpoint, it is also acceptable to use compacted structural planting mix in lieu of the No. 57 and No. 2 base courses in locations where the pedestrian ICP section is adjacent to tree wells and is required for promoting root growth.

7.0 ADDITIONAL GEOTECHNICAL SERVICES

Prior to construction, Rockridge Geotechnical should review the project plans and specifications to verify that they conform to the intent of our recommendations. During construction, our field engineer should provide on-site observation and testing during site preparation, placement and compaction of fill, and installation of building foundations. These observations will allow us to compare actual with anticipated subsurface conditions and to verify that the contractor's work conforms to the geotechnical aspects of the plans and specifications.

8.0 LIMITATIONS

This geotechnical investigation has been conducted in accordance with the standard of care commonly used as state-of-practice in the profession. No other warranties are either expressed or implied. The recommendations made in this report are based on the assumption that the

subsurface soil and groundwater conditions do not deviate appreciably from those disclosed in the CPTs and borings. If any variations or undesirable conditions are encountered during construction, we should be notified so that additional recommendations can be made. The foundation recommendations presented in this report are developed exclusively for the proposed development described in this report and are not valid for other locations and construction in the project vicinity.

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ROCKRIDGE GEOTECHNICAL

FIGURES

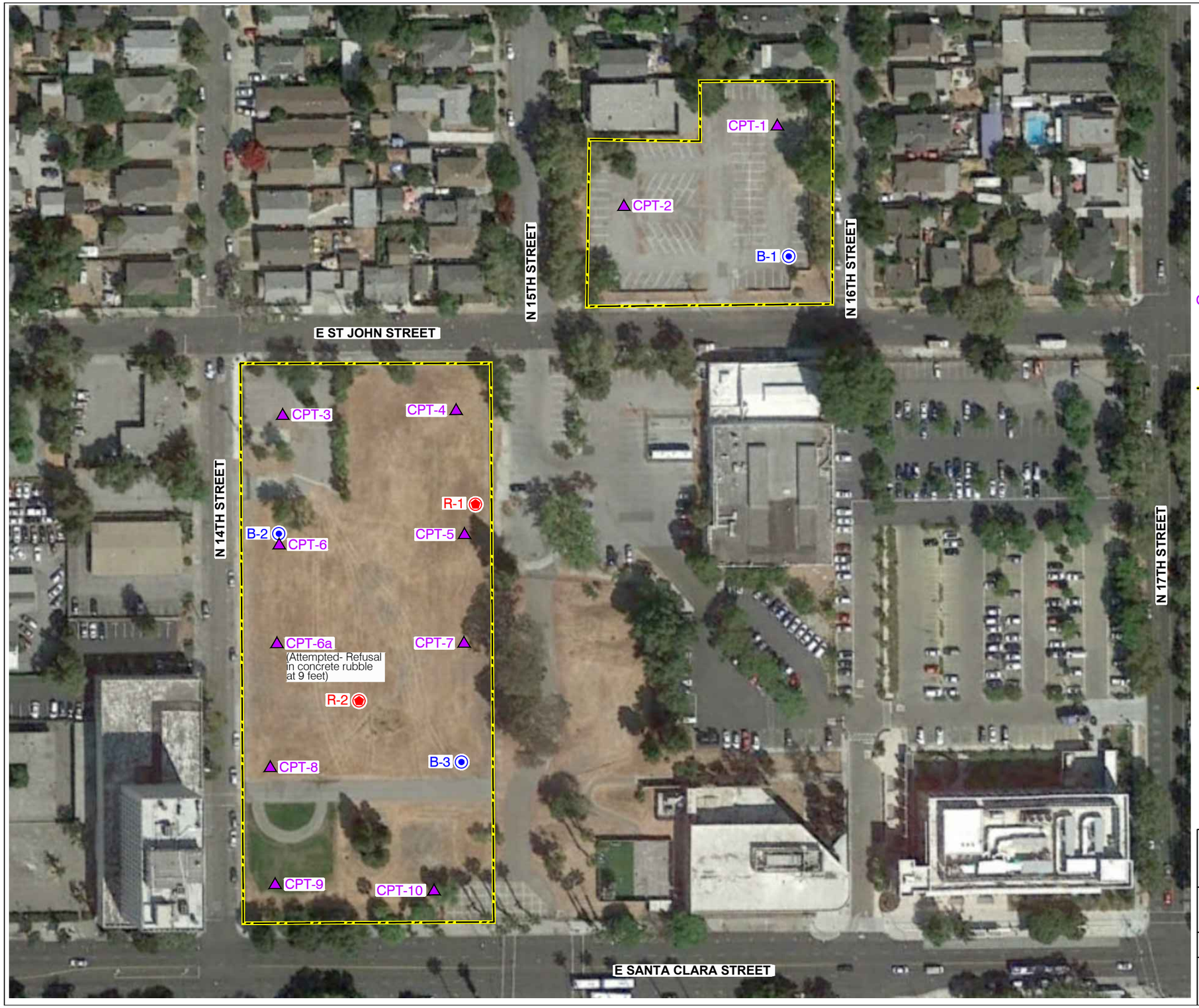
Base map: Google Maps, 2020.

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

SITE LOCATION MAP

Date 07/05/20	Project No. 20-1858	Figure 1



EXPLANATION

- B-1 — Approximate location of rotary-wash boring by Rockridge Geotechnical Inc., June 3-5, 2020
- CPT-1 — Approximate location of cone penetration test by Rockridge Geotechnical Inc., June 3-5, 2020
- R-1 — Approximate location of bulk sample obtained by Rockridge Geotechnical Inc., June 9, 2020
- Approximate project limits for East Santa Clara - Phase 1

0 100 Feet

Approximate scale

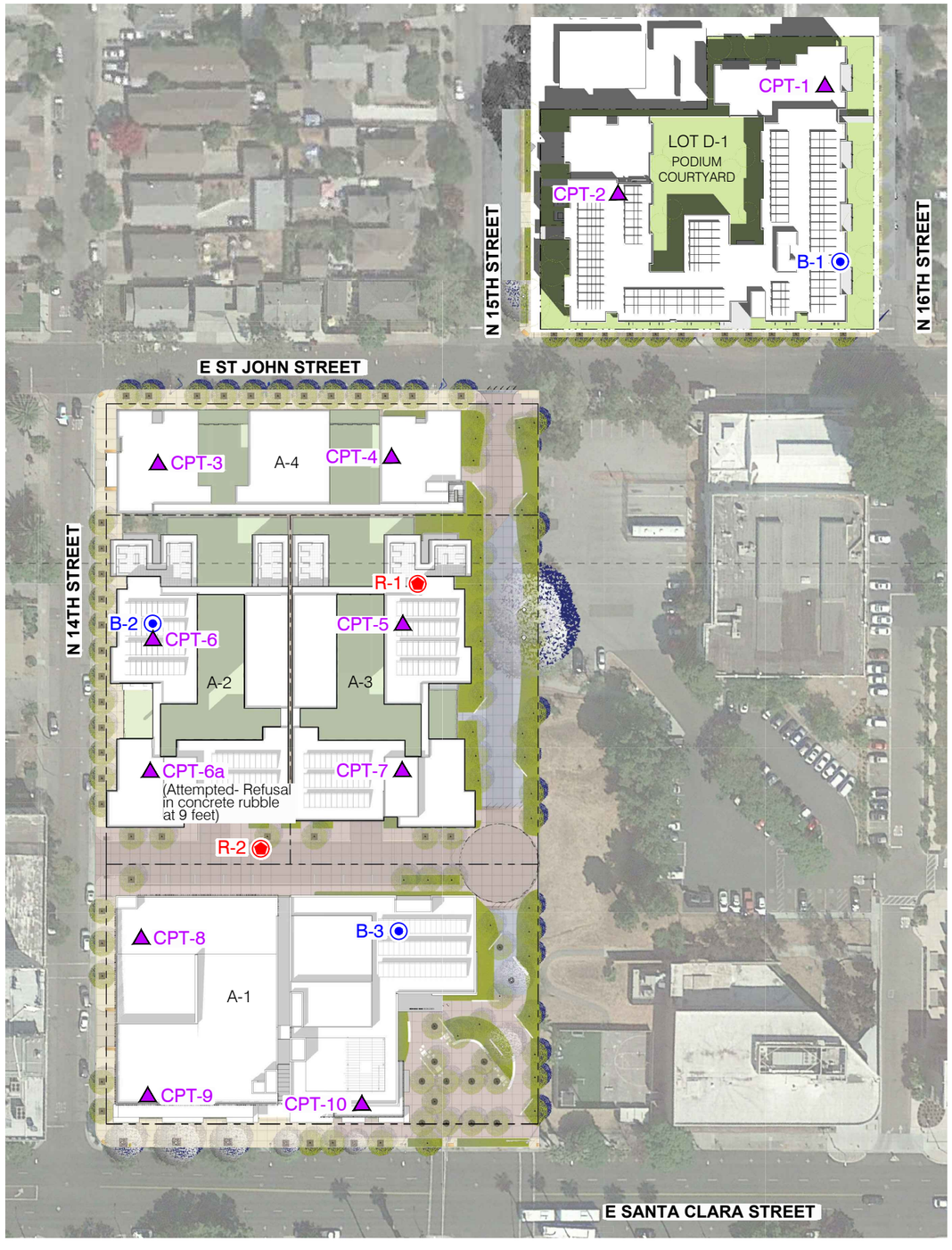
Base map: Google Earth, 2020.

EAST SANTA CLARA - PHASE 1
San Jose, California

SITE PLAN - EXISTING CONDITIONS

Date 07/09/20	Project No. 20-1858	Figure 2a

ROCKRIDGE GEOTECHNICAL



EXPLANATION

B-1 — Approximate location of rotary-wash boring by Rockridge Geotechnical Inc., June 3-5, 2020

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R-1 — Approximate location of bulk sample obtained by Rockridge Geotechnical Inc., June 9, 2020

0 100 Feet

Approximate scale

Base map: Google Earth, 2020.

EAST SANTA CLARA - PHASE 1
San Jose, California

SITE PLAN - PROPOSED CONDITIONS

Date 10/10/20 | Project No. 20-1858 | Figure 2b

ROCKRIDGE GEOTECHNICAL

Base map: Google Earth with U.S. Geological Survey (USGS), Santa Clara County, 2020.

EXPLANATION

af	Artificial Fill
Qha	Alluvium (Holocene)
Qsl	Hillslope Deposits (Quaternary)
Qpa	Alluvium (Pleistocene)
Tms	Sedimentary rocks (Miocene)
KJs	Great Valley complex sedimentary rocks (Early Cretaceous and (or) Late Jurassic)
Jv	Great Valley complex volcanic rocks (Jurassic)
Jsp	Great Valley complex serpentinite (Jurassic)

Geologic contact: dashed where approximate and dotted where concealed, queried where uncertain

N

0 1 2 Miles

Approximate scale

EAST SANTA CLARA - PHASE 1
San Jose, California

REGIONAL GEOLOGIC MAP

ROCKRIDGE GEOTECHNICAL

Date 06/16/20 | Project No. 20-1858 | Figure 3

Base Map: U.S. Geological Survey (USGS), National Seismic Hazards Maps - Fault Sources, 2014.

EXPLANATION

Strike slip

Thrust (Reverse)

0 4 8 Miles

Approximate scale

EAST SANTA CLARA - PHASE 1
San Jose, California

REGIONAL FAULT MAP

ROCKRIDGE GEOTECHNICAL

Date 06/16/20	Project No. 20-1858	Figure 4

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Reference:
Earthquake Zones of Required Investigation
San Jose West Quadrangle
San Jose East Quadrangle
California Geological Survey
Released February 7, 2002

0 2,000 4,000 Feet
Approximate scale

EAST SANTA CLARA - PHASE 1
San Jose, California

EARTHQUAKE ZONES OF REQUIRED INVESTIGATION MAP

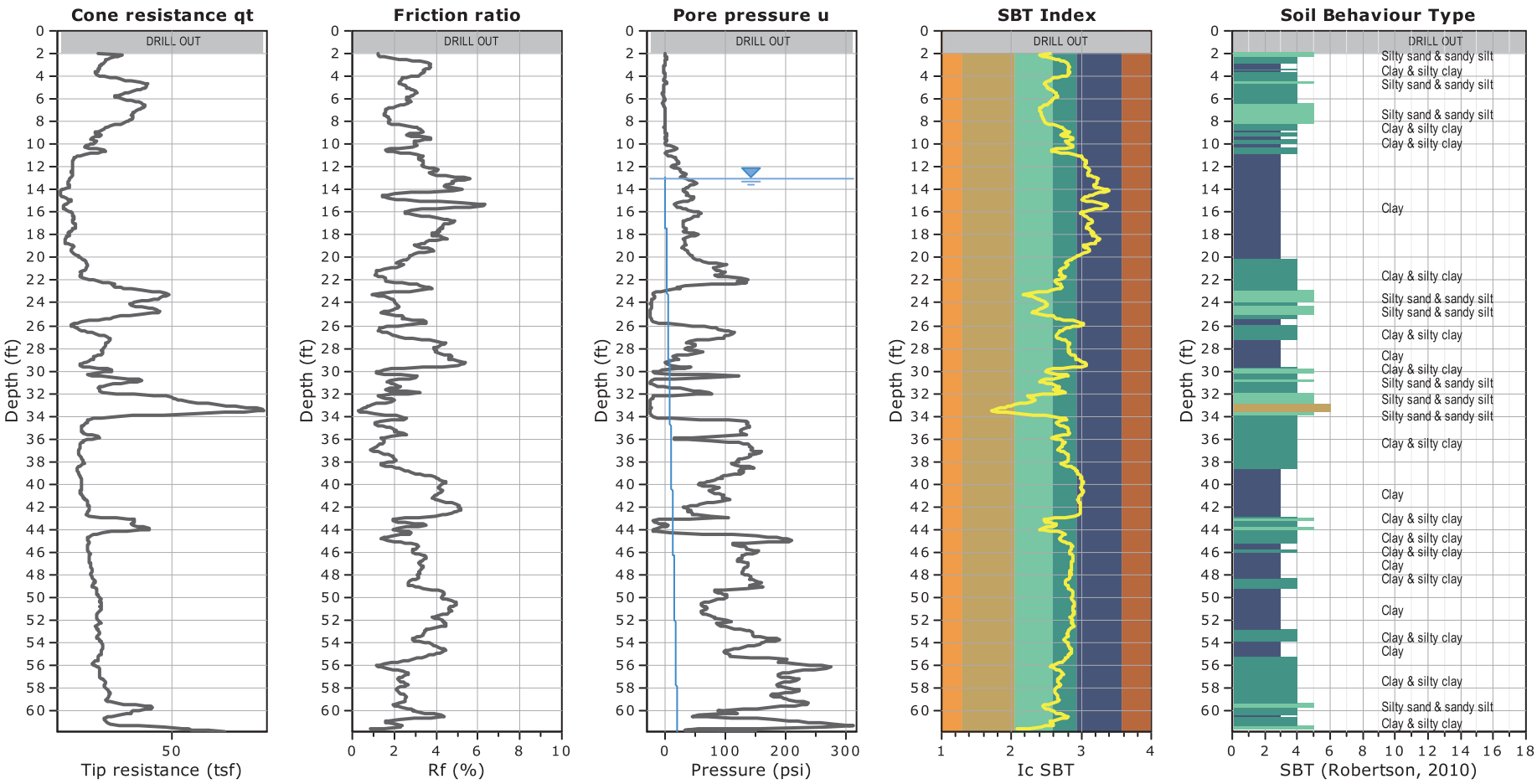
ROCKRIDGE GEOTECHNICAL

Date 06/16/20	Project No. 20-1858	Figure 5

ROCKRIDGE GEOTECHNICAL

APPENDIX A

Cone Penetration Test Results and Boring Logs



Total depth: 61.8 ft, Date: June 3, 2020
Depth to Groundwater: 13 feet (pore pressure dissipation test at depth of 23.4 feet)
Cone Operator: ConeTec, Inc.

SBT legend

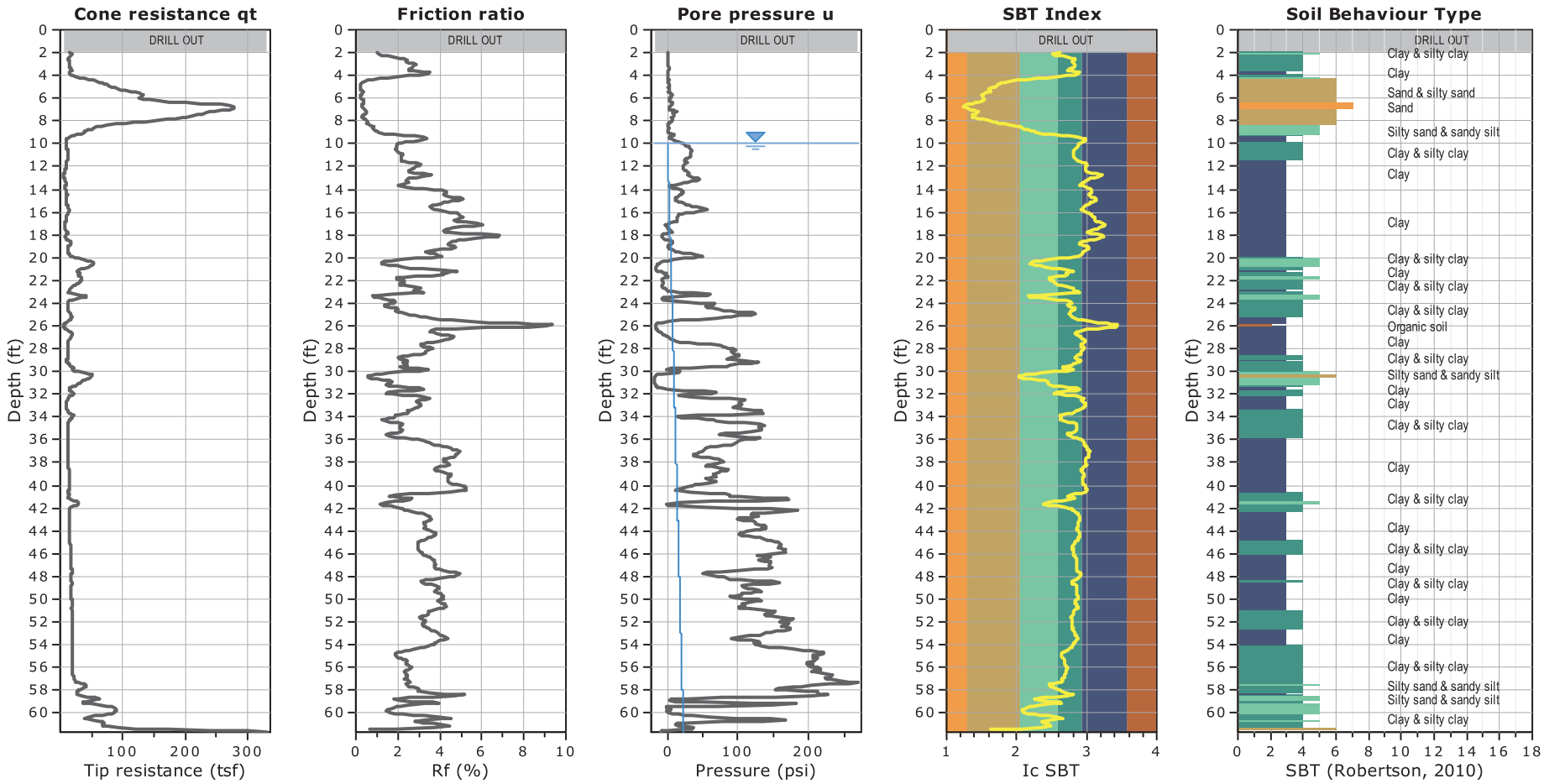
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-1

Date	Project No.	Figure
07/09/20	20-1858	A-1



Total depth: 61.7 ft, Date: June 3, 2020
Depth to Groundwater: 10 feet (pore pressure dissipation test at depth of 21.2 feet)
Cone Operator: ConeTec, Inc.

SBT legend

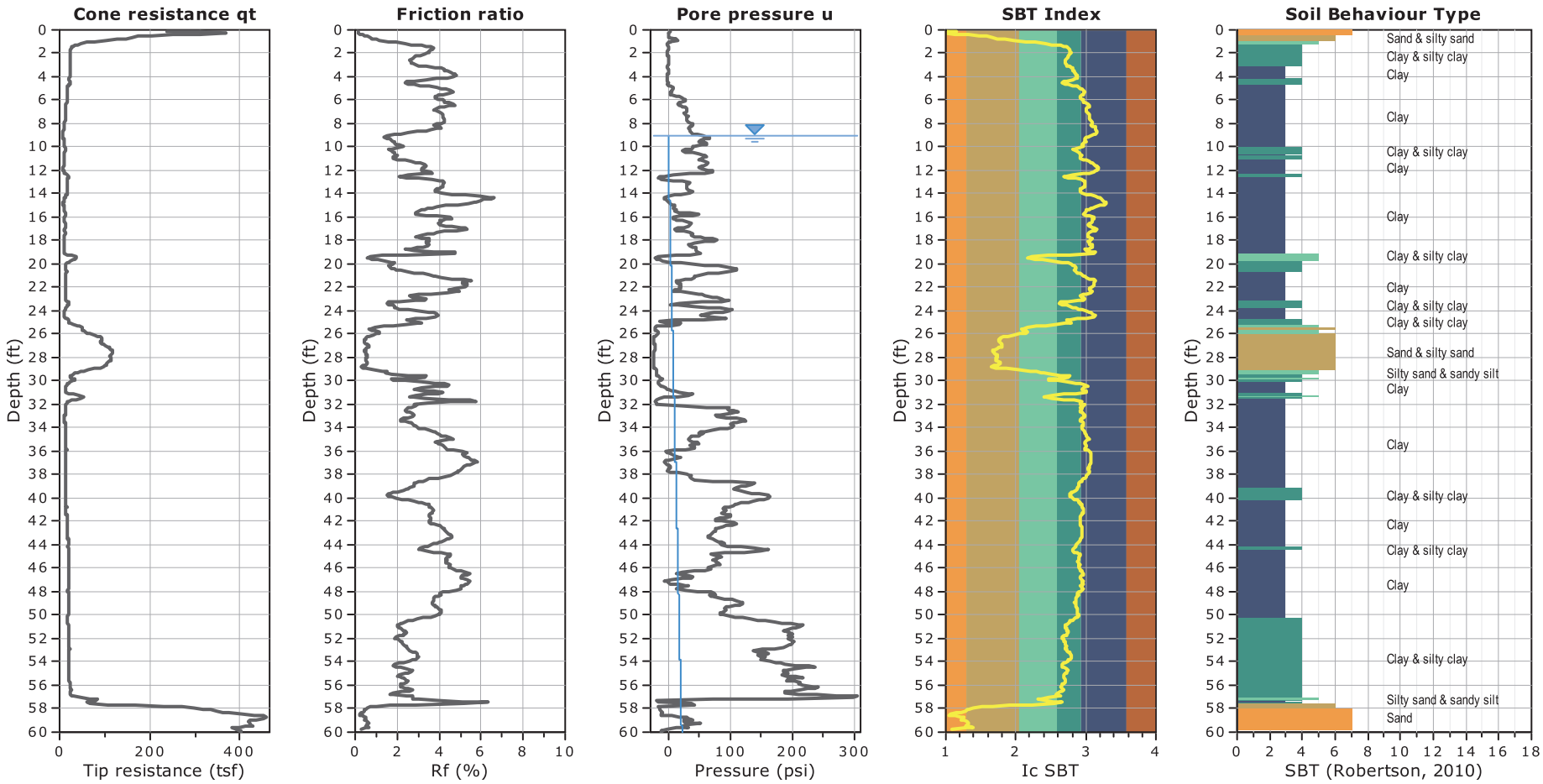
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-2

Date	Project No.	Figure
07/09/20	20-1858	A-2



Total depth: 60.0 ft, Date: June 3, 2020
Depth to Groundwater: 9 feet (pore pressure dissipation test at depth of 25.7 feet)
Cone Operator: ConeTec, Inc.

SBT legend

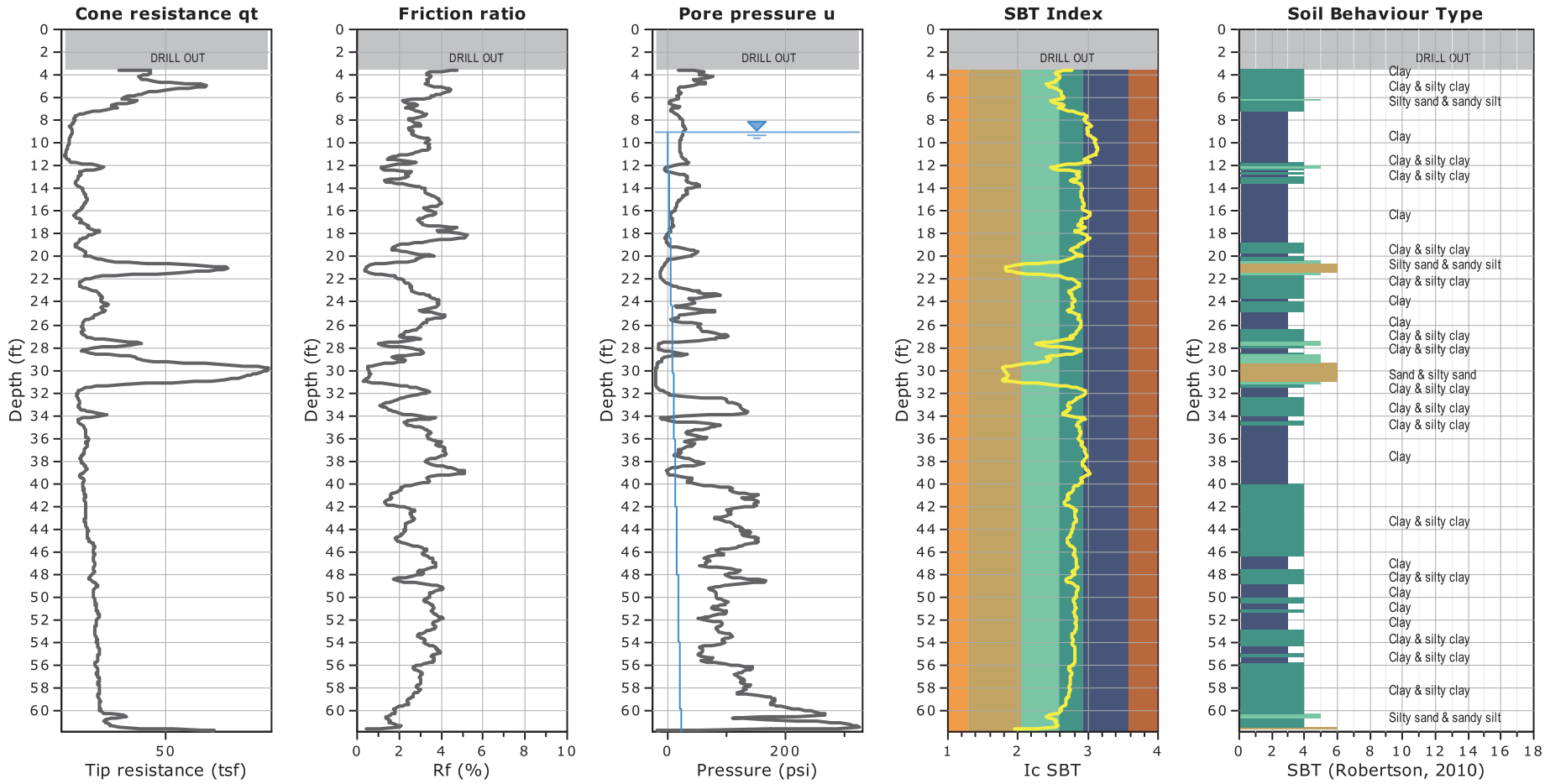
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-3

Date	Project No.	Figure
07/09/20	20-1858	A-3



Total depth: 61.8 ft, Date: June 4, 2020
Depth to Groundwater: 9 feet (estimated based on CPT-3)
Cone Operator: ConeTec, Inc.

SBT legend

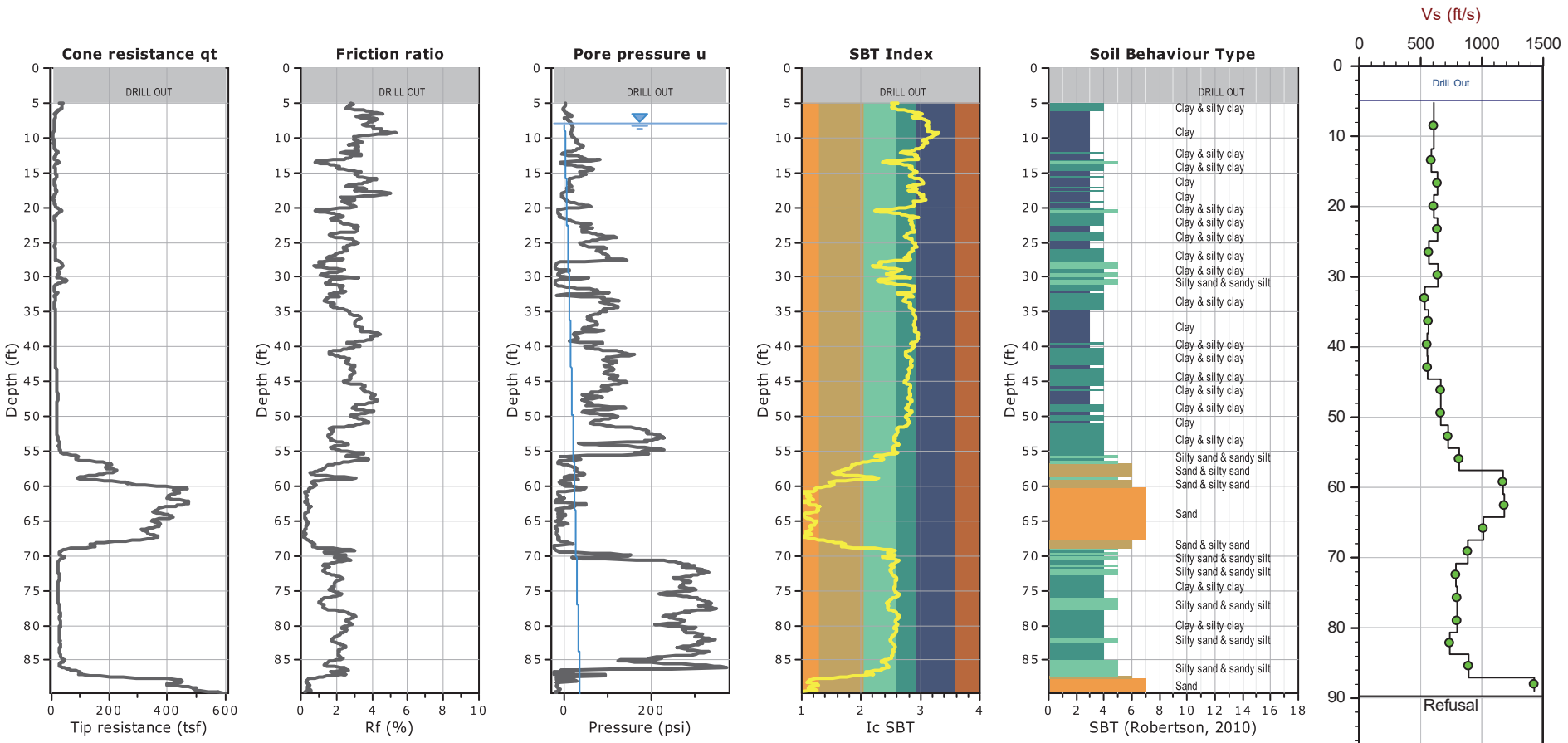
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-4

Date	Project No.	Figure
07/09/20	20-1858	A-4



Total depth: 89.7 ft, Date: June 4, 2020
Depth to Groundwater: 8 feet (pore pressure dissipation test at depth of 30.7 feet)
Cone Operator: ConeTec, Inc.

SBT legend

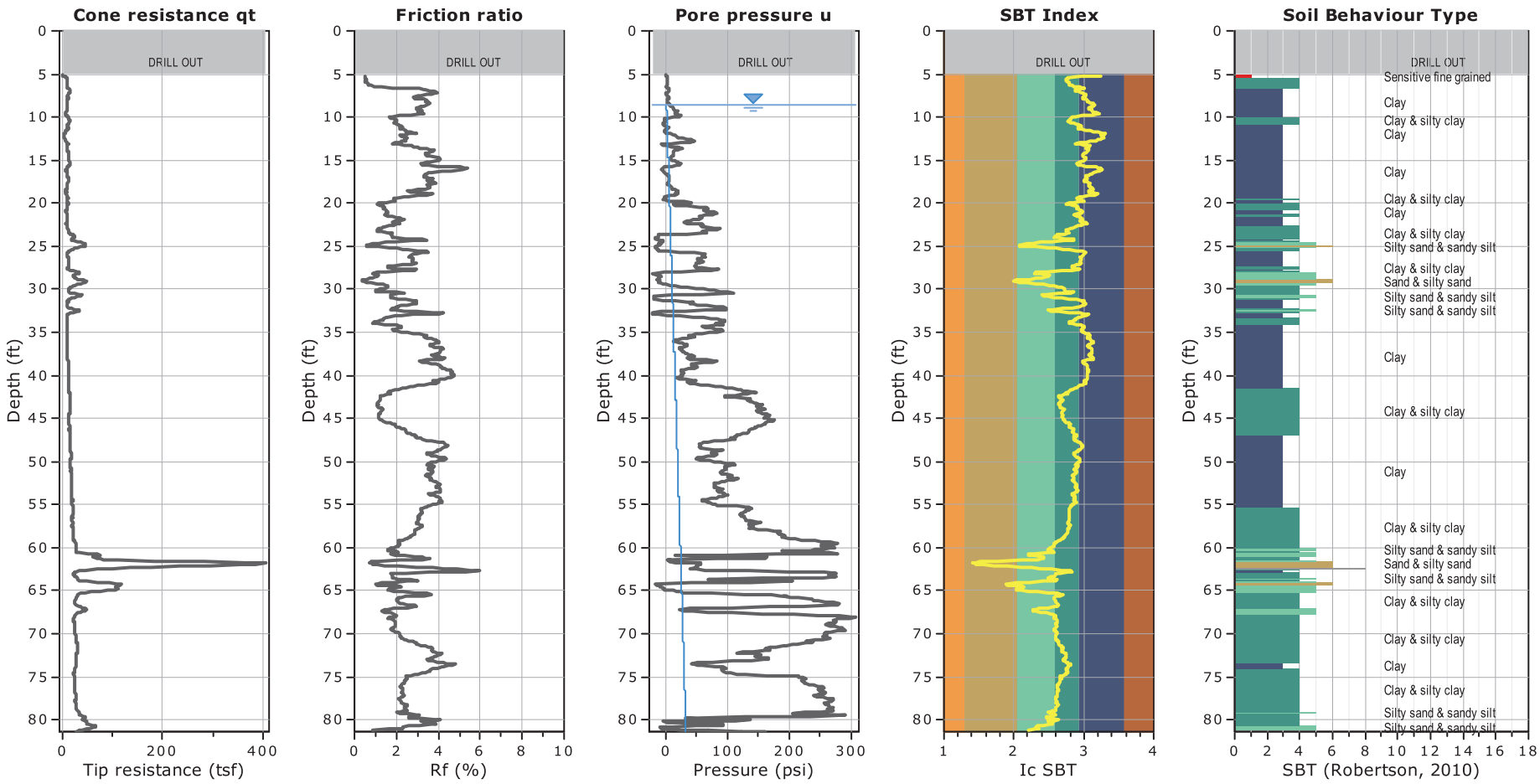
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-5

Date	Project No.	Figure
07/09/20	20-1858	A-5



Total depth: 81.4 ft, Date: June 5, 2020
Depth to Groundwater: 8.5 feet (estimated based on CPT-3 and CPT-5)
Cone Operator: ConeTec, Inc.

SBT legend

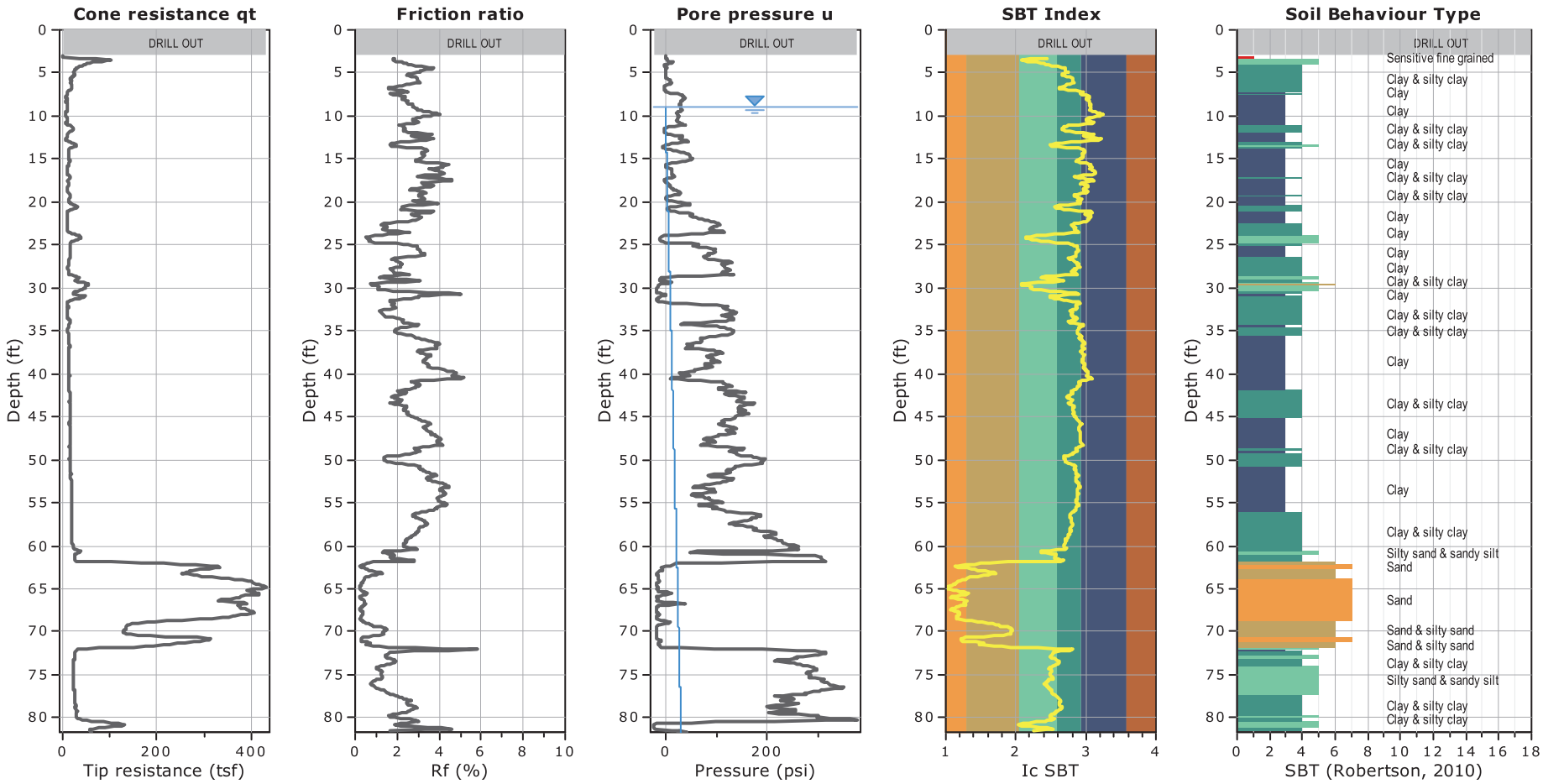
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-6

Date	Project No.	Figure
07/09/20	20-1858	A-6



Total depth: 81.7 ft, Date: June 3, 2020
Depth to Groundwater: 9 feet (pore pressure dissipation test at depth of 30.8 feet)
Cone Operator: ConeTec, Inc.

SBT legend

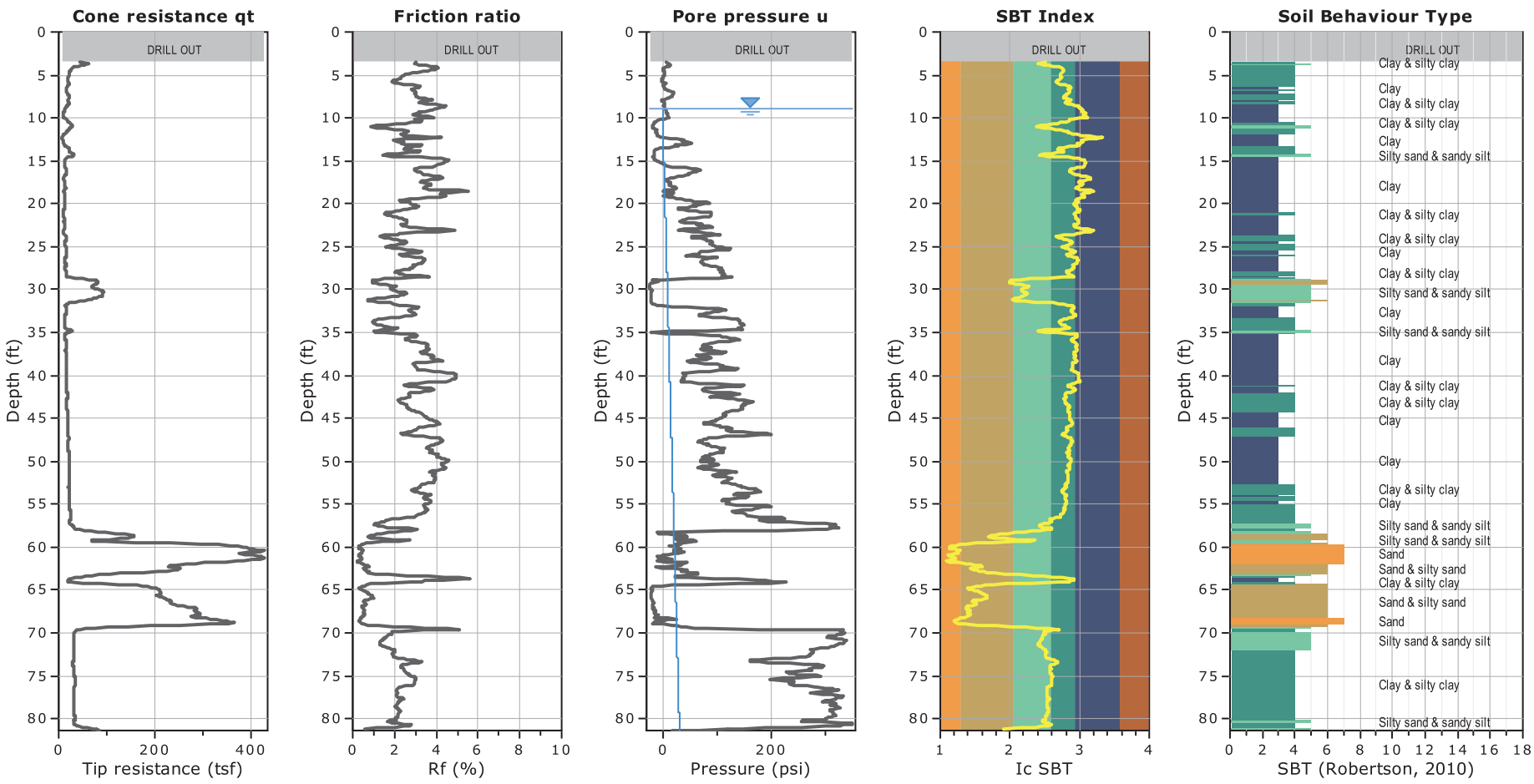
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-7

Date	Project No.	Figure
07/09/20	20-1858	A-7



Total depth: 81.4 ft, Date: June 4, 2020
Depth to Groundwater: 6 feet (pore pressure dissipation test at depth of 28.9 feet)
Cone Operator: ConeTec, Inc.

SBT legend

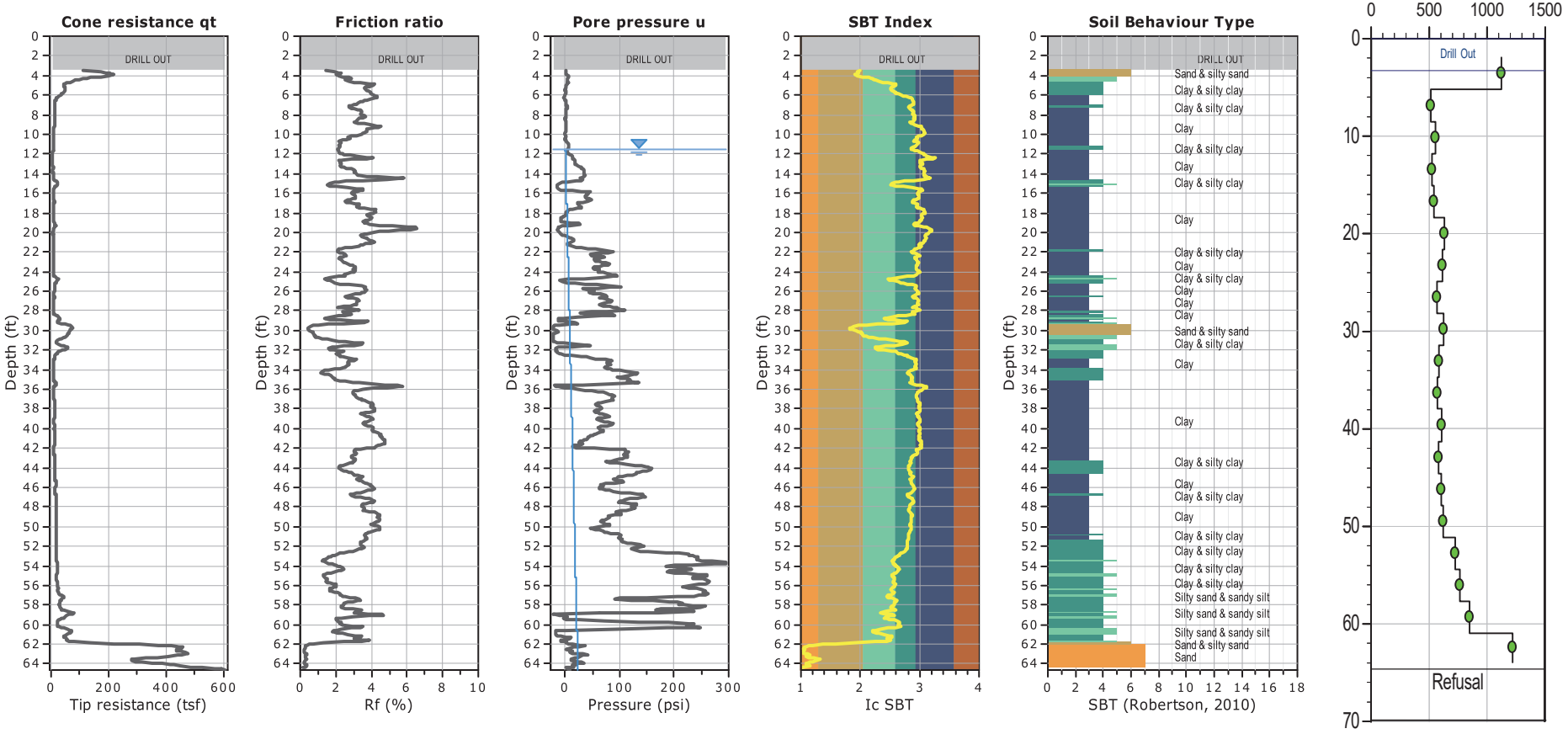
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-8

Date	Project No.	Figure
07/09/20	20-1858	A-8



Total depth: 64.6 ft, Date: June 5, 2020
Depth to Groundwater: 11.5 feet (pore pressure dissipation test at depth of 30 feet)
Cone Operator: ConeTec, Inc.

SBT legend

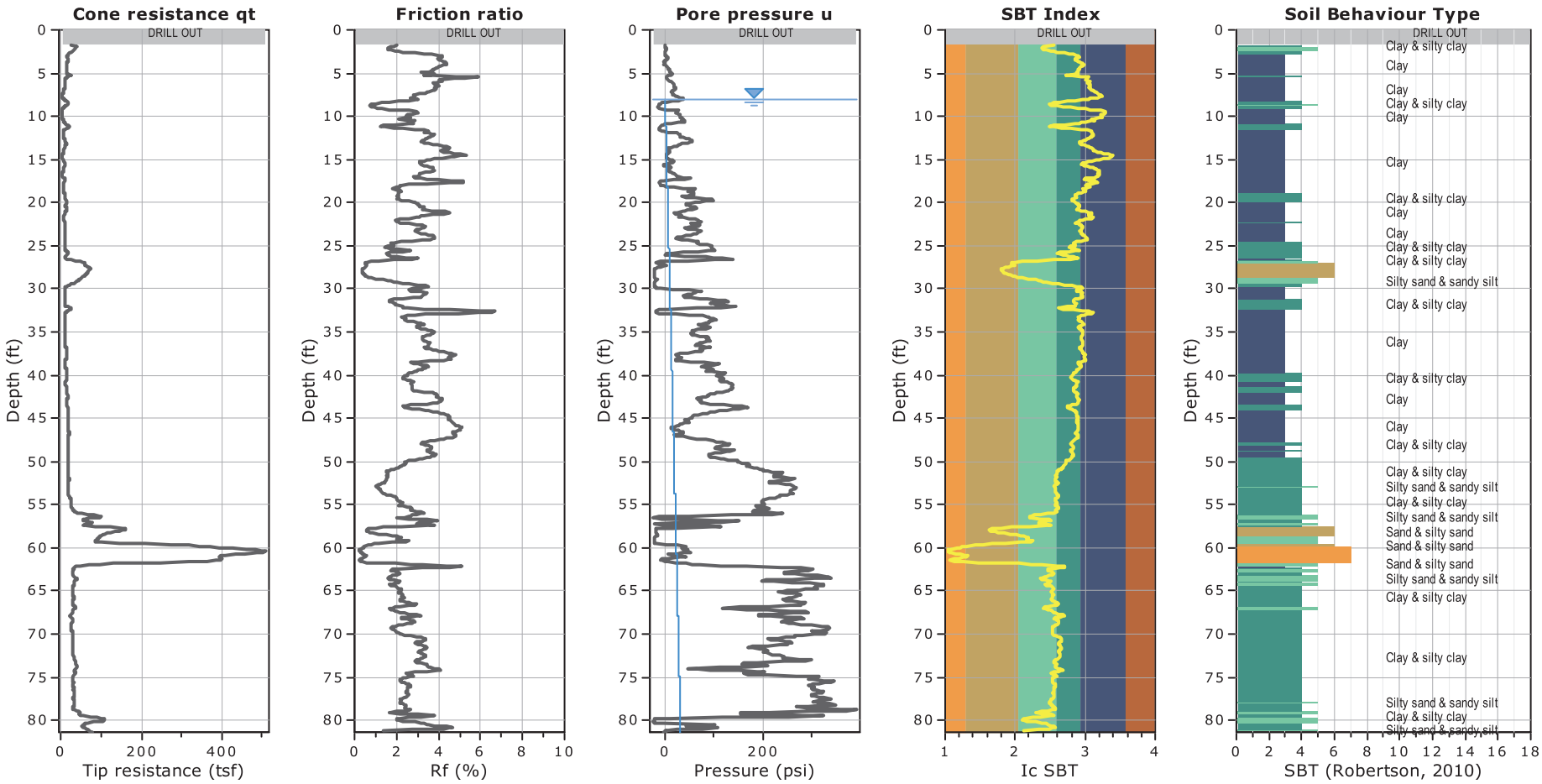
1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-9

Date	Project No.	Figure
07/09/20	20-1858	A-9



Total depth: 81.4 ft, Date: June 4, 2020
Depth to Groundwater: 8 feet (pore pressure dissipation test at depth of 27.1 feet)
Cone Operator: ConeTec, Inc.

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty clay
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to clayey sand
9. Very stiff fine grained

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONE PENETRATION TEST RESULTS
CPT-10

Date	Project No.	Figure
07/09/20	20-1858	A-10

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-1

Boring location: See Site Plan, Figure 2
Date started: 06/03/2020 Date finished: 06/03/2020
Drilling method: Rotary Wash (4-inch diameter)
Hammer weight/drop: 140 lbs./30 inches Hammer type: Automatic
Sampler: Sprague & Henwood (S&H), Standard Penetration Test (SPT), Shelby Tube (ST)

Logged by: J. Pisenti
Drilled by: Pitcher Services, LLC
Rig: Failing 1500(PD 59)

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
0						1 inch asphalt concrete 5 inches of aggregate base						
1	S&H		6 7 7	12	CL	CLAY with SAND (CL) gray-brown, stiff, moist, fine sand, trace fine gravel LL = 30, PI = 12; see Appendix B Corrosivity Test; see Appendix C					18.3	109
2											11.8	110
3	S&H		4 5 8	11		increase sand content Corrosivity Test; see Appendix C						
4												
5	S&H		4 5 4	8								
6					SM	SILTY SAND (SM) brown and gray-brown, loose, moist, trace fine subrounded gravel Particle Size Distribution; see Appendix B				42	11.9	106
7												
8												
9												
10	S&H		1 2 4	5								
11						CLAY (CL) olive, stiff, wet, trace fine sand and fine gravel TxUU Test; see Appendix B	TxUU	1,300	1,060		29.1	94
12												
13						▽ (06/03/2020; 8:30 AM)						
14						▼ (06/03/2020; 8:40 AM)						
15	S&H		2 5 7	10	CL							
16												
17												
18												
19												
20	ST		125 to 225 psi			gray						
21												
22					CL	SANDY CLAY (CL) brown, stiff, wet, fine sand LL = 30, PI = 11; see Appendix B Particle Size Distribution; see Appendix B				66	21.9	101
23												
24												
25	SPT		1 0 0	0		olive-brown						
26												
27					CL	CLAY (CL) olive-gray mottled with brown, wet, trace fine sand						
28	S&H		5 9 11	17		gray mottled with olive, very stiff, wet, trace fine sand	PP		2,000			
29												
30					CL	CLAY with SAND and SILT (CL)						

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858
Figure: A-11a

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-1

DEPTH (feet)	Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	SAMPLES						LABORATORY TEST DATA					
31	SPT		0 1 7	12	CL	CLAY with SAND and SILT (CL) (continued) olive-gray, stiff, wet, fine sand						
32					SM	SILTY SAND (SM) gray, medium dense, wet						
33	SPT		1 1 0	1	CL-ML	SILTY CLAY with SAND (CL-ML) olive-gray, very soft, wet, fine sand LL = 25, PI = 4; see Appendix B Particle Size Distribution; see Appendix B				77	28.6	
34												
35						CLAY (CL) gray, medium stiff to stiff, wet						
36	ST		125 to 255 psi				PP		750			
37												
38												
39												
40												
41	S&H		3 9 10	16		stiff to very stiff	PP		2,250			
42					CL							
43												
44												
45												
46	SPT		1 5 7	17		gray mottled with brown, very stiff						
47												
48												
49												
50												
51	S&H		7 12 18	25			PP		3,000			
52												
53												
54												
55												
56												
57												
58												
59												
60												

Boring terminated at a depth of 51.5 feet below ground surface.
Boring backfilled with cement grout.
Groundwater encountered at a depth of 13.5 feet and 14.5 feet during drilling.

[1] S&H and SPT blow counts for the last two increments were converted to SPT N-Values using factors of 0.84 and 1.44, respectively, to account for sampler type and hammer energy.
PP: Pocket Penetrometer

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858

Figure: A-11b

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-2

Boring location: See Site Plan, Figure 2
Date started: 06/03/2020 Date finished: 06/04/2020
Drilling method: Rotary Wash (4-inch diameter)
Hammer weight/drop: 140 lbs./30 inches Hammer type: Automatic
Sampler: Sprague & Henwood (S&H), Standard Penetration Test (SPT), Shelby Tube (ST)

Logged by: J. Pisenti
Drilled by: Pitcher Services, LLC
Rig: Failing 1500(PD 59)

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
1	S&H		24 40	76/9"	GP-GM	GRAVEL with SAND and SILT (GP-GM) light brown to light gray, very dense, dry to moist, with concrete debris						
2	SPT		50/3" 50/5"	72/5"		FILL						
3	S&H		12 13 23	30	CL	SANDY CLAY (CL) olive-gray mottled with light gray and black, very stiff to hard, moist, with gravel and concrete and asphalt debris LL = 30, PI = 11; see Appendix B				55	13.3	122
4												
5	S&H		6 7 9	15		Particle Size Distribution; see Appendix B Corrosivity Test; see Appendix C					17.1	116
6					CL	CLAY (CL) brown, stiff to very stiff, moist, with silt and trace fine sand Corrosivity Test; see Appendix C						
7												
8												
9												
10	S&H		2 2 0	2	SM	SILTY SAND (SM) olive-gray, very loose, wet, fine sand Particle Size Distribution; see Appendix B				43	24.2	104
11												
12												
13	S&H		0 4 7	9	CL	CLAY (CL) olive mottled with yellow-brown, stiff, wet, trace sand	PP		1,250			
14												
15												
16												
17	ST		135 to 155 psi			CLAY with SAND (CL) olive-gray mottled with gray and yellow-brown, medium stiff, wet, fine sand LL = 35, PI = 15; see Appendix B TxUU Test; see Appendix B Consolidation Test; see Appendix B	TxUU PP	2,000	680 850	78	21.2 23.0	106 100
18												
19												
20					CL							
21	SPT		0 0 0	0								
22												
23	SPT		0 2 2	6	SM	SILTY SAND (SM) olive-gray, loose, wet, fine to coarse sand						
24												
25												
26	SPT		3 2 1	4	CL	SANDY CLAY (CL) olive-brown, soft to medium stiff, wet, fine sand						
27												
28												
29					CL-ML	SILTY CLAY (CL-ML) gray, soft to medium stiff, wet, fine sand						
30												

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858
Figure: A-12a

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-2

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
31	SPT		0 3 0	4	CL-ML	SILTY CLAY (CL-ML) (continued) LL = 27, PI = 5; see Appendix B					27.1	
32												
33												
34												
35												
36	S&H		0 2 5	6	CL	CLAY (CL) gray mottled with yellow-brown, medium stiff, wet	PP		750			
37						gray						
38	ST		50 to 155 psi			Consolidation Test; see Appendix B					36.7	83
39						stiff						
40							PP		1,400			
41												
42												
43						CLAY (CL) gray mottled with dark gray, medium stiff, wet						
44												
45							PP		750			
46	S&H		0 2 5	6			PP		1,000			
47						stiff						
48												
49					CL							
50												
51	S&H		7 8 8	13			PP		2,000			
52												
53												
54												
55												
56												
57						SANDY CLAY (CL) olive-gray, very stiff, wet, fine sand, trace gravel						
58					CL							
59												
60												

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858

Figure: A-12b

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-2

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
61	SPT		1 5 7	17	CL	SANDY CLAY (CL) olive-gray, very stiff, wet, fine sand, trace gravel						
66					CL	CLAY with SAND (CL) olive-gray mottled with olive, very stiff, wet						
70	S&H		10 14 20	29	CL		PP		3,750			
76					CL	SANDY CLAY (CL) olive-gray mottled with olive, very stiff, wet, fine sand						
80	SPT		7 7 6	19	CL	Particle Size Distribution; see Appendix B				53		
85	SPT		3 8 9	25		olive						
90												

Boring terminated at a depth of 86.5 feet below ground surface.
Boring backfilled with cement grout.
Groundwater level obscured by rotary wash drilling method.

[1] S&H and SPT blow counts for the last two increments were converted to SPT N-Values using factors of 0.84 and 1.44, respectively, to account for sampler type and hammer energy.
PP: Pocket Penetrometer

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858
Figure: A-12c

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-3

Boring location: See Site Plan, Figure 2
Date started: 06/04/2020 Date finished: 06/05/20
Drilling method: Rotary Wash (4-inch diameter)
Hammer weight/drop: 140 lbs./30 inches Hammer type: Automatic
Sampler: Sprague & Henwood (S&H), Standard Penetration Test (SPT), Shelby Tube (ST)

Logged by: J. Pisenti
Drilled by: Pitcher Services, LLC
Rig: Failing 1500(PD 59)

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
1	SPT		35/6"	50/6"	GP	GRAVEL with SAND (GP) light brown to light gray, very dense, dry, trace fines, with concrete debris concrete cobble and rebar enountered at 2 feet medium dense, fine to coarse gravel and concrete debris						
2												
3	S&H		15 20 9	24								
4					SC	CLAYEY SAND with GRAVEL (SC) olive-brown, medium dense, moist Corrosivity Test; see Appendix C concrete debris at 5 feet						
5												
6	SPT		16 7 4	16								
7					SC	CLAYEY SAND (SC) olive-brown, medium dense, moist, trace gravel						
8												
9					CL	CLAY (CL) olive, soft, wet (06/04/2020; 1:30 AM)						
10												
11	S&H		0 0 4	3							28.7	98
12					SM	SILTY SAND (SM) olive, very loose, wet, fine sand						
13	SPT		0 3 4	10		CLAY (CL) olive-gray mottled with gray, stiff, wet						
14					CL							
15							PP		1,750			
16	S&H		2 3 3	5		CLAY (CL) olive-gray mottled with olive, medium stiff, wet, trace fine sand TxUU Test; see Appendix B	TxUU	2,000	610		22.3	107
17												
18					CL	soft TxUU Test; see Appendix B						
19	ST		135 to 180 psi			Consolidation Test; see Appendix B	TxUU	2,500	340		21.4 22.3	105 101
20												
21					CL	SANDY CLAY (CL) olive-gray, very stiff, wet	PP		2,500			
22												
23					CL	SANDY CLAY (CL) olive-gray, stiff, fine sand						
24	SPT		0 3 3	9								
25					CL	CLAY (CL) olive-gray mottled with brown, stiff, wet						
26												
27						SILTY SAND (SM) gray, loose, wet, fine sand						
28					SM							
29	SPT		2 1 4	7								
30												

FILL

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858
Figure: A-13a

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-3

DEPTH (feet)	Sampler Type	Sample	Blows/ 6"	SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	SAMPLES						LABORATORY TEST DATA					
31	SPT		0 2 3	7		CLAY (CL) gray, medium stiff, wet						
32												
33												
34												
35												
36	S&H		2 9 10	16		gray mottled with red-yellow, stiff to very stiff	PP		1,500			
37												
38												
39												
40												
41	ST		95 to 175 psi			Consolidation Test; see Appendix B	PP		1,500		39.0	82
42												
43												
44					CL							
45												
46	S&H		4 11 12	19		very stiff	PP		2,500			
47												
48												
49												
50												
51	SPT		2 6 6	17								
52												
53												
54												
55												
56												
57												
58					SM	SILTY SAND (SM) olive-gray, medium dense, wet, fine sand						
59												
60												

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858

Figure: A-13b

PROJECT: **EAST SANTA CLARA - PHASE 1**
San Jose, California

Log of Boring B-3

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
61	SPT		5 7 10	24	SM	SILTY SAND (SM) (continued) olive-gray and yellow-brown						
62												
63												
64						CLAY with SAND (CL) yellow-brown mottled with olive-gray, very stiff, wet, fine sand						
65												
66	SPT		4 8 8	23	CL	coarse subrounded gravel						
67												
68												
69						CLAY with SAND (CL) olive-gray mottled with gray and yellow-brown, very stiff, wet, fine sand, trace coarse subangular to subrounded gravel at 70.25 feet						
70												
71	SPT		5 6 8	20	CL							
72												
73												
74												
75												
76						CLAY with SAND to SANDY CLAY (CL) olive-gray, very stiff, wet, fine sand						
77												
78					CL							
79												
80												
81	SPT		7 10 14	35	SM	SILTY SAND (SM) olive-gray, dense, wet, trace coarse subrounded gravel						
82												
83												
84												
85												
86												
87												
88												
89												
90												

Boring terminated at a depth of 81.5 feet below ground surface.
Boring backfilled with cement grout.
Groundwater encountered at a depth of 9.5 feet during drilling.

[1] S&H and SPT blow counts for the last two increments were converted to SPT N-Values using factors of 0.84 and 1.44, respectively, to account for sampler type and hammer energy.
PP: Pocket Penetrometer

ROCKRIDGE GEOTECHNICAL

Project No.: 20-1858
Figure: A-13c

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		Symbols	Typical Names
Coarse-Grained Soils (more than half of soil > no. 200 sieve size)	Gravels (More than half of coarse fraction > no. 4 sieve size)	GW	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (More than half of coarse fraction < no. 4 sieve size)	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
Fine -Grained Soils (more than half of soil < no. 200 sieve size)	Silts and Clays LL = < 50	ML	Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Silts and Clays LL = > 50	MH	Inorganic silts of high plasticity
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic silts and clays of high plasticity
Highly Organic Soils		PT	Peat and other highly organic soils

GRAIN SIZE CHART

Classification	Range of Grain Sizes	
	U.S. Standard Sieve Size	Grain Size in Millimeters
Boulders	Above 12"	Above 305
Cobbles	12" to 3"	305 to 76.2
Gravel coarse fine	3" to No. 4 3" to 3/4" 3/4" to No. 4	76.2 to 4.76 76.2 to 19.1 19.1 to 4.76
Sand coarse medium fine	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.76 to 0.075 4.76 to 2.00 2.00 to 0.420 0.420 to 0.075
Silt and Clay	Below No. 200	Below 0.075

Unstabilized groundwater level

Stabilized groundwater level

SAMPLE DESIGNATIONS/SYMBOLS

Sample taken with Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter. Darkened area indicates soil recovered

Classification sample taken with Standard Penetration Test sampler

Undisturbed sample taken with thin-walled tube

Disturbed sample

Sampling attempted with no recovery

Core sample

Analytical laboratory sample

Sample taken with Direct Push sampler

Sonic

SAMPLER TYPE

C	Core barrel
CA	California split-barrel sampler with 2.5-inch outside diameter and a 1.93-inch inside diameter
D&M	Dames & Moore piston sampler using 2.5-inch outside diameter, thin-walled tube
O	Osterberg piston sampler using 3.0-inch outside diameter, thin-walled Shelby tube
PT	Pitcher tube sampler using 3.0-inch outside diameter, thin-walled Shelby tube
S&H	Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter
SPT	Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter
ST	Shelby Tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure

EAST SANTA CLARA - PHASE 1
San Jose, California

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CLASSIFICATION CHART

Date 06/16/20 | Project No. 20-1858 | Figure A-14

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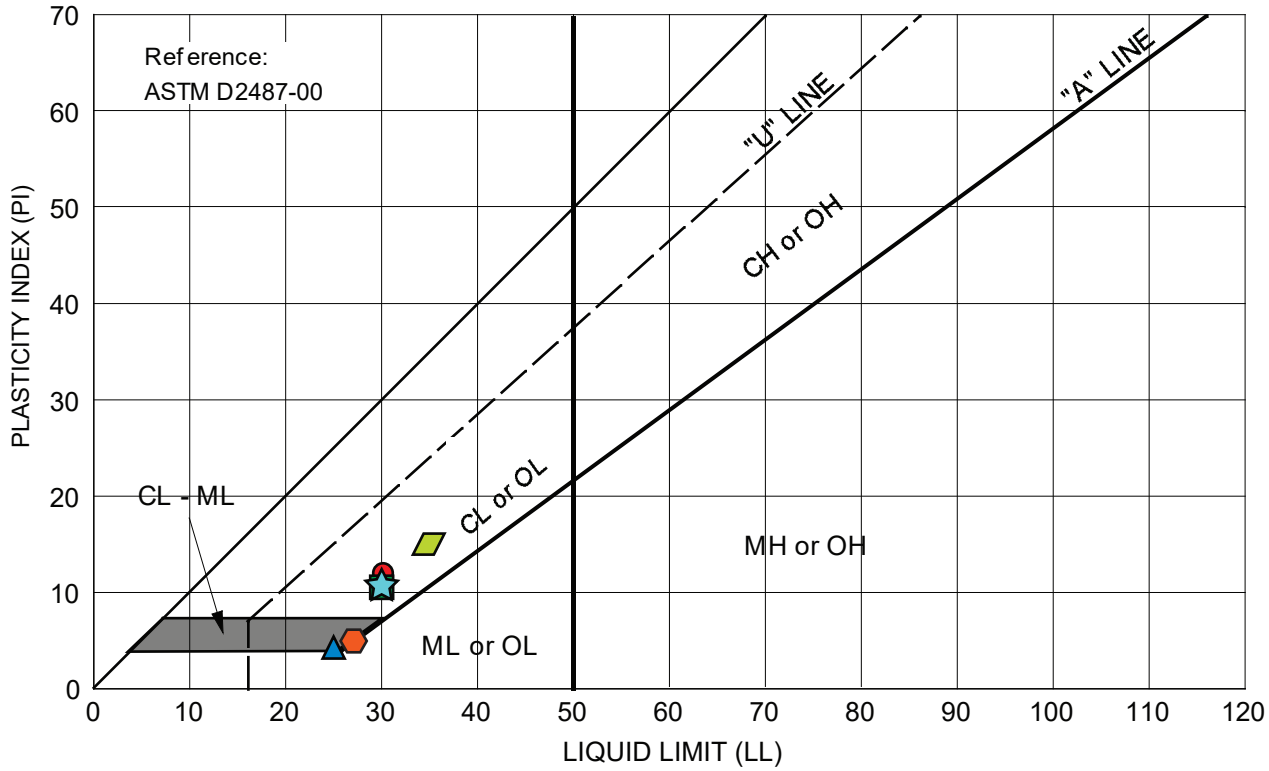
APPENDIX B

Laboratory Test Results



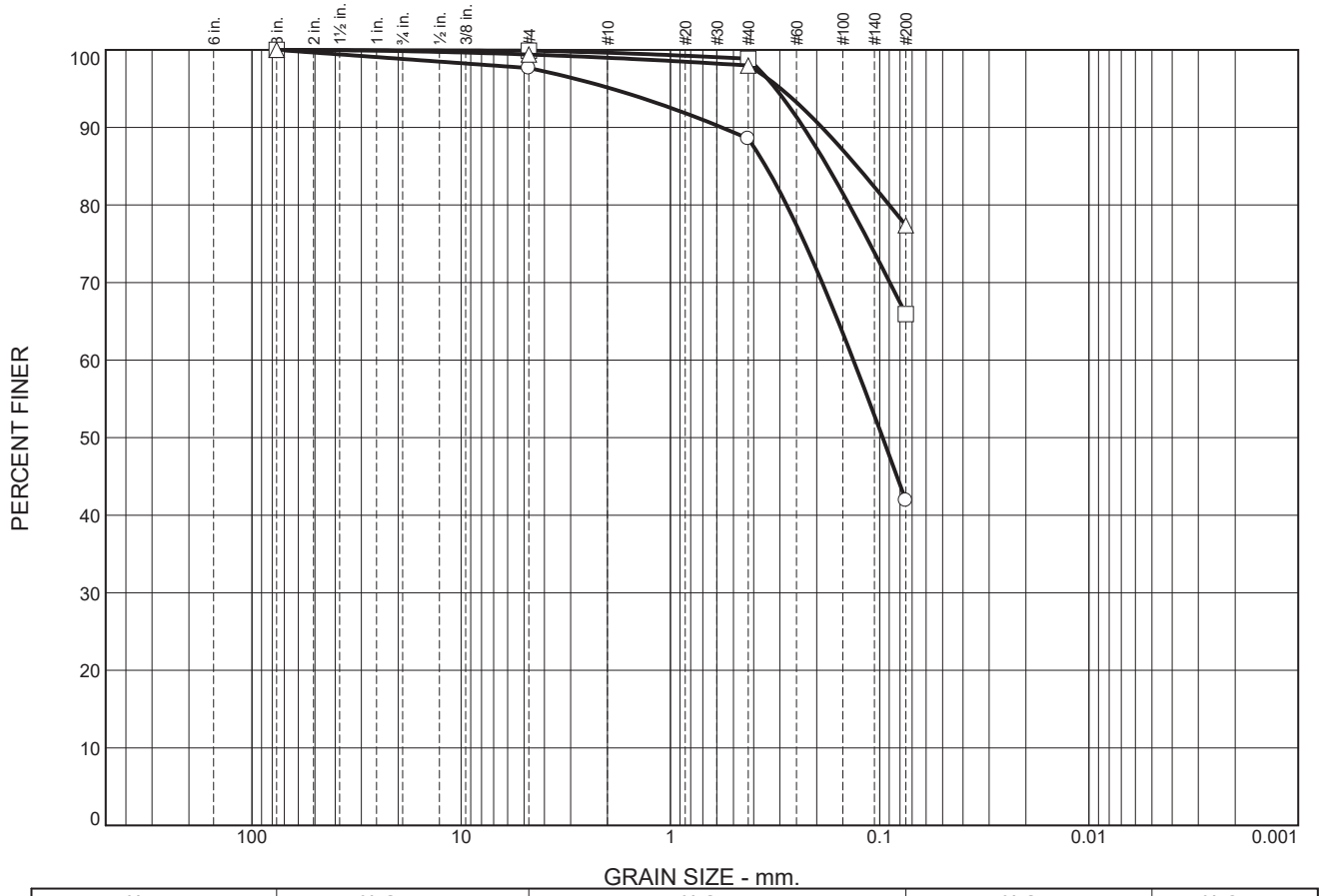
Symbol	Source	Description and Classification	Natural M.C. (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
●	B-1 at 1.75 feet	CLAY with SAND (CL), gray-brown	18.3	30	12	--
■	B-1 at 21.5 feet	SANDY CLAY (CL), brown	--	30	11	66
▲	B-1 at 32.5 feet	SILTY CLAY with SAND (CL-ML), olive-gray	28.6	25	4	77
★	B-2 at 3.0 feet	SANDY CLAY (CL), olive-gray mottled with light gray and black	13.3	30	11	55
◆	B-2 at 17.0 feet	CLAY with SAND (CL), olive-gray mottled with gray and yellow-brown	21.2	35	15	78
⬢	B-2 at 30.0 feet	SILTY CLAY (CL-ML), gray	27.1	27	5	--

EAST SANTA CLARA - PHASE 1
San Jose, California

PLASTICITY CHART

ROCKRIDGE GEOTECHNICAL

Date 07/09/20 | Project No. 20-1858 | Figure B-1



	% +3"	% Gravel	% Sand	% Silt	% Clay
○	0.0	2.3	55.8	41.9	
□	0.0	0.1	34.0	65.9	
△	0.0	0.6	22.0	77.4	

SOIL DATA

SYMBOL	SOURCE	DEPTH (ft.)	Material Description	USCS
○	B-1	6.0'	SILTY SAND, brown and gray-brown	SM
□	B-1	21.5'	SANDY CLAY, brown	CL
△	B-1	32.5'	SILTY CLAY with SAND, olive-gray	CL-ML

EAST SANTA CLARA - PHASE 1
San Jose, California

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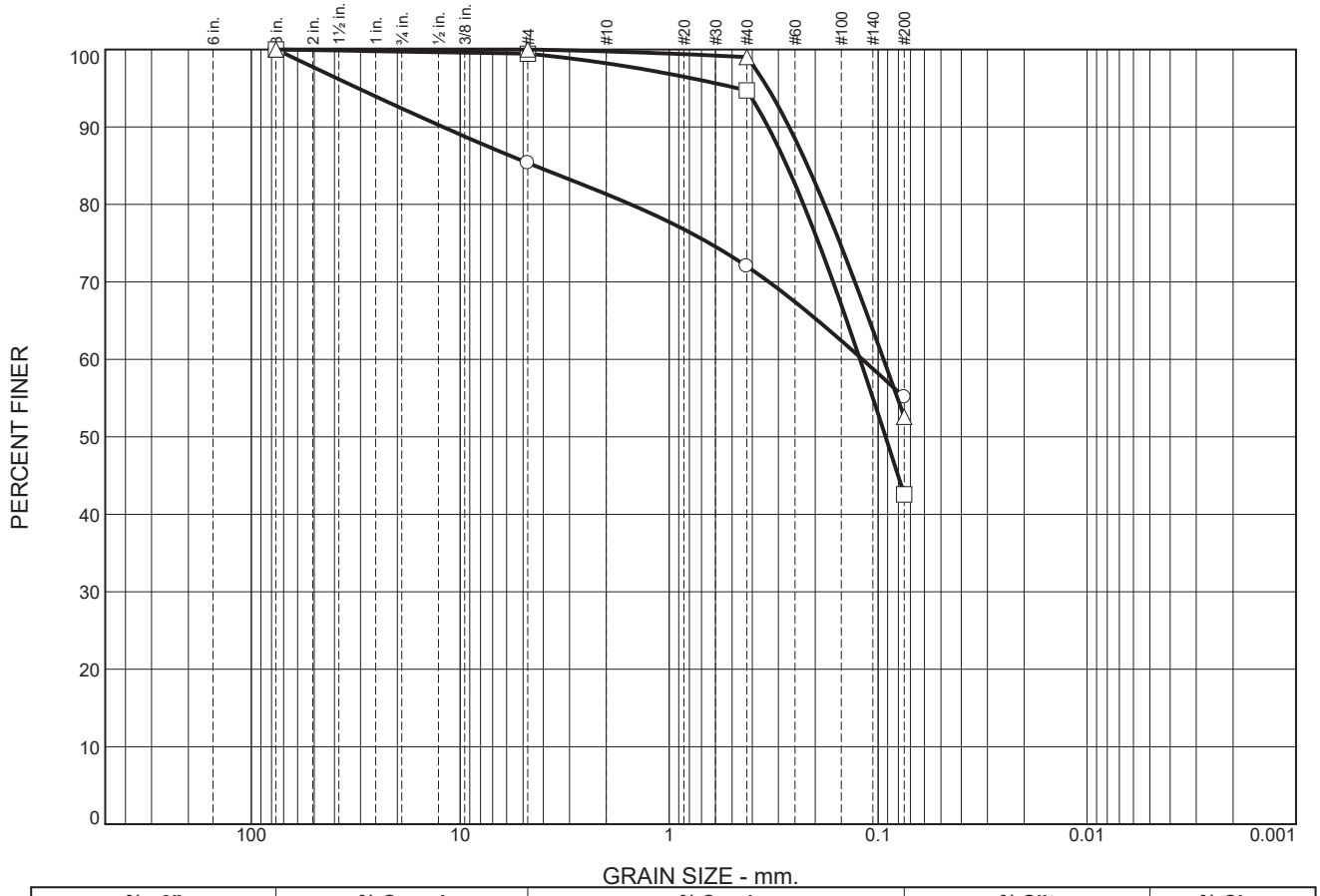
PARTICLE SIZE DISTRIBUTION REPORT

Date 07/06/20 | Project No. 20-1858 | Figure B-2



	% +3"	% Gravel	% Sand	% Silt	% Clay
○	0.0	14.6	30.3	55.1	
□	0.0	0.5	56.9	42.6	
△	0.0	0.0	47.4	52.6	

SOIL DATA

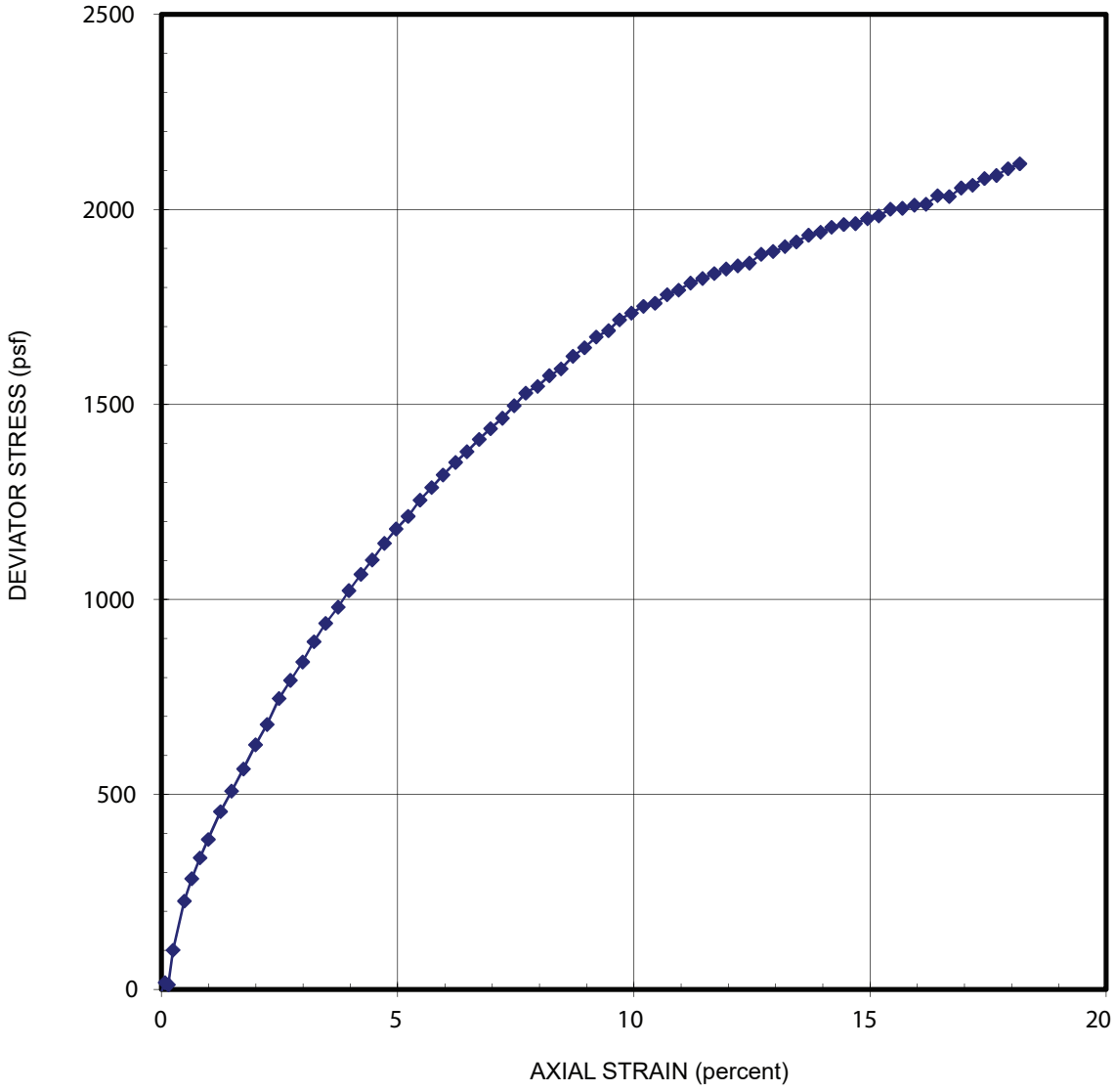
SYMBOL	SOURCE	DEPTH (ft.)	Material Description	USCS
○	B-2	3.0'	SANDY CLAY, olive-gray mottled with light gray and black	CL
□	B-2	11.0'	SILTY SAND, olive-gray	SM
△	B-2	80.0'	SANDY CLAY, olive-gray mottled with olive	CL

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

PARTICLE SIZE DISTRIBUTION REPORT

Date 07/06/20 | Project No. 20-1858 | Figure B-3



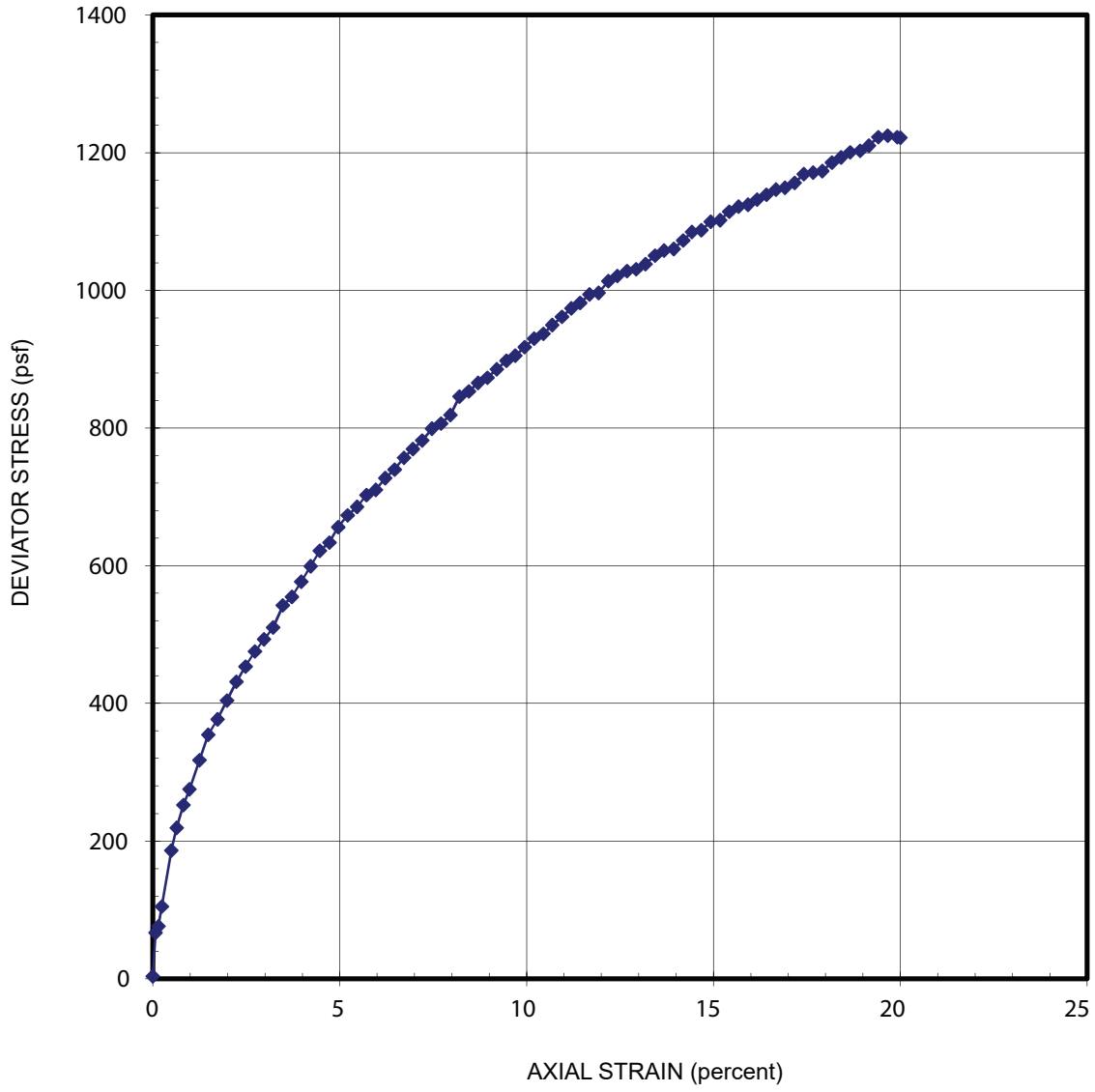
SAMPLER TYPE Sprague and Henwood		SHEAR STRENGTH	1,060 psf
DIAMETER (in.) 2.39	HEIGHT (in.) 5.11	STRAIN AT FAILURE	20.0 %
MOISTURE CONTENT	29.1 %	CONFINING PRESSURE	1,300 psf
DRY DENSITY	94 pcf	STRAIN RATE	1 % / min.
DESCRIPTION CLAY (CL), olive		SOURCE	B-1 at 10.5 feet

EAST SANTA CLARA - PHASE 1
San Jose, California

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

ROCKRIDGE GEOTECHNICAL

Date 07/09/20 | Project No. 20-1858 | Figure B-4



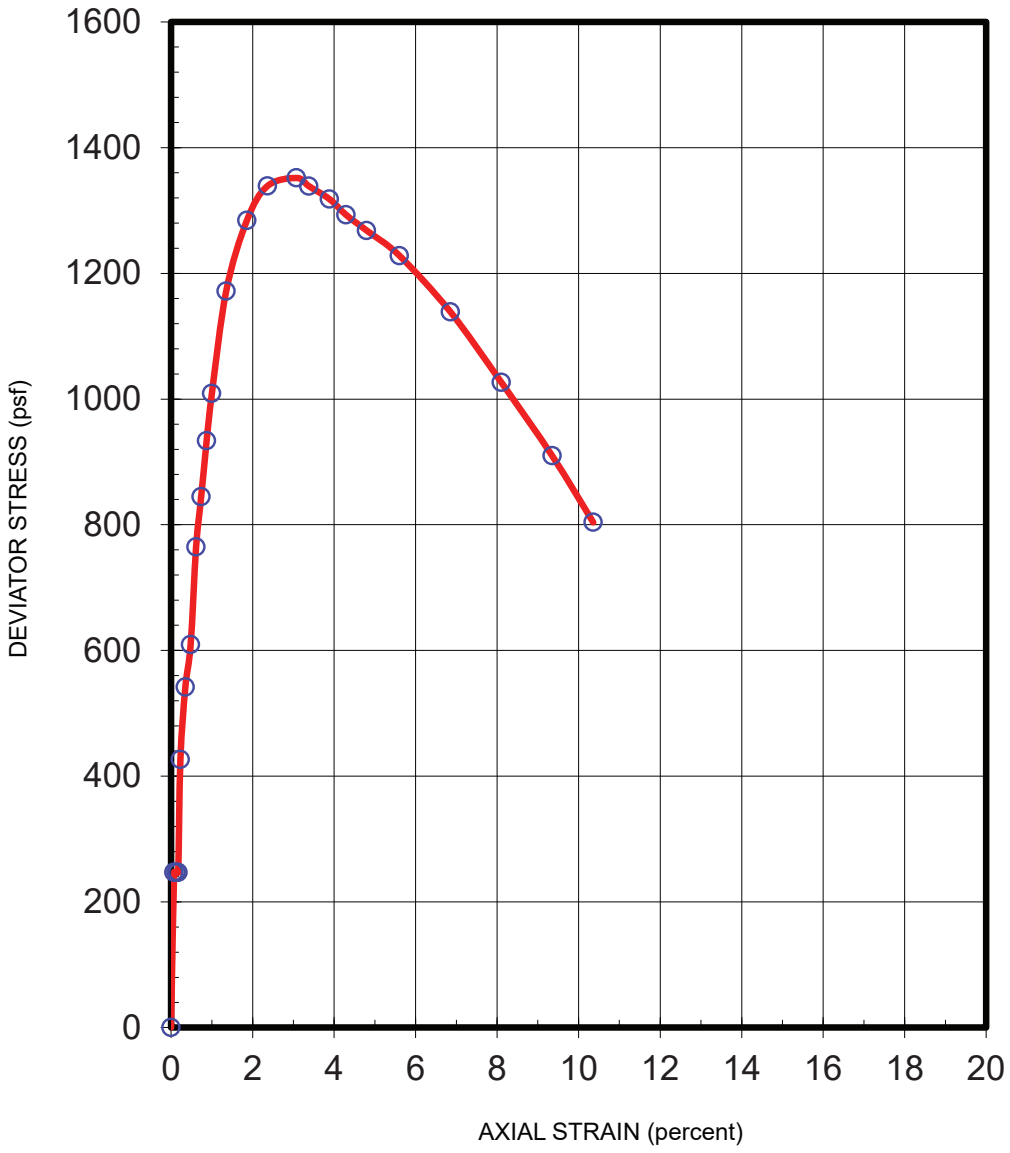
SAMPLER TYPE Sprague and Henwood		SHEAR STRENGTH	610 psf
DIAMETER (in.) 2.39	HEIGHT (in.) 5.5	STRAIN AT FAILURE	19.7 %
MOISTURE CONTENT	22.3 %	CONFINING PRESSURE	2,000 psf
DRY DENSITY	107 pcf	STRAIN RATE	1 % / min.
DESCRIPTION CLAY (CL), olive mottled with yellow-brown		SOURCE B-2 at 15.75 feet	

EAST SANTA CLARA - PHASE 1
San Jose, California

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

ROCKRIDGE GEOTECHNICAL

Date 07/09/20 | Project No. 20-1858 | Figure B-5



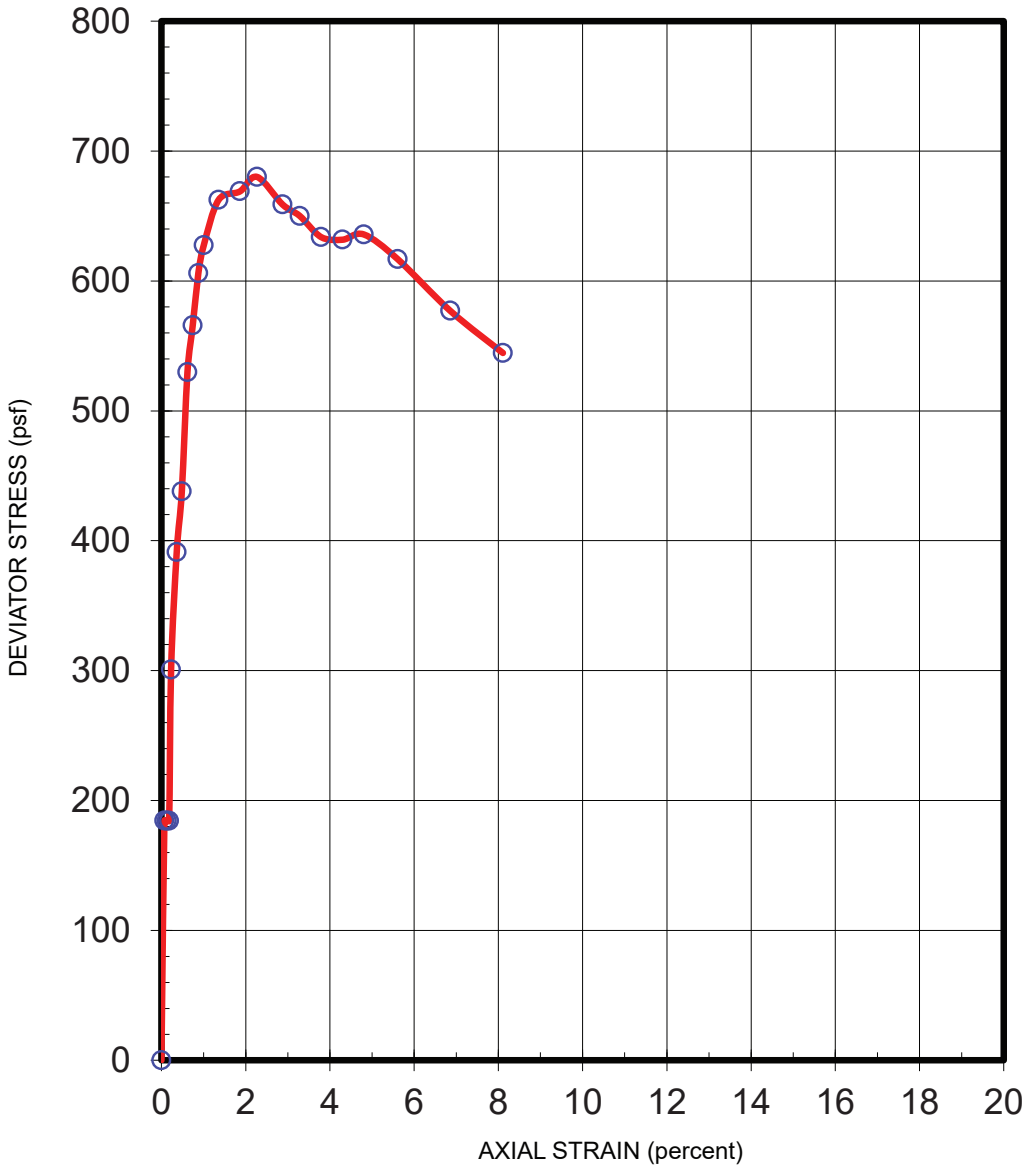
SAMPLER TYPE	Shelby Tube	SHEAR STRENGTH	680 psf
DIAMETER (in.) 2.86	HEIGHT (in.) 5.93	STRAIN AT FAILURE	3.1 %
MOISTURE CONTENT	21.2 %	CONFINING PRESSURE	2,000 psf
DRY DENSITY	106 pcf	STRAIN RATE	0.75 % / min.
DESCRIPTION CLAY with SAND (CL), olive-gray mottled with gray and yellow-brown		SOURCE	B-2 at 17 feet

EAST SANTA CLARA - PHASE 1
San Jose, California

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

ROCKRIDGE GEOTECHNICAL

Date 07/09/20	Project No. 20-1858	Figure B-6



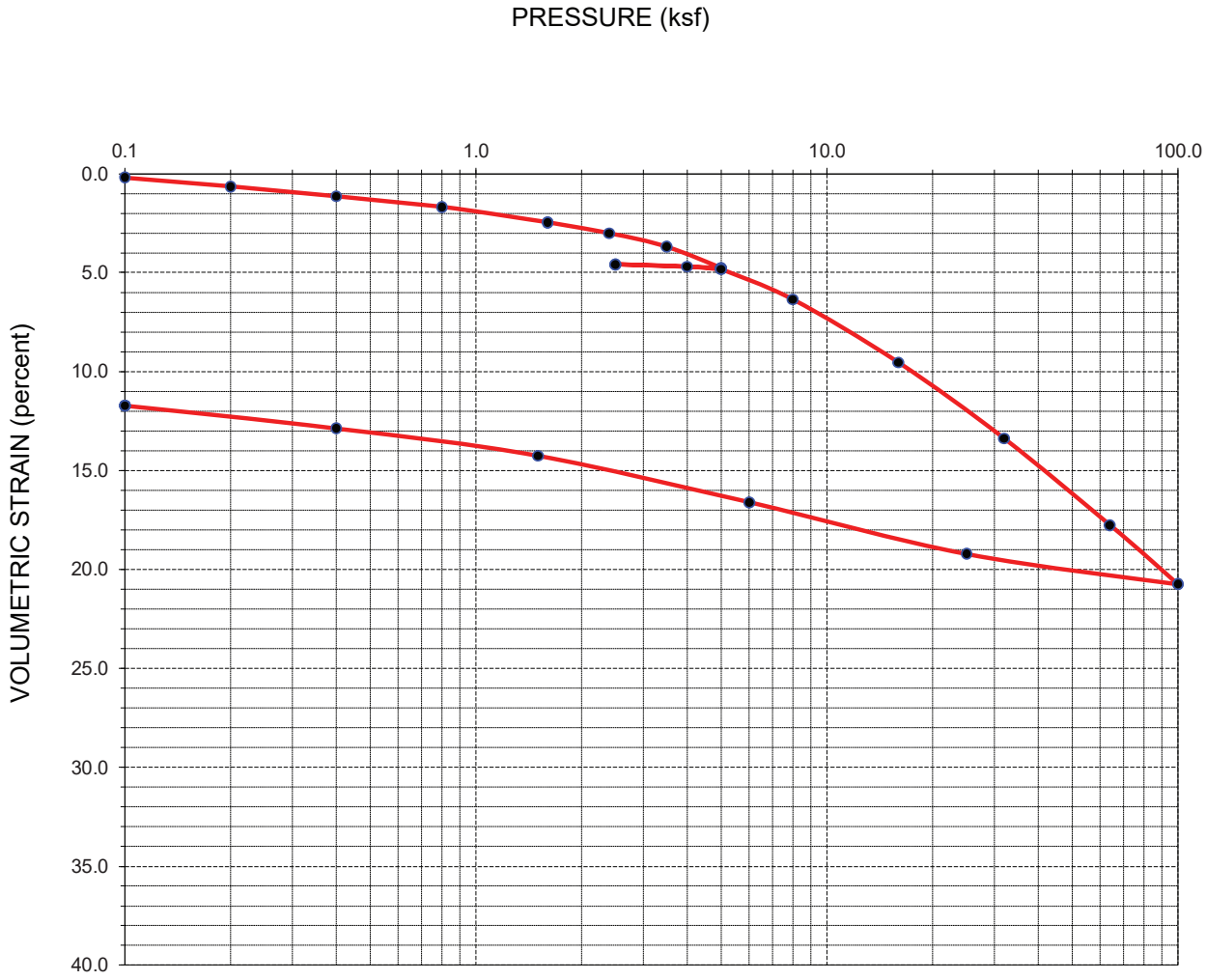
SAMPLER TYPE	Shelby Tube			SHEAR STRENGTH	340 psf
DIAMETER (in.)	2.86	HEIGHT (in.)	6.10	STRAIN AT FAILURE	2.27 %
MOISTURE CONTENT	21.4 %			CONFINING PRESSURE	2,000 psf
DRY DENSITY	105 pcf			STRAIN RATE	0.75 % / min.
DESCRIPTION	CLAY (CL), olive-gray mottled with olive			SOURCE	B-3 at 19 feet

EAST SANTA CLARA - PHASE 1
San Jose, California

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

ROCKRIDGE GEOTECHNICAL

Date 07/09/20	Project No. 20-1858	Figure B-7



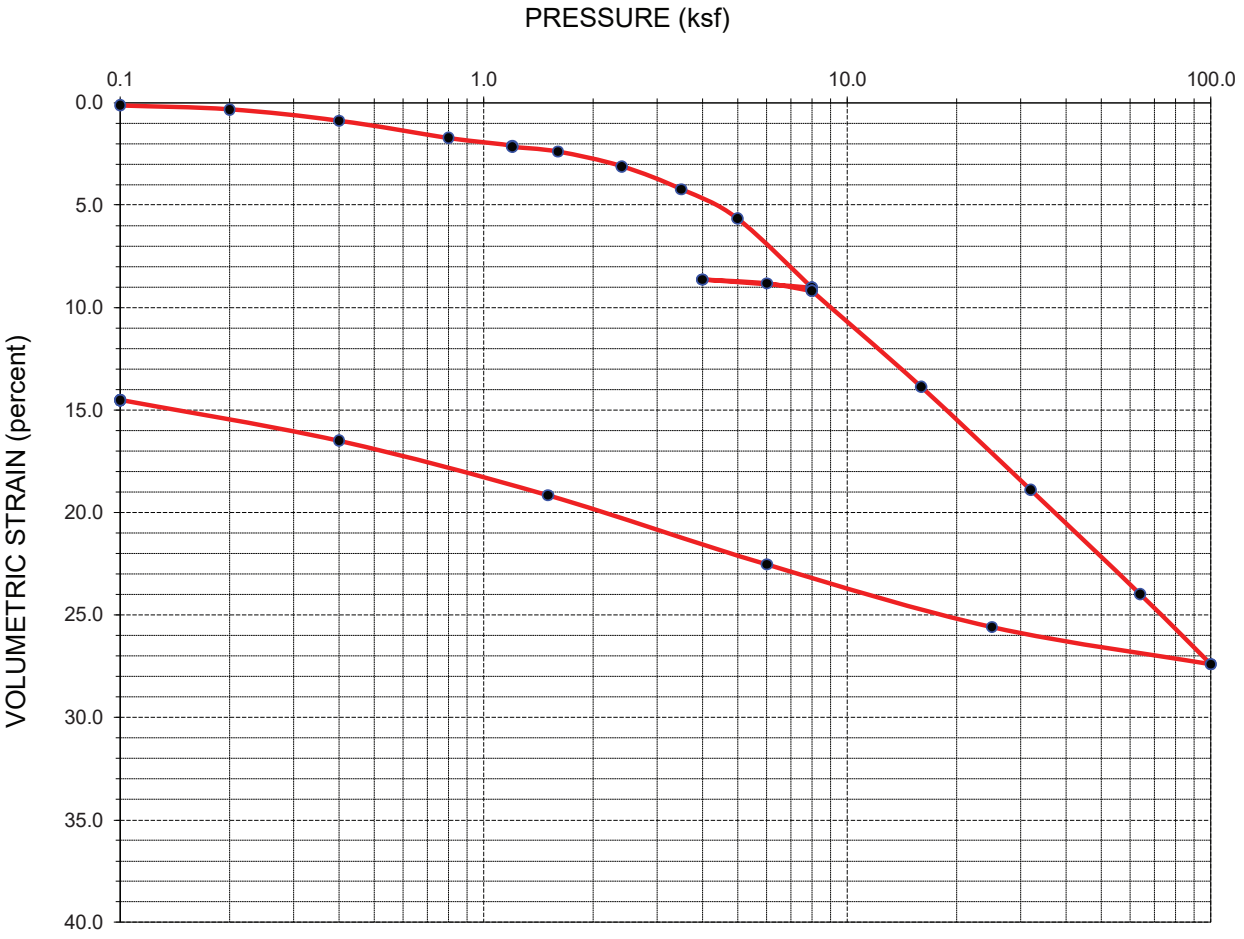
Sampler Type Shelby Tube (ST)				Condition		Before test		After test	
Diameter (in) 2.42	Height (in) 1.00			Water Content	w_o	23.0 %	w_f	18.0 %	
Overburden Pressure, P_o	1,460 psf			Void Ratio	e_o	0.683	e_f	0.486	
Preconsol. Pressure, P_c	8,000 psf			Saturation	S_o	91 %	S_f	100 %	
Compression Ratio, $C_{\varepsilon c}$	0.146			Dry Density	γ_d	100 pcf	γ_d	114 pcf	
Recompression Ratio, $C_{\varepsilon r}$	0.016	LL --	PL --	PI --	G_s	2.70 (assumed)			
Description: CLAY with SAND (CL), olive-gray mottled with gray and yellow-brown							Source B-2 at 17 feet		

EAST SANTA CLARA - PHASE 1
San Jose, California

CONSOLIDATION TEST REPORT

ROCKRIDGE GEOTECHNICAL

Date 07/09/20 | Project No. 20-1858 | Figure B-8



Sampler Type Shelby Tube (ST)				Condition		Before test		After test	
Diameter (in) 2.42	Height (in) 1.00			Water Content	w_o	36.7 %	w_f	27.1 %	
Overburden Pressure, P_o	2,820 psf			Void Ratio	e_o	1.021	e_f	0.728	
Preconsol. Pressure, P_c	4,000 psf			Saturation	S_o	97 %	S_f	100 %	
Compression Ratio, $C_{\varepsilon c}$	0.166			Dry Density	γ_d	83 pcf	γ_d	98 pcf	
Recompression Ratio, $C_{\varepsilon r}$	0.012	LL --	PL --	PI --	G_s	2.70 (assumed)			
Description: CLAY (CL), gray							Source B-2 at 37 feet		

EAST SANTA CLARA - PHASE 1
San Jose, California

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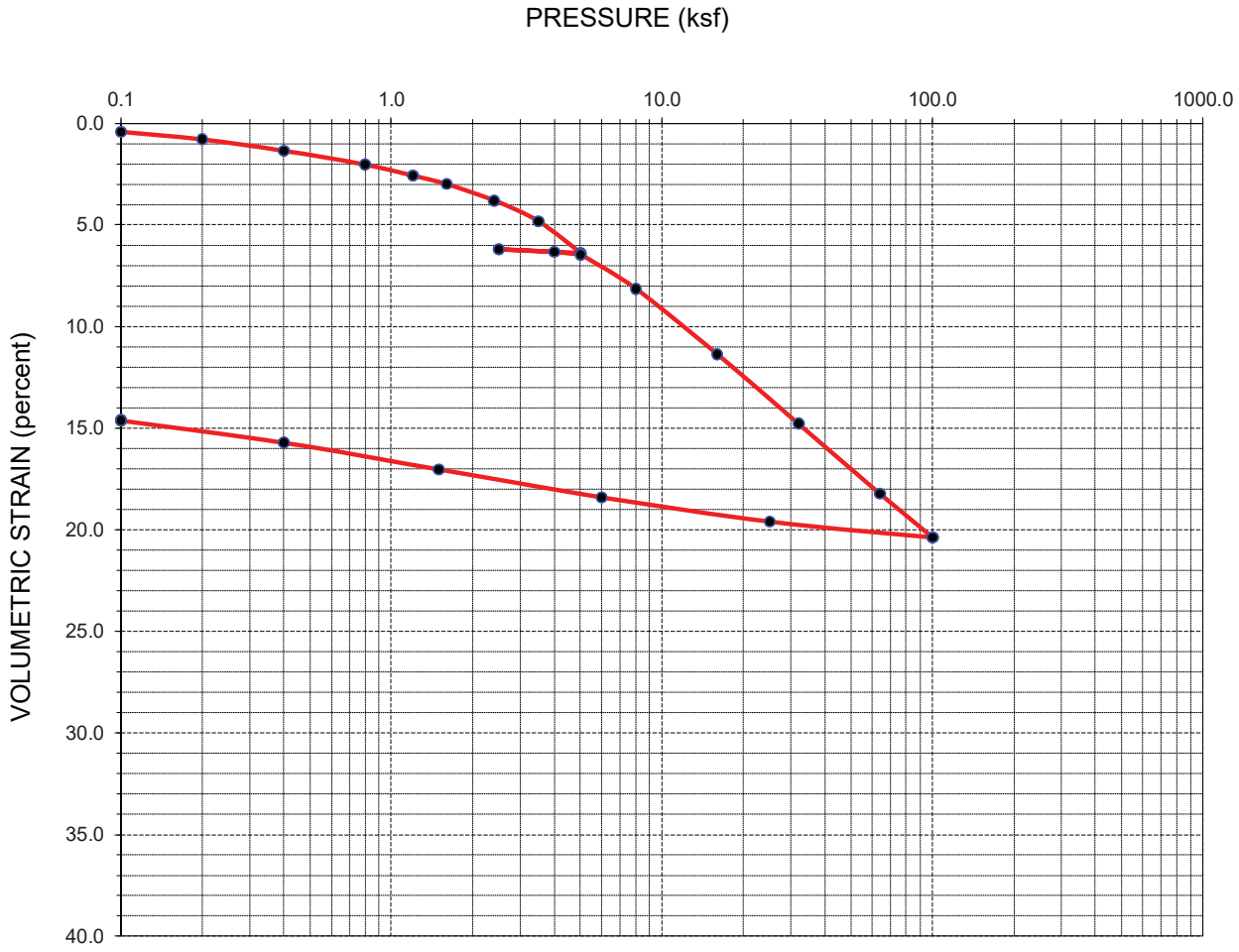
CONSOLIDATION TEST REPORT

Date 07/09/20 | Project No. 20-1858 | Figure B-9



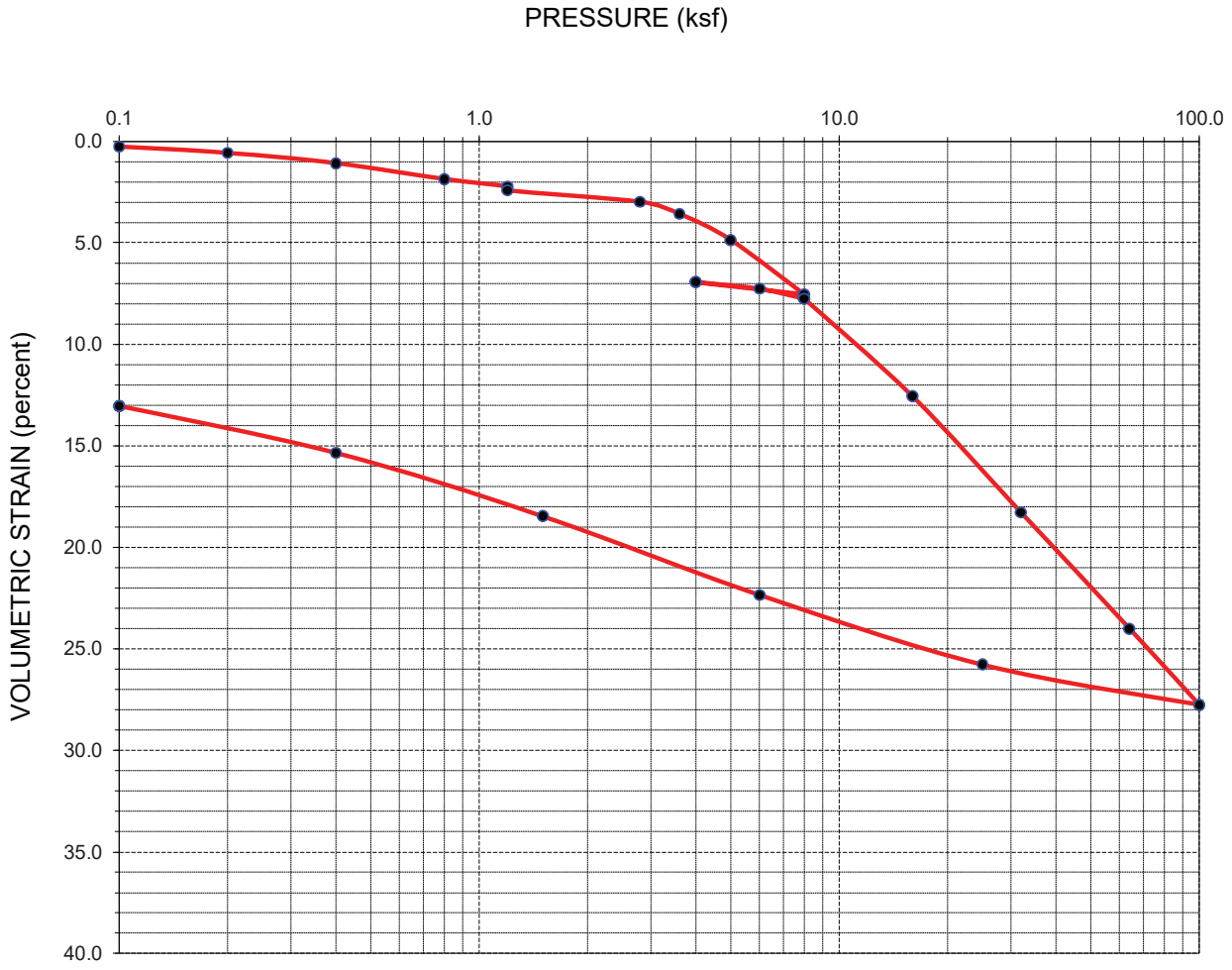
Sampler Type Shelby Tube (ST)				Condition	Before test			After test	
Diameter (in) 2.42	Height (in) 1.00			Water Content	w_o	22.3 %		w_f	15.6 %
Overburden Pressure, P_o	1,600 psf			Void Ratio	e_o	0.661		e_f	0.418
Preconsol. Pressure, P_c	4,500 psf			Saturation	S_o	91 %		S_f	100 %
Compression Ratio, $C_{\varepsilon c}$	0.113			Dry Density	γ_d	101 pcf		γ_d	119 pcf
Recompression Ratio, $C_{\varepsilon r}$	0.007	LL --	PL --	PI --	G_s 2.70 (assumed)				
Description: CLAY (CL), olive-gray mottled with olive							Source B-3 at 19 feet		

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONSOLIDATION TEST REPORT

Date 07/09/20 | Project No. 20-1858 | Figure B-10



Sampler Type Shelby Tube (ST)				Condition		Before test		After test	
Diameter (in) 2.42	Height (in) 1.00			Water Content	w_o	39.0 %	w_f	29.8 %	
Overburden Pressure, P_o	3,020 psf			Void Ratio	e_o	1.068	e_f	0.799	
Preconsol. Pressure, P_c	5,500 psf			Saturation	S_o	99 %	S_f	100 %	
Compression Ratio, $C_{\varepsilon c}$	0.199			Dry Density	γ_d	82 pcf	γ_d	94 pcf	
Recompression Ratio, $C_{\varepsilon r}$	0.019	LL --	PL --	PI --	G_s	2.70 (assumed)			
Description: CLAY (CL), gray							Source B-3 at 40 feet		

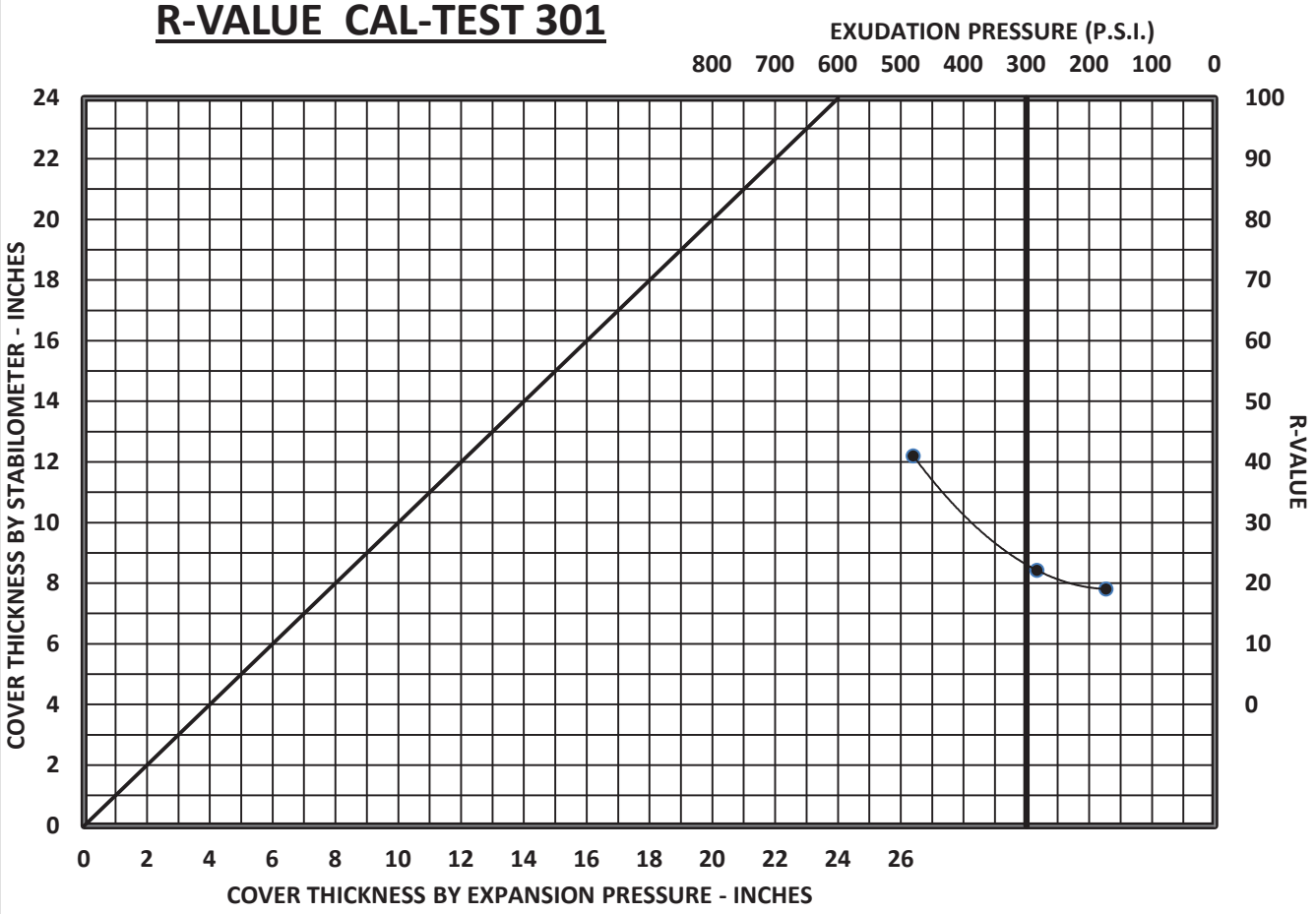
EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

CONSOLIDATION TEST REPORT

Date 07/09/20 | Project No. 20-1858 | Figure B-11

R-VALUE CAL-TEST 301



Exudation psi	Compaction (psi)	Expansion (0.0001")	Expansion (psf)	Moisture %	Dry Density	Resistance Value
480	304	15	65	12.1	125.7	41
283	181	1	4	13.1	123.2	22
173	142	0	0	13.9	120.7	18

Resistance Value
23

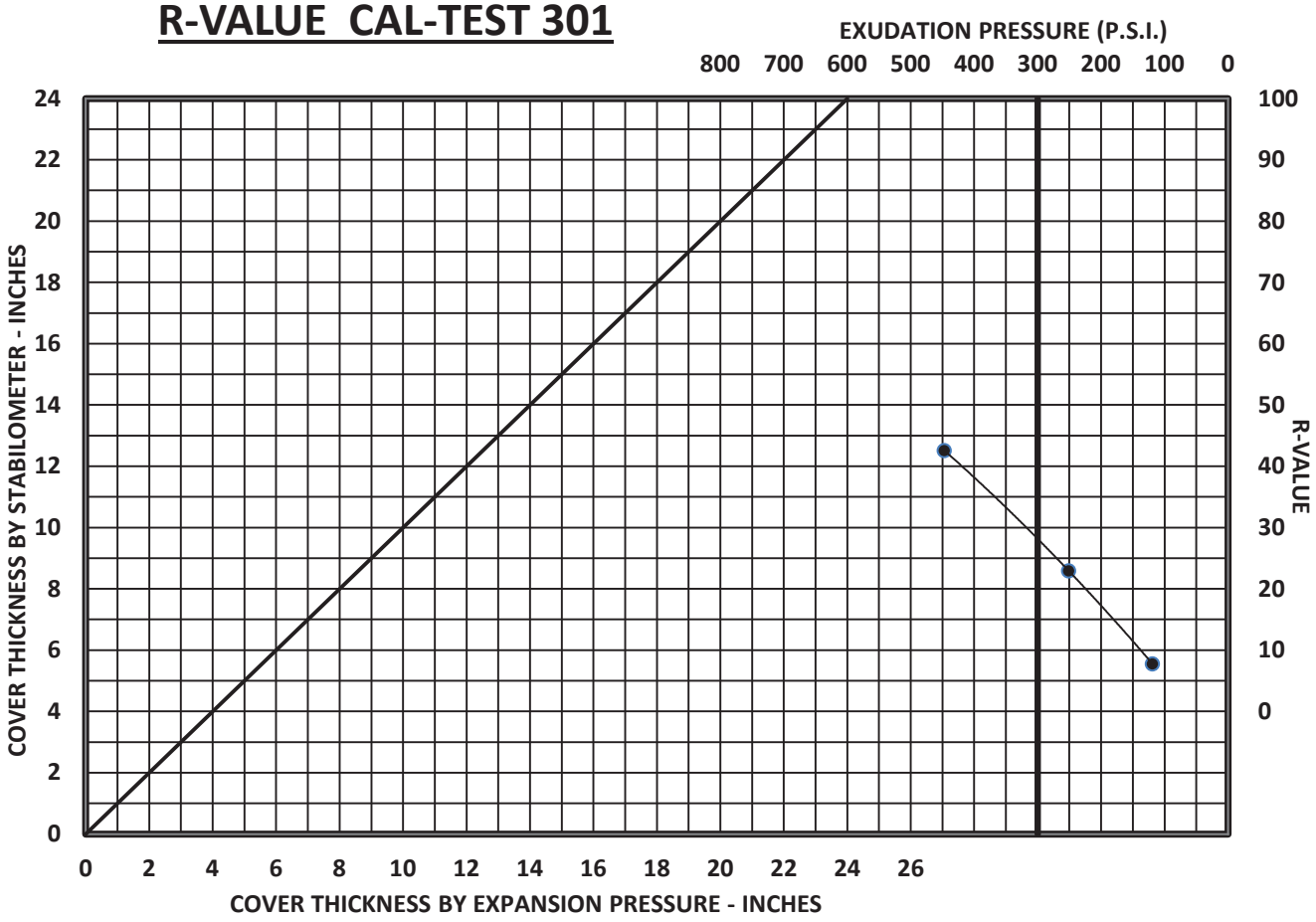
EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

R-VALUE TEST REPORT (SAMPLE R-1)

Date 07/09/20 | Project No. 20-1858 | Figure B-12

R-VALUE CAL-TEST 301



Exudation psi	Compaction (psi)	Expansion (0.0001")	Expansion (psf)	Moisture %	Dry Density	Resistance Value
447	350	20	87	12.7	124.0	43
251	220	9	39	13.8	120.1	23
119	103	0	0	16.1	115.4	8

Resistance Value
28

EAST SANTA CLARA - PHASE 1
San Jose, California

ROCKRIDGE GEOTECHNICAL

R-VALUE TEST REPORT
(SAMPLE R-2)

Date 07/09/20	Project No. 20-1858	Figure B-13

ROCKRIDGE GEOTECHNICAL

APPENDIX C

Corrosion Evaluation Report

Soil Corrosivity Evaluation Report for SCCHA East Santa Clara - San Jose, California

June 17, 2020

Prepared for:
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Oakland, CA 94610
LhLiang@rockridgegeo.com

Project X Job #: S200612C
Client Job or PO #: 20-1858

Contents

1 Executive Summary 4
2 Corrosion Control Recommendations 5
2.1 Cement 5
2.2 Steel Reinforced Cement/ Cement Mortar Lined & Coated (CML&C) 5
2.3 Stainless Steel Pipe/Conduit/Fittings 6
2.4 Steel Post Tensioning Systems 6
2.5 Steel Piles 6
2.5.1 Expected Corrosion Rate of Steel and Zinc in disturbed soil 7
2.5.2 Expected Corrosion Rate of Steel and Zinc in Undisturbed soil 8
2.6 Steel Storage tanks 8
2.7 Steel Pipelines 8
2.8 Steel Fittings 9
2.9 Ductile Iron (DI) Fittings 9
2.10 Ductile Iron Pipe 10
2.11 Copper Materials 12
2.11.1 Copper Pipes 12
2.11.2 Brass Fittings 12
2.11.3 Bare Copper Grounding Wire 13
2.12 Aluminum Pipe/Conduit/Fittings 14
2.13 Carbon Fiber or Graphite Materials 14
2.14 Plastic and Vitrified Clay Pipe 14
3 CLOSURE 15
4 Soil analysis lab results 16
5 Corrosion Basics 19
5.1 Pourbaix Diagram – In regards to a material's environment 19
5.2 Galvanic Series – In regards to dissimilar metal connections 19
5.3 Corrosion Cell 22
5.4 Design Considerations to Avoid Corrosion 23
5.4.1 Testing Soil Factors (Resistivity, pH, REDOX, SO, CL, NO3, NH3) 23
5.4.2 Proper Drainage 24
5.4.3 Avoiding Crevices 24
5.4.4 Coatings and Cathodic Protection 25

5.4.5 Good Electrical Continuity 27
5.4.6 Bad Electrical Continuity 28
5.4.7 Corrosion Test Stations 28
5.4.8 Excess Flux in Plumbing 29
5.4.9 Landscapers and Irrigation Sprinkler Systems 29
5.4.10 Roof Drainage splash zones 29
5.4.11 Stray Current Sources 30

1 Executive Summary

A corrosion evaluation of the soils at SCCHA East Santa Clara - San Jose, California was performed to provide corrosion control recommendations for general construction materials. The site is located at SCCHA East Santa Clara - San Jose, California (37°20'37.1"N 121°52'38.7"W). Five (5) samples were tested to a depth of 6.5 ft. Site ground water and topography information was provided by Rockridge Geotechnical, Inc. Groundwater depth was determined to be 10 to 15 feet below finished grade.

Every material has its weakness. Aluminums, galvanized/zinc coatings, and coppers do not survive well in very alkaline or very acidic pH environments. Copper and brasses do not survive well in high nitrate or ammonia environments. Steels and irons do not survive well in low soil resistivity and high chloride environments. High chloride environments can even overcome and attack steel encased in normally protective concrete. Concrete does not survive well in high sulfate environments. And nothing survives well in high sulfide and low redox potential environments with corrosive bacteria. This is why Project X tests for these 8 factors to determine a soil's corrosivity towards various construction materials. **Depending solely on soil resistivity or Caltrans corrosion guidelines, which over-simplify descriptions as corrosive or non-corrosive, will not detect these other factors because it is possible to have bad levels of corrosive ions and still have greater than 1,100 ohm-cm soil resistivity. We have observed this fact on thousands of soil samples tested in our laboratory.**

It should not be forgotten that import soil also be tested for all factors to avoid making your site more corrosive than it was to begin with.

The recommendations outlined herein are not a substitute for any design documents previously prepared for the purpose of construction and apply only to the depth of samples collected.

Soil samples were tested for minimum resistivity, pH, chlorides, sulfates, ammonia, nitrates, sulfides and redox.

As-Received soil resistivities ranged between 1,675 ohm-cm and 18,090 ohm-cm. This data would be similar to a Wenner 4 pin test in the field and used in the design of a cathodic protection or grounding bed system. This resistivity can change seasonally depending on the weather and moisture in the ground. This reading alone can be misleading because condensation or minor water leaks will occur underground along pipe surfaces creating a saturated soil environment in the trench along infrastructure surfaces which is why minimum or saturated soil resistivity measurements are more important than as-received resistivities.

Saturated soil resistivities ranged between 1,407 ohm-cm to 2,345 ohm-cm. The worst of these values is considered to be corrosive to general metals.

PH levels ranged between 7.6 to 10.9 pH. The average pH of these samples is alkaline and can cause accelerated corrosion of copper and aluminum alloys.

Chlorides ranged between 6 mg/kg to 46 mg/kg. Chloride levels in these samples are low and may cause insignificant corrosion of metals.

Sulfates ranged between 134 mg/kg to 734 mg/kg. Sulfate levels in these samples are negligible for corrosion of metals and cement. Any type of cement can be used that does not contain encased metal.

Ammonia ranged between 0.0 mg/kg to 5.3 mg/kg. Nitrates ranged between 0.2 mg/kg to 101.6 mg/kg. Concentrations of these elements were high enough to cause accelerated corrosion of copper and copper alloys such as brass.

Sulfides presence was determined to be negative. REDOX ranged between + 109 mV to + 170 mV. The probability of corrosive bacteria was determined to be low due to the sulfide and positive REDOX levels determined in these samples.

2 Corrosion Control Recommendations

The following recommendations are based upon the results of soil testing.

2.1 Cement

The highest reading for sulfates was 734 mg/kg or 0.0734 percent by weight.

Per ACI 318-14, Table 19.3.1.1, sulfate levels in these samples categorized as S0 and are negligible for corrosion of metals and cement. Per ACI 318-14 Table 19.3.2.1 any type of cement not containing steel or other metal can be used.

2.2 Steel Reinforced Cement/ Cement Mortar Lined & Coated (CML&C)

Chlorides in soil can overcome the corrosion inhibiting property of cement for steel, as it can also break through passivated surfaces of aluminum and stainless steels.[1,2] The highest concentration of chlorides was 46 mg/kg.

Chloride levels in these samples are not significantly corrosive to metals not in tension. Standard cement cover may be used in these soils.

Though soils at some locations are significantly corrosive to various metals, per ACI 318-14 Chapter 19 Table 19.3.1.1, all slabs on this site exposure categories and class for **Corrosion Protection of Reinforcement (C) would be considered C1** as Concrete exposed to moisture [mud/rain] (slab sides and bottom) but not to an external source of chlorides. Though there are chlorides in the soil, ACI 318's definition of "external source of chlorides" consists of deicing chemicals, salt, brackish water, seawater, or spray from these sources. The chloride levels in seawater are typically over 19,000 mg/L or 19,000 ppm.

When concrete is tested for water-soluble chloride ion content, the tests should be made at an age of 28 to 42 days. The limits in Table 5.3.2.1 are to be applied to chlorides contributed from the concrete ingredients, not those from the environment surrounding the concrete.[3]

[1] Design Manual 303: Cement Cylinder Pipe. Ameron. p.65
[2] *Chapter 19, Table 1904.2.2(1), 2012 International Building Code*

[3] ACI 381-14., BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14) AND COMMENTARY (ACI 318R-14)

2.3 Stainless Steel Pipe/Conduit/Fittings

Stainless steels derive their corrosion resistance from their chromium content and oxide layer which needs oxygen to regenerate if damaged. Thus stainless steel is not good for deep soil applications where oxygen levels are extremely low. Stainless steels should not be installed deeper than a plant root zone. Stainless steels typically have the same nobility as copper on the galvanic series and can be connected to copper. If stainless steel must be used, it must be backfilled with soil having greater than 10,000 ohm-cm resistivity and excellent drainage. 304 Stainless steel will also corrode if in contact with carbon materials such as activated carbon. Stainless steel welds should be pickled.

The soil at this site has low probability for anaerobic corrosive bacteria and low chloride levels. Per Nickel Institute guidelines, 304 or 316 Stainless steels can be used in these soils.

2.4 Steel Post Tensioning Systems

The proper sealing of stressing holes is of utmost importance in PT Systems. Cut off excess strand 1/2" to 3/4" back in the hole. Coat or paint exposed anchorage, grippers, and stub of strands with "Rust-o-leum" or equal. After tendons have been coated, the cement contractor shall dry pack blockouts within ten (10) days. A non-shrink, non-metallic, non-porous moisture-insensitive grout (Master EMACO S 488 or equivalent), or epoxy grout shall be used for this purpose. If an encapsulated post-tension system is used, regular non-shrink grout can be used.

Due to the low chloride concentrations measured on samples obtained from this site, post-tensioned slabs should be protected in accordance with soil considered normal (non-corrosive).[4,5] Addition of grease caps to the cut strand at live end anchors can deter construction defect accusations but are not needed.

2.5 Steel Piles

Steel piles are most susceptible to corrosion in disturbed soil where oxygen is available. Further, a dissimilar environment corrosion cell would exist between the steel embedded in cement, such as pile caps and the steel in the soil. In the cell, the steel in the soil is the anode (corroding metal), and the steel in cement is the cathode (protected metal). This cell can be minimized by coating the part of the steel piles that will be embedded in cement to prevent contact with cement and reinforcing steel.

Piles driven into soils without disturbing soils will avoid oxygen introduction and low corrosion rates unless there is a probability for corrosive anaerobic bacteria. Galvanized steel's zinc coating can provide significant protection for driven piles. In corrosive soils in which normal zinc coatings are not enough, the life of piles can be extended by increasing zinc coating thickness, using sacrificial metal, or providing a combination of epoxy coatings and cathodic protection. Corrosion has been observed to be extremely localized even at and below underground water tables. Pit depths of this magnitude do not have an appreciable effect on the strength or useful life of piling structures because the reduction in pile cross section is not

[4] *Standard Requirements for Design and Analysis of Shallow Post-Tensioned Concrete Foundations on Expansive Soils, PTI DC10.5-12,Table 4.1, pg 16*
[5] *Specification for Unbonded Single Strand Tendons. Post-tensioning Institute (PTI), Phoenix, AZ, 2000.*

significant.[6] Pitting is of more importance to pipes transporting liquids or gases which should not be leaked into the ground.

The following recommendations are recommended to achieve desired life. We defer to structural engineers to use our estimated corrosion rates and to choose from the corrosion control options listed below.

1) Sacrificial metal by use of thicker pile per disturbed soil corrosion rates, or
2) Sacrificial metal by use of thicker pile per non-disturbed soil corrosion rates and coat portion of piles that will be minimum 12 inches below grade and 12 inches above finished grade with abrasion resistant epoxy coating such as 3M Scotchkote 323, or PowercreteDD, or equivalent, or
3) Cement coated steel piles with minimum 3 inch cover of Type II cement.

2.5.1 Expected Corrosion Rate of Steel and Zinc in disturbed soil

In general, the corrosion rate of metals in soil depends on the electrical resistivity, the elemental composition, and the oxygen content of the soil. Soils can vary greatly from one acre to the next, especially at earthquake faults. The better a soil is for farming; the easier it will be for corrosion to take place. Expansive soils will also be considered disturbed simply because of their nature from dry to wet seasons.

In Melvin Romanoff's NBS Circular 579, the corrosion rates of carbon steels and various metals was studied over long term periods. Various metals were placed in various soil types to gather corrosion rate data of all metals in all soil types. Samples were collected and material loss measured over the course of 20 years in some sites. The following corrosion rates were estimated by comparing the worst results of soils tested with similar soils in Romanoff's studies and Highway Research Board's publications.[7] The corrosion rate of zinc in disturbed soils is determined per Romanoff studies and King Nomograph.[8]

Expected Corrosion Rate for Steel = 1.81 mils/year for one sided attack

Expected Corrosion Rate for Zinc = 0.17 mils/year for one sided attack.

Note: 1 mil = 0.001 inch

In undisturbed soils, a corrosion rate of 1 mil/year for steel is expected with little change in the corrosion rate of zinc due to it's low nobility in the galvanic series.

Per CTM 643: Years to perforation of corrugated galvanized steel culverts

- 28.7 Years to Perforation for a 18 gage metal culvert
- 37.3 Years to Perforation for a 16 gage metal culvert
- 45.9 Years to Perforation for a 14 gage metal culvert
- 63.2 Years to Perforation for a 12 gage metal culvert
- 80.4 Years to Perforation for a 10 gage metal culvert

[6] Melvin Romanoff, Corrosion of Steel Pilings in Soils, National Bureau of Standards Monograph 58, pg 20.

[7] Field test for Estimating Service Life of Corrugated Metal Culverts, J.L. Beaton, Proc. Highway Research Board, Vol 41, P. 255, 1962

[8] King, R.A. 1977, Corrosion Nomograph, TRRC Supplementary Report, British Corrosion Journal

- 97.6 Years to Perforation for a 8 gage metal culvert

2.5.2 Expected Corrosion Rate of Steel and Zinc in Undisturbed soil

Expected Corrosion Rate for Steel = 1 mils/year for one sided attack

Expected Corrosion Rate for Zinc = 0.17 mils/year for one sided attack.

Note: 1 mil = 0.001 inch

2.6 Steel Storage tanks

Underground fuel tanks must be constructed and protected in accordance with California Underground Storage Tank Regulations, CCR, Title 23, Division 3, Chapter 16. Metals should be protected with cathodic protection or isolated from backfill material with an epoxy coating.

2.7 Steel Pipelines

Though a site may not be corrosive in nature at the time of construction, **installation of corrosion test stations and electrical continuity joint bonding should be performed during construction** so that future corrosion inspections can be performed. If steel pipes with gasket joints or other possibly non-conductive type joints are installed, their joints should be bonded across by welding or pin brazing a #8 AWG copper strand bond cable. Electrical continuity is necessary for corrosion inspections and for cathodic protection.

Corrosion test stations should be installed every 1,000 feet of pipeline.

Test stations shall have two #8 HMWPE copper strand wire test leads welded or pin brazed to the underground pipe, brought up into the test station hand hole and marked CTS. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

At isolation joints and pipe casings, 4 wire test stations shall be installed using #8 HMWPE copper strand wire test leads. Use different color wires to distinguish which wires are bonded to one side of isolation joint or to casing. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

Prevent dissimilar metal corrosion cells per NACE SP0286:

1) Electrically isolate dissimilar metal connections
2) Electrically isolate dissimilar coatings (Epoxy vs CML&C) segments connections
3) Electrically isolate river crossing segments
4) Electrically isolate freeway crossing segments
5) Electrically isolate old existing pipelines from new pipelines
6) Electrically isolate aboveground and underground pipe segments with flange isolation joint kits. **These are especially important for fire risers.**

The corrosivity at this site is corrosive to steel. Any piping that must be jack-bored should use abrasion resistant epoxy coating such as 3M Scotchkote 323, or PowercreteDD, or equivalent. The corrosion control options for this site are as follows:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, and install cathodic protection system per NACE SP0169, or
2) Wax tape, or
3) Coal tar enamel, or
4) Fusion bonded epoxy, or
5) Apply 3 inch coating of Type II or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide.

It is critical for the life of the pipe that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.8 Steel Fittings

The corrosivity at this site is corrosive to steel. The corrosion control options for this site are as follows:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, and install cathodic protection system per NACE SP0169, or
2) Tape coating system, or
3) Wax tape, or
4) Coal tar enamel, or
5) Fusion bonded epoxy, or
6) Apply 3 inch coating of Type II cement or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide.

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.9 Ductile Iron (DI) Fittings

AWWA C105 developed a 10 point system to classify sites as aggressive or non-aggressive to ductile iron materials. The 10-point system does not, and was never intended to, quantify the

corrosivity of a soil. It is a tool used to distinguish nonaggressive from aggressive soils relative to iron pipe. Soils <10 points are considered nonaggressive to iron pipe, whereas soils ≥10 points are considered aggressive. A 15 and a 20 point soil are both considered aggressive to iron pipe, however, because of the nature of the soil parameters measured, the 20 point soil may not necessarily be more aggressive than the 15 point soil. The criterion is based upon soil resistivities, soil drainage, pH, sulfide presence, and reduction-oxidation (REDOX) potential. The soil samples tested for this site resulted in a score of 6 out of 25.5. A score greater or equal to 10 points classifies soils as aggressive to iron materials.

The corrosivity at this site is corrosive to iron. The corrosion control options for this site are as follows:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, and install cathodic protection system per NACE SP0169, or
2) Wax tape, or
3) Coal tar enamel, or
4) Fusion bonded epoxy, or
5) Apply 3 inch coating of Type II cement or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide.

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.10 Ductile Iron Pipe

AWWA C105 developed a 10 point system to classify sites as aggressive or non-aggressive to ductile iron materials. The 10-point system does not, and was never intended to, quantify the corrosivity of a soil. It is a tool used to distinguish nonaggressive from aggressive soils relative to iron pipe. Soils <10 points are considered nonaggressive to iron pipe, whereas soils ≥10 points are considered aggressive. A 15 and a 20 point soil are both considered aggressive to iron pipe, however, because of the nature of the soil parameters measured, the 20 point soil may not necessarily be more aggressive than the 15 point soil. The criterion is based upon soil resistivities, soil drainage, pH, sulfide presence, and reduction-oxidation (REDOX) potential. The soil samples tested for this site resulted in a score of 6 out of 25.5. A score greater or equal to 10 points classifies soils as aggressive to iron materials.

Though a site may not be corrosive in nature at the time of construction, **installation of corrosion test stations and electrical continuity joint bonding should be performed during construction** so that future corrosion inspections can be performed. If steel pipes with gasket joints or other possibly non-conductive type joints are installed, their joints should be bonded

across by welding or pin brazing a #8 AWG copper strand bond cable. Electrical continuity is necessary for corrosion inspections and for cathodic protection.

Pea gravel is used by plumbers to lay pipes and establish slopes. If the gravel has more than 200 ppm chlorides or is not tested, a 25 mil plastic should be placed between the gravel and pipe to avoid corrosion.

Corrosion test stations should be installed every 1,000 feet of pipeline.

Test stations shall have two #8 HMWPE copper strand wire test leads welded or pin brazed to the underground pipe, brought up into the test station hand hole and marked CTS. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

At isolation joints and pipe casings, 4 wire test stations shall be installed using #8 HMWPE copper strand wire test leads. Use different color wires to distinguish which wires are bonded to one side of isolation joint or to casing. Wires should be brought into test station hand hole at finished grade with 12 inches of wire coiled within test station.

Prevent dissimilar metal corrosion cells per NACE SP0286:

1) Electrically isolate dissimilar metal connections
2) Electrically isolate dissimilar coatings (Epoxy vs CML&C) segments connections
3) Electrically isolate river crossing segments
4) Electrically isolate freeway crossing segments
5) Electrically isolate old existing pipelines from new pipelines
6) Electrically isolate aboveground and underground pipe segments with flange isolation joint kits**. These are especially important for fire risers.**

The corrosivity at this site is corrosive to iron. Any piping that must be jack-bored should use abrasion resistant epoxy coating such as 3M Scotchkote 323, or PowercreteDD, or equivalent. The corrosion control options for this site are as follows:

1) Apply impermeable dielectric coating such as minimum 10 mil thick polyethylene, and install cathodic protection system per NACE SP0169, or
2) Wax tape, or
3) Coal tar enamel, or
4) Fusion bonded epoxy, or
5) Apply 3 inch coating of Type II cement or high pH slurry that will maintain pH higher than 12. Cement is both a corrosion inhibitor and a coating for ferrous metals. Cement naturally holds a pH of 12 or higher for many years if not exposed to high levels of carbon dioxide.

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less

expensive a cathodic protection system will be in anode material and power requirement if needed.

2.11 Copper Materials

Copper is an amphoteric material which is susceptible to corrosion at very high and very low pH. It is one of the most noble metals used in construction thus typically making it a cathode when connected to dissimilar metals. Copper's nobility can change with temperature, similar to the phenomenon in zinc. When zinc is at room temperature, it is less noble than steel and can provide cathodic protection to steel. But when zinc is at a temperature above 140F such as in a water heater, it becomes nobler than the steel and the steel becomes the sacrificial anode. This is why zinc is not used in steel water heaters or boilers. Copper when cold has one native potential, but when heated develops a more electronegative electro-potential. Thus hot and cold copper pipes should be electrically isolated from each other to avoid creation of a thermo-galvanic corrosion cell.

2.11.1 Copper Pipes

The lowest pH for this area was measured to be 7.6. Copper is greatly affected by pH, ammonia and nitrate concentrations[9]. The highest nitrate concentration was 101.6 mg/kg and the highest ammonia concentration was 5.3 mg/kg at this site.

These soils were determined to be corrosive to copper and copper alloys such as brass.

Aboveground, underground, cold water and hot water pipes should be electrically isolated from each other by use of dielectric unions and plastic in-wall pipe supports. The following are corrosion control options for underground copper water pipes.

1) Run copper pipes within PVC pipes to prevent soil contact, or
2) Cover piping with a 20 mil epoxy coating free of scratches and defects, or
3) Cover copper pipes with minimum 10 mil polyethylene sleeve over a suitable primer and apply cathodic protection per NACE SP0169

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.11.2 Brass Fittings

Brass fittings should be electrically isolated from dissimilar metals by use of dielectric unions or isolation joint kits.

These soils were determined to be corrosive to copper and copper alloys such as brass.

[9] Corrosion Data Handbook, Table 6, Corrosion Resistance of copper alloys to various environments, 1995

The following are corrosion control options for underground brass.

1) Prevent soil contact by use of impermeable coating system such as wax tape, or
2) Prevent soil contact by use of a 20 mil epoxy coating free of scratches and defects, or
3) Cover brass with minimum 10 mil polyethylene sleeve over a suitable primer and apply cathodic protection per NACE SP0169

It is critical for the life of the metal that the protective wrap contains no openings or holes. Prevent damage to the protective sleeve during backfilling of the pipe trench. Penetrations of any kind within these or other protective materials generally leads to accelerated corrosion failure due to the fact that the corrosion attack is concentrated at the location of these penetrations. Cathodic protection will protect these defects. The better the coating, the less expensive a cathodic protection system will be in anode material and power requirement if needed.

2.11.3 Bare Copper Grounding Wire

It is assumed that corrosion will occur at all sides of the bare wire, thus the corrosion rate is calculated as a two sided attack determining the time it takes for the corrosion from two sides to meet at the center of the wire. The estimated life of bare copper wire for this site is the following:[10]

Size (AWG)	**Diameter (mils)**	**Est. Time to penetration (Yrs)**
14	64.1	5.5
13	72	6.2
12	80.8	7.0
11	90.7	7.8
10	101.9	8.8
9	114.4	9.9
8	128.5	11.1
7	144.3	12.4
6	162	14.0
5	181.9	15.7
4	204.3	17.6
3	229.4	19.8
2	257.6	22.2
1	289.3	24.9

If the bare copper wire is being used as a grounding wire connected to less noble metals such as galvanized steel or carbon steel, the less noble metals will provide additional cathodic protection to the copper reducing the corrosion rate of the copper.

It is recommended that a corrosion inhibiting and water-repelling coating such as Corrosion X Part No. 90102 by Corrosion Technologies (no affiliation to Project X) be applied to

[10] Soil-Corrosion studies 1946 and 1948: Copper Alloys, Lead, and Zinc, Melvin Romanoff, National Bureau of Standards, Research Paper RP2077, 1950

aboveground and belowground copper-to-dissimilar metal connections to reduce risk of dissimilar corrosion.

2.12 Aluminum Pipe/Conduit/Fittings

Aluminum is an amphoteric material prone to pitting corrosion in environments that are very acidic or very alkaline or high in chlorides.

Conditions at this site are unsafe for aluminum. Soils at this site were determined to be too alkaline for aluminum. Soil contact with aluminum alloys should be avoided at this site. This can be achieved with:

1) Impermeable minimum 20 mil polyethylene coatings, or
2) Epoxy coatings with minimum 20 mil thickness free of scratches and defects, or
3) Wax tape

Aluminum derives its corrosion resistance from its oxide layer which needs oxygen to regenerate if damaged, similar to stainless steels. Thus aluminum is not good for deep soil applications. Since aluminum corrodes at very alkaline environments, it cannot be encased or placed against cement or mortar such as brick wall mortar up against an aluminum window frame.

Aluminum is also very low on the galvanic series scale making it most likely to become a sacrificial anode when in contact with dissimilar metals in moist environments. Avoid electrical continuity with dissimilar metals by use of insulators, dielectric unions, or isolation joints. Pooling of water at post bottoms or surfaces should be avoided by integrating good drainage.

2.13 Carbon Fiber or Graphite Materials

Carbon fiber or other graphite materials are extremely noble on the galvanic series and should always be electrically isolated from dissimilar metals. They can conduct electricity and will create corrosion cells if placed in contact within a moist environment with any metal.

2.14 Plastic and Vitrified Clay Pipe

No special precautions are required for plastic and vitrified clay piping from a corrosion viewpoint.

Protect all metallic fittings and pipe restraining joints with wax tape per AWWA C217, cement if previously recommended, or epoxy.

3 CLOSURE

In addition to soils chemistry and resistivity, another contributing influence to the corrosion of buried metallic structures is stray electrical currents. These electrical currents flowing through the earth originate from buried electrical systems, grounding of electrical systems in residences, commercial buildings, and from high voltage overhead power grids. Therefore, it is imperative that the application of protective wraps and/or coatings and electrical isolation joints be properly applied and inspected.

It is the responsibility of the builder and/or contractor to closely monitor the installation of such materials requiring protection in order to assure that the protective wraps or coatings are not damaged.

The recommendations outlined herein are in conformance with current accepted standards of practice that meet or exceed the provisions of the Uniform Building Code (UBC), the International Building Code (IBC), California Building Code (CBC), the American Cement Institute (ACI), Nickel Institute, National Association of Corrosion Engineers (NACE International), Post-Tensioning Institute Guide Specifications and State of California Department of Transportation, Standard Specifications, American Water Works Association (AWWA) and the Ductile Iron Pipe Research Association (DIPRA).

Our services have been performed with the usual thoroughness and competence of the engineering profession. No other warranty or representation, either expressed or implied, is included or intended.

Please call if you have any questions.

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4 SOIL ANALYSIS LAB RESULTS

Client: Rockridge Geotechnical, Inc.
Job Name: East Santa Clara
Client Job Number: 20-1858
Project X Job Number: S200612C
June 17, 2020

	Method	ASTM D4327		ASTM D4327		ASTM G187		ASTM G51	ASTM G200	SM 4500-S2-D	ASTM D4327	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D6919	ASTM D4327	ASTM D4327
Bore# / Description	**Depth**	**Sulfates** SO_4^{2-}		**Chlorides** Cl^-		**Resistivity** As Rec'd	Minimum	**pH**	**Redox**	**Sulfide** S^{2-}	**Nitrate** NO_3^-	**Ammonium** NH_4^+	**Lithium** Li^+	**Sodium** Na^+	**Potassium** K^+	**Magnesium** Mg^{2+}	**Calcium** Ca^{2+}	**Fluoride** F_2^{--}	**Phosphate** PO_4^{3-}
	(ft)	(mg/kg)	(wt%)	(mg/kg)	(wt%)	(Ohm-cm)	(Ohm-cm)		(mV)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
B-1	1.25-1.75	154.8	0.0155	6.2	0.0006	2,345	1,675	7.63	170	0.33	101.6	5.3	ND	32.4	9.7	18.5	29.6	1.4	4.6
B-1	3.25-3.75	174.8	0.0175	5.7	0.0006	1,675	1,407	7.89	167	0.03	100.3	ND	ND	49.8	2.0	15.7	31.6	31.4	0.6
B-2	4.0-4.5	134.0	0.0134	31.5	0.0032	16,750	2,345	10.58	109	0.24	0.2	ND	ND	160.3	1.3	0.6	35.8	0.7	0.3
B-2	6.0-6.5	160.8	0.0161	46.2	0.0046	2,546	1,742	8.34	139	0.09	0.4	ND	ND	83.8	0.4	22.6	18.2	1.7	1.8
B-3	3.0-3.5	734.0	0.0734	23.6	0.0024	18,090	2,010	10.93	111	0.03	19.8	ND	ND	276.2	35.8	0.1	113.9	0.5	7.6

Unk = Unknown
NT = Not Tested
ND = 0 = Not Detected
mg/kg = milligrams per kilogram (parts per million) of dry soil weight
Chemical Analysis performed on 1:3 Soil-To-Water extract
Anions and Cations tested via Ion Chromatograph except Sulfide

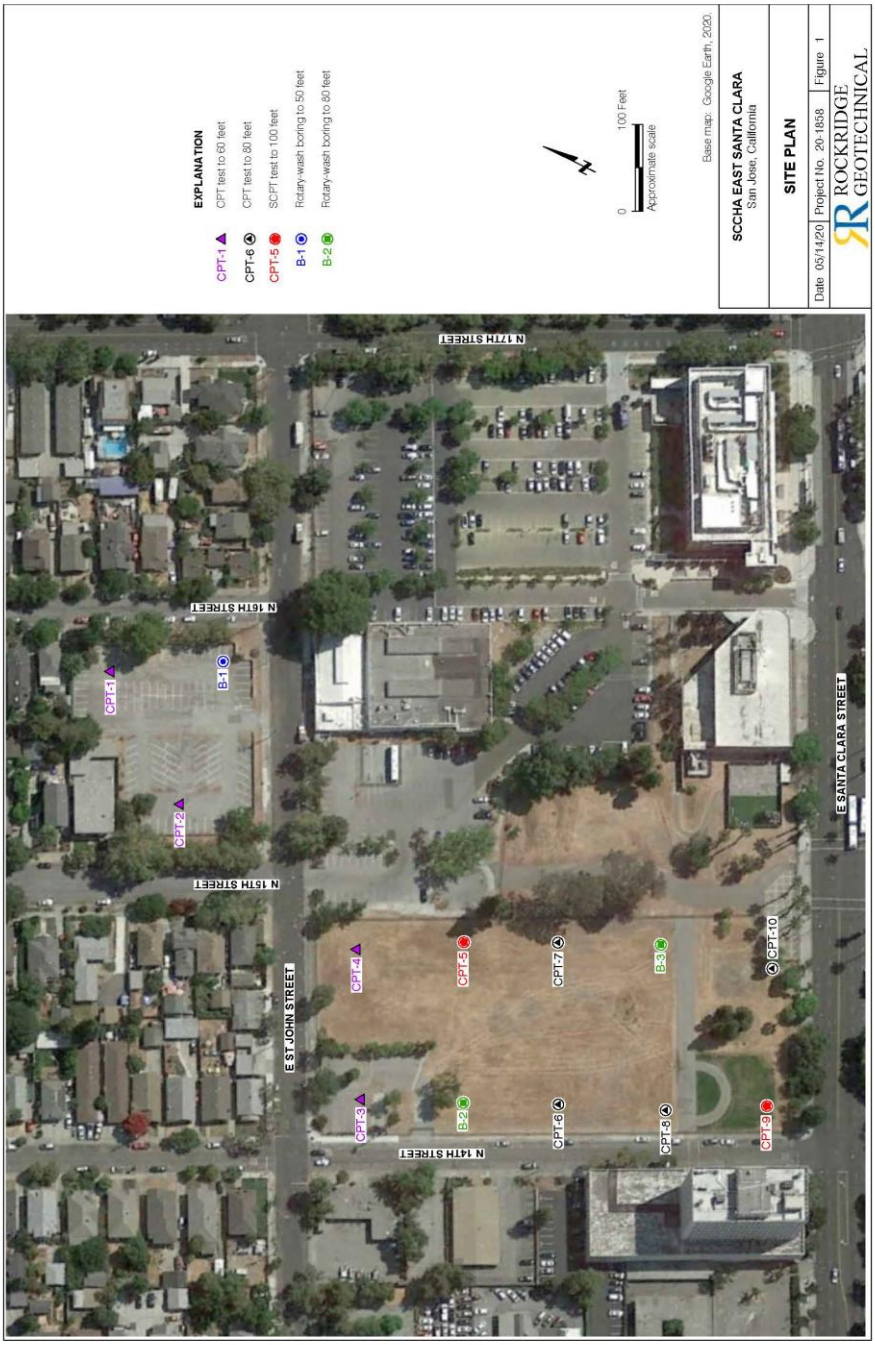


Figure 1 Soil Sample Locations, SCCHA East Santa Clara - San Jose, California (37°20'37.1"N 121°52'38.7"W)

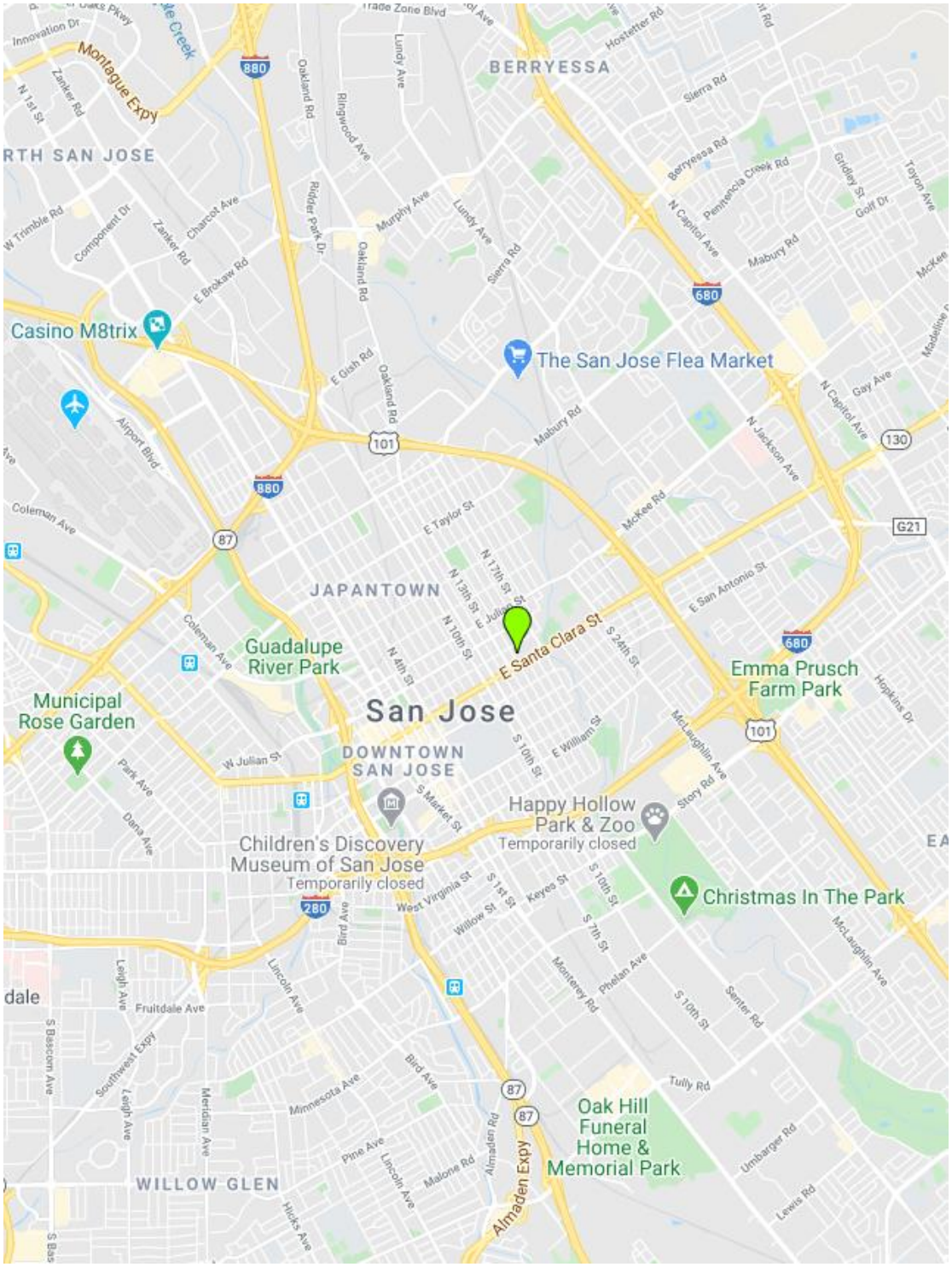


Figure 2 Vicinity Map, SCCHA East Santa Clara - San Jose, California (37°20'37.1"N 121°52'38.7"W)

5 Corrosion Basics

In general, the corrosion rate of metals in soil depends on the electrical resistivity, the elemental composition, and the oxygen content of the soil. Soils can vary greatly from one acre to the next, especially at earthquake faults. The better a soil is for farming; the easier it will be for corrosion to take place. Oxygen content in soil can be increased during construction. These soils are considered disturbed soils. When construction equipment at a site is simply driving piles into soil without digging into the soil, the activity can still disturb soil down to 3 feet. Expansive soils will also be considered disturbed simply because of their nature from dry to wet seasons.

5.1 Pourbaix Diagram – In regards to a material's environment

All metals are unique and have a weakness. Some metals do not like acidic (low pH) environments. Some metals do not like alkaline (high pH) environments. Some metals don't like either high or low pH environments such as aluminum. These are called amphoteric materials. Some metals become passivated and do not corrode at high pH environments such as steel. These characteristics are documented in Marcel Pourbaix's book "Atlas of electrochemical equilibria in aqueous solutions"

In the mid 1900's, Marcel Pourbaix developed the Pourbaix diagram which describes a metal's reaction to an environment dependent on pH and voltage conditions. It describes when a metal remains passive (non-corroding) and in which conditions metals become soluble (corrode). Steels are passive in pH over 12 such as the condition when it is encased in cement. If the cement were to carbonate and its pH reduce to below 12, the cement would no longer be able to act as a corrosion inhibitor and the steel will begin to corrode when moist.

Some metals such as aluminum are amphoteric, meaning that they react with acids and bases. They can corrode in low pH and in high pH conditions. Aluminum alloys are generally passive within a pH of 4 and 8.5 but will corrode outside of those ranges. This is why aluminum cannot be embedded in cement and why brick mortar should not be laid against an aluminum window frame without a protective barrier between them.

5.2 Galvanic Series – In regards to dissimilar metal connections

All metals have a natural electrical potential. This electrical potential is measured using a high impedance voltmeter connected to the metal being tested and with the common lead connected to a copper copper-sulfate reference electrode (CSE) in water or soil. There are many types of reference electrodes. In laboratory measurements, a Standard Hydrogen Electrode (SHE) is commonly used. When different metal alloys are tested they can be ranked into an order from most noble (less corrosion), to least noble (more active corrosion). When a more noble metal is connected to a less noble metal, the less noble metal will become an anode and sacrifice itself through corrosion providing corrosion protection to the more noble metal. This hierarchy is known as the galvanic series named after Luigi Galvani whose experiments with electricity and muscles led Alessandro Volta to discover the reactions between dissimilar metals leading to the early battery. The greater the voltage difference between two metals, the faster the corrosion rate will be.

Table 1- Dissimilar Metal Corrosion Risk

	Zinc	Galvanized Steel	Aluminum	Cast Iron	Lead	Mild Steel	Tin	Copper	Stainless Steel
Zinc	None	Low	Medium	High	High	High	High	High	High
Galvanized Steel	Low	None	Medium	Medium	Medium	High	High	High	High
Aluminum	Medium	Medium	None	Medium	Medium	Medium	Medium	High	High
Cast Iron	High	Medium	Medium	None	Low	Low	Low	Medium	Medium
Lead	High	Medium	Medium	Low	None	Low	Low	Medium	Medium
Mild Steel	High	High	Medium	Low	Low	None	Low	Medium	Medium
Tin	High	High	Medium	Low	Low	Low	None	Medium	Medium
Copper	High	High	High	Medium	Medium	Medium	Medium	None	Low
Stainless Steel	High	High	High	Medium	Medium	Medium	Medium	Low	None

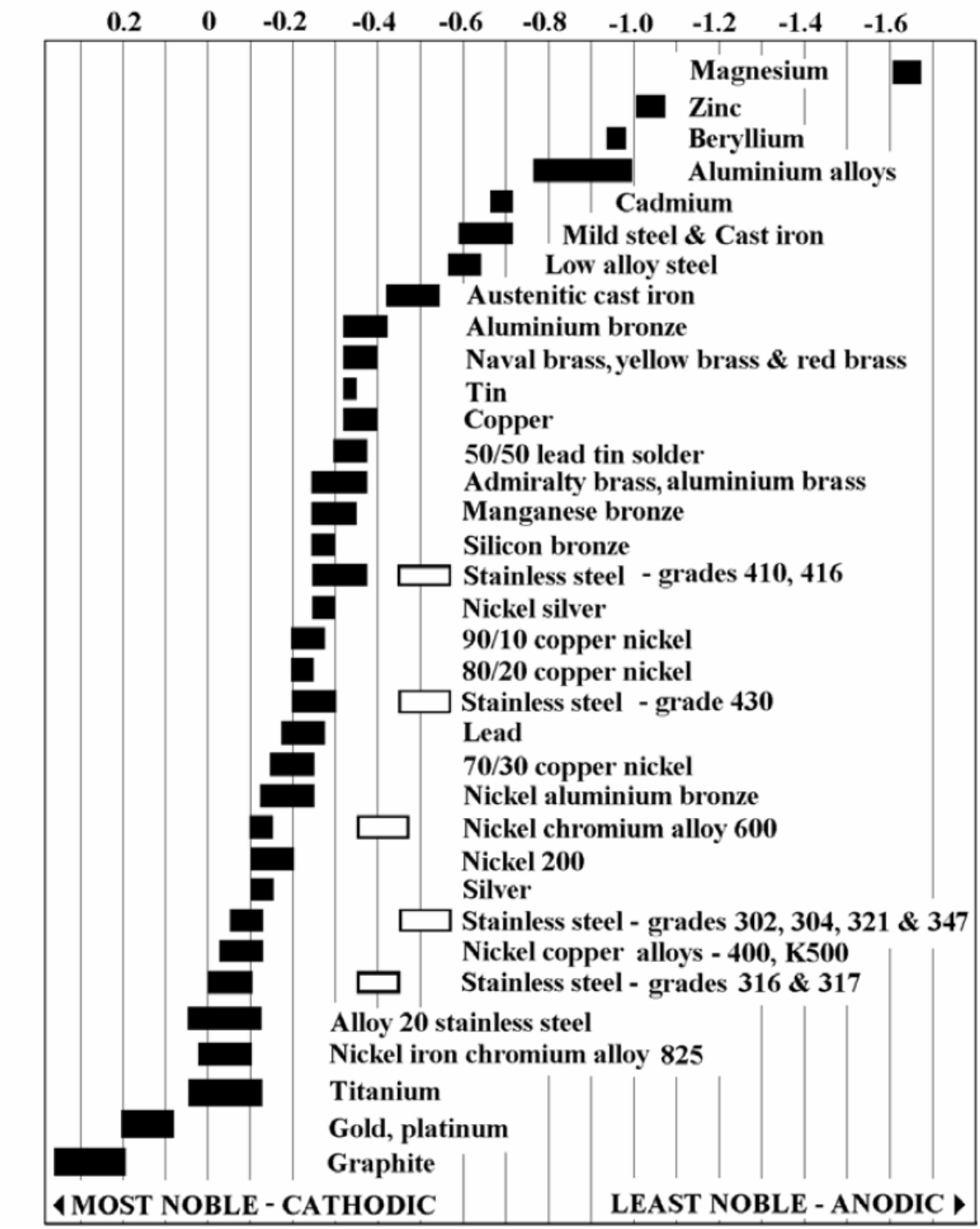
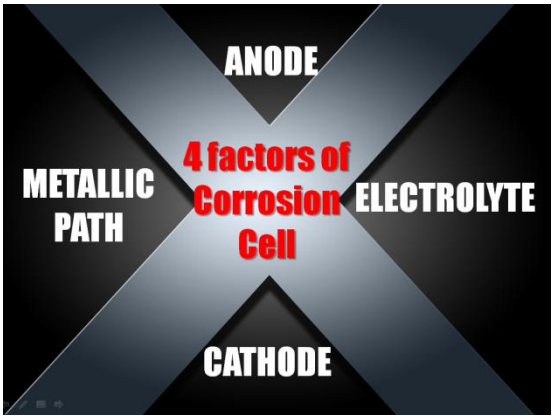


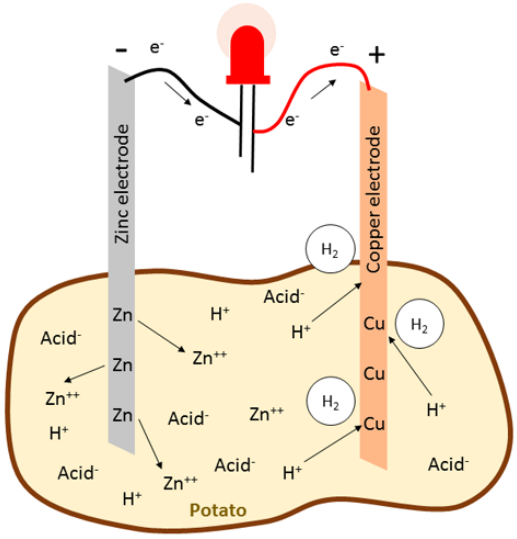
Figure 3 - Galvanic series of metals relative to CSE half cell.

5.3 Corrosion Cell

In order for corrosion to occur, four factors must be present. (1) The anode (2) the cathode (3) the electrolyte and (4) the metallic or conductive path joining the anode and the cathode. If any one of these is removed, corrosion activity will stop. This is how a simple battery produces electricity. An example of a non-metallic yet conductive material is graphite. Graphite is similar in nobility to gold. Do not connect graphite to anything in moist environments.



The anode is where the corrosion occurs, and the cathode is the corrosion free material. Sometimes the anode and cathode are different materials connected by a wire or union. Sometimes the anode and cathode are on the same pipe with one area of the pipe in a low oxygen zone while the other part of the pipe is in a high oxygen zone. A good example of this is a post in the ocean that is repeatedly splashed. Deep underwater, corrosion is minimal, but at the splash zone, the corrosion rate is greatest.



Low oxygen zones and crevices can also harbor corrosive bacteria which in moist environments will lead to corrosion. This is why pipes are laid on backfill instead of directly on native cut soil in a trench. Filling a trench slightly with backfill before installing pipe then finishing the backfill creates a uniform environment around the entire surface of the pipe.

The electrolyte is generally water, seawater, or moist soil which allows for the transfer of ions and electrical current. Pure water itself is not very conductive. It is when salts and minerals dissolve into pure water that it becomes a good conductor of electricity and chemical reactions. Metal ores are turned into metal alloys which we use in construction. They naturally want to return to their natural metal ore state but it requires energy to return to it. The corrosion cell, creates the energy needed to return a metal to its natural ore state.

The metallic or conductive path can be a wire or coupling. Examples are steel threaded into a copper joint, or an electrician grounding equipment to steel pipes inadvertently connecting electrical grid copper grounding systems to steel or iron underground pipes.

The ratio of surface area between the anode and the cathode is very important. If the anode is very large, and the cathode is very small, then the corrosion rate will be very small and the anode may live a long life. An example of this is when short copper laterals were connected to a large and long steel pipeline. The steel had plenty of surface area to spread the copper's attack, thus corrosion was not

noticeable. But if the copper was the large pipe and the steel the short laterals, the steel would corrode at an amazing rate.

5.4 Design Considerations to Avoid Corrosion

The following recommendations are based upon typical observations and conclusions made by forensic engineers in construction defect lawsuits and NACE International (Corrosion Society) recommendations.

5.4.1 Testing Soil Factors (Resistivity, pH, REDOX, SO, CL, NO3, NH3)

As previously mentioned, different factors can cause corrosion. The most useful and common test for categorizing a soil's corrosivity has been the measure of soil resistivity which is typically measured in units of (ohm-cm) by corrosion engineers and geologists. Soil resistivity is the ability of soil to conduct or resist electrical currents and ion transfer. The lower the soil resistivity, the more conductive and corrosive it is. The following are "generally" accepted categories but keep in mind, the question is not "Is my soil corrosive?", the question should be, "What is my soil corrosive to?" and to answer that question, soil resistivity and chemistry must be tested. Though **soil resistivity is a good corrosivity indicator for steel materials, high chlorides or other corrosive elements do not always lower soil resistivity, thus if you don't test for chlorides and other water soluble salts, you can get an unpleasant surprise.** The largest contributing factor to a soil's electrical resistivity is its clay, mineral, metal, or sand make-up.

Table 2 - Corrosion Basics- An Introduction, NACE, 1984, pg 191

(Ohm-cm)	Corrosivity Description
0-500	Very Corrosive
500-1,000	Corrosive
1,000-2,000	Moderately Corrosive
2,000-10,000	Mildly Corrosive
Above 10,000	Progressively less corrosive

Testing a soil's pH provides information to reference the Pourbaix diagram of specific metals. Some elements such as ammonia and nitrates can create localized alkaline conditions which will greatly affect amphoteric materials such as aluminum and copper alloys.

Excess sulfates can break-down the structural integrity of cement and high concentrations of chlorides can overcome cement's corrosion inhibiting effect on encased ferrous metals and break down protective passivated surface layers on stainless steels and aluminum.

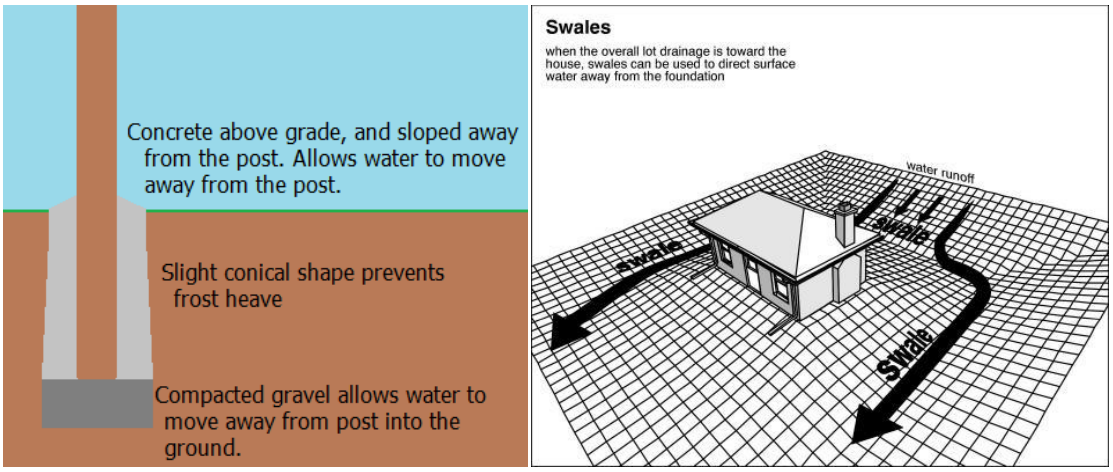
Corrosive bacteria are everywhere but can multiply significantly in anaerobic conditions with plentiful sulfates. The bacteria themselves do not eat the metal but their by-products can form corrosive sulfuric acids. The probability of corrosive bacteria is tested by measuring a soil's oxidation-reduction (REDOX) electro-potential and by testing for the presence of sulfides.

Only by testing a soil's chemistry for minimum resistivity, pH, chlorides, sulfates, sulfides, ammonia, nitrate, and redox potential can one have the information to evaluate the corrosion risk to construction materials such as steel, stainless steel, galvanized steel, iron, copper, brass, aluminum, and concrete.

5.4.2 Proper Drainage

It cannot be emphasized enough that pooled stagnant water on metals will eventually lead to corrosion. This stands for internal corrosion and external corrosion situations. In soils, providing good drainage will lower soil moisture content reducing corrosion rates. Attention to properly sealing polyethylene wraps around valves and piping will avoid water intrusion which would allow water to pool against metals. Above ground structures should not have cupped or flat surfaces that will pond water after rain or irrigation events.

Buildings typically are built on pads and have swales when constructed to drain water away from buildings directing it towards an acceptable exit point such as a driveway where it continues draining to a local storm drain. Many homeowners, landscapers and flatwork contractors appear to not be aware of this and destroy swales during remodeling. The majority of garage floor and finished grade elevations are governed by drainage during design.[11,12]



5.4.3 Avoiding Crevices

Crevices are excellent locations for oxygen differential induced corrosion cells to begin. Crevices can also harbor corrosive bacteria even in the most chemically treated waters. Crevices will also gather salts. If water's total alkalinity is low, its ability to maintain a stable pH can also become more difficult within a crevice allowing the pH to drop to acidic levels continuing a pitting process. Welds in extremely corrosive environments should be complete and well filleted without sharp edges to avoid crevices. Sharp edges should be avoided to allow uniform coating of protective epoxy. Detection of crevices in welds should be treated immediately. If pressures and loads are low, sanding and rewelding or epoxy patching can be suitable repairs. Damaged coatings can usually be repaired with Direct to Metal paints. **Scratches and crevice corrosion are like infections, they should not be left to fester or the infection will spread making things worse.**

[11] https://www.fencedaddy.com/blogs/tips-and-tricks/132606467-how-to-repair-a-broken-fence-post

[12] http://southdownstudio.co.uk/problme-drainage-maison.html

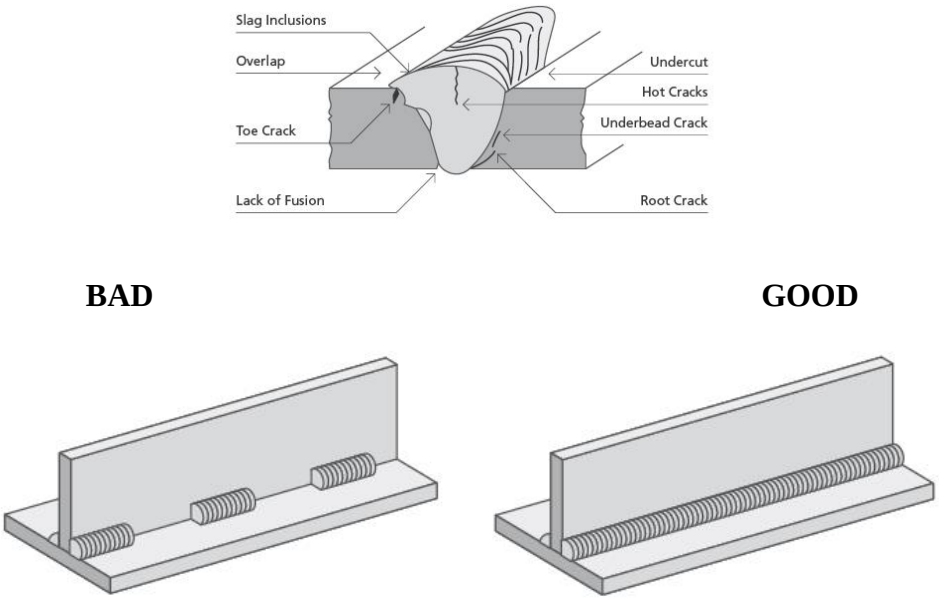


Figure 4 Defects which form weld crevices[13]

5.4.4 Coatings and Cathodic Protection

When faced with a corrosive environment, the best defense against corrosion is removing the electrolyte from the corrosion cell by applying coatings to separate the metal from the soil. During construction and installation, there is always some scratch or damage made to a coating. NACE training recommends that coatings be used as a first line of defense and that sacrificial or impressed current cathodic protection is used as a 2nd line of defense to protect the scratched areas. Use of a good coating dramatically reduces the amount of anodes a CP system would need. If CP is not installed as a 2nd line of defense in an extremely corrosive environment, the small scratched zones will suffer accelerated corrosion. CP details such as anode installation instructions must be designed by corrosion engineers or vessel manufacturers on a per project basis because it depends on electrolyte resistivity, surface area of infrastructure to be protected, and system geometry.

There are two types of cathodic protection systems, a Galvanic Anode Cathodic Protection (GACP) system and an Impressed Current Cathodic Protection (ICCP) system. A Galvanic Anode Cathodic Protection (GACP) system is simpler to install and maintain than an Impressed Current Cathodic Protection (ICCP) system. To protect the metals, they must all be electrically continuous to each other. In a GACP system, sacrificial zinc or magnesium anodes are then buried at locations per the CP design and connected by wire to a structure at various points in system. At the connection points, a wire connecting to the structure and the wire from the anode are joined in a Cathodic Protection Test Station hand hole which looks similar in size and shape to an irrigation valve pull box. By coating the underground structures, one can reduce the number of anodes needed to provide cathodic protection by 80% in many instances.

An ICCP system requires a power source, a rectifier, significantly more trenching, and more expensive type anodes. These systems are typically specified when bare metal is requiring protection

[13] http://www.daroproducts.co.uk/makes-good-weld/

in severely corrosive environments in which galvanic anodes do not provide enough power to polarize infrastructure to -850 mV structure-to-soil potential or be able to create a 100 mV potential shift as required by NACE SP169 to control corrosion. In severely corrosive environments, a GACP system simply may not last a required lifetime due to the high rate of consumption of the sacrificial anodes. ICCP system rectifiers must be inspected and adjusted quarterly or at a minimum bi-annually per NACE recommendations. Different anode installations may be possible but for large sites, anodes are placed evenly throughout the site and all anode wires must be trenched to the rectifier. For a large site, it may be beneficial to use two or more rectifiers to reduce wire lengths or trenching.

To simplify, a GACP system can be installed and practically forgotten with minor trenching because the anodes can be installed very close to the structures. An ICCP system must be inspected annually and anode wires run back to the rectifier which itself connects to the pile system. If any type of trenching or development is expected to occur at the site during the life of the site, it is a good idea to inspect the anode connections once a year to make sure wires are not cut and that the infrastructure is still being provided adequate protection. A common situation that occurs with ICCP systems is that a contractor accidently cuts the wires during construction then reconnects them incorrectly, turning the once cathode, into a sacrificing anode.

Design of a cathodic protection system protecting against soil side corrosion requires that Wenner Four Pin ground resistance measurements per ASTM G57 be performed by corrosion engineers at various locations of the site to determine the best depths and locations for anode installations. Ideally, a sample pile is installed and experiments determining current requirement are conducted. Using this data, the decision is made whether a GACP system is feasible or if an ICCP must be used.

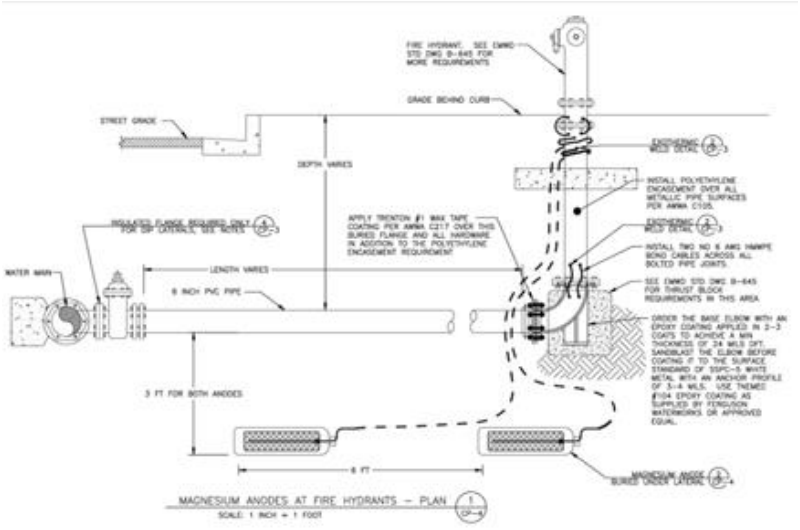


Figure 5 Sample anode design for fire hydrant underground piping

Vessels such as water tanks will have protective interior coatings and anodes to protect the interior surfaces. Anodes can also be buried on site and connected to system skid supports to protect the metal in contact with soil. A good example of a vessel cathodic protection system exists in all home water heaters which contain sacrificial aluminum or magnesium anodes. In environments that exceed 140F, zinc anodes cannot be used with carbon steel because they become the aggressor (Cathodic) to

the steel instead of sacrificial (anodic). Anodes in vessels containing extremely brackish water with chloride levels over 2,000 ppm should inspect or change out their anodes every 6 months.

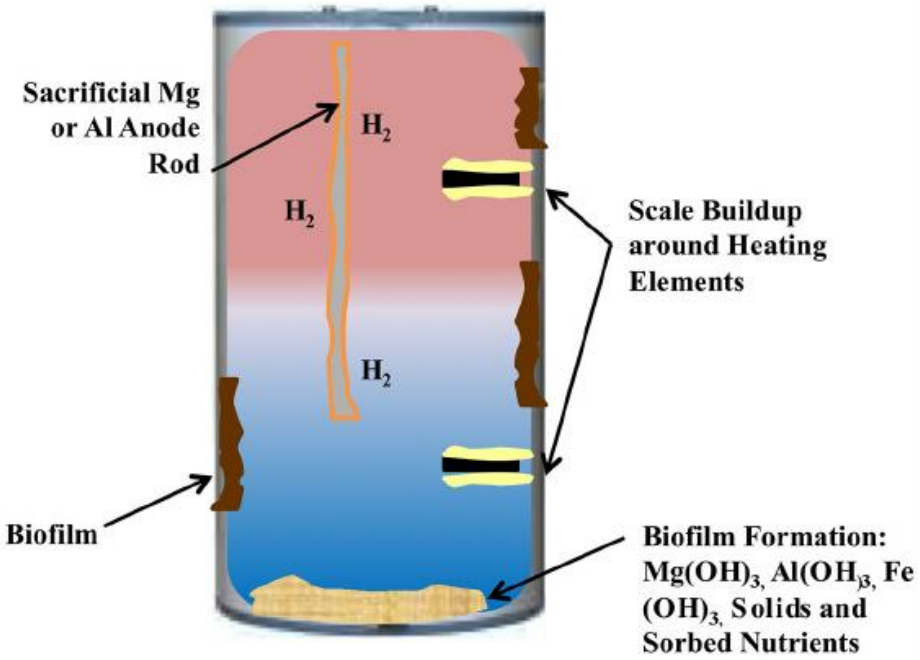


Figure 6 Cross section of boiler with anode

Cathodic protection can only protect a few diameters within a pipeline thus it is not recommended for small diameter pipelines and tubing internal corrosion protection. Anodes are like a lamp shining light in a room. They can only protect along their line of sight.

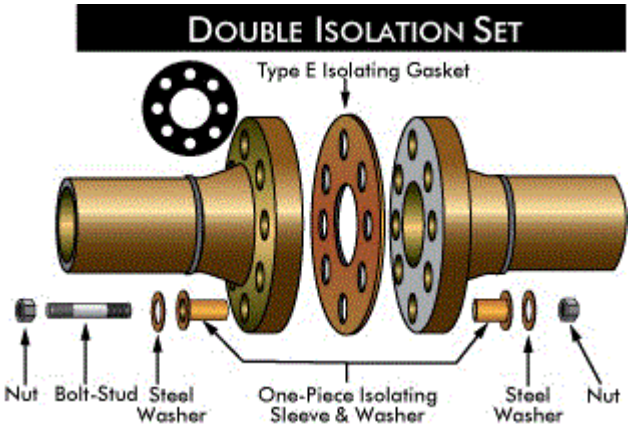
5.4.5 Good Electrical Continuity

In order for cathodic protection to protect a long pipeline or system of pipes from external soil side corrosion, they must all be electrically continuous to each other so that the electric current from the anode can travel along the pipes, then return through the earth to the anode. Electrical continuity is achieved by welding or pin brazing #8 AWG copper strand bond cable to the end of pipe sticks which have rubber gaskets at bell and spigots. If steel pipes are joined by full weld, bonding wires are not needed.

Electrical continuity between dissimilar metals is not desirable. Isolation joints or di-electric unions should be installed between dissimilar metals, such as steel pipes connecting to a brass valve. Bonding wires should then be welded onto the steel pipes by-passing the brass valve so that the cathodic protection system's current can continue to travel along the steel piping but isolate the brass valve from the steel pipeline. Another option would be to provide a separate cathodic protection system for steel pipes on both sides of the brass valve.

Typically, water heater inlets and outlets, gas meters and water meters have dielectric unions installed in them to separate utility property from homeowner property. This also protects them in the case that a home owner somehow electrically connects water pipes or gas pipes to a neighborhood electrical grounding system which can potentially have less noble steel in soil now connected to much

more noble copper in soil which will then create a corrosion cell. This is exactly how a lemon powered clock works when a galvanized zinc nail and a steel nail are inserted into a lemon then connected to a clock. The clock is powered by the corrosion cell created.



5.4.6 Bad Electrical Continuity

Bad electrical continuity is when two different materials or systems are made electrically continuous (aka shorted) when they were not designed to be electrically continuous. Examples of this would be when gas lines are shorted to water lines or to electrical grounding beds. Very often, fire risers are shorted to electrical grounding systems, and water pipes at business parks. Since fire risers usually have a very short ductile iron pipe in the ground which connects to PVC pipe systems, they tend to experience leaks after 7 to 10 years of being attacked by underground copper systems.

It is absolutely imperative that any copper water piping or other metal conduits penetrating cement slab or footings, not come in contact with the reinforcing steel or post-tensioning tendons to avoid creation of galvanic corrosion cells.

5.4.7 Corrosion Test Stations

Corrosion test stations should be installed every 1,000 feet along pipelines in order to measure corrosion activity in the future. For a simple pipeline, two #8 AWG copper strand bond cable welded or pin brazed onto the pipeline are run up to finished grade and left in a hand hole. Corrosion test stations are used to measure pipe-to-soil electro potential relative to a copper copper-sulfate reference electrode to determine if the pipe is experiencing significant corrosion activity. By measuring test stations along a pipeline, hot spots can be determined, if any. The wires also allow for electrical continuity testing, condition assessment, and a multitude of other types of tests.

At isolation joints and pipe casings, two wires should be welded to either side of the isolation joint for a total of 4 wires to be brought up to the hand hole. This allows for future tests of the isolation joint, casing separation confirmation, and pipe-to-soil potential readings during corrosion surveys.

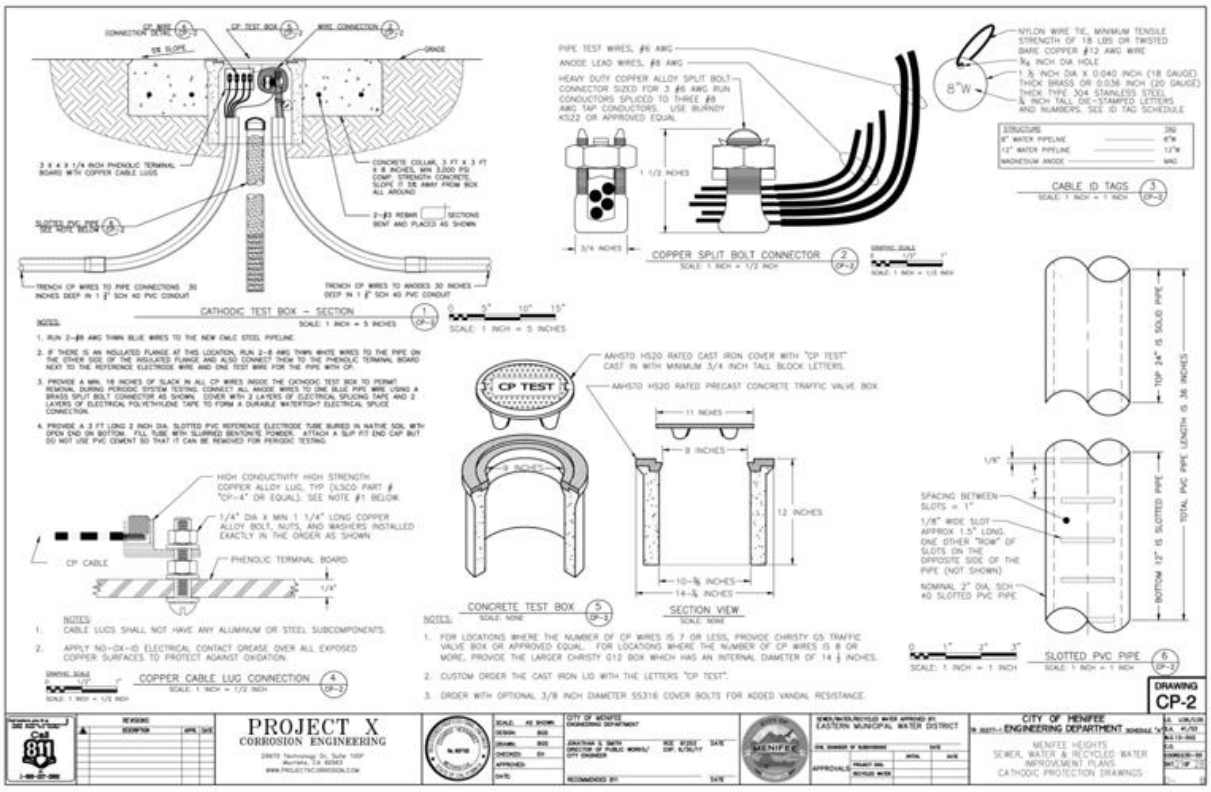


Figure 7 Sample of corrosion test station specification drawing

5.4.8 Excess Flux in Plumbing

Investigations of internal corrosion of domestic water plumbing systems almost always finds excess flux to be the cause of internal pitting of copper pipes. Some people believe that there is no such thing as too much flux. Flux runs have been observed to travel up to 20 feet with pitting occurring along the flux run. Flushing a soldered plumbing system with hot water for 15 minutes can remove significant amounts of excess flux left in the pipes. If a plumbing system is expected to be stagnant for some time, it should be drained to avoid stagnant water conditions that can lead to pitting and dezincification of yellow brasses.

5.4.9 Landscapers and Irrigation Sprinkler Systems

A significant amount of corrosion of fences is due to landscaper tools scratching fence coatings and irrigation sprinklers spraying these damaged fences. Recycled water typically has a higher salt content than potable drinking water, meaning that it is more corrosive than regular tap water. The same risk from damage and water spray exists for above ground pipe valves and backflow preventers. Fiber glass covers, cages, and cement footings have worked well to keep tools at an arm's length.

5.4.10 Roof Drainage splash zones

Unbelievably, even the location where your roof drain splashes down can matter. We have seen drainage from a home's roof valley fall directly down onto a gas meter causing it's piping to corrode at an accelerated rate reaching 50% wall thickness within 4 years. It is the same effect as a splash

zone in the ocean or in a pool which has a lot of oxygen and agitation that can remove material as it corrodes.

5.4.11 Stray Current Sources

Stray currents which cause material loss when jumping off of metals may originate from direct-current distribution lines, substations, or street railway systems, etc., and flow into a pipe system or other steel structure. Alternating currents may occasionally cause corrosion. The corrosion resulting from stray currents (external sources) is similar to that from galvanic cells (which generate their own current) but different remedial measures may be indicated. In the electrolyte and at the metal-electrolyte interfaces, chemical and electrical reactions occur and are the same as those in the galvanic cell; specifically, the corroding metal is again considered to be the anode from which current leaves to flow to the cathode. Soil and water characteristics affect the corrosion rate in the same manner as with galvanic-type corrosion.

However, stray current strengths may be much higher than those produced by galvanic cells and, as a consequence, corrosion may be much more rapid. Another difference between galvanic-type currents and stray currents is that the latter are more likely to operate over long distances since the anode and cathode are more likely to be remotely separated from one another. Seeking the path of least resistance, the stray current from a foreign installation may travel along a pipeline causing severe corrosion where it leaves the line. Knowing when stray currents are present becomes highly important when remedial measures are undertaken since a simple sacrificial anode system is likely to be ineffectual in preventing corrosion under such circumstances.[14] Stray currents can be avoided by installing proper electrical shielding, installation of isolation joints, or installation of sacrificial jump off anodes at crossings near protected structures such as metal gas pipelines or electrical feeders.

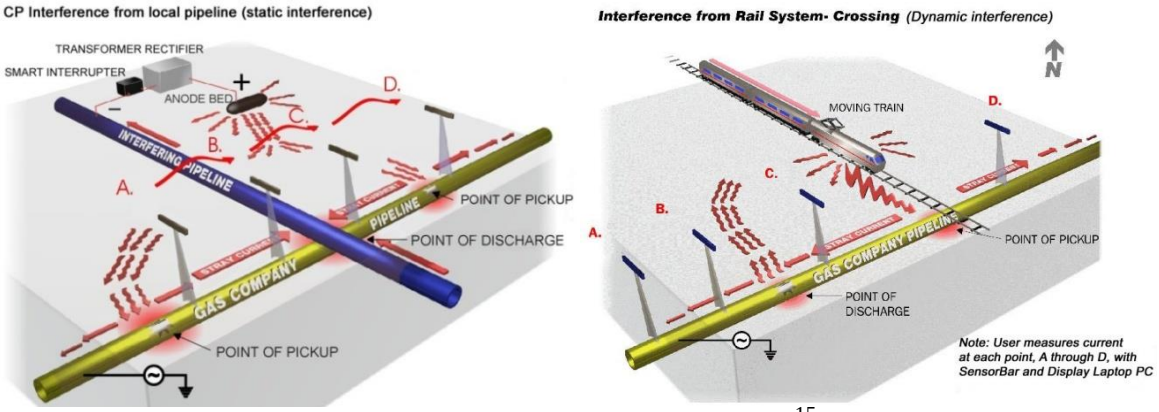


Figure 8 Examples of Stray Current[15]

[14] http://corrosion-doctors.org/StrayCurrent/Introduction.htm

[15] http://www.eastcomassoc.com/

Project X
Corrosion Engineering
Corrosion Control - Soil, Water, and Metallurgy Lab

Lab Request Sheet Chain of Custody
Phone: (213) 928-7213 · Fax (951) 226-1720 · www.projectxcorrosion.com

Ship Samples To: 29990 Technology Dr, Suite 13, Murrieta, CA 92563

Project X Job Number: S2006l2C Rockridge 20-1858 Santa Clara 5Full +Rpt

IMPORTANT: Please complete Project and Sample Identification Data as you would like it to appear in report & include this form with samples.

Company Name:	Rockridge Geotechnical, Inc.	**Contact Name:**	Linda Liang
Mailing Address:	270 Grand Ave, Oakland, CA	**Phone No:**	510-227-7576
Accounting Contact:	Jarka Stepanek	**Contact Email:**	lhliang@rockridgegeo.com
Client Project No:	20-1858	**Invoice Email:**	invoices@rockridgegeo.com
P.O. #:		**Project Name:**	East Santa Clara

(Business Days) Turn Around Time: 3-5 Day Standard | 3 Day Guarantee 50% mark-up | 2 Day RUSH 100% mark-up

Results By: ☐ Phone ☐ Fax ☐ Email ☐ Mail ☐ Overnight Mail (charges apply)

Date & Received by : 6/12/2020

Special Instructions:

ANALYSIS REQUESTED (Please circle)

	SAMPLE ID - BORE #	DESCRIPTION	DEPTH (ft)	DATE COLLECTED
58	1 B-1	Clay with Sand (CL), gray-brown	1.25-1.75	6/3/20
59	2 B-1	Clay with Sand (CL), gray -brown	3.25-3.75	6/3/20
60	3 B-2	Sandy Clay with Gravel (CL), olive-gray	4-4.5	6/4/20
61	4 B-2	Clay (CL)	6-6.5	6/4/20
62	5 B-3	Clayey Sand with Gravel (CL) olive-brown	3-3.5	6/4/20
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			

Default Method	Soil Resistivity	pH	Sulfate	Chloride	Redox Potential	Sulfide	Ammonia	Nitrate	Flouride	Phosphate	Lithium	Sodium	Potassium	Magnesium	Calcium	BiCarbonate	Full Corrosion Series	Soil Corrosivity Evaluation Report	Water Corrosivity Mini Report	Moisture Content	Total Alkalinity	Thermal Resistivity	Metallurgical Analysis	Langelier Index	Puckorius Index	XRF Elemental Analysis	Water Hardness
	Caltrans CTM643	Caltrans CTM643	Caltrans CTM417	Caltrans CTM422																ASTM D2216	SM 2320B						
	AASHTO T2888	AASHTO T 289	AASHTO T 290	AASHTO T 291	SM 2580B		SM 4500-NH3	SM 4500-NO3																			
	ASTM G187	ASTM G 51	ASTM D4327	ASTM D4327	ASTM G200	SM 4500-S2	ASTM D4327	ASTM D4327	ASTM D4327	ASTM D4327	ASTM D4327	ASTM D4327	ASTM D4327	ASTM D4327	ASTM D4327	SM 2320B											
	Geo Quad				Full Corrosion Series													Reports									
																	*Req: Min. 3 Samples, site map, and groundwater info										
58																	X	X									
59																	X	X									
60																	X	X									
61																	X	X									
62																	X	X									

ROCKRIDGE GEOTECHNICAL

APPENDIX D

Liquefaction Analysis Results

Rockridge Geotechnical, Inc.
270 Grand Avenue
Oakland, CA 94610
https://www.rockridgegeo.com/

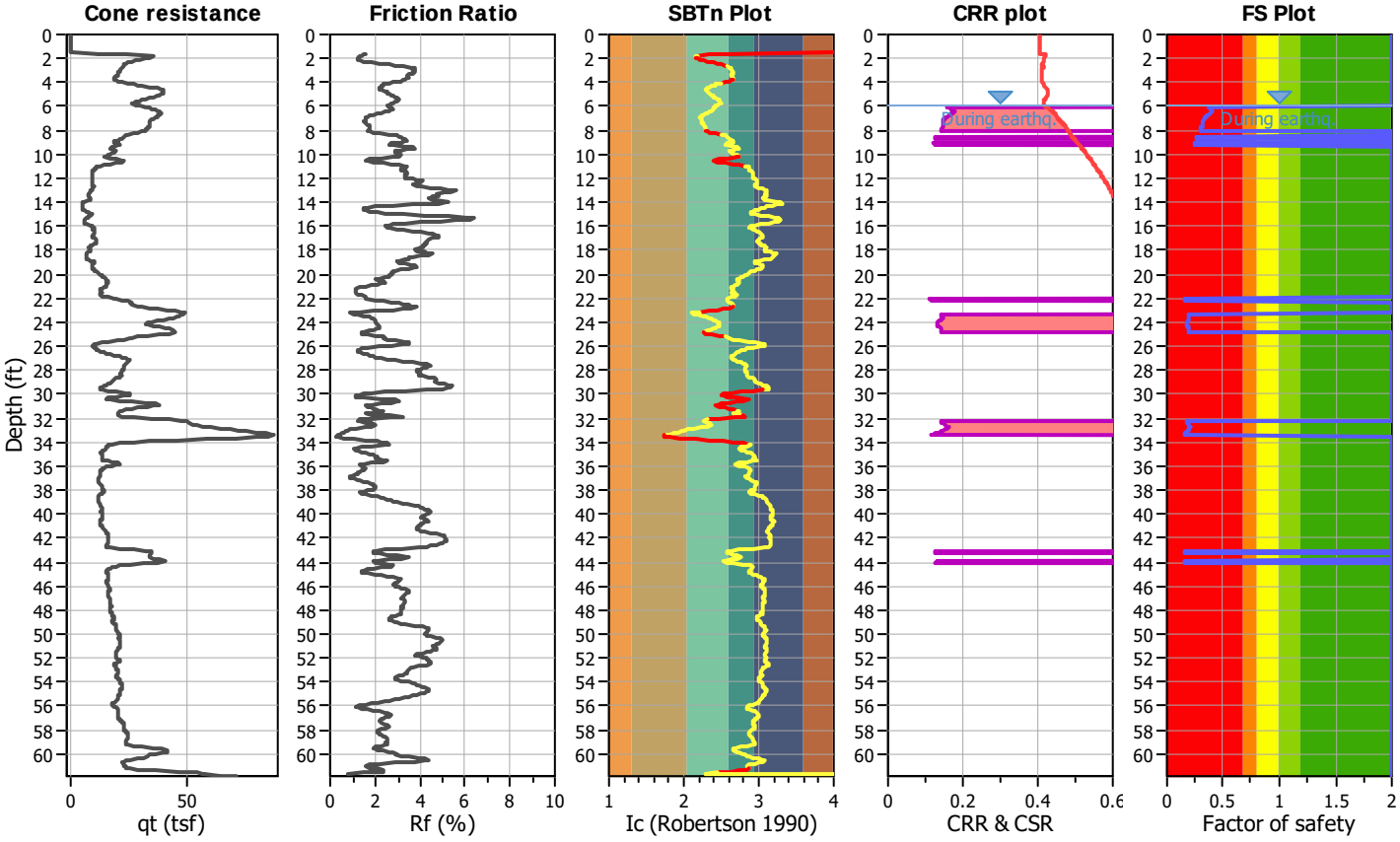
LIQUEFACTION ANALYSIS REPORT

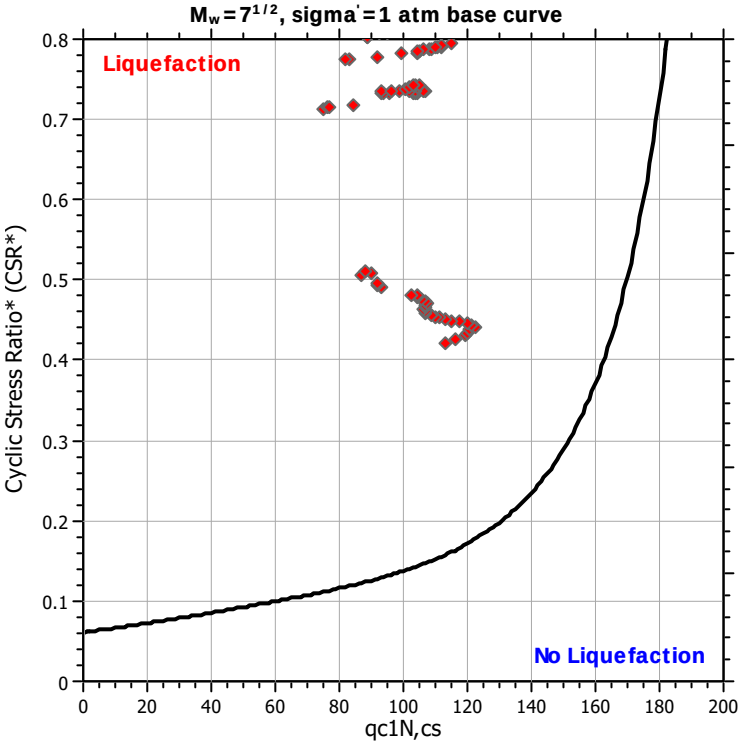
Project title : East Santa Clara - Phase 1 **Location : San Jose, California**

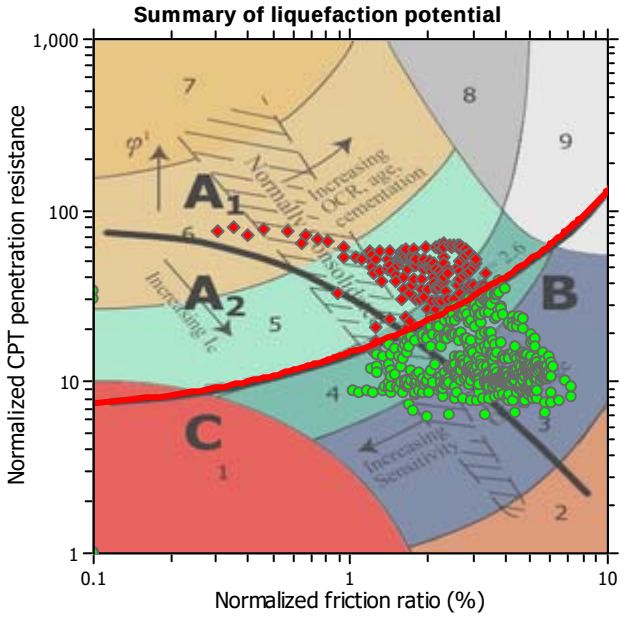
CPT file : CPT-1

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	9.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	6.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	8.04	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method
Peak ground acceleration:	0.67	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

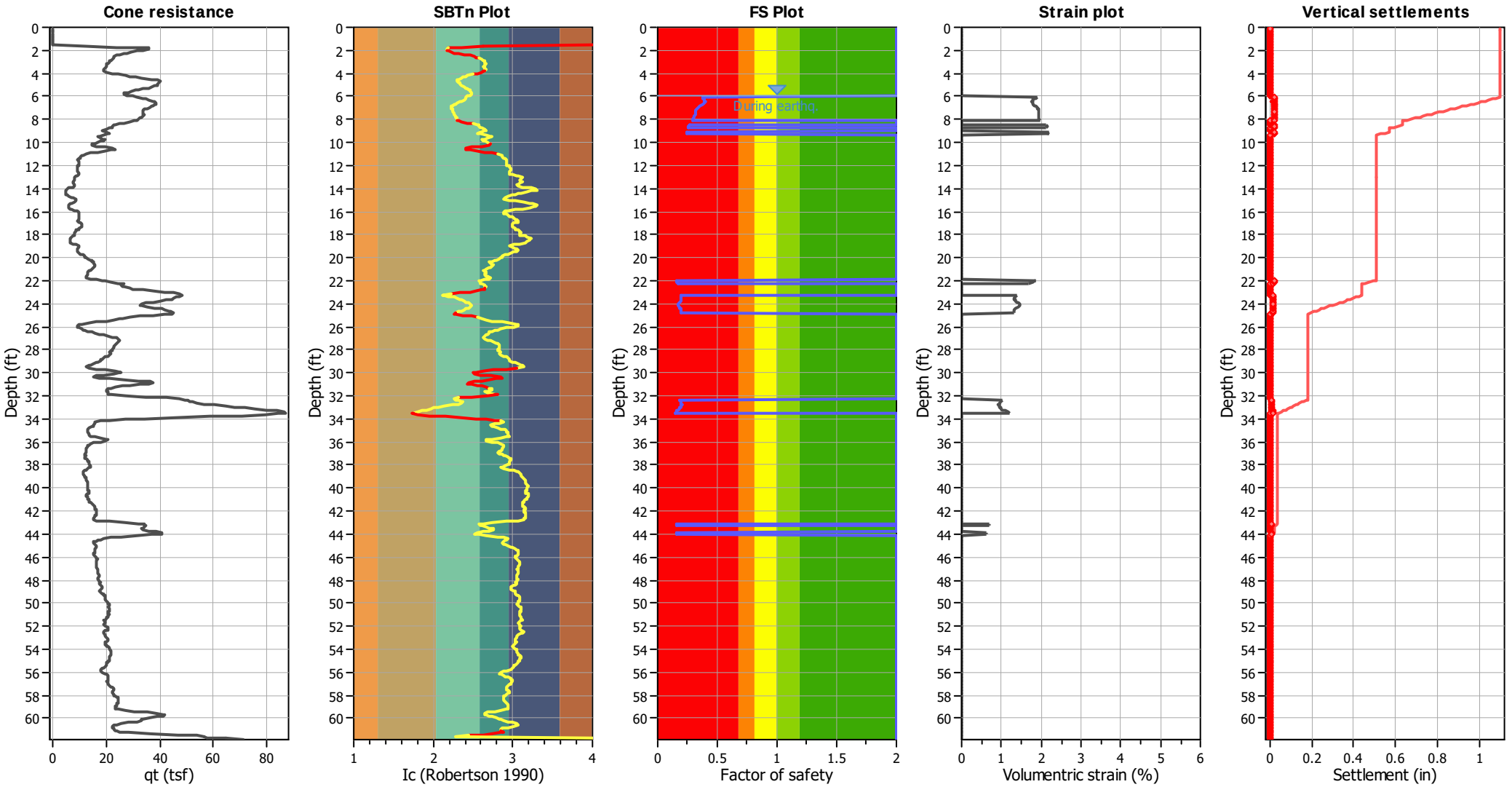






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

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270 Grand Avenue
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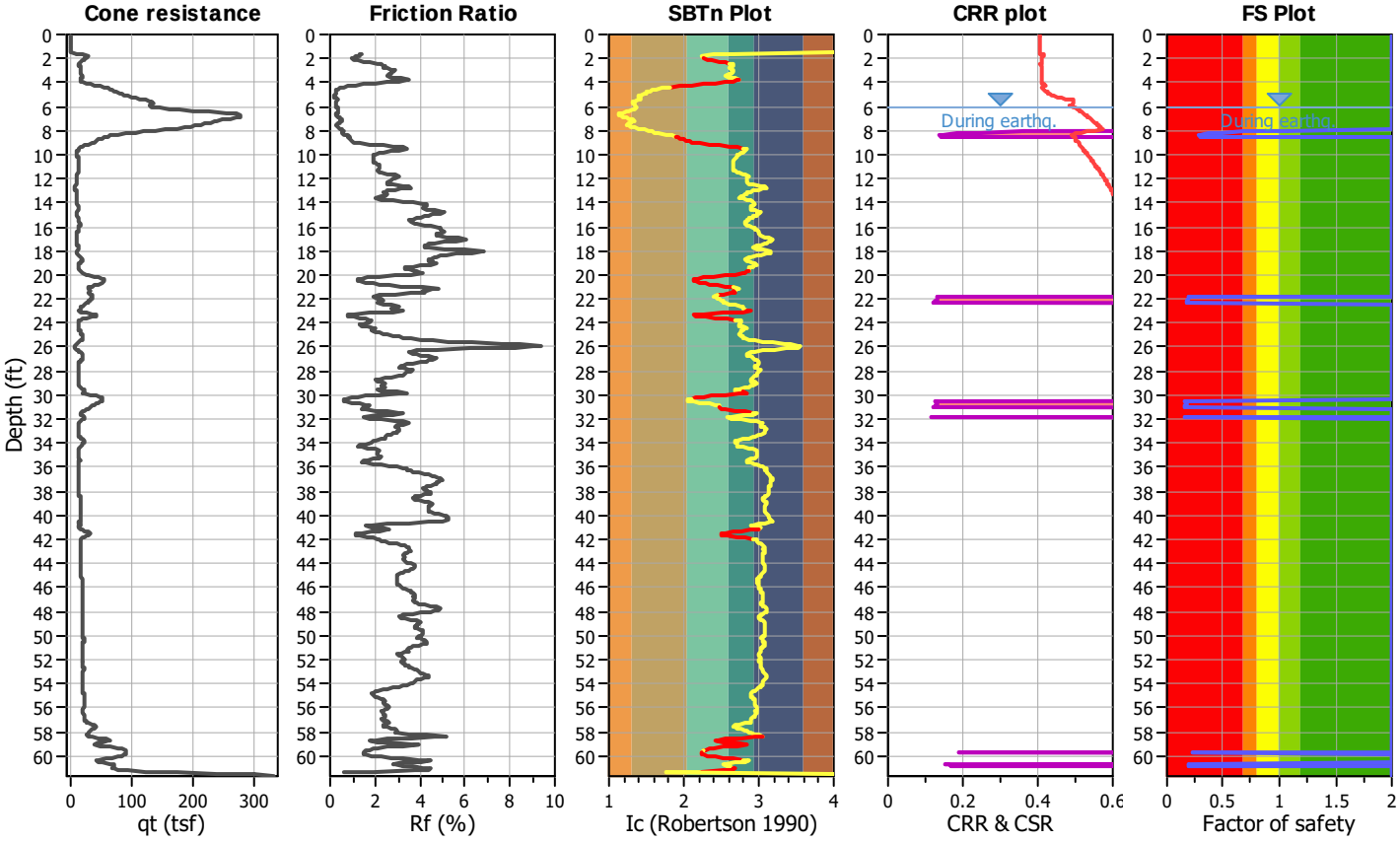
LIQUEFACTION ANALYSIS REPORT

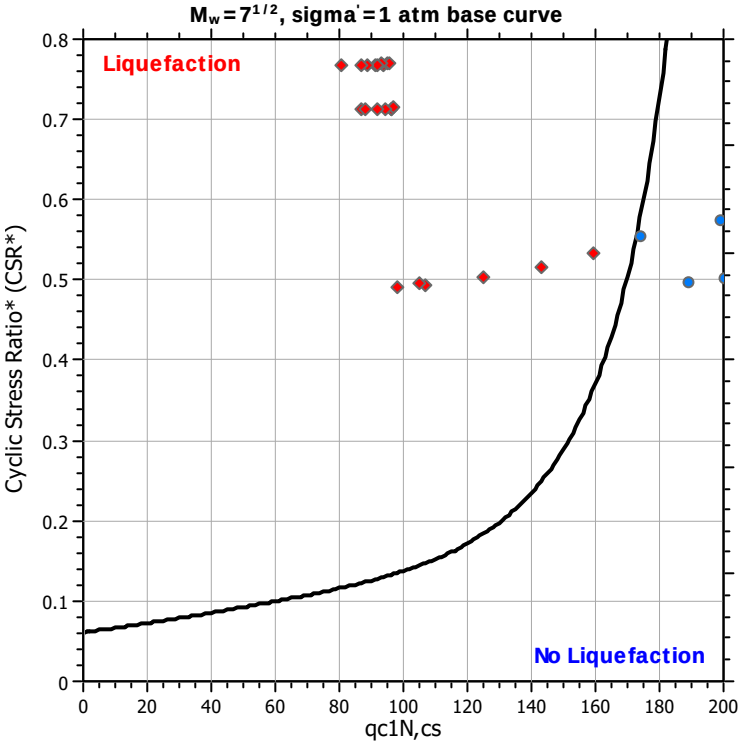
Project title : East Santa Clara - Phase 1 **Location : San Jose, California**

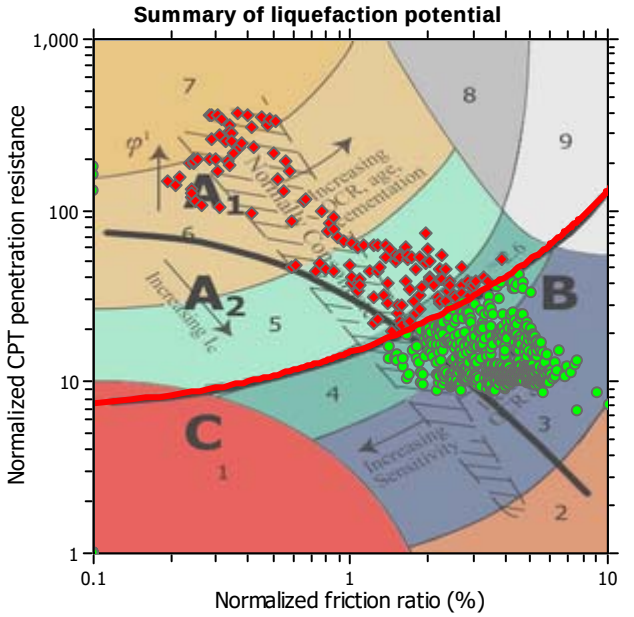
CPT file : CPT-2

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	9.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	6.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	8.04	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method
Peak ground acceleration:	0.67	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

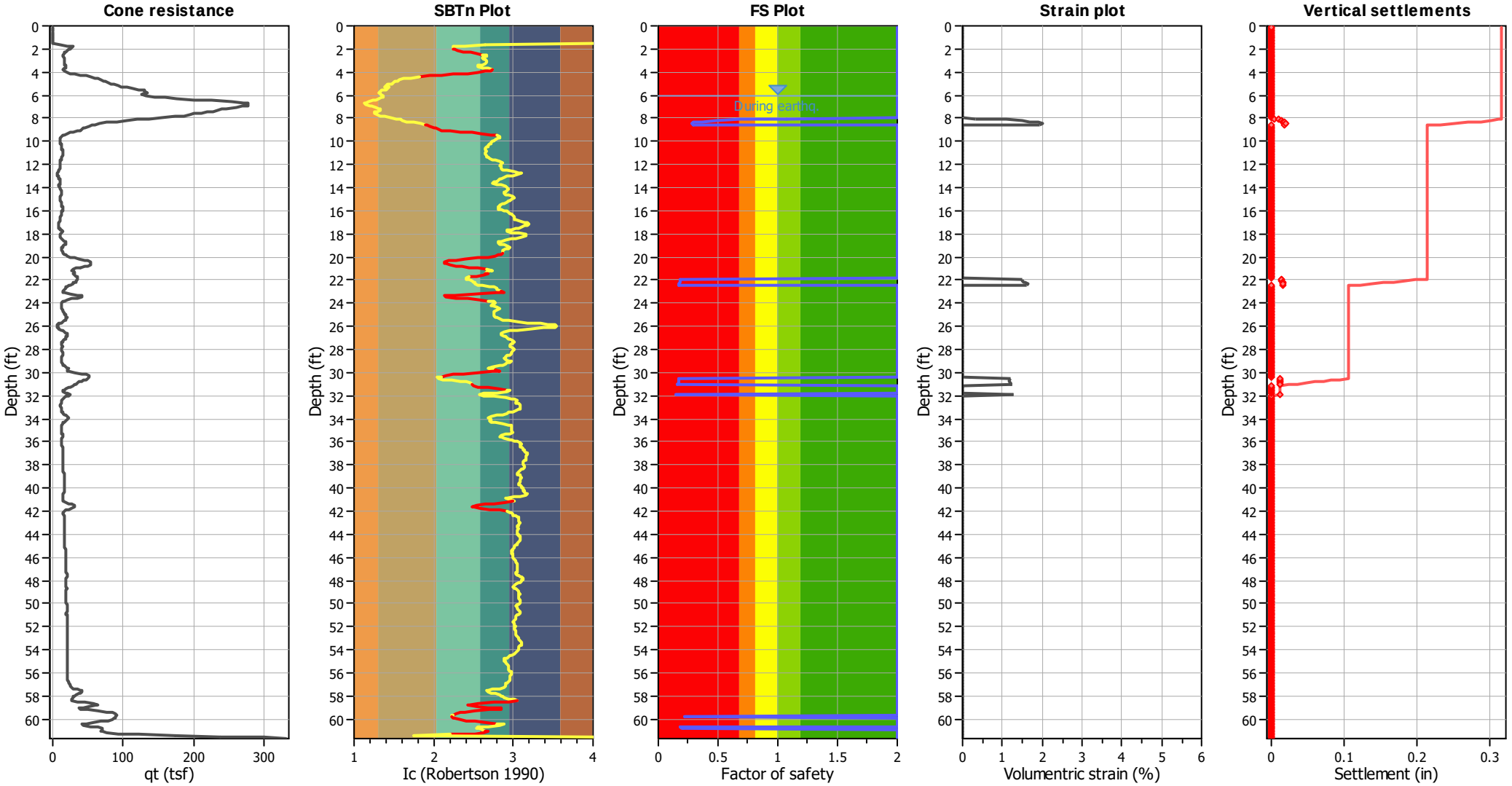






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																	
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
1	0.08	0.01	0	0	0	0	0	1	0.44	0.98	0.44	1.1	2	0	0	0	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
2	0.16	0.01	0	0	0	0.01	0.01	1	0.44	0.98	0.44	1.1	2	0	0.01	0.01	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
3	0.25	0.01	0	0	0	0.01	0.01	1	0.44	0.98	0.44	1.1	2	0	0.01	0.01	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
4	0.33	0.01	0	0	0	0.01	0.01	1	0.44	0.98	0.44	1.1	2	0	0.01	0.01	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
5	0.41	0.01	0	0	0	0.02	0.02	1	0.44	0.98	0.44	1.1	2	0	0.02	0.02	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
6	0.49	0.01	0	0	0	0.02	0.02	1	0.44	0.98	0.44	1.1	2	0	0.02	0.02	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
7	0.57	0.01	0	0	0	0.03	0.03	1	0.44	0.98	0.44	1.1	2	0	0.03	0.03	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
8	0.66	0.01	0	0	0	0.03	0.03	1	0.44	0.98	0.44	1.1	2	0	0.03	0.03	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
9	0.74	0.01	0	0	0	0.03	0.03	1	0.44	0.98	0.44	1.1	2	0	0.03	0.03	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
10	0.82	0.01	0	0	0	0.04	0.04	1	0.44	0.98	0.44	1.1	2	0	0.04	0.04	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
11	0.9	0.01	0	0	0	0.04	0.04	1	0.44	0.98	0.44	1.1	2	0	0.04	0.04	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
12	0.98	0.01	0	0	0	0.04	0.04	1	0.44	0.98	0.44	1.1	2	0	0.04	0.04	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
13	1.07	0.01	0	0	0	0.05	0.05	1	0.44	0.98	0.44	1.1	2	0	0.05	0.05	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
14	1.15	0.01	0	0	0	0.05	0.05	1	0.44	0.98	0.44	1.1	2	0	0.05	0.05	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
15	1.23	0.01	0	0	0	0.05	0.05	1	0.44	0.98	0.44	1.1	2	0	0.05	0.05	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
16	1.31	0.01	0	0	0	0.06	0.06	1	0.44	0.98	0.44	1.1	2	0	0.06	0.06	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
17	1.39	0.01	0	0	0	0.06	0.06	1	0.44	0.98	0.44	1.1	2	0	0.06	0.06	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
18	1.48	0.01	0	0	0	0.06	0.06	1	0.44	0.98	0.44	1.1	2	0	0.06	0.06	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.97	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
19	1.56	0.01	0	0	0	0.07	0.07	1	0.44	0.98	0.44	1.1	2	0	0.07	0.07	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.97	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
20	1.64	0.01	0	0	0	0.07	0.07	1	0.44	0.98	0.44	1.1	2	0	0.07	0.07	11.7	72.78	2.62	0.63	1.7	0.02	0	0.02	4	2	0	0	0.97	0	101.8	0.94	0	0	0	0	0	0	0	0	N/A	N/A
21	1.72	35.07	0.56	1.38	0	0.08	0.08	1	0.44	0.94	0.46	1.1	2	0	0.08	0.08	23.86	50.95	2.35	0.46	1.7	56.34	61.33	117.68	4	2	0	0	0.97	0	21.58	0.65	0	0	0	0	0	0	0	0	N/A	N/A
22	1.8	36.46	0.51	1.58	0	0.08	0.08	1	0.44	0.94	0.46	1.1	2	0	0.08	0.08	35.82	38.59	2.19	0.47	1.7	58.58	55.06	113.64	4	2	0	0	0.97	0	24.57	0.7	0	0	0	0	0	0	0	0	N/A	N/A
23	1.89	35.86	0.46	1.16	0	0.09	0.09	1	0.44	0.95	0.46	1.1	2	0	0.09	0.09	35.64	36.54	2.17	0.47	1.7	57.61	53.26	110.88	4	2	0	0	0.97	0	26.49	0.73	0	0	0	0	0	0	0	0	N/A	N/A
24	1.97	34.56	0.41	0.29	0	0.09	0.09	1	0.44	0.95	0.46	1.1	2	0	0.09	0.09	33.96	36.49	2.17	0.48	1.7	55.53	52.74	108.27	4	2	0	0	0.97	0	28.16	0.76	0	0	0	0	0	0	0	0	N/A	N/A
25	2.05	31.43	0.36	0.01	0	0.1	0.1	1	0.44	0.95	0.46	1.1	2	0	0.1	0.1	31.72	38.21	2.19	0.49	1.7	50.5	52.88	103.38	4	2	0	0	0.97	0	31.25	0.8	0	0	0	0	0	0	0	0	N/A	N/A
26	2.13	29.18	0.36	-0.01	0	0.1	0.1	1	0.44	0.96	0.46	1.1	2	0	0.1	0.1	29.47	40.64	2.22	0.5	1.7	46.88	53.64	100.53	4	2	0	0	0.96	0	33.04	0.81	0	0	0	0	0	0	0	0	N/A	N/A
27	2.21	27.8	0.35	0.38	0	0.1	0.1	1	0.44	0.96	0.46	1.1	2	0	0.1	0.1	27.77	43.67	2.26	0.5	1.7	44.66	54.86	99.52	4	2	0	0	0.96	0	33.45	0.82	0	0	0	0	0	0	0	0	N/A	N/A
28	2.3	26.31	0.37	0.15	0	0.11	0.11	1	0.44	0.96	0.45	1.1	2	0	0.11	0.11	26.38	47.86	2.31	0.5	1.7	42.27	56.3	98.57	4	2	0	0	0.96	0	33.78	0.82	0	0	0	0	0	0	0	0	N/A	N/A
29	2.38	24.94	0.46	6.62	0	0.11	0.11	1	0.44	0.96	0.45	1.1	2	0	0.11	0.11	24.83	54.53	2.39	0.5	1.7	40.07	58.28	98.35	4	2	0	0	0.96	0	33.49	0.82	0	0	0	0	0	0	0	0	N/A	N/A
30	2.46	23.13	0.57	0.59	0	0.12	0.12	1	0.44	0.96	0.45	1.1	2	0	0.12	0.12	23.81	59.6	2.46	0.51	1.7	37.16	59.02	96.19	4	2	0	0	0.96	0	34.95	0.83	0	0	0	0	0	0	0	0	N/A	N/A
31	2.54	23.24	0.57	0.71	0	0.12	0.12	1	0.44	0.96	0.45	1.1	2	0	0.12	0.12	23.08	63.87	2.51	0.5	1.7	37.34	60.17	97.51	4	2	0	0	0.96	0	33.75	0.82	0	0	0	0	0	0	0	0	N/A	N/A
32	2.62	22.82	0.66	1.71	0	0.13	0.13	1	0.44	0.96	0.45	1.1	2	0	0.13	0.13	23.03	66.19	2.54	0.5	1.7	36.66	60.51	97.17	4	2	0	0	0.96	0	33.93	0.82	0	0	0	0	0	0	0	0	N/A	N/A
33	2.71	22.98	0.75	1.77	0	0.13	0.13	1	0.44	0.96	0.45	1.1	2	0	0.13	0.13	22.85	69.31	2.58	0.5	1.7	36.92	61.24	98.16	4	2	0	0	0.95	0	33.09	0.81	0	0	0	0	0	0	0	0	N/A	N/A
34	2.79	22.72	0.82	-0.66	0	0.14	0.14	1	0.44	0.96	0.45	1.1	2	0	0.14	0.14	22.35	72.06	2.61	0.5	1.7	36.5	0	36.5	4	2	0	0	0.95	0	33.03	0.81	0	0	0	0	0	0	0	0	N/A	N/A
35	2.87	21.33	0.82	0.08	0	0.14	0.14	1	0.44	0.96	0.45	1.1	2	0	0.14	0.14	21.78	73.8	2.64	0.51	1.7	34.27	0	34.27	4	2	0	0	0.95	0	35.03	0.83	0	0	0	0	0	0	0	0	N/A	N/A
36	2.95	21.29	0.8	0.57	0	0.15	0.15	1	0.44	0.96	0.45	1.1	2	0	0.15	0.15	21.24	74.5	2.64	0.51	1.7	34.21	0	34.21	4	2	0	0	0.95	0	34.99	0.83	0	0	0	0	0	0	0	0	N/A	N/A
37	3.03	21.1	0.76	-0.08	0	0.15	0.15	1	0.44	0.96	0.45	1.1	2	0	0.15	0.15	21.07	74.39	2.64	0.51	1.7	33.9	0	33.9	4	2	0	0	0.95	0	35.32	0.84	0	0	0	0	0	0	0	0	N/A	N/A
38	3.12	20.84	0.77	-1.84	0	0.16	0.16	1	0.44	0.96	0.45	1.1	2	0	0.16	0.16	20.76	74.81	2.65	0.51	1.7	33.48	0	33.48	4	2	0	0	0.95	0	35.7	0.84	0	0	0	0	0	0	0	0	N/A	N/A
39	3.2	20.4	0.77	-2.07	0	0.16	0.16	1	0.44	0.96	0.45	1.1	2	0	0.16	0.16	20.36	75.58	2.66	0.51	1.7	32.78	0	32.78	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
40	3.28	19.93	0.74	-2.04	0	0.17	0.17	1	0.44	0.96	0.45	1.1	2	0	0.17	0.17	20.18	75.3	2.65	0.51	1.7	32.02	0	32.02	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
41	3.36	20.27	0.7	-0.96	0	0.17	0.17	1	0.44	0.96	0.45	1.1	2	0	0.17	0.17	20.25	74.22	2.64	0.51	1.7	32.57	0	32.57	4	2	0	0	0.94	0	36.8	0.85	0	0	0	0	0	0	0	0	N/A	N/A
42	3.44	20.62	0.68	-1.09	0	0.18	0.18	1	0.44	0.96	0.45	1.1	2	0	0.18	0.18	20.17	73.7	2.63	0.51	1.7	33.13	0	33.13	4	2	0	0	0.94	0	36.27	0.84	0	0	0	0	0	0	0	0	N/A	N/A
43	3.53	19.66	0.68	-1.6	0	0.18	0.18	1	0.44	0.96	0.45	1.1	2	0	0.18	0.18	19.69	74.57	2.64	0.52	1.7	31.59	0	31.59	4	2	0	0	0.94	0	37.84	0.86	0	0	0	0	0	0	0	0	N/A	N/A
44	3.61	18.85	0.67	-2.24	0	0.18	0.18	1	0.44	0.96	0.45	1.1	2	0	0.18	0.18	19.01	75.78	2.66	0.52	1.7	30.29	0	30.29	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
45	3.69	18.58	0.64	-0.89	0	0.19	0.19	1	0.44	0.96	0.45	1.1	2	0	0.19	0.19	18.89	75.3	2.65	0.52	1.7	29.85	0	29.85	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
46	3.77	19.28	0.61	-0.42	0	0.19	0.19	1	0.44	0.96	0.45	1.1	2	0	0.19	0.19	18.8	74.85	2.65	0.52	1.7	30.98	0	30.98	4	2	0	0	0.94	0	38.5	0.86	0	0	0	0	0	0	0	0	N/A	N/A
47	3.85	18.55	0.61	-0.38	0	0.2	0.2	1	0.44	0.96	0.45	1.1	2	0	0.2	0.2	19.28	73.81	2.64	0.52	1.7	29.8	0	29.8	4	2	0	0	0.93	0	40.05	0.87	0	0	0	0	0	0	0	0	N/A	N/A
48	3.94	20.02	0.65	-0.45	0	0.2	0.2	1	0.44	0.96	0.45	1.1	2	0	0.2	0.2	20.24	71.82	2.61	0.52	1.7	32.16	0	32.16	4	2	0	0	0.93	0	37.67	0.85	0	0	0	0	0	0	0	0	N/A	N/A
49	4.02	22.17	0.64	0.12	0	0.21	0.21	1	0.44	0.96	0.45	1.1	2	0	0.21	0.21	22.37	66.81	2.55	0.51	1.7	35.62	60.34	95.96	4	2	0	0	0.93	0	34.88	0.83	0	0	0	0	0	0	0	0	N/A	N/A
50	4.1	24.91	0.61	0.73	0	0.21	0.21	1	0.44	0.96	0.46	1.1	2	0	0.21	0.21	24.71	62.37	2.49	0.5	1.7	40.02	60.56	100.58	4	2	0	0	0.93	0	31.47	0.8	0	0	0	0	0	0	0	0	N/A	N/A
51	4.18	27.04	0.69	0.09	0	0.22	0.22	1	0.44	0.95	0.46	1.1	2	0	0.22	0.22	27.12	57.61	2.43	0.49	1.7	43.44	60.2	103.64	4	2	0	0	0.93	0	29.48	0.77	0	0	0	0	0	0	0	0	N/A	N/A
52	4.27	29.42	0.63	-2.27	0	0.22	0.22	1	0.44	0.95	0.46	1.1	2	0	0.22	0.22	28.85	55.82	2.41	0.48	1.7	47.27	60.69	107.95	4	2	0	0	0.93	0	26.74	0.74	0	0	0	0	0	0	0	0	N/A	N/A
53	4.35	30.15	0.72	-1.18	0	0.23	0.23	1	0.44	0.95	0.46	1.1	2	0	0.23	0.23	30.81	53.39	2.38	0.48	1.7	48.44	60.16	108.6	4	2	0	0	0.93	0	26.43	0.73	0	0	0	0	0	0	0	0	N/A	N/A
54	4.43	32.91	0.77	0.17	0	0.23	0.23	1	0.44	0.94	0.46	1.1	2	0	0.23	0.23	33.43	51.23	2.35	0.47	1.7	52.87	60.52	113.4	4	2	0	0	0.92	0	23.73	0.69	0	0	0	0	0	0	0	0	N/A	N/A
55	4.51	37.25	0.8	0.34	0	0.24	0.24	1	0.44	0.93	0.47	1.1	2	0	0.24	0.24	36.93	47.81	2.31	0.46	1.7	59.85	60.85	120.7	4	2	0	0	0.92	0	20.14	0.62	0	0	0	0	0	0	0	0	N/A	N/A
56	4.59	40.51	0.87	7.78	0	0.24	0.24	1	0.44	0.93	0.47	1.1	2	0	0.24	0.24	39.11	46.41	2.29	0.44	1.7	65.09	61.51	126.59	4	2	0	0	0.92	0	17.58	0.56	0	0	0	0	0	0	0	0	N/A	N/A
57	4.68	39.47	0.92	-1.06	0	0.25	0.25	1	0.44	0.93	0.47	1.1	2	0	0.25	0.25	40	46.79	2.3	0.45	1.7	63.41	61.27	124.69	4	2	0	0	0.92	0	18.37	0.58	0	0	0	0	0	0	0	0	N/A	N/A
58	4.76	39.94	0.97	-1	0	0.25	0.25	1	0.43	0.93	0.47	1.1	2	0	0.25	0.25	39.66	48.44	2.32	0.44	1.7	64.17	62.28	126.45	4	2	0	0	0.92	0	17.54	0.56	0	0	0	0	0	0	0	0	N/A	N/A
59	4.84	39.62	1.01	-1.48	0	0.26	0.26	1	0.43	0.93	0.47	1.1	2	0	0.26	0.26	39.64	49.24	2.33	0.44	1.7	63.66	62.52	126.18	4	2	0	0	0.92	0	17.62	0.56	0	0	0	0	0	0	0	0	N/A	N/A
60	4.92	39.43	1.01	-1.61	0	0.26	0.26	1	0.43	0.93	0.47	1.1	2	0	0.26	0.26	39.42	49.9	2.34	0.45	1.7	63.35	62.74	126.09	4	2	0	0	0.92	0	17.63	0.56	0	0	0	0	0	0	0	0	N/A	N/A
61	5	39.28	1.02	-1.48	0	0.27	0.27	1	0.43	0.93	0.47	1.1	2	0	0.27	0.27	38.92	50.72	2.35	0.45	1.7	63.11	63.04	126.15	4	2	0	0	0.92	0	17.58	0.56	0	0	0	0	0	0	0	0	N/A	N/A
62	5.09	38.12	1.03	-1.99	0	0.27	0.27	1	0.43	0.93	0.47	1.1	2	0	0.27	0.27	38.16	51.95	2.36	0.45	1.7	61.25	63.05	124.3	4	2	0	0	0.91	0	18.32	0.58	0	0	0	0	0	0	0	0	N/A	N/A
63	5.17	37.17	1.04	-2.22	0	0.28	0.28	1	0.43	0.93	0.47	1.1	2	0	0.28	0.28	37	53.6	2.38	0.45	1.7	59.72	63.29	123.01	4	2	0	0	0.91	0	18.83	0.59	0	0	0	0	0	0	0	0	N/A	N/A
64	5.25	35.82	1.03	-2.75	0	0.28	0.28	1	0.43	0.93	0.47	1.1	2	0	0.28	0.28	35.67	55.38	2.4	0.45	1.7	57.55	63.35	120.9	4	2	0	0	0.91	0	19.74	0.61	0	0	0	0	0	0	0	0	N/A	N/A
65	5.33	34.12	1.03	-2.67	0	0.29	0.29	1	0.43	0.94	0.46	1.1	2	0	0.29	0.29	33.93	57.46	2.43	0.46	1.7	54.82	63.3	118.12	4	2	0	0	0.91	0	21.02	0.64	0	0	0	0	0	0	0	0	N/A	N/A
66	5.41	31.98	0.99	-3.14	0	0.29	0.29	1	0.43	0.94	0.46	1.1	2	0	0.29	0.29	32.28	59.23	2.45	0.47	1.7	51.38	62.89	114.27	4	2	0	0	0.91	0	22.95	0.68	0	0	0	0	0	0	0	0	N/A	N/A
67	5.5	30.86	0.94	-3.2	0	0.3	0.3	1	0.43	0.94	0.46	1.1	2	0	0.3	0.3	30.8	60.21	2.47	0.47	1.7	49.58	62.68	112.26	4	2	0	0	0.91	0	24.04	0.69	0	0	0	0	0	0	0	0	N/A	N/A
68	5.58	29.72	0.87	-3.79	0	0.3	0.3	1	0.43	0.95	0.46	1.1	2	0	0.3	0.3	29.63	60.59	2.47	0.48	1.7	47.75	62.27	110.02	4	2	0	0	0.91	0	25.32	0.72	0	0	0	0	0	0	0	0	N/A	N/A

	Input Data				CSR calculation results								CRR 7.5 calculation results												Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
69	5.66	28.47	0.82	-3.4	0	0.3	0.3	1	0.43	0.95	0.46	1.1	2	0	0.3	0.3	28.16	61.37	2.48	0.48	1.7	45.74	61.92	107.66	4	2	0	0	0.9	0	26.73	0.74	0	0	0	0	0	0	0	0	N/A	N/A
70	5.74	26.43	0.76	-1.79	0	0.31	0.31	1	0.43	0.95	0.46	1.1	2	0	0.31	0.31	26.78	62.17	2.49	0.49	1.7	42.46	61.2	103.67	4	2	0	0	0.9	0	29.3	0.77	0	0	0	0	0	0	0	0	N/A	N/A
71	5.82	25.54	0.7	-1.28	0	0.31	0.31	1	0.43	0.95	0.45	1.1	2	0	0.31	0.31	26.4	61.78	2.48	0.49	1.7	41.03	60.7	101.73	4	2	0	0	0.9	0	30.65	0.79	0	0	0	0	0	0	0	0	N/A	N/A
72	5.91	27.27	0.71	-0.69	0	0.32	0.32	1	0.43	0.95	0.46	1.1	2	0	0.32	0.32	27.56	59.58	2.46	0.49	1.7	43.81	60.88	104.69	4	2	0	0	0.9	0	28.69	0.76	0	0	0	0	0	0	0	0	N/A	N/A
73	5.99	29.9	0.75	-0.68	0	0.32	0.32	1	0.43	0.95	0.46	1.1	2	0	0.32	0.32	29.69	57.19	2.43	0.48	1.7	48.04	61.34	109.38	4	2	0	0	0.9	0	25.81	0.72	0	0	0	0	0	0	0	0	N/A	N/A
74	6.07	31.91	0.82	0.07	0	0.33	0.33	1	0.44	0.94	0.46	1.1	0.42	0	0.33	0.33	31.74	56	2.41	0.47	1.7	51.27	61.84	113.11	0.16	0.37	1	0.14	0.9	1.89	23.69	0.69	0	0	0	0.02	0.02	0	48.1	99.37	0.12	0.74
75	6.15	33.43	0.92	-0.97	0	0.33	0.33	1	0.44	0.94	0.47	1.1	0.43	0	0.33	0.33	33.53	55.43	2.41	0.46	1.7	53.71	62.32	116.03	0.16	0.38	1	0.14	0.9	1.85	22.15	0.66	0	0	0	0.02	0.02	0	47.83	101.54	0.12	0.74
76	6.23	35.27	0.98	-1.31	0.01	0.34	0.33	1	0.44	0.94	0.47	1.1	0.43	0	0.34	0.34	34.9	55.15	2.4	0.46	1.69	56.24	62.91	119.15	0.17	0.39	1	0.14	0.89	1.81	20.49	0.63	0	0	0	0.02	0.02	0	47.69	103.93	0.13	0.75
77	6.32	36.07	1.02	-1.78	0.01	0.34	0.33	1	0.45	0.94	0.48	1.1	0.43	0	0.34	0.34	36.16	53.93	2.39	0.46	1.67	57.07	62.7	119.77	0.17	0.39	1	0.14	0.89	1.8	20.22	0.62	0	0	0	0.02	0.02	0	47.09	104.16	0.13	0.75
78	6.4	37.22	0.99	-3.2	0.01	0.35	0.34	1	0.45	0.93	0.48	1.1	0.44	0	0.35	0.35	37.39	51.99	2.36	0.46	1.66	58.41	62.31	120.72	0.17	0.4	1	0.14	0.89	1.79	19.83	0.61	0	0	0	0.02	0.02	0	46.09	104.5	0.13	0.76
79	6.48	39.03	0.95	-4.79	0.01	0.35	0.34	1	0.45	0.93	0.49	1.1	0.44	0	0.35	0.35	38.31	49.77	2.33	0.45	1.64	60.64	61.96	122.6	0.18	0.4	1	0.13	0.89	1.76	19.04	0.59	0	0	0	0.02	0.02	0	44.87	105.51	0.13	0.76
80	6.56	38.8	0.9	-1.19	0.02	0.36	0.34	1	0.46	0.93	0.49	1.1	0.44	0	0.36	0.36	38.85	47.62	2.31	0.46	1.64	60.12	60.83	120.95	0.17	0.39	1	0.14	0.89	1.78	19.88	0.61	0	0	0	0.02	0.02	0	43.61	103.73	0.13	0.76
81	6.64	38.81	0.82	-0.56	0.02	0.36	0.34	1	0.46	0.94	0.49	1.1	0.45	0	0.36	0.36	38.63	45.89	2.29	0.46	1.63	59.92	59.91	119.82	0.17	0.38	1	0.14	0.89	1.79	20.51	0.63	0	0	0	0.02	0.02	0	42.54	102.45	0.12	0.76
82	6.73	38.3	0.73	-0.42	0.02	0.37	0.34	1	0.46	0.94	0.49	1.1	0.45	0	0.37	0.37	38.19	44.1	2.26	0.46	1.63	59.03	58.71	117.74	0.17	0.37	1	0.14	0.89	1.81	21.65	0.65	0	0	0	0.02	0.02	0	41.37	100.4	0.12	0.76
83	6.81	37.49	0.66	-0.14	0.03	0.37	0.35	1	0.47	0.94	0.49	1.1	0.45	0	0.37	0.37	37.58	42.23	2.24	0.47	1.63	57.75	57.3	115.04	0.16	0.36	1	0.14	0.88	1.84	23.19	0.68	0	0	0	0.02	0.02	0	40.09	97.84	0.12	0.76
84	6.89	36.97	0.58	-0.4	0.03	0.38	0.35	1	0.47	0.94	0.5	1.1	0.45	0	0.38	0.38	36.93	41.04	2.23	0.47	1.63	56.83	56.32	113.14	0.16	0.35	1	0.15	0.88	1.87	24.35	0.7	0	0	0	0.02	0.02	0	39.23	96.06	0.11	0.76
85	6.97	36.33	0.56	-0.04	0.03	0.38	0.35	1	0.47	0.95	0.5	1.1	0.45	0	0.38	0.38	36.17	40.62	2.22	0.47	1.62	55.7	55.77	111.48	0.15	0.34	1	0.15	0.88	1.88	25.36	0.72	0	0	0	0.02	0.02	0	38.92	94.63	0.11	0.75
86	7.05	35.23	0.55	-0.36	0.03	0.39	0.35	1	0.47	0.95	0.5	1.1	0.45	0	0.39	0.39	35.33	41.35	2.23	0.48	1.62	53.89	55.8	109.7	0.15	0.33	1	0.15	0.88	1.91	26.29	0.73	0	0	0	0.02	0.02	0	39.46	93.36	0.11	0.75
87	7.14	34.44	0.55	-0.47	0.04	0.39	0.36	0.99	0.48	0.95	0.5	1.1	0.46	0	0.39	0.39	34.49	42.11	2.24	0.48	1.61	52.52	55.92	108.44	0.15	0.33	1	0.15	0.88	1.92	26.9	0.74	0	0	0	0.02	0.02	0	40	92.51	0.11	0.75
88	7.22	33.81	0.53	-0.23	0.04	0.4	0.36	0.99	0.48	0.95	0.5	1.1	0.46	0	0.4	0.4	33.97	42.31	2.24	0.48	1.61	51.39	55.77	107.16	0.15	0.32	1	0.15	0.88	1.94	27.58	0.75	0	0	0	0.02	0.02	0	40.15	91.54	0.11	0.74
89	7.3	33.67	0.51	-0.25	0.04	0.4	0.36	0.99	0.48	0.95	0.51	1.1	0.46	0	0.4	0.4	33.66	42.26	2.24	0.48	1.6	50.95	55.63	106.58	0.15	0.32	1	0.15	0.88	1.94	27.86	0.75	0	0	0	0.02	0.02	0	40.11	91.05	0.11	0.74
90	7.38	33.5	0.51	-0.09	0.04	0.4	0.36	0.99	0.48	0.95	0.51	1.1	0.46	0	0.4	0.4	33.65	42.53	2.24	0.49	1.59	50.45	55.67	106.12	0.15	0.32	1	0.15	0.87	1.95	28.02	0.76	0	0	0	0.02	0.02	0	40.3	90.75	0.11	0.74
91	7.46	33.78	0.54	-0.23	0.05	0.41	0.36	0.99	0.49	0.95	0.51	1.1	0.47	0	0.41	0.41	33.75	43.26	2.25	0.48	1.58	50.54	56.1	106.64	0.15	0.31	1	0.15	0.87	1.94	27.51	0.75	0	0	0	0.02	0.02	0	40.8	91.34	0.11	0.74
92	7.55	33.98	0.57	-0.04	0.05	0.41	0.37	0.99	0.49	0.95	0.52	1.1	0.47	0	0.41	0.41	33.96	43.96	2.26	0.48	1.57	50.52	56.49	107.01	0.15	0.31	1	0.15	0.87	1.93	27.12	0.74	0	0	0	0.02	0.02	0	41.28	91.8	0.11	0.74
93	7.63	34.12	0.58	-0.31	0.05	0.42	0.37	0.99	0.49	0.95	0.52	1.1	0.47	0	0.42	0.42	34.01	44.53	2.27	0.48	1.56	50.43	56.77	107.21	0.15	0.31	1	0.15	0.87	1.92	26.85	0.74	0	0	0	0.02	0.02	0	41.66	92.09	0.11	0.74
94	7.71	33.93	0.59	0	0.05	0.42	0.37	0.99	0.5	0.95	0.52	1.1	0.47	0	0.42	0.42	33.7	45.35	2.28	0.48	1.56	49.9	57.07	106.97	0.15	0.31	1	0.15	0.87	1.92	26.85	0.74	0	0	0	0.02	0.02	0	42.19	92.09	0.11	0.74
95	7.79	33.05	0.6	-0.31	0.06	0.43	0.37	0.99	0.5	0.95	0.52	1.1	0.48	0	0.43	0.43	33.18	46.11	2.29	0.49	1.55	48.48	57.08	105.56	0.15	0.31	1	0.15	0.87	1.94	27.6	0.75	0	0	0	0.02	0.02	0	42.68	91.16	0.11	0.74
96	7.87	32.56	0.58	-0.2	0.06	0.43	0.37	0.99	0.5	0.95	0.53	1.1	0.48	0	0.43	0.43	32.7	46.48	2.29	0.49	1.55	47.59	57.04	104.63	0.14	0.3	1	0.15	0.87	1.95	28.1	0.76	0	0	0	0.02	0.02	0	42.91	90.5	0.1	0.74
97	7.96	32.5	0.56	-0.08	0.06	0.44	0.38	0.99	0.5	0.95	0.53	1.1	0.48	0	0.44	0.44	32.28	46.23	2.29	0.49	1.54	47.3	56.84	104.13	0.14	0.3	1	0.15	0.87	1.96	28.31	0.76	0	0	0	0.02	0.02	0	42.75	90.05	0.1	0.74
98	8.04	31.79	0.53	-0.16	0.06	0.44	0.38	0.99	0.51	0.95	0.53	1.1	0.48	0	0.44	0.44	31.75	46.32	2.29	0.49	1.53	46.1	56.58	102.68	0.14	0.29	1	0.16	0.86	1.98	29.18	0.77	0	0	0	0.02	0.02	0	42.81	88.92	0.1	0.74
99	8.12	30.96	0.53	-0.12	0.07	0.45	0.38	0.99	0.51	0.95	0.53	1.1	2	0	0.45	0.45	30.51	47.93	2.31	0.49	1.53	44.76	56.98	101.74	4	2	0	0	0.86	0	29.69	0.78	0	0	0	0	0	0	43.8	88.56	0.1	0.73
100	8.2	28.79	0.54	-0.34	0.07	0.45	0.38	0.99	0.51	0.96	0.53	1.1	2	0	0.45	0.45	28.9	51.39	2.35	0.5	1.53	41.63	57.58	99.21	4	2	0	0	0.86	0	31.3	0.8	0	0	0	0	0	0	45.77	87.4	0.1	0.72
101	8.28	26.96	0.59	-0.4	0.07	0.46	0.39	0.99	0.51	0.96	0.53	1.1	2	0	0.46	0.46	26.66	57.14	2.43	0.5	1.53	38.9	58.8	97.7	4	2	0	0	0.86	0	32.13	0.8	0	0	0	0	0	0	48.63	87.53	0.1	0.71
102	8.37	24.24	0.66	-0.57	0.07	0.46	0.39	0.99	0.51	0.96	0.54	1.1	2	0	0.46	0.46	24.9	62.65	2.5	0.51	1.53	35.02	59.21	94.23	4	2	0	0	0.86	0	34.61	0.83	0	0	0	0	0	0	50.95	85.97	0.1	0.7
103	8.45	23.52	0.71	-0.57	0.08	0.47	0.39	0.99	0.52	0.96	0.54	1.1	2	0	0.47	0.47	23.57	66.98	2.55	0.51	1.52	33.83	59.86	93.69	4	2	0	0	0.86	0	34.91	0.83	0	0	0	0	0	0	52.54	86.37	0.1	0.7
104	8.53	22.99	0.72	-0.97	0.08	0.47	0.39	0.99	0.52	0.96	0.54	1.1	0.49	0	0.47	0.47	22.93	68.73	2.57	0.51	1.52	32.95	59.97	92.92	0.13	0.26	1	0.16	0.86	2.12	35.45	0.84	0	0	0	0.02	0.02	0	53.12	86.07	0.1	0.69
105	8.61	22.29	0.69	0.07	0.08	0.48	0.39	0.99	0.52	0.96	0.54	1.1	0.49	0	0.48	0.48	22.56	69.57	2.58	0.52	1.51	31.86	59.81	91.67	0.13	0.26	1	0.16	0.85	2.14	36.43	0.84	0	0	0	0.02	0.02	0	53.4	85.25	0.1	0.69
106	8.69	22.41	0.71	-0.16	0.08	0.48	0.4	0.99	0.52	0.96	0.54	1.1	0.5	0	0.48	0.48	22.16	70.6	2.6	0.52	1.5	31.85	60.01	91.86	0.13	0.26	1	0.16	0.85	2.14	36.16	0.84	0	0	0	0.02	0.02	0	53.72	85.57	0.1	0.69
107	8.78	21.77	0.74	1.12	0.09	0.48	0.4	0.99	0.53	0.96	0.55	1.1	0.5	0	0.48	0.48	21.36	72.19	2.61	0.52	1.5	30.84	0	30.84	4	2	0	0	0.85	0	36.96	0.85	0	0	0	0	0	0	54.2	85.04	0.1	3.07
108	8.86	19.88	0.67	-0.11	0.09	0.49	0.4	0.99	0.53	0.97	0.55	1.09	0.5	0	0.49	0.49	19.9	74.83	2.65	0.53	1.5	28.18	0	28.18	4	2	0	0	0.85	0	39.63	0.87	0	0	0	0	0	0	54.95	83.13	0.09	2.83
109	8.94	18.04	0.63	0.03	0.09	0.49	0.4	0.99	0.53	0.97	0.55	1.09	0.5	0	0.49	0.49	18.62	76.48	2.67	0.53	1.5	25.59	0	25.59	4	2	0	0	0.85	0	0	0	0	0	0	0	0	0	55.4	80.99	0.09	2.62
110	9.02	17.93	0.59	0.52	0.09	0.5	0.4	0.99	0.53	0.97	0.55	1.09	0.5	0	0.5	0.5	18.73	74.81	2.65	0.54	1.5	25.36	0	25.36	4	2	0	0	0.85	0	43.2	0.89	0	0	0	0	0	0	54.95	80.3	0.09	2.61
111	9.1	20.18	0.56	2.97	0.1	0.5	0.41	0.99	0.53	0.97	0.55	1.09	0.51	0	0.5	0.5	20.12	69.76	2.58	0.53	1.48	28.32	58.82	87.14	0.12	0.24	1	0.16	0.85	2.21	40.27	0.87	0	0	0	0.02	0.02	0	53.46	81.77	0.09	0.68
112	9.19	22.1	0.52	7.59	0.1	0.51	0.41	0.99	0.54	0.96	0.56	1.09	0.51	0.01	0.51	0.5	21.14	66.99	2.55	0.52	1.47	30.8	58.99	89.79	0.13	0.25	1	0.16	0.84	2.16	37.81	0.86	0	0	0	0.02	0.02	0	52.54	83.34	0.09	0.68
113	9.27	20.98	0.57	1.56	0.1	0.51	0.41	0.99	0.54	0.97	0.56	1.09	0.51	0.01	0.51	0.5	20.55	69.88	2.59	0.53	1.48	29.25	59.11	88.36	0.12	0.24	1	0.16	0.84	2.18	39.1	0.86	0	0	0	0.02	0.02	0	53.49	82.74	0.09	0.68
114	9.35	18.43	0.66	0.68	0.1	0.52	0.41	0.99	0.54	0.97	0.56	1.09	0.51	0.01	0.52	0.51	18.91	75.88	2.66	0.53	1.48	25.8	0	25.8	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	55.24	81.04	0.09	2.59
115	9.43	17.29	0.66	-0.25	0.11	0.52	0.42	0.99	0.54	0.97	0.56	1.09	0.52	0.01	0.52	0.51	17.55	80.46	2.72	0.54	1.48	24.21	0	24.21	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	56.39	80.6	0.09	2.39
116	9.51	16.94	0.64	-0.1	0.11	0.53	0.42	0.99	0.54	0.97	0.56	1.09	0.52	0.02	0.53	0.51	17	81.43	2.73	0.54	1.48	23.69	0	23.69	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	56.62	80.31	0.09	2.3
117	9.6	16.77	0.61	1.34	0.11	0.53	0.42	0.99	0.55	0.97	0.56	1.09	0.52	0.02	0.53	0.51	17.78	78.23	2.69	0.54	1.48	23.43	0	23.43	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	55.85	79.28	0.09	2.4
118	9.68	19.55	0.59	4.73	0.11	0.54	0.42	0.99	0.55	0.97	0.57	1.09	0.52	0.02	0.54	0.52	18.68	75.04	2.65	0.53	1.46	27.05	0	27.05	4	2	0	0	0.84	0	40.97	0.88	0	0	0	0	0	0	55.01	82.06	0.09	2.52
119	9.76	19.55	0.58	5.44	0.12	0.54	0.42	0.99	0.55	0.97	0.57	1.09	0.52	0.02	0.54	0.52	19.46	72.17	2.61	0.53	1.46	27.02	0	27.02	4	2	0	0	0.83	0	41.55	0.88	0	0	0	0	0	0	54.19	81.21	0.09	2.61
120	9.84	19.14	0.55	-0.2	0.12	0.55	0.43	0.99	0.55	0.97	0.57	1.09	0.53	0.03	0.55	0.52	18.94	72.89	2.62	0.53	1.46	26.43	0	26.43	4	2	0	0	0.83	0	42.21	0.88	0	0	0	0	0	0	54.4	80.83	0.09	2.53
121	9.92	18.04	0.54	0.27	0.12	0.55	0.43	0.99	0.55	0.97	0.57	1.08	0.53	0.03	0.55	0.52	18.01	74.57	2.64	0.54	1.46	24.93	0	24.93	4	2	0	0	0.83	0	43.94	0.89	0	0	0	0	0	0	54.88	79.81	0.09	2.39
122	10.01	16.84	0.52	0.01	0.13	0.55	0.43	0.99	0.56	0.97	0.57	1.08	0.53	0.03	0.55	0.52	16.9	76.95	2.67	0.54	1.46	23.29	0	23.29	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	55.52	78.81	0.09	2.23
123	10.09	15.77	0.49	3.51	0.13	0.56	0.43	0.99	0.56	0.97	0.58	1.08	0.53	0.03	0.56	0.53	15.68	79.77	2.71	0.55	1.46	21.83	0	21.83	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	56.23	78.05	0.09	2.06
124	10.17	14.25	0.47	9.17	0.13	0.56	0.43	0.99	0.56	0.97	0.58	1.08	0.53	0.04	0.56	0.53	14.83	81.02	2.73	0.55	1.47	19.77	0	19.77	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	56.52	76.3	0.09	1.93
125	10.25	14.09	0.41	13.58	0.13	0.57	0.44	0.99	0.56	0.97	0.58	1.08	2	0.04	0.57	0.53	14.64	79.67	2.71	0.55	1.47	19.53	0	19.53	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	56.2	75.73	0.08	1.9
126	10.33	14.92	0.37	24.02	0.14	0.57	0.44	0.99	0.56	0.97	0.58	1.08	2	0.04	0.57	0.53	16.51	71.17	2.6	0.55	1.46	20.63	0	20.63	4	2	0	0	0.82	0	51.18	0.92	0	0	0	0	0	0	53.89	74.53	0.08	2.14
127	10.42	19.56	0.33	28.08	0.14	0.58	0.44	0.99	0.57	0.97	0.58	1.08	2	0.04	0.58	0.53	19.47	61.48	2.48	0.54	1.45	26.72	56.58	83.29	4	2	0	0	0.82	0	44.29	0.9	0	0	0	0	0	0	50.49	77.21	0.09	0.67
128	10.5	23.03	0.34	11.31	0.14	0.58	0.44	0.99	0.57	0.97	0.59	1.08	2	0.05	0.58	0.54	22.26	54.96	2.4	0.53	1.43	31.19	56	87.19	4	2	0	0	0.82	0	40.2	0.87	0	0	0	0	0	0	47.6	78.79	0.09	0.69
129	10.58	23.58	0.38	3.92	0.14	0.59	0.44	0.99	0.57	0.97	0.59	1.08	2	0.05	0.59	0.54	23.16	55.05	2.4	0.53	1.43	31.83	56.2	88.03	4	2	0	0	0.82	0	39.37	0.87	0	0	0	0	0	0	47.64	79.47	0.09	0.69
130	10.66	22.63	0.44	2.07	0.15	0.59	0.45	0.99	0.57	0.97	0.59	1.08	2	0.05	0.59	0.54	21.99	59.83	2.46	0.53	1.43	30.5	57.22	87.72	4	2	0	0	0.82	0	39.71	0.87	0	0	0	0	0	0	49.81	80.31	0.09	0.69
131	10.74	19.65	0.47	0.66	0.15	0.6	0.45	0.99	0.57	0.97	0.59	1.08	2	0.05	0.6	0.54	19.64	66.92	2.55	0.53	1.43	26.58	57.76	84.34	4	2	0	0	0.82	0	43.16	0.89	0	0	0	0	0	0	52.51	79.09	0.09	0.67
132	10.83	16.58	0.46	1.3	0.15	0.6	0.45	0.99	0.57	0.97	0.59	1.08	2	0.06	0.6	0.54	16.87	74.59	2.64	0.54	1.44	22.53	0	22.53	4	2	0	0	0.82	0	47.45	0.91	0	0	0	0	0	0	54.89	77.42	0.09	2.14
133	10.91	14.32	0.44	2.23	0.15	0.6	0.45	0.99	0.58	0.97	0.59	1.08	2	0.06	0.6	0.55	14.28	82.25	2.74	0.55	1.44	19.52	0	19.52	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	56.8	76.32	0.09	1.79
134	10.99	11.86	0.42	2.91	0.16	0.61	0.45	0.99	0.58	0.97	0.59	1.07	2	0.06	0.61	0.55	12.43	88.11	2.81	0.56	1.45	16.24

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
137	11.24	10.01	0.33	19.39	0.16	0.62	0.46	0.99	0.58	0.97	0.6	1.07	0.56	0.07	0.62	0.55	10.44	92.36	2.87	0.57	1.45	13.7	0	13.7	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	58.81	72.51	0.08	1.27
138	11.32	9.94	0.32	18.45	0.17	0.63	0.46	0.99	0.58	0.97	0.6	1.07	0.56	0.07	0.63	0.55	10.08	93.52	2.88	0.57	1.45	13.58	0	13.58	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	59.01	72.59	0.08	1.22
139	11.4	9.47	0.32	19.92	0.17	0.63	0.46	0.99	0.59	0.97	0.6	1.07	0.56	0.07	0.63	0.56	9.71	95.48	2.91	0.57	1.44	12.92	0	12.92	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	59.33	72.26	0.08	1.16
140	11.48	8.84	0.32	22.31	0.17	0.64	0.46	0.99	0.59	0.98	0.6	1.07	0.56	0.08	0.64	0.56	9.39	97.17	2.93	0.57	1.44	12.06	0	12.06	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	59.6	71.66	0.08	1.12
141	11.56	8.92	0.32	23.24	0.17	0.64	0.47	0.99	0.59	0.98	0.6	1.07	0.57	0.08	0.64	0.56	9.43	96.78	2.92	0.57	1.44	12.15	0	12.15	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	59.54	71.69	0.08	1.12
142	11.65	9.52	0.31	25.13	0.18	0.64	0.47	0.99	0.59	0.97	0.61	1.07	0.57	0.08	0.64	0.56	9.59	96.43	2.92	0.57	1.44	12.92	0	12.92	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	59.48	72.4	0.08	1.14
143	11.73	9.31	0.35	23.31	0.18	0.65	0.47	0.99	0.59	0.98	0.61	1.07	0.57	0.09	0.65	0.56	9.6	96.32	2.92	0.57	1.43	12.62	0	12.62	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	59.47	72.09	0.08	1.13
144	11.81	9.03	0.31	17.16	0.18	0.65	0.47	0.99	0.59	0.98	0.61	1.07	0.57	0.09	0.65	0.57	9.62	96.23	2.92	0.57	1.43	12.23	0	12.23	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	59.45	71.68	0.08	1.13
145	11.89	9.76	0.31	12.9	0.18	0.66	0.47	0.99	0.6	0.97	0.61	1.07	0.57	0.09	0.66	0.57	9.56	96.2	2.92	0.57	1.43	13.16	0	13.16	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	59.45	72.61	0.08	1.12
146	11.98	9.32	0.33	9.48	0.19	0.66	0.48	0.99	0.6	0.98	0.61	1.07	0.57	0.09	0.66	0.57	9.71	96.09	2.91	0.57	1.43	12.56	0	12.56	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	59.43	71.99	0.08	1.13
147	12.06	9.55	0.34	12.22	0.19	0.67	0.48	0.99	0.6	0.97	0.61	1.07	0.58	0.1	0.67	0.57	9.41	98.99	2.95	0.57	1.42	12.84	0	12.84	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	59.88	72.71	0.08	1.09
148	12.14	8.69	0.37	25.25	0.19	0.67	0.48	0.99	0.6	0.98	0.62	1.07	0.58	0.1	0.67	0.57	9.43	100	2.96	0.58	1.42	11.69	0	11.69	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	60.02	71.71	0.08	1.09
149	12.22	9.12	0.39	27.83	0.19	0.68	0.48	0.99	0.6	0.98	0.62	1.07	0.58	0.1	0.68	0.58	9.33	100	2.98	0.57	1.42	12.23	0	12.23	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	60.02	72.25	0.08	1.07
150	12.3	9.06	0.39	24.66	0.2	0.68	0.48	0.99	0.6	0.98	0.62	1.07	0.58	0.1	0.68	0.58	9.34	100	2.98	0.57	1.42	12.13	0	12.13	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	60.02	72.15	0.08	1.07
151	12.39	8.73	0.36	25.39	0.2	0.68	0.49	0.99	0.61	0.98	0.62	1.07	0.58	0.11	0.68	0.58	9.18	100	2.97	0.58	1.42	11.67	0	11.67	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	60.02	71.7	0.08	1.05
152	12.47	8.61	0.32	28.17	0.2	0.69	0.49	0.98	0.61	0.98	0.62	1.06	0.58	0.11	0.69	0.58	9.18	100	2.96	0.58	1.41	11.5	0	11.5	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	60.02	71.52	0.08	1.04
153	12.55	8.98	0.35	31.15	0.2	0.69	0.49	0.98	0.61	0.98	0.62	1.06	0.59	0.11	0.69	0.58	9.43	99.01	2.95	0.57	1.41	11.96	0	11.96	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	59.88	71.84	0.08	1.07
154	12.63	9.34	0.37	34.78	0.21	0.7	0.49	0.98	0.61	0.98	0.63	1.06	0.59	0.11	0.7	0.58	9.68	99.14	2.95	0.57	1.41	12.4	0	12.4	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	59.9	72.3	0.08	1.1
155	12.71	9.21	0.39	38.16	0.21	0.7	0.49	0.98	0.61	0.98	0.63	1.06	0.59	0.12	0.7	0.59	9.78	99.75	2.96	0.57	1.4	12.21	0	12.21	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	59.99	72.2	0.08	1.11
156	12.8	9.35	0.41	26.71	0.21	0.71	0.49	0.98	0.61	0.98	0.63	1.06	0.59	0.12	0.71	0.59	9.6	100	2.99	0.57	1.4	12.37	0	12.37	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	72.39	0.08	1.08
157	12.88	8.94	0.47	24.85	0.21	0.71	0.5	0.98	0.61	0.98	0.63	1.06	0.59	0.12	0.71	0.59	9.2	100	3.04	0.58	1.4	11.82	0	11.82	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	71.84	0.08	1.03
158	12.96	8.18	0.48	26.14	0.22	0.72	0.5	0.98	0.62	0.98	0.63	1.06	0.59	0.12	0.72	0.59	8.92	100	3.07	0.58	1.4	10.82	0	10.82	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	70.84	0.08	0.99
159	13.04	8.38	0.47	36.39	0.22	0.72	0.5	0.98	0.62	0.98	0.63	1.06	0.59	0.13	0.72	0.59	8.3	100	3.12	0.58	1.4	11.05	0	11.05	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	71.08	0.08	0.91
160	13.12	6.86	0.45	40.85	0.22	0.72	0.5	0.98	0.62	0.98	0.63	1.06	0.6	0.13	0.72	0.6	8.36	100	3.1	0.59	1.4	9.07	0	9.07	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	69.1	0.08	0.91
161	13.21	8.11	0.41	41.91	0.22	0.73	0.5	0.98	0.62	0.98	0.63	1.06	0.6	0.13	0.73	0.6	8.16	100	3.1	0.58	1.39	10.67	0	10.67	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	70.69	0.08	0.89
162	13.29	7.64	0.38	47.63	0.23	0.73	0.51	0.98	0.62	0.98	0.64	1.06	0.6	0.13	0.73	0.6	7.99	100	3.09	0.58	1.39	10.05	0	10.05	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	70.07	0.08	0.86
163	13.37	6.11	0.36	57.47	0.23	0.74	0.51	0.98	0.62	0.98	0.64	1.06	0.6	0.14	0.74	0.6	7.68	100	3.11	0.59	1.39	8.05	0	8.05	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	68.08	0.07	0.82
164	13.45	6.98	0.37	54.43	0.23	0.74	0.51	0.98	0.62	0.98	0.64	1.06	0.6	0.14	0.74	0.6	7.56	100	3.11	0.59	1.39	9.16	0	9.16	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	69.19	0.08	0.81
165	13.53	7.28	0.35	47.64	0.24	0.75	0.51	0.98	0.62	0.98	0.64	1.06	0.6	0.14	0.75	0.61	7.85	100	3.08	0.58	1.39	9.53	0	9.53	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	69.56	0.08	0.84
166	13.62	7.23	0.35	41.85	0.24	0.75	0.51	0.98	0.63	0.98	0.64	1.06	0.61	0.14	0.75	0.61	8.1	100	3.07	0.58	1.38	9.45	0	9.45	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	69.47	0.08	0.86
167	13.7	7.91	0.37	40.48	0.24	0.76	0.52	0.98	0.63	0.98	0.64	1.06	0.61	0.15	0.76	0.61	8.35	100	3.05	0.58	1.38	10.3	0	10.3	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	70.33	0.08	0.89
168	13.78	8.19	0.37	38.06	0.24	0.76	0.52	0.98	0.63	0.98	0.64	1.06	0.61	0.15	0.76	0.61	8.14	100	3.07	0.58	1.37	10.64	0	10.64	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	70.66	0.08	0.86
169	13.86	6.62	0.36	38.57	0.25	0.76	0.52	0.98	0.63	0.98	0.64	1.06	0.61	0.15	0.76	0.61	7.47	100	3.12	0.59	1.38	8.62	0	8.62	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	60.02	68.65	0.08	0.78
170	13.94	6.01	0.33	33.44	0.25	0.77	0.52	0.98	0.63	0.98	0.65	1.06	0.61	0.15	0.77	0.61	6.17	100	3.23	0.59	1.38	7.83	0	7.83	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	60.02	67.85	0.07	0.63
171	14.03	4.38	0.29	31.18	0.25	0.77	0.52	0.98	0.63	0.98	0.65	1.06	0.61	0.16	0.77	0.62	5.43	100	3.28	0.6	1.38	5.72	0	5.72	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	60.02	65.75	0.07	0.54
172	14.11	4.54	0.23	29.93	0.25	0.78	0.52	0.98	0.63	0.98	0.65	1.06	0.61	0.16	0.78	0.62	4.87	100	3.31	0.6	1.38	5.92	0	5.92	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	60.02	65.94	0.07	0.47
173	14.19	4.31	0.18	34.46	0.26	0.78	0.53	0.98	0.63	0.98	0.65	1.05	0.62	0.16	0.78	0.62	4.87	100	3.24	0.6	1.38	5.61	0	5.61	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	60.02	65.64	0.07	0.47
174	14.27	4.31	0.13	36.7	0.26	0.79	0.53	0.98	0.64	0.98	0.65	1.05	0.62	0.16	0.79	0.62	4.77	100	3.18	0.6	1.38	5.61	0	5.61	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	60.02	65.63	0.07	0.46
175	14.35	4.12	0.09	37.54	0.26	0.79	0.53	0.98	0.64	0.98	0.65	1.05	0.62	0.17	0.79	0.62	4.77	100	3.11	0.6	1.38	5.35	0	5.35	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	60.02	65.38	0.07	0.46
176	14.44	4.26	0.07	37.48	0.26	0.79	0.53	0.98	0.64	0.98	0.65	1.05	0.62	0.17	0.79	0.62	4.69	100	3.08	0.6	1.37	5.53	0	5.53	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	60.02	65.55	0.07	0.45
177	14.52	4.13	0.07	34.01	0.27	0.8	0.53	0.98	0.64	0.98	0.65	1.05	0.62	0.17	0.8	0.63	4.96	100	3.02	0.6	1.37	5.35	0	5.35	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	60.02	65.38	0.07	0.48
178	14.6	4.87	0.08	41.05	0.27	0.8	0.53	0.98	0.64	0.98	0.66	1.05	0.62	0.17	0.8	0.63	5.33	100	2.99	0.6	1.37	6.29	0	6.29	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	60.02	66.32	0.07	0.52
179	14.68	5.16	0.09	51.68	0.27	0.81	0.53	0.98	0.64	0.98	0.66	1.05	0.62	0.18	0.81	0.63	6.01	98.65	2.95	0.6	1.36	6.65	0	6.65	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.83	66.48	0.07	0.59
180	14.76	5.96	0.12	49.73	0.27	0.81	0.54	0.98	0.64	0.98	0.66	1.05	0.63	0.18	0.81	0.63	6.92	95.73	2.91	0.59	1.36	7.66	0	7.66	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.37	67.03	0.07	0.69
181	14.85	7.53	0.16	46.1	0.28	0.81	0.54	0.98	0.65	0.98	0.66	1.06	0.63	0.18	0.81	0.63	7.89	94.85	2.9	0.59	1.35	9.62	0	9.62	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.23	68.86	0.08	0.8
182	14.93	8.19	0.22	42.78	0.28	0.82	0.54	0.98	0.65	0.98	0.66	1.06	0.63	0.18	0.82	0.63	8.88	94.36	2.89	0.58	1.35	10.44	0	10.44	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.15	69.59	0.08	0.91
183	15.01	9.02	0.28	42.2	0.28	0.82	0.54	0.98	0.65	0.98	0.66	1.06	0.63	0.19	0.82	0.64	8.95	99.46	2.96	0.58	1.34	11.44	0	11.44	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.95	71.39	0.08	0.91
184	15.09	8.02	0.37	28.52	0.28	0.83	0.54	0.98	0.65	0.98	0.67	1.05	0.63	0.19	0.83	0.64	8.59	100	3.04	0.58	1.34	10.18	0	10.18	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	70.21	0.08	0.87
185	15.17	7.43	0.42	20.47	0.29	0.83	0.55	0.98	0.65	0.98	0.67	1.05	0.63	0.19	0.83	0.64	7.97	100	3.13	0.58	1.34	9.43	0	9.43	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	69.46	0.08	0.8
186	15.26	7.54	0.47	15.19	0.29	0.84	0.55	0.98	0.65	0.98	0.67	1.05	0.63	0.2	0.84	0.64	7.35	100	3.21	0.58	1.34	9.55	0	9.55	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	69.58	0.08	0.73
187	15.34	6.34	0.44	14.99	0.29	0.84	0.55	0.98	0.65	0.98	0.67	1.05	0.63	0.2	0.84	0.64	6.75	100	3.26	0.59	1.34	8.04	0	8.04	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	68.07	0.07	0.66
188	15.42	5.66	0.38	19.91	0.29	0.84	0.55	0.98	0.65	0.98	0.67	1.05	0.64	0.2	0.84	0.64	6.13	100	3.3	0.59	1.34	7.18	0	7.18	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	67.2	0.07	0.59
189	15.5	5.61	0.33	19.89	0.3	0.85	0.55	0.98	0.65	0.98	0.67	1.05	0.64	0.2	0.85	0.65	5.88	100	3.29	0.59	1.34	7.1	0	7.1	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	67.13	0.07	0.56
190	15.58	5.44	0.28	24.53	0.3	0.85	0.55	0.98	0.66	0.98	0.67	1.05	0.64	0.21	0.85	0.65	5.73	100	3.26	0.59	1.34	6.88	0	6.88	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	66.91	0.07	0.54
191	15.67	5.06	0.23	30.23	0.3	0.86	0.56	0.98	0.66	0.98	0.67	1.05	0.64	0.21	0.86	0.65	5.74	100	3.21	0.6	1.34	6.4	0	6.4	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	60.02	66.42	0.07	0.54
192	15.75	5.44	0.19	34.27	0.3	0.86	0.56	0.98	0.66	0.98	0.67	1.05	0.64	0.21	0.86	0.65	6.32	100	3.12	0.59	1.33	6.86	0	6.86	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	60.02	66.88	0.07	0.6
193	15.83	6.98	0.21	39.07	0.31	0.87	0.56	0.98	0.66	0.98	0.67	1.05	0.64	0.21	0.87	0.65	7.15	100	3.03	0.59	1.33	8.76	0	8.76	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	60.02	68.78	0.08	0.69
194	15.91	7.38	0.21	41.27	0.31	0.87	0.56	0.98	0.66	0.98	0.68	1.05	0.64	0.22	0.87	0.65	8.26	98.59	2.94	0.59	1.32	9.24	0	9.24	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	59.82	69.05	0.08	0.81
195	15.99	8.32	0.23	65.79	0.31	0.87	0.56	0.98	0.66	0.98	0.68	1.05	0.64	0.22	0.87	0.66	9.1	94.88	2.9	0.58	1.32	10.38	0	10.38	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	59.24	69.62	0.08	0.89
196	16.08	9.17	0.24	60.97	0.31	0.88	0.56	0.98	0.66	0.98	0.68	1.05	0.65	0.22	0.88	0.66	9.62	93.27	2.88	0.58	1.32	11.4	0	11.4	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	58.97	70.37	0.08	0.95
197	16.16	8.72	0.25	57.85	0.32	0.88	0.57	0.98	0.66	0.98	0.68	1.05	0.65	0.22	0.88	0.66	9.78	94.04	2.89	0.58	1.32	10.84	0	10.84	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	59.1	69.93	0.08	0.96
198	16.24	8.9	0.29	58.4	0.32	0.89	0.57	0.98	0.66	0.98	0.68	1.05	0.65	0.23	0.89	0.66	9.6	96.65	2.92	0.58	1.31	11.04	0	11.04	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	59.52	70.56	0.08	0.94
199	16.32	8.76	0.31	52.02	0.32	0.89	0.57	0.98	0.67	0.98	0.68	1.05	0.65	0.23	0.89	0.66	9.72	98.51	2.94	0.58	1.31	10.85	0	10.85	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	59.8	70.65	0.08	0.95
200	16.4	9.11	0.36	56.18	0.32	0.9	0.57	0.98	0.67	0.98	0.68	1.05	0.65	0.23	0.9	0.67	9.91	100	2.96	0.58	1.31	11.25	0	11.25	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	71.28	0.08	0.97
201	16.49	9.74	0.41	39.72	0.33	0.9	0.57	0.98	0.67	0.98	0.68	1.05	0.65	0.23	0.9	0.67	10.02	100	2.99	0.57	1.3	11.99	0	11.99	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	72.02	0.08	0.98
202	16.57	9.21	0.44	43.52	0.33	0.91	0.58	0.98	0.67	0.98	0.69	1.05	0.65	0.24	0.91	0.67	9.95	100	3.01	0.58	1.3	11.34	0	11.34	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	71.36	0.08	0.96
203	16.65	9.12	0.45	40.33	0.33	0.91	0.58	0.98	0.67	0.98	0.69	1.05	0.65	0.24	0.91	0.67	9.79	100	3.03	0.58	1.3	11.21	0	11.21	4	2	0	0	0	0.72	0	0	0

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																	
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
205	16.81	8.69	0.46	30.76	0.34	0.92	0.58	0.98	0.67	0.98	0.69	1.05	0.66	0.24	0.92	0.68	9.52	100	3.07	0.58	1.3	10.65	0	10.65	4	2	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	70.68	0.08	0.91
206	16.9	9.12	0.48	34.29	0.34	0.92	0.58	0.98	0.67	0.98	0.69	1.05	0.66	0.25	0.92	0.68	9.7	100	3.06	0.58	1.29	11.15	0	11.15	4	2	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	71.18	0.08	0.93
207	16.98	9.94	0.47	29.36	0.34	0.93	0.59	0.98	0.67	0.98	0.69	1.05	0.66	0.25	0.93	0.68	10.29	100	3.02	0.57	1.29	12.12	0	12.12	4	2	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	72.14	0.08	0.98
208	17.06	10.45	0.47	31.07	0.35	0.93	0.59	0.98	0.67	0.97	0.69	1.05	0.66	0.25	0.93	0.68	10.66	100	3	0.57	1.29	12.7	0	12.7	4	2	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	72.73	0.08	1.02
209	17.14	10.28	0.48	29.67	0.35	0.94	0.59	0.97	0.67	0.97	0.69	1.05	0.66	0.25	0.94	0.68	10.83	100	2.99	0.57	1.28	12.48	0	12.48	4	2	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	72.51	0.08	1.03
210	17.22	10.46	0.47	29.7	0.35	0.94	0.59	0.97	0.68	0.97	0.69	1.05	0.66	0.26	0.94	0.69	10.92	100	2.99	0.57	1.28	12.67	0	12.67	4	2	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	72.7	0.08	1.04
211	17.31	10.7	0.47	31.42	0.35	0.95	0.59	0.97	0.68	0.97	0.69	1.05	0.66	0.26	0.95	0.69	10.81	100	2.99	0.57	1.28	12.94	0	12.94	4	2	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	72.96	0.08	1.02
212	17.39	9.89	0.45	33.8	0.36	0.95	0.6	0.97	0.68	0.98	0.69	1.05	0.66	0.26	0.95	0.69	10.62	100	2.99	0.57	1.28	11.96	0	11.96	4	2	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	71.98	0.08	1
213	17.47	9.8	0.42	37.6	0.36	0.96	0.6	0.97	0.68	0.98	0.7	1.05	0.66	0.26	0.96	0.69	9.8	100	3.03	0.58	1.28	11.83	0	11.83	4	2	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	71.86	0.08	0.91
214	17.55	8.16	0.39	35.98	0.36	0.96	0.6	0.97	0.68	0.98	0.7	1.05	0.66	0.27	0.96	0.69	9.56	100	3.03	0.58	1.28	9.87	0	9.87	4	2	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	69.89	0.08	0.89
215	17.63	9.18	0.36	32.65	0.36	0.96	0.6	0.97	0.68	0.98	0.7	1.05	0.67	0.27	0.96	0.69	8.71	100	3.08	0.58	1.28	11.06	0	11.06	4	2	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	71.09	0.08	0.8
216	17.72	7.33	0.35	31.9	0.37	0.97	0.6	0.97	0.68	0.98	0.7	1.05	0.67	0.27	0.97	0.7	8.51	100	3.08	0.59	1.28	8.85	0	8.85	4	2	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	68.88	0.08	0.77
217	17.8	7.69	0.33	27.68	0.37	0.97	0.61	0.97	0.68	0.98	0.7	1.05	0.67	0.27	0.97	0.7	7.95	100	3.11	0.59	1.27	9.27	0	9.27	4	2	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	69.29	0.08	0.71
218	17.88	7.08	0.31	62.7	0.37	0.98	0.61	0.97	0.68	0.98	0.7	1.04	0.67	0.28	0.98	0.7	8.2	100	3.08	0.59	1.27	8.53	0	8.53	4	2	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	68.55	0.08	0.74
219	17.96	7.74	0.3	54.09	0.37	0.98	0.61	0.97	0.68	0.98	0.7	1.04	0.67	0.28	0.98	0.7	8.12	100	3.08	0.59	1.27	9.3	0	9.3	4	2	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	69.32	0.08	0.73
220	18.04	7.13	0.31	49.72	0.38	0.99	0.61	0.97	0.68	0.98	0.7	1.04	0.67	0.28	0.99	0.7	8.05	100	3.09	0.59	1.27	8.56	0	8.56	4	2	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	68.59	0.08	0.72
221	18.13	7.13	0.31	45.85	0.38	0.99	0.61	0.97	0.69	0.98	0.7	1.04	0.67	0.28	0.99	0.71	7.39	100	3.15	0.59	1.27	8.55	0	8.55	4	2	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	68.57	0.08	0.65
222	18.21	6.07	0.31	31.68	0.38	0.99	0.61	0.97	0.69	0.98	0.7	1.04	0.67	0.29	0.99	0.71	7.09	100	3.18	0.59	1.27	7.28	0	7.28	4	2	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	67.31	0.07	0.62
223	18.29	6.54	0.3	29.14	0.38	1	0.62	0.97	0.69	0.98	0.7	1.04	0.67	0.29	1	0.71	6.61	100	3.23	0.59	1.27	7.83	0	7.83	4	2	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	67.85	0.07	0.57
224	18.37	5.92	0.29	30.28	0.39	1	0.62	0.97	0.69	0.98	0.7	1.04	0.67	0.29	1	0.71	6.56	100	3.22	0.59	1.27	7.08	0	7.08	4	2	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	67.11	0.07	0.56
225	18.45	5.91	0.27	32.38	0.39	1.01	0.62	0.97	0.69	0.98	0.7	1.04	0.68	0.29	1.01	0.71	6.5	100	3.21	0.59	1.26	7.06	0	7.06	4	2	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	67.09	0.07	0.55
226	18.54	6.27	0.24	34.1	0.39	1.01	0.62	0.97	0.69	0.98	0.71	1.04	0.68	0.3	1.01	0.71	6.59	100	3.18	0.59	1.26	7.48	0	7.48	4	2	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	67.5	0.07	0.56
227	18.62	6.14	0.22	33.2	0.39	1.02	0.62	0.97	0.69	0.98	0.71	1.04	0.68	0.3	1.02	0.72	6.52	100	3.17	0.59	1.26	7.31	0	7.31	4	2	0	0	0.68	0	0	0	0	0	0	0	0	0	60.02	67.34	0.07	0.55
228	18.7	5.73	0.23	30.61	0.4	1.02	0.62	0.97	0.69	0.98	0.71	1.04	0.68	0.3	1.02	0.72	6.7	100	3.16	0.59	1.26	6.82	0	6.82	4	2	0	0	0.68	0	0	0	0	0	0	0	0	0	60.02	66.84	0.07	0.56
229	18.78	6.81	0.25	34.73	0.4	1.03	0.63	0.97	0.69	0.98	0.71	1.04	0.68	0.31	1.03	0.72	7.61	100	3.09	0.59	1.26	8.08	0	8.08	4	2	0	0	0.68	0	0	0	0	0	0	0	0	0	60.02	68.1	0.07	0.65
230	18.86	8.83	0.28	35.85	0.4	1.03	0.63	0.97	0.69	0.98	0.71	1.04	0.68	0.31	1.03	0.72	8.86	100	3.01	0.58	1.25	10.42	0	10.42	4	2	0	0	0.68	0	0	0	0	0	0	0	0	0	60.02	70.45	0.08	0.78
231	18.95	9.43	0.29	34.37	0.4	1.03	0.63	0.97	0.69	0.98	0.71	1.04	0.68	0.31	1.03	0.72	9.85	99.01	2.95	0.58	1.25	11.1	0	11.1	4	2	0	0	0.68	0	0	0	0	0	0	0	0	0	59.88	70.98	0.08	0.87
232	19.03	9.84	0.3	31.49	0.41	1.04	0.63	0.97	0.69	0.98	0.71	1.04	0.68	0.31	1.04	0.73	9.98	99.45	2.96	0.58	1.24	11.56	0	11.56	4	2	0	0	0.68	0	0	0	0	0	0	0	0	0	59.94	71.5	0.08	0.88
233	19.11	9.33	0.33	27.62	0.41	1.04	0.63	0.97	0.7	0.98	0.71	1.04	0.68	0.32	1.04	0.73	9.69	100	2.99	0.58	1.24	10.95	0	10.95	4	2	0	0	0.68	0	0	0	0	0	0	0	0	0	60.02	70.98	0.08	0.85
234	19.19	8.65	0.33	27.79	0.41	1.05	0.64	0.97	0.7	0.98	0.71	1.04	0.68	0.32	1.05	0.73	9.29	100	3.03	0.58	1.24	10.15	0	10.15	4	2	0	0	0.67	0	0	0	0	0	0	0	0	0	60.02	70.18	0.08	0.81
235	19.27	8.56	0.34	37.35	0.41	1.05	0.64	0.97	0.7	0.98	0.71	1.04	0.69	0.32	1.05	0.73	9.05	100	3.06	0.58	1.24	10.03	0	10.03	4	2	0	0	0.67	0	0	0	0	0	0	0	0	0	60.02	70.06	0.08	0.78
236	19.36	8.46	0.36	37.8	0.42	1.06	0.64	0.97	0.7	0.98	0.71	1.04	0.69	0.32	1.06	0.73	9.11	100	3.06	0.58	1.24	9.9	0	9.9	4	2	0	0	0.67	0	0	0	0	0	0	0	0	0	60.02	69.93	0.08	0.79
237	19.44	8.67	0.35	39.3	0.42	1.06	0.64	0.97	0.7	0.98	0.72	1.04	0.69	0.33	1.06	0.73	9.18	100	3.05	0.58	1.24	10.13	0	10.13	4	2	0	0	0.67	0	0	0	0	0	0	0	0	0	60.02	70.16	0.08	0.79
238	19.52	8.76	0.33	37.24	0.42	1.06	0.64	0.97	0.7	0.98	0.72	1.04	0.69	0.33	1.06	0.74	9.42	100	3.02	0.58	1.23	10.22	0	10.22	4	2	0	0	0.67	0	0	0	0	0	0	0	0	0	60.02	70.24	0.08	0.81
239	19.6	9.19	0.3	36.96	0.42	1.07	0.64	0.97	0.7	0.98	0.72	1.04	0.69	0.33	1.07	0.74	9.75	100	2.98	0.58	1.23	10.7	0	10.7	4	2	0	0	0.67	0	0	0	0	0	0	0	0	0	60.02	70.72	0.08	0.84
240	19.69	9.69	0.31	38.46	0.43	1.07	0.65	0.97	0.7	0.98	0.72	1.04	0.69	0.33	1.07	0.74	10.4	97.88	2.94	0.58	1.23	11.26	0	11.26	4	2	0	0	0.67	0	0	0	0	0	0	0	0	0	59.71	70.97	0.08	0.9
241	19.77	10.6	0.31	44.21	0.43	1.08	0.65	0.97	0.7	0.98	0.72	1.04	0.69	0.34	1.08	0.74	11.16	94.98	2.9	0.57	1.23	12.28	0	12.28	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	59.25	71.54	0.08	0.97
242	19.85	11.33	0.33	45.7	0.43	1.08	0.65	0.97	0.7	0.97	0.72	1.04	0.69	0.34	1.08	0.74	11.87	92.48	2.87	0.57	1.22	13.1	0	13.1	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	58.83	71.93	0.08	1.04
243	19.93	11.72	0.34	46.46	0.43	1.09	0.65	0.97	0.7	0.97	0.72	1.04	0.69	0.34	1.09	0.75	12.12	92.16	2.86	0.57	1.22	13.52	0	13.52	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	58.77	72.3	0.08	1.06
244	20.01	11.34	0.34	43.9	0.44	1.09	0.65	0.97	0.7	0.97	0.72	1.04	0.69	0.34	1.09	0.75	12.61	90.7	2.85	0.57	1.22	13.08	0	13.08	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	58.51	71.59	0.08	1.1
245	20.1	12.78	0.36	47.45	0.44	1.1	0.66	0.97	0.7	0.97	0.72	1.04	0.69	0.35	1.1	0.75	13.22	88.85	2.82	0.57	1.22	14.69	0	14.69	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	58.17	72.86	0.08	1.15
246	20.18	13.47	0.36	51.59	0.44	1.1	0.66	0.97	0.7	0.97	0.72	1.04	0.7	0.35	1.1	0.75	13.92	86.98	2.8	0.57	1.21	15.45	0	15.45	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	57.81	73.25	0.08	1.22
247	20.26	13.24	0.37	58.11	0.44	1.1	0.66	0.97	0.71	0.97	0.72	1.04	0.7	0.35	1.1	0.75	14.49	84.75	2.77	0.57	1.21	15.17	0	15.17	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	57.35	72.52	0.08	1.27
248	20.34	14.26	0.34	63.76	0.45	1.11	0.66	0.97	0.71	0.97	0.73	1.04	0.7	0.35	1.11	0.76	14.84	81.95	2.74	0.56	1.21	16.3	0	16.3	4	2	0	0	0.66	0	0	0	0	0	0	0	0	0	56.74	73.03	0.08	1.3
249	20.42	14.24	0.27	70.46	0.45	1.11	0.66	0.97	0.71	0.97	0.73	1.04	0.7	0.36	1.11	0.76	15.22	79.76	2.71	0.56	1.21	16.26	0	16.26	4	2	0	0	0.65	0	0	0	0	0	0	0	0	0	56.22	72.48	0.08	1.33
250	20.51	14.04	0.32	82.6	0.45	1.12	0.67	0.97	0.71	0.97	0.73	1.04	0.7	0.36	1.12	0.76	15.34	80.54	2.72	0.57	1.21	16.01	0	16.01	4	2	0	0	0.65	0	0	0	0	0	0	0	0	0	56.41	72.42	0.08	1.34
251	20.59	14.01	0.4	105.39	0.46	1.12	0.67	0.97	0.71	0.97	0.73	1.04	0.7	0.36	1.12	0.76	15.71	81.83	2.74	0.57	1.2	15.95	0	15.95	4	2	0	0	0.65	0	0	0	0	0	0	0	0	0	56.71	72.66	0.08	1.37
252	20.67	14.8	0.4	109.04	0.46	1.13	0.67	0.97	0.71	0.97	0.73	1.04	0.7	0.36	1.13	0.76	15.63	82.86	2.75	0.56	1.2	16.81	0	16.81	4	2	0	0	0.65	0	0	0	0	0	0	0	0	0	56.94	73.75	0.08	1.36
253	20.75	13.64	0.37	94.65	0.46	1.13	0.67	0.97	0.71	0.97	0.73	1.04	0.7	0.37	1.13	0.76	15.64	81.51	2.73	0.57	1.2	15.49	0	15.49	4	2	0	0	0.65	0	0	0	0	0	0	0	0	0	56.64	72.13	0.08	1.35
254	20.83	14.44	0.32	77.49	0.46	1.14	0.67	0.97	0.71	0.97	0.73	1.04	0.7	0.37	1.14	0.77	15.23	80.62	2.72	0.56	1.2	16.36	0	16.36	4	2	0	0	0.65	0	0	0	0	0	0	0	0	0	56.43	72.79	0.08	1.31
255	20.92	13.97	0.28	80.6	0.47	1.14	0.68	0.97	0.71	0.97	0.73	1.04	0.7	0.37	1.14	0.77	15.1	78.38	2.69	0.57	1.2	15.82	0	15.82	4	2	0	0	0.65	0	0	0	0	0	0	0	0	0	55.88	71.71	0.08	1.3
256	21	13.39	0.24	83.98	0.47	1.14	0.68	0.97	0.71	0.97	0.73	1.04	0.7	0.37	1.14	0.77	14.89	75.64	2.66	0.57	1.2	15.16	0	15.16	4	2	0	0	0.64	0	0	0	0	0	0	0	0	0	55.17	70.34	0.08	1.27
257	21.08	13.69	0.17	86.12	0.47	1.15	0.68	0.97	0.71	0.97	0.73	1.04	0.7	0.38	1.15	0.77	14.2	74.3	2.64	0.57	1.2	15.48	0	15.48	4	2	0	0	0.64	0	0	0	0	0	0	0	0	0	54.81	70.29	0.08	1.21
258	21.16	11.79	0.15	88.95	0.47	1.15	0.68	0.97	0.71	0.98	0.73	1.04	0.7	0.38	1.15	0.77	13.65	73.36	2.63	0.58	1.2	13.35	0	13.35	4	2	0	0	0.64	0	0	0	0	0	0	0	0	0	54.54	67.89	0.07	1.15
259	21.24	11.58	0.15	95.74	0.48	1.16	0.68	0.97	0.71	0.98	0.73	1.04	0.71	0.38	1.16	0.78	12.83	75.55	2.66	0.58	1.2	13.1	0	13.1	4	2	0	0	0.64	0	0	0	0	0	0	0	0	0	55.15	68.25	0.07	1.07
260	21.33	10.99	0.15	101.24	0.48	1.16	0.68	0.97	0.71	0.98	0.73	1.04	0.71	0.38	1.16	0.78	12.96	75.39	2.65	0.58	1.2	12.43	0	12.43	4	2	0	0	0.64	0	0	0	0	0	0	0	0	0	55.11	67.53	0.07	1.08
261	21.41	12.01	0.16	102.28	0.48	1.17	0.69	0.96	0.71	0.98	0.73	1.04	0.71	0.39	1.17	0.78	12.99	75.48	2.66	0.58	1.19	13.54	0	13.54	4	2	0	0	0.64	0	0	0	0	0	0	0	0	0	55.13	68.68	0.08	1.08
262	21.49	11.79	0.15	86.02	0.48	1.17	0.69	0.96	0.72	0.98	0.73	1.04	0.71	0.39	1.17	0.78	13.24	74.28	2.64	0.58	1.19	13.29	0	13.29	4	2	0	0	0.64	0	0	0	0	0	0	0	0	0	54.8	68.09	0.07	1.1
263	21.57	12.09	0.14	78.42	0.49	1.17	0.69	0.96	0.72	0.98	0.73	1.04	0.71	0.39	1.17	0.78	12.57	76.7	2.67	0.58	1.19	13.6	0	13.6	4	2	0	0	0.63	0	0	0	0	0	0	0	0	0	55.46	69.05	0.08	1.04
264	21.65	10.24	0.15	84.4	0.49	1.18	0.69	0.96	0.72	0.98	0.73	1.03	0.71	0.39	1.18	0.78	12.35	78.08	2.69	0.58	1.19	11.53	0	11.53	4	2	0	0	0.63	0	0	0	0	0	0	0	0	0	55.81	67.34	0.07	1.02
265	21.74	10.9	0.16	101.97	0.49	1.18	0.69	0.96	0.72	0.98	0.74	1.04	0.71	0.4	1.18	0.79	12.36	80.73	2.72	0.58	1.19	12.24	0	12.24	4	2	0	0	0.63	0	0	0	0	0	0	0	0	0	56.45	68.7	0.08	1.02
266	21.82	11.45	0.21	125.51	0.49	1.19	0.69	0.96	0.72	0.98	0.74	1.04	0.71	0.4	1.19	0.79	13.92	78.59	2.69	0.58	1.19	12.84	0	12.84	4	2	0	0	0.63	0	0	0	0	0	0	0	0	0	55.94	68.78	0.08	1.16
267	21.9	13.95	0.27	151.28	0.5	1.19	0.7	0.96	0.72	0.97	0.74	1.04	0.71	0.4	1.19	0.79	16.11	74.52	2.64	0.57	1.18	15.58	0	15.58	4	2	0	0	0.63	0	0	0	0	0	0	0	0	0	54.87	70.45	0.08	1.35
268	21.98	16.92	0.28	140.16	0.5	1.2	0.7	0.96	0.72	0.97	0.74	1.04	0.71	0.41	1.2	0.79	18.33	70.25	2.59	0.56	1.18	18.82	56.14	74.96	0.11	0.16	1	0.14	0.63	1.86	54.63	0.93	0	0	0	0.02	0.02	0	53.61	72.43	0.08	0.63
269	22.06	18.33	0.31	110.51	0.5	1.2	0.7	0.96	0.72	0.97	0.74	1.04	0.71	0.41	1.2	0.79	19.65	68.3	2.57	0.56	1.17	20.33	56.22	76.56	0.11	0.16	1	0.14	0.63	1.82	52.55	0.93	0	0	0	0.02	0.02	0	52.98	73.32	0.08	0.64
270	22.15	18.52	0.34	108.72	0.5	1.21	0.7	0.96	0.72	0.97	0.74	1.04	0.72	0.41	1.21	0.79	21.87	69.66	2.58	0.55	1.17	20.51	56.53	77.04	0.11	0.16	1	0.14	0.62	1.81	51.93	0.92	0	0	0	0.02	0.02	0	53.42	73.93	0.08	0.65
271	22.23	23.53	0.66	144.58	0.51	1.21	0.7	0.96	0.72	0.97	0.75	1.04	0.72	0.41	1.21	0.8	24.51	70.19	2.59	0.54	1.16	25.88	58.19	84.08	0.12	0.17	1	0.14	0.62	1.68	43.79	0.89	0	0	0	0.02	0.02	0	53.59	79.47	0.09	0.66
272	22.31	25.64	0.76	151.41	0.51	1.21	0.71	0.96	0.72	0.97	0.75	1.04	0.72	0.42	1.21	0.8	26.39	71.16	2.6	0.53	1.16	28.1

	Input Data				CSR calculation results									CRR 7.5 calculation results										Other results														
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
273	22.39	25	0.76	50.92	0.51	1.22	0.71	0.96	0.72	0.97	0.75	1.04	0.72	0.42	1.22	0.8	25.53	74.52	2.64	0.53	1.16	27.37	0	27.37	4	2	0	0	0	0.62	0	0	0	0	0	0	0	0	54.87	82.24	0.09	2.17
274	22.47	22.54	0.83	35.09	0.51	1.22	0.71	0.96	0.72	0.97	0.75	1.04	0.72	0.42	1.22	0.8	25.97	75.32	2.65	0.54	1.16	24.7	0	24.7	4	2	0	0	0	0.62	0	0	0	0	0	0	0	0	55.09	79.78	0.09	2.2
275	22.56	28.98	0.93	10.21	0.52	1.23	0.71	0.96	0.72	0.96	0.75	1.04	0.72	0.42	1.23	0.81	26.61	76.49	2.67	0.52	1.15	31.51	0	31.51	4	2	0	0	0	0.62	0	0	0	0	0	0	0	0	55.4	86.91	0.1	2.25
276	22.64	27.34	1.04	22.45	0.52	1.23	0.71	0.96	0.72	0.96	0.75	1.04	0.72	0.43	1.23	0.81	28.78	75.24	2.65	0.52	1.15	29.73	0	29.73	4	2	0	0	0	0.62	0	0	0	0	0	0	0	0	55.07	84.8	0.1	2.43
277	22.72	29.12	1.17	29.25	0.52	1.24	0.72	0.96	0.72	0.96	0.75	1.04	2	0.43	1.24	0.81	30.04	75.37	2.65	0.52	1.15	31.57	0	31.57	4	2	0	0	0	0.61	0	0	0	0	0	0	0	0	55.1	86.68	0.1	2.54
278	22.8	32.61	1.25	22.17	0.52	1.24	0.72	0.96	0.72	0.96	0.75	1.04	2	0.43	1.24	0.81	33.51	71.37	2.6	0.51	1.14	35.22	0	35.22	4	2	0	0	0	0.61	0	32.64	0.81	0	0	0	0	0	53.95	89.17	0.1	2.83
279	22.88	38.01	1.24	2.52	0.53	1.25	0.72	0.96	0.72	0.95	0.76	1.04	2	0.43	1.25	0.82	37.52	65.82	2.54	0.49	1.14	40.84	61.62	102.47	4	2	0	0	0	0.61	0	28.22	0.76	0	0	0	0	0	52.13	92.97	0.11	0.71
280	22.97	41.71	1.17	-8.45	0.53	1.25	0.72	0.96	0.72	0.95	0.76	1.04	2	0.44	1.25	0.82	41.64	59.46	2.46	0.49	1.13	44.68	61.09	105.76	4	2	0	0	0	0.61	0	26.11	0.73	0	0	0	0	0	49.66	94.33	0.11	0.73
281	23.05	45.51	1.05	-15.74	0.53	1.26	0.73	0.96	0.72	0.95	0.76	1.04	2	0.44	1.26	0.82	44.93	49.84	2.34	0.48	1.13	48.63	58.82	107.46	4	2	0	0	0	0.61	0	25.13	0.71	0	0	0	0	0	44.91	93.54	0.11	0.74
282	23.13	48.19	0.44	-18.76	0.53	1.26	0.73	0.96	0.73	0.95	0.76	1.04	2	0.44	1.26	0.82	47.39	40.33	2.22	0.49	1.13	51.47	54.56	106.03	4	2	0	0	0	0.61	0	26.12	0.73	0	0	0	0	0	38.71	90.18	0.1	0.74
283	23.21	49.25	0.43	-19.76	0.54	1.27	0.73	0.96	0.73	0.96	0.76	1.04	2	0.44	1.27	0.82	48.66	31.91	2.11	0.5	1.13	52.69	47.99	100.68	4	2	0	0	0	0.61	0	29.92	0.78	0	0	0	0	0	31.73	84.42	0.1	0.74
284	23.29	49.39	0.47	-19.73	0.54	1.27	0.73	0.96	0.73	0.95	0.76	1.04	0.73	0.45	1.27	0.83	48.48	34.16	2.14	0.49	1.13	52.71	50.14	102.84	0.14	0.19	1	0.13	0.61	1.38	28.34	0.76	0	0	0	0.01	0.01	0	33.74	86.45	0.1	0.74
285	23.38	47.65	0.59	-20.51	0.54	1.28	0.74	0.96	0.73	0.95	0.76	1.04	0.73	0.45	1.28	0.83	47.13	38.77	2.2	0.49	1.13	50.75	53.34	104.09	0.14	0.2	1	0.13	0.6	1.37	27.4	0.75	0	0	0	0.01	0.01	0	37.53	88.28	0.1	0.74
286	23.46	45.13	0.68	-12.93	0.54	1.28	0.74	0.96	0.73	0.95	0.76	1.04	0.73	0.45	1.28	0.83	46.07	43.58	2.26	0.49	1.13	48.02	55.65	103.67	0.14	0.19	1	0.13	0.6	1.37	27.6	0.75	0	0	0	0.01	0.01	0	41.02	89.04	0.1	0.74
287	23.54	46.17	0.8	-18.14	0.55	1.29	0.74	0.96	0.73	0.95	0.77	1.04	0.74	0.45	1.29	0.83	45.2	47.05	2.3	0.48	1.12	48.98	57.67	106.65	0.15	0.2	1	0.13	0.6	1.33	25.66	0.72	0	0	0	0.01	0.01	0	43.26	92.25	0.11	0.73
288	23.62	45.05	0.84	-20.41	0.55	1.29	0.74	0.96	0.73	0.95	0.77	1.04	0.74	0.46	1.29	0.84	44.33	49.56	2.33	0.48	1.12	47.74	58.47	106.21	0.15	0.2	1	0.13	0.6	1.33	25.92	0.73	0	0	0	0.01	0.01	0	44.75	92.49	0.11	0.73
289	23.7	42.65	0.85	-22.12	0.55	1.3	0.74	0.96	0.73	0.95	0.76	1.04	0.74	0.46	1.3	0.84	42.51	51.75	2.36	0.49	1.12	45.19	58.67	103.86	0.14	0.19	1	0.13	0.6	1.36	27.39	0.75	0	0	0	0.01	0.01	0	45.96	91.15	0.11	0.73
290	23.79	40.76	0.81	-22.42	0.55	1.3	0.75	0.96	0.73	0.95	0.76	1.04	0.74	0.46	1.3	0.84	40.03	53.92	2.39	0.49	1.12	43.17	58.92	102.09	0.14	0.19	1	0.13	0.6	1.37	28.57	0.76	0	0	0	0.01	0.01	0	47.09	90.26	0.1	0.72
291	23.87	37.65	0.75	-22.6	0.56	1.31	0.75	0.96	0.73	0.96	0.76	1.04	0.73	0.46	1.31	0.84	37.41	55.95	2.41	0.5	1.12	39.89	58.7	98.59	0.14	0.18	1	0.13	0.6	1.41	31.04	0.79	0	0	0	0.01	0.01	0	48.08	87.97	0.1	0.71
292	23.95	34.81	0.7	-23.59	0.56	1.31	0.75	0.96	0.73	0.96	0.76	1.04	0.73	0.47	1.31	0.84	34.73	58.3	2.44	0.51	1.12	36.9	58.58	95.48	0.13	0.18	1	0.13	0.59	1.44	33.42	0.82	0	0	0	0.01	0.01	0	49.15	86.05	0.1	0.7
293	24.03	32.73	0.67	-22.78	0.56	1.32	0.75	0.96	0.73	0.96	0.76	1.03	0.73	0.47	1.32	0.85	33.14	59.92	2.46	0.51	1.12	34.69	58.42	93.1	0.13	0.18	1	0.13	0.59	1.47	35.37	0.84	0	0	0	0.01	0.01	0	49.85	84.54	0.1	0.69
294	24.11	32.88	0.67	-23.55	0.57	1.32	0.76	0.96	0.73	0.96	0.76	1.03	0.73	0.47	1.32	0.85	32.47	60.97	2.47	0.51	1.12	34.79	58.73	93.52	0.13	0.18	1	0.13	0.59	1.46	35.02	0.83	0	0	0	0.01	0.01	0	50.29	85.08	0.1	0.69
295	24.2	32.8	0.7	-22.41	0.57	1.33	0.76	0.96	0.73	0.96	0.76	1.03	0.73	0.47	1.33	0.85	33.24	60.89	2.47	0.51	1.12	34.66	58.67	93.33	0.13	0.18	1	0.13	0.59	1.46	35.18	0.83	0	0	0	0.01	0.01	0	50.25	84.92	0.1	0.69
296	24.28	35.02	0.77	-22.11	0.57	1.33	0.76	0.96	0.73	0.96	0.76	1.03	0.74	0.48	1.33	0.85	35.24	59.93	2.46	0.51	1.12	36.91	59.04	95.96	0.13	0.18	1	0.13	0.59	1.42	33.05	0.81	0	0	0	0.01	0.01	0	49.85	86.77	0.1	0.7
297	24.36	38.87	0.87	-21.83	0.57	1.33	0.76	0.96	0.73	0.96	0.76	1.04	0.74	0.48	1.33	0.86	37.8	58.16	2.44	0.5	1.11	40.83	59.64	100.46	0.14	0.19	1	0.13	0.59	1.37	29.7	0.78	0	0	0	0.01	0.01	0	49.09	89.92	0.1	0.71
298	24.44	40.46	0.89	-21.83	0.58	1.34	0.76	0.96	0.73	0.95	0.77	1.04	0.74	0.48	1.34	0.86	40.52	55.76	2.41	0.49	1.11	42.41	59.33	101.75	0.14	0.19	1	0.13	0.59	1.35	28.81	0.77	0	0	0	0.01	0.01	0	47.99	90.4	0.1	0.72
299	24.52	43.2	0.88	-22.87	0.58	1.34	0.77	0.96	0.73	0.95	0.77	1.04	0.74	0.48	1.34	0.86	42	53.92	2.39	0.49	1.11	45.17	59.46	104.63	0.14	0.19	1	0.13	0.58	1.32	26.91	0.74	0	0	0	0.01	0.01	0	47.09	92.26	0.11	0.72
300	24.61	43.3	0.85	-22.99	0.58	1.35	0.77	0.96	0.73	0.95	0.77	1.03	0.74	0.49	1.35	0.86	43.53	51.27	2.35	0.49	1.11	45.23	58.5	103.73	0.14	0.19	1	0.13	0.58	1.32	27.51	0.75	0	0	0	0.01	0.01	0	45.7	90.94	0.11	0.73
301	24.69	45.08	0.78	-23.85	0.58	1.35	0.77	0.96	0.73	0.95	0.77	1.03	0.74	0.49	1.35	0.86	44.21	48.71	2.32	0.49	1.1	47.01	57.91	104.92	0.14	0.19	1	0.13	0.58	1.31	26.77	0.74	0	0	0	0.01	0.01	0	44.26	91.27	0.11	0.73
302	24.77	45.27	0.68	-23.33	0.59	1.36	0.77	0.96	0.73	0.95	0.77	1.03	0.74	0.49	1.36	0.87	45.06	44.89	2.27	0.49	1.1	47.18	56.14	103.31	0.14	0.19	1	0.13	0.58	1.32	27.86	0.75	0	0	0	0.01	0.01	0	41.89	89.07	0.1	0.73
303	24.85	45.85	0.55	-24.47	0.59	1.36	0.78	0.96	0.73	0.95	0.77	1.03	2	0.49	1.36	0.87	44.59	43.64	2.26	0.49	1.1	47.72	55.61	103.33	4	2	0	0	0	0.58	0	27.87	0.75	0	0	0	0	0	41.06	88.78	0.1	0.73
304	24.93	43.67	0.61	-23.63	0.59	1.37	0.78	0.96	0.73	0.95	0.77	1.03	2	0.5	1.37	0.87	41.99	45.67	2.28	0.49	1.1	45.43	56.09	101.52	4	2	0	0	0	0.58	0	29.08	0.77	0	0	0	0	0	42.4	87.83	0.1	0.72
305	25.02	37.49	0.59	-24.25	0.59	1.37	0.78	0.96	0.73	0.96	0.76	1.03	2	0.5	1.37	0.87	37.78	52.87	2.37	0.51	1.1	39.04	57.43	96.47	4	2	0	0	0	0.58	0	32.71	0.81	0	0	0	0	0	46.55	85.59	0.1	0.71
306	25.1	33.22	0.72	-24.49	0.6	1.38	0.78	0.96	0.73	0.96	0.76	1.03	2	0.5	1.38	0.88	32.68	61.12	2.48	0.51	1.1	34.6	58.71	93.31	4	2	0	0	0	0.57	0	35.23	0.83	0	0	0	0	0	50.34	84.94	0.1	0.69
307	25.18	28.38	0.7	-23.84	0.6	1.38	0.78	0.96	0.73	0.97	0.76	1.03	2	0.5	1.38	0.88	28.83	68.1	2.56	0.52	1.1	29.58	58.86	88.45	4	2	0	0	0	0.57	0	39.54	0.87	0	0	0	0	0	52.92	82.5	0.09	0.67
308	25.26	25.91	0.65	-23.35	0.6	1.39	0.79	0.95	0.73	0.97	0.76	1.03	2	0.51	1.39	0.88	26.16	71.15	2.6	0.53	1.1	27.01	0	27.01	4	2	0	0	0	0.57	0	42.22	0.88	0	0	0	0	0	53.89	80.89	0.09	2.01
309	25.34	25.19	0.55	-22.54	0.6	1.39	0.79	0.95	0.73	0.97	0.76	1.03	0.74	0.51	1.39	0.88	25.08	71.77	2.61	0.53	1.1	26.23	0	26.23	4	2	0	0	0	0.57	0	43.13	0.89	0	0	0	0	0	54.07	80.31	0.09	1.92
310	25.43	25.11	0.56	-20.66	0.61	1.4	0.79	0.95	0.73	0.97	0.76	1.03	0.74	0.51	1.4	0.88	23.1	75.72	2.66	0.53	1.1	26.11	0	26.11	4	2	0	0	0	0.57	0	0	0	0	0	0	0	0	55.2	81.31	0.09	1.75
311	25.51	19.94	0.63	-21.49	0.61	1.4	0.79	0.95	0.73	0.97	0.76	1.03	0.74	0.52	1.4	0.89	20.17	82.58	2.74	0.55	1.1	20.77	0	20.77	4	2	0	0	0	0.57	0	0	0	0	0	0	0	0	56.88	77.64	0.09	1.51
312	25.59	16.37	0.54	-21	0.61	1.41	0.79	0.95	0.74	0.97	0.76	1.03	0.74	0.52	1.41	0.89	16.12	92.89	2.87	0.56	1.1	17.06	0	17.06	4	2	0	0	0	0.57	0	0	0	0	0	0	0	0	58.9	75.96	0.08	1.18
313	25.67	12.95	0.46	-20.56	0.61	1.41	0.8	0.95	0.74	0.97	0.75	1.02	0.74	0.52	1.41	0.89	13.39	99.83	2.96	0.57	1.1	13.5	0	13.5	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	60	73.5	0.08	0.96
314	25.75	11.73	0.41	-19.49	0.62	1.42	0.8	0.95	0.74	0.98	0.75	1.02	0.74	0.52	1.42	0.89	11.14	100	3.04	0.57	1.1	12.22	0	12.22	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	60.02	72.25	0.08	0.78
315	25.84	9.15	0.3	11.48	0.62	1.42	0.8	0.95	0.74	0.98	0.75	1.02	0.74	0.53	1.42	0.89	9.88	100	3.07	0.58	1.1	9.54	0	9.54	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	60.02	69.57	0.08	0.68
316	25.92	8.52	0.24	25.63	0.62	1.42	0.8	0.95	0.74	0.98	0.75	1.02	0.74	0.53	1.42	0.9	9.11	100	3.07	0.59	1.1	8.88	0	8.88	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	60.02	68.9	0.08	0.61
317	26	8.42	0.19	48.23	0.62	1.43	0.8	0.95	0.74	0.98	0.75	1.02	0.74	0.53	1.43	0.9	9.16	100	3.02	0.59	1.1	8.76	0	8.76	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	60.02	68.79	0.08	0.62
318	26.08	8.55	0.17	64.88	0.63	1.43	0.81	0.95	0.74	0.98	0.76	1.02	0.74	0.53	1.43	0.9	9.99	96.06	2.91	0.59	1.1	8.89	0	8.89	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	59.43	68.32	0.08	0.68
319	26.16	10.15	0.14	84.34	0.63	1.44	0.81	0.95	0.74	0.98	0.76	1.02	0.74	0.54	1.44	0.9	10.64	91.19	2.85	0.58	1.1	10.53	0	10.53	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	58.6	69.14	0.08	0.73
320	26.25	9.87	0.15	83.24	0.63	1.44	0.81	0.95	0.74	0.98	0.76	1.02	0.74	0.54	1.44	0.9	11.25	87.46	2.81	0.58	1.1	10.24	0	10.24	4	2	0	0	0	0.56	0	0	0	0	0	0	0	0	57.9	68.14	0.07	0.78
321	26.33	10.06	0.15	88.21	0.63	1.44	0.81	0.95	0.74	0.98	0.76	1.02	0.74	0.54	1.44	0.9	12.01	84.79	2.77	0.58	1.1	10.42	0	10.42	4	2	0	0	0	0.55	0	0	0	0	0	0	0	0	57.36	67.78	0.07	0.83
322	26.41	12.25	0.16	96.56	0.64	1.45	0.81	0.95	0.74	0.98	0.76	1.02	0.74	0.54	1.45	0.91	12.97	81.94	2.74	0.58	1.09	12.66	0	12.66	4	2	0	0	0	0.55	0	0	0	0	0	0	0	0	56.73	69.4	0.08	0.91
323	26.49	12.3	0.18	114.36	0.64	1.45	0.81	0.95	0.74	0.98	0.76	1.02	0.74	0.55	1.45	0.91	14.43	79	2.7	0.58	1.09	12.7	0	12.7	4	2	0	0	0	0.55	0	0	0	0	0	0	0	0	56.04	68.74	0.08	1.02
324	26.57	14.14	0.23	108.1	0.64	1.46	0.82	0.95	0.74	0.97	0.76	1.02	0.74	0.55	1.46	0.91	15.6	78.38	2.69	0.57	1.09	14.57	0	14.57	4	2	0	0	0	0.55	0	0	0	0	0	0	0	0	55.88	70.46	0.08	1.11
325	26.66	15.44	0.28	118.24	0.64	1.46	0.82	0.95	0.74	0.97	0.76	1.02	0.74	0.55	1.46	0.91	17.3	77.15	2.68	0.57	1.09	15.88	0	15.88	4	2	0	0	0	0.55	0	0	0	0	0	0	0	0	55.57	71.45	0.08	1.24
326	26.74	17.34	0.35	118.73	0.65	1.47	0.82	0.95	0.74	0.97	0.76	1.02	0.75	0.55	1.47	0.91	18.8	76.17	2.66	0.56	1.09	17.8	0	17.8	4	2	0	0	0	0.55	0	0	0	0	0	0	0	0	55.32	73.11	0.08	1.36
327	26.82	18.73	0.38	102.47	0.65	1.47	0.82	0.95	0.74	0.97	0.76	1.02	0.75	0.56	1.47	0.92	20.72	74.46	2.64	0.56	1.08	19.19	0	19.19	4	2	0	0	0	0.55	0	0	0	0	0	0	0	0	54.85	74.04	0.08	1.5
328	26.9	21.5	0.46	98.13	0.65	1.48	0.82	0.95	0.74	0.97	0.76	1.02	0.75	0.56	1.48	0.92	22.29	73.55	2.63	0.55	1.08	21.97	0	21.97	4	2	0	0	0	0.54	0	0	0	0	0	0	0	0	54.59	76.57	0.09	1.62
329	26.98	22.32	0.52	100.28	0.65	1.48	0.83	0.95	0.74	0.97	0.77	1.02	0.75	0.56	1.48	0.92	23.75	73.76	2.63	0.54	1.08	22.77	0	22.77	4	2	0	0	0	0.54	0	0	0	0	0	0	0	0	54.65	77.43	0.09	1.73
330	27.07	23.18	0.63	97.72	0.66	1.49	0.83	0.95	0.74	0.97	0.77	1.02	0.75	0.56	1.49	0.92	24.48	75.4	2.65	0.54	1.08	23.61	0	23.61	4	2	0	0	0	0.54	0	0	0	0	0	0	0	0	55.11	78.72	0.09	1.78
331	27.15	23.73	0.71	93.99	0.66	1.49	0.83	0.95	0.74	0.97	0.77	1.02	0.75	0.57	1.49	0.92	24.96	77.56	2.68	0.54	1.08	24.13	0	24.13	4	2	0	0	0	0.54	0	0	0	0	0	0	0	0	55.68	79.81	0.09	1.81
332	27.23	24.15	0.81	73.32	0.66	1.49	0.83	0.95	0.74	0.97	0.77	1.02	0.75	0.57	1.49	0.93	24.84	80.71	2.72	0.54	1.07	24.52	0	24.52	4	2	0	0	0	0.54	0	0	0	0	0	0	0	0	56.45	80.97	0.09	1.8
333	27.31	23.49	0.93	51.02	0.66	1.5	0.83	0.95	0.74	0.97	0.77	1.02	0.75	0.57	1.5	0.93	24.64	83.61	2.76	0.54	1.07	23.82	0	23.82	4	2	0	0	0	0.54	0	0	0	0	0	0	0	0	57.1	80.92	0.09	1.78
334	27.4	23.96	0.99	36.25	0.67	1.5	0.84	0.95	0.74	0.97	0.77	1.02	0.75	0.57	1.5	0.93	24.07	86.32	2.79	0.54	1.07	24.26	0	24.26	4	2	0	0	0	0.54	0	0	0	0	0	0	0	0	57.67	81.93	0.09	1.73
335	27.48	23.03	0.99	32.88	0.67	1.51	0.84	0.95	0.74	0.97	0.77	1.02	0.75	0.58	1.51	0.93	23.72	88.23	2.82	0.54	1.07	23.29	0	23.29	4	2	0	0	0	0.53	0	0	0	0	0	0	0	0	58.05	81.35	0.09	1.7
336	27.56	22.58	1.07	41.14	0.67	1.51	0.84	0.95	0.74	0.97	0.77	1.02	0.75	0.58	1.51	0.93	23.16	89.8	2.83	0.54	1.07	22.81	0	22.81	4	2	0	0	0	0.53	0	0	0	0	0	0	0	0	58.35	81.16	0.09	1.65
337	27.64	22.14	1.03	45.68	0.68	1.52	0.84	0.95	0.74	0.97	0.77	1.02	0.75	0.58	1.52	0.94	23.1	89.67	2.83	0.54	1.07	22.34	0	22.34	4	2	0	0	0	0.53	0	0	0	0	0	0	0	0	58.33	80.67	0.09	1.64
338	27.72	22.46	0.95	59.43	0.68	1.52	0.85	0.95	0.74	0.97	0.77	1.02	0.75	0.58	1.52	0.94	23	89.18	2.83	0.54	1.07	22.63	0	22.63	4	2	0	0	0	0.53	0	0	0	0	0	0	0	0	58.23	80.87	0.09	1.63

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
341	27.97	21.5	0.82	38.38	0.69	1.54	0.85	0.95	0.74	0.97	0.77	1.02	0.75	0.59	1.54	0.95	22.37	88.1	2.81	0.54	1.06	21.59	0	21.59	4	2	0	0	0	0.53	0	0	0	0	0	0	0	0	0	58.03	79.62	0.09	1.57
342	28.05	22.06	0.86	36.39	0.69	1.54	0.85	0.95	0.74	0.97	0.77	1.02	0.75	0.59	1.54	0.95	22.04	88.46	2.82	0.54	1.06	22.12	0	22.12	4	2	0	0	0	0.52	0	0	0	0	0	0	0	0	0	58.1	80.22	0.09	1.54
343	28.13	21.09	0.88	26.97	0.69	1.55	0.86	0.95	0.74	0.97	0.77	1.02	0.75	0.6	1.55	0.95	21.72	89.67	2.83	0.54	1.06	21.13	0	21.13	4	2	0	0	0	0.52	0	0	0	0	0	0	0	0	0	58.33	79.45	0.09	1.52
344	28.22	20.27	0.86	56.44	0.69	1.55	0.86	0.95	0.75	0.97	0.77	1.02	0.75	0.6	1.55	0.95	21.44	90.3	2.84	0.55	1.06	20.29	0	20.29	4	2	0	0	0	0.52	0	0	0	0	0	0	0	0	0	58.44	78.73	0.09	1.49
345	28.3	20.79	0.85	67.78	0.7	1.56	0.86	0.95	0.75	0.97	0.77	1.02	0.75	0.6	1.56	0.96	21.5	90.07	2.84	0.55	1.06	20.78	0	20.78	4	2	0	0	0	0.52	0	0	0	0	0	0	0	0	0	58.4	79.18	0.09	1.49
346	28.38	20.8	0.86	59.37	0.7	1.56	0.86	0.95	0.75	0.97	0.77	1.02	0.75	0.6	1.56	0.96	21.76	89.77	2.83	0.55	1.06	20.76	0	20.76	4	2	0	0	0	0.52	0	0	0	0	0	0	0	0	0	58.34	79.1	0.09	1.51
347	28.46	21	0.89	58.83	0.7	1.57	0.87	0.95	0.75	0.97	0.77	1.02	0.75	0.61	1.57	0.96	21.46	91.2	2.85	0.54	1.05	20.93	0	20.93	4	2	0	0	0	0.52	0	0	0	0	0	0	0	0	0	58.61	79.54	0.09	1.48
348	28.54	20.36	0.92	36.71	0.7	1.57	0.87	0.95	0.75	0.97	0.77	1.02	0.76	0.61	1.57	0.96	20.91	93.28	2.88	0.55	1.05	20.27	0	20.27	4	2	0	0	0	0.52	0	0	0	0	0	0	0	0	0	58.97	79.24	0.09	1.44
349	28.63	19.73	0.93	18.07	0.71	1.58	0.87	0.95	0.75	0.97	0.77	1.02	0.76	0.61	1.58	0.96	19.73	96.51	2.92	0.55	1.05	19.62	0	19.62	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	59.5	79.12	0.09	1.35
350	28.71	18.17	0.9	10.76	0.71	1.58	0.87	0.95	0.75	0.97	0.77	1.02	0.75	0.61	1.58	0.97	18.84	98.53	2.94	0.55	1.05	18.06	0	18.06	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	59.81	77.86	0.09	1.28
351	28.79	18.06	0.86	9.96	0.71	1.59	0.87	0.95	0.75	0.97	0.77	1.02	0.76	0.62	1.59	0.97	18.22	99.43	2.96	0.55	1.05	17.92	0	17.92	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	59.94	77.87	0.09	1.23
352	28.87	17.88	0.82	18.47	0.71	1.59	0.88	0.95	0.75	0.97	0.77	1.02	0.76	0.62	1.59	0.97	18.08	99.32	2.95	0.55	1.05	17.72	0	17.72	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	59.92	77.65	0.09	1.21
353	28.95	17.49	0.83	27.44	0.72	1.6	0.88	0.94	0.75	0.97	0.77	1.02	0.76	0.62	1.6	0.97	17.84	99.75	2.96	0.56	1.05	17.32	0	17.32	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	59.99	77.31	0.09	1.19
354	29.04	17.18	0.82	20.77	0.72	1.6	0.88	0.94	0.75	0.97	0.77	1.02	0.76	0.63	1.6	0.98	17.06	100	2.99	0.56	1.05	16.99	0	16.99	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	60.02	77.02	0.09	1.13
355	29.12	15.75	0.81	4.63	0.72	1.6	0.88	0.94	0.75	0.97	0.77	1.02	0.76	0.63	1.6	0.98	16.15	100	3.03	0.56	1.05	15.56	0	15.56	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	60.02	75.59	0.08	1.06
356	29.2	15.22	0.82	-3.7	0.72	1.61	0.89	0.94	0.75	0.97	0.77	1.02	0.76	0.63	1.61	0.98	15.16	100	3.06	0.56	1.04	15.02	0	15.02	4	2	0	0	0	0.51	0	0	0	0	0	0	0	0	0	60.02	75.05	0.08	0.99
357	29.28	14.49	0.78	1.25	0.73	1.61	0.89	0.94	0.75	0.97	0.77	1.02	0.76	0.63	1.61	0.98	14.26	100	3.1	0.57	1.04	14.29	0	14.29	4	2	0	0	0	0.5	0	0	0	0	0	0	0	0	0	60.02	74.31	0.08	0.92
358	29.36	13.01	0.71	6.01	0.73	1.62	0.89	0.94	0.75	0.97	0.77	1.01	0.76	0.64	1.62	0.98	13.37	100	3.12	0.57	1.04	12.82	0	12.82	4	2	0	0	0	0.5	0	0	0	0	0	0	0	0	0	60.02	72.84	0.08	0.85
359	29.45	12.46	0.65	3.31	0.73	1.62	0.89	0.94	0.75	0.98	0.77	1.01	0.76	0.64	1.62	0.99	12.58	100	3.14	0.57	1.04	12.26	0	12.26	4	2	0	0	0	0.5	0	0	0	0	0	0	0	0	0	60.02	72.29	0.08	0.79
360	29.53	12.09	0.61	3.62	0.73	1.63	0.89	0.94	0.75	0.98	0.77	1.01	0.76	0.64	1.63	0.99	12.53	100	3.13	0.58	1.04	11.89	0	11.89	4	2	0	0	0	0.5	0	0	0	0	0	0	0	0	0	60.02	71.91	0.08	0.79
361	29.61	12.6	0.62	23.22	0.74	1.63	0.9	0.94	0.75	0.98	0.77	1.01	0.76	0.64	1.63	0.99	13.72	100	3.05	0.57	1.04	12.37	0	12.37	4	2	0	0	0	0.5	0	0	0	0	0	0	0	0	0	60.02	72.4	0.08	0.87
362	29.69	15.33	0.53	53.16	0.74	1.64	0.9	0.94	0.75	0.97	0.77	1.01	2	0.65	1.64	0.99	16.31	96.19	2.91	0.56	1.04	15.02	0	15.02	4	2	0	0	0	0.5	0	0	0	0	0	0	0	0	0	59.45	74.47	0.08	1.06
363	29.77	19.17	0.49	50.08	0.74	1.64	0.9	0.94	0.75	0.97	0.77	1.01	2	0.65	1.64	0.99	19.72	83.63	2.76	0.55	1.04	18.76	0	18.76	4	2	0	0	0	0.5	0	0	0	0	0	0	0	0	0	57.11	75.86	0.08	1.3
364	29.86	23.2	0.43	-1.98	0.74	1.65	0.9	0.94	0.75	0.97	0.77	1.01	2	0.65	1.65	1	23.31	73.01	2.63	0.55	1.03	22.66	0	22.66	4	2	0	0	0	0.49	0	0	0	0	0	0	0	0	0	54.44	77.1	0.09	1.55
365	29.94	26.7	0.4	11.81	0.75	1.65	0.9	0.94	0.75	0.97	0.77	1.01	2	0.65	1.65	1	25.4	66.11	2.54	0.54	1.03	26.04	57.43	83.47	4	2	0	0	0	0.49	0	44.69	0.9	0	0	0	0	0	0	52.23	78.27	0.09	0.64
366	30.02	26.45	0.33	-19.8	0.75	1.66	0.91	0.94	0.75	0.97	0.77	1.01	2	0.66	1.66	1	25.23	63.6	2.51	0.54	1.03	25.77	56.81	82.58	4	2	0	0	0	0.49	0	45.67	0.9	0	0	0	0	0	0	51.32	77.09	0.09	0.64
367	30.1	22.97	0.27	-22.32	0.75	1.66	0.91	0.94	0.75	0.97	0.77	1.01	2	0.66	1.66	1	22.62	64.83	2.52	0.55	1.03	22.37	56.11	78.48	4	2	0	0	0	0.49	0	50.41	0.92	0	0	0	0	0	0	51.78	74.15	0.08	0.63
368	30.18	19.31	0.19	-18.73	0.75	1.66	0.91	0.94	0.75	0.97	0.77	1.01	2	0.66	1.66	1	19.22	70.04	2.59	0.56	1.03	18.8	56.1	74.9	4	2	0	0	0	0.49	0	54.96	0.93	0	0	0	0	0	0	53.54	72.34	0.08	0.61
369	30.27	16.14	0.2	-12.04	0.76	1.67	0.91	0.94	0.75	0.97	0.77	1.01	2	0.66	1.67	1.01	16.47	80.38	2.72	0.57	1.03	15.7	0	15.7	4	2	0	0	0	0.49	0	0	0	0	0	0	0	0	0	56.37	72.07	0.08	1.05
370	30.35	13.38	0.35	71.24	0.76	1.67	0.91	0.94	0.75	0.98	0.77	1.01	2	0.67	1.67	1.01	15.47	90.55	2.84	0.57	1.03	13.01	0	13.01	4	2	0	0	0	0.49	0	0	0	0	0	0	0	0	0	58.49	71.49	0.08	0.98
371	30.43	13.86	0.5	150.45	0.76	1.68	0.92	0.94	0.75	0.97	0.77	1.01	2	0.67	1.68	1.01	17.24	92.13	2.86	0.57	1.03	13.46	0	13.46	4	2	0	0	0	0.48	0	0	0	0	0	0	0	0	0	58.77	72.23	0.08	1.1
372	30.51	19.13	0.66	149.41	0.76	1.68	0.92	0.94	0.75	0.97	0.77	1.01	2	0.67	1.68	1.01	20.98	87.1	2.8	0.55	1.03	18.53	0	18.53	4	2	0	0	0	0.48	0	0	0	0	0	0	0	0	0	57.83	76.37	0.09	1.36
373	30.59	24.6	0.79	70.93	0.77	1.69	0.92	0.94	0.75	0.97	0.78	1.01	2	0.67	1.69	1.01	26.44	79.39	2.7	0.54	1.02	23.79	0	23.79	4	2	0	0	0	0.48	0	0	0	0	0	0	0	0	0	56.13	79.92	0.09	1.74
374	30.68	32.49	0.93	-4.92	0.77	1.69	0.92	0.94	0.75	0.96	0.78	1.01	2	0.68	1.69	1.02	31.93	71.64	2.61	0.52	1.02	31.36	0	31.36	4	2	0	0	0	0.48	0	36.97	0.85	0	0	0	0	0	0	54.04	85.39	0.1	2.13
375	30.76	38.04	0.87	-19.39	0.77	1.7	0.92	0.94	0.75	0.96	0.78	1.01	2	0.68	1.7	1.02	36.33	63.88	2.51	0.51	1.02	36.65	59.97	96.63	4	2	0	0	0	0.48	0	32.69	0.81	0	0	0	0	0	0	51.42	88.08	0.1	0.69
376	30.84	39.14	0.65	-23.66	0.78	1.7	0.93	0.94	0.75	0.96	0.78	1.01	2	0.68	1.7	1.02	37.62	58.29	2.44	0.51	1.02	37.67	58.8	96.47	4	2	0	0	0	0.48	0	32.84	0.81	0	0	0	0	0	0	49.15	86.82	0.1	0.69
377	30.92	36.66	0.53	-24.53	0.78	1.71	0.93	0.94	0.75	0.96	0.78	1.01	2	0.68	1.71	1.02	35.76	57.48	2.43	0.51	1.02	35.26	57.89	93.15	4	2	0	0	0	0.48	0	35.54	0.84	0	0	0	0	0	0	48.79	84.04	0.1	0.68
378	31	32.51	0.56	-24.22	0.78	1.71	0.93	0.94	0.75	0.96	0.78	1.01	2	0.69	1.71	1.02	32.6	61.31	2.48	0.52	1.02	31.24	57.81	89.05	4	2	0	0	0	0.47	0	39.15	0.87	0	0	0	0	0	0	50.42	81.67	0.09	0.67
379	31.09	29.68	0.57	-24.2	0.78	1.72	0.93	0.94	0.75	0.97	0.78	1.01	2	0.69	1.72	1.03	28.94	66.95	2.55	0.53	1.02	28.5	58.32	86.81	4	2	0	0	0	0.47	0	41.28	0.88	0	0	0	0	0	0	52.53	81.02	0.09	0.66
380	31.17	25.65	0.49	-22.3	0.79	1.72	0.94	0.94	0.75	0.97	0.78	1.01	2	0.69	1.72	1.03	25.93	71.22	2.6	0.54	1.02	24.61	0	24.61	4	2	0	0	0	0.47	0	45.63	0.9	0	0	0	0	0	0	53.91	78.52	0.09	1.68
381	31.25	23.4	0.45	-19.19	0.79	1.73	0.94	0.94	0.75	0.97	0.78	1.01	2	0.69	1.73	1.03	23.52	75.56	2.66	0.54	1.01	22.43	0	22.43	4	2	0	0	0	0.47	0	0	0	0	0	0	0	0	0	55.15	77.58	0.09	1.51
382	31.33	22.26	0.51	-11.51	0.79	1.73	0.94	0.94	0.75	0.97	0.78	1.01	2	0.7	1.73	1.03	21.92	79.55	2.71	0.55	1.01	21.31	0	21.31	4	2	0	0	0	0.47	0	0	0	0	0	0	0	0	0	56.17	77.48	0.09	1.4
383	31.41	20.61	0.51	-3.69	0.79	1.73	0.94	0.94	0.75	0.97	0.77	1.01	2	0.7	1.73	1.04	20.84	82.06	2.74	0.55	1.01	19.71	0	19.71	4	2	0	0	0	0.47	0	0	0	0	0	0	0	0	0	56.76	76.48	0.09	1.32
384	31.5	19.74	0.44	8.69	0.8	1.74	0.94	0.94	0.75	0.97	0.77	1.01	0.77	0.7	1.74	1.04	20.17	81.41	2.73	0.55	1.01	18.86	0	18.86	4	2	0	0	0	0.47	0	0	0	0	0	0	0	0	0	56.61	75.48	0.08	1.27
385	31.58	19.75	0.35	23.51	0.8	1.74	0.95	0.94	0.75	0.97	0.77	1.01	0.77	0.7	1.74	1.04	20.36	77.44	2.68	0.56	1.01	18.85	0	18.85	4	2	0	0	0	0.46	0	0	0	0	0	0	0	0	0	55.65	74.5	0.08	1.28
386	31.66	20.53	0.29	41.13	0.8	1.75	0.95	0.94	0.75	0.97	0.77	1.01	0.77	0.71	1.75	1.04	20.62	74.77	2.65	0.55	1.01	19.58	0	19.58	4	2	0	0	0	0.46	0	0	0	0	0	0	0	0	0	54.94	74.51	0.08	1.29
387	31.74	19.93	0.33	49.48	0.8	1.75	0.95	0.94	0.75	0.97	0.77	1.01	0.77	0.71	1.75	1.04	20.64	77.67	2.68	0.56	1.01	18.99	0	18.99	4	2	0	0	0	0.46	0	0	0	0	0	0	0	0	0	55.7	74.69	0.08	1.29
388	31.82	19.37	0.51	55.34	0.81	1.76	0.95	0.94	0.75	0.97	0.77	1.01	0.77	0.71	1.76	1.05	20.49	85.36	2.78	0.56	1.01	18.43	0	18.43	4	2	0	0	0	0.46	0	0	0	0	0	0	0	0	0	57.48	75.91	0.08	1.28
389	31.91	19.69	0.78	66.98	0.81	1.76	0.95	0.94	0.75	0.97	0.78	1.01	2	0.71	1.76	1.05	21.89	87.75	2.81	0.55	1.01	18.71	0	18.71	4	2	0	0	0	0.46	0	0	0	0	0	0	0	0	0	57.96	76.67	0.09	1.37
390	31.99	23.47	0.83	95.59	0.81	1.77	0.96	0.94	0.75	0.97	0.78	1.01	2	0.72	1.77	1.05	27.33	77.02	2.68	0.54	1	22.28	0	22.28	4	2	0	0	0	0.46	0	0	0	0	0	0	0	0	0	55.54	77.82	0.09	1.74
391	32.07	35.42	0.59	74.56	0.81	1.77	0.96	0.94	0.75	0.96	0.78	1.01	2	0.72	1.77	1.05	34.77	61.67	2.48	0.52	1	33.58	58.56	92.14	4	2	0	0	0	0.46	0	36.4	0.84	0	0	0	0	0	0	50.57	84.15	0.1	0.68
392	32.15	43.12	0.49	-11.03	0.82	1.78	0.96	0.94	0.75	0.96	0.79	1.01	2	0.72	1.78	1.05	42.66	47.94	2.31	0.51	1	40.83	55.96	96.79	4	2	0	0	0	0.46	0	32.69	0.81	0	0	0	0	0	0	43.8	84.64	0.1	0.7
393	32.23	48.83	0.54	-21.2	0.82	1.78	0.96	0.94	0.75	0.96	0.79	1.01	2	0.72	1.78	1.06	47.35	43.52	2.26	0.5	1	46.19	55.16	101.35	4	2	0	0	0	0.45	0	29.39	0.77	0	0	0	0	0	0	40.98	87.17	0.1	0.72
394	32.32	50.88	0.66	-22.25	0.82	1.79	0.96	0.94	0.75	0.95	0.79	1.01	0.78	0.73	1.79	1.06	49.59	44.79	2.27	0.49	1	48.08	56.31	104.39	0.14	0.18	1	0.1	0.45	1.02	27.33	0.75	0	0	0	0.01	0.01	0	41.83	89.91	0.1	0.72
395	32.4	49.92	0.81	-16.58	0.82	1.79	0.97	0.93	0.75	0.95	0.79	1.01	0.78	0.73	1.79	1.06	50.54	48.05	2.31	0.49	1	47.12	57.65	104.77	0.14	0.18	1	0.1	0.45	1.01	27.05	0.74	0	0	0	0.01	0.01	0	43.87	90.99	0.11	0.72
396	32.48	51.71	0.98	-22.19	0.83	1.8	0.97	0.93	0.75	0.95	0.79	1.01	0.79	0.73	1.8	1.06	50.98	50.96	2.35	0.48	1	48.76	59.32	108.08	0.15	0.19	1	0.1	0.45	0.99	24.98	0.71	0	0	0	0.01	0.01	0	45.53	94.3	0.11	0.72
397	32.56	52.2	1.05	-23.53	0.83	1.8	0.97	0.93	0.75	0.95	0.8	1.01	0.79	0.74	1.8	1.07	52.2	52.03	2.36	0.48	1	49.17	59.85	109.02	0.15	0.19	1	0.1	0.45	0.98	24.42	0.7	0	0	0	0.01	0.01	0	46.11	95.28	0.11	0.73
398	32.64	53.69	1.11	-24.09	0.83	1.81	0.97	0.93	0.75	0.95	0.8	1.01	0.79	0.74	1.81	1.07	53.69	51.78	2.36	0.48	1	50.52	60.11	110.64	0.15	0.19	1	0.1	0.45	0.96	23.5	0.69	0	0	0	0.01	0.01	0	45.98	96.5	0.11	0.73
399	32.73	56.21	1.14	-23.99	0.83	1.81	0.98	0.93	0.75	0.94	0.8	1.01	0.79	0.74	1.81	1.07	56.78	48.23	2.32	0.47	0.99	52.84	59.22	112.06	0.16	0.2	1	0.1	0.45	0.95	22.74	0.67	0	0	0	0.01	0.01	0	43.97	96.81	0.11	0.74
400	32.81	61.47	0.94	-23.99	0.84	1.82	0.98	0.93	0.75	0.94	0.8	1.01	0.79	0.74	1.82	1.07	60.29	42.32	2.24	0.47	0.99	57.73	57.34	115.07	0.16	0.2	1	0.1	0.44	0.92	21.21	0.64	0	0	0	0.01	0.01	0	40.15	97.88	0.12	0.75
401	32.89	64.22	0.72	-23.69	0.84	1.82	0.98	0.93	0.75	0.94	0.8	1.01	0.79	0.75	1.82	1.07	64.52	34.16	2.14	0.47	0.99	60.25	51.8	112.05	0.16	0.2	1	0.1	0.44	0.94	22.93	0.68	0	0	0	0.01	0.01	0	33.74	93.98	0.11	0.75
402	32.97	68.88	0.58	-23.5	0.84	1.82	0.98	0.93	0.75	0.95	0.8	1.01	0.79	0.75	1.82	1.08	68.07	27.7	2.06	0.48	0.99	64.55	45.44	109.99	0.15	0.19	1	0.1	0.44	0.95	24.28	0.7	0	0	0	0.01	0.01	0	27.73	92.27	0.11	0.76
403	33.05	72.13	0.57	-23.43	0.84	1.83	0.99	0.93	0.75	0.95	0.79	1.01	0.79	0.75	1.83	1.08	71.9	23.19	2	0.48	0.99	67.52	38.9	106.42	0.15	0.19	1	0.1	0.44	0.98	26.64	0.74	0	0	0	0.01	0.01	0	23.12	90.64	0.11	0.77
404	33.14	75.71	0.55	-23.17	0.85	1.83	0.99	0.93	0.75	0.95	0.79	1.01	0.79	0.75	1.83	1.08	75.58	20.15	1.96	0.49	0.99	70.79	33.37	104.17	0.14	0.18	1	0.1	0.44	0.99	28.28	0.76	0	0	0	0.01	0.01	0	19.93	90.72	0.11	0.78
405	33.22	79.91	0.53	-23.25	0.85	1.84	0.99	0.93	0.75	0.96	0.79	1.01	0.78	0.76	1.84	1.08	79.72	16.41	1.92	0.5	0.99	74.63	24.78	99.41	0.14	0.17	1	0.1	0.44	1.03	31.86	0.8	0	0	0	0.01	0.01	0	16.03	90.66	0.11	0.78
406	33.3	84.54	0.47	-23.19	0.85	1.84	0.99	0.93	0.75	0.96	0.78	1.01	0.78	0.76	1.84	1.09	83.67	12.14	1.86	0.52	0.99	78.84	12.97	91.8	0.13	0.16	1	0.1	0.44	1.09	37.

	Input Data				CSR calculation results								CRR 7.5 calculation results												Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
409	33.55	86.43	0.21	-23.83	0.86	1.86	1	0.93	0.75	0.97	0.78	1.01	2	0.77	1.86	1.09	84.53	1.75	1.73	0.55	0.98	80.29	0	80.29	4	2	0	0	0.43	0	46.19	0.9	0	0	0	0	0	0	5.51	85.8	0.1	0.79
410	33.63	80.17	0.26	-23.79	0.86	1.86	1	0.93	0.76	0.97	0.78	1	2	0.77	1.86	1.09	79.29	7.83	1.81	0.55	0.98	74.38	2.53	76.9	4	2	0	0	0.43	0	51.79	0.92	0	0	0	0	0	0	8.35	82.73	0.09	0.78
411	33.71	72.29	0.45	-23.84	0.86	1.87	1	0.93	0.76	0.96	0.79	1.01	2	0.77	1.87	1.1	70.88	19.77	1.96	0.5	0.98	67.12	32.05	99.17	4	2	0	0	0.43	0	31.86	0.8	0	0	0	0	0	0	19.52	86.65	0.1	0.77
412	33.79	61.2	0.63	-23.86	0.87	1.87	1	0.93	0.76	0.95	0.8	1.01	2	0.77	1.87	1.1	58.64	35.73	2.16	0.48	0.98	56.81	52.42	109.23	4	2	0	0	0.43	0	24.52	0.7	0	0	0	0	0	0	35.08	91.89	0.11	0.74
413	33.87	43.44	0.79	-23.29	0.87	1.88	1.01	0.93	0.76	0.96	0.79	1.01	2	0.78	1.88	1.1	45.87	50.93	2.35	0.5	0.98	40.25	57.03	97.28	4	2	0	0	0.43	0	32.31	0.81	0	0	0	0	0	0	45.52	85.76	0.1	0.71
414	33.96	33.95	0.71	-21.93	0.87	1.88	1.01	0.93	0.76	0.96	0.78	1	2	0.78	1.88	1.1	34.15	66.02	2.54	0.52	0.98	31.4	58.96	90.36	4	2	0	0	0.42	0	38	0.86	0	0	0	0	0	0	52.2	83.6	0.1	0.67
415	34.04	25.98	0.62	-19.63	0.87	1.89	1.01	0.93	0.76	0.97	0.78	1	2	0.78	1.89	1.11	27.06	75.59	2.66	0.54	0.98	23.98	0	23.98	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	55.16	79.15	0.09	1.63
416	34.12	22.1	0.55	-17.13	0.88	1.89	1.01	0.93	0.76	0.97	0.78	1	2	0.78	1.89	1.11	21.43	85.22	2.78	0.55	0.98	20.37	0	20.37	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	57.45	77.82	0.09	1.26
417	34.2	16.73	0.48	0.05	0.88	1.9	1.02	0.93	0.76	0.97	0.78	1	2	0.79	1.9	1.11	18.12	91.44	2.86	0.56	0.97	15.4	0	15.4	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	58.65	74.05	0.08	1.04
418	34.28	15.09	0.4	47.04	0.88	1.9	1.02	0.93	0.76	0.97	0.78	1	2	0.79	1.9	1.11	16.02	94.14	2.89	0.57	0.97	13.87	0	13.87	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	59.11	72.98	0.08	0.91
419	34.37	13.76	0.28	125.93	0.89	1.9	1.02	0.93	0.76	0.98	0.78	1	0.77	0.79	1.9	1.11	15.67	89.95	2.84	0.57	0.97	12.63	0	12.63	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	58.38	71.01	0.08	0.88
420	34.45	13.62	0.19	142.59	0.89	1.91	1.02	0.93	0.76	0.98	0.78	1	0.77	0.79	1.91	1.11	15.52	84.79	2.77	0.58	0.97	12.49	0	12.49	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	57.36	69.85	0.08	0.87
421	34.53	13.3	0.17	140.02	0.89	1.91	1.02	0.93	0.76	0.98	0.78	1	0.77	0.8	1.91	1.12	15.4	81.25	2.73	0.58	0.97	12.18	0	12.18	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	56.57	68.76	0.08	0.86
422	34.61	13.28	0.15	133.59	0.89	1.92	1.02	0.93	0.76	0.98	0.78	1	0.77	0.8	1.92	1.12	15.05	81.44	2.73	0.58	0.97	12.16	0	12.16	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	56.62	68.78	0.08	0.84
423	34.69	12.7	0.16	134.9	0.9	1.92	1.03	0.93	0.76	0.98	0.78	1	0.77	0.8	1.92	1.12	14.56	83.53	2.76	0.58	0.97	11.61	0	11.61	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	57.09	68.7	0.08	0.81
424	34.78	11.84	0.17	138.93	0.9	1.93	1.03	0.93	0.76	0.98	0.78	1	0.77	0.8	1.93	1.12	13.82	87.64	2.81	0.58	0.97	10.82	0	10.82	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	57.94	68.76	0.08	0.76
425	34.86	10.99	0.19	138.8	0.9	1.93	1.03	0.93	0.76	0.98	0.78	1	0.77	0.81	1.93	1.12	13.31	91.36	2.85	0.58	0.97	10.03	0	10.03	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	58.63	68.66	0.08	0.72
426	34.94	11.03	0.21	144	0.9	1.93	1.03	0.93	0.76	0.98	0.78	1	0.77	0.81	1.93	1.13	13.03	94.58	2.89	0.58	0.96	10.06	0	10.06	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	59.19	69.24	0.08	0.7
427	35.02	10.98	0.24	139.19	0.91	1.94	1.03	0.93	0.76	0.98	0.78	1	0.77	0.81	1.94	1.13	13.1	96.11	2.91	0.58	0.96	10	0	10	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	59.43	69.44	0.08	0.71
428	35.1	11.36	0.25	129.62	0.91	1.94	1.04	0.93	0.76	0.98	0.78	1	0.77	0.81	1.94	1.13	13.22	97.32	2.93	0.58	0.96	10.34	0	10.34	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	59.62	69.96	0.08	0.71
429	35.19	11.62	0.27	126.12	0.91	1.95	1.04	0.93	0.76	0.98	0.78	1	0.78	0.82	1.95	1.13	13.21	98.47	2.94	0.58	0.96	10.57	0	10.57	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.8	70.37	0.08	0.71
430	35.27	11.2	0.28	123.22	0.91	1.95	1.04	0.93	0.76	0.98	0.78	1	0.78	0.82	1.95	1.13	13.35	98.43	2.94	0.58	0.96	10.18	0	10.18	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.79	69.97	0.08	0.72
431	35.35	11.8	0.27	127.17	0.92	1.96	1.04	0.93	0.76	0.98	0.78	1	0.78	0.82	1.96	1.13	13.38	98.17	2.94	0.58	0.96	10.71	0	10.71	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.75	70.47	0.08	0.72
432	35.43	11.74	0.26	123.68	0.92	1.96	1.04	0.93	0.76	0.98	0.78	1	0.78	0.82	1.96	1.14	13.74	97.59	2.93	0.58	0.96	10.65	0	10.65	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.66	70.31	0.08	0.74
433	35.52	12.25	0.32	126.09	0.92	1.97	1.04	0.93	0.76	0.98	0.78	1	0.78	0.83	1.97	1.14	13.91	100	2.96	0.58	0.96	11.1	0	11.1	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	60.02	71.13	0.08	0.75
434	35.6	12.24	0.42	131.53	0.92	1.97	1.05	0.93	0.76	0.98	0.78	1	0.78	0.83	1.97	1.14	15.67	96.97	2.92	0.58	0.96	11.08	0	11.08	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.57	70.65	0.08	0.86
435	35.68	16.72	0.46	145.87	0.93	1.97	1.05	0.93	0.76	0.97	0.78	1	0.78	0.83	1.97	1.14	17.79	91.04	2.85	0.57	0.96	15.14	0	15.14	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	58.58	73.71	0.08	0.99
436	35.76	18.93	0.38	103.75	0.93	1.98	1.05	0.92	0.76	0.97	0.78	1	0.78	0.83	1.98	1.14	20.14	81.95	2.74	0.56	0.96	17.13	0	17.13	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	56.74	73.86	0.08	1.13
437	35.84	20.81	0.28	24.64	0.93	1.98	1.05	0.92	0.76	0.97	0.78	1	0.78	0.84	1.98	1.15	20.7	76.76	2.67	0.56	0.96	18.82	0	18.82	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	55.47	74.29	0.08	1.17
438	35.93	20.36	0.26	11.29	0.93	1.99	1.05	0.92	0.76	0.97	0.78	1	0.78	0.84	1.99	1.15	19.75	76.79	2.67	0.56	0.96	18.39	0	18.39	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	55.48	73.87	0.08	1.11
439	36.01	17.42	0.27	9.96	0.94	1.99	1.06	0.92	0.76	0.97	0.78	1	0.78	0.84	1.99	1.15	17.68	81.61	2.73	0.57	0.95	15.71	0	15.71	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	56.66	72.37	0.08	0.98
440	36.09	14.56	0.23	27.64	0.94	2	1.06	0.92	0.76	0.98	0.78	1	0.78	0.85	2	1.15	15.4	87.97	2.81	0.57	0.95	13.11	0	13.11	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	58	71.11	0.08	0.83
441	36.17	12.53	0.21	80.2	0.94	2	1.06	0.92	0.76	0.98	0.78	1	0.78	0.85	2	1.15	14.13	91.51	2.86	0.58	0.95	11.27	0	11.27	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	58.66	69.93	0.08	0.75
442	36.25	12	0.22	120.38	0.94	2.01	1.06	0.92	0.76	0.98	0.78	1	0.78	0.85	2.01	1.15	13.58	93.24	2.88	0.58	0.95	10.78	0	10.78	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	58.96	69.74	0.08	0.72
443	36.34	11.6	0.21	119.38	0.95	2.01	1.06	0.92	0.76	0.98	0.78	1	0.78	0.85	2.01	1.16	13.19	94.25	2.89	0.58	0.95	10.41	0	10.41	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	59.13	69.54	0.08	0.69
444	36.42	10.67	0.19	129.14	0.95	2.01	1.06	0.92	0.76	0.98	0.78	1	0.78	0.86	2.01	1.16	12.89	93.99	2.89	0.59	0.95	9.56	0	9.56	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	59.09	68.65	0.08	0.67
445	36.5	10.73	0.16	145.03	0.95	2.02	1.07	0.92	0.76	0.98	0.78	1	0.78	0.86	2.02	1.16	12.78	92.46	2.87	0.59	0.95	9.61	0	9.61	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	58.83	68.44	0.08	0.66
446	36.58	10.99	0.15	139.78	0.95	2.02	1.07	0.92	0.76	0.98	0.78	1	0.78	0.86	2.02	1.16	12.69	91.86	2.86	0.59	0.95	9.84	0	9.84	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	58.72	68.56	0.08	0.66
447	36.66	10.25	0.16	138.83	0.96	2.03	1.07	0.92	0.76	0.98	0.78	1	0.78	0.86	2.03	1.16	12.56	91.97	2.86	0.59	0.95	9.16	0	9.16	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	58.74	67.9	0.07	0.65
448	36.75	10.41	0.15	141.1	0.96	2.03	1.07	0.92	0.76	0.98	0.78	1	0.78	0.87	2.03	1.16	12.42	91.48	2.86	0.59	0.95	9.3	0	9.3	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	58.65	67.95	0.07	0.64
449	36.83	10.41	0.11	150.32	0.96	2.03	1.07	0.92	0.76	0.98	0.78	1	0.78	0.87	2.03	1.17	12.36	89.57	2.83	0.59	0.94	9.29	0	9.29	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	58.31	67.6	0.07	0.63
450	36.91	9.92	0.1	148.1	0.96	2.04	1.07	0.92	0.76	0.98	0.78	1	0.78	0.87	2.04	1.17	12.27	87.95	2.81	0.59	0.94	8.84	0	8.84	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	58	66.84	0.07	0.63
451	36.99	10.26	0.1	132.91	0.97	2.04	1.08	0.92	0.76	0.98	0.78	1	0.78	0.87	2.04	1.17	11.95	89.73	2.83	0.59	0.94	9.14	0	9.14	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	58.34	67.48	0.07	0.61
452	37.07	9.51	0.12	147.32	0.97	2.05	1.08	0.92	0.76	0.98	0.78	1	0.78	0.88	2.05	1.17	12.04	91.58	2.86	0.59	0.94	8.47	0	8.47	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	58.67	67.14	0.07	0.61
453	37.16	9.91	0.15	167.21	0.97	2.05	1.08	0.92	0.76	0.98	0.78	1	0.78	0.88	2.05	1.17	12.07	94.02	2.89	0.59	0.94	8.82	0	8.82	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	59.09	67.91	0.07	0.61
454	37.24	9.89	0.16	163.96	0.97	2.06	1.08	0.92	0.76	0.98	0.78	1	0.78	0.88	2.06	1.17	12.24	95.58	2.91	0.59	0.94	8.79	0	8.79	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	59.35	68.14	0.07	0.62
455	37.32	10.1	0.18	143.47	0.98	2.06	1.08	0.92	0.76	0.98	0.78	1	0.78	0.88	2.06	1.18	12.13	97.8	2.94	0.59	0.94	8.97	0	8.97	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	59.7	68.67	0.08	0.61
456	37.4	9.96	0.2	140.31	0.98	2.06	1.08	0.92	0.76	0.98	0.78	1	0.78	0.89	2.06	1.18	12.14	100	2.96	0.59	0.94	8.84	0	8.84	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	68.86	0.08	0.61
457	37.48	10.28	0.24	138.12	0.98	2.07	1.09	0.92	0.76	0.98	0.78	1	0.78	0.89	2.07	1.18	12.46	100	2.97	0.59	0.94	9.12	0	9.12	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	69.14	0.08	0.63
458	37.57	10.99	0.25	149.15	0.98	2.07	1.09	0.92	0.76	0.98	0.78	1	0.78	0.89	2.07	1.18	12.86	100	2.97	0.58	0.94	9.74	0	9.74	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	69.76	0.08	0.65
459	37.65	11.18	0.26	138.75	0.99	2.08	1.09	0.92	0.76	0.98	0.78	1	0.78	0.89	2.08	1.18	13.24	99.2	2.95	0.58	0.94	9.9	0	9.9	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	59.91	69.81	0.08	0.67
460	37.73	11.53	0.25	129.87	0.99	2.08	1.09	0.92	0.76	0.98	0.78	1	0.78	0.9	2.08	1.18	13.41	99.39	2.95	0.58	0.94	10.2	0	10.2	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	59.94	70.14	0.08	0.68
461	37.81	11.92	0.29	119.26	0.99	2.09	1.09	0.92	0.76	0.98	0.78	1	0.78	0.9	2.09	1.19	13.52	99.51	2.96	0.58	0.94	10.54	0	10.54	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	59.95	70.49	0.08	0.69
462	37.89	11.84	0.28	117.63	1	2.09	1.1	0.92	0.76	0.98	0.78	1	0.78	0.9	2.09	1.19	13.62	99.59	2.96	0.58	0.93	10.46	0	10.46	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	59.97	70.42	0.08	0.69
463	37.98	11.86	0.27	126.23	1	2.09	1.1	0.92	0.76	0.98	0.78	1	0.78	0.9	2.09	1.19	13.79	97.9	2.94	0.58	0.93	10.47	0	10.47	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	59.71	70.18	0.08	0.7
464	38.06	12.34	0.24	125.26	1	2.1	1.1	0.92	0.76	0.98	0.78	1	0.78	0.91	2.1	1.19	14.02	95.11	2.9	0.58	0.93	10.88	0	10.88	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	59.27	70.16	0.08	0.71
465	38.14	12.72	0.2	105.28	1	2.1	1.1	0.92	0.76	0.98	0.78	1	0.79	0.91	2.1	1.19	14.15	92.14	2.86	0.58	0.93	11.21	0	11.21	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	58.77	69.98	0.08	0.72
466	38.22	12.34	0.18	119.15	1.01	2.11	1.1	0.92	0.76	0.98	0.78	1	0.79	0.91	2.11	1.2	13.84	91.43	2.86	0.58	0.93	10.86	0	10.86	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	58.65	69.51	0.08	0.7
467	38.3	11.71	0.18	106.45	1.01	2.11	1.1	0.92	0.76	0.98	0.78	1	0.79	0.91	2.11	1.2	13.13	94.18	2.89	0.58	0.93	10.3	0	10.3	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	59.12	69.42	0.08	0.66
468	38.39	10.39	0.19	118.09	1.01	2.12	1.11	0.92	0.76	0.98	0.78	1	0.79	0.92	2.12	1.2	12.34	99.2	2.95	0.59	0.93	9.13	0	9.13	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	59.91	69.03	0.08	0.61
469	38.47	9.49	0.22	152.35	1.01	2.12	1.11	0.92	0.76	0.98	0.78	1	0.79	0.92	2.12	1.2	11.79	100	3.01	0.59	0.93	8.32	0	8.32	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	68.35	0.08	0.58
470	38.55	9.37	0.25	154.76	1.02	2.12	1.11	0.92	0.76	0.98	0.78	1	0.79	0.92	2.12	1.2	11.7	100	3.04	0.59	0.93	8.21	0	8.21	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	68.24	0.07	0.57
471	38.63	9.8	0.26	139.36	1.02	2.13	1.11	0.92	0.76	0.98	0.78	1	0.79	0.92	2.13	1.2	11.65	100	3.06	0.59	0.93	8.58	0	8.58	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	68.61	0.08	0.56
472	38.71	9.89	0.28	114.25	1.02	2.13	1.11	0.92	0.76	0.98	0.78	1	0.79	0.93	2.13	1.21	11.52	100	3.08	0.59	0.93	8.65	0	8.65	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	68.68	0.08	0.56
473	38.8	9.42	0.29	124.27	1.02	2.14	1.11	0.92	0.76	0.98	0.78	1	0.79	0.93	2.14	1.21	11.48	100	3.1	0.59	0.92	8.23	0	8.23	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	68.26	0.07	0.55
474	38.88	9.84	0.31	129.62	1.03	2.14	1.12	0.92	0.76	0.98	0.78	1	0.79	0.93	2.14	1.21	11.6	100	3.11	0.59	0.92	8.59	0	8.59	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	68.62	0.08	0.56
475	38.96	9.9	0.33	138.71	1.03	2.15	1.12	0.91	0.76	0.98	0.78	1	0.79	0.93	2.15	1.21	11.85	100	3.11	0.59	0.92	8.64	0	8.64	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	68.66	0.08	0.57
476	39.04	10.13	0.37	126.66	1.03	2.15	1.12	0.91	0.76	0.98	0.78	1	0.79	0.94	2.15	1.21	12.08	100	3.12	0.59	0.92	8.83	0	8.83	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	68.86	0.08	0.58

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																	
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
477	39.12	10.72	0.39	115.14	1.03	2.16	1.12	0.91	0.77	0.98	0.78	1	0.79	0.94	2.16	1.22	12.28	100	3.13	0.58	0.92	9.34	0	9.34	4	2	0	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	69.37	0.08	0.59
478	39.21	11.05	0.44	101.51	1.04	2.16	1.12	0.91	0.77	0.98	0.78	1	0.79	0.94	2.16	1.22	12.44	100	3.14	0.58	0.92	9.62	0	9.62	4	2	0	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	69.65	0.08	0.6
479	39.29	11.06	0.47	95.63	1.04	2.16	1.13	0.91	0.77	0.98	0.78	0.99	0.79	0.94	2.16	1.22	12.65	100	3.15	0.58	0.92	9.62	0	9.62	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	69.64	0.08	0.61
480	39.37	11.58	0.51	99.08	1.04	2.17	1.13	0.91	0.77	0.98	0.78	0.99	0.79	0.95	2.17	1.22	12.78	100	3.16	0.58	0.92	10.07	0	10.07	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	70.09	0.08	0.62
481	39.45	11.71	0.53	82.99	1.04	2.17	1.13	0.91	0.77	0.98	0.78	0.99	0.79	0.95	2.17	1.22	13.12	100	3.16	0.58	0.92	10.17	0	10.17	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	70.19	0.08	0.64
482	39.53	11.97	0.54	102.8	1.05	2.18	1.13	0.91	0.77	0.98	0.78	0.99	0.79	0.95	2.18	1.23	13.22	100	3.16	0.58	0.92	10.39	0	10.39	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	70.41	0.08	0.64
483	39.62	12.21	0.55	75.99	1.05	2.18	1.13	0.91	0.77	0.98	0.78	0.99	0.79	0.96	2.18	1.23	13.25	100	3.16	0.58	0.92	10.59	0	10.59	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	70.61	0.08	0.64
484	39.7	12.01	0.58	69.07	1.05	2.19	1.14	0.91	0.77	0.98	0.78	0.99	0.79	0.96	2.19	1.23	13.16	100	3.18	0.58	0.92	10.4	0	10.4	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	70.43	0.08	0.64
485	39.78	12.11	0.6	73.24	1.05	2.19	1.14	0.91	0.77	0.98	0.78	0.99	0.79	0.96	2.19	1.23	13.09	100	3.19	0.58	0.92	10.48	0	10.48	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	70.5	0.08	0.63
486	39.86	12.13	0.59	67.9	1.06	2.2	1.14	0.91	0.77	0.98	0.78	0.99	0.79	0.96	2.2	1.23	13.14	100	3.19	0.58	0.91	10.48	0	10.48	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	70.51	0.08	0.63
487	39.94	12.41	0.58	52.09	1.06	2.2	1.14	0.91	0.77	0.98	0.78	0.99	0.79	0.97	2.2	1.24	13.17	100	3.18	0.58	0.91	10.72	0	10.72	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	70.74	0.08	0.63
488	40.03	12.49	0.56	51.76	1.06	2.21	1.14	0.91	0.77	0.98	0.78	0.99	0.79	0.97	2.21	1.24	13.14	100	3.18	0.58	0.91	10.78	0	10.78	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	70.8	0.08	0.63
489	40.11	12.07	0.55	65.58	1.06	2.21	1.15	0.91	0.77	0.98	0.78	0.99	0.79	0.97	2.21	1.24	13.17	100	3.17	0.58	0.91	10.4	0	10.4	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	70.43	0.08	0.63
490	40.19	12.18	0.55	74.78	1.07	2.22	1.15	0.91	0.77	0.98	0.78	0.99	0.79	0.97	2.22	1.24	13.15	100	3.17	0.58	0.91	10.49	0	10.49	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	70.51	0.08	0.63
491	40.27	11.83	0.54	93.61	1.07	2.22	1.15	0.91	0.77	0.98	0.78	0.99	0.79	0.98	2.22	1.24	13.41	100	3.16	0.58	0.91	10.17	0	10.17	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	70.2	0.08	0.64
492	40.35	12.42	0.55	95.73	1.07	2.22	1.15	0.91	0.77	0.98	0.78	0.99	0.79	0.98	2.22	1.25	13.49	100	3.16	0.58	0.91	10.68	0	10.68	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	70.7	0.08	0.65
493	40.44	12.3	0.56	82.73	1.07	2.23	1.15	0.91	0.77	0.98	0.78	0.99	0.79	0.98	2.23	1.25	13.4	100	3.17	0.58	0.91	10.56	0	10.56	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	70.59	0.08	0.64
494	40.52	11.91	0.57	68.69	1.08	2.23	1.16	0.91	0.77	0.98	0.78	0.99	0.79	0.98	2.23	1.25	13.03	100	3.19	0.58	0.91	10.21	0	10.21	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	70.24	0.08	0.62
495	40.6	11.57	0.55	77.42	1.08	2.24	1.16	0.91	0.77	0.98	0.78	0.99	0.79	0.99	2.24	1.25	12.76	100	3.2	0.58	0.91	9.91	0	9.91	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	69.94	0.08	0.6
496	40.68	11.62	0.54	73.95	1.08	2.24	1.16	0.91	0.77	0.98	0.78	0.99	0.79	0.99	2.24	1.25	12.76	100	3.2	0.58	0.91	9.95	0	9.95	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	69.97	0.08	0.6
497	40.76	11.7	0.52	84.25	1.08	2.25	1.16	0.91	0.77	0.98	0.78	0.99	0.79	0.99	2.25	1.26	12.81	100	3.19	0.58	0.9	10	0	10	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	70.03	0.08	0.6
498	40.85	11.54	0.52	89.54	1.09	2.25	1.16	0.91	0.77	0.98	0.78	0.99	0.79	0.99	2.25	1.26	12.94	100	3.18	0.58	0.9	9.86	0	9.86	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	69.88	0.08	0.61
499	40.93	11.64	0.53	99.65	1.09	2.26	1.17	0.91	0.77	0.98	0.78	0.99	0.79	1	2.26	1.26	13.1	100	3.17	0.58	0.9	9.93	0	9.93	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	69.96	0.08	0.61
500	41.01	11.98	0.53	97.89	1.09	2.26	1.17	0.91	0.77	0.98	0.78	0.99	0.79	1	2.26	1.26	13.34	100	3.16	0.58	0.9	10.22	0	10.22	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	70.24	0.08	0.63
501	41.09	12.15	0.51	96.74	1.09	2.27	1.17	0.91	0.77	0.98	0.78	0.99	0.79	1	2.27	1.26	13.6	100	3.15	0.58	0.9	10.35	0	10.35	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	70.38	0.08	0.64
502	41.17	12.54	0.53	91.3	1.1	2.27	1.17	0.91	0.77	0.98	0.78	0.99	0.79	1	2.27	1.27	13.83	100	3.14	0.58	0.9	10.68	0	10.68	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	70.7	0.08	0.65
503	41.26	12.66	0.55	99.33	1.1	2.28	1.18	0.91	0.77	0.98	0.78	0.99	0.79	1.01	2.28	1.27	14.17	100	3.13	0.58	0.9	10.77	0	10.77	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	70.79	0.08	0.67
504	41.34	12.91	0.57	114.73	1.1	2.28	1.18	0.91	0.77	0.98	0.78	0.99	0.79	1.01	2.28	1.27	14.58	100	3.12	0.58	0.9	10.97	0	10.97	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	71	0.08	0.69
505	41.42	13.55	0.61	107.3	1.11	2.28	1.18	0.91	0.77	0.98	0.78	0.99	0.79	1.01	2.28	1.27	15.04	100	3.11	0.58	0.9	11.51	0	11.51	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	71.54	0.08	0.72
506	41.5	14.08	0.64	95.81	1.11	2.29	1.18	0.91	0.77	0.98	0.78	0.99	0.79	1.01	2.29	1.27	15.41	100	3.12	0.57	0.9	11.95	0	11.95	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	71.98	0.08	0.74
507	41.58	14.46	0.72	84.08	1.11	2.29	1.18	0.91	0.77	0.98	0.78	0.99	0.79	1.02	2.29	1.28	15.62	100	3.13	0.57	0.9	12.27	0	12.27	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	72.29	0.08	0.75
508	41.67	14.83	0.74	62.64	1.11	2.3	1.19	0.91	0.77	0.97	0.78	0.99	0.79	1.02	2.3	1.28	15.71	100	3.14	0.57	0.9	12.57	0	12.57	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	72.6	0.08	0.75
509	41.75	14.79	0.79	64.14	1.12	2.3	1.19	0.91	0.77	0.97	0.78	0.99	0.79	1.02	2.3	1.28	15.75	100	3.15	0.57	0.9	12.53	0	12.53	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	72.55	0.08	0.75
510	41.83	15.11	0.82	48.88	1.12	2.31	1.19	0.91	0.77	0.97	0.78	0.99	0.79	1.02	2.31	1.28	15.91	100	3.16	0.57	0.9	12.79	0	12.79	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	72.81	0.08	0.76
511	41.91	15.56	0.82	45.44	1.12	2.31	1.19	0.91	0.77	0.97	0.78	0.99	0.79	1.03	2.31	1.29	16.17	100	3.15	0.57	0.89	13.16	0	13.16	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	73.18	0.08	0.77
512	41.99	15.98	0.82	33.91	1.12	2.32	1.19	0.91	0.76	0.97	0.79	0.99	0.79	1.03	2.32	1.29	16.31	100	3.14	0.57	0.89	13.5	0	13.5	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	73.53	0.08	0.78
513	42.08	15.82	0.84	29.03	1.13	2.32	1.2	0.91	0.76	0.97	0.78	0.99	0.79	1.03	2.32	1.29	16.32	100	3.15	0.57	0.89	13.35	0	13.35	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	73.38	0.08	0.77
514	42.16	15.82	0.86	30.07	1.13	2.33	1.2	0.9	0.76	0.97	0.78	0.99	0.79	1.03	2.33	1.29	16.26	100	3.16	0.57	0.89	13.34	0	13.34	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	73.37	0.08	0.77
515	42.24	15.55	0.85	52.02	1.13	2.33	1.2	0.9	0.76	0.97	0.78	0.99	0.79	1.04	2.33	1.29	16.26	100	3.15	0.57	0.89	13.1	0	13.1	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	73.12	0.08	0.77
516	42.32	15.73	0.82	35.01	1.13	2.34	1.2	0.9	0.76	0.97	0.78	0.99	0.79	1.04	2.34	1.3	16.17	100	3.15	0.57	0.89	13.24	0	13.24	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	73.26	0.08	0.76
517	42.4	15.39	0.8	40.84	1.14	2.34	1.21	0.9	0.76	0.97	0.78	0.99	0.79	1.04	2.34	1.3	15.96	100	3.15	0.57	0.89	12.94	0	12.94	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	72.96	0.08	0.75
518	42.49	15.06	0.77	42.23	1.14	2.35	1.21	0.9	0.76	0.97	0.78	0.99	0.79	1.04	2.35	1.3	15.67	100	3.16	0.57	0.89	12.65	0	12.65	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	72.67	0.08	0.73
519	42.57	14.72	0.74	45.27	1.14	2.35	1.21	0.9	0.76	0.98	0.78	0.99	0.79	1.05	2.35	1.3	15.44	100	3.16	0.57	0.89	12.35	0	12.35	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	72.37	0.08	0.72
520	42.65	14.58	0.68	48.03	1.14	2.36	1.21	0.9	0.76	0.98	0.78	0.99	0.79	1.05	2.36	1.31	15.22	100	3.15	0.57	0.89	12.22	0	12.22	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	72.24	0.08	0.7
521	42.73	14.35	0.63	46.04	1.15	2.36	1.21	0.9	0.76	0.98	0.78	0.99	0.79	1.05	2.36	1.31	15.21	100	3.14	0.57	0.89	12.01	0	12.01	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	72.03	0.08	0.7
522	42.81	14.36	0.67	68.08	1.15	2.36	1.22	0.9	0.76	0.98	0.78	0.99	0.79	1.06	2.36	1.31	16.57	100	3.08	0.57	0.88	12.01	0	12.01	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	72.03	0.08	0.77
523	42.9	17.71	0.66	114.9	1.15	2.37	1.22	0.9	0.76	0.97	0.78	0.99	0.79	1.06	2.37	1.31	21.14	96.24	2.92	0.56	0.89	14.82	0	14.82	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	59.45	74.28	0.08	1.02
524	42.98	26.8	0.69	132.64	1.15	2.37	1.22	0.9	0.76	0.97	0.79	0.99	0.8	1.06	2.37	1.31	27.1	82.73	2.75	0.54	0.89	22.52	0	22.52	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	56.91	79.44	0.09	1.34
525	43.06	33.07	0.68	11.29	1.16	2.38	1.22	0.9	0.76	0.97	0.79	0.99	0.8	1.06	2.38	1.32	32.26	72.87	2.62	0.53	0.89	27.85	0	27.85	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	54.4	82.25	0.09	1.62
526	43.14	35.14	0.62	-20.66	1.16	2.38	1.22	0.9	0.76	0.96	0.79	0.99	0.8	1.07	2.38	1.32	34.28	69.4	2.58	0.52	0.89	29.6	59.12	88.72	0.12	0.15	1	0.07	0.27	0.69	39.64	0.87	0	0	0	0.01	0.01	0	53.34	82.93	0.09	0.65
527	43.23	35.09	0.67	-21.71	1.16	2.39	1.23	0.9	0.76	0.96	0.79	0.99	0.8	1.07	2.39	1.32	34.52	69.91	2.59	0.52	0.89	29.53	59.2	88.73	0.12	0.15	1	0.07	0.27	0.69	39.63	0.87	0	0	0	0.01	0.01	0	53.5	83.03	0.09	0.65
528	43.31	34.16	0.76	-14.7	1.16	2.39	1.23	0.9	0.76	0.97	0.79	0.99	0.8	1.07	2.39	1.32	34.64	71.97	2.61	0.53	0.89	28.71	0	28.71	4	2	0	0	0	0.27	0	40.27	0.87	0	0	0	0	0	0	54.13	82.84	0.09	1.74
529	43.39	35.41	0.84	-14.81	1.17	2.4	1.23	0.9	0.76	0.96	0.79	0.99	0.8	1.07	2.4	1.32	34.21	75.93	2.66	0.52	0.89	29.77	0	29.77	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	55.25	85.02	0.1	1.72
530	43.47	33.66	1.02	-11.71	1.17	2.4	1.23	0.9	0.76	0.96	0.79	0.99	0.8	1.08	2.4	1.33	33.89	79.77	2.71	0.52	0.89	28.25	0	28.25	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	56.22	84.47	0.1	1.69
531	43.55	32.96	1.16	0.86	1.17	2.41	1.24	0.9	0.76	0.97	0.79	0.98	0.8	1.08	2.41	1.33	33.42	83.38	2.75	0.53	0.89	27.63	0	27.63	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	57.05	84.68	0.1	1.67
532	43.64	33.66	1.23	10.18	1.17	2.41	1.24	0.9	0.76	0.96	0.79	0.98	0.8	1.08	2.41	1.33	33.78	83.71	2.76	0.52	0.89	28.2	0	28.2	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	57.13	85.33	0.1	1.68
533	43.72	34.53	1.15	2.53	1.18	2.42	1.24	0.9	0.76	0.96	0.79	0.98	0.8	1.08	2.42	1.33	35.69	79.5	2.71	0.52	0.89	28.91	0	28.91	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	56.16	85.07	0.1	1.78
534	43.8	38.68	0.97	0.16	1.18	2.42	1.24	0.9	0.76	0.96	0.79	0.98	0.81	1.09	2.42	1.34	38.44	73.02	2.63	0.51	0.89	32.42	0	32.42	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	54.44	86.86	0.1	1.92
535	43.88	42.28	0.88	-15.32	1.18	2.43	1.25	0.9	0.76	0.96	0.8	0.98	0.81	1.09	2.43	1.34	40.91	66.66	2.55	0.51	0.89	35.46	60.26	95.72	0.13	0.16	1	0.07	0.26	0.62	33.61	0.82	0	0	0	0.01	0.01	0	52.43	87.89	0.1	0.67
536	43.96	42.29	0.77	-21.52	1.18	2.43	1.25	0.9	0.76	0.96	0.79	0.98	0.81	1.09	2.43	1.34	40.89	64.54	2.52	0.51	0.89	35.43	59.78	95.2	0.13	0.16	1	0.07	0.25	0.62	34.03	0.82	0	0	0	0.01	0.01	0	51.67	87.09	0.1	0.67
537	44.05	38.93	0.72	-21.04	1.19	2.44	1.25	0.9	0.76	0.96	0.79	0.98	0.81	1.09	2.44	1.34	36.87	68.74	2.57	0.52	0.88	32.53	59.85	92.38	0.13	0.16	1	0.07	0.25	0.63	36.37	0.84	0	0	0	0.01	0.01	0	53.12	85.66	0.1	0.65
538	44.13	30.26	0.73	-18.39	1.19	2.44	1.25	0.9	0.76	0.97	0.79	0.98	0.8	1.1	2.44	1.35	31.47	76.63	2.67	0.54	0.88	25.14	0	25.14	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	55.44	80.58	0.09	1.54
539	44.21	26.05	0.7	-19.02	1.19	2.45	1.25	0.9	0.76	0.97	0.79	0.98	0.8	1.1	2.45	1.35	25.49	87.15	2.8	0.54	0.88	21.58	0	21.58	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	57.84	79.43	0.09	1.22
540	44.29	20.75	0.61	-4.19	1.19	2.45	1.26	0.9	0.76	0.97	0.78	0.98	0.8	1.1	2.45	1.35	21.49	94.25	2.89	0.56	0.87	17.12	0	17.12	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	59.13	76.25	0.09	1.01
541	44.37	17.31	0.52	49.21	1.2	2.46	1.26	0.9	0.76	0.97	0.78	0.99	0.79	1.1	2.46	1.35	19.08	97.62	2.93	0.57	0.87	14.24	0	14.24	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	59.67	73.91	0.08	0.88
542	44.46	16.45	0.43	143.73	1.2	2.46	1.26	0.9	0.76	0.97	0.78	0.99	0.79	1.11	2.46	1.35	17.91	96.76	2.92	0.57	0.87	13.51	0	13.51	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	59.54	73.05	0.08	0.82
543	44.54	15.1	0.3	145.26	1.2	2.46	1.26	0.9	0.76	0.98	0.78	0.99	0.79	1.11	2.46	1.36	17.03	95.28	2.9	0.57	0.87

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
545	44.7	13.04	0.22	191.51	1.21	2.47	1.27	0.9	0.76	0.98	0.78	0.99	0.79	1.11	2.47	1.36	15.48	94.39	2.89	0.58	0.86	10.65	0	10.65	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	59.16	69.81	0.08	0.68
546	44.78	12.53	0.22	189.64	1.21	2.48	1.27	0.9	0.76	0.98	0.78	0.99	0.79	1.12	2.48	1.36	15.48	92.89	2.87	0.58	0.86	10.22	0	10.22	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	58.9	69.13	0.08	0.68
547	44.87	12.43	0.2	204.5	1.21	2.48	1.27	0.9	0.76	0.98	0.78	0.99	0.79	1.12	2.48	1.36	15.62	93.28	2.88	0.58	0.86	10.13	0	10.13	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	58.97	69.1	0.08	0.69
548	44.95	13.16	0.25	212.7	1.22	2.49	1.27	0.9	0.76	0.98	0.78	0.98	0.79	1.12	2.49	1.36	15.88	95.45	2.91	0.58	0.86	10.73	0	10.73	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	59.33	70.06	0.08	0.7
549	45.03	12.92	0.34	216.76	1.22	2.49	1.27	0.9	0.76	0.98	0.78	0.98	0.79	1.12	2.49	1.37	16.35	97.67	2.93	0.58	0.86	10.52	0	10.52	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	59.68	70.2	0.08	0.72
550	45.11	14.13	0.39	184.13	1.22	2.5	1.28	0.9	0.76	0.98	0.78	0.98	0.79	1.13	2.5	1.37	16.29	100	2.97	0.58	0.86	11.51	0	11.51	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	60.02	71.54	0.08	0.72
551	45.19	14.31	0.39	120.77	1.22	2.5	1.28	0.89	0.76	0.98	0.78	0.98	0.79	1.13	2.5	1.37	16.43	100	2.99	0.58	0.86	11.65	0	11.65	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	71.68	0.08	0.73
552	45.28	15	0.46	101.79	1.23	2.5	1.28	0.89	0.76	0.98	0.78	0.98	0.79	1.13	2.5	1.37	15.98	100	3.03	0.57	0.86	12.21	0	12.21	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	72.23	0.08	0.7
553	45.36	13.74	0.5	117.01	1.23	2.51	1.28	0.89	0.76	0.98	0.78	0.98	0.79	1.13	2.51	1.37	15.88	100	3.05	0.58	0.86	11.16	0	11.16	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	71.19	0.08	0.69
554	45.44	14	0.5	121.42	1.23	2.51	1.28	0.89	0.76	0.98	0.78	0.98	0.79	1.14	2.51	1.38	15.65	100	3.07	0.58	0.86	11.37	0	11.37	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	71.39	0.08	0.68
555	45.52	13.8	0.49	136.8	1.23	2.52	1.29	0.89	0.76	0.98	0.78	0.98	0.79	1.14	2.52	1.38	15.76	100	3.06	0.58	0.86	11.19	0	11.19	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	71.22	0.08	0.69
556	45.6	13.76	0.48	139.49	1.24	2.52	1.29	0.89	0.76	0.98	0.78	0.98	0.79	1.14	2.52	1.38	15.56	100	3.07	0.58	0.86	11.15	0	11.15	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	71.17	0.08	0.67
557	45.69	13.24	0.46	131.59	1.24	2.53	1.29	0.89	0.76	0.98	0.78	0.98	0.79	1.14	2.53	1.38	15.5	100	3.06	0.58	0.86	10.71	0	10.71	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	70.74	0.08	0.67
558	45.77	13.65	0.45	135.24	1.24	2.53	1.29	0.89	0.76	0.98	0.78	0.98	0.79	1.15	2.53	1.38	15.43	100	3.06	0.58	0.86	11.04	0	11.04	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	71.07	0.08	0.66
559	45.85	13.39	0.44	149.5	1.24	2.54	1.29	0.89	0.76	0.98	0.78	0.98	0.79	1.15	2.54	1.39	15.73	100	3.04	0.58	0.85	10.82	0	10.82	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	70.84	0.08	0.68
560	45.93	13.79	0.46	157.63	1.25	2.54	1.3	0.89	0.76	0.98	0.78	0.98	0.79	1.15	2.54	1.39	15.97	100	3.04	0.58	0.85	11.14	0	11.14	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	71.16	0.08	0.69
561	46.01	14.06	0.47	156.12	1.25	2.55	1.3	0.89	0.76	0.98	0.78	0.98	0.79	1.15	2.55	1.39	16.25	100	3.04	0.58	0.85	11.35	0	11.35	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	71.37	0.08	0.7
562	46.1	14.31	0.49	144.74	1.25	2.55	1.3	0.89	0.76	0.98	0.78	0.98	0.8	1.16	2.55	1.39	16.43	100	3.04	0.58	0.85	11.54	0	11.54	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	71.57	0.08	0.71
563	46.18	14.65	0.53	134.1	1.25	2.55	1.3	0.89	0.76	0.98	0.78	0.98	0.8	1.16	2.55	1.39	16.63	100	3.05	0.58	0.85	11.81	0	11.81	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	71.83	0.08	0.72
564	46.26	15.08	0.56	126.81	1.26	2.56	1.3	0.89	0.76	0.98	0.78	0.98	0.8	1.16	2.56	1.4	16.57	100	3.07	0.57	0.85	12.15	0	12.15	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	72.17	0.08	0.72
565	46.34	14.36	0.58	128.67	1.26	2.56	1.31	0.89	0.76	0.98	0.78	0.98	0.8	1.17	2.56	1.4	16.54	100	3.08	0.58	0.85	11.55	0	11.55	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	71.58	0.08	0.71
566	46.42	14.65	0.58	128.78	1.26	2.57	1.31	0.89	0.76	0.98	0.78	0.98	0.8	1.17	2.57	1.4	16.32	100	3.09	0.58	0.85	11.78	0	11.78	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	71.8	0.08	0.7
567	46.51	14.41	0.58	127.32	1.26	2.57	1.31	0.89	0.76	0.98	0.78	0.98	0.8	1.17	2.57	1.4	16.33	100	3.09	0.58	0.85	11.57	0	11.57	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	71.6	0.08	0.7
568	46.59	14.42	0.57	125.63	1.27	2.58	1.31	0.89	0.76	0.98	0.78	0.98	0.8	1.17	2.58	1.41	16.27	100	3.09	0.58	0.85	11.57	0	11.57	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	71.6	0.08	0.7
569	46.67	14.63	0.54	118.32	1.27	2.58	1.31	0.89	0.76	0.98	0.78	0.98	0.8	1.18	2.58	1.41	16.34	100	3.08	0.58	0.85	11.73	0	11.73	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	71.76	0.08	0.7
570	46.75	14.78	0.53	116.08	1.27	2.59	1.32	0.89	0.76	0.98	0.78	0.98	0.8	1.18	2.59	1.41	16.25	100	3.08	0.58	0.85	11.84	0	11.84	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	71.87	0.08	0.69
571	46.83	14.12	0.53	128.41	1.27	2.59	1.32	0.89	0.76	0.98	0.78	0.98	0.8	1.18	2.59	1.41	16.3	100	3.07	0.58	0.85	11.3	0	11.3	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	71.32	0.08	0.69
572	46.92	14.54	0.53	135.67	1.28	2.6	1.32	0.89	0.76	0.98	0.78	0.98	0.8	1.18	2.6	1.41	16.48	100	3.06	0.58	0.85	11.63	0	11.63	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	71.65	0.08	0.7
573	47	14.96	0.53	139.92	1.28	2.6	1.32	0.89	0.76	0.98	0.78	0.98	0.8	1.19	2.6	1.42	16.61	100	3.06	0.57	0.85	11.96	0	11.96	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	71.98	0.08	0.71
574	47.08	14.37	0.53	139.07	1.28	2.61	1.32	0.89	0.76	0.98	0.78	0.98	0.8	1.19	2.61	1.42	16.73	100	3.06	0.58	0.84	11.47	0	11.47	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	71.5	0.08	0.71
575	47.16	14.85	0.55	138.3	1.28	2.61	1.33	0.89	0.76	0.98	0.78	0.98	0.8	1.19	2.61	1.42	16.61	100	3.07	0.58	0.84	11.85	0	11.85	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	71.88	0.08	0.7
576	47.24	14.62	0.57	137.89	1.29	2.62	1.33	0.89	0.76	0.98	0.78	0.98	0.8	1.19	2.62	1.42	16.79	100	3.07	0.58	0.84	11.66	0	11.66	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	71.68	0.08	0.71
577	47.33	14.97	0.57	134.68	1.29	2.62	1.33	0.89	0.76	0.98	0.78	0.98	0.8	1.2	2.62	1.42	16.88	100	3.07	0.57	0.84	11.93	0	11.93	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	71.95	0.08	0.72
578	47.41	15.21	0.56	133.17	1.29	2.62	1.33	0.89	0.76	0.98	0.78	0.98	0.8	1.2	2.62	1.43	17.04	100	3.06	0.57	0.84	12.11	0	12.11	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	72.14	0.08	0.72
579	47.49	15.22	0.57	128.69	1.29	2.63	1.33	0.89	0.76	0.98	0.78	0.98	0.8	1.2	2.63	1.43	17.26	100	3.05	0.57	0.84	12.11	0	12.11	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	72.13	0.08	0.73
580	47.57	15.67	0.57	131.89	1.3	2.63	1.34	0.89	0.76	0.97	0.78	0.98	0.8	1.2	2.63	1.43	17.3	100	3.05	0.57	0.84	12.46	0	12.46	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	72.49	0.08	0.73
581	47.65	15.35	0.56	132.21	1.3	2.64	1.34	0.89	0.76	0.98	0.78	0.98	0.8	1.21	2.64	1.43	17.34	100	3.05	0.57	0.84	12.19	0	12.19	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	72.22	0.08	0.73
582	47.74	15.34	0.55	128.71	1.3	2.64	1.34	0.89	0.76	0.98	0.78	0.98	0.8	1.21	2.64	1.43	17.26	100	3.05	0.57	0.84	12.18	0	12.18	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	72.2	0.08	0.73
583	47.82	15.53	0.55	125.37	1.3	2.65	1.34	0.89	0.76	0.98	0.78	0.98	0.8	1.21	2.65	1.44	16.98	100	3.06	0.57	0.84	12.32	0	12.32	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	72.34	0.08	0.71
584	47.9	14.57	0.54	127.91	1.31	2.65	1.34	0.89	0.76	0.98	0.78	0.98	0.8	1.21	2.65	1.44	17.1	100	3.05	0.58	0.84	11.54	0	11.54	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	71.56	0.08	0.72
585	47.98	15.61	0.53	134.07	1.31	2.66	1.35	0.89	0.76	0.98	0.78	0.98	0.8	1.22	2.66	1.44	16.77	100	3.06	0.57	0.84	12.36	0	12.36	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	72.39	0.08	0.7
586	48.06	14.38	0.53	136.37	1.31	2.66	1.35	0.89	0.76	0.98	0.78	0.98	0.8	1.22	2.66	1.44	17.17	100	3.05	0.58	0.84	11.36	0	11.36	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	71.39	0.08	0.72
587	48.15	15.5	0.55	147.68	1.31	2.67	1.35	0.88	0.76	0.98	0.78	0.98	0.8	1.22	2.67	1.44	17.25	100	3.05	0.57	0.84	12.25	0	12.25	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	72.28	0.08	0.72
588	48.23	15.74	0.57	141.87	1.32	2.67	1.35	0.88	0.76	0.98	0.78	0.98	0.8	1.22	2.67	1.45	17.71	100	3.04	0.57	0.84	12.44	0	12.44	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	72.46	0.08	0.74
589	48.31	15.7	0.56	141.19	1.32	2.68	1.36	0.88	0.76	0.98	0.78	0.98	0.8	1.23	2.68	1.45	17.62	100	3.04	0.57	0.84	12.39	0	12.39	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	72.42	0.08	0.74
590	48.39	15.3	0.55	142.97	1.32	2.68	1.36	0.88	0.76	0.98	0.78	0.98	0.8	1.23	2.68	1.45	17.96	100	3.02	0.57	0.83	12.06	0	12.06	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	72.09	0.08	0.75
591	48.47	16.78	0.52	140.4	1.33	2.68	1.36	0.88	0.76	0.97	0.78	0.98	0.8	1.23	2.68	1.45	18.15	100	3	0.57	0.83	13.24	0	13.24	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	73.26	0.08	0.76
592	48.56	16.13	0.49	150.87	1.33	2.69	1.36	0.88	0.76	0.97	0.78	0.98	0.8	1.23	2.69	1.45	18.54	100	2.98	0.57	0.83	12.71	0	12.71	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	72.73	0.08	0.78
593	48.64	16.19	0.5	161.68	1.33	2.69	1.36	0.88	0.76	0.97	0.78	0.98	0.8	1.24	2.69	1.46	18.5	100	2.98	0.57	0.83	12.74	0	12.74	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	72.77	0.08	0.78
594	48.72	16.33	0.5	164.01	1.33	2.7	1.37	0.88	0.76	0.97	0.78	0.98	0.8	1.24	2.7	1.46	18.39	100	2.98	0.57	0.83	12.84	0	12.84	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	72.87	0.08	0.77
595	48.8	15.72	0.47	155.99	1.34	2.7	1.37	0.88	0.76	0.98	0.78	0.98	0.8	1.24	2.7	1.46	18.18	100	2.98	0.57	0.83	12.35	0	12.35	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	72.37	0.08	0.76
596	48.88	16.03	0.47	128.41	1.34	2.71	1.37	0.88	0.76	0.97	0.78	0.98	0.8	1.24	2.71	1.46	17.65	100	3	0.57	0.83	12.58	0	12.58	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	72.61	0.08	0.73
597	48.97	15.13	0.49	136.88	1.34	2.71	1.37	0.88	0.76	0.98	0.78	0.98	0.8	1.25	2.71	1.47	17.38	100	3.03	0.58	0.83	11.86	0	11.86	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	71.88	0.08	0.71
598	49.05	14.69	0.53	170.69	1.34	2.72	1.37	0.88	0.76	0.98	0.78	0.98	0.8	1.25	2.72	1.47	17.78	100	3.03	0.58	0.83	11.5	0	11.5	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	71.52	0.08	0.73
599	49.13	16.46	0.58	182.78	1.35	2.72	1.38	0.88	0.76	0.97	0.78	0.98	0.8	1.25	2.72	1.47	18.32	100	3.03	0.57	0.83	12.9	0	12.9	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	72.92	0.08	0.76
600	49.21	16.76	0.63	137.13	1.35	2.73	1.38	0.88	0.76	0.97	0.78	0.98	0.8	1.25	2.73	1.47	19.22	100	3.02	0.57	0.83	13.12	0	13.12	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	73.15	0.08	0.8
601	49.29	18.58	0.73	87.93	1.35	2.73	1.38	0.88	0.76	0.97	0.78	0.98	0.8	1.26	2.73	1.47	19.18	100	3.06	0.57	0.83	14.56	0	14.56	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.59	0.08	0.8
602	49.38	17.95	0.81	70.94	1.35	2.74	1.38	0.88	0.76	0.97	0.78	0.98	0.8	1.26	2.74	1.48	19.52	100	3.07	0.57	0.83	14.05	0	14.05	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.07	0.08	0.81
603	49.46	18.47	0.85	87.4	1.36	2.74	1.38	0.88	0.76	0.97	0.78	0.98	0.8	1.26	2.74	1.48	19.41	100	3.09	0.57	0.83	14.45	0	14.45	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.47	0.08	0.81
604	49.54	18.27	0.87	88.37	1.36	2.75	1.39	0.88	0.76	0.97	0.78	0.98	0.8	1.26	2.75	1.48	19.55	100	3.09	0.57	0.83	14.28	0	14.28	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.3	0.08	0.81
605	49.62	18.11	0.85	88.77	1.36	2.75	1.39	0.88	0.76	0.97	0.78	0.98	0.8	1.27	2.75	1.48	19.5	100	3.09	0.57	0.83	14.14	0	14.14	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.16	0.08	0.81
606	49.7	18.13	0.85	100.74	1.36	2.75	1.39	0.88	0.76	0.97	0.78	0.98	0.8	1.27	2.75	1.48	19.48	100	3.09	0.57	0.83	14.14	0	14.14	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.17	0.08	0.8
607	49.79	17.97	0.86	103.63	1.37	2.76	1.39	0.88	0.76	0.97	0.78	0.98	0.8	1.27	2.76	1.49	19.87	100	3.08	0.57	0.82	14	0	14	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.03	0.08	0.82
608	49.87	19.02	0.87	106.53	1.37	2.76	1.4	0.88	0.76	0.97	0.78	0.98	0.8	1.28	2.76	1.49	20.15	100	3.07	0.56	0.82	14.82	0	14.82	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	74.85	0.08	0.83
609	49.95	19.04	0.87	97.16	1.37	2.77	1.4	0.88	0.76	0.97	0.78	0.98	0.8	1.28	2.77	1.49	20.64	100	3.06	0.56	0.82	14.83	0	14.83	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	74.85	0.08	0.86
610	50.03	19.43	0.88	103.13	1.37	2.77	1.4	0.88	0.76	0.97	0.78	0.98	0.8	1.28	2.77	1.49	20.83	100	3.06	0.56	0.82	15.12	0	15.12	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	75.15	0.08	0.86
611	50.11	19.68	0.91	100.18	1.38	2.78	1.4	0.88	0.76	0.97	0.78	0.98	0.8	1.28	2.78	1.5	21.25	100	3.05	0.56	0.82	15.31	0	15.31	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	75.33	0.08	0.88

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
613	50.28	19.43	0.98	75.92	1.38	2.79	1.41	0.88	0.76	0.97	0.78	0.98	0.8	1.29	2.79	1.5	20.84	100	3.09	0.56	0.82	15.09	0	15.09	4	2	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	75.11	0.08	0.86
614	50.36	19.21	1.02	74.51	1.38	2.79	1.41	0.88	0.76	0.97	0.78	0.98	0.8	1.29	2.79	1.5	20.66	100	3.1	0.56	0.82	14.9	0	14.9	4	2	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	74.92	0.08	0.85
615	50.44	20.22	1.05	65.36	1.39	2.8	1.41	0.88	0.76	0.97	0.78	0.97	0.8	1.29	2.8	1.5	20.95	100	3.1	0.56	0.82	15.68	0	15.68	4	2	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	75.71	0.08	0.86
616	50.52	20.59	1.07	56.14	1.39	2.8	1.41	0.88	0.76	0.97	0.78	0.97	0.8	1.3	2.8	1.51	21.28	100	3.1	0.56	0.82	15.96	0	15.96	4	2	0	0	0.14	0	0	0	0	0	0	0	0	0	60.02	75.99	0.08	0.88
617	50.61	20.38	1.05	62.99	1.39	2.81	1.42	0.88	0.76	0.97	0.78	0.97	0.8	1.3	2.81	1.51	21.28	100	3.09	0.56	0.82	15.78	0	15.78	4	2	0	0	0.14	0	0	0	0	0	0	0	0	0	60.02	75.81	0.08	0.87
618	50.69	20.28	1.03	59.79	1.39	2.81	1.42	0.88	0.76	0.97	0.78	0.97	0.8	1.3	2.81	1.51	21.14	100	3.09	0.56	0.82	15.69	0	15.69	4	2	0	0	0.14	0	0	0	0	0	0	0	0	0	60.02	75.72	0.08	0.87
619	50.77	20.11	1.01	62.27	1.4	2.82	1.42	0.88	0.76	0.97	0.78	0.97	0.8	1.3	2.82	1.51	20.87	100	3.1	0.56	0.82	15.54	0	15.54	4	2	0	0	0.14	0	0	0	0	0	0	0	0	0	60.02	75.57	0.08	0.85
620	50.85	19.44	0.98	70.98	1.4	2.82	1.42	0.88	0.76	0.97	0.78	0.97	0.8	1.31	2.82	1.52	20.79	100	3.09	0.56	0.82	15	0	15	4	2	0	0	0.14	0	0	0	0	0	0	0	0	0	60.02	75.03	0.08	0.85
621	50.94	19.89	0.95	71.08	1.4	2.83	1.42	0.88	0.76	0.97	0.78	0.97	0.8	1.31	2.83	1.52	20.85	100	3.09	0.56	0.82	15.34	0	15.34	4	2	0	0	0.14	0	0	0	0	0	0	0	0	0	60.02	75.37	0.08	0.85
622	51.02	20.19	0.96	69.04	1.4	2.83	1.43	0.88	0.76	0.97	0.78	0.97	0.8	1.31	2.83	1.52	21	100	3.08	0.56	0.82	15.57	0	15.57	4	2	0	0	0.14	0	0	0	0	0	0	0	0	0	60.02	75.59	0.08	0.85
623	51.1	19.98	0.99	63.03	1.41	2.84	1.43	0.87	0.76	0.97	0.78	0.97	0.8	1.31	2.84	1.52	20.86	100	3.09	0.56	0.81	15.39	0	15.39	4	2	0	0	0.13	0	0	0	0	0	0	0	0	0	60.02	75.41	0.08	0.85
624	51.18	19.61	0.99	63.36	1.41	2.84	1.43	0.87	0.76	0.97	0.78	0.97	0.8	1.32	2.84	1.53	20.68	100	3.1	0.56	0.81	15.08	0	15.08	4	2	0	0	0.13	0	0	0	0	0	0	0	0	0	60.02	75.11	0.08	0.84
625	51.26	19.77	0.96	59.47	1.41	2.85	1.43	0.87	0.76	0.97	0.78	0.97	0.8	1.32	2.85	1.53	20.31	100	3.11	0.56	0.81	15.2	0	15.2	4	2	0	0	0.13	0	0	0	0	0	0	0	0	0	60.02	75.22	0.08	0.82
626	51.35	18.95	0.92	58.07	1.41	2.85	1.44	0.87	0.76	0.97	0.78	0.97	0.8	1.32	2.85	1.53	20.02	100	3.11	0.57	0.81	14.54	0	14.54	4	2	0	0	0.13	0	0	0	0	0	0	0	0	0	60.02	74.57	0.08	0.8
627	51.43	18.74	0.88	63.43	1.42	2.86	1.44	0.87	0.76	0.97	0.78	0.97	0.8	1.32	2.86	1.53	19.36	100	3.12	0.57	0.81	14.37	0	14.37	4	2	0	0	0.13	0	0	0	0	0	0	0	0	0	60.02	74.39	0.08	0.77
628	51.51	17.68	0.83	67.42	1.42	2.86	1.44	0.87	0.76	0.97	0.78	0.97	0.8	1.33	2.86	1.53	19.27	100	3.11	0.57	0.81	13.53	0	13.53	4	2	0	0	0.13	0	0	0	0	0	0	0	0	0	60.02	73.55	0.08	0.76
629	51.59	18.44	0.79	73.85	1.42	2.87	1.44	0.87	0.76	0.97	0.78	0.97	0.8	1.33	2.87	1.54	19.4	100	3.09	0.57	0.81	14.11	0	14.11	4	2	0	0	0.13	0	0	0	0	0	0	0	0	0	60.02	74.13	0.08	0.77
630	51.67	18.87	0.75	82.05	1.43	2.87	1.44	0.87	0.76	0.97	0.78	0.97	0.8	1.33	2.87	1.54	19.56	100	3.08	0.57	0.81	14.43	0	14.43	4	2	0	0	0.12	0	0	0	0	0	0	0	0	0	60.02	74.46	0.08	0.78
631	51.76	17.92	0.75	84.53	1.43	2.87	1.45	0.87	0.76	0.97	0.77	0.97	0.8	1.33	2.87	1.54	19.62	100	3.07	0.57	0.81	13.68	0	13.68	4	2	0	0	0.12	0	0	0	0	0	0	0	0	0	60.02	73.7	0.08	0.78
632	51.84	18.52	0.74	80.25	1.43	2.88	1.45	0.87	0.75	0.97	0.78	0.97	0.8	1.34	2.88	1.54	19.18	100	3.09	0.57	0.81	14.14	0	14.14	4	2	0	0	0.12	0	0	0	0	0	0	0	0	0	60.02	74.16	0.08	0.75
633	51.92	17.5	0.79	86.05	1.43	2.88	1.45	0.87	0.75	0.97	0.77	0.97	0.8	1.34	2.88	1.55	19.46	100	3.09	0.57	0.81	13.33	0	13.33	4	2	0	0	0.12	0	0	0	0	0	0	0	0	0	60.02	73.36	0.08	0.77
634	52	18.69	0.86	89.45	1.44	2.89	1.45	0.87	0.75	0.97	0.77	0.97	0.8	1.34	2.89	1.55	19.77	100	3.1	0.57	0.81	14.24	0	14.24	4	2	0	0	0.12	0	0	0	0	0	0	0	0	0	60.02	74.27	0.08	0.78
635	52.08	18.72	0.89	130.52	1.44	2.89	1.46	0.87	0.75	0.97	0.77	0.97	0.8	1.34	2.89	1.55	20.56	100	3.09	0.57	0.81	14.26	0	14.26	4	2	0	0	0.12	0	0	0	0	0	0	0	0	0	60.02	74.28	0.08	0.81
636	52.17	19.5	0.92	111.52	1.44	2.9	1.46	0.87	0.75	0.97	0.77	0.97	0.8	1.35	2.9	1.55	20.8	100	3.08	0.56	0.81	14.85	0	14.85	4	2	0	0	0.12	0	0	0	0	0	0	0	0	0	60.02	74.87	0.08	0.82
637	52.25	19.46	0.92	86.31	1.44	2.9	1.46	0.87	0.75	0.97	0.77	0.97	0.8	1.35	2.9	1.55	20.91	100	3.08	0.56	0.81	14.81	0	14.81	4	2	0	0	0.11	0	0	0	0	0	0	0	0	0	60.02	74.83	0.08	0.83
638	52.33	19.71	0.91	84.3	1.45	2.91	1.46	0.87	0.75	0.97	0.77	0.97	0.8	1.35	2.91	1.56	20.43	100	3.1	0.56	0.8	14.99	0	14.99	4	2	0	0	0.11	0	0	0	0	0	0	0	0	0	60.02	75.01	0.08	0.8
639	52.41	18.45	0.89	84.32	1.45	2.91	1.46	0.87	0.75	0.97	0.77	0.97	0.8	1.35	2.91	1.56	19.83	100	3.11	0.57	0.8	14	0	14	4	2	0	0	0.11	0	0	0	0	0	0	0	0	0	60.02	74.02	0.08	0.78
640	52.49	17.56	0.86	93.34	1.45	2.92	1.47	0.87	0.75	0.97	0.77	0.97	0.8	1.36	2.92	1.56	19.01	100	3.13	0.57	0.8	13.3	0	13.3	4	2	0	0	0.11	0	0	0	0	0	0	0	0	0	60.02	73.32	0.08	0.74
641	52.58	16.99	0.81	102.8	1.45	2.92	1.47	0.87	0.75	0.97	0.77	0.97	0.8	1.36	2.92	1.56	18.88	100	3.12	0.57	0.8	12.85	0	12.85	4	2	0	0	0.11	0	0	0	0	0	0	0	0	0	60.02	72.87	0.08	0.73
642	52.66	17.68	0.74	109.16	1.46	2.93	1.47	0.87	0.75	0.97	0.77	0.97	0.8	1.36	2.93	1.56	19.12	100	3.1	0.57	0.8	13.37	0	13.37	4	2	0	0	0.11	0	0	0	0	0	0	0	0	0	60.02	73.4	0.08	0.74
643	52.74	17.96	0.72	115.58	1.46	2.93	1.47	0.87	0.75	0.97	0.77	0.97	0.8	1.36	2.93	1.57	19.51	100	3.07	0.57	0.8	13.58	0	13.58	4	2	0	0	0.11	0	0	0	0	0	0	0	0	0	60.02	73.6	0.08	0.76
644	52.82	17.85	0.69	125.58	1.46	2.94	1.48	0.87	0.75	0.97	0.77	0.97	0.8	1.37	2.94	1.57	19.69	100	3.06	0.57	0.8	13.48	0	13.48	4	2	0	0	0.1	0	0	0	0	0	0	0	0	0	60.02	73.5	0.08	0.76
645	52.9	17.82	0.7	137	1.46	2.94	1.48	0.87	0.75	0.97	0.77	0.97	0.8	1.37	2.94	1.57	19.83	100	3.05	0.57	0.8	13.45	0	13.45	4	2	0	0	0.1	0	0	0	0	0	0	0	0	0	60.02	73.47	0.08	0.77
646	52.99	18	0.7	142.14	1.47	2.95	1.48	0.87	0.75	0.97	0.77	0.97	0.8	1.37	2.95	1.57	20.21	100	3.04	0.57	0.8	13.57	0	13.57	4	2	0	0	0.1	0	0	0	0	0	0	0	0	0	60.02	73.6	0.08	0.78
647	53.07	18.69	0.71	146.31	1.47	2.95	1.48	0.87	0.75	0.97	0.77	0.97	0.8	1.37	2.95	1.58	20.46	100	3.03	0.57	0.8	14.09	0	14.09	4	2	0	0	0.1	0	0	0	0	0	0	0	0	0	60.02	74.12	0.08	0.79
648	53.15	18.44	0.71	146.39	1.47	2.96	1.48	0.87	0.75	0.97	0.77	0.97	0.8	1.38	2.96	1.58	20.7	100	3.03	0.57	0.8	13.89	0	13.89	4	2	0	0	0.1	0	0	0	0	0	0	0	0	0	60.02	73.92	0.08	0.8
649	53.23	18.63	0.71	146.81	1.47	2.96	1.49	0.87	0.75	0.97	0.77	0.97	0.8	1.38	2.96	1.58	20.45	100	3.03	0.57	0.8	14.03	0	14.03	4	2	0	0	0.1	0	0	0	0	0	0	0	0	0	60.02	74.05	0.08	0.79
650	53.31	18.02	0.68	141.73	1.48	2.96	1.49	0.87	0.75	0.97	0.77	0.97	0.8	1.38	2.96	1.58	20.03	100	3.04	0.57	0.8	13.55	0	13.55	4	2	0	0	0.1	0	0	0	0	0	0	0	0	0	60.02	73.57	0.08	0.77
651	53.4	17.18	0.64	147.01	1.48	2.97	1.49	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.97	1.58	19.5	100	3.04	0.57	0.79	12.89	0	12.89	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	72.92	0.08	0.75
652	53.48	16.9	0.59	156.69	1.48	2.97	1.49	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.97	1.59	19.34	100	3.03	0.57	0.79	12.67	0	12.67	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	72.69	0.08	0.74
653	53.56	17.12	0.56	168.91	1.48	2.98	1.49	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.98	1.59	19.54	100	3.02	0.57	0.79	12.83	0	12.83	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	72.85	0.08	0.74
654	53.64	17.21	0.57	187.7	1.49	2.98	1.5	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.98	1.59	19.92	100	3	0.57	0.79	12.89	0	12.89	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	72.91	0.08	0.76
655	53.72	17.46	0.58	197.14	1.49	2.99	1.5	0.87	0.75	0.97	0.77	0.97	0.79	1.4	2.99	1.59	20.38	100	3	0.57	0.79	13.07	0	13.07	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	73.09	0.08	0.78
656	53.81	18.29	0.61	183.58	1.49	2.99	1.5	0.87	0.75	0.97	0.77	0.97	0.8	1.4	2.99	1.59	20.71	100	3	0.57	0.79	13.69	0	13.69	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	73.72	0.08	0.79
657	53.89	18.52	0.66	165.21	1.49	3	1.5	0.87	0.75	0.97	0.77	0.97	0.8	1.4	3	1.6	21	100	3.01	0.57	0.79	13.86	0	13.86	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	73.88	0.08	0.81
658	53.97	18.89	0.74	158.82	1.5	3	1.51	0.87	0.75	0.97	0.77	0.97	0.8	1.4	3	1.6	21.08	100	3.03	0.57	0.79	14.13	0	14.13	4	2	0	0	0.09	0	0	0	0	0	0	0	0	0	60.02	74.15	0.08	0.81
659	54.05	18.82	0.8	163.04	1.5	3.01	1.51	0.86	0.75	0.97	0.77	0.97	0.8	1.41	3.01	1.6	21.34	100	3.04	0.57	0.79	14.06	0	14.06	4	2	0	0	0.08	0	0	0	0	0	0	0	0	0	60.02	74.09	0.08	0.82
660	54.13	19.41	0.83	157.35	1.5	3.01	1.51	0.86	0.75	0.97	0.77	0.97	0.8	1.41	3.01	1.6	21.58	100	3.04	0.57	0.79	14.5	0	14.5	4	2	0	0	0.08	0	0	0	0	0	0	0	0	0	60.02	74.53	0.08	0.83
661	54.22	19.74	0.83	150.7	1.5	3.02	1.51	0.86	0.75	0.97	0.77	0.97	0.8	1.41	3.02	1.61	21.85	100	3.04	0.56	0.79	14.74	0	14.74	4	2	0	0	0.08	0	0	0	0	0	0	0	0	0	60.02	74.77	0.08	0.84
662	54.3	20.05	0.88	133.52	1.51	3.02	1.51	0.86	0.75	0.97	0.77	0.97	0.8	1.41	3.02	1.61	21.95	100	3.05	0.56	0.79	14.97	0	14.97	4	2	0	0	0.08	0	0	0	0	0	0	0	0	0	60.02	74.99	0.08	0.84
663	54.38	20.07	0.9	131.39	1.51	3.03	1.52	0.86	0.75	0.97	0.77	0.97	0.8	1.42	3.03	1.61	22	100	3.06	0.56	0.79	14.97	0	14.97	4	2	0	0	0.08	0	0	0	0	0	0	0	0	0	60.02	75	0.08	0.84
664	54.46	20.24	0.93	125.92	1.51	3.03	1.52	0.86	0.75	0.97	0.77	0.97	0.8	1.42	3.03	1.61	21.82	100	3.07	0.56	0.79	15.09	0	15.09	4	2	0	0	0.08	0	0	0	0	0	0	0	0	0	60.02	75.11	0.08	0.83
665	54.54	19.77	0.95	115.75	1.51	3.04	1.52	0.86	0.75	0.97	0.77	0.97	0.8	1.42	3.04	1.61	21.56	100	3.09	0.56	0.79	14.72	0	14.72	4	2	0	0	0.08	0	0	0	0	0	0	0	0	0	60.02	74.74	0.08	0.82
666	54.63	19.67	0.95	104.9	1.52	3.04	1.52	0.86	0.75	0.97	0.77	0.97	0.8	1.42	3.04	1.62	21.25	100	3.1	0.56	0.79	14.63	0	14.63	4	2	0	0	0.07	0	0	0	0	0	0	0	0	0	60.02	74.65	0.08	0.8
667	54.71	19.69	0.93	99.69	1.52	3.05	1.53	0.86	0.75	0.97	0.77	0.97	0.8	1.43	3.05	1.62	21.15	100	3.1	0.56	0.79	14.63	0	14.63	4	2	0	0	0.07	0	0	0	0	0	0	0	0	0	60.02	74.66	0.08	0.8
668	54.79	19.74	0.9	96.68	1.52	3.05	1.53	0.86	0.75	0.97	0.77	0.97	0.8	1.43	3.05	1.62	21.05	100	3.09	0.56	0.79	14.66	0	14.66	4	2	0	0	0.07	0	0	0	0	0	0	0	0	0	60.02	74.68	0.08	0.79
669	54.87	19.48	0.88	97.76	1.52	3.05	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.43	3.05	1.62	21.06	100	3.09	0.57	0.78	14.45	0	14.45	4	2	0	0	0.07	0	0	0	0	0	0	0	0	0	60.02	74.48	0.08	0.79
670	54.95	19.65	0.87	104.4	1.53	3.06	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.43	3.06	1.63	21.03	100	3.08	0.57	0.78	14.57	0	14.57	4	2	0	0	0.07	0	0	0	0	0	0	0	0	0	60.02	74.59	0.08	0.79
671	55.04	19.5	0.81	108	1.53	3.06	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.06	1.63	20.88	100	3.07	0.57	0.78	14.44	0	14.44	4	2	0	0	0.07	0	0	0	0	0	0	0	0	0	60.02	74.47	0.08	0.78
672	55.12	18.86	0.75	109.21	1.53	3.07	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.07	1.63	20.53	100	3.07	0.57	0.78	13.95	0	13.95	4	2	0	0	0.07	0	0	0	0	0	0	0	0	0	60.02	73.97	0.08	0.76
673	55.2	18.54	0.71	107.65	1.54	3.07	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.07	1.63	20.13	100	3.06	0.57	0.78	13.7	0	13.7	4	2	0	0	0.06	0	0	0	0	0	0	0	0	0	60.02	73.72	0.08	0.75
674	55.28	18.3	0.67	108.95	1.54	3.08	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.08	1.63	20.14	100	3.05	0.57	0.78	13.5	0	13.5	4	2	0	0	0.06	0	0	0	0	0	0	0	0	0	60.02	73.53	0.08	0.75
675	55.36	17.44	0.63	209.27	1.54	3.08	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.45	3.08	1.64	20.21	100	3.03	0.57	0.78	12.85	0	12.85	4	2	0	0	0.06	0	0	0	0	0	0	0	0	0	60.02	72.87	0.08	0.75
676	55.45	17.42	0.58	201.3	1.54	3.09	1.55	0.86	0.75	0.97	0.77	0.97	0.79	1.45	3.09	1.64	20.17	100	3.01	0.57	0.78	12.82	0	12.82	4	2	0	0	0.06	0	0	0	0	0	0	0	0	0	60.02	72.85	0.08	0.74
677	55.53	16.88	0.54	198.52	1.55	3.09	1.55	0.86	0.75	0.98	0.77	0.97	0.79	1.45	3.09	1.64	19.72	100	3.01	0.57	0.78	12.41	0	12.41	4	2	0	0	0.06	0	0	0	0	0	0	0	0	0	60.02	72.43	0.08	0.72
678	55.61	16.4	0.46	188.51	1.55	3.1	1.55	0.86	0.75	0.98	0.77	0.97	0.79	1.45	3.1	1.64	19.02	100	3	0.57	0.78	12.04	0	12.04	4	2	0	0	0.06	0	0	0	0	0	0	0	0	0	60.02	72.06	0.08	0.69
679	55.69	15.59	0.39	181.43	1.55	3.1	1.55	0.86	0.75	0.98	0.77	0.97	0.79	1.46	3.1	1.64	18.37	100	2.99	0.58	0.78	11.42	0	11.42	4	2	0	0	0.06	0	0	0	0	0	0	0	0	0	60.02	71.45	0.08	0.66
680	55.77	14.96	0.33	197.22	1.55	3.11	1.55	0.86	0.75	0.98	0.77	0.97	0.79	1.46	3.11	1.65	17.88	100	2.97	0.58	0.77	10.95	0	10.95	4	2	0	0	0.05	0	0	0	0	0	0	0	0	0	60.02	70.97	0.08	0.64

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																	
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
681	55.86	14.56	0.28	214.18	1.56	3.11	1.56	0.86	0.75	0.98	0.77	0.97	0.79	1.46	3.11	1.65	17.78	97.32	2.93	0.58	0.77	10.64	0	10.64	4	2	0	0	0.05	0	0	0	0	0	0	0	0	59.62	70.26	0.08	0.64
682	55.94	14.36	0.22	244.83	1.56	3.12	1.56	0.86	0.75	0.98	0.77	0.97	0.79	1.46	3.12	1.65	18.09	93.5	2.88	0.58	0.77	10.48	0	10.48	4	2	0	0	0.05	0	0	0	0	0	0	0	0	59.01	69.48	0.08	0.65
683	56.02	14.98	0.2	261.09	1.56	3.12	1.56	0.86	0.75	0.98	0.77	0.97	0.79	1.47	3.12	1.65	18.67	90.39	2.84	0.58	0.77	10.93	0	10.93	4	2	0	0	0.05	0	0	0	0	0	0	0	0	58.46	69.39	0.08	0.67
684	56.1	15.42	0.22	275.49	1.56	3.12	1.56	0.86	0.75	0.98	0.77	0.97	0.79	1.47	3.12	1.65	19.42	89.5	2.83	0.58	0.77	11.24	0	11.24	4	2	0	0	0.05	0	0	0	0	0	0	0	0	58.29	69.54	0.08	0.7
685	56.18	16.11	0.27	279.02	1.57	3.13	1.56	0.86	0.75	0.98	0.77	0.97	0.79	1.47	3.13	1.66	20.03	90.82	2.85	0.58	0.77	11.75	0	11.75	4	2	0	0	0.05	0	0	0	0	0	0	0	0	58.54	70.29	0.08	0.73
686	56.27	16.71	0.34	269.09	1.57	3.13	1.56	0.86	0.75	0.98	0.77	0.97	0.79	1.47	3.13	1.66	20.41	93.07	2.88	0.58	0.77	12.19	0	12.19	4	2	0	0	0.05	0	0	0	0	0	0	0	0	58.93	71.13	0.08	0.74
687	56.35	16.88	0.39	252.94	1.57	3.14	1.57	0.86	0.75	0.98	0.77	0.97	0.79	1.48	3.14	1.66	20.62	95.76	2.91	0.57	0.77	12.32	0	12.32	4	2	0	0	0.04	0	0	0	0	0	0	0	0	59.38	71.7	0.08	0.75
688	56.43	17.53	0.46	223.79	1.57	3.14	1.57	0.86	0.75	0.97	0.77	0.97	0.79	1.48	3.14	1.66	20.65	98.29	2.94	0.57	0.77	12.8	0	12.8	4	2	0	0	0.04	0	0	0	0	0	0	0	0	59.77	72.57	0.08	0.75
689	56.51	17.56	0.51	215.6	1.58	3.15	1.57	0.86	0.75	0.97	0.77	0.97	0.79	1.48	3.15	1.66	20.69	100	2.97	0.57	0.77	12.81	0	12.81	4	2	0	0	0.04	0	0	0	0	0	0	0	0	60.02	72.84	0.08	0.75
690	56.59	17.71	0.55	205.08	1.58	3.15	1.57	0.86	0.75	0.97	0.77	0.97	0.79	1.48	3.15	1.67	20.67	100	2.98	0.57	0.77	12.91	0	12.91	4	2	0	0	0.04	0	0	0	0	0	0	0	0	60.02	72.94	0.08	0.75
691	56.68	17.85	0.55	196.24	1.58	3.16	1.57	0.86	0.75	0.97	0.77	0.97	0.79	1.49	3.16	1.67	20.46	100	3	0.57	0.77	13.01	0	13.01	4	2	0	0	0.04	0	0	0	0	0	0	0	0	60.02	73.03	0.08	0.74
692	56.76	17.37	0.55	185.49	1.58	3.16	1.58	0.86	0.75	0.97	0.77	0.97	0.79	1.49	3.16	1.67	20.42	100	3	0.57	0.77	12.64	0	12.64	4	2	0	0	0.04	0	0	0	0	0	0	0	0	60.02	72.67	0.08	0.74
693	56.84	17.86	0.55	186	1.59	3.16	1.58	0.86	0.75	0.97	0.77	0.97	0.79	1.49	3.16	1.67	20.36	100	3	0.57	0.77	13	0	13	4	2	0	0	0.04	0	0	0	0	0	0	0	0	60.02	73.02	0.08	0.73
694	56.92	17.74	0.5	191.75	1.59	3.17	1.58	0.85	0.75	0.97	0.77	0.97	0.79	1.5	3.17	1.67	20.54	100	2.98	0.57	0.77	12.9	0	12.9	4	2	0	0	0.04	0	0	0	0	0	0	0	0	60.02	72.92	0.08	0.74
695	57	17.87	0.48	188.58	1.59	3.17	1.58	0.85	0.75	0.97	0.77	0.97	0.79	1.5	3.17	1.68	20.44	100	2.97	0.57	0.77	12.99	0	12.99	4	2	0	0	0.03	0	0	0	0	0	0	0	0	60.02	73.01	0.08	0.74
696	57.09	17.33	0.47	202.62	1.59	3.18	1.58	0.85	0.75	0.97	0.77	0.97	0.79	1.5	3.18	1.68	20.74	99.17	2.95	0.57	0.77	12.58	0	12.58	4	2	0	0	0.03	0	0	0	0	0	0	0	0	59.9	72.48	0.08	0.75
697	57.17	18.15	0.46	224.38	1.6	3.18	1.59	0.85	0.75	0.97	0.77	0.97	0.79	1.5	3.18	1.68	21.15	98.01	2.94	0.57	0.77	13.17	0	13.17	4	2	0	0	0.03	0	0	0	0	0	0	0	0	59.73	72.9	0.08	0.76
698	57.25	18.55	0.47	226.83	1.6	3.19	1.59	0.85	0.75	0.97	0.77	0.97	0.79	1.51	3.19	1.68	21.87	96.54	2.92	0.57	0.77	13.46	0	13.46	4	2	0	0	0.03	0	0	0	0	0	0	0	0	59.5	72.96	0.08	0.79
699	57.33	19.29	0.49	217.73	1.6	3.19	1.59	0.85	0.75	0.97	0.77	0.97	0.79	1.51	3.19	1.68	22.35	96.38	2.92	0.57	0.77	14	0	14	4	2	0	0	0.03	0	0	0	0	0	0	0	0	59.48	73.48	0.08	0.81
700	57.41	19.76	0.54	211.01	1.6	3.2	1.59	0.85	0.75	0.97	0.77	0.96	0.79	1.51	3.2	1.69	22.79	96.4	2.92	0.57	0.77	14.34	0	14.34	4	2	0	0	0.03	0	0	0	0	0	0	0	0	59.48	73.82	0.08	0.83
701	57.5	20.31	0.56	197.55	1.61	3.2	1.6	0.85	0.75	0.97	0.77	0.96	0.79	1.51	3.2	1.69	22.89	97.21	2.93	0.57	0.77	14.74	0	14.74	4	2	0	0	0.03	0	0	0	0	0	0	0	0	59.61	74.34	0.08	0.83
702	57.58	19.99	0.58	189.3	1.61	3.21	1.6	0.85	0.75	0.97	0.77	0.96	0.79	1.52	3.21	1.69	22.84	98.09	2.94	0.57	0.77	14.49	0	14.49	4	2	0	0	0.02	0	0	0	0	0	0	0	0	59.74	74.23	0.08	0.83
703	57.66	20.05	0.6	181.33	1.61	3.21	1.6	0.85	0.75	0.97	0.77	0.96	0.79	1.52	3.21	1.69	22.56	99.38	2.95	0.57	0.77	14.53	0	14.53	4	2	0	0	0.02	0	0	0	0	0	0	0	0	59.93	74.46	0.08	0.82
704	57.74	19.59	0.6	189.25	1.61	3.22	1.6	0.85	0.75	0.97	0.77	0.96	0.79	1.52	3.22	1.7	22.48	99.4	2.96	0.57	0.77	14.18	0	14.18	4	2	0	0	0.02	0	0	0	0	0	0	0	0	59.94	74.11	0.08	0.81
705	57.82	19.8	0.56	185.74	1.62	3.22	1.6	0.85	0.74	0.97	0.76	0.96	0.79	1.52	3.22	1.7	22.41	98.58	2.94	0.57	0.77	14.32	0	14.32	4	2	0	0	0.02	0	0	0	0	0	0	0	0	59.81	74.13	0.08	0.81
706	57.91	19.73	0.51	188.21	1.62	3.23	1.61	0.85	0.74	0.97	0.76	0.96	0.79	1.53	3.23	1.7	22.65	96.59	2.92	0.57	0.76	14.25	0	14.25	4	2	0	0	0.02	0	0	0	0	0	0	0	0	59.51	73.76	0.08	0.82
707	57.99	20.11	0.49	203.35	1.62	3.23	1.61	0.85	0.74	0.97	0.76	0.96	0.79	1.53	3.23	1.7	23.01	94.84	2.9	0.57	0.76	14.52	0	14.52	4	2	0	0	0.02	0	0	0	0	0	0	0	0	59.23	73.75	0.08	0.83
708	58.07	20.45	0.49	216.13	1.62	3.23	1.61	0.85	0.74	0.97	0.76	0.96	0.79	1.53	3.23	1.7	23.46	93.61	2.88	0.57	0.76	14.76	0	14.76	4	2	0	0	0.02	0	0	0	0	0	0	0	0	59.02	73.79	0.08	0.85
709	58.15	20.5	0.5	228.46	1.63	3.24	1.61	0.85	0.74	0.97	0.76	0.96	0.79	1.53	3.24	1.71	23.88	93.35	2.88	0.57	0.76	14.79	0	14.79	4	2	0	0	0.01	0	0	0	0	0	0	0	0	58.98	73.77	0.08	0.86
710	58.23	20.99	0.54	228.29	1.63	3.24	1.61	0.85	0.74	0.97	0.76	0.96	0.79	1.54	3.24	1.71	24.22	93.28	2.88	0.56	0.76	15.14	0	15.14	4	2	0	0	0.01	0	0	0	0	0	0	0	0	58.97	74.11	0.08	0.88
711	58.32	21.47	0.54	215.84	1.63	3.25	1.62	0.85	0.74	0.97	0.76	0.96	0.79	1.54	3.25	1.71	24.44	93.36	2.88	0.56	0.76	15.48	0	15.48	4	2	0	0	0.01	0	0	0	0	0	0	0	0	58.98	74.47	0.08	0.89
712	58.4	21.71	0.54	190.75	1.63	3.25	1.62	0.85	0.74	0.97	0.76	0.96	0.79	1.54	3.25	1.71	24.58	93.5	2.88	0.56	0.76	15.65	0	15.65	4	2	0	0	0.01	0	0	0	0	0	0	0	0	59.01	74.66	0.08	0.89
713	58.48	21.94	0.57	193.03	1.64	3.26	1.62	0.85	0.74	0.97	0.76	0.96	0.79	1.54	3.26	1.71	24.65	94.26	2.89	0.56	0.76	15.81	0	15.81	4	2	0	0	0.01	0	0	0	0	0	0	0	0	59.13	74.95	0.08	0.89
714	58.56	22.18	0.61	180.04	1.64	3.26	1.62	0.85	0.74	0.97	0.76	0.96	0.79	1.55	3.26	1.72	24.61	95.25	2.9	0.56	0.76	15.98	0	15.98	4	2	0	0	0.01	0	0	0	0	0	0	0	0	59.3	75.28	0.08	0.89
715	58.65	21.97	0.62	164.08	1.64	3.27	1.62	0.85	0.74	0.97	0.76	0.96	0.79	1.55	3.27	1.72	24.42	96.18	2.91	0.56	0.76	15.82	0	15.82	4	2	0	0	0.01	0	0	0	0	0	0	0	0	59.45	75.26	0.08	0.88
716	58.73	21.55	0.62	181.64	1.65	3.27	1.63	0.85	0.74	0.97	0.76	0.96	0.79	1.55	3.27	1.72	24.17	96.96	2.92	0.56	0.76	15.5	0	15.5	4	2	0	0	0	0	0	0	0	0	0	0	0	59.57	75.06	0.08	0.87
717	58.81	21.18	0.63	196.18	1.65	3.28	1.63	0.85	0.74	0.97	0.76	0.96	0.79	1.55	3.28	1.72	23.91	97.56	2.93	0.56	0.76	15.21	0	15.21	4	2	0	0	0	0	0	0	0	0	0	0	0	59.66	74.87	0.08	0.86
718	58.89	20.71	0.61	198.46	1.65	3.28	1.63	0.85	0.74	0.97	0.76	0.96	0.79	1.56	3.28	1.72	23.66	97.6	2.93	0.56	0.76	14.86	0	14.86	4	2	0	0	0	0	0	0	0	0	0	0	0	59.67	74.52	0.08	0.84
719	58.97	20.53	0.56	200.27	1.65	3.29	1.63	0.85	0.74	0.97	0.76	0.96	0.79	1.56	3.29	1.73	23.34	97.92	2.94	0.56	0.76	14.71	0	14.71	4	2	0	0	0	0	0	0	0	0	0	0	0	59.72	74.43	0.08	0.83
720	59.06	20.09	0.58	203.97	1.66	3.29	1.64	0.85	0.74	0.97	0.76	0.96	0.79	1.56	3.29	1.73	23.26	98.01	2.94	0.57	0.76	14.38	0	14.38	4	2	0	0	0	0	0	0	0	0	0	0	0	59.73	74.11	0.08	0.83
721	59.14	20.28	0.6	212.83	1.66	3.3	1.64	0.85	0.74	0.97	0.76	0.96	0.79	1.56	3.3	1.73	23.56	97.92	2.94	0.57	0.76	14.51	0	14.51	4	2	0	0	0	0	0	0	0	0	0	0	0	59.72	74.22	0.08	0.84
722	59.22	20.93	0.61	234.09	1.66	3.3	1.64	0.85	0.74	0.97	0.76	0.96	0.79	1.57	3.3	1.73	24.69	95.93	2.91	0.56	0.76	14.97	0	14.97	4	2	0	0	0	0	0	0	0	0	0	0	0	59.41	74.38	0.08	0.88
723	59.3	22.9	0.63	244.56	1.66	3.3	1.64	0.85	0.74	0.97	0.76	0.96	0.79	1.57	3.3	1.74	27.18	90.6	2.85	0.56	0.76	16.4	0	16.4	4	2	0	0	0	0	0	0	0	0	0	0	0	58.5	74.9	0.08	0.98
724	59.38	27.42	0.6	236.81	1.67	3.31	1.64	0.85	0.74	0.97	0.76	0.96	0.8	1.57	3.31	1.74	30.51	84.28	2.77	0.55	0.76	19.72	0	19.72	4	2	0	0	0	0	0	0	0	0	0	0	0	57.25	76.97	0.09	1.12
725	59.47	31.07	0.63	223.82	1.67	3.31	1.65	0.85	0.74	0.97	0.77	0.96	0.8	1.57	3.31	1.74	35.17	77.97	2.69	0.54	0.76	22.41	0	22.41	4	2	0	0	0	0	0	0	0	0	0	0	0	55.78	78.19	0.09	1.31
726	59.55	37.22	0.8	220.63	1.67	3.32	1.65	0.85	0.74	0.97	0.77	0.96	0.8	1.58	3.32	1.74	38.79	75.4	2.65	0.53	0.77	27.01	0	27.01	4	2	0	0	0	0	0	0	0	0	0	0	0	55.11	82.12	0.09	1.45
727	59.63	38.78	0.89	202.02	1.67	3.32	1.65	0.85	0.74	0.97	0.77	0.96	0.8	1.58	3.32	1.74	41.14	74.94	2.65	0.53	0.77	28.17	0	28.17	4	2	0	0	0	0	0	0	0	0	0	0	0	54.98	83.16	0.09	1.55
728	59.71	39.06	0.95	157.22	1.68	3.33	1.65	0.85	0.74	0.97	0.77	0.96	0.8	1.58	3.33	1.75	41.79	76.59	2.67	0.53	0.77	28.37	0	28.37	4	2	0	0	0	0	0	0	0	0	0	0	0	55.43	83.8	0.1	1.57
729	59.79	40.06	1.11	160.2	1.68	3.33	1.66	0.84	0.74	0.96	0.77	0.96	0.8	1.58	3.33	1.75	41.32	79.79	2.71	0.52	0.77	29.13	0	29.13	4	2	0	0	0	0	0	0	0	0	0	0	0	56.23	85.36	0.1	1.55
730	59.88	38.26	1.24	139.66	1.68	3.34	1.66	0.84	0.74	0.97	0.77	0.96	0.8	1.59	3.34	1.75	39.43	82.74	2.75	0.52	0.77	27.76	0	27.76	4	2	0	0	0	0	0	0	0	0	0	0	0	56.91	84.67	0.1	1.47
731	59.96	34.37	0.98	88.67	1.68	3.34	1.66	0.84	0.74	0.97	0.77	0.96	0.8	1.59	3.34	1.75	36.22	86.77	2.8	0.53	0.76	24.81	0	24.81	4	2	0	0	0	0	0	0	0	0	0	0	0	57.77	82.58	0.09	1.34
732	60.04	31.8	0.99	65.5	1.69	3.35	1.66	0.84	0.74	0.97	0.76	0.96	0.8	1.59	3.35	1.76	33.67	88.83	2.82	0.54	0.76	22.88	0	22.88	4	2	0	0	0	0	0	0	0	0	0	0	0	58.17	81.04	0.09	1.23
733	60.12	31.1	0.96	106.58	1.69	3.35	1.66	0.84	0.74	0.97	0.76	0.96	0.8	1.59	3.35	1.76	33.31	90.98	2.85	0.54	0.76	22.34	0	22.34	4	2	0	0	0	0	0	0	0	0	0	0	0	58.57	80.91	0.09	1.22
734	60.2	32.21	1.19	162.22	1.69	3.36	1.67	0.84	0.74	0.97	0.76	0.96	0.8	1.6	3.36	1.76	33.2	93.27	2.88	0.54	0.76	23.16	0	23.16	4	2	0	0	0	0	0	0	0	0	0	0	0	58.97	82.13	0.09	1.21
735	60.29	31.03	1.3	95.98	1.69	3.36	1.67	0.84	0.74	0.97	0.76	0.96	0.8	1.6	3.36	1.76	31.51	97.63	2.93	0.54	0.76	22.28	0	22.28	4	2	0	0	0	0	0	0	0	0	0	0	0	59.67	81.95	0.09	1.14
736	60.37	27.05	1.2	35.51	1.7	3.37	1.67	0.84	0.74	0.97	0.76	0.96	0.79	1.6	3.37	1.77	28.41	100	3	0.55	0.76	19.31	0	19.31	4	2	0	0	0	0	0	0	0	0	0	0	0	60.02	79.33	0.09	1.01
737	60.45	24.72	1.12	36.28	1.7	3.37	1.67	0.84	0.74	0.97	0.76	0.96	0.79	1.61	3.37	1.77	25.6	100	3.05	0.55	0.75	17.58	0	17.58	4	2	0	0	0	0	0	0	0	0	0	0	0	60.02	77.6	0.09	0.9
738	60.53	23.09	1.05	62.89	1.7	3.38	1.68	0.84	0.74	0.97	0.76	0.96	0.79	1.61	3.38	1.77	23.82	100	3.08	0.56	0.75	16.37	0	16.37	4	2	0	0	0	0	0	0	0	0	0	0	0	60.02	76.4	0.09	0.82
739	60.61	20.54	0.86	116.05	1.7	3.38	1.68	0.84	0.74	0.97	0.76	0.96	0.79	1.61	3.38	1.77	22.79	100	3.06	0.57	0.75	14.5	0	14.5	4	2	0	0	0	0	0	0	0	0	0	0	0	60.02	74.53	0.08	0.78
740	60.7	19.93	0.65	154.6	1.71	3.39	1.68	0.84	0.74	0.97	0.76	0.96	0.79	1.61	3.39	1.77	22.31	100	3.01	0.57	0.75	14.05	0	14.05	4	2	0	0	0	0	0	0	0	0	0	0	0	60.02	74.08	0.08	0.76
741	60.78	19.82	0.46	191.28	1.71	3.39	1.68	0.84	0.74	0.97	0.76	0.96	0.79	1.62	3.39	1.78	22.48	97.93	2.94	0.57	0.75	13.96	0	13.96	4	2	0	0	0	0	0	0	0	0	0	0	0	59.72	73.68	0.08	0.77
742	60.86	19.76	0.38	204.52	1.71	3.4	1.68	0.84	0.74	0.97	0.76	0.96	0.79	1.62	3.4	1.78	22.81	92.91	2.87	0.57	0.74	13.9	0	13.9	4	2	0	0	0	0	0	0	0	0	0	0	0	58.91	72.8	0.08	0.78
743	60.94	19.92	0.35	223.31	1.71	3.4	1.69	0.84	0.74	0.97	0.76	0.96	0.79	1.62	3.4	1.78	23.03	90.55	2.84	0.57	0.74	14	0	14	4	2	0	0	0	0	0	0	0	0	0	0	0	58.49	72.49	0.08	0.79
744	61.02	19.89	0.35	232.99	1.72	3.41	1.69	0.84	0.74	0.97	0.76	0.96	0.79	1.62	3.41	1.78	23.4	90.35	2.84	0.57	0.74	13.97	0	13.97	4	2	0	0	0	0	0	0	0	0	0	0	0	58.45	72.42	0.08	0.8
745	61.11	20.1	0.42	259.13	1.72	3.41	1.69	0.84	0.74	0.97	0.76	0.96	0.79	1.63	3.41	1.78	23.88	91.51	2.86	0.57	0.74	14.11	0	14.11	4	2	0	0	0	0	0	0	0	0	0	0	0	58.66	72.77	0.08	0.82
746	61.19	20.47	0.49	285.19	1.72	3.41	1.69	0.84	0.74	0.97	0.76	0.96	2	1.63	3.41	1.79	25.1	93.06	2.88	0.57	0.74	14.37	0	14.37	4	2	0	0	0	0	0	0	0	0	0	0	0	58.93	73.3	0.08	0.87
747	61.27	22.62	0.67	297.38	1.72	3.42	1.7	0.84	0.74	0.97	0.76	0.96	2	1.63	3.42	1.79	28.52	90.86	2.85	0.56	0.74	15.91	0	15.91	4	2	0	0	0	0	0	0	0	0	0	0	0	58.54	74.46	0.08	1
748	61.35	29.24	0.86	335.26	1.73	3.42	1.7	0.84	0.74	0.97	0.76	0.96	2	1.63	3.42	1.79	36.63	81.44	2.73	0.55	0.75	20.71	0	20.71	4	2	0	0	0	0	0	0	0	0	0	0	0	56.62	77.32	0.09	1.32

	Input Data				CSR calculation results									CRR 7.5 calculation results										Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
749	61.43	44.5	0.99	306.63	1.73	3.43	1.7	0.84	0.74	0.96	0.77	0.95	2	1.64	3.43	1.79	46.5	73.66	2.63	0.51	0.76	32.05	0	32.05	4	2	0	0	0	0	0	0	0	0	0	0	0	54.63	86.68	0.1	1.72
750	61.52	54.27	1.4	156.63	1.73	3.43	1.7	0.84	0.74	0.96	0.77	0.95	2	1.64	3.43	1.8	53.85	58.63	2.45	0.5	0.77	39.35	59.36	98.71	4	2	0	0	0	0	31.52	0.8	0	0	0	0	0	0	49.29	88.65	0.1	0.67
751	61.6	55.93	0	11.48	1.73	3.44	1.7	0.84	0.74	0.96	0.77	0.95	2	1.64	3.44	1.8	56.31	45.19	2.28	0.51	0.76	40.36	54.56	94.91	4	2	0	0	0	0	34.57	0.83	0	0	0	0	0	0	42.09	82.45	0.09	0.68
752	61.68	56.35	0	-2.47	1.74	3.44	1.71	0.84	0.74	0.95	0.78	0.95	0.82	1.64	3.44	1.8	57.8	100	4.06	0.48	0.77	41.26	0	41.26	4	2	0	0	0	0	0	0	0	0	0	0	0	0	60.02	101.28	0.12	2.16
753	61.76	59.66	0	92.57	1.74	3.45	1.71	0.84	0.74	0.95	0.78	0.94	0.83	1.65	3.45	1.8	64.6	100	4.06	0.47	0.78	43.83	0	43.83	4	2	0	0	0	0	0	0	0	0	0	0	0	0	60.02	103.86	0.13	2.43
754	61.84	73.92	0	178.91	1.74	3.45	1.71	0.84	0.74	0.93	0.8	0.94	0.85	1.65	3.45	1.8	71.33	100	4.06	0.45	0.79	55.13	0	55.13	4	2	0	0	0	0	0	0	0	0	0	0	0	0	60.02	115.16	0.15	2.69

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
1	0.08	0.01	0	0	0	0	0	1	0.44	0.98	0.44	1.1	2	0	0	0	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	1	0	0	0	0	0	0	0	0	0	0	N/A	N/A
2	0.16	0.01	0	0	0	0.01	0.01	1	0.44	0.98	0.44	1.1	2	0	0.01	0.01	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	1	0	0	0	0	0	0	0	0	0	0	N/A	N/A
3	0.25	0.01	0	0	0	0.01	0.01	1	0.44	0.98	0.44	1.1	2	0	0.01	0.01	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	1	0	0	0	0	0	0	0	0	0	0	N/A	N/A
4	0.33	0.01	0	0	0	0.01	0.01	1	0.44	0.98	0.44	1.1	2	0	0.01	0.01	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	N/A	N/A
5	0.41	0.01	0	0	0	0.02	0.02	1	0.44	0.98	0.44	1.1	2	0	0.02	0.02	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	N/A	N/A
6	0.49	0.01	0	0	0	0.02	0.02	1	0.44	0.98	0.44	1.1	2	0	0.02	0.02	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	N/A	N/A
7	0.57	0.01	0	0	0	0.03	0.03	1	0.44	0.98	0.44	1.1	2	0	0.03	0.03	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	N/A	N/A
8	0.66	0.01	0	0	0	0.03	0.03	1	0.44	0.98	0.44	1.1	2	0	0.03	0.03	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	N/A	N/A
9	0.74	0.01	0	0	0	0.03	0.03	1	0.44	0.98	0.44	1.1	2	0	0.03	0.03	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	N/A	N/A
10	0.82	0.01	0	0	0	0.04	0.04	1	0.44	0.98	0.44	1.1	2	0	0.04	0.04	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.99	0	0	0	0	0	0	0	0	0	0	N/A	N/A
11	0.9	0.01	0	0	0	0.04	0.04	1	0.44	0.98	0.44	1.1	2	0	0.04	0.04	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	N/A	N/A
12	0.98	0.01	0	0	0	0.04	0.04	1	0.44	0.98	0.44	1.1	2	0	0.04	0.04	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	N/A	N/A
13	1.07	0.01	0	0	0	0.05	0.05	1	0.44	0.98	0.44	1.1	2	0	0.05	0.05	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	N/A	N/A
14	1.15	0.01	0	0	0	0.05	0.05	1	0.44	0.98	0.44	1.1	2	0	0.05	0.05	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	N/A	N/A
15	1.23	0.01	0	0	0	0.05	0.05	1	0.44	0.98	0.44	1.1	2	0	0.05	0.05	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	N/A	N/A
16	1.31	0.01	0	0	0	0.06	0.06	1	0.44	0.98	0.44	1.1	2	0	0.06	0.06	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	N/A	N/A
17	1.39	0.01	0	0	0	0.06	0.06	1	0.44	0.98	0.44	1.1	2	0	0.06	0.06	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.98	0	0	0	0	0	0	0	0	0	0	N/A	N/A
18	1.48	0.01	0	0	0	0.06	0.06	1	0.44	0.98	0.44	1.1	2	0	0.06	0.06	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.97	0	0	0	0	0	0	0	0	0	0	N/A	N/A
19	1.56	0.01	0	0	0	0.07	0.07	1	0.44	0.98	0.44	1.1	2	0	0.07	0.07	0.01	100	4.06	0.62	1.7	0.02	0	0.02	4	2	0	0	0.97	0	0	0	0	0	0	0	0	0	0	N/A	N/A
20	1.64	0.01	0	0	0	0.07	0.07	1	0.44	0.98	0.44	1.1	2	0	0.07	0.07	10.06	74.87	2.65	0.63	1.7	0.02	0	0.02	4	2	0	0	0.97	0	0	0	0	0	0	0	0	0	0	N/A	N/A
21	1.72	30.14	0.43	1.01	0	0.08	0.08	1	0.44	0.95	0.46	1.1	2	0	0.08	0.08	20.05	53.61	2.38	0.48	1.7	48.42	60.24	108.66	4	2	0	0	0.97	0	25.4	0.72	0	0	0	0	0	0	0	N/A	N/A
22	1.8	29.98	0.38	-0.26	0	0.08	0.08	1	0.44	0.95	0.46	1.1	2	0	0.08	0.08	29.06	42.26	2.24	0.49	1.7	48.17	54.94	103.11	4	2	0	0	0.97	0	28.9	0.77	0	0	0	0	0	0	0	N/A	N/A
23	1.89	27.06	0.32	-0.5	0	0.09	0.09	1	0.44	0.96	0.45	1.1	2	0	0.09	0.09	27.46	41.95	2.24	0.5	1.7	43.48	53.6	97.08	4	2	0	0	0.97	0	33.24	0.82	0	0	0	0	0	0	0	N/A	N/A
24	1.97	25.35	0.27	-0.17	0	0.09	0.09	1	0.44	0.96	0.45	1.1	2	0	0.09	0.09	25.07	43.03	2.25	0.51	1.7	40.73	53.53	94.25	4	2	0	0	0.97	0	35.48	0.84	0	0	0	0	0	0	0	N/A	N/A
25	2.05	22.8	0.23	-0.12	0	0.09	0.09	1	0.44	0.96	0.45	1.1	2	0	0.09	0.09	23.26	43.8	2.26	0.52	1.7	36.63	52.91	89.54	4	2	0	0	0.97	0	39.58	0.87	0	0	0	0	0	0	0	N/A	N/A
26	2.13	21.64	0.21	0.15	0	0.1	0.1	1	0.44	0.96	0.45	1.1	2	0	0.1	0.1	21.21	47.57	2.31	0.52	1.7	34.77	54.22	88.98	4	2	0	0	0.96	0	40.09	0.87	0	0	0	0	0	0	0	N/A	N/A
27	2.21	19.2	0.24	0.1	0	0.1	0.1	1	0.44	0.97	0.45	1.1	2	0	0.1	0.1	19.49	52.7	2.37	0.53	1.7	30.85	55.16	86.01	4	2	0	0	0.96	0	42.96	0.89	0	0	0	0	0	0	0	N/A	N/A
28	2.3	17.61	0.27	0.51	0	0.11	0.11	1	0.44	0.97	0.45	1.1	2	0	0.11	0.11	17.34	60.35	2.47	0.53	1.7	28.29	56.74	85.03	4	2	0	0	0.96	0	43.95	0.89	0	0	0	0	0	0	0	N/A	N/A
29	2.38	15.21	0.28	0.3	0	0.11	0.11	1	0.44	0.97	0.45	1.1	2	0	0.11	0.11	15.69	66.39	2.54	0.54	1.7	24.44	57.03	81.47	4	2	0	0	0.96	0	47.75	0.91	0	0	0	0	0	0	0	N/A	N/A
30	2.46	14.23	0.29	-0.05	0	0.12	0.12	1	0.44	0.97	0.45	1.1	2	0	0.12	0.12	14.2	72.31	2.62	0.54	1.7	22.86	0	22.86	4	2	0	0	0.96	0	0	0	0	0	0	0	0	0	0	N/A	N/A
31	2.54	13.14	0.31	0.78	0	0.12	0.12	1	0.44	0.97	0.45	1.1	2	0	0.12	0.12	13.65	75.61	2.66	0.55	1.7	21.11	0	21.11	4	2	0	0	0.96	0	0	0	0	0	0	0	0	0	0	N/A	N/A
32	2.62	13.55	0.34	0.47	0	0.13	0.13	1	0.44	0.97	0.45	1.1	2	0	0.13	0.13	14.07	75.63	2.66	0.55	1.7	21.77	0	21.77	4	2	0	0	0.96	0	0	0	0	0	0	0	0	0	0	N/A	N/A
33	2.71	15.47	0.36	1.43	0	0.13	0.13	1	0.44	0.97	0.45	1.1	2	0	0.13	0.13	14.82	74.43	2.64	0.54	1.7	24.85	0	24.85	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	N/A	N/A
34	2.79	15.4	0.38	1.23	0	0.13	0.13	1	0.44	0.97	0.45	1.1	2	0	0.13	0.13	15.76	72.43	2.62	0.54	1.7	24.74	0	24.74	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	N/A	N/A
35	2.87	16.36	0.39	1.32	0	0.14	0.14	1	0.44	0.97	0.45	1.1	2	0	0.14	0.14	16.01	73.25	2.63	0.53	1.7	26.28	0	26.28	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	N/A	N/A
36	2.95	16.23	0.45	0.97	0	0.14	0.14	1	0.44	0.97	0.45	1.1	2	0	0.14	0.14	16.15	74.48	2.64	0.53	1.7	26.08	0	26.08	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	N/A	N/A
37	3.03	15.83	0.47	0.66	0	0.15	0.15	1	0.44	0.97	0.45	1.1	2	0	0.15	0.15	15.9	76.27	2.67	0.53	1.7	25.43	0	25.43	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	N/A	N/A
38	3.12	15.6	0.45	0.14	0	0.15	0.15	1	0.44	0.97	0.45	1.1	2	0	0.15	0.15	15.77	76.03	2.66	0.54	1.7	25.06	0	25.06	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	N/A	N/A
39	3.2	15.87	0.41	0.43	0	0.16	0.16	1	0.44	0.97	0.45	1.1	2	0	0.16	0.16	15.7	75.46	2.66	0.53	1.7	25.5	0	25.5	4	2	0	0	0.95	0	0	0	0	0	0	0	0	0	0	N/A	N/A
40	3.28	15.6	0.42	0.69	0	0.16	0.16	1	0.44	0.97	0.45	1.1	2	0	0.16	0.16	16.14	74.28	2.64	0.54	1.7	25.06	0	25.06	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	N/A	N/A
41	3.36	16.84	0.47	6.36	0	0.17	0.17	1	0.44	0.97	0.45	1.1	2	0	0.17	0.17	17.39	72.17	2.61	0.53	1.7	27.06	0	27.06	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	N/A	N/A
42	3.44	19.64	0.5	-0.75	0	0.17	0.17	1	0.44	0.96	0.45	1.1	2	0	0.17	0.17	19.4	67.94	2.56	0.52	1.7	31.55	59.4	90.96	4	2	0	0	0.94	0	38.3	0.86	0	0	0	0	0	0	0	N/A	N/A
43	3.53	21.64	0.5	-0.12	0	0.18	0.18	1	0.44	0.96	0.45	1.1	2	0	0.18	0.18	19.6	67.8	2.56	0.51	1.7	34.77	60.3	95.07	4	2	0	0	0.94	0	34.82	0.83	0	0	0	0	0	0	0	N/A	N/A
44	3.61	17.53	0.49	-0.77	0	0.18	0.18	1	0.44	0.97	0.45	1.1	2	0	0.18	0.18	18.27	71.41	2.61	0.53	1.7	28.16	0	28.16	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	N/A	N/A
45	3.69	15.65	0.51	0.62	0	0.18	0.18	1	0.44	0.97	0.45	1.1	2	0	0.18	0.18	16.17	78.25	2.69	0.53	1.7	25.14	0	25.14	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	N/A	N/A
46	3.77	15.32	0.55	0.55	0	0.19	0.19	1	0.44	0.97	0.45	1.1	2	0	0.19	0.19	15.45	81.74	2.73	0.54	1.7	24.61	0	24.61	4	2	0	0	0.94	0	0	0	0	0	0	0	0	0	0	N/A	N/A
47	3.85	15.35	0.57	-0.02	0	0.19	0.19	1	0.44	0.97	0.45	1.1	2	0	0.19	0.19	16.06	79.95	2.71	0.54	1.7	24.66	0	24.66	4	2	0	0	0.93	0	0	0	0	0	0	0	0	0	0	N/A	N/A
48	3.94	17.52	0.52	-0.44	0	0.2	0.2	1	0.44	0.97	0.45	1.1	2	0	0.2	0.2	17.41	75.17	2.65	0.53	1.7	28.15	0	28.15	4	2	0	0	0.93	0	0	0	0	0	0	0	0	0	0	N/A	N/A
49	4.02	19.36	0.5	1.29	0	0.2	0.2	1	0.44	0.96	0.45	1.1	2	0	0.2	0.2	20.16	66.86	2.55	0.52	1.7	31.1	59.05	90.15	4	2	0	0	0.93	0	39.02	0.86	0	0	0	0	0	0	0	N/A	N/A
50	4.1	23.6	0.5	-0.19	0	0.21	0.21	1	0.44	0.96	0.45	1.1	2	0	0.21	0.21	24.43	56.76	2.42	0.51	1.7	37.92	58.41	96.32	4	2	0	0	0.93	0	33.82	0.82	0	0	0	0	0	0	0	N/A	N/A
51	4.18	30.29	0.48	0.65	0	0.21	0.21	1	0.44	0.95	0.46	1.1	2	0	0.21	0.21	31.69	43.1	2.25	0.49	1.7	48.67	55.55	104.21	4	2	0	0	0.93	0	28.17	0.76	0	0	0	0	0	0	0	N/A	N/A
52	4.27	41.17	0.44	0.99	0	0.22	0.22	1	0.44	0.94	0.46	1.1	2	0	0.22	0.22	39.28	31.08	2.1	0.46	1.7	66.15	49.94	116.08	4	2	0	0	0.93	0	21.34	0.64	0	0	0	0	0	0	0	N/A	N/A
53	4.35	46.34	0.4	1.91	0	0.22	0.22	1	0.44	0.95	0.46	1.1	2	0	0.22	0.22	47.45	19.19	1.95	0.48	1.7	74.45	31.7	106.15	4	2	0	0	0.93	0	26.92	0.74	0	0	0	0	0	0	0	N/A	N/A
54	4.43	54.79	0.32	0.77	0	0.23	0.23	1	0.44	0.96	0.45	1.1	2	0	0.23	0.23	54.11	9.11	1.83	0.51	1.7	88.03	5.19	93.22	4	2	0	0	0.92	0	36.34	0.84	0	0	0	0	0	0	0	N/A	N/A
55	4.51	61.11	0.24	2.53	0	0.23	0.23	1	0.44	0.96	0.45	1.1	2	0	0.23	0.23	60.32	0	1.71	0.5	1.7	98.18	0	98.18	4	2	0	0	0.92	0	32.4	0.81	0	0	0	0	0	0	0	N/A	N/A
56	4.59	65	0.19	0.64	0	0.24	0.24	1	0.44	0.95	0.46	1.1	2	0	0.24	0.24	64.51	0	1.62	0.49	1.7	104.43	0	104.43	4	2	0	0	0.92	0	28.02	0.76	0	0	0	0	0	0	0	N/A	N/A
57	4.68	67.36	0.17	0.76	0	0.24	0.24	1	0.44	0.95	0.46	1.1	2	0	0.24	0.24	67.73	0	1.57	0.48	1.7	108.22	0	108.22	4	2	0	0	0.92	0	25.66	0.72	0	0	0	0	0	0	0	N/A	N/A
58	4.76	70.79	0.18	1.01	0	0.24	0.24	1	0.43	0.94	0.46	1.1	2	0	0.24	0.24	71.42	0	1.54	0.47	1.7	113.73	0	113.73	4	2	0	0	0.92	0	22.55	0.67	0	0	0	0	0	0	0	N/A	N/A
59	4.84	76.04	0.19	3.03	0	0.25	0.25	1	0.43	0.93	0.47	1.1	2	0	0.25	0.25	75.17	0	1.51	0.45	1.7	122.17	0	122.17	4	2	0	0	0.92	0	18.48	0.58	0	0	0	0	0	0	0	N/A	N/A
60	4.92	78.58	0.17	2.06	0	0.25	0.25	1	0.43	0.93	0.47	1.1	2	0	0.25	0.25	79.06	0	1.49	0.44	1.7	126.25	0	126.25	4	2	0	0	0.92	0	16.76	0.54	0	0	0	0	0	0	0	N/A	N/A
61	5	82.47	0.21	1.53	0	0.26	0.26	1	0.43	0.92	0.47	1.1	2	0	0.26	0.26	83.11	0	1.47	0.43	1.7	132.5	0	132.5	4	2	0	0	0.92	0	14.42	0.46	0	0	0	0	0	0	0	N/A	N/A
62	5.09	88.2	0.21	1.03	0	0.26	0.26	1	0.43	0.9	0.48	1.1	2	0	0.26	0.26	87.78	0	1.43	0.42	1.7	141.71	0	141.71	4	2	0	0	0.91	0	11.49	0.35	0	0	0	0	0	0	0	N/A	N/A
63	5.17	92.61	0.12	0.89	0	0.27	0.27	1	0.43	0.89	0.49	1.1	2	0	0.27	0.27	92.76	0	1.39	0.41	1.7	148.79	0	148.79	4	2	0	0	0.91	0	9.6	0.26	0	0	0	0	0	0	0	N/A	N/A
64	5.25	97.41	0.21	2.74	0	0.27	0.27	1	0.43	0.87	0.5	1.1	2	0	0.27	0.27	97.99	0	1.39	0.39	1.7	156.5	0	156.5	4	2	0	0	0.91	0	7.86	0.16	0	0	0	0	0	0	0	N/A	N/A
65	5.33	103.88	0.31	1.46	0	0.28	0.28	1	0.43	0.86	0.51	1.1	2	0	0.28	0.28	104.6	0	1.43	0.38	1.67	164.26	0	164.26	4	2	0	0	0.91	0	6.39	0.06	0	0	0	0	0	0	0	N/A	N/A
66	5.41	112.44	0.44	1.27	0	0.28	0.28	1	0.43	0.84	0.52	1.1	2	0	0.28	0.28	113.92	0	1.42	0.37	1.63	172.78	0	172.78	4	2	0	0	0.91	0	5.04	-0.06	0	0	0	0	0	0	0	N/A	N/A
67	5.5	125.39	0.42	1.65	0	0.29	0.29	1	0.43	0.8	0.54	1.1	2	0	0.29	0.29	122.22	0	1.4	0.35	1.57	186.32	0	186.32	4	2	0	0	0.91	0	3.38	-0.25	0	0	0	0	0	0	0	N/A	N/A
68	5.58	128.8	0.36	-0.84	0	0.29	0.29	1	0.43	0.8	0.54	1.1	2	0	0.29	0.29	129.35	0	1.35	0.34	1.56	190.08	0	190.08	4	2	0	0	0.91	0	3	-0.31	0	0	0	0	0	0	0	N/A	N/A

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
69	5.66	133.67	0.31	13.29	0	0.29	0.29	1	0.43	0.8	0.54	1.1	2	0	0.29	0.29	131.16	0	1.33	0.34	1.54	194.66	0	194.66	4	2	0	0	0.9	0	2.6	-0.37	0	0	0	0	0	0	0	N/A	N/A
70	5.74	130.8	0.33	1.38	0	0.3	0.3	1	0.43	0.8	0.54	1.1	2	0	0.3	0.3	133.43	0	1.32	0.34	1.54	190.74	0	190.74	4	2	0	0	0.9	0	2.94	-0.32	0	0	0	0	0	0	0	N/A	N/A
71	5.82	135.52	0.35	7.16	0	0.3	0.3	1	0.43	0.8	0.54	1.1	2	0	0.3	0.3	130.5	0	1.33	0.34	1.52	195.14	0	195.14	4	2	0	0	0.9	0	2.56	-0.38	0	0	0	0	0	0	0	N/A	N/A
72	5.91	125	0.29	4.92	0	0.31	0.31	1	0.43	0.81	0.54	1.1	2	0	0.31	0.31	128.23	0	1.33	0.35	1.55	182.81	0	182.81	4	2	0	0	0.9	0	3.76	-0.2	0	0	0	0	0	0	0	N/A	N/A
73	5.99	123.97	0.31	1.68	0	0.31	0.31	1	0.43	0.81	0.53	1.1	2	0	0.31	0.31	127.06	0	1.33	0.36	1.54	180.93	0	180.93	4	2	0	0	0.9	0	3.98	-0.17	0	0	0	0	0	0	0	N/A	N/A
74	6.07	132.11	0.3	1.19	0	0.32	0.32	1	0.44	0.8	0.55	1.1	0.5	0	0.32	0.32	133.14	0	1.36	0.35	1.52	189.17	0	189.17	1.08	2	0	0	0.9	0	3.09	-0.29	0	0	0	0	0	0	5.32	194.49	0.79	0.93
75	6.15	143.26	0.58	3.29	0	0.32	0.32	1	0.44	0.8	0.55	1.1	0.5	0	0.32	0.32	143.96	0	1.37	0.33	1.48	200.46	0	200.46	1.94	2	0	0	0.9	0	2.14	-0.46	0	0	0	0	0	0	5.32	205.78	0.94	0.94
76	6.23	156.41	0.62	1.9	0.01	0.33	0.32	1	0.44	0.8	0.56	1.1	0.5	0	0.33	0.33	159.79	0	1.35	0.31	1.44	213.57	0	213.57	4	2	0	0	0.89	0	1.34	-0.65	0	0	0	0	0	0	5.32	218.88	0.96	0.96
77	6.32	179.55	0.56	4.52	0.01	0.33	0.32	1	0.45	0.8	0.56	1.1	0.51	0	0.33	0.33	175.48	0	1.31	0.28	1.39	235.33	0	235.33	4	2	0	0	0.89	0	0.53	-0.99	0	0	0	0	0	0	5.32	240.64	0.97	0.97
78	6.4	190.31	0.62	5.49	0.01	0.34	0.32	1	0.45	0.8	0.56	1.1	0.51	0	0.34	0.34	200.06	0	1.27	0.27	1.36	245.5	0	245.5	4	2	0	0	0.89	0	0.32	-1.14	0	0	0	0	0	0	5.32	250.82	0.98	0.98
79	6.48	230.02	0.87	9.92	0.01	0.34	0.33	1	0.45	0.8	0.57	1.1	0.52	0	0.34	0.34	225.77	0	1.23	0.26	1.35	292.82	0	254	4	2	0	0	0.89	0	0.19	-1.28	0	0	0	0	0	0	5.32	298.14	1	1
80	6.56	256.68	0.81	4.39	0.02	0.35	0.33	1	0.46	0.8	0.57	1.1	0.52	0	0.35	0.35	255.11	0	1.18	0.26	1.34	325.51	0	254	4	2	0	0	0.89	0	0.19	-1.28	0	0	0	0	0	0	5.32	330.83	1.02	1.02
81	6.64	278.32	0.74	6.58	0.02	0.35	0.33	1	0.46	0.8	0.58	1.1	0.52	0	0.35	0.35	271.16	0	1.14	0.26	1.34	351.62	0	254	4	2	0	0	0.89	0	0.19	-1.28	0	0	0	0	0	0	5.32	356.94	1.02	1.02
82	6.73	278.29	0.77	2.1	0.02	0.36	0.33	1	0.46	0.8	0.58	1.1	0.53	0	0.36	0.36	277.74	0	1.13	0.26	1.33	350.28	0	254	4	2	0	0	0.89	0	0.19	-1.28	0	0	0	0	0	0	5.32	355.59	1.03	1.03
83	6.81	276.49	0.82	0.62	0.03	0.36	0.34	1	0.47	0.8	0.58	1.1	0.53	0	0.36	0.36	277.16	0	1.15	0.26	1.33	346.73	0	254	4	2	0	0	0.88	0	0.19	-1.28	0	0	0	0	0	0	5.32	352.05	1.03	1.03
84	6.89	276.62	0.95	2.92	0.03	0.37	0.34	1	0.47	0.8	0.59	1.1	0.53	0	0.37	0.37	277.02	0	1.19	0.26	1.32	345.62	0	254	4	2	0	0	0.88	0	0.19	-1.28	0	0	0	0	0	0	5.32	350.94	1.03	1.03
85	6.97	277.88	1.23	1.83	0.03	0.37	0.34	1	0.47	0.8	0.59	1.1	0.54	0	0.37	0.37	269.56	0	1.23	0.26	1.32	345.93	0	254	4	2	0	0	0.88	0	0.19	-1.28	0	0	0	0	0	0	5.32	351.25	1.03	1.03
86	7.05	254.13	1.05	-0.41	0.03	0.38	0.34	1	0.47	0.8	0.59	1.1	0.54	0	0.38	0.38	259.5	0	1.27	0.26	1.31	315.23	0	254	4	2	0	0	0.88	0	0.19	-1.28	0	0	0	0	0	0	5.32	320.54	1.02	1.02
87	7.14	246.1	1.22	25.62	0.04	0.38	0.35	0.99	0.48	0.8	0.6	1.1	0.54	0	0.38	0.38	246.42	0	1.31	0.26	1.31	304.18	0	254	4	2	0	0	0.88	0	0.19	-1.28	0	0	0	0	0	0	5.32	309.5	1.01	1.01
88	7.22	238.65	1.31	1.98	0.04	0.39	0.35	0.99	0.48	0.8	0.6	1.1	0.55	0	0.39	0.39	239.09	0	1.33	0.26	1.3	293.94	0	254	4	2	0	0	0.88	0	0.19	-1.28	0	0	0	0	0	0	5.32	299.26	1.01	1.01
89	7.3	231.97	1.14	10.38	0.04	0.39	0.35	0.99	0.48	0.8	0.6	1.1	0.55	0	0.39	0.39	232.82	0	1.32	0.26	1.3	284.73	0	254	4	2	0	0	0.88	0	0.19	-1.28	0	0	0	0	0	0	5.32	290.05	1	1
90	7.38	227.55	0.87	7.34	0.04	0.4	0.36	0.99	0.49	0.8	0.61	1.1	0.55	0	0.4	0.4	227.7	0	1.29	0.26	1.29	278.36	0	254	4	2	0	0	0.87	0	0.19	-1.28	0	0	0	0	0	0	5.32	283.68	1	1
91	7.46	223.14	0.81	11.8	0.05	0.4	0.36	0.99	0.49	0.8	0.61	1.1	0.56	0	0.4	0.4	219.31	0	1.26	0.26	1.29	272.08	0	254	4	2	0	0	0.87	0	0.19	-1.28	0	0	0	0	0	0	5.32	277.39	0.99	0.99
92	7.55	206.84	0.55	8.4	0.05	0.41	0.36	0.99	0.49	0.8	0.61	1.1	0.56	0	0.41	0.41	210.9	0	1.25	0.27	1.29	252.05	0	252.05	4	2	0	0	0.87	0	0.19	-1.28	0	0	0	0	0	0	5.32	257.37	0.98	0.98
93	7.63	202.35	0.57	4.56	0.05	0.41	0.36	0.99	0.49	0.8	0.62	1.1	0.56	0	0.41	0.41	201.27	0	1.25	0.27	1.29	247.44	0	247.44	4	2	0	0	0.87	0	0.25	-1.21	0	0	0	0	0	0	5.32	252.76	0.97	0.97
94	7.71	194.36	0.62	4.36	0.05	0.42	0.36	0.99	0.5	0.8	0.62	1.1	0.56	0	0.42	0.42	195.06	0	1.29	0.28	1.3	238.32	0	238.32	4	2	0	0	0.87	0	0.4	-1.08	0	0	0	0	0	0	5.32	243.64	0.97	0.97
95	7.79	188.27	0.73	4.43	0.06	0.42	0.37	0.99	0.5	0.8	0.62	1.1	0.57	0	0.42	0.42	185.11	0	1.34	0.29	1.3	231.65	0	231.65	4	2	0	0	0.87	0	0.55	-0.98	0	0	0	0	0	0	5.32	236.97	0.96	0.96
96	7.87	172.45	0.73	9.4	0.06	0.43	0.37	0.99	0.5	0.8	0.63	1.1	0.57	0	0.43	0.43	172.68	0	1.39	0.31	1.32	215.79	0	215.79	4	2	0	0	0.87	0	1.07	-0.74	0	0	0	0	0	0	5.32	221.11	0.95	0.95
97	7.96	157.06	0.73	3.71	0.06	0.43	0.37	0.99	0.5	0.8	0.63	1.1	0.57	0	0.43	0.43	154.62	0	1.47	0.33	1.34	199.53	0	199.53	1.84	2	0	0	0.87	0	1.94	-0.5	0	0	0	0	0	0	5.32	204.85	0.94	0.94
98	8.04	134.1	0.87	5.15	0.06	0.44	0.37	0.99	0.51	0.83	0.61	1.1	0.55	0	0.44	0.44	137.23	0	1.53	0.36	1.38	174.62	0	174.62	0.59	1.07	0.09	0	0.86	0.33	4.22	-0.15	0	0	0	0	0	0	5.32	179.94	0.5	0.92
99	8.12	120.37	0.69	2.95	0.07	0.44	0.38	0.99	0.51	0.87	0.59	1.1	0.53	0	0.44	0.44	120.25	0	1.58	0.39	1.4	159.37	0	159.37	0.37	0.69	0.81	0.07	0.86	1.09	6.53	0.07	0	0	0	0.01	0.01	0	5.32	164.69	0.34	0.91
100	8.2	106.16	0.51	1.2	0.07	0.45	0.38	0.99	0.51	0.9	0.57	1.1	0.52	0	0.45	0.45	105.77	0	1.6	0.41	1.43	143.25	0	143.25	0.25	0.48	1	0.11	0.86	1.5	9.93	0.28	0	0	0	0.01	0.01	0	5.32	148.56	0.25	0.89
101	8.28	90.7	0.46	2.3	0.07	0.45	0.38	0.99	0.51	0.93	0.55	1.1	0.5	0	0.45	0.45	90.76	0	1.66	0.45	1.46	125.27	0	125.27	0.18	0.37	1	0.14	0.86	1.67	15.48	0.5	0	0	0	0.02	0.02	0	5.32	130.59	0.18	0.87
102	8.37	75.37	0.52	-0.89	0.07	0.46	0.38	0.99	0.52	0.95	0.54	1.1	0.49	0	0.46	0.46	76.29	3.53	1.76	0.48	1.5	106.95	0.01	106.95	0.15	0.3	1	0.15	0.86	1.9	23.89	0.69	0	0	0	0.02	0.02	0	6.02	112.97	0.14	0.84
103	8.45	62.77	0.52	0.44	0.08	0.46	0.39	0.99	0.52	0.96	0.54	1.1	0.49	0	0.46	0.46	65.8	10.34	1.84	0.5	1.52	89.99	8.32	98.32	0.14	0.28	1	0.16	0.86	2.03	31.46	0.8	0	0	0	0.02	0.02	0	10.28	100.27	0.12	0.83
104	8.53	59.26	0.47	0.61	0.08	0.47	0.39	0.99	0.52	0.95	0.55	1.1	0.5	0	0.47	0.47	59.68	14.88	1.9	0.49	1.49	83.54	21.3	104.84	0.14	0.29	1	0.15	0.86	1.92	26.99	0.74	0	0	0	0.02	0.02	0	14.47	98.01	0.12	0.81
105	8.61	56.98	0.52	0.06	0.08	0.47	0.39	0.99	0.52	0.95	0.55	1.1	2	0	0.47	0.47	55.61	16.39	1.92	0.49	1.48	79.89	25.25	105.14	4	2	0	0	0.85	0	26.67	0.74	0	0	0	0	0	0	16.01	95.9	0.11	0.8
106	8.69	50.51	0.39	3.87	0.08	0.48	0.39	0.99	0.52	0.95	0.55	1.1	2	0	0.48	0.48	51.19	19.05	1.95	0.49	1.48	70.82	30.93	101.75	4	2	0	0	0.85	0	28.48	0.76	0	0	0	0	0	0	18.78	89.6	0.1	0.79
107	8.78	46.02	0.39	0.09	0.09	0.48	0.39	0.99	0.53	0.95	0.55	1.1	2	0	0.48	0.48	45.79	22.9	2	0.49	1.48	64.19	37.86	102.04	4	2	0	0	0.85	0	27.79	0.75	0	0	0	0	0	0	22.82	87.01	0.1	0.78
108	8.86	40.78	0.44	-0.3	0.09	0.48	0.4	0.99	0.53	0.96	0.55	1.1	2	0	0.48	0.48	43.15	25.66	2.03	0.5	1.48	57.04	41.17	98.21	4	2	0	0	0.85	0	30.28	0.78	0	0	0	0	0	0	25.68	82.72	0.09	0.77
109	8.94	42.65	0.38	0.29	0.09	0.49	0.4	0.99	0.53	0.95	0.56	1.1	2	0	0.49	0.49	41.04	28.39	2.07	0.49	1.46	58.78	45.24	104.02	4	2	0	0	0.85	0	26.11	0.73	0	0	0	0	0	0	28.4	87.19	0.1	0.77
110	9.02	39.63	0.41	3.44	0.09	0.49	0.4	0.99	0.53	0.95	0.56	1.1	2	0	0.49	0.49	39.01	30.71	2.1	0.49	1.46	54.58	47.13	101.71	4	2	0	0	0.85	0	27.48	0.75	0	0	0	0	0	0	30.63	85.21	0.1	0.76
111	9.1	34.69	0.43	0.38	0.1	0.5	0.4	0.99	0.54	0.96	0.56	1.1	2	0	0.5	0.5	34.18	39.23	2.2	0.5	1.46	47.77	52.94	100.71	4	2	0	0	0.85	0	28.06	0.76	0	0	0	0	0	0	37.88	85.65	0.1	0.74
112	9.19	27.87	0.54	19.46	0.1	0.5	0.4	0.99	0.54	0.96	0.56	1.1	2	0.01	0.5	0.5	29.17	49.68	2.33	0.51	1.47	38.69	56.13	94.82	4	2	0	0	0.84	0	32.56	0.81	0	0	0	0	0	0	44.82	83.51	0.09	0.72
113	9.27	24.59	0.58	4.78	0.1	0.51	0.41	0.99	0.54	0.96	0.56	1.1	2	0.01	0.51	0.5	23.95	61.17	2.48	0.51	1.47	34.19	58.6	92.79	4	2	0	0	0.84	0	34.34	0.83	0	0	0	0	0	0	50.37	84.55	0.1	0.7
114	9.35	18.98	0.55	4.41	0.1	0.51	0.41	0.99	0.54	0.97	0.56	1.09	2	0.01	0.51	0.5	19.84	70.46	2.59	0.53	1.49	26.69	58.48	85.17	4	2	0	0	0.84	0	41.49	0.88	0	0	0	0	0	0	53.68	80.37	0.09	0.67
115	9.43	15.77	0.52	2.75	0.11	0.52	0.41	0.99	0.54	0.97	0.56	1.09	2	0.01	0.52	0.5	15.83	79.99	2.71	0.54	1.5	22.31	0	22.31	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	56.28	78.59	0.09	2.17
116	9.51	12.61	0.45	2.5	0.11	0.52	0.41	0.99	0.55	0.97	0.56	1.08	2	0.02	0.52	0.51	13.49	85.88	2.79	0.56	1.51	17.97	0	17.97	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	57.59	75.56	0.08	1.83
117	9.6	11.98	0.41	2.67	0.11	0.53	0.41	0.99	0.55	0.97	0.56	1.08	2	0.02	0.53	0.51	11.83	89.5	2.83	0.56	1.51	17.06	0	17.06	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	58.29	75.36	0.08	1.59
118	9.68	10.69	0.34	9.93	0.11	0.53	0.42	0.99	0.55	0.97	0.57	1.08	0.52	0.02	0.53	0.51	11.27	89.12	2.83	0.57	1.51	15.27	0	15.27	4	2	0	0	0.84	0	0	0	0	0	0	0	0	0	58.22	73.49	0.08	1.5
119	9.76	10.77	0.3	12.99	0.12	0.54	0.42	0.99	0.55	0.97	0.57	1.08	0.53	0.02	0.54	0.51	10.82	87.78	2.81	0.57	1.51	15.35	0	15.35	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	57.96	73.32	0.08	1.44
120	9.84	10.44	0.25	15.45	0.12	0.54	0.42	0.99	0.55	0.97	0.57	1.08	0.53	0.03	0.54	0.51	10.71	85.4	2.78	0.57	1.51	14.88	0	14.88	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	57.48	72.36	0.08	1.42
121	9.92	10.25	0.23	18.9	0.12	0.54	0.42	0.99	0.56	0.97	0.57	1.08	0.53	0.03	0.54	0.52	10.65	83.4	2.76	0.57	1.51	14.6	0	14.6	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	57.06	71.66	0.08	1.4
122	10.01	10.44	0.22	21.74	0.13	0.55	0.42	0.99	0.56	0.97	0.57	1.08	0.53	0.03	0.55	0.52	10.79	81.63	2.73	0.57	1.5	14.84	0	14.84	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	56.66	71.5	0.08	1.42
123	10.09	10.77	0.21	23.17	0.13	0.55	0.42	0.99	0.56	0.97	0.58	1.08	0.53	0.03	0.55	0.52	10.97	80.71	2.72	0.57	1.5	15.26	0	15.26	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	56.45	71.71	0.08	1.43
124	10.17	10.65	0.22	27.82	0.13	0.56	0.43	0.99	0.56	0.97	0.58	1.08	0.54	0.04	0.56	0.52	11.18	80.07	2.71	0.57	1.5	15.07	0	15.07	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	56.3	71.37	0.08	1.46
125	10.25	10.96	0.23	30.18	0.13	0.56	0.43	0.99	0.56	0.97	0.58	1.08	0.54	0.04	0.56	0.52	11.39	79.55	2.71	0.57	1.49	15.47	0	15.47	4	2	0	0	0.83	0	0	0	0	0	0	0	0	0	56.17	71.64	0.08	1.48
126	10.33	11.28	0.22	30.56	0.14	0.57	0.43	0.99	0.57	0.97	0.58	1.08	0.54	0.04	0.57	0.52	11.7	78.24	2.69	0.57	1.49	15.88	0	15.88	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	55.85	71.73	0.08	1.52
127	10.42	11.54	0.22	31.84	0.14	0.57	0.43	0.99	0.57	0.97	0.58	1.08	0.54	0.04	0.57	0.53	12.07	77.02	2.68	0.57	1.49	16.21	0	16.21	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	55.54	71.74	0.08	1.56
128	10.5	12.02	0.24	32.75	0.14	0.57	0.43	0.99	0.57	0.97	0.59	1.08	0.54	0.05	0.57	0.53	12.5	75.96	2.66	0.56	1.48	16.83	0	16.83	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	55.26	72.09	0.08	1.61
129	10.58	12.5	0.25	34.45	0.14	0.58	0.44	0.99	0.57	0.97	0.59	1.08	0.55	0.05	0.58	0.53	12.9	75.42	2.66	0.56	1.48	17.44	0	17.44	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	55.11	72.55	0.08	1.66
130	10.66	12.73	0.26	34.18	0.15	0.58	0.44	0.99	0.57	0.97	0.59	1.08	0.55	0.05	0.58	0.53	13.33	74.69	2.65	0.56	1.47	17.72	0	17.72	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	54.91	72.63	0.08	1.71
131	10.74	13.28	0.27	33.63	0.15	0.59	0.44	0.99	0.58	0.97	0.59	1.08	0.55	0.05	0.59	0.53	13.54	75.08	2.65	0.56	1.47	18.41	0	18.41	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	55.02	73.44	0.08	1.74
132	10.83	13.18	0.3	31.4	0.15	0.59	0.44	0.99	0.58	0.97	0.59	1.08	0.55	0.06	0.59	0.53	13.69	75.68	2.66	0.56	1.46	18.24	0	18.24	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	55.18	73.43	0.08	1.75
133	10.91	13.25	0.31	30.11	0.15	0.6	0.44	0.99	0.58	0.97	0.6	1.08	0.55	0.06	0.6	0.54	13.94	75.84	2.66	0.56	1.46	18.3	0	18.3	4	2	0	0	0.82	0	0	0	0	0	0	0	0	0	55.23	73.53	0.08	1.78
134	10.99	14	0.32	35.04	0.16	0.6	0.44	0.99	0.58	0.97	0.6	1.08	0.55	0.06	0.6	0.54	14.14	75.35	2.65	0.56	1.46	19.26	0	19.26	4	2	0	0	0.81	0	0	0	0	0	0	0	0	0	55.1	74.35	0.08	1.8
135	11.07	13.72	0.3	34.62	0.16	0.6	0.45	0.99	0.58	0.97	0.6	1.08	0.56	0.06	0.6	0.54	14.14	75.14	2.65	0.56	1.45	18.86	0	18.86	4	2	0	0	0.81	0	0	0	0	0	0	0	0	0	55.04	73.9	0.08	1.79
136	11.15	13.26	0.3	30.89	0.16	0.61	0.45	0.99	0.58	0.97	0.6	1.07	0.56	0.07	0.61	0.54	13.93	75.41	2.66	0.56	1.45	18.22	0	18.22	4	2	0	0	0.81	0	0

	Input Data				CSR calculation results								CRR 7.5 calculation results												Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
137	11.24	13.44	0.3	30.34	0.16	0.61	0.45	0.99	0.59	0.97	0.6	1.07	0.56	0.07	0.61	0.54	13.67	76	2.66	0.56	1.45	18.42	0	18.42	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	55.27	73.69	0.08	1.71
138	11.32	13.08	0.29	24.8	0.17	0.62	0.45	0.99	0.59	0.97	0.6	1.07	0.56	0.07	0.62	0.55	13.37	76.48	2.67	0.56	1.45	17.91	0	17.91	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	55.4	73.31	0.08	1.67
139	11.4	12.47	0.27	21.8	0.17	0.62	0.45	0.99	0.59	0.97	0.61	1.07	0.56	0.07	0.62	0.55	12.81	77.95	2.69	0.56	1.45	17.07	0	17.07	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	55.78	72.85	0.08	1.59
140	11.48	11.85	0.27	24.18	0.17	0.63	0.46	0.99	0.59	0.97	0.61	1.07	0.57	0.08	0.63	0.55	12.23	79.66	2.71	0.56	1.45	16.22	0	16.22	4	2	0	0	0	0.81	0	0	0	0	0	0	0	0	0	56.2	72.42	0.08	1.51
141	11.56	11.31	0.26	26.62	0.17	0.63	0.46	0.99	0.59	0.97	0.61	1.07	0.57	0.08	0.63	0.55	11.77	81.94	2.74	0.57	1.45	15.47	0	15.47	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	56.73	72.2	0.08	1.44
142	11.65	10.99	0.28	29.33	0.18	0.64	0.46	0.99	0.59	0.97	0.61	1.07	0.57	0.08	0.64	0.55	11.23	85.58	2.78	0.57	1.44	15.01	0	15.01	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	57.52	72.53	0.08	1.37
143	11.73	10.2	0.31	25.85	0.18	0.64	0.46	0.99	0.6	0.97	0.61	1.07	0.57	0.09	0.64	0.56	10.8	89.25	2.83	0.57	1.44	13.93	0	13.93	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	58.25	72.17	0.08	1.31
144	11.81	10.09	0.33	23.58	0.18	0.64	0.46	0.99	0.6	0.97	0.61	1.07	0.57	0.09	0.64	0.56	10.48	91.77	2.86	0.57	1.44	13.75	0	13.75	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	58.71	72.46	0.08	1.26
145	11.89	10.13	0.33	21.95	0.18	0.65	0.47	0.99	0.6	0.97	0.61	1.07	0.57	0.09	0.65	0.56	10.56	91.13	2.85	0.57	1.44	13.78	0	13.78	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	58.59	72.37	0.08	1.27
146	11.98	10.49	0.3	21.64	0.19	0.65	0.47	0.99	0.6	0.97	0.62	1.07	0.58	0.09	0.65	0.56	10.56	90.3	2.84	0.57	1.44	14.23	0	14.23	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	58.44	72.67	0.08	1.26
147	12.06	10.12	0.29	21.89	0.19	0.66	0.47	0.99	0.6	0.97	0.62	1.07	0.58	0.1	0.66	0.56	10.49	89.77	2.83	0.57	1.43	13.72	0	13.72	4	2	0	0	0	0.8	0	0	0	0	0	0	0	0	0	58.34	72.06	0.08	1.25
148	12.14	9.91	0.29	21.45	0.19	0.66	0.47	0.99	0.6	0.97	0.62	1.07	0.58	0.1	0.66	0.56	10.17	90.4	2.84	0.57	1.43	13.42	0	13.42	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	58.46	71.88	0.08	1.2
149	12.22	9.55	0.26	20.59	0.19	0.67	0.47	0.99	0.61	0.98	0.62	1.07	0.58	0.1	0.67	0.57	9.91	90.68	2.85	0.57	1.43	12.92	0	12.92	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	58.51	71.43	0.08	1.17
150	12.3	9.32	0.25	23.61	0.2	0.67	0.47	0.99	0.61	0.98	0.62	1.07	0.58	0.1	0.67	0.57	9.68	90.68	2.85	0.57	1.43	12.6	0	12.6	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	58.51	71.11	0.08	1.13
151	12.39	9.16	0.24	25.06	0.2	0.68	0.48	0.99	0.61	0.98	0.62	1.07	0.58	0.11	0.68	0.57	9.51	90.62	2.85	0.58	1.43	12.37	0	12.37	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	58.5	70.87	0.08	1.11
152	12.47	8.97	0.23	26.77	0.2	0.68	0.48	0.98	0.61	0.98	0.63	1.07	0.59	0.11	0.68	0.57	9.01	92.75	2.87	0.58	1.43	12.09	0	12.09	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	58.88	70.97	0.08	1.04
153	12.55	7.71	0.23	30.24	0.2	0.68	0.48	0.98	0.61	0.98	0.63	1.07	0.59	0.11	0.68	0.57	8.33	97.15	2.93	0.58	1.43	10.41	0	10.41	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	59.6	70.01	0.08	0.95
154	12.63	7.02	0.25	32.52	0.21	0.69	0.48	0.98	0.61	0.98	0.63	1.06	0.59	0.11	0.69	0.57	7.41	100	3.01	0.58	1.43	9.48	0	9.48	4	2	0	0	0	0.79	0	0	0	0	0	0	0	0	0	60.02	69.5	0.08	0.84
155	12.71	6.18	0.25	28.59	0.21	0.69	0.48	0.98	0.61	0.98	0.63	1.06	0.59	0.12	0.69	0.58	6.74	100	3.08	0.59	1.43	8.35	0	8.35	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	68.38	0.08	0.75
156	12.8	5.75	0.22	26.77	0.21	0.7	0.48	0.98	0.62	0.98	0.63	1.06	0.59	0.12	0.7	0.58	6.36	100	3.1	0.59	1.43	7.77	0	7.77	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	67.79	0.07	0.7
157	12.88	5.91	0.22	31.73	0.21	0.7	0.49	0.98	0.62	0.98	0.63	1.06	0.59	0.12	0.7	0.58	6.63	100	3.06	0.59	1.43	7.97	0	7.97	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	67.99	0.07	0.73
158	12.96	6.86	0.2	36.9	0.22	0.71	0.49	0.98	0.62	0.98	0.63	1.06	0.6	0.12	0.71	0.58	7.22	100	3	0.59	1.42	9.2	0	9.2	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	60.02	69.23	0.08	0.8
159	13.04	7.29	0.21	42.34	0.22	0.71	0.49	0.98	0.62	0.98	0.64	1.06	0.6	0.13	0.71	0.58	8.04	96.64	2.92	0.58	1.42	9.76	0	9.76	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	59.52	69.27	0.08	0.9
160	13.12	8.14	0.21	48.22	0.22	0.71	0.49	0.98	0.62	0.98	0.64	1.06	0.6	0.13	0.71	0.58	8.48	94.12	2.89	0.58	1.41	10.85	0	10.85	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	59.11	69.96	0.08	0.95
161	13.21	8.04	0.21	46.12	0.22	0.72	0.49	0.98	0.62	0.98	0.64	1.06	0.6	0.13	0.72	0.59	9.13	91.15	2.85	0.58	1.41	10.71	0	10.71	4	2	0	0	0	0.78	0	0	0	0	0	0	0	0	0	58.6	69.3	0.08	1.02
162	13.29	9.39	0.24	32.44	0.23	0.72	0.49	0.98	0.62	0.98	0.64	1.06	0.6	0.13	0.72	0.59	9.6	90.05	2.84	0.58	1.4	12.44	0	12.44	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	58.4	70.84	0.08	1.08
163	13.37	9.84	0.26	27.93	0.23	0.73	0.5	0.98	0.63	0.98	0.64	1.06	0.6	0.14	0.73	0.59	10.31	88.33	2.82	0.57	1.4	13	0	13	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	58.07	71.07	0.08	1.16
164	13.45	10.46	0.28	26.53	0.23	0.73	0.5	0.98	0.63	0.97	0.64	1.06	0.61	0.14	0.73	0.59	10.92	86.05	2.79	0.57	1.39	13.78	0	13.78	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	57.62	71.4	0.08	1.23
165	13.53	11.43	0.27	17.06	0.24	0.74	0.5	0.98	0.63	0.97	0.65	1.06	0.61	0.14	0.74	0.59	11.18	83.94	2.76	0.57	1.39	15	0	15	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	57.18	72.17	0.08	1.26
166	13.62	10.95	0.22	6.02	0.24	0.74	0.5	0.98	0.63	0.97	0.65	1.06	0.61	0.14	0.74	0.6	10.83	82.62	2.75	0.57	1.39	14.37	0	14.37	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	56.89	71.25	0.08	1.21
167	13.7	9.77	0.17	1.32	0.24	0.74	0.5	0.98	0.63	0.98	0.65	1.06	0.61	0.15	0.74	0.6	9.87	85.81	2.79	0.58	1.39	12.83	0	12.83	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	57.57	70.4	0.08	1.09
168	13.78	8.76	0.21	1.81	0.24	0.75	0.51	0.98	0.63	0.98	0.65	1.06	0.61	0.15	0.75	0.6	9.08	91.03	2.85	0.58	1.39	11.51	0	11.51	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	58.57	70.08	0.08	0.99
169	13.86	8.55	0.25	7.12	0.25	0.75	0.51	0.98	0.63	0.98	0.65	1.06	0.61	0.15	0.75	0.6	9.16	94.7	2.9	0.58	1.39	11.21	0	11.21	4	2	0	0	0	0.77	0	0	0	0	0	0	0	0	0	59.21	70.42	0.08	1
170	13.94	9.78	0.32	18.13	0.25	0.76	0.51	0.98	0.64	0.97	0.65	1.06	0.61	0.15	0.76	0.6	9.58	96.39	2.92	0.57	1.38	12.76	0	12.76	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	59.48	72.24	0.08	1.05
171	14.03	9.79	0.38	16.91	0.25	0.76	0.51	0.98	0.64	0.97	0.65	1.06	0.62	0.16	0.76	0.6	10.15	97.31	2.93	0.57	1.38	12.75	0	12.75	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	59.62	72.37	0.08	1.11
172	14.11	10.06	0.44	21.84	0.25	0.77	0.51	0.98	0.64	0.97	0.65	1.06	0.62	0.16	0.77	0.61	10.46	98.56	2.94	0.57	1.37	13.06	0	13.06	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	59.81	72.88	0.08	1.14
173	14.19	10.65	0.47	22.47	0.26	0.77	0.51	0.98	0.64	0.97	0.66	1.06	0.62	0.16	0.77	0.61	10.89	98.42	2.94	0.57	1.37	13.78	0	13.78	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	59.79	73.58	0.08	1.19
174	14.27	11.01	0.5	22.19	0.26	0.77	0.52	0.98	0.64	0.97	0.66	1.06	0.62	0.16	0.77	0.61	11.4	97.03	2.93	0.57	1.37	14.21	0	14.21	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	59.58	73.79	0.08	1.24
175	14.35	11.61	0.5	19.22	0.26	0.78	0.52	0.98	0.64	0.97	0.66	1.06	0.62	0.17	0.78	0.61	11.93	95.34	2.9	0.56	1.36	14.94	0	14.94	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	59.31	74.25	0.08	1.3
176	14.44	12.3	0.52	19.08	0.26	0.78	0.52	0.98	0.64	0.97	0.66	1.06	0.62	0.17	0.78	0.61	12.34	93.94	2.89	0.56	1.36	15.78	0	15.78	4	2	0	0	0	0.76	0	0	0	0	0	0	0	0	0	59.08	74.86	0.08	1.34
177	14.52	12.27	0.52	19.93	0.27	0.79	0.52	0.98	0.64	0.97	0.66	1.06	0.62	0.17	0.79	0.62	12.51	93.53	2.88	0.56	1.36	15.71	0	15.71	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.01	74.72	0.08	1.36
178	14.6	12.21	0.52	13.63	0.27	0.79	0.52	0.98	0.65	0.97	0.66	1.06	0.63	0.17	0.79	0.62	12.07	95.36	2.9	0.56	1.35	15.61	0	15.61	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.31	74.92	0.08	1.3
179	14.68	11.08	0.52	11.09	0.27	0.8	0.53	0.98	0.65	0.97	0.66	1.06	0.63	0.18	0.8	0.62	11.42	98.72	2.95	0.57	1.35	14.17	0	14.17	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	59.84	74.01	0.08	1.22
180	14.76	10.44	0.55	12.2	0.27	0.8	0.53	0.98	0.65	0.97	0.66	1.06	0.63	0.18	0.8	0.62	10.68	100	2.99	0.57	1.35	13.35	0	13.35	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	60.02	73.37	0.08	1.13
181	14.85	10.03	0.53	11.29	0.28	0.81	0.53	0.98	0.65	0.97	0.67	1.06	0.63	0.18	0.81	0.62	10.33	100	3.01	0.57	1.35	12.81	0	12.81	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	60.02	72.84	0.08	1.09
182	14.93	10.01	0.5	11.54	0.28	0.81	0.53	0.98	0.65	0.97	0.67	1.06	0.63	0.18	0.81	0.63	10.23	100	3.01	0.57	1.35	12.76	0	12.76	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	60.02	72.79	0.08	1.07
183	15.01	10.15	0.48	12.22	0.28	0.82	0.53	0.98	0.65	0.97	0.67	1.06	0.63	0.19	0.82	0.63	10.42	100	2.98	0.57	1.35	12.92	0	12.92	4	2	0	0	0	0.75	0	0	0	0	0	0	0	0	0	60.02	72.94	0.08	1.09
184	15.09	10.52	0.47	15.98	0.28	0.82	0.54	0.98	0.65	0.97	0.67	1.06	0.63	0.19	0.82	0.63	10.72	99.95	2.96	0.57	1.34	13.35	0	13.35	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	60.02	73.37	0.08	1.12
185	15.17	10.8	0.48	20.48	0.29	0.83	0.54	0.98	0.65	0.97	0.67	1.06	0.63	0.19	0.83	0.63	11.22	97.59	2.93	0.57	1.34	13.68	0	13.68	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	59.66	73.34	0.08	1.17
186	15.26	11.46	0.47	24.84	0.29	0.83	0.54	0.98	0.65	0.97	0.67	1.06	0.64	0.2	0.83	0.63	11.68	95.99	2.91	0.57	1.34	14.47	0	14.47	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	59.42	73.89	0.08	1.22
187	15.34	11.75	0.49	25.92	0.29	0.83	0.54	0.98	0.66	0.97	0.67	1.06	0.64	0.2	0.83	0.64	12.21	93.52	2.88	0.57	1.33	14.81	0	14.81	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	59.01	73.81	0.08	1.28
188	15.42	12.28	0.45	27.98	0.29	0.84	0.54	0.98	0.66	0.97	0.67	1.06	0.64	0.2	0.84	0.64	12.69	91.71	2.86	0.56	1.33	15.43	0	15.43	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	58.7	74.13	0.08	1.33
189	15.5	12.77	0.47	34.75	0.3	0.84	0.55	0.98	0.66	0.97	0.68	1.06	0.64	0.2	0.84	0.64	13.12	89.96	2.84	0.56	1.33	16.01	0	16.01	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	58.38	74.39	0.08	1.37
190	15.58	12.83	0.47	40.05	0.3	0.85	0.55	0.98	0.66	0.97	0.68	1.06	0.64	0.21	0.85	0.64	13.42	89.87	2.84	0.56	1.32	16.05	0	16.05	4	2	0	0	0	0.74	0	0	0	0	0	0	0	0	0	58.36	74.42	0.08	1.4
191	15.67	12.88	0.51	48.57	0.3	0.85	0.55	0.98	0.66	0.97	0.68	1.06	0.64	0.21	0.85	0.64	14.14	88.48	2.82	0.56	1.32	16.09	0	16.09	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	58.1	74.19	0.08	1.47
192	15.75	14.53	0.55	63.71	0.3	0.86	0.55	0.98	0.66	0.97	0.68	1.06	0.64	0.21	0.86	0.65	14.78	88.08	2.81	0.56	1.31	18.06	0	18.06	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	58.02	76.08	0.08	1.54
193	15.83	14.52	0.6	55.45	0.31	0.86	0.55	0.98	0.66	0.97	0.68	1.06	0.64	0.21	0.86	0.65	15.34	87.73	2.81	0.56	1.31	18.01	0	18.01	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	57.96	75.97	0.08	1.59
194	15.91	14.55	0.62	49	0.31	0.87	0.56	0.98	0.66	0.97	0.68	1.06	0.64	0.22	0.87	0.65	14.91	90.42	2.84	0.56	1.31	18.01	0	18.01	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	58.46	76.48	0.09	1.54
195	15.99	13.68	0.65	33.09	0.31	0.87	0.56	0.98	0.66	0.97	0.68	1.06	0.65	0.22	0.87	0.65	14.27	93.22	2.88	0.56	1.31	16.93	0	16.93	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	58.96	75.89	0.08	1.47
196	16.08	13.03	0.65	25.62	0.31	0.88	0.56	0.98	0.66	0.97	0.68	1.06	0.65	0.22	0.88	0.65	13.32	96.78	2.92	0.56	1.31	16.11	0	16.11	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	59.54	75.65	0.08	1.36
197	16.16	12.15	0.63	17.38	0.32	0.88	0.56	0.98	0.66	0.97	0.68	1.05	0.65	0.22	0.88	0.66	12.77	98.4	2.94	0.56	1.31	15.02	0	15.02	4	2	0	0	0	0.73	0	0	0	0	0	0	0	0	0	59.79	74.81	0.08	1.29
198	16.24	12.27	0.6	15.83	0.32	0.88	0.57	0.98	0.67	0.97	0.68	1.05	0.65	0.23	0.88	0.66	12.38	99.61	2.96	0.56	1.31	15.14	0	15.14	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	59.97	75.11	0.08	1.25
199	16.32	12.02	0.6	14.44	0.32	0.89	0.57	0.98	0.67	0.97	0.68	1.05	0.65	0.23	0.89	0.66	12.06	100	2.97	0.56	1.3	14.81	0	14.81	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	74.84	0.08	1.21
200	16.4	11.24	0.59	14.35	0.32	0.89	0.57	0.98	0.67	0.97	0.69	1.05	0.65	0.23	0.89	0.66	11.64	100	2.99	0.57	1.3	13.85	0	13.85	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	73.87	0.08	1.16
201	16.49	11.04	0.57	13.44	0.33	0.9	0.57	0.98	0.67	0.97	0.69	1.05	0.65	0.23	0.9	0.67	11.17	100	3.01	0.57	1.3	13.59	0	13.59	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	73.61	0.08	1.1
202	16.57	10.66	0.54	12.7	0.33	0.9	0.57	0.98	0.67	0.97	0.69	1.05	0.65	0.24	0.9	0.67	10.98	100	3.01	0.57	1.3	13.11	0	13.11	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	73.13	0.08	1.08
203	16.65	10.68	0.5	11.99	0.33	0.91	0.58	0.98	0.67	0.97	0.69	1.05	0.65	0.24	0.91	0.67	10.77	100	3.01	0.57	1.3	13.11	0	13

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
205	16.81	9.99	0.5	14.29	0.34	0.92	0.58	0.98	0.67	0.98	0.69	1.05	0.66	0.24	0.92	0.67	10.17	100	3.04	0.57	1.3	12.24	0	12.24	4	2	0	0	0	0.72	0	0	0	0	0	0	0	0	0	60.02	72.26	0.08	0.98
206	16.9	9.52	0.49	12.06	0.34	0.92	0.58	0.98	0.67	0.98	0.69	1.05	0.66	0.25	0.92	0.68	9.54	100	3.08	0.58	1.3	11.65	0	11.65	4	2	0	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	71.68	0.08	0.91
207	16.98	8.75	0.51	-0.52	0.34	0.93	0.58	0.98	0.67	0.98	0.69	1.05	0.66	0.25	0.93	0.68	8.84	100	3.14	0.58	1.3	10.71	0	10.71	4	2	0	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	70.74	0.08	0.84
208	17.06	8.13	0.52	-2.87	0.35	0.93	0.59	0.98	0.68	0.98	0.69	1.05	0.66	0.25	0.93	0.68	8.45	100	3.18	0.58	1.29	9.95	0	9.95	4	2	0	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	69.97	0.08	0.79
209	17.14	8.58	0.5	-3.21	0.35	0.94	0.59	0.97	0.68	0.98	0.69	1.05	0.66	0.25	0.94	0.68	8.17	100	3.19	0.58	1.29	10.47	0	10.47	4	2	0	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	70.5	0.08	0.76
210	17.22	7.93	0.46	-2.97	0.35	0.94	0.59	0.97	0.68	0.98	0.69	1.05	0.66	0.26	0.94	0.68	8.25	100	3.17	0.58	1.29	9.68	0	9.68	4	2	0	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	69.7	0.08	0.76
211	17.31	8.37	0.43	-2.08	0.35	0.94	0.59	0.97	0.68	0.98	0.69	1.05	0.66	0.26	0.94	0.68	8.34	100	3.14	0.58	1.29	10.19	0	10.19	4	2	0	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	70.21	0.08	0.77
212	17.39	8.8	0.4	-0.36	0.36	0.95	0.59	0.97	0.68	0.98	0.7	1.05	0.66	0.26	0.95	0.69	8.72	100	3.1	0.58	1.28	10.68	0	10.68	4	2	0	0	0	0.71	0	0	0	0	0	0	0	0	0	60.02	70.71	0.08	0.81
213	17.47	9	0.38	1.04	0.36	0.95	0.6	0.97	0.68	0.98	0.7	1.05	0.66	0.26	0.95	0.69	9.07	100	3.07	0.58	1.28	10.91	0	10.91	4	2	0	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	70.93	0.08	0.84
214	17.55	9.36	0.42	2.14	0.36	0.96	0.6	0.97	0.68	0.98	0.7	1.05	0.67	0.27	0.96	0.69	9.92	100	3.03	0.58	1.28	11.32	0	11.32	4	2	0	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	71.34	0.08	0.93
215	17.63	11.26	0.48	5.98	0.36	0.96	0.6	0.97	0.68	0.97	0.7	1.05	0.67	0.27	0.96	0.69	11.36	100	2.97	0.57	1.27	13.54	0	13.54	4	2	0	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	73.57	0.08	1.07
216	17.72	13.21	0.53	8.72	0.37	0.97	0.6	0.97	0.68	0.97	0.7	1.05	0.67	0.27	0.97	0.69	12.82	96.77	2.92	0.56	1.27	15.81	0	15.81	4	2	0	0	0	0.7	0	0	0	0	0	0	0	0	0	59.54	75.35	0.08	1.22
217	17.8	13.74	0.61	3.05	0.37	0.97	0.6	0.97	0.68	0.97	0.7	1.05	0.67	0.27	0.97	0.7	13.45	96.55	2.92	0.56	1.26	16.4	0	16.4	4	2	0	0	0	0.7	0	0	0	0	0	0	0	0	0	59.5	75.91	0.08	1.28
218	17.88	13.26	0.65	-1.62	0.37	0.98	0.61	0.97	0.68	0.97	0.7	1.05	0.67	0.28	0.98	0.7	12.71	100	2.98	0.56	1.26	15.81	0	15.81	4	2	0	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	75.84	0.08	1.2
219	17.96	11.21	0.7	-5.97	0.37	0.98	0.61	0.97	0.68	0.97	0.7	1.05	0.67	0.28	0.98	0.7	11.59	100	3.06	0.57	1.26	13.39	0	13.39	4	2	0	0	0	0.7	0	0	0	0	0	0	0	0	0	60.02	73.42	0.08	1.08
220	18.04	10.53	0.72	-7.64	0.38	0.99	0.61	0.97	0.68	0.97	0.7	1.05	0.67	0.28	0.99	0.7	10.27	100	3.15	0.57	1.26	12.58	0	12.58	4	2	0	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	72.6	0.08	0.94
221	18.13	9.39	0.7	-8.48	0.38	0.99	0.61	0.97	0.69	0.98	0.7	1.05	0.67	0.28	0.99	0.71	9.84	100	3.17	0.58	1.26	11.22	0	11.22	4	2	0	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	71.24	0.08	0.9
222	18.21	9.93	0.59	-7.3	0.38	0.99	0.61	0.97	0.69	0.98	0.7	1.05	0.67	0.29	0.99	0.71	9.64	100	3.15	0.58	1.26	11.83	0	11.83	4	2	0	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	71.86	0.08	0.87
223	18.29	9.91	0.54	-6.15	0.38	1	0.62	0.97	0.69	0.98	0.7	1.05	0.67	0.29	1	0.71	10.03	100	3.11	0.58	1.26	11.79	0	11.79	4	2	0	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	71.82	0.08	0.91
224	18.37	10.5	0.57	-4.3	0.39	1	0.62	0.97	0.69	0.97	0.71	1.05	0.68	0.29	1	0.71	11.39	100	3.03	0.57	1.26	12.46	0	12.46	4	2	0	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	72.48	0.08	1.04
225	18.45	13.91	0.65	1	0.39	1.01	0.62	0.97	0.69	0.97	0.71	1.05	0.68	0.29	1.01	0.71	13.11	100	2.97	0.56	1.25	16.39	0	16.39	4	2	0	0	0	0.69	0	0	0	0	0	0	0	0	0	60.02	76.41	0.09	1.21
226	18.54	14.89	0.71	5.95	0.39	1.01	0.62	0.97	0.69	0.97	0.71	1.05	0.68	0.3	1.01	0.72	15.45	94.87	2.9	0.56	1.24	17.49	0	17.49	4	2	0	0	0	0.69	0	0	0	0	0	0	0	0	0	59.23	76.73	0.09	1.44
227	18.62	17.33	0.83	8.53	0.39	1.02	0.62	0.97	0.69	0.97	0.71	1.05	0.68	0.3	1.02	0.72	17.19	91.46	2.86	0.55	1.24	20.25	0	20.25	4	2	0	0	0	0.68	0	0	0	0	0	0	0	0	0	58.65	78.91	0.09	1.61
228	18.7	19.02	0.84	7.61	0.4	1.02	0.63	0.97	0.69	0.97	0.71	1.05	0.68	0.3	1.02	0.72	18.86	88.21	2.82	0.54	1.23	22.15	0	22.15	4	2	0	0	0	0.68	0	0	0	0	0	0	0	0	0	58.05	80.19	0.09	1.77
229	18.78	19.91	0.85	5.66	0.4	1.03	0.63	0.97	0.69	0.97	0.71	1.05	0.68	0.31	1.03	0.72	18.88	87.99	2.81	0.54	1.23	23.12	0	23.12	4	2	0	0	0	0.68	0	0	0	0	0	0	0	0	0	58.01	81.12	0.09	1.77
230	18.86	17.49	0.81	1.39	0.4	1.03	0.63	0.97	0.69	0.97	0.71	1.05	0.68	0.31	1.03	0.72	17.9	89.35	2.83	0.55	1.23	20.34	0	20.34	4	2	0	0	0	0.68	0	0	0	0	0	0	0	0	0	58.27	78.61	0.09	1.66
231	18.95	16.19	0.69	-0.4	0.4	1.04	0.63	0.97	0.69	0.97	0.71	1.05	0.68	0.31	1.04	0.73	16.13	93.13	2.88	0.55	1.23	18.83	0	18.83	4	2	0	0	0	0.68	0	0	0	0	0	0	0	0	0	58.94	77.77	0.09	1.48
232	19.03	14.7	0.7	0.67	0.41	1.04	0.63	0.97	0.69	0.97	0.71	1.05	0.68	0.31	1.04	0.73	14.62	96.62	2.92	0.56	1.23	17.1	0	17.1	4	2	0	0	0	0.68	0	0	0	0	0	0	0	0	0	59.51	76.62	0.09	1.33
233	19.11	12.98	0.66	-0.93	0.41	1.05	0.64	0.97	0.69	0.97	0.71	1.04	0.68	0.32	1.05	0.73	13.55	99.46	2.96	0.56	1.23	15.11	0	15.11	4	2	0	0	0	0.68	0	0	0	0	0	0	0	0	0	59.95	75.06	0.08	1.22
234	19.19	12.94	0.58	1.85	0.41	1.05	0.64	0.97	0.69	0.97	0.71	1.04	0.68	0.32	1.05	0.73	12.71	100	2.97	0.56	1.23	15.04	0	15.04	4	2	0	0	0	0.67	0	0	0	0	0	0	0	0	0	60.02	75.07	0.08	1.14
235	19.27	12.12	0.48	5.34	0.41	1.06	0.64	0.97	0.7	0.97	0.71	1.04	0.68	0.32	1.06	0.73	12.59	98.4	2.94	0.57	1.23	14.09	0	14.09	4	2	0	0	0	0.67	0	0	0	0	0	0	0	0	0	59.79	73.88	0.08	1.12
236	19.36	12.48	0.47	7.93	0.42	1.06	0.64	0.97	0.7	0.97	0.71	1.04	0.69	0.32	1.06	0.74	12.78	95.86	2.91	0.57	1.23	14.48	0	14.48	4	2	0	0	0	0.67	0	0	0	0	0	0	0	0	0	59.39	73.87	0.08	1.14
237	19.44	13.38	0.46	12.7	0.42	1.06	0.64	0.97	0.7	0.97	0.72	1.04	0.69	0.33	1.06	0.74	13.25	92.85	2.87	0.56	1.22	15.48	0	15.48	4	2	0	0	0	0.67	0	0	0	0	0	0	0	0	0	58.9	74.38	0.08	1.18
238	19.52	13.37	0.4	15.54	0.42	1.07	0.65	0.97	0.7	0.97	0.72	1.04	0.69	0.33	1.07	0.74	13.59	92.01	2.86	0.56	1.22	15.45	0	15.45	4	2	0	0	0	0.67	0	0	0	0	0	0	0	0	0	58.75	74.2	0.08	1.21
239	19.6	13.3	0.49	20.92	0.42	1.07	0.65	0.97	0.7	0.97	0.72	1.04	0.69	0.33	1.07	0.74	13.87	92.7	2.87	0.56	1.22	15.35	0	15.35	4	2	0	0	0	0.67	0	0	0	0	0	0	0	0	0	58.87	74.22	0.08	1.23
240	19.69	13.98	0.57	29.94	0.43	1.08	0.65	0.97	0.7	0.97	0.72	1.04	0.69	0.33	1.08	0.74	14.92	92.13	2.86	0.56	1.22	16.09	0	16.09	4	2	0	0	0	0.67	0	0	0	0	0	0	0	0	0	58.77	74.86	0.08	1.33
241	19.77	16.02	0.63	50.12	0.43	1.08	0.65	0.97	0.7	0.97	0.72	1.04	2	0.34	1.08	0.75	16.4	90.22	2.84	0.55	1.21	18.36	0	18.36	4	2	0	0	0	0.66	0	0	0	0	0	0	0	0	0	58.43	76.79	0.09	1.47
242	19.85	17.39	0.73	46.06	0.43	1.09	0.66	0.97	0.7	0.97	0.72	1.04	2	0.34	1.09	0.75	18.3	87.76	2.81	0.55	1.21	19.87	0	19.87	4	2	0	0	0	0.66	0	0	0	0	0	0	0	0	0	57.96	77.83	0.09	1.64
243	19.93	19.37	0.85	51.61	0.43	1.09	0.66	0.97	0.7	0.97	0.72	1.04	2	0.34	1.09	0.75	20.23	85.53	2.78	0.54	1.2	22.05	0	22.05	4	2	0	0	0	0.66	0	0	0	0	0	0	0	0	0	57.51	79.56	0.09	1.82
244	20.01	21.94	0.91	39.57	0.44	1.1	0.66	0.97	0.7	0.97	0.72	1.04	2	0.34	1.1	0.75	24.43	77.73	2.68	0.54	1.2	24.88	0	24.88	4	2	0	0	0	0.66	0	0	0	0	0	0	0	0	0	55.72	80.6	0.09	2.21
245	20.1	30.34	0.9	21.75	0.44	1.1	0.66	0.97	0.7	0.96	0.73	1.05	2	0.35	1.1	0.76	30.51	66.82	2.55	0.51	1.19	34.07	59.9	93.96	4	2	0	0	0	0.66	0	34.48	0.83	0	0	0	0	0	0	52.48	86.55	0.1	0.7
246	20.18	38.23	0.84	9.27	0.44	1.11	0.66	0.97	0.7	0.95	0.74	1.05	2	0.35	1.11	0.76	38.16	54.53	2.39	0.49	1.18	42.61	58.98	101.59	4	2	0	0	0	0.66	0	28.8	0.77	0	0	0	0	0	0	47.39	90	0.1	0.72
247	20.26	45.49	0.74	-2.68	0.44	1.11	0.67	0.97	0.7	0.95	0.74	1.05	2	0.35	1.11	0.76	45.02	44.75	2.27	0.48	1.17	50.43	56.89	107.32	4	2	0	0	0	0.66	0	25.19	0.71	0	0	0	0	0	0	41.8	92.23	0.11	0.74
248	20.34	51.35	0.69	-7.24	0.45	1.12	0.67	0.97	0.7	0.95	0.74	1.05	2	0.35	1.12	0.76	50.19	37.89	2.19	0.48	1.17	56.71	54.1	110.81	4	2	0	0	0	0.66	0	23.27	0.68	0	0	0	0	0	0	36.84	93.55	0.11	0.76
249	20.42	54.03	0.67	-10.66	0.45	1.12	0.67	0.97	0.7	0.95	0.74	1.05	2	0.36	1.12	0.76	53.33	34.02	2.14	0.47	1.17	59.57	51.53	111.1	4	2	0	0	0	0.65	0	23.2	0.68	0	0	0	0	0	0	33.62	93.2	0.11	0.76
250	20.51	55.05	0.64	-12.85	0.45	1.13	0.67	0.97	0.7	0.95	0.75	1.05	2	0.36	1.13	0.77	54.28	33.03	2.13	0.47	1.16	60.6	50.81	111.41	4	2	0	0	0	0.65	0	23.05	0.68	0	0	0	0	0	0	32.75	93.35	0.11	0.76
251	20.59	54.32	0.67	-14.43	0.46	1.13	0.68	0.97	0.7	0.94	0.75	1.05	2	0.36	1.13	0.77	54	35.14	2.15	0.47	1.16	59.68	52.56	112.25	4	2	0	0	0	0.65	0	22.54	0.67	0	0	0	0	0	0	34.59	94.27	0.11	0.76
252	20.67	53.25	0.84	-15.07	0.46	1.14	0.68	0.97	0.71	0.94	0.75	1.05	2	0.36	1.14	0.77	52.84	39.6	2.21	0.47	1.16	58.36	55.73	114.08	4	2	0	0	0	0.65	0	21.49	0.65	0	0	0	0	0	0	38.16	96.52	0.11	0.76
253	20.75	51.6	1	-15.84	0.46	1.14	0.68	0.97	0.71	0.94	0.75	1.05	2	0.37	1.14	0.77	50.41	45.46	2.28	0.47	1.16	56.43	58.79	115.22	4	2	0	0	0	0.65	0	20.83	0.63	0	0	0	0	0	0	42.27	98.69	0.12	0.76
254	20.83	47.06	1.11	-16.05	0.46	1.15	0.68	0.97	0.71	0.95	0.75	1.05	2	0.37	1.15	0.78	46.21	50.64	2.35	0.47	1.16	51.51	59.92	111.43	4	2	0	0	0	0.65	0	22.79	0.67	0	0	0	0	0	0	45.36	96.87	0.11	0.74
255	20.92	40.66	0.97	-16.75	0.47	1.15	0.68	0.97	0.71	0.95	0.74	1.05	2	0.37	1.15	0.78	39.9	58.15	2.44	0.49	1.16	44.62	60.69	105.3	4	2	0	0	0	0.65	0	26.35	0.73	0	0	0	0	0	0	49.09	93.7	0.11	0.73
256	21	32.7	1.05	-16.51	0.47	1.16	0.69	0.97	0.71	0.96	0.74	1.04	2	0.37	1.16	0.78	34.11	66.8	2.55	0.51	1.17	36.04	60.46	96.51	4	2	0	0	0	0.64	0	32.49	0.81	0	0	0	0	0	0	52.48	88.52	0.1	0.71
257	21.08	29.68	1.24	-16.58	0.47	1.16	0.69	0.97	0.71	0.96	0.74	1.04	2	0.38	1.16	0.78	29.41	76.67	2.67	0.51	1.17	32.72	0	32.72	4	2	0	0	0	0.64	0	0	0	0	0	0	0	0	0	55.45	88.17	0.1	2.58
258	21.16	26.53	1.34	-14.81	0.47	1.16	0.69	0.97	0.71	0.96	0.73	1.04	2	0.38	1.16	0.79	27.31	82.35	2.74	0.52	1.17	29.28	0	29.28	4	2	0	0	0	0.64	0	0	0	0	0	0	0	0	0	56.83	86.1	0.1	2.38
259	21.24	26.35	1.36	-13.08	0.48	1.17	0.69	0.97	0.71	0.96	0.73	1.04	0.71	0.38	1.17	0.79	29.23	79.4	2.71	0.52	1.17	29.05	0	29.05	4	2	0	0	0	0.64	0	0	0	0	0	0	0	0	0	56.14	85.18	0.1	2.54
260	21.33	35.17	1.3	2.37	0.48	1.17	0.7	0.97	0.71	0.96	0.74	1.04	0.71	0.38	1.17	0.79	30.87	76.82	2.67	0.49	1.16	38.4	0	38.4	4	2	0	0	0	0.64	0	0	0	0	0	0	0	0	0	55.49	93.89	0.11	2.68
261	21.41	31.3	1.34	-4.52	0.48	1.18	0.7	0.96	0.71	0.96	0.74	1.04	0.71	0.39	1.18	0.79	31.67	75.03	2.65	0.51	1.16	34.25	0	34.25	4	2	0	0	0	0.64	0	0	0	0	0	0	0	0	0	55.01	89.26	0.1	2.75
262	21.49	28.66	1.26	-5.54	0.48	1.18	0.7	0.96	0.71	0.96	0.74	1.04	2	0.39	1.18	0.8	29.63	77.32	2.68	0.52	1.16	31.39	0	31.39	4	2	0	0	0	0.64	0	0	0	0	0	0	0	0	0	55.62	87	0.1	2.56
263	21.57	29.11	1.12	-3.32	0.49	1.19	0.7	0.96	0.71	0.96	0.74	1.04	2	0.39	1.19	0.8	30.21	73.44	2.63	0.52	1.16	31.83	0	31.83	4	2	0	0	0	0.63	0	0	0	0	0	0	0	0	0	54.56	86.39	0.1	2.6
264	21.65	32.95	0.89	2.87	0.49	1.19	0.71	0.96	0.71	0.96	0.74	1.04	2	0.39	1.19	0.8	32.73	66.03	2.54	0.51	1.15	35.89	60.25	96.14	4	2	0	0	0	0.63	0	32.81	0.81	0	0	0	0	0	0	52.21	88.1	0.1	0.7
265	21.74	36.08	0.79	3.03	0.49	1.2	0.71	0.96	0.71	0.96	0.74	1.04	2	0.4	1.2	0.8	35.11	58.44	2.44	0.5	1.15	39.19	59.26	98.45	4	2	0	0	0	0.63	0	31.09	0.79	0	0	0	0	0	0	49.21	88.4	0.1	0.71
266	21.82	36.29	0.64	-5.08	0.49	1.2	0.71	0.96	0.71	0.96	0.74	1.04	2	0.4	1.2	0.8	35.74	55.44	2.41	0.5	1.15	39.38	58.4	97.77	4	2	0	0	0	0.63	0	31.61	0.8	0	0	0	0	0	0	47.84	87.21	0.1	0.71
267	21.9	34.99	0.67	-7.03	0.5	1.21	0.71	0.96	0.71	0.96	0.74	1.04	0.71	0.4	1.21	0.81	35.12	56.22	2.42	0.51	1.15	37.95	58.25	96.2	0.13	0.19	1	0.14	0.63	1.52	32.81	0.81	0	0	0	0.01	0.01	0	48.2	86.15	0.1	0.71
268	21.98	34.39	0.77	-9.54	0.5	1.21	0.71	0.96	0.71	0.96	0.74	1.04	0.71	0.41	1.21	0.81	34.54	58.55	2.44	0.51	1.15	37.25	58.76	96.01	0.13	0.19	1	0.14	0.63	1.52	32.96	0.81	0	0	0	0.01	0.01	0	49.26	86.52	0.1	0.7
269	22.06	34.62	0.78	-10.44	0.5	1.22	0.72	0.96	0.71	0.96	0.74	1.04	0.71	0.41	1.22	0.81	33.67	61.03	2.48	0.51	1.14	37.43	59.48	96.91	0.13	0.19	1	0.13	0.63	1.5	32.25	0.81	0	0	0	0.01	0.01	0	50.31	87.74	0.1	0.7
270	22.15	32.36	0.79	-4.18	0.5	1.22	0.72	0.96	0.71	0.96	0.74	1.04	0.71	0.41	1.22	0.81	32.33	62.33	2.49	0.51	1.14	34.99	59.13	94.12	0.13	0.18	1	0.14	0.62	1.53	34.46	0.83	0	0	0	0.02	0.02	0	50.83	85.82	0.1	0.7
271	22.23	30.29	0.69	-5.61	0.51	1.23	0.72	0.96	0.71	0

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
273	22.39	27.23	0.53	-8.07	0.51	1.24	0.73	0.96	0.71	0.97	0.74	1.04	0.71	0.42	1.24	0.82	25.71	66.74	2.55	0.53	1.14	29.44	58.54	87.98	0.12	0.17	1	0.14	0.62	1.61	39.91	0.87	0	0	0	0.02	0.02	0	52.45	81.89	0.09	0.67
274	22.47	23.41	0.54	-8.28	0.51	1.24	0.73	0.96	0.71	0.97	0.74	1.03	0.71	0.42	1.24	0.82	23.75	71.27	2.6	0.54	1.15	25.34	0	25.34	4	2	0	0	0.62	0	44.36	0.9	0	0	0	0	0	0	53.92	79.27	0.09	1.96
275	22.56	20.97	0.59	-7.98	0.52	1.25	0.73	0.96	0.72	0.97	0.74	1.03	0.71	0.42	1.25	0.82	20.99	78.48	2.69	0.54	1.15	22.7	0	22.7	4	2	0	0	0.62	0	0	0	0	0	0	0	0	0	55.91	78.61	0.09	1.71
276	22.64	18.91	0.61	-6.86	0.52	1.25	0.73	0.96	0.72	0.97	0.74	1.03	0.71	0.43	1.25	0.83	18.85	83.94	2.76	0.55	1.15	20.47	0	20.47	4	2	0	0	0.62	0	0	0	0	0	0	0	0	0	57.18	77.65	0.09	1.52
277	22.72	16.96	0.54	-4.35	0.52	1.26	0.73	0.96	0.72	0.97	0.74	1.03	0.71	0.43	1.26	0.83	17.64	85.7	2.78	0.56	1.15	18.37	0	18.37	4	2	0	0	0.61	0	0	0	0	0	0	0	0	0	57.55	75.92	0.08	1.41
278	22.8	17.26	0.45	-3.44	0.52	1.26	0.74	0.96	0.72	0.97	0.74	1.03	0.71	0.43	1.26	0.83	16.64	86.18	2.79	0.55	1.14	18.66	0	18.66	4	2	0	0	0.61	0	0	0	0	0	0	0	0	0	57.65	76.31	0.09	1.32
279	22.88	15.79	0.42	1.05	0.53	1.27	0.74	0.96	0.72	0.97	0.74	1.03	0.71	0.43	1.27	0.83	16.05	86.56	2.79	0.56	1.14	17.07	0	17.07	4	2	0	0	0.61	0	0	0	0	0	0	0	0	0	57.72	74.8	0.08	1.27
280	22.97	15.06	0.44	5.99	0.53	1.27	0.74	0.96	0.72	0.97	0.74	1.03	0.72	0.44	1.27	0.83	14.95	90.48	2.84	0.56	1.14	16.27	0	16.27	4	2	0	0	0.61	0	0	0	0	0	0	0	0	0	58.47	74.74	0.08	1.17
281	23.05	13.67	0.46	16.51	0.53	1.27	0.74	0.96	0.72	0.97	0.74	1.03	2	0.44	1.27	0.84	14.44	93.57	2.88	0.57	1.14	14.76	0	14.76	4	2	0	0	0.61	0	0	0	0	0	0	0	0	0	59.02	73.78	0.08	1.12
282	23.13	13.86	0.5	27.31	0.53	1.28	0.74	0.96	0.72	0.97	0.74	1.03	2	0.44	1.28	0.84	16.86	85.93	2.79	0.57	1.14	14.95	0	14.95	4	2	0	0	0.61	0	0	0	0	0	0	0	0	0	57.6	72.55	0.08	1.33
283	23.21	21.47	0.46	66.42	0.54	1.28	0.75	0.96	0.72	0.97	0.74	1.03	2	0.44	1.28	0.84	24.51	65.11	2.53	0.55	1.13	23.03	56.36	79.39	4	2	0	0	0.61	0	49.12	0.92	0	0	0	0	0	0	51.88	74.9	0.08	0.66
284	23.29	35.56	0.33	90.1	0.54	1.29	0.75	0.96	0.72	0.96	0.75	1.03	2	0.45	1.29	0.84	35.19	44.07	2.26	0.52	1.13	37.83	53.35	91.18	4	2	0	0	0.61	0	37.19	0.85	0	0	0	0	0	0	41.35	79.18	0.09	0.7
285	23.38	46.09	0.29	12.85	0.54	1.29	0.75	0.96	0.72	0.96	0.75	1.04	2	0.45	1.29	0.84	42.08	33.6	2.13	0.5	1.12	48.82	48.78	97.59	4	2	0	0	0.6	0	32.18	0.81	0	0	0	0	0	0	33.25	82.07	0.09	0.72
286	23.46	43.15	0.35	-3.66	0.54	1.3	0.75	0.96	0.72	0.96	0.75	1.03	2	0.45	1.3	0.85	41.34	35.54	2.16	0.51	1.12	45.7	49.74	95.44	4	2	0	0	0.6	0	33.8	0.82	0	0	0	0	0	0	34.92	80.62	0.09	0.72
287	23.54	34.73	0.39	-6.72	0.55	1.3	0.75	0.96	0.72	0.96	0.75	1.03	2	0.45	1.3	0.85	34.49	45.34	2.28	0.52	1.12	36.83	53.72	90.55	4	2	0	0	0.6	0	37.74	0.85	0	0	0	0	0	0	42.18	79.01	0.09	0.7
288	23.62	25.86	0.35	-7.8	0.55	1.31	0.76	0.96	0.72	0.97	0.74	1.03	2	0.46	1.31	0.85	26.9	57.3	2.43	0.54	1.13	27.5	55.69	83.19	4	2	0	0	0.6	0	44.88	0.9	0	0	0	0	0	0	48.7	76.2	0.09	0.67
289	23.7	20.42	0.34	-7.76	0.55	1.31	0.76	0.96	0.72	0.97	0.74	1.03	2	0.46	1.31	0.85	20.6	68.84	2.57	0.55	1.13	21.74	56.74	78.48	4	2	0	0	0.6	0	50.23	0.92	0	0	0	0	0	0	53.16	74.9	0.08	0.63
290	23.79	15.82	0.29	-5.33	0.55	1.32	0.76	0.96	0.72	0.97	0.74	1.03	2	0.46	1.32	0.85	16.55	78.13	2.69	0.56	1.13	16.87	0	16.87	4	2	0	0	0.6	0	0	0	0	0	0	0	0	0	55.82	72.7	0.08	1.27
291	23.87	13.56	0.26	1.79	0.56	1.32	0.76	0.96	0.72	0.97	0.74	1.03	2	0.46	1.32	0.86	14.1	84.11	2.76	0.57	1.13	14.46	0	14.46	4	2	0	0	0.6	0	0	0	0	0	0	0	0	0	57.21	71.68	0.08	1.07
292	23.95	12.08	0.24	62.88	0.56	1.32	0.76	0.96	0.72	0.98	0.74	1.03	0.72	0.47	1.32	0.86	13.37	85.06	2.78	0.58	1.13	12.89	0	12.89	4	2	0	0	0.59	0	0	0	0	0	0	0	0	0	57.41	70.3	0.08	1
293	24.03	12.45	0.21	74.72	0.56	1.33	0.77	0.96	0.72	0.98	0.74	1.03	0.72	0.47	1.33	0.86	13.15	84.12	2.76	0.57	1.13	13.26	0	13.26	4	2	0	0	0.59	0	0	0	0	0	0	0	0	0	57.22	70.48	0.08	0.98
294	24.11	12.07	0.19	60.95	0.57	1.33	0.77	0.96	0.72	0.98	0.74	1.03	0.72	0.47	1.33	0.86	13.23	82.03	2.74	0.58	1.13	12.85	0	12.85	4	2	0	0	0.59	0	0	0	0	0	0	0	0	0	56.75	69.6	0.08	0.99
295	24.2	12.37	0.17	57.96	0.57	1.34	0.77	0.96	0.73	0.98	0.74	1.03	0.72	0.47	1.34	0.86	13.1	81.12	2.73	0.58	1.12	13.15	0	13.15	4	2	0	0	0.59	0	0	0	0	0	0	0	0	0	56.54	69.7	0.08	0.97
296	24.28	12.42	0.17	50.09	0.57	1.34	0.77	0.96	0.73	0.98	0.74	1.03	0.72	0.48	1.34	0.86	13.06	81.53	2.73	0.58	1.12	13.19	0	13.19	4	2	0	0	0.59	0	0	0	0	0	0	0	0	0	56.64	69.83	0.08	0.97
297	24.36	12.05	0.2	54.48	0.57	1.35	0.77	0.96	0.73	0.98	0.74	1.03	0.73	0.48	1.35	0.87	12.72	85.96	2.79	0.58	1.12	12.78	0	12.78	4	2	0	0	0.59	0	0	0	0	0	0	0	0	0	57.6	70.38	0.08	0.94
298	24.44	11.28	0.27	61.98	0.58	1.35	0.77	0.96	0.73	0.98	0.74	1.03	0.73	0.48	1.35	0.87	12.6	89.32	2.83	0.58	1.12	11.95	0	11.95	4	2	0	0	0.59	0	0	0	0	0	0	0	0	0	58.26	70.21	0.08	0.93
299	24.52	11.74	0.27	73.59	0.58	1.35	0.78	0.96	0.73	0.98	0.75	1.03	0.73	0.48	1.35	0.87	12.93	89.29	2.83	0.58	1.12	12.42	0	12.42	4	2	0	0	0.58	0	0	0	0	0	0	0	0	0	58.26	70.68	0.08	0.95
300	24.61	12.56	0.25	87.72	0.58	1.36	0.78	0.96	0.73	0.98	0.75	1.03	0.73	0.49	1.36	0.87	13.77	85.98	2.79	0.57	1.12	13.27	0	13.27	4	2	0	0	0.58	0	0	0	0	0	0	0	0	0	57.61	70.87	0.08	1.02
301	24.69	13.53	0.27	79.4	0.58	1.36	0.78	0.96	0.73	0.97	0.75	1.03	0.73	0.49	1.36	0.87	14.55	83.69	2.76	0.57	1.12	14.27	0	14.27	4	2	0	0	0.58	0	0	0	0	0	0	0	0	0	57.12	71.39	0.08	1.08
302	24.77	13.61	0.29	107.58	0.59	1.37	0.78	0.96	0.73	0.97	0.75	1.03	0.73	0.49	1.37	0.88	15.24	83.57	2.76	0.57	1.11	14.33	0	14.33	4	2	0	0	0.58	0	0	0	0	0	0	0	0	0	57.1	71.43	0.08	1.13
303	24.85	14.27	0.35	111.67	0.59	1.37	0.78	0.96	0.73	0.97	0.75	1.03	0.73	0.49	1.37	0.88	16.26	83.23	2.75	0.57	1.11	15	0	15	4	2	0	0	0.58	0	0	0	0	0	0	0	0	0	57.02	72.03	0.08	1.21
304	24.93	15.72	0.41	141.02	0.59	1.38	0.79	0.96	0.73	0.97	0.75	1.03	0.73	0.5	1.38	0.88	17.44	82.77	2.75	0.56	1.11	16.49	0	16.49	4	2	0	0	0.58	0	0	0	0	0	0	0	0	0	56.92	73.41	0.08	1.31
305	25.02	16.88	0.47	125.14	0.59	1.38	0.79	0.96	0.73	0.97	0.75	1.03	0.73	0.5	1.38	0.88	18.48	82.97	2.75	0.56	1.11	17.67	0	17.67	4	2	0	0	0.58	0	0	0	0	0	0	0	0	0	56.96	74.64	0.08	1.39
306	25.1	17.71	0.55	89.23	0.6	1.39	0.79	0.96	0.73	0.97	0.75	1.03	0.73	0.5	1.39	0.88	19.03	83.89	2.76	0.56	1.11	18.5	0	18.5	4	2	0	0	0.57	0	0	0	0	0	0	0	0	0	57.17	75.67	0.08	1.43
307	25.18	18.16	0.59	87.19	0.6	1.39	0.79	0.96	0.73	0.97	0.75	1.03	0.73	0.5	1.39	0.89	19.51	85.12	2.78	0.55	1.1	18.94	0	18.94	4	2	0	0	0.57	0	0	0	0	0	0	0	0	0	57.43	76.37	0.09	1.46
308	25.26	18.75	0.67	94.75	0.6	1.39	0.79	0.95	0.73	0.97	0.75	1.03	0.73	0.51	1.39	0.89	19.86	85.96	2.79	0.55	1.1	19.52	0	19.52	4	2	0	0	0.57	0	0	0	0	0	0	0	0	0	57.6	77.12	0.09	1.49
309	25.34	19.02	0.7	71.25	0.6	1.4	0.8	0.95	0.73	0.97	0.75	1.03	0.73	0.51	1.4	0.89	19.57	88.68	2.82	0.55	1.1	19.77	0	19.77	4	2	0	0	0.57	0	0	0	0	0	0	0	0	0	58.14	77.91	0.09	1.46
310	25.43	17.99	0.77	39.29	0.61	1.4	0.8	0.95	0.73	0.97	0.75	1.03	0.73	0.51	1.4	0.89	18.67	92.28	2.87	0.55	1.1	18.69	0	18.69	4	2	0	0	0.57	0	0	0	0	0	0	0	0	0	58.8	77.48	0.09	1.38
311	25.51	17.1	0.77	21.98	0.61	1.41	0.8	0.95	0.73	0.97	0.75	1.02	0.73	0.52	1.41	0.89	16.9	98.18	2.94	0.55	1.1	17.74	0	17.74	4	2	0	0	0.57	0	0	0	0	0	0	0	0	0	59.75	77.5	0.09	1.24
312	25.59	14.76	0.76	-1.41	0.61	1.41	0.8	0.95	0.73	0.97	0.75	1.02	0.73	0.52	1.41	0.9	14.27	100	3.05	0.56	1.1	15.32	0	15.32	4	2	0	0	0.57	0	0	0	0	0	0	0	0	0	60.02	75.34	0.08	1.02
313	25.67	10.81	0.74	-11.03	0.61	1.42	0.8	0.95	0.73	0.98	0.75	1.02	0.73	0.52	1.42	0.9	11.6	100	3.19	0.58	1.1	11.23	0	11.23	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	71.26	0.08	0.81
314	25.75	9.62	0.7	-14.14	0.62	1.42	0.81	0.95	0.73	0.98	0.75	1.02	0.73	0.52	1.42	0.9	9.21	100	3.34	0.58	1.1	9.99	0	9.99	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	70.01	0.08	0.62
315	25.84	7.81	0.68	-16.22	0.62	1.43	0.81	0.95	0.73	0.98	0.75	1.02	0.73	0.53	1.43	0.9	8.07	100	3.43	0.59	1.1	8.11	0	8.11	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	68.13	0.07	0.53
316	25.92	7.45	0.66	-17.05	0.62	1.43	0.81	0.95	0.73	0.98	0.75	1.02	0.73	0.53	1.43	0.9	6.98	100	3.53	0.59	1.1	7.73	0	7.73	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	67.75	0.07	0.44
317	26	6.4	0.62	-17.7	0.62	1.44	0.81	0.95	0.73	0.98	0.75	1.02	0.73	0.53	1.44	0.91	6.62	100	3.55	0.6	1.1	6.63	0	6.63	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	66.66	0.07	0.41
318	26.08	6.77	0.52	-18.1	0.63	1.44	0.81	0.95	0.73	0.98	0.75	1.02	0.74	0.53	1.44	0.91	6.52	100	3.53	0.59	1.09	7.01	0	7.01	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	67.03	0.07	0.4
319	26.16	7.17	0.47	-17.74	0.63	1.45	0.82	0.95	0.73	0.98	0.75	1.02	0.74	0.54	1.45	0.91	7.59	100	3.38	0.59	1.09	7.41	0	7.41	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	67.43	0.07	0.48
320	26.25	9.59	0.43	-16.53	0.63	1.45	0.82	0.95	0.73	0.98	0.75	1.02	0.74	0.54	1.45	0.91	9.29	100	3.21	0.58	1.09	9.88	0	9.88	4	2	0	0	0.56	0	0	0	0	0	0	0	0	0	60.02	69.91	0.08	0.61
321	26.33	11.83	0.43	-16.08	0.63	1.45	0.82	0.95	0.74	0.98	0.75	1.02	0.74	0.54	1.45	0.91	11.88	100	3.05	0.57	1.09	12.16	0	12.16	4	2	0	0	0.55	0	0	0	0	0	0	0	0	0	60.02	72.18	0.08	0.81
322	26.41	14.91	0.51	-14.56	0.64	1.46	0.82	0.95	0.74	0.97	0.76	1.02	0.74	0.54	1.46	0.92	14.24	99.23	2.95	0.56	1.08	15.28	0	15.28	4	2	0	0	0.55	0	0	0	0	0	0	0	0	0	59.91	75.19	0.08	1
323	26.49	16.59	0.59	-12.38	0.64	1.46	0.82	0.95	0.74	0.97	0.76	1.02	0.74	0.55	1.46	0.92	16.75	93.84	2.89	0.56	1.08	16.97	0	16.97	4	2	0	0	0.55	0	0	0	0	0	0	0	0	0	59.06	76.03	0.08	1.19
324	26.57	19.29	0.68	-10.28	0.64	1.47	0.83	0.95	0.74	0.97	0.76	1.02	0.74	0.55	1.47	0.92	18.67	91.34	2.85	0.55	1.08	19.68	0	19.68	4	2	0	0	0.55	0	0	0	0	0	0	0	0	0	58.63	78.31	0.09	1.33
325	26.66	20.57	0.78	-7.91	0.64	1.47	0.83	0.95	0.74	0.97	0.76	1.02	0.74	0.55	1.47	0.92	20.07	90.16	2.84	0.55	1.08	20.95	0	20.95	4	2	0	0	0.55	0	0	0	0	0	0	0	0	0	58.42	79.36	0.09	1.44
326	26.74	20.69	0.84	-5.58	0.65	1.48	0.83	0.95	0.74	0.97	0.76	1.02	0.74	0.55	1.48	0.92	20.53	91.02	2.85	0.54	1.08	21.04	0	21.04	4	2	0	0	0.55	0	0	0	0	0	0	0	0	0	58.57	79.61	0.09	1.47
327	26.82	20.57	0.89	-3.89	0.65	1.48	0.83	0.95	0.74	0.97	0.76	1.02	0.74	0.56	1.48	0.93	20.04	93.53	2.88	0.54	1.07	20.89	0	20.89	4	2	0	0	0.55	0	0	0	0	0	0	0	0	0	59.01	79.9	0.09	1.43
328	26.9	19.02	0.92	-1.31	0.65	1.49	0.84	0.95	0.74	0.97	0.76	1.02	0.74	0.56	1.49	0.93	19.46	95.77	2.91	0.55	1.07	19.3	0	19.3	4	2	0	0	0.54	0	0	0	0	0	0	0	0	0	59.38	78.69	0.09	1.38
329	26.98	18.87	0.91	0.37	0.65	1.49	0.84	0.95	0.74	0.97	0.76	1.02	0.74	0.56	1.49	0.93	18.64	97.38	2.93	0.55	1.07	19.13	0	19.13	4	2	0	0	0.54	0	0	0	0	0	0	0	0	0	59.63	78.76	0.09	1.32
330	27.07	18.01	0.8	2.95	0.66	1.5	0.84	0.95	0.74	0.97	0.76	1.02	0.74	0.56	1.5	0.93	17.81	98.23	2.94	0.55	1.07	18.24	0	18.24	4	2	0	0	0.54	0	0	0	0	0	0	0	0	0	59.76	78	0.09	1.25
331	27.15	16.45	0.74	4.59	0.66	1.5	0.84	0.95	0.74	0.97	0.76	1.02	0.74	0.57	1.5	0.94	16.45	99.99	2.96	0.56	1.07	16.65	0	16.65	4	2	0	0	0.54	0	0	0	0	0	0	0	0	0	60.02	76.67	0.09	1.14
332	27.23	14.68	0.65	6.64	0.66	1.51	0.84	0.95	0.74	0.97	0.76	1.02	0.74	0.57	1.51	0.94	15.13	100	2.99	0.56	1.07	14.85	0	14.85	4	2	0	0	0.54	0	0	0	0	0	0	0	0	0	60.02	74.87	0.08	1.04
333	27.31	13.96	0.57	9.7	0.66	1.51	0.85	0.95	0.74	0.97	0.76	1.02	0.74	0.57	1.51	0.94	13.88	100	3.01	0.57	1.07	14.11	0	14.11	4	2	0	0	0.54	0	0	0	0	0	0	0	0	0	60.02	74.13	0.08	0.94
334	27.4	12.52	0.47	17.33	0.67	1.52	0.85	0.95	0.74	0.97	0.76	1.02	0.74	0.57	1.52	0.94	13.32	100	3	0.57	1.07	12.65	0	12.65	4	2	0	0	0.54	0	0	0	0	0	0	0	0	0	60.02	72.67	0.08	0.9
335	27.48	12.71	0.43	26.33	0.67	1.52	0.85	0.95	0.74	0.97	0.76	1.02	0.74	0.58	1.52	0.94	12.87	100	2.99	0.57	1.07	12.82	0	12.82	4	2	0	0	0.53	0	0	0	0	0	0	0	0	0	60.02	72.85	0.08	0.86
336	27.56	12.09	0.41	44.96	0.67	1.52	0.85	0.95	0.74	0.98	0.76	1.02	0.74	0.58	1.52	0.95	13.08	100	2.98	0.57	1.07	12.19	0	12.19	4	2	0	0	0.53	0	0	0	0	0	0	0	0	0	60.02	72.21	0.08	0.87
337	27.64	12.53	0.43	61.2	0.68	1.53	0.85	0.95	0.74	0.97	0.76	1.02	0.75	0.58	1.53	0.95	13.37	99.76	2.96	0.57	1.07	12.61	0	12.61	4	2	0	0	0.53	0	0	0	0	0	0	0	0	0	59.99	72.6	0.08	0.89
338	27.72	12.82	0.42	78.56	0.68	1.53	0.86	0.95	0.74	0.97	0.76	1.02	0.75	0.58	1.53	0.95	13.65	99.04	2.95	0.57	1.06	12.89	0	12.89	4	2	0	0	0.53	0	0	0	0	0	0	0	0	0	59.88	72.77	0.08	0.91
339	27.81	12.34	0.43	86.53	0.68	1.54	0.86	0.95	0.74	0.98	0.76	1.02	0.75	0.59	1.54	0.95	13.59	100	2.96	0.57	1.06	12.39	0	12.39	4	2	0	0	0.53	0	0	0	0	0	0	0	0	0	60.02	72.42	0.08	0.9
340	27.89	12.17	0.48	73.31	0.68	1.54	0.86	0.95	0.74	0.98	0.76	1.02	0.75	0.59	1.54	0.95	13.3	100	2.99	0.57	1.06	12.21	0

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
341	27.97	11.82	0.49	87.64	0.69	1.55	0.86	0.95	0.74	0.98	0.76	1.02	0.75	0.59	1.55	0.96	13.12	100	3.01	0.58	1.06	11.84	0	11.84	4	2	0	0	0.53	0	0	0	0	0	0	0	0	60.02	71.87	0.08	0.86
342	28.05	11.68	0.48	95.57	0.69	1.55	0.86	0.95	0.74	0.98	0.76	1.02	0.75	0.59	1.55	0.96	13.16	100	3.01	0.58	1.06	11.69	0	11.69	4	2	0	0	0.52	0	0	0	0	0	0	0	0	60.02	71.71	0.08	0.87
343	28.13	11.93	0.45	98.44	0.69	1.56	0.87	0.95	0.74	0.98	0.76	1.02	0.75	0.6	1.56	0.96	13.41	100	2.99	0.57	1.06	11.93	0	11.93	4	2	0	0	0.52	0	0	0	0	0	0	0	0	60.02	71.95	0.08	0.88
344	28.22	12.47	0.45	94.73	0.69	1.56	0.87	0.95	0.74	0.97	0.76	1.02	0.75	0.6	1.56	0.96	13.7	100	2.97	0.57	1.06	12.45	0	12.45	4	2	0	0	0.52	0	0	0	0	0	0	0	0	60.02	72.47	0.08	0.9
345	28.3	12.67	0.45	87.46	0.7	1.57	0.87	0.95	0.74	0.97	0.76	1.02	0.75	0.6	1.57	0.96	13.73	100	2.97	0.57	1.05	12.63	0	12.63	4	2	0	0	0.52	0	0	0	0	0	0	0	0	60.02	72.66	0.08	0.9
346	28.38	12.12	0.46	90.1	0.7	1.57	0.87	0.95	0.74	0.98	0.76	1.02	0.75	0.6	1.57	0.97	13.67	100	2.97	0.57	1.05	12.07	0	12.07	4	2	0	0	0.52	0	0	0	0	0	0	0	0	60.02	72.1	0.08	0.89
347	28.46	12.21	0.43	100.66	0.7	1.57	0.87	0.95	0.74	0.98	0.76	1.02	0.75	0.61	1.57	0.97	13.55	99.63	2.96	0.57	1.05	12.15	0	12.15	4	2	0	0	0.52	0	0	0	0	0	0	0	0	59.97	72.12	0.08	0.88
348	28.54	12.09	0.35	103.84	0.7	1.58	0.88	0.95	0.74	0.98	0.76	1.02	0.75	0.61	1.58	0.97	13.62	97.24	2.93	0.58	1.05	12.01	0	12.01	4	2	0	0	0.52	0	0	0	0	0	0	0	0	59.61	71.63	0.08	0.89
349	28.63	12.13	0.33	102.87	0.71	1.58	0.88	0.95	0.74	0.98	0.76	1.02	0.75	0.61	1.58	0.97	13.3	95.71	2.91	0.58	1.05	12.04	0	12.04	4	2	0	0	0.51	0	0	0	0	0	0	0	0	59.37	71.41	0.08	0.86
350	28.71	11.26	0.28	101.08	0.71	1.59	0.88	0.95	0.74	0.98	0.76	1.02	0.75	0.61	1.59	0.97	12.95	95.06	2.9	0.58	1.05	11.17	0	11.17	4	2	0	0	0.51	0	0	0	0	0	0	0	0	59.27	70.43	0.08	0.83
351	28.79	11.1	0.25	99.57	0.71	1.59	0.88	0.95	0.74	0.98	0.76	1.02	0.75	0.62	1.59	0.98	12.7	94.13	2.89	0.58	1.05	11	0	11	4	2	0	0	0.51	0	0	0	0	0	0	0	0	59.11	70.11	0.08	0.81
352	28.87	11.87	0.24	68.49	0.71	1.6	0.88	0.95	0.74	0.98	0.76	1.02	0.75	0.62	1.6	0.98	12.44	95.16	2.9	0.58	1.05	11.75	0	11.75	4	2	0	0	0.51	0	0	0	0	0	0	0	0	59.28	71.03	0.08	0.79
353	28.95	10.69	0.28	86.78	0.72	1.6	0.89	0.94	0.74	0.98	0.76	1.01	0.75	0.62	1.6	0.98	12.12	97.94	2.94	0.58	1.05	10.57	0	10.57	4	2	0	0	0.51	0	0	0	0	0	0	0	0	59.72	70.29	0.08	0.77
354	29.04	9.96	0.3	111.86	0.72	1.61	0.89	0.94	0.74	0.98	0.76	1.01	0.75	0.63	1.61	0.98	11.74	100	2.97	0.58	1.05	9.84	0	9.84	4	2	0	0	0.51	0	0	0	0	0	0	0	0	60.02	69.86	0.08	0.74
355	29.12	9.91	0.29	125.58	0.72	1.61	0.89	0.94	0.75	0.98	0.76	1.01	0.75	0.63	1.61	0.98	11.88	100	2.96	0.58	1.04	9.78	0	9.78	4	2	0	0	0.51	0	0	0	0	0	0	0	0	60.02	69.8	0.08	0.75
356	29.2	10.41	0.27	135.06	0.72	1.61	0.89	0.94	0.75	0.98	0.76	1.01	0.75	0.63	1.61	0.98	12.46	97.17	2.93	0.58	1.04	10.26	0	10.26	4	2	0	0	0.51	0	0	0	0	0	0	0	0	59.6	69.86	0.08	0.79
357	29.28	11.47	0.28	127.47	0.73	1.62	0.89	0.94	0.75	0.98	0.76	1.01	0.75	0.63	1.62	0.99	13.49	94.53	2.89	0.58	1.04	11.29	0	11.29	4	2	0	0	0.5	0	0	0	0	0	0	0	0	59.18	70.47	0.08	0.86
358	29.36	13.49	0.37	92.11	0.73	1.62	0.89	0.94	0.75	0.97	0.77	1.01	0.75	0.64	1.62	0.99	14.79	92.47	2.87	0.57	1.04	13.26	0	13.26	4	2	0	0	0.5	0	0	0	0	0	0	0	0	58.83	72.09	0.08	0.95
359	29.45	15.04	0.42	84.62	0.73	1.63	0.9	0.94	0.75	0.97	0.77	1.01	0.76	0.64	1.63	0.99	16.63	88.88	2.82	0.57	1.04	14.76	0	14.76	4	2	0	0	0.5	0	0	0	0	0	0	0	0	58.18	72.94	0.08	1.08
360	29.53	17.48	0.43	91.95	0.73	1.63	0.9	0.94	0.75	0.97	0.77	1.01	0.76	0.64	1.63	0.99	19	82.33	2.74	0.56	1.04	17.13	0	17.13	4	2	0	0	0.5	0	0	0	0	0	0	0	0	56.82	73.95	0.08	1.25
361	29.61	20.79	0.4	78.99	0.74	1.64	0.9	0.94	0.75	0.97	0.77	1.01	0.76	0.64	1.64	0.99	21.25	78.07	2.69	0.55	1.03	20.34	0	20.34	4	2	0	0	0.5	0	0	0	0	0	0	0	0	55.81	76.14	0.09	1.41
362	29.69	22.79	0.51	14.96	0.74	1.64	0.9	0.94	0.75	0.97	0.77	1.01	0.76	0.65	1.64	1	22.22	78.47	2.69	0.54	1.03	22.26	0	22.26	4	2	0	0	0.5	0	0	0	0	0	0	0	0	55.91	78.16	0.09	1.48
363	29.77	21.7	0.62	1.81	0.74	1.65	0.9	0.94	0.75	0.97	0.77	1.01	0.76	0.65	1.65	1	21.18	85.34	2.78	0.55	1.03	21.17	0	21.17	4	2	0	0	0.5	0	0	0	0	0	0	0	0	57.47	78.64	0.09	1.4
364	29.86	18.89	0.74	-4.99	0.74	1.65	0.91	0.94	0.75	0.97	0.77	1.01	2	0.65	1.65	1	20.3	90.03	2.84	0.55	1.03	18.42	0	18.42	4	2	0	0	0.49	0	0	0	0	0	0	0	0	58.39	76.81	0.09	1.33
365	29.94	20.41	0.73	-3.13	0.75	1.66	0.91	0.94	0.75	0.97	0.77	1.01	2	0.65	1.66	1	23.72	82.64	2.75	0.55	1.03	19.87	0	19.87	4	2	0	0	0.49	0	0	0	0	0	0	0	0	56.89	76.76	0.09	1.57
366	30.02	31.2	0.69	53.63	0.75	1.66	0.91	0.94	0.75	0.96	0.78	1.01	2	0.66	1.66	1	31.2	67.64	2.56	0.52	1.03	30.29	58.98	89.27	4	2	0	0	0.49	0	38.9	0.86	0	0	0	0	0	52.76	83.06	0.09	0.67
367	30.1	41.2	0.66	4.17	0.75	1.67	0.91	0.94	0.75	0.96	0.78	1.02	2	0.66	1.67	1.01	40.81	52.6	2.37	0.5	1.03	39.92	57.57	97.49	4	2	0	0	0.49	0	32.07	0.8	0	0	0	0	0	46.41	86.33	0.1	0.7
368	30.18	49.35	0.59	-11.56	0.75	1.67	0.92	0.94	0.75	0.95	0.78	1.02	2	0.66	1.67	1.01	47.33	43.05	2.25	0.49	1.02	47.74	55.29	103.03	4	2	0	0	0.49	0	28.21	0.76	0	0	0	0	0	40.66	88.4	0.1	0.72
369	30.27	51.77	0.5	-14.64	0.76	1.67	0.92	0.94	0.75	0.96	0.78	1.02	2	0.66	1.67	1.01	51.02	35.83	2.16	0.5	1.02	50.04	50.95	100.99	4	2	0	0	0.49	0	29.75	0.78	0	0	0	0	0	35.16	85.2	0.1	0.73
370	30.35	52.55	0.37	-16.95	0.76	1.68	0.92	0.94	0.75	0.96	0.78	1.01	2	0.67	1.68	1.01	51.86	30.51	2.09	0.51	1.02	50.76	46.12	96.88	4	2	0	0	0.49	0	32.97	0.81	0	0	0	0	0	30.44	81.2	0.09	0.73
371	30.43	51.97	0.28	-17.77	0.76	1.68	0.92	0.94	0.75	0.96	0.78	1.01	2	0.67	1.68	1.02	51.51	26.84	2.05	0.52	1.02	50.17	41.57	91.74	4	2	0	0	0.48	0	37.43	0.85	0	0	0	0	0	26.86	77.04	0.09	0.73
372	30.51	50.77	0.26	-18.5	0.76	1.69	0.92	0.94	0.75	0.96	0.78	1.01	0.77	0.67	1.69	1.02	50.01	27.34	2.05	0.52	1.02	48.97	42.01	90.98	0.13	0.17	1	0.11	0.48	1.22	38.09	0.86	0	0	0	0.01	0.01	0	27.37	76.34	0.09	0.73
373	30.59	48.09	0.32	-18.97	0.77	1.69	0.93	0.94	0.75	0.96	0.78	1.01	0.77	0.67	1.69	1.02	47.43	32.74	2.12	0.51	1.02	46.32	47.44	93.77	0.13	0.17	1	0.11	0.48	1.19	35.42	0.84	0	0	0	0.01	0.01	0	32.49	78.81	0.09	0.72
374	30.68	44.26	0.43	-19.18	0.77	1.7	0.93	0.94	0.75	0.96	0.78	1.01	0.77	0.68	1.7	1.02	44.24	40.85	2.22	0.51	1.02	42.59	52.73	95.31	0.13	0.17	1	0.11	0.48	1.17	33.93	0.82	0	0	0	0.01	0.01	0	39.09	81.68	0.09	0.71
375	30.76	41.2	0.55	-18.92	0.77	1.7	0.93	0.94	0.75	0.96	0.78	1.01	0.77	0.68	1.7	1.02	40.6	49.51	2.33	0.51	1.02	39.6	56.3	95.9	0.13	0.17	1	0.11	0.48	1.16	33.35	0.82	0	0	0	0.01	0.01	0	44.72	84.32	0.1	0.7
376	30.84	37.17	0.64	-18.71	0.78	1.71	0.93	0.94	0.75	0.96	0.78	1.01	0.77	0.68	1.71	1.03	37.48	56.01	2.41	0.51	1.02	35.69	57.56	93.26	0.13	0.17	1	0.11	0.48	1.18	35.46	0.84	0	0	0	0.01	0.01	0	48.1	83.8	0.1	0.69
377	30.92	34.89	0.63	-18.8	0.78	1.71	0.93	0.94	0.75	0.96	0.78	1.01	0.77	0.68	1.71	1.03	34.6	60.17	2.46	0.52	1.02	33.47	58.14	91.61	0.13	0.17	1	0.11	0.48	1.19	36.85	0.85	0	0	0	0.01	0.01	0	49.95	83.42	0.09	0.68
378	31	32.55	0.55	-18.67	0.78	1.72	0.94	0.94	0.75	0.96	0.78	1.01	0.77	0.69	1.72	1.03	32.47	61.04	2.48	0.52	1.01	31.2	57.73	88.93	0.12	0.16	1	0.11	0.47	1.22	39.28	0.87	0	0	0	0.01	0.01	0	50.31	81.51	0.09	0.67
379	31.09	30.78	0.44	-18.13	0.78	1.72	0.94	0.94	0.75	0.97	0.78	1.01	0.77	0.69	1.72	1.03	30.54	60.85	2.47	0.53	1.01	29.47	57.2	86.67	0.12	0.16	1	0.11	0.47	1.24	41.45	0.88	0	0	0	0.01	0.01	0	50.24	79.71	0.09	0.66
380	31.17	29.07	0.38	-17.72	0.79	1.73	0.94	0.94	0.75	0.97	0.78	1.01	2	0.69	1.73	1.03	28.19	62.52	2.49	0.53	1.01	27.81	57.14	84.95	4	2	0	0	0.47	0	43.19	0.89	0	0	0	0	0	0	50.9	78.72	0.09	0.65
381	31.25	25.48	0.39	-16.85	0.79	1.73	0.94	0.94	0.75	0.97	0.77	1.01	2	0.69	1.73	1.04	25.42	67.97	2.56	0.54	1.01	24.35	57.33	81.68	4	2	0	0	0.47	0	46.68	0.91	0	0	0	0	0	0	52.87	77.23	0.09	0.64
382	31.33	22.43	0.44	-15.93	0.79	1.74	0.94	0.94	0.75	0.97	0.77	1.01	2	0.7	1.74	1.04	21.83	77.66	2.68	0.55	1.01	21.42	0	21.42	4	2	0	0	0.47	0	0	0	0	0	0	0	0	55.7	77.12	0.09	1.38
383	31.41	18.25	0.49	-13.84	0.79	1.74	0.95	0.94	0.75	0.97	0.77	1.01	2	0.7	1.74	1.04	18.7	87.56	2.81	0.56	1.01	17.41	0	17.41	4	2	0	0	0.47	0	0	0	0	0	0	0	0	57.92	75.33	0.08	1.16
384	31.5	16.03	0.5	-11.57	0.8	1.74	0.95	0.94	0.75	0.97	0.77	1.01	2	0.7	1.74	1.04	16.09	96.35	2.92	0.56	1.01	15.28	0	15.28	4	2	0	0	0.47	0	0	0	0	0	0	0	0	59.47	74.75	0.08	0.98
385	31.58	14.41	0.48	-4.2	0.8	1.75	0.95	0.94	0.75	0.97	0.77	1.01	2	0.7	1.75	1.04	14.93	100	2.97	0.57	1.01	13.72	0	13.72	4	2	0	0	0.46	0	0	0	0	0	0	0	0	60.02	73.74	0.08	0.9
386	31.66	14.33	0.47	16.28	0.8	1.75	0.95	0.94	0.75	0.97	0.77	1.01	0.76	0.71	1.75	1.05	15.28	96.25	2.92	0.57	1.01	13.63	0	13.63	4	2	0	0	0.46	0	0	0	0	0	0	0	0	59.46	73.09	0.08	0.92
387	31.74	16.14	0.32	55.32	0.8	1.76	0.95	0.94	0.75	0.97	0.77	1.01	0.76	0.71	1.76	1.05	17.68	85.69	2.78	0.57	1.01	15.33	0	15.33	4	2	0	0	0.46	0	0	0	0	0	0	0	0	57.55	72.88	0.08	1.08
388	31.82	20.33	0.32	83.25	0.81	1.76	0.96	0.94	0.75	0.97	0.77	1.01	0.77	0.71	1.76	1.05	21.33	73.43	2.63	0.56	1	19.29	0	19.29	4	2	0	0	0.46	0	0	0	0	0	0	0	0	54.56	73.85	0.08	1.33
389	31.91	24.48	0.34	72.27	0.81	1.77	0.96	0.94	0.75	0.97	0.77	1.01	0.77	0.71	1.77	1.05	24.03	68.65	2.57	0.55	1	23.21	57.12	80.33	0.12	0.15	1	0.11	0.46	1.28	48.23	0.91	0	0	0	0.01	0.01	0	53.1	76.3	0.09	0.63
390	31.99	24.6	0.39	30.37	0.81	1.77	0.96	0.94	0.75	0.97	0.78	1.01	0.77	0.72	1.77	1.05	22.85	73.86	2.64	0.54	1	23.3	0	23.3	4	2	0	0	0.46	0	0	0	0	0	0	0	0	54.68	77.98	0.09	1.43
391	32.07	17.98	0.47	1.69	0.81	1.78	0.96	0.94	0.75	0.97	0.77	1.01	0.77	0.72	1.78	1.06	19.59	84.16	2.76	0.56	1	17.01	0	17.01	4	2	0	0	0.46	0	0	0	0	0	0	0	0	57.23	74.23	0.08	1.2
392	32.15	15.55	0.47	12.02	0.82	1.78	0.96	0.94	0.75	0.97	0.77	1.01	0.77	0.72	1.78	1.06	16.23	95.62	2.91	0.57	1	14.7	0	14.7	4	2	0	0	0.46	0	0	0	0	0	0	0	0	59.36	74.05	0.08	0.98
393	32.23	14.55	0.48	29.48	0.82	1.79	0.97	0.94	0.75	0.97	0.77	1.01	0.77	0.72	1.79	1.06	14.84	100	2.98	0.57	1	13.74	0	13.74	4	2	0	0	0.45	0	0	0	0	0	0	0	0	60.02	73.76	0.08	0.88
394	32.32	13.04	0.49	53.84	0.82	1.79	0.97	0.94	0.75	0.98	0.77	1.01	0.77	0.73	1.79	1.06	14.03	100	3.02	0.57	1	12.3	0	12.3	4	2	0	0	0.45	0	0	0	0	0	0	0	0	60.02	72.32	0.08	0.82
395	32.4	11.84	0.5	101.3	0.82	1.79	0.97	0.93	0.75	0.98	0.77	1.01	0.77	0.73	1.79	1.06	13.4	100	3.04	0.58	1	11.15	0	11.15	4	2	0	0	0.45	0	0	0	0	0	0	0	0	60.02	71.18	0.08	0.78
396	32.48	11.46	0.43	113.75	0.83	1.8	0.97	0.93	0.75	0.98	0.77	1.01	0.77	0.73	1.8	1.07	13.19	100	3.03	0.58	1	10.78	0	10.78	4	2	0	0	0.45	0	0	0	0	0	0	0	0	60.02	70.81	0.08	0.76
397	32.56	11.51	0.37	114.52	0.83	1.8	0.97	0.93	0.75	0.98	0.77	1.01	0.77	0.74	1.8	1.07	12.86	100	3.02	0.58	0.99	10.82	0	10.82	4	2	0	0	0.45	0	0	0	0	0	0	0	0	60.02	70.84	0.08	0.74
398	32.64	10.87	0.36	100.22	0.83	1.81	0.98	0.93	0.75	0.98	0.77	1.01	0.77	0.74	1.81	1.07	12.31	100	3.03	0.58	0.99	10.21	0	10.21	4	2	0	0	0.45	0	0	0	0	0	0	0	0	60.02	70.23	0.08	0.7
399	32.73	10.05	0.34	97.33	0.83	1.81	0.98	0.93	0.75	0.98	0.77	1.01	0.77	0.74	1.81	1.07	11.69	100	3.07	0.58	0.99	9.43	0	9.43	4	2	0	0	0.45	0	0	0	0	0	0	0	0	60.02	69.45	0.08	0.66
400	32.81	9.8	0.35	104.3	0.84	1.82	0.98	0.93	0.75	0.98	0.77	1.01	0.77	0.74	1.82	1.07	11.35	100	3.09	0.59	0.99	9.18	0	9.18	4	2	0	0	0.44	0	0	0	0	0	0	0	0	60.02	69.21	0.08	0.63
401	32.89	9.79	0.35	103.85	0.84	1.82	0.98	0.93	0.75	0.98	0.77	1.01	0.77	0.75	1.82	1.08	11.29	100	3.09	0.59	0.99	9.16	0	9.16	4	2	0	0	0.44	0	0	0	0	0	0	0	0	60.02	69.19	0.08	0.63
402	32.97	9.67	0.35	112.3	0.84	1.83	0.98	0.93	0.75	0.98	0.77	1.01	0.77	0.75	1.83	1.08	11.36	100	3.09	0.59	0.99	9.04	0	9.04	4	2	0	0	0.44	0	0	0	0	0	0	0	0	60.02	69.07	0.08	0.63
403	33.05	10.12	0.35	96.38	0.84	1.83	0.99	0.93	0.75	0.98	0.77	1.01	0.77	0.75	1.83	1.08	11.45	100	3.08	0.58	0.99	9.45	0	9.45	4	2	0	0	0.44	0	0	0	0	0	0	0	0	60.02	69.48	0.08	0.64
404	33.14	10.29	0.34	88.76	0.85	1.83	0.99	0.93	0.75	0.98	0.77	1.01	0.77	0.75	1.83	1.08	11.47	100	3.08	0.58	0.99	9.6	0	9.6	4	2	0	0	0.44	0	0	0	0	0	0	0	0	60.02	69.63	0.08	0.64
405	33.22	10.01	0.33	91.05	0.85	1.84	0.99	0.93	0.75	0.98	0.77	1.01	0.77	0.76	1.84	1.08	11.53	100	3.07	0.58	0.99	9.33	0	9.33	4	2	0	0	0.44	0	0	0	0	0	0	0	0	60.02	69.36	0.08	0.64
406	33.3	10.22	0.32	103	0.85	1.84	0.99	0.93	0.75	0.98	0.77	1.01	0.77	0.76	1.84	1.09	12.02	100	3.04	0.58	0.99	9.52	0	9.52	4	2	0	0	0.44	0	0	0	0	0	0	0	0	60.02	69.54	0.08	0.67
407	33.38	11.23	0.34	124.54	0.85	1.85	0.99	0.93	0.76	0.98	0.77	1.01	0.77	0.76	1.85	1.09	12.96	100	2.99	0.58	0.98	10.45	0	10.45	4	2	0	0	0.43	0	0	0	0	0	0	0	0	60.02	70.47	0.08	0.73
408	33.46	12.12	0.34	140.44	0.86	1.85	1	0.93	0.76	0.98	0.77	1.01	0.77	0.76	1.85	1.09	13.89	98.69	2.95	0.58	0.98	11.27	0	11.27	4	2	0	0	0.43	0	0	0	0	0	0	0	0	59.83	71.1	0.08	0.79

East Santa Clara - Phase 1
San Jose, California

	Input Data				CSR calculation results								CRR 7.5 calculation results												Other results																	
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
409	33.55	12.55	0.34	135.63	0.86	1.86	1	0.93	0.76	0.98	0.77	1	0.77	0.77	1.86	1.09	14.69	97.06	2.93	0.58	0.98	11.65	0	11.65	4	2	0	0	0.43	0	0	0	0	0	0	0	0	0	59.58	71.24	0.08	0.84
410	33.63	13.6	0.42	127.26	0.86	1.86	1	0.93	0.76	0.98	0.77	1	0.77	0.77	1.86	1.09	16.47	92.75	2.87	0.57	0.98	12.62	0	12.62	4	2	0	0	0.43	0	0	0	0	0	0	0	0	0	58.88	71.5	0.08	0.95
411	33.71	17.36	0.45	147.18	0.86	1.87	1	0.93	0.76	0.97	0.78	1	0.77	0.77	1.87	1.09	18.96	86.99	2.8	0.56	0.98	16.09	0	16.09	4	2	0	0	0.43	0	0	0	0	0	0	0	0	0	57.81	73.9	0.08	1.12
412	33.79	20.4	0.45	108.43	0.87	1.87	1	0.93	0.76	0.97	0.78	1	0.77	0.77	1.87	1.1	21.69	79.9	2.71	0.56	0.98	18.9	0	18.9	4	2	0	0	0.43	0	0	0	0	0	0	0	0	0	56.26	75.16	0.08	1.29
413	33.87	23.41	0.42	15.91	0.87	1.87	1.01	0.93	0.76	0.97	0.78	1	0.78	0.78	1.87	1.1	22.7	77.05	2.68	0.55	0.98	21.67	0	21.67	4	2	0	0	0.43	0	0	0	0	0	0	0	0	0	55.55	77.22	0.09	1.35
414	33.96	22.38	0.42	8.21	0.87	1.88	1.01	0.93	0.76	0.97	0.78	1	0.78	0.78	1.88	1.1	21.96	77.7	2.68	0.55	0.98	20.7	0	20.7	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	55.71	76.41	0.09	1.3
415	34.04	19.51	0.38	15.12	0.87	1.88	1.01	0.93	0.76	0.97	0.78	1	0.77	0.78	1.88	1.1	20.22	80	2.71	0.56	0.98	18.02	0	18.02	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	56.28	74.3	0.08	1.19
416	34.12	17.87	0.3	38.63	0.88	1.89	1.01	0.93	0.76	0.97	0.78	1	0.77	0.78	1.89	1.1	18.7	80.13	2.71	0.56	0.98	16.48	0	16.48	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	56.31	72.8	0.08	1.09
417	34.2	16.95	0.21	69.89	0.88	1.89	1.01	0.93	0.76	0.97	0.78	1	0.77	0.79	1.89	1.11	17.69	79.32	2.7	0.57	0.97	15.62	0	15.62	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	56.12	71.74	0.08	1.02
418	34.28	15.82	0.21	61.22	0.88	1.9	1.01	0.93	0.76	0.97	0.78	1	0.77	0.79	1.9	1.11	16.74	80.09	2.71	0.57	0.97	14.56	0	14.56	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	56.3	70.86	0.08	0.96
419	34.37	14.63	0.21	64.38	0.89	1.9	1.02	0.93	0.76	0.98	0.78	1	0.77	0.79	1.9	1.11	15.39	85.22	2.78	0.57	0.97	13.45	0	13.45	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	57.45	70.9	0.08	0.87
420	34.45	12.73	0.23	81.39	0.89	1.91	1.02	0.93	0.76	0.98	0.78	1	0.77	0.79	1.91	1.11	14.09	91.77	2.86	0.58	0.97	11.69	0	11.69	4	2	0	0	0.42	0	0	0	0	0	0	0	0	0	58.71	70.4	0.08	0.78
421	34.53	11.2	0.27	111.4	0.89	1.91	1.02	0.93	0.76	0.98	0.78	1	0.77	0.8	1.91	1.11	13.15	97.69	2.93	0.58	0.97	10.27	0	10.27	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	59.68	69.95	0.08	0.72
422	34.61	10.77	0.29	136.36	0.89	1.91	1.02	0.93	0.76	0.98	0.78	1	0.77	0.8	1.91	1.12	12.71	100	2.97	0.58	0.97	9.87	0	9.87	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	60.02	69.89	0.08	0.69
423	34.69	10.5	0.28	145.65	0.9	1.92	1.02	0.93	0.76	0.98	0.78	1	0.77	0.8	1.92	1.12	12.61	100	2.97	0.58	0.97	9.61	0	9.61	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	60.02	69.64	0.08	0.68
424	34.78	10.57	0.25	133.66	0.9	1.92	1.03	0.93	0.76	0.98	0.78	1	0.77	0.8	1.92	1.12	12.5	100	2.97	0.58	0.97	9.67	0	9.67	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	60.02	69.69	0.08	0.68
425	34.86	10.59	0.26	127.27	0.9	1.93	1.03	0.93	0.76	0.98	0.78	1	0.77	0.81	1.93	1.12	12.42	100	2.97	0.58	0.97	9.68	0	9.68	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	60.02	69.7	0.08	0.67
426	34.94	10.47	0.27	129.13	0.9	1.93	1.03	0.93	0.76	0.98	0.78	1	0.77	0.81	1.93	1.12	12.48	100	2.97	0.58	0.97	9.56	0	9.56	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	60.02	69.58	0.08	0.67
427	35.02	10.74	0.25	135.08	0.91	1.94	1.03	0.93	0.76	0.98	0.78	1	0.78	0.81	1.94	1.12	12.55	100	2.97	0.58	0.97	9.8	0	9.8	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	60.02	69.82	0.08	0.67
428	35.1	10.64	0.27	138.03	0.91	1.94	1.03	0.93	0.76	0.98	0.78	1	0.78	0.81	1.94	1.13	12.62	100	2.98	0.58	0.96	9.7	0	9.7	4	2	0	0	0.41	0	0	0	0	0	0	0	0	0	60.02	69.72	0.08	0.68
429	35.19	10.72	0.3	127.06	0.91	1.95	1.03	0.93	0.76	0.98	0.78	1	0.78	0.82	1.95	1.13	12.71	100	2.99	0.58	0.96	9.76	0	9.76	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	60.02	69.78	0.08	0.68
430	35.27	11.03	0.3	133.81	0.91	1.95	1.04	0.93	0.76	0.98	0.78	1	0.78	0.82	1.95	1.13	13.42	99.06	2.95	0.58	0.96	10.03	0	10.03	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.89	69.92	0.08	0.72
431	35.35	13.37	0.28	95.57	0.92	1.95	1.04	0.93	0.76	0.98	0.78	1	0.78	0.82	1.95	1.13	14.16	94.86	2.9	0.58	0.96	12.15	0	12.15	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.23	71.39	0.08	0.77
432	35.43	13.64	0.24	78.39	0.92	1.96	1.04	0.93	0.76	0.98	0.78	1	0.78	0.82	1.96	1.13	14.6	90.87	2.85	0.58	0.96	12.39	0	12.39	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	58.55	70.94	0.08	0.8
433	35.52	13.27	0.2	70.24	0.92	1.96	1.04	0.93	0.76	0.98	0.78	1	0.78	0.83	1.96	1.14	14.28	89.55	2.83	0.58	0.96	12.04	0	12.04	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	58.3	70.34	0.08	0.78
434	35.6	12.79	0.19	70.15	0.92	1.97	1.04	0.93	0.76	0.98	0.78	1	0.78	0.83	1.97	1.14	13.72	90.64	2.85	0.58	0.96	11.59	0	11.59	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	58.5	70.1	0.08	0.74
435	35.68	11.88	0.2	83.78	0.93	1.97	1.05	0.93	0.76	0.98	0.78	1	0.78	0.83	1.97	1.14	13.27	94.19	2.89	0.58	0.96	10.76	0	10.76	4	2	0	0	0.4	0	0	0	0	0	0	0	0	0	59.12	69.88	0.08	0.71
436	35.76	11.18	0.25	121.65	0.93	1.98	1.05	0.92	0.76	0.98	0.78	1	0.78	0.83	1.98	1.14	12.91	98.89	2.95	0.58	0.96	10.11	0	10.11	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	59.86	69.98	0.08	0.68
437	35.84	10.61	0.3	145.07	0.93	1.98	1.05	0.92	0.76	0.98	0.78	1	0.78	0.84	1.98	1.14	13.04	100	2.98	0.58	0.96	9.59	0	9.59	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	60.02	69.61	0.08	0.69
438	35.93	11.64	0.35	129.08	0.93	1.98	1.05	0.92	0.76	0.98	0.78	1	0.78	0.84	1.98	1.14	12.99	100	3.02	0.58	0.96	10.51	0	10.51	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	60.02	70.53	0.08	0.69
439	36.01	11.26	0.38	104.59	0.94	1.99	1.05	0.92	0.76	0.98	0.78	1	0.78	0.84	1.99	1.15	12.95	100	3.05	0.58	0.95	10.16	0	10.16	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	60.02	70.18	0.08	0.68
440	36.09	11.17	0.41	98.61	0.94	1.99	1.05	0.92	0.76	0.98	0.78	1	0.78	0.85	1.99	1.15	12.84	100	3.08	0.58	0.95	10.06	0	10.06	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	60.02	70.09	0.08	0.67
441	36.17	11.7	0.44	100.81	0.94	2	1.06	0.92	0.76	0.98	0.78	1	0.78	0.85	2	1.15	12.77	100	3.09	0.58	0.95	10.53	0	10.53	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	60.02	70.56	0.08	0.67
442	36.25	11.13	0.45	99.66	0.94	2	1.06	0.92	0.76	0.98	0.78	1	0.78	0.85	2	1.15	13.07	100	3.09	0.58	0.95	10.01	0	10.01	4	2	0	0	0.39	0	0	0	0	0	0	0	0	0	60.02	70.03	0.08	0.69
443	36.34	12.1	0.46	97.76	0.95	2.01	1.06	0.92	0.76	0.98	0.78	1	0.78	0.85	2.01	1.15	13.23	100	3.09	0.58	0.95	10.87	0	10.87	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	60.02	70.9	0.08	0.69
444	36.42	12.33	0.51	88.51	0.95	2.01	1.06	0.92	0.76	0.98	0.78	1	0.78	0.86	2.01	1.16	13.54	100	3.09	0.58	0.95	11.07	0	11.07	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	60.02	71.09	0.08	0.71
445	36.5	12.31	0.54	84.19	0.95	2.02	1.06	0.92	0.76	0.98	0.78	1	0.78	0.86	2.02	1.16	13.7	100	3.1	0.58	0.95	11.04	0	11.04	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	60.02	71.06	0.08	0.72
446	36.58	12.97	0.58	69.06	0.95	2.02	1.07	0.92	0.76	0.98	0.78	1	0.78	0.86	2.02	1.16	13.63	100	3.12	0.58	0.95	11.62	0	11.62	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	60.02	71.65	0.08	0.71
447	36.66	12.6	0.6	55.62	0.96	2.03	1.07	0.92	0.76	0.98	0.78	1	0.78	0.86	2.03	1.16	13.76	100	3.13	0.58	0.95	11.28	0	11.28	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	60.02	71.3	0.08	0.72
448	36.75	13.08	0.61	58.35	0.96	2.03	1.07	0.92	0.76	0.98	0.78	1	0.78	0.87	2.03	1.16	13.63	100	3.15	0.58	0.95	11.7	0	11.7	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	60.02	71.72	0.08	0.71
449	36.83	12.85	0.63	50.31	0.96	2.03	1.07	0.92	0.76	0.98	0.78	1	0.78	0.87	2.03	1.17	13.74	100	3.15	0.58	0.95	11.48	0	11.48	4	2	0	0	0.38	0	0	0	0	0	0	0	0	0	60.02	71.5	0.08	0.72
450	36.91	13.04	0.65	48.03	0.96	2.04	1.08	0.92	0.76	0.98	0.78	1	0.78	0.87	2.04	1.17	13.56	100	3.17	0.58	0.94	11.64	0	11.64	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	71.66	0.08	0.7
451	36.99	12.51	0.66	60.53	0.97	2.04	1.08	0.92	0.76	0.98	0.78	1	0.78	0.87	2.04	1.17	13.55	100	3.17	0.58	0.94	11.15	0	11.15	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	71.17	0.08	0.7
452	37.07	12.92	0.68	42.92	0.97	2.05	1.08	0.92	0.76	0.98	0.78	1	0.78	0.88	2.05	1.17	13.55	100	3.18	0.58	0.94	11.51	0	11.51	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	71.53	0.08	0.7
453	37.16	13.08	0.68	44.42	0.97	2.05	1.08	0.92	0.76	0.98	0.78	1	0.78	0.88	2.05	1.18	13.79	100	3.17	0.58	0.94	11.64	0	11.64	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	71.66	0.08	0.71
454	37.24	13.5	0.67	42	0.97	2.06	1.08	0.92	0.76	0.98	0.78	1	0.78	0.88	2.06	1.18	13.87	100	3.16	0.57	0.94	12	0	12	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	72.02	0.08	0.72
455	37.32	13.27	0.66	34.99	0.98	2.06	1.09	0.92	0.76	0.98	0.78	1	0.78	0.88	2.06	1.18	13.87	100	3.16	0.58	0.94	11.78	0	11.78	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	71.81	0.08	0.71
456	37.4	13.21	0.64	35.82	0.98	2.07	1.09	0.92	0.76	0.98	0.78	1	0.78	0.89	2.07	1.18	13.56	100	3.17	0.58	0.94	11.72	0	11.72	4	2	0	0	0.37	0	0	0	0	0	0	0	0	0	60.02	71.74	0.08	0.69
457	37.48	12.56	0.63	42.68	0.98	2.07	1.09	0.92	0.76	0.98	0.78	1	0.78	0.89	2.07	1.18	13.51	100	3.16	0.58	0.94	11.13	0	11.13	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	71.15	0.08	0.69
458	37.57	12.73	0.61	62.19	0.98	2.08	1.09	0.92	0.76	0.98	0.78	1	0.78	0.89	2.08	1.19	13.6	100	3.15	0.58	0.94	11.27	0	11.27	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	71.29	0.08	0.69
459	37.65	12.94	0.6	72.7	0.99	2.08	1.09	0.92	0.76	0.98	0.78	1	0.78	0.89	2.08	1.19	13.81	100	3.14	0.58	0.94	11.44	0	11.44	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	71.47	0.08	0.71
460	37.73	12.83	0.57	67.56	0.99	2.09	1.1	0.92	0.76	0.98	0.78	1	0.78	0.9	2.09	1.19	13.84	100	3.13	0.58	0.93	11.33	0	11.33	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	71.36	0.08	0.71
461	37.81	12.63	0.57	76.12	0.99	2.09	1.1	0.92	0.76	0.98	0.78	1	0.78	0.9	2.09	1.19	13.87	100	3.13	0.58	0.93	11.14	0	11.14	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	71.17	0.08	0.71
462	37.89	12.91	0.59	80.63	1	2.1	1.1	0.92	0.76	0.98	0.78	1	0.78	0.9	2.1	1.19	13.99	100	3.13	0.58	0.93	11.38	0	11.38	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	71.4	0.08	0.71
463	37.98	12.98	0.61	82.86	1	2.1	1.1	0.92	0.76	0.98	0.78	1	0.78	0.9	2.1	1.2	14.14	100	3.13	0.58	0.93	11.43	0	11.43	4	2	0	0	0.36	0	0	0	0	0	0	0	0	0	60.02	71.45	0.08	0.72
464	38.06	13.14	0.63	71.19	1	2.1	1.1	0.92	0.76	0.98	0.78	1	0.78	0.91	2.1	1.2	14.15	100	3.14	0.58	0.93	11.56	0	11.56	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	71.58	0.08	0.72
465	38.14	13.25	0.64	60.68	1	2.11	1.11	0.92	0.76	0.98	0.78	1	0.78	0.91	2.11	1.2	14.22	100	3.14	0.58	0.93	11.65	0	11.65	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	71.67	0.08	0.72
466	38.22	13.62	0.63	52.95	1.01	2.11	1.11	0.92	0.76	0.98	0.78	1	0.78	0.91	2.11	1.2	14.12	100	3.14	0.57	0.93	11.96	0	11.96	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	71.99	0.08	0.71
467	38.3	13.08	0.62	53.13	1.01	2.12	1.11	0.92	0.76	0.98	0.78	1	0.78	0.91	2.12	1.2	14.15	100	3.13	0.58	0.93	11.47	0	11.47	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	71.5	0.08	0.71
468	38.39	13.37	0.55	59.31	1.01	2.12	1.11	0.92	0.76	0.98	0.78	1	0.78	0.92	2.12	1.21	14.24	100	3.11	0.58	0.93	11.72	0	11.72	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	71.74	0.08	0.72
469	38.47	13.58	0.55	73.59	1.01	2.13	1.11	0.92	0.76	0.98	0.78	1	0.78	0.92	2.13	1.21	14.57	100	3.09	0.58	0.93	11.89	0	11.89	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	71.91	0.08	0.74
470	38.55	13.61	0.56	85.38	1.02	2.13	1.12	0.92	0.76	0.98	0.78	1	0.78	0.92	2.13	1.21	14.86	100	3.08	0.57	0.93	11.91	0	11.91	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	71.93	0.08	0.75
471	38.63	13.72	0.56	96.03	1.02	2.14	1.12	0.92	0.76	0.98	0.78	1	0.78	0.92	2.14	1.21	15.35	100	3.06	0.57	0.92	11.99	0	11.99	4	2	0	0	0.35	0	0	0	0	0	0	0	0	0	60.02	72.01	0.08	0.78
472	38.71	14.98	0.59	79.26	1.02	2.14	1.12	0.92	0.76	0.97	0.78	1	0.79	0.93	2.14	1.21	15.65	100	3.06	0.57	0.92	13.09	0	13.09	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	73.11	0.08	0.79
473	38.8	14.61	0.63	77.36	1.02	2.15	1.12	0.92	0.76	0.97	0.78	0.99	0.79	0.93	2.15	1.22	16.03	100	3.06	0.57	0.92	12.75	0	12.75	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	72.77	0.08	0.81
474	38.88	15.2	0.67	71.75	1.03	2.15	1.13	0.92	0.76	0.97	0.78	0.99	0.79	0.93	2.15	1.22	15.9	100	3.08	0.57	0.92	13.25	0	13.25	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	73.28	0.08	0.81
475	38.96	14.76	0.7	68.91	1.03	2.16	1.13	0.91	0.76	0.97	0.78	0.99	0.79	0.93	2.16	1.22	15.85	100	3.09	0.57	0.92	12.85	0	12.85	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	72.88	0.08	0.8
476	39.04	14.75	0.71	57.47	1.03	2.16	1.13	0.91	0.76	0.97	0.78	0.99	0.79	0.94	2.16	1.22	15.75	100	3.1	0.57	0.92	12.83	0	12.83	4	2	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	72.86	0.08	0.79

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																			
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
477	39.12	14.96	0.73	66.25	1.03	2.17	1.13	0.91	0.76	0.97	0.78	0.99	0.79	0.94	2.17	1.23	15.92	100	3.1	0.57	0.92	13	0	13	4	2	0	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	73.03	0.08	0.8
478	39.21	15.2	0.74	75.23	1.04	2.17	1.13	0.91	0.76	0.97	0.78	0.99	0.79	0.94	2.17	1.23	16.19	100	3.09	0.57	0.92	13.2	0	13.2	4	2	0	0	0	0.34	0	0	0	0	0	0	0	0	0	60.02	73.22	0.08	0.82
479	39.29	15.39	0.71	69.1	1.04	2.17	1.14	0.91	0.76	0.97	0.78	0.99	0.79	0.94	2.17	1.23	16.43	100	3.08	0.57	0.92	13.35	0	13.35	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	73.38	0.08	0.83
480	39.37	15.85	0.71	52.66	1.04	2.18	1.14	0.91	0.76	0.97	0.78	0.99	0.79	0.95	2.18	1.23	16.22	100	3.09	0.57	0.92	13.74	0	13.74	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	73.77	0.08	0.81
481	39.45	14.94	0.71	50.63	1.04	2.18	1.14	0.91	0.76	0.97	0.78	0.99	0.79	0.95	2.18	1.23	16.25	100	3.09	0.57	0.92	12.93	0	12.93	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	72.96	0.08	0.81
482	39.53	15.61	0.72	59.01	1.05	2.19	1.14	0.91	0.76	0.97	0.78	0.99	0.79	0.95	2.19	1.24	16.22	100	3.09	0.57	0.92	13.5	0	13.5	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	73.53	0.08	0.81
483	39.62	15.52	0.72	70.24	1.05	2.19	1.14	0.91	0.76	0.97	0.78	0.99	0.79	0.96	2.19	1.24	16.64	100	3.08	0.57	0.91	13.41	0	13.41	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	73.44	0.08	0.83
484	39.7	15.8	0.73	78.39	1.05	2.2	1.15	0.91	0.76	0.97	0.78	0.99	0.79	0.96	2.2	1.24	16.71	100	3.08	0.57	0.91	13.64	0	13.64	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	73.67	0.08	0.84
485	39.78	15.82	0.74	59.89	1.05	2.2	1.15	0.91	0.76	0.97	0.78	0.99	0.79	0.96	2.2	1.24	16.79	100	3.08	0.57	0.91	13.65	0	13.65	4	2	0	0	0	0.33	0	0	0	0	0	0	0	0	0	60.02	73.67	0.08	0.84
486	39.86	16.16	0.77	41.59	1.06	2.21	1.15	0.91	0.76	0.97	0.78	0.99	0.79	0.96	2.21	1.24	16.66	100	3.09	0.57	0.91	13.93	0	13.93	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	73.95	0.08	0.83
487	39.94	16.02	0.81	35.92	1.06	2.21	1.15	0.91	0.76	0.97	0.78	0.99	0.79	0.97	2.21	1.25	16.55	100	3.11	0.57	0.91	13.79	0	13.79	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	73.82	0.08	0.82
488	40.03	15.8	0.84	38.83	1.06	2.22	1.16	0.91	0.76	0.97	0.78	0.99	0.79	0.97	2.22	1.25	16.39	100	3.13	0.57	0.91	13.59	0	13.59	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	73.61	0.08	0.81
489	40.11	15.82	0.87	32.53	1.06	2.22	1.16	0.91	0.76	0.97	0.78	0.99	0.79	0.97	2.22	1.25	16.58	100	3.13	0.57	0.91	13.59	0	13.59	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	73.62	0.08	0.82
490	40.19	16.74	0.89	24.45	1.07	2.23	1.16	0.91	0.76	0.97	0.78	0.99	0.79	0.97	2.23	1.25	16.64	100	3.13	0.57	0.91	14.38	0	14.38	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	74.4	0.08	0.82
491	40.27	16.31	0.87	16.67	1.07	2.23	1.16	0.91	0.76	0.97	0.78	0.99	0.79	0.98	2.23	1.26	16.69	100	3.13	0.57	0.91	13.99	0	13.99	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	74.01	0.08	0.82
492	40.35	16.24	0.85	12.89	1.07	2.24	1.16	0.91	0.76	0.97	0.78	0.99	0.79	0.98	2.24	1.26	16.1	100	3.15	0.57	0.91	13.91	0	13.91	4	2	0	0	0	0.32	0	0	0	0	0	0	0	0	0	60.02	73.94	0.08	0.79
493	40.44	15.2	0.82	9.17	1.07	2.24	1.17	0.91	0.76	0.97	0.78	0.99	0.79	0.98	2.24	1.26	15.44	100	3.17	0.57	0.91	13	0	13	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	73.03	0.08	0.75
494	40.52	14.45	0.75	8.63	1.08	2.25	1.17	0.91	0.76	0.98	0.78	0.99	0.79	0.98	2.25	1.26	14.69	100	3.18	0.57	0.9	12.34	0	12.34	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	72.37	0.08	0.7
495	40.6	13.78	0.63	25.75	1.08	2.25	1.17	0.91	0.76	0.98	0.78	0.99	0.79	0.99	2.25	1.26	14.28	100	3.16	0.58	0.9	11.76	0	11.76	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	71.78	0.08	0.68
496	40.68	13.25	0.52	59.34	1.08	2.25	1.17	0.91	0.76	0.98	0.78	0.99	0.79	0.99	2.25	1.27	14.42	100	3.09	0.58	0.9	11.29	0	11.29	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	71.31	0.08	0.69
497	40.76	13.66	0.36	93.8	1.08	2.26	1.17	0.91	0.76	0.98	0.78	0.99	0.79	0.99	2.26	1.27	14.8	100	3	0.58	0.9	11.63	0	11.63	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	60.02	71.66	0.08	0.71
498	40.85	13.91	0.27	96.11	1.09	2.26	1.18	0.91	0.76	0.98	0.78	0.99	0.79	0.99	2.26	1.27	14.88	97.14	2.93	0.58	0.9	11.83	0	11.83	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	59.6	71.43	0.08	0.71
499	40.93	13.23	0.21	77.5	1.09	2.27	1.18	0.91	0.76	0.98	0.78	0.99	0.79	1	2.27	1.27	14.4	95.62	2.91	0.58	0.9	11.24	0	11.24	4	2	0	0	0	0.31	0	0	0	0	0	0	0	0	0	59.36	70.6	0.08	0.68
500	41.01	12.23	0.22	91.35	1.09	2.27	1.18	0.91	0.76	0.98	0.78	0.99	0.79	1	2.27	1.27	13.6	99.96	2.96	0.58	0.9	10.38	0	10.38	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	70.4	0.08	0.64
501	41.09	10.94	0.31	137.52	1.09	2.28	1.18	0.91	0.76	0.98	0.78	0.99	0.79	1	2.28	1.28	13.51	100	3.02	0.59	0.9	9.27	0	9.27	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	69.29	0.08	0.63
502	41.17	11.5	0.39	177.55	1.1	2.28	1.18	0.91	0.76	0.98	0.78	0.99	0.79	1	2.28	1.28	15.2	100	3	0.58	0.9	9.74	0	9.74	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	60.02	69.76	0.08	0.72
503	41.26	15.77	0.51	198.73	1.1	2.29	1.19	0.91	0.76	0.97	0.78	0.99	2	1.01	2.29	1.28	18.7	95.14	2.9	0.57	0.9	13.37	0	13.37	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	59.28	72.65	0.08	0.92
504	41.34	21.39	0.54	141.29	1.1	2.29	1.19	0.91	0.76	0.97	0.78	0.99	2	1.01	2.29	1.28	23.69	83.93	2.76	0.56	0.9	18.17	0	18.17	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	57.17	75.35	0.08	1.19
505	41.42	28.36	0.52	44.82	1.11	2.3	1.19	0.91	0.76	0.97	0.79	0.99	2	1.01	2.3	1.28	27.78	74.69	2.65	0.54	0.9	24.15	0	24.15	4	2	0	0	0	0.3	0	0	0	0	0	0	0	0	0	54.92	79.07	0.09	1.42
506	41.5	30.79	0.46	8.35	1.11	2.3	1.19	0.91	0.76	0.97	0.79	0.99	2	1.01	2.3	1.29	30.66	66.52	2.54	0.54	0.9	26.21	57.57	83.78	4	2	0	0	0	0.3	0	44.57	0.9	0	0	0	0	0	0	52.38	78.59	0.09	0.64
507	41.58	32.09	0.34	-1.99	1.11	2.3	1.19	0.91	0.76	0.97	0.79	0.99	2	1.02	2.3	1.29	31.28	61.98	2.49	0.54	0.9	27.3	56.86	84.16	4	2	0	0	0	0.3	0	44.19	0.9	0	0	0	0	0	0	50.69	77.99	0.09	0.64
508	41.67	30.93	0.3	-3.92	1.11	2.31	1.2	0.91	0.76	0.97	0.79	0.99	2	1.02	2.31	1.29	30.07	62.77	2.5	0.54	0.9	26.28	56.76	83.04	4	2	0	0	0	0.29	0	45.39	0.9	0	0	0	0	0	0	51	77.28	0.09	0.63
509	41.75	27.3	0.39	-2.29	1.12	2.31	1.2	0.91	0.76	0.97	0.79	0.99	2	1.02	2.31	1.29	27.01	69.2	2.58	0.55	0.9	23.14	57.21	80.35	4	2	0	0	0	0.29	0	48.37	0.91	0	0	0	0	0	0	53.28	76.42	0.09	0.62
510	41.83	22.79	0.37	6.64	1.12	2.32	1.2	0.91	0.76	0.97	0.78	0.99	2	1.02	2.32	1.29	22.75	79.73	2.71	0.55	0.89	19.27	0	19.27	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	56.22	75.48	0.08	1.13
511	41.91	17.46	0.37	45.15	1.12	2.32	1.2	0.91	0.76	0.97	0.78	0.99	2	1.03	2.32	1.3	19.03	89.05	2.83	0.57	0.89	14.71	0	14.71	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	58.21	72.92	0.08	0.92
512	41.99	14.79	0.35	89.62	1.12	2.33	1.2	0.91	0.76	0.98	0.78	0.99	2	1.03	2.33	1.3	16.42	96.77	2.92	0.57	0.89	12.43	0	12.43	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	59.54	71.97	0.08	0.78
513	42.08	12.84	0.34	154.62	1.13	2.33	1.21	0.91	0.76	0.98	0.78	0.99	2	1.03	2.33	1.3	15.38	100	2.96	0.58	0.89	10.77	0	10.77	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	70.8	0.08	0.72
514	42.16	12.17	0.34	195.3	1.13	2.34	1.21	0.9	0.76	0.98	0.78	0.99	0.79	1.03	2.34	1.3	15.21	100	2.98	0.58	0.89	10.2	0	10.2	4	2	0	0	0	0.29	0	0	0	0	0	0	0	0	0	60.02	70.22	0.08	0.71
515	42.24	12.75	0.36	196.62	1.13	2.34	1.21	0.9	0.76	0.98	0.78	0.99	0.79	1.04	2.34	1.3	15.37	100	2.99	0.58	0.89	10.68	0	10.68	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	70.7	0.08	0.71
516	42.32	13.19	0.41	163.58	1.13	2.34	1.21	0.9	0.76	0.98	0.78	0.99	0.79	1.04	2.34	1.31	15.62	100	3	0.58	0.89	11.04	0	11.04	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	71.06	0.08	0.73
517	42.4	13.82	0.48	132.69	1.14	2.35	1.21	0.9	0.76	0.98	0.78	0.99	0.79	1.04	2.35	1.31	15.63	100	3.03	0.58	0.89	11.56	0	11.56	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	71.59	0.08	0.73
518	42.49	13.93	0.49	116.03	1.14	2.35	1.22	0.9	0.76	0.98	0.78	0.99	0.79	1.04	2.35	1.31	15.65	100	3.05	0.58	0.88	11.64	0	11.64	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	71.67	0.08	0.73
519	42.57	13.93	0.51	116.92	1.14	2.36	1.22	0.9	0.76	0.98	0.78	0.99	0.79	1.05	2.36	1.31	15.59	100	3.06	0.58	0.88	11.63	0	11.63	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	71.66	0.08	0.72
520	42.65	13.82	0.54	121.01	1.14	2.36	1.22	0.9	0.76	0.98	0.78	0.99	0.79	1.05	2.36	1.31	15.73	100	3.07	0.58	0.88	11.53	0	11.53	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	71.56	0.08	0.73
521	42.73	13.88	0.57	147.61	1.15	2.37	1.22	0.9	0.76	0.98	0.78	0.99	0.79	1.05	2.37	1.32	15.96	100	3.07	0.58	0.88	11.57	0	11.57	4	2	0	0	0	0.28	0	0	0	0	0	0	0	0	0	60.02	71.6	0.08	0.74
522	42.81	14.7	0.57	111.03	1.15	2.37	1.22	0.9	0.76	0.98	0.78	0.99	0.79	1.06	2.37	1.32	16.11	100	3.06	0.57	0.88	12.25	0	12.25	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	72.27	0.08	0.75
523	42.9	14.63	0.56	97.89	1.15	2.38	1.23	0.9	0.76	0.98	0.78	0.99	0.79	1.06	2.38	1.32	15.98	100	3.07	0.57	0.88	12.18	0	12.18	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	72.2	0.08	0.74
524	42.98	14.27	0.56	93.08	1.15	2.38	1.23	0.9	0.76	0.98	0.78	0.99	0.79	1.06	2.38	1.32	15.8	100	3.08	0.58	0.88	11.87	0	11.87	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	71.89	0.08	0.73
525	43.06	14.21	0.57	107.36	1.16	2.39	1.23	0.9	0.76	0.98	0.78	0.99	0.79	1.06	2.39	1.32	15.76	100	3.08	0.58	0.88	11.81	0	11.81	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	71.83	0.08	0.72
526	43.14	14.17	0.54	121.05	1.16	2.39	1.23	0.9	0.76	0.98	0.78	0.99	0.79	1.07	2.39	1.33	15.79	100	3.07	0.58	0.88	11.76	0	11.76	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	71.79	0.08	0.72
527	43.23	13.78	0.52	132.44	1.16	2.4	1.23	0.9	0.76	0.98	0.78	0.99	0.79	1.07	2.4	1.33	15.85	100	3.06	0.58	0.88	11.42	0	11.42	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	71.45	0.08	0.72
528	43.31	14.16	0.51	124.77	1.16	2.4	1.24	0.9	0.76	0.98	0.78	0.99	0.79	1.07	2.4	1.33	15.95	100	3.05	0.58	0.88	11.73	0	11.73	4	2	0	0	0	0.27	0	0	0	0	0	0	0	0	0	60.02	71.76	0.08	0.73
529	43.39	14.54	0.53	116.05	1.17	2.4	1.24	0.9	0.76	0.98	0.78	0.99	0.79	1.07	2.4	1.33	16.02	100	3.05	0.57	0.88	12.04	0	12.04	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	60.02	72.06	0.08	0.73
530	43.47	13.98	0.53	133.3	1.17	2.41	1.24	0.9	0.76	0.98	0.78	0.99	0.79	1.08	2.41	1.33	15.94	100	3.06	0.58	0.88	11.56	0	11.56	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	60.02	71.59	0.08	0.72
531	43.55	13.58	0.53	148.26	1.17	2.41	1.24	0.9	0.76	0.98	0.78	0.99	0.79	1.08	2.41	1.34	15.94	100	3.06	0.58	0.87	11.22	0	11.22	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	60.02	71.24	0.08	0.72
532	43.64	14.31	0.52	130.71	1.17	2.42	1.24	0.9	0.76	0.98	0.78	0.99	0.79	1.08	2.42	1.34	16.06	100	3.05	0.58	0.87	11.82	0	11.82	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	60.02	71.84	0.08	0.73
533	43.72	14.27	0.53	139.46	1.18	2.42	1.25	0.9	0.76	0.98	0.78	0.99	0.79	1.08	2.42	1.34	16.31	100	3.05	0.58	0.87	11.77	0	11.77	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	60.02	71.8	0.08	0.74
534	43.8	14.6	0.55	130.16	1.18	2.43	1.25	0.9	0.76	0.98	0.78	0.99	0.79	1.09	2.43	1.34	16.59	100	3.04	0.57	0.87	12.04	0	12.04	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	60.02	72.06	0.08	0.75
535	43.88	14.86	0.56	150.36	1.18	2.43	1.25	0.9	0.76	0.98	0.78	0.99	0.79	1.09	2.43	1.34	16.76	100	3.04	0.57	0.87	12.24	0	12.24	4	2	0	0	0	0.26	0	0	0	0	0	0	0	0	0	60.02	72.27	0.08	0.76
536	43.96	15.08	0.57	117.36	1.18	2.44	1.25	0.9	0.76	0.98	0.78	0.99	0.79	1.09	2.44	1.35	16.76	100	3.05	0.57	0.87	12.41	0	12.41	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	72.44	0.08	0.76
537	44.05	14.92	0.61	109.56	1.19	2.44	1.25	0.9	0.76	0.98	0.78	0.99	0.79	1.09	2.44	1.35	16.7	100	3.06	0.57	0.87	12.27	0	12.27	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	72.29	0.08	0.76
538	44.13	15.27	0.63	109.19	1.19	2.45	1.26	0.9	0.76	0.97	0.78	0.99	0.79	1.1	2.45	1.35	16.73	100	3.07	0.57	0.87	12.55	0	12.55	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	72.57	0.08	0.76
539	44.21	15.35	0.64	103.86	1.19	2.45	1.26	0.9	0.76	0.97	0.78	0.99	0.79	1.1	2.45	1.35	16.68	100	3.08	0.57	0.87	12.6	0	12.6	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	72.63	0.08	0.75
540	44.29	14.94	0.63	97.44	1.19	2.46	1.26	0.9	0.76	0.98	0.78	0.99	0.79	1.1	2.46	1.35	16.6	100	3.08	0.57	0.87	12.25	0	12.25	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	72.28	0.08	0.75
541	44.37	15.08	0.62	105.61	1.2	2.46	1.26	0.9	0.76	0.98	0.78	0.99	0.79	1.1	2.46	1.36	16.33	100	3.09	0.57	0.87	12.36	0	12.36	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	72.38	0.08	0.73
542	44.46	14.4	0.6	114.62	1.2	2.47	1.27	0.9	0.76	0.98	0.78	0.99	0.79	1.11	2.47	1.36	16.25	100	3.09	0.58	0.87	11.78	0	11.78	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	71.81	0.08	0.72
543	44.54	14.29	0.58	125.91	1.2	2.47	1.27	0.9	0.76	0.98	0.78	0.98	0.79	1.11	2.47	1.36	16.11	100	3.08	0.58	0.87	11.68	0	11.68	4	2	0	0	0	0.25	0	0	0	0	0	0	0	0	0	60.02	71

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results															
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
545	44.7	14.05	0.54	137.04	1.21	2.48	1.27	0.9	0.76	0.98	0.78	0.98	0.79	1.11	2.48	1.37	16.11	100	3.07	0.58	0.86	11.46	0	11.46	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	60.02	71.49	0.08	0.71
546	44.78	14.14	0.53	138.87	1.21	2.48	1.27	0.9	0.76	0.98	0.78	0.98	0.79	1.12	2.48	1.37	16.23	100	3.06	0.58	0.86	11.53	0	11.53	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	60.02	71.55	0.08	0.72
547	44.87	14.39	0.52	148.25	1.21	2.49	1.28	0.9	0.76	0.98	0.78	0.98	0.79	1.12	2.49	1.37	16.39	100	3.04	0.58	0.86	11.72	0	11.72	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	60.02	71.75	0.08	0.73
548	44.95	14.33	0.49	150.81	1.22	2.49	1.28	0.9	0.76	0.98	0.78	0.98	0.79	1.12	2.49	1.37	16.65	100	3.03	0.58	0.86	11.66	0	11.66	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	60.02	71.69	0.08	0.74
549	45.03	14.64	0.5	159.16	1.22	2.5	1.28	0.9	0.76	0.98	0.78	0.98	0.79	1.12	2.5	1.37	16.72	100	3.02	0.57	0.86	11.91	0	11.91	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	60.02	71.93	0.08	0.74
550	45.11	14.39	0.5	162.15	1.22	2.5	1.28	0.9	0.76	0.98	0.78	0.98	0.79	1.13	2.5	1.38	16.94	100	3.02	0.58	0.86	11.69	0	11.69	4	2	0	0	0	0.24	0	0	0	0	0	0	0	0	0	60.02	71.72	0.08	0.75
551	45.19	14.87	0.52	159.43	1.22	2.51	1.28	0.89	0.76	0.98	0.78	0.98	0.79	1.13	2.51	1.38	17.36	100	3.01	0.57	0.86	12.08	0	12.08	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	72.1	0.08	0.77
552	45.28	15.83	0.54	164.21	1.23	2.51	1.29	0.89	0.76	0.97	0.78	0.98	0.79	1.13	2.51	1.38	17.94	100	2.99	0.57	0.86	12.86	0	12.86	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	72.88	0.08	0.8
553	45.36	16.19	0.55	157.18	1.23	2.52	1.29	0.89	0.76	0.97	0.78	0.98	0.79	1.13	2.52	1.38	18.3	100	2.98	0.57	0.86	13.14	0	13.14	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	73.17	0.08	0.82
554	45.44	16.02	0.54	155.68	1.23	2.52	1.29	0.89	0.76	0.97	0.78	0.98	0.79	1.14	2.52	1.38	18.24	100	2.99	0.57	0.86	12.99	0	12.99	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	73.02	0.08	0.81
555	45.52	15.7	0.54	159.49	1.23	2.53	1.29	0.89	0.76	0.97	0.78	0.98	0.79	1.14	2.53	1.39	18.29	100	2.98	0.57	0.86	12.72	0	12.72	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	72.74	0.08	0.81
556	45.6	16.19	0.54	168.85	1.24	2.53	1.29	0.89	0.76	0.97	0.78	0.98	0.79	1.14	2.53	1.39	18.22	100	2.99	0.57	0.86	13.11	0	13.11	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	73.13	0.08	0.81
557	45.69	15.63	0.54	166.6	1.24	2.53	1.3	0.89	0.76	0.97	0.78	0.98	0.79	1.14	2.53	1.39	18.33	100	2.98	0.57	0.86	12.64	0	12.64	4	2	0	0	0	0.23	0	0	0	0	0	0	0	0	0	60.02	72.66	0.08	0.81
558	45.77	15.93	0.54	168.13	1.24	2.54	1.3	0.89	0.76	0.97	0.78	0.98	0.79	1.15	2.54	1.39	18.25	100	2.99	0.57	0.86	12.87	0	12.87	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	72.9	0.08	0.81
559	45.85	15.98	0.56	164.93	1.24	2.54	1.3	0.89	0.76	0.97	0.78	0.98	0.79	1.15	2.54	1.39	18.33	100	3	0.57	0.85	12.9	0	12.9	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	72.93	0.08	0.81
560	45.93	15.83	0.59	170.45	1.25	2.55	1.3	0.89	0.76	0.97	0.78	0.98	0.79	1.15	2.55	1.4	18.63	100	3	0.57	0.85	12.77	0	12.77	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	72.79	0.08	0.82
561	46.01	16.92	0.6	161.08	1.25	2.55	1.3	0.89	0.76	0.97	0.78	0.98	0.79	1.15	2.55	1.4	18.69	100	3	0.57	0.85	13.65	0	13.65	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	73.67	0.08	0.82
562	46.1	16.85	0.59	117.74	1.25	2.56	1.31	0.89	0.76	0.97	0.78	0.98	0.79	1.16	2.56	1.4	18.69	100	3	0.57	0.85	13.58	0	13.58	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	73.6	0.08	0.82
563	46.18	16.49	0.61	124.97	1.25	2.56	1.31	0.89	0.76	0.97	0.78	0.98	0.79	1.16	2.56	1.4	18.51	100	3.02	0.57	0.85	13.27	0	13.27	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	73.3	0.08	0.81
564	46.26	16.69	0.65	139.53	1.26	2.57	1.31	0.89	0.76	0.97	0.78	0.98	0.79	1.16	2.57	1.4	18.52	100	3.03	0.57	0.85	13.42	0	13.42	4	2	0	0	0	0.22	0	0	0	0	0	0	0	0	0	60.02	73.45	0.08	0.81
565	46.34	16.32	0.67	155.3	1.26	2.57	1.31	0.89	0.76	0.97	0.78	0.98	0.79	1.17	2.57	1.41	18.58	100	3.03	0.57	0.85	13.11	0	13.11	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	73.14	0.08	0.81
566	46.42	16.38	0.67	146.83	1.26	2.58	1.32	0.89	0.76	0.97	0.78	0.98	0.79	1.17	2.58	1.41	18.52	100	3.04	0.57	0.85	13.15	0	13.15	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	73.17	0.08	0.81
567	46.51	16.73	0.67	122.97	1.26	2.58	1.32	0.89	0.76	0.97	0.78	0.98	0.79	1.17	2.58	1.41	18.35	100	3.05	0.57	0.85	13.42	0	13.42	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	73.45	0.08	0.8
568	46.59	16.25	0.69	126.13	1.27	2.59	1.32	0.89	0.76	0.97	0.78	0.98	0.79	1.17	2.59	1.41	18.42	100	3.05	0.57	0.85	13.02	0	13.02	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	73.04	0.08	0.8
569	46.67	16.69	0.7	139.49	1.27	2.59	1.32	0.89	0.76	0.97	0.78	0.98	0.79	1.18	2.59	1.42	18.44	100	3.05	0.57	0.85	13.37	0	13.37	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	73.39	0.08	0.8
570	46.75	16.37	0.68	151.2	1.27	2.6	1.32	0.89	0.76	0.97	0.78	0.98	0.79	1.18	2.6	1.42	18.54	100	3.05	0.57	0.85	13.09	0	13.09	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	73.12	0.08	0.8
571	46.83	16.25	0.69	146.73	1.27	2.6	1.33	0.89	0.76	0.97	0.78	0.98	0.79	1.18	2.6	1.42	18.43	100	3.05	0.57	0.85	12.99	0	12.99	4	2	0	0	0	0.21	0	0	0	0	0	0	0	0	0	60.02	73.01	0.08	0.8
572	46.92	16.34	0.7	141.43	1.28	2.6	1.33	0.89	0.76	0.97	0.78	0.98	0.79	1.18	2.6	1.42	18.48	100	3.06	0.57	0.84	13.05	0	13.05	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	73.07	0.08	0.8
573	47	16.57	0.7	148.63	1.28	2.61	1.33	0.89	0.76	0.97	0.78	0.98	0.79	1.19	2.61	1.42	18.59	100	3.05	0.57	0.84	13.22	0	13.22	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	73.25	0.08	0.8
574	47.08	16.63	0.69	141.71	1.28	2.61	1.33	0.89	0.76	0.97	0.78	0.98	0.79	1.19	2.61	1.43	18.71	100	3.05	0.57	0.84	13.26	0	13.26	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	73.28	0.08	0.81
575	47.16	16.68	0.7	142.83	1.28	2.62	1.33	0.89	0.76	0.97	0.78	0.98	0.79	1.19	2.62	1.43	18.79	100	3.05	0.57	0.84	13.29	0	13.29	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	73.31	0.08	0.81
576	47.24	16.74	0.71	154.17	1.29	2.62	1.34	0.89	0.76	0.97	0.78	0.98	0.79	1.19	2.62	1.43	19.08	100	3.04	0.57	0.84	13.33	0	13.33	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	73.35	0.08	0.82
577	47.33	17.4	0.75	149.33	1.29	2.63	1.34	0.89	0.76	0.97	0.78	0.98	0.79	1.2	2.63	1.43	19.51	100	3.04	0.57	0.84	13.85	0	13.85	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	73.87	0.08	0.84
578	47.41	18.23	0.78	125.15	1.29	2.63	1.34	0.89	0.76	0.97	0.78	0.98	0.8	1.2	2.63	1.43	20.11	100	3.04	0.57	0.84	14.51	0	14.51	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	74.53	0.08	0.87
579	47.49	19.27	0.86	101.96	1.29	2.64	1.34	0.89	0.76	0.97	0.78	0.98	0.8	1.2	2.64	1.44	20.32	100	3.05	0.56	0.84	15.33	0	15.33	4	2	0	0	0	0.2	0	0	0	0	0	0	0	0	0	60.02	75.36	0.08	0.88
580	47.57	19.14	0.92	72.59	1.3	2.64	1.35	0.89	0.76	0.97	0.78	0.98	0.8	1.2	2.64	1.44	20.45	100	3.06	0.56	0.84	15.21	0	15.21	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	75.24	0.08	0.88
581	47.65	19.74	0.97	47.14	1.3	2.65	1.35	0.89	0.76	0.97	0.78	0.98	0.8	1.21	2.65	1.44	20.09	100	3.09	0.56	0.84	15.69	0	15.69	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	75.71	0.08	0.86
582	47.74	18.93	0.97	50.68	1.3	2.65	1.35	0.89	0.76	0.97	0.78	0.98	0.8	1.21	2.65	1.44	19.83	100	3.1	0.56	0.84	15.02	0	15.02	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	75.04	0.08	0.85
583	47.82	18.69	0.97	51.11	1.3	2.66	1.35	0.89	0.76	0.97	0.78	0.98	0.8	1.21	2.66	1.45	19.41	100	3.11	0.56	0.84	14.81	0	14.81	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	74.84	0.08	0.83
584	47.9	18.35	0.94	55.36	1.31	2.66	1.35	0.89	0.76	0.97	0.78	0.98	0.8	1.21	2.66	1.45	19.26	100	3.11	0.57	0.84	14.52	0	14.52	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	74.55	0.08	0.82
585	47.98	18.13	0.9	74.98	1.31	2.67	1.36	0.89	0.76	0.97	0.78	0.98	0.8	1.22	2.67	1.45	19.19	100	3.1	0.57	0.84	14.33	0	14.33	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	74.36	0.08	0.81
586	48.06	18	0.84	84.89	1.31	2.67	1.36	0.89	0.76	0.97	0.78	0.98	0.8	1.22	2.67	1.45	19.03	100	3.1	0.57	0.84	14.22	0	14.22	4	2	0	0	0	0.19	0	0	0	0	0	0	0	0	0	60.02	74.24	0.08	0.8
587	48.15	17.49	0.79	81.4	1.31	2.68	1.36	0.88	0.76	0.97	0.78	0.98	0.79	1.22	2.68	1.45	18.69	100	3.08	0.57	0.83	13.8	0	13.8	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	73.82	0.08	0.79
588	48.23	16.93	0.64	87.69	1.32	2.68	1.36	0.88	0.76	0.97	0.78	0.98	0.79	1.22	2.68	1.46	18.31	100	3.06	0.57	0.83	13.34	0	13.34	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	73.36	0.08	0.77
589	48.31	16.68	0.59	95.89	1.32	2.69	1.37	0.88	0.76	0.97	0.78	0.98	0.79	1.23	2.69	1.46	18.19	100	3.04	0.57	0.83	13.13	0	13.13	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	73.15	0.08	0.76
590	48.39	16.48	0.57	128.51	1.32	2.69	1.37	0.88	0.76	0.97	0.78	0.98	0.79	1.23	2.69	1.46	18.49	100	3.02	0.57	0.83	12.95	0	12.95	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	72.98	0.08	0.77
591	48.47	16.91	0.59	151.27	1.33	2.69	1.37	0.88	0.76	0.97	0.78	0.98	0.79	1.23	2.69	1.46	19.04	100	3	0.57	0.83	13.29	0	13.29	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	73.31	0.08	0.8
592	48.56	17.25	0.62	169.51	1.33	2.7	1.37	0.88	0.76	0.97	0.78	0.98	0.79	1.23	2.7	1.47	19.63	100	3	0.57	0.83	13.55	0	13.55	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	73.57	0.08	0.83
593	48.64	17.84	0.66	158.07	1.33	2.7	1.37	0.88	0.76	0.97	0.78	0.98	0.8	1.24	2.7	1.47	19.9	100	3	0.57	0.83	14.01	0	14.01	4	2	0	0	0	0.18	0	0	0	0	0	0	0	0	0	60.02	74.03	0.08	0.84
594	48.72	18.37	0.71	105.47	1.33	2.71	1.38	0.88	0.76	0.97	0.78	0.98	0.8	1.24	2.71	1.47	19.72	100	3.03	0.57	0.83	14.42	0	14.42	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	74.44	0.08	0.83
595	48.8	17.7	0.76	101.86	1.34	2.71	1.38	0.88	0.76	0.97	0.78	0.98	0.79	1.24	2.71	1.47	19.39	100	3.06	0.57	0.83	13.87	0	13.87	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	73.9	0.08	0.81
596	48.88	17.57	0.77	107.11	1.34	2.72	1.38	0.88	0.76	0.97	0.78	0.98	0.79	1.24	2.72	1.47	19.22	100	3.07	0.57	0.83	13.76	0	13.76	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	73.78	0.08	0.8
597	48.97	17.78	0.77	112.05	1.34	2.72	1.38	0.88	0.76	0.97	0.78	0.98	0.79	1.25	2.72	1.48	19.26	100	3.07	0.57	0.83	13.91	0	13.91	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	73.94	0.08	0.8
598	49.05	17.74	0.75	107.36	1.34	2.73	1.38	0.88	0.76	0.97	0.78	0.98	0.79	1.25	2.73	1.48	18.99	100	3.07	0.57	0.83	13.87	0	13.87	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	73.89	0.08	0.79
599	49.13	16.47	0.72	125.78	1.35	2.73	1.39	0.88	0.76	0.97	0.78	0.98	0.79	1.25	2.73	1.48	18.69	100	3.08	0.57	0.83	12.85	0	12.85	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	72.87	0.08	0.77
600	49.21	16.65	0.71	129.39	1.35	2.74	1.39	0.88	0.76	0.97	0.78	0.98	0.79	1.25	2.74	1.48	18.58	100	3.08	0.57	0.82	12.98	0	12.98	4	2	0	0	0	0.17	0	0	0	0	0	0	0	0	0	60.02	73	0.08	0.76
601	49.29	17.06	0.7	131.34	1.35	2.74	1.39	0.88	0.76	0.97	0.78	0.98	0.79	1.26	2.74	1.48	18.75	100	3.07	0.57	0.82	13.29	0	13.29	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	73.32	0.08	0.77
602	49.38	16.78	0.7	139.17	1.35	2.75	1.39	0.88	0.76	0.97	0.78	0.98	0.79	1.26	2.75	1.49	18.86	100	3.07	0.57	0.82	13.06	0	13.06	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	73.09	0.08	0.77
603	49.46	17.35	0.74	104.78	1.36	2.75	1.4	0.88	0.76	0.97	0.78	0.98	0.79	1.26	2.75	1.49	19.07	100	3.07	0.57	0.82	13.5	0	13.5	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	73.53	0.08	0.78
604	49.54	18	0.78	109.17	1.36	2.76	1.4	0.88	0.76	0.97	0.78	0.98	0.79	1.26	2.76	1.49	19.35	100	3.07	0.57	0.82	14	0	14	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.03	0.08	0.8
605	49.62	18.12	0.81	104.89	1.36	2.76	1.4	0.88	0.76	0.97	0.78	0.98	0.8	1.27	2.76	1.49	19.53	100	3.08	0.57	0.82	14.09	0	14.09	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.11	0.08	0.8
606	49.7	17.92	0.81	102.22	1.36	2.77	1.4	0.88	0.76	0.97	0.78	0.98	0.79	1.27	2.77	1.5	19.46	100	3.08	0.57	0.82	13.92	0	13.92	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	73.94	0.08	0.8
607	49.79	18.21	0.78	79.09	1.37	2.77	1.4	0.88	0.76	0.97	0.78	0.98	0.8	1.27	2.77	1.5	19.12	100	3.09	0.57	0.82	14.13	0	14.13	4	2	0	0	0	0.16	0	0	0	0	0	0	0	0	0	60.02	74.16	0.08	0.78
608	49.87	17.46	0.78	81.47	1.37	2.78	1.41	0.88	0.76	0.97	0.78	0.98	0.79	1.28	2.78	1.5	19.18	100	3.09	0.57	0.82	13.53	0	13.53	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	73.55	0.08	0.78
609	49.95	17.77	0.81	123.27	1.37	2.78	1.41	0.88	0.76	0.97	0.78	0.98	0.79	1.28	2.78	1.5	19.1	100	3.09	0.57	0.82	13.76	0	13.76	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	73.79	0.08	0.78
610	50.03	17.29	0.79	126.85	1.37	2.78	1.41	0.88	0.76	0.97	0.78	0.98	0.79	1.28	2.78	1.5	19.79	100	3.07	0.57	0.82	13.37	0	13.37	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	73.4	0.08	0.81
611	50.11	18.72	0.78	137.12	1.38	2.79	1.41	0.88	0.76	0.97	0.78	0.98	0.8	1.28	2.79	1.51	20.23	100	3.05	0.57	0.82	14.49	0	14.49	4	2	0	0	0	0.15	0	0	0	0	0	0	0	0	0	60.02	74.51	0.08	0.83
612	50.2	18.95	0.81	134

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																	
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
613	50.28	19.21	0.84	111.75	1.38	2.8	1.42	0.88	0.75	0.97	0.78	0.97	0.8	1.29	2.8	1.51	21	100	3.04	0.56	0.82	14.85	0	14.85	4	2	0	0	0.15	0	0	0	0	0	0	0	0	60.02	74.87	0.08	0.86
614	50.36	19.81	0.87	102.09	1.38	2.8	1.42	0.88	0.75	0.97	0.78	0.97	0.8	1.29	2.8	1.51	21.08	100	3.05	0.56	0.82	15.31	0	15.31	4	2	0	0	0.15	0	0	0	0	0	0	0	0	60.02	75.34	0.08	0.86
615	50.44	19.59	0.9	107.52	1.39	2.81	1.42	0.88	0.75	0.97	0.78	0.97	0.8	1.29	2.81	1.52	21.18	100	3.05	0.56	0.82	15.12	0	15.12	4	2	0	0	0.15	0	0	0	0	0	0	0	0	60.02	75.15	0.08	0.87
616	50.52	19.56	0.9	109.19	1.39	2.81	1.42	0.88	0.75	0.97	0.78	0.97	0.8	1.3	2.81	1.52	21.01	100	3.06	0.56	0.82	15.09	0	15.09	4	2	0	0	0.14	0	0	0	0	0	0	0	0	60.02	75.11	0.08	0.86
617	50.61	19.11	0.89	113.57	1.39	2.82	1.43	0.88	0.75	0.97	0.77	0.97	0.8	1.3	2.82	1.52	20.49	100	3.07	0.56	0.82	14.72	0	14.72	4	2	0	0	0.14	0	0	0	0	0	0	0	0	60.02	74.75	0.08	0.83
618	50.69	18.18	0.84	98.45	1.39	2.82	1.43	0.88	0.75	0.97	0.77	0.97	0.79	1.3	2.82	1.52	19.88	100	3.09	0.57	0.81	13.98	0	13.98	4	2	0	0	0.14	0	0	0	0	0	0	0	0	60.02	74	0.08	0.8
619	50.77	17.95	0.82	92.93	1.4	2.83	1.43	0.88	0.75	0.97	0.77	0.97	0.79	1.3	2.83	1.52	19.41	100	3.09	0.57	0.81	13.79	0	13.79	4	2	0	0	0.14	0	0	0	0	0	0	0	0	60.02	73.81	0.08	0.78
620	50.85	17.71	0.76	112.93	1.4	2.83	1.43	0.88	0.75	0.97	0.77	0.97	0.79	1.31	2.83	1.53	19.41	100	3.08	0.57	0.81	13.59	0	13.59	4	2	0	0	0.14	0	0	0	0	0	0	0	0	60.02	73.61	0.08	0.78
621	50.94	17.64	0.72	137.17	1.4	2.84	1.43	0.88	0.75	0.97	0.77	0.97	0.79	1.31	2.84	1.53	19.6	100	3.06	0.57	0.81	13.52	0	13.52	4	2	0	0	0.14	0	0	0	0	0	0	0	0	60.02	73.55	0.08	0.78
622	51.02	17.67	0.7	150.91	1.4	2.84	1.44	0.88	0.75	0.97	0.77	0.97	0.79	1.31	2.84	1.53	19.88	100	3.04	0.57	0.81	13.54	0	13.54	4	2	0	0	0.14	0	0	0	0	0	0	0	0	60.02	73.56	0.08	0.8
623	51.1	17.9	0.7	158.24	1.41	2.85	1.44	0.87	0.75	0.97	0.77	0.97	0.79	1.31	2.85	1.53	20.21	100	3.03	0.57	0.81	13.7	0	13.7	4	2	0	0	0.13	0	0	0	0	0	0	0	0	60.02	73.73	0.08	0.81
624	51.18	18.39	0.71	153.28	1.41	2.85	1.44	0.87	0.75	0.97	0.77	0.97	0.79	1.32	2.85	1.54	20.41	100	3.02	0.57	0.81	14.08	0	14.08	4	2	0	0	0.13	0	0	0	0	0	0	0	0	60.02	74.1	0.08	0.82
625	51.26	18.41	0.71	141.64	1.41	2.86	1.44	0.87	0.75	0.97	0.77	0.97	0.79	1.32	2.86	1.54	20.45	100	3.02	0.57	0.81	14.08	0	14.08	4	2	0	0	0.13	0	0	0	0	0	0	0	0	60.02	74.1	0.08	0.82
626	51.35	18.32	0.7	138.21	1.41	2.86	1.45	0.87	0.75	0.97	0.77	0.97	0.79	1.32	2.86	1.54	20.28	100	3.03	0.57	0.81	14	0	14	4	2	0	0	0.13	0	0	0	0	0	0	0	0	60.02	74.02	0.08	0.81
627	51.43	18.1	0.7	137.68	1.42	2.87	1.45	0.87	0.75	0.97	0.77	0.97	0.79	1.32	2.87	1.54	20.17	100	3.02	0.57	0.81	13.82	0	13.82	4	2	0	0	0.13	0	0	0	0	0	0	0	0	60.02	73.84	0.08	0.8
628	51.51	18.03	0.6	145.5	1.42	2.87	1.45	0.87	0.75	0.97	0.77	0.97	0.79	1.33	2.87	1.54	20.02	100	3.01	0.57	0.81	13.75	0	13.75	4	2	0	0	0.13	0	0	0	0	0	0	0	0	60.02	73.77	0.08	0.79
629	51.59	17.57	0.6	157.45	1.42	2.87	1.45	0.87	0.75	0.97	0.77	0.97	0.79	1.33	2.87	1.55	19.99	100	3	0.57	0.81	13.38	0	13.38	4	2	0	0	0.13	0	0	0	0	0	0	0	0	60.02	73.41	0.08	0.79
630	51.67	17.46	0.62	177.72	1.43	2.88	1.45	0.87	0.75	0.97	0.77	0.97	0.79	1.33	2.88	1.55	19.92	100	3.01	0.57	0.81	13.29	0	13.29	4	2	0	0	0.12	0	0	0	0	0	0	0	0	60.02	73.31	0.08	0.79
631	51.76	17.16	0.63	190.25	1.43	2.88	1.46	0.87	0.75	0.97	0.77	0.97	0.79	1.33	2.88	1.55	20.14	100	3.01	0.57	0.8	13.04	0	13.04	4	2	0	0	0.12	0	0	0	0	0	0	0	0	60.02	73.07	0.08	0.8
632	51.84	18.02	0.66	171.64	1.43	2.89	1.46	0.87	0.75	0.97	0.77	0.97	0.79	1.34	2.89	1.55	20.11	100	3.02	0.57	0.8	13.7	0	13.7	4	2	0	0	0.12	0	0	0	0	0	0	0	0	60.02	73.72	0.08	0.79
633	51.92	17.61	0.67	162.6	1.43	2.89	1.46	0.87	0.75	0.97	0.77	0.97	0.79	1.34	2.89	1.55	20.28	100	3.02	0.57	0.8	13.37	0	13.37	4	2	0	0	0.12	0	0	0	0	0	0	0	0	60.02	73.39	0.08	0.8
634	52	18.14	0.67	156.31	1.44	2.9	1.46	0.87	0.75	0.97	0.77	0.97	0.79	1.34	2.9	1.56	20.14	100	3.02	0.57	0.8	13.77	0	13.77	4	2	0	0	0.12	0	0	0	0	0	0	0	0	60.02	73.79	0.08	0.79
635	52.08	17.76	0.66	161.93	1.44	2.9	1.46	0.87	0.75	0.97	0.77	0.97	0.79	1.34	2.9	1.56	20.44	100	3.01	0.57	0.8	13.46	0	13.46	4	2	0	0	0.12	0	0	0	0	0	0	0	0	60.02	73.49	0.08	0.8
636	52.17	18.13	0.65	188.83	1.44	2.91	1.47	0.87	0.75	0.97	0.77	0.97	0.79	1.35	2.91	1.56	20.44	100	3.01	0.57	0.8	13.74	0	13.74	4	2	0	0	0.12	0	0	0	0	0	0	0	0	60.02	73.76	0.08	0.8
637	52.25	18.01	0.65	164.16	1.44	2.91	1.47	0.87	0.75	0.97	0.77	0.97	0.79	1.35	2.91	1.56	20.27	100	3.01	0.57	0.8	13.64	0	13.64	4	2	0	0	0.11	0	0	0	0	0	0	0	0	60.02	73.66	0.08	0.79
638	52.33	17.28	0.64	160.85	1.45	2.92	1.47	0.87	0.75	0.97	0.77	0.97	0.79	1.35	2.92	1.56	20.03	100	3.02	0.57	0.8	13.06	0	13.06	4	2	0	0	0.11	0	0	0	0	0	0	0	0	60.02	73.09	0.08	0.78
639	52.41	17.77	0.66	163.26	1.45	2.92	1.47	0.87	0.75	0.97	0.77	0.97	0.79	1.35	2.92	1.57	19.97	100	3.03	0.57	0.8	13.43	0	13.43	4	2	0	0	0.11	0	0	0	0	0	0	0	0	60.02	73.45	0.08	0.78
640	52.49	17.69	0.69	172.89	1.45	2.93	1.48	0.87	0.75	0.97	0.77	0.97	0.79	1.36	2.93	1.57	20.29	100	3.03	0.57	0.8	13.36	0	13.36	4	2	0	0	0.11	0	0	0	0	0	0	0	0	60.02	73.38	0.08	0.79
641	52.58	17.99	0.7	179.87	1.45	2.93	1.48	0.87	0.75	0.97	0.77	0.97	0.79	1.36	2.93	1.57	20.48	100	3.03	0.57	0.8	13.58	0	13.58	4	2	0	0	0.11	0	0	0	0	0	0	0	0	60.02	73.6	0.08	0.8
642	52.66	18.2	0.74	172.93	1.46	2.94	1.48	0.87	0.75	0.97	0.77	0.97	0.79	1.36	2.94	1.57	20.86	100	3.03	0.57	0.8	13.73	0	13.73	4	2	0	0	0.11	0	0	0	0	0	0	0	0	60.02	73.75	0.08	0.81
643	52.74	18.88	0.76	169.13	1.46	2.94	1.48	0.87	0.75	0.97	0.77	0.97	0.79	1.36	2.94	1.58	21.09	100	3.03	0.57	0.8	14.24	0	14.24	4	2	0	0	0.11	0	0	0	0	0	0	0	0	60.02	74.27	0.08	0.82
644	52.82	19	0.8	157.63	1.46	2.95	1.48	0.87	0.75	0.97	0.77	0.97	0.79	1.37	2.95	1.58	21.18	100	3.04	0.57	0.8	14.32	0	14.32	4	2	0	0	0.1	0	0	0	0	0	0	0	0	60.02	74.35	0.08	0.83
645	52.9	18.91	0.82	141.63	1.46	2.95	1.49	0.87	0.75	0.97	0.77	0.97	0.79	1.37	2.95	1.58	21.03	100	3.05	0.57	0.8	14.24	0	14.24	4	2	0	0	0.1	0	0	0	0	0	0	0	0	60.02	74.27	0.08	0.82
646	52.99	18.83	0.81	141.91	1.47	2.95	1.49	0.87	0.75	0.97	0.77	0.97	0.79	1.37	2.95	1.58	20.86	100	3.06	0.57	0.8	14.17	0	14.17	4	2	0	0	0.1	0	0	0	0	0	0	0	0	60.02	74.19	0.08	0.81
647	53.07	18.8	0.82	136.41	1.47	2.96	1.49	0.87	0.75	0.97	0.77	0.97	0.79	1.37	2.96	1.58	20.79	100	3.06	0.57	0.8	14.13	0	14.13	4	2	0	0	0.1	0	0	0	0	0	0	0	0	60.02	74.16	0.08	0.8
648	53.15	18.91	0.83	126.95	1.47	2.96	1.49	0.87	0.75	0.97	0.77	0.97	0.79	1.38	2.96	1.59	20.76	100	3.07	0.57	0.79	14.21	0	14.21	4	2	0	0	0.1	0	0	0	0	0	0	0	0	60.02	74.23	0.08	0.8
649	53.23	18.88	0.85	132.37	1.47	2.97	1.5	0.87	0.75	0.97	0.77	0.97	0.79	1.38	2.97	1.59	20.6	100	3.08	0.57	0.79	14.17	0	14.17	4	2	0	0	0.1	0	0	0	0	0	0	0	0	60.02	74.2	0.08	0.79
650	53.31	18.98	0.87	90.2	1.48	2.97	1.5	0.87	0.75	0.97	0.77	0.97	0.79	1.38	2.97	1.59	20.35	100	3.1	0.57	0.79	14.24	0	14.24	4	2	0	0	0.1	0	0	0	0	0	0	0	0	60.02	74.26	0.08	0.78
651	53.4	18.68	0.89	90.95	1.48	2.98	1.5	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.98	1.59	20.08	100	3.11	0.57	0.79	14	0	14	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	74.02	0.08	0.77
652	53.48	18.71	0.87	88.11	1.48	2.98	1.5	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.98	1.6	20.02	100	3.11	0.57	0.79	14.01	0	14.01	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	74.03	0.08	0.76
653	53.56	18.7	0.85	96.51	1.48	2.99	1.5	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.99	1.6	20.15	100	3.1	0.57	0.79	13.99	0	13.99	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	74.01	0.08	0.77
654	53.64	18.7	0.82	117.49	1.49	2.99	1.51	0.87	0.75	0.97	0.77	0.97	0.79	1.39	2.99	1.6	20.35	100	3.09	0.57	0.79	13.98	0	13.98	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	74	0.08	0.77
655	53.72	18.5	0.8	142.86	1.49	3	1.51	0.87	0.75	0.97	0.77	0.97	0.79	1.4	3	1.6	20.58	100	3.07	0.57	0.79	13.81	0	13.81	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	73.84	0.08	0.78
656	53.81	18.94	0.77	128.2	1.49	3	1.51	0.87	0.75	0.97	0.77	0.97	0.79	1.4	3	1.6	20.68	100	3.06	0.57	0.79	14.14	0	14.14	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	74.16	0.08	0.79
657	53.89	18.89	0.78	124.8	1.49	3.01	1.51	0.87	0.75	0.97	0.77	0.97	0.79	1.4	3.01	1.61	20.71	100	3.06	0.57	0.79	14.09	0	14.09	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	74.11	0.08	0.79
658	53.97	18.93	0.78	119.39	1.5	3.01	1.52	0.87	0.75	0.97	0.77	0.97	0.79	1.4	3.01	1.61	20.71	100	3.06	0.57	0.79	14.11	0	14.11	4	2	0	0	0.09	0	0	0	0	0	0	0	0	60.02	74.13	0.08	0.79
659	54.05	18.89	0.76	132.75	1.5	3.02	1.52	0.86	0.75	0.97	0.77	0.97	0.79	1.41	3.02	1.61	20.68	100	3.05	0.57	0.79	14.07	0	14.07	4	2	0	0	0.08	0	0	0	0	0	0	0	0	60.02	74.09	0.08	0.78
660	54.13	18.76	0.7	127.32	1.5	3.02	1.52	0.86	0.75	0.97	0.77	0.97	0.79	1.41	3.02	1.61	20.59	100	3.04	0.57	0.79	13.96	0	13.96	4	2	0	0	0.08	0	0	0	0	0	0	0	0	60.02	73.98	0.08	0.78
661	54.22	18.29	0.66	144.48	1.5	3.03	1.52	0.86	0.75	0.97	0.77	0.97	0.79	1.41	3.03	1.62	20.33	100	3.03	0.57	0.79	13.59	0	13.59	4	2	0	0	0.08	0	0	0	0	0	0	0	0	60.02	73.61	0.08	0.77
662	54.3	17.69	0.63	161.71	1.51	3.03	1.52	0.86	0.75	0.97	0.77	0.97	0.79	1.41	3.03	1.62	20.15	100	3.02	0.57	0.79	13.12	0	13.12	4	2	0	0	0.08	0	0	0	0	0	0	0	0	60.02	73.15	0.08	0.76
663	54.38	17.48	0.57	180.25	1.51	3.04	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.42	3.04	1.62	19.98	100	3.01	0.57	0.78	12.96	0	12.96	4	2	0	0	0.08	0	0	0	0	0	0	0	0	60.02	72.98	0.08	0.75
664	54.46	16.99	0.5	197.33	1.51	3.04	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.42	3.04	1.62	19.97	100	2.98	0.57	0.78	12.58	0	12.58	4	2	0	0	0.08	0	0	0	0	0	0	0	0	60.02	72.6	0.08	0.75
665	54.54	17.05	0.46	204.04	1.51	3.04	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.42	3.04	1.62	19.99	99.99	2.96	0.57	0.78	12.61	0	12.61	4	2	0	0	0.08	0	0	0	0	0	0	0	0	60.02	72.63	0.08	0.75
666	54.63	17.05	0.45	214.95	1.52	3.05	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.42	3.05	1.63	20.21	97.87	2.94	0.57	0.78	12.6	0	12.6	4	2	0	0	0.07	0	0	0	0	0	0	0	0	59.71	72.31	0.08	0.75
667	54.71	17.21	0.4	229.09	1.52	3.05	1.53	0.86	0.75	0.97	0.77	0.97	0.79	1.43	3.05	1.63	20.52	96.05	2.91	0.57	0.78	12.71	0	12.71	4	2	0	0	0.07	0	0	0	0	0	0	0	0	59.42	72.13	0.08	0.77
668	54.79	17.7	0.39	223.61	1.52	3.06	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.43	3.06	1.63	20.83	94.45	2.89	0.57	0.78	13.07	0	13.07	4	2	0	0	0.07	0	0	0	0	0	0	0	0	59.16	72.23	0.08	0.78
669	54.87	17.99	0.4	212.41	1.52	3.06	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.43	3.06	1.63	21.05	93.96	2.89	0.57	0.78	13.28	0	13.28	4	2	0	0	0.07	0	0	0	0	0	0	0	0	59.08	72.36	0.08	0.79
670	54.95	18.12	0.4	212.63	1.53	3.07	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.43	3.07	1.63	21.11	94.12	2.89	0.57	0.78	13.36	0	13.36	4	2	0	0	0.07	0	0	0	0	0	0	0	0	59.11	72.47	0.08	0.79
671	55.04	18.27	0.41	196.93	1.53	3.07	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.07	1.64	20.96	94.9	2.9	0.57	0.78	13.47	0	13.47	4	2	0	0	0.07	0	0	0	0	0	0	0	0	59.24	72.71	0.08	0.78
672	55.12	17.57	0.42	210.56	1.53	3.08	1.54	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.08	1.64	20.97	95.57	2.91	0.57	0.78	12.93	0	12.93	4	2	0	0	0.07	0	0	0	0	0	0	0	0	59.35	72.28	0.08	0.78
673	55.2	18.1	0.44	216.31	1.54	3.08	1.55	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.08	1.64	21.05	96.54	2.92	0.57	0.78	13.32	0	13.32	4	2	0	0	0.06	0	0	0	0	0	0	0	0	59.5	72.83	0.08	0.78
674	55.28	18.28	0.49	212.06	1.54	3.09	1.55	0.86	0.75	0.97	0.77	0.97	0.79	1.44	3.09	1.64	21.35	97.23	2.93	0.57	0.78	13.45	0	13.45	4	2	0	0	0.06	0	0	0	0	0	0	0	0	59.61	73.06	0.08	0.79
675	55.36	18.5	0.52	207.54	1.54	3.09	1.55	0.86	0.75	0.97	0.77	0.97	0.79	1.45	3.09	1.64	21.34	98.37	2.94	0.57	0.78	13.61	0	13.61	4	2	0	0	0.06	0	0	0	0	0	0	0	0	59.78	73.39	0.08	0.79
676	55.45	18.21	0.52	206.69	1.54	3.1	1.55	0.86	0.75	0.97	0.77	0.97	0.79	1.45	3.1	1.65	21.44	98.49	2.94	0.57	0.78	13.38	0	13.38	4	2	0	0	0.06	0	0	0	0	0	0	0	0	59.8	73.18	0.08	0.8
677	55.53	18.59	0.51	211.76	1.55	3.1	1.55	0.86	0.75	0.97	0.77	0.97	0.79	1.45	3.1	1.65	21.47	98.36	2.94	0.57	0.78	13.66	0	13.66	4	2	0	0	0.06	0	0	0	0	0	0	0	0	59.78	73.44	0.08	0.8
678	55.61	19.05	0.51	175.52	1.55	3.1	1.56	0.86	0.75	0.97	0.77	0.97	0.79	1.45	3.1	1.65	21.64	97.81	2.94	0.57	0.78	13.99	0	13.99	4	2	0	0	0.06	0	0	0	0	0	0	0	0	59.7	73.69	0.08	0.8
679	55.69	18.51	0.51	221.21	1.55	3.11	1.56	0.86	0.75	0.97	0.77	0.97	0.79	1.46	3.11	1.65	21.5	98.29	2.94	0.57	0.78	13.58	0	13.58	4	2	0	0	0.06	0	0	0	0	0	0	0	0	59.77	73.35	0.08	0.8
680	55.77	18.38	0.52	198.36	1.55	3.11	1.56	0.86	0.75	0.97	0.77	0.97	0.79	1.46	3.11	1.65	21.5	98.53	2.94	0.57	0.78	13.47	0	13.47	4	2	0	0	0.05	0	0	0	0	0	0	0	0	59.81	73.28	0.08	0.79

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
681	55.86	18.67	0.53	201	1.56	3.12	1.56	0.86	0.75	0.97	0.77	0.97	0.79	1.46	3.12	1.66	21.27	99.79	2.96	0.57	0.78	13.68	0	13.68	4	2	0	0	0.05	0	0	0	0	0	0	0	0	0	59.99	73.67	0.08	0.78
682	55.94	18.13	0.56	199.9	1.56	3.12	1.56	0.86	0.75	0.97	0.77	0.97	0.79	1.46	3.12	1.66	21.17	100	2.97	0.57	0.77	13.26	0	13.26	4	2	0	0	0.05	0	0	0	0	0	0	0	0	0	60.02	73.29	0.08	0.78
683	56.02	17.9	0.56	211.71	1.56	3.13	1.57	0.86	0.75	0.97	0.77	0.97	0.79	1.47	3.13	1.66	20.97	100	2.98	0.57	0.77	13.08	0	13.08	4	2	0	0	0.05	0	0	0	0	0	0	0	0	0	60.02	73.11	0.08	0.77
684	56.1	17.66	0.54	227.84	1.56	3.13	1.57	0.86	0.75	0.97	0.77	0.97	0.79	1.47	3.13	1.66	20.88	100	2.98	0.57	0.77	12.89	0	12.89	4	2	0	0	0.05	0	0	0	0	0	0	0	0	0	60.02	72.92	0.08	0.76
685	56.18	17.67	0.52	214.42	1.57	3.14	1.57	0.86	0.75	0.97	0.76	0.97	0.79	1.47	3.14	1.66	20.76	100	2.97	0.57	0.77	12.89	0	12.89	4	2	0	0	0.05	0	0	0	0	0	0	0	0	0	60.02	72.92	0.08	0.76
686	56.27	17.55	0.48	210.51	1.57	3.14	1.57	0.86	0.75	0.97	0.76	0.97	0.79	1.47	3.14	1.67	20.68	99.85	2.96	0.57	0.77	12.79	0	12.79	4	2	0	0	0.05	0	0	0	0	0	0	0	0	0	60	72.8	0.08	0.75
687	56.35	17.74	0.47	205.55	1.57	3.15	1.58	0.86	0.75	0.97	0.76	0.97	0.79	1.48	3.15	1.67	20.52	99.81	2.96	0.57	0.77	12.92	0	12.92	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	60	72.92	0.08	0.74
688	56.43	17.37	0.48	201.18	1.57	3.15	1.58	0.86	0.75	0.97	0.76	0.97	0.79	1.48	3.15	1.67	20.56	99.87	2.96	0.57	0.77	12.64	0	12.64	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	60.01	72.65	0.08	0.74
689	56.51	17.5	0.49	223.31	1.58	3.16	1.58	0.86	0.75	0.97	0.76	0.97	0.79	1.48	3.16	1.67	20.69	99.93	2.96	0.57	0.77	12.73	0	12.73	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	60.01	72.74	0.08	0.75
690	56.59	17.7	0.5	235.52	1.58	3.16	1.58	0.86	0.75	0.97	0.76	0.97	0.79	1.48	3.16	1.67	21.14	99.3	2.95	0.57	0.77	12.87	0	12.87	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	59.92	72.79	0.08	0.77
691	56.68	18.18	0.52	238.33	1.58	3.16	1.58	0.86	0.74	0.97	0.76	0.97	0.79	1.49	3.16	1.68	21.67	98.94	2.95	0.57	0.77	13.21	0	13.21	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	59.87	73.08	0.08	0.79
692	56.76	18.97	0.57	232.54	1.58	3.17	1.59	0.86	0.74	0.97	0.76	0.97	0.79	1.49	3.17	1.68	22.18	98.48	2.94	0.57	0.77	13.79	0	13.79	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	59.8	73.59	0.08	0.81
693	56.84	19.32	0.56	228.3	1.59	3.17	1.59	0.86	0.74	0.97	0.76	0.97	0.79	1.49	3.17	1.68	22.85	97.27	2.93	0.57	0.77	14.04	0	14.04	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	59.62	73.66	0.08	0.84
694	56.92	20.38	0.55	225.1	1.59	3.18	1.59	0.85	0.74	0.97	0.76	0.97	0.79	1.5	3.18	1.68	23.39	95.59	2.91	0.57	0.77	14.82	0	14.82	4	2	0	0	0.04	0	0	0	0	0	0	0	0	0	59.35	74.17	0.08	0.86
695	57	20.79	0.53	218.07	1.59	3.18	1.59	0.85	0.74	0.97	0.76	0.96	0.79	1.5	3.18	1.69	23.88	94.48	2.89	0.56	0.77	15.11	0	15.11	4	2	0	0	0.03	0	0	0	0	0	0	0	0	0	59.17	74.28	0.08	0.88
696	57.09	20.67	0.56	236.54	1.59	3.19	1.59	0.85	0.74	0.97	0.76	0.96	0.79	1.5	3.19	1.69	24.08	94.78	2.9	0.56	0.77	15.01	0	15.01	4	2	0	0	0.03	0	0	0	0	0	0	0	0	0	59.22	74.23	0.08	0.88
697	57.17	20.72	0.62	244.06	1.6	3.19	1.6	0.85	0.74	0.97	0.76	0.96	0.79	1.5	3.19	1.69	24.55	95.26	2.9	0.56	0.77	15.04	0	15.04	4	2	0	0	0.03	0	0	0	0	0	0	0	0	0	59.3	74.33	0.08	0.9
698	57.25	21.63	0.67	257.16	1.6	3.2	1.6	0.85	0.74	0.97	0.76	0.96	0.79	1.51	3.2	1.69	25.89	94.32	2.89	0.56	0.77	15.7	0	15.7	4	2	0	0	0.03	0	0	0	0	0	0	0	0	0	59.14	74.84	0.08	0.96
699	57.33	24.15	0.75	275.14	1.6	3.2	1.6	0.85	0.74	0.97	0.76	0.96	0.79	1.51	3.2	1.69	29.88	88.68	2.82	0.56	0.77	17.56	0	17.56	4	2	0	0	0.03	0	0	0	0	0	0	0	0	0	58.14	75.7	0.08	1.13
700	57.41	32.14	0.85	282.6	1.6	3.21	1.6	0.85	0.74	0.97	0.77	0.96	0.8	1.51	3.21	1.7	34.98	82.26	2.74	0.54	0.78	23.56	0	23.56	4	2	0	0	0.03	0	0	0	0	0	0	0	0	0	56.81	80.36	0.09	1.34
701	57.5	37.45	0.94	220.46	1.61	3.21	1.6	0.85	0.74	0.97	0.77	0.96	0.8	1.51	3.21	1.7	39.73	77.44	2.68	0.53	0.78	27.58	0	27.58	4	2	0	0	0.03	0	0	0	0	0	0	0	0	0	55.65	83.22	0.09	1.54
702	57.58	39.59	1.03	191.76	1.61	3.22	1.61	0.85	0.74	0.96	0.77	0.96	0.8	1.52	3.22	1.7	41.77	76.24	2.67	0.52	0.78	29.2	0	29.2	4	2	0	0	0.02	0	0	0	0	0	0	0	0	0	55.34	84.53	0.1	1.62
703	57.66	39.45	1.05	199.5	1.61	3.22	1.61	0.85	0.74	0.96	0.77	0.96	0.8	1.52	3.22	1.7	41.89	77.49	2.68	0.52	0.78	29.07	0	29.07	4	2	0	0	0.02	0	0	0	0	0	0	0	0	0	55.66	84.73	0.1	1.62
704	57.74	38.46	1.13	176.19	1.61	3.23	1.61	0.85	0.74	0.96	0.77	0.96	0.8	1.52	3.23	1.71	39.96	80.69	2.72	0.52	0.78	28.31	0	28.31	4	2	0	0	0.02	0	0	0	0	0	0	0	0	0	56.44	84.75	0.1	1.54
705	57.82	34.27	1.1	159.51	1.62	3.23	1.61	0.85	0.74	0.97	0.77	0.96	0.8	1.52	3.23	1.71	36.72	85.07	2.78	0.53	0.77	25.1	0	25.1	4	2	0	0	0.02	0	0	0	0	0	0	0	0	0	57.42	82.51	0.09	1.4
706	57.91	30.6	0.98	138.73	1.62	3.24	1.62	0.85	0.74	0.97	0.77	0.96	0.8	1.53	3.24	1.71	33.41	88.95	2.82	0.54	0.77	22.31	0	22.31	4	2	0	0	0.02	0	0	0	0	0	0	0	0	0	58.19	80.5	0.09	1.26
707	57.99	28.77	0.93	158.97	1.62	3.24	1.62	0.85	0.74	0.97	0.77	0.96	0.8	1.53	3.24	1.71	31.2	90.93	2.85	0.54	0.77	20.92	0	20.92	4	2	0	0	0.02	0	0	0	0	0	0	0	0	0	58.56	79.47	0.09	1.17
708	58.07	26.93	0.86	209.34	1.62	3.25	1.62	0.85	0.74	0.97	0.76	0.96	0.79	1.53	3.25	1.71	29.95	92.13	2.86	0.55	0.77	19.52	0	19.52	4	2	0	0	0.02	0	0	0	0	0	0	0	0	0	58.77	78.29	0.09	1.11
709	58.15	25.65	0.85	222.72	1.63	3.25	1.62	0.85	0.74	0.97	0.76	0.96	0.79	1.53	3.25	1.72	28.72	94.11	2.89	0.55	0.77	18.56	0	18.56	4	2	0	0	0.01	0	0	0	0	0	0	0	0	0	59.11	77.66	0.09	1.06
710	58.23	24.36	0.88	207.25	1.63	3.26	1.63	0.85	0.74	0.97	0.76	0.96	0.79	1.54	3.26	1.72	27.66	98.73	2.95	0.55	0.76	17.59	0	17.59	4	2	0	0	0.01	0	0	0	0	0	0	0	0	0	59.84	77.43	0.09	1.01
711	58.32	23.78	1.19	208.32	1.63	3.26	1.63	0.85	0.74	0.97	0.76	0.96	0.79	1.54	3.26	1.72	27.16	100	3.01	0.56	0.76	17.15	0	17.15	4	2	0	0	0.01	0	0	0	0	0	0	0	0	0	60.02	77.17	0.09	0.99
712	58.4	24.06	1.42	228.83	1.63	3.27	1.63	0.85	0.74	0.97	0.76	0.96	0.79	1.54	3.27	1.72	27.7	100	3.06	0.56	0.76	17.34	0	17.34	4	2	0	0	0.01	0	0	0	0	0	0	0	0	0	60.02	77.37	0.09	1.01
713	58.48	25.43	1.71	246.22	1.64	3.27	1.63	0.85	0.74	0.97	0.76	0.96	2	1.54	3.27	1.73	34.65	97.92	2.94	0.55	0.76	18.34	0	18.34	4	2	0	0	0.01	0	0	0	0	0	0	0	0	0	59.72	78.06	0.09	1.3
714	58.56	45.5	1.74	147.69	1.64	3.28	1.64	0.85	0.74	0.96	0.77	0.96	2	1.55	3.28	1.73	45.34	83.76	2.76	0.51	0.78	33.53	0	33.53	4	2	0	0	0.01	0	0	0	0	0	0	0	0	0	57.14	90.67	0.11	1.74
715	58.65	58.44	1.5	68.89	1.64	3.28	1.64	0.85	0.74	0.95	0.78	0.95	2	1.55	3.28	1.73	57.98	67.41	2.56	0.48	0.79	43.5	62.74	106.25	4	2	0	0	0.01	0	26.35	0.73	0	0	0	0	0	0	52.68	96.19	0.11	0.68
716	58.73	66.64	1.19	17.04	1.65	3.29	1.64	0.85	0.74	0.94	0.78	0.95	2	1.55	3.29	1.73	63.12	58.94	2.45	0.47	0.79	49.88	62.39	112.27	4	2	0	0	0	0	22.87	0.67	0	0	0	0	0	0	49.43	99.31	0.12	0.7
717	58.81	63.08	1.08	-1.66	1.65	3.29	1.64	0.85	0.74	0.95	0.78	0.95	2	1.55	3.29	1.74	61	57.69	2.43	0.48	0.79	46.99	61.2	108.19	4	2	0	0	0	0	25.19	0.71	0	0	0	0	0	0	48.88	95.87	0.11	0.69
718	58.89	53.08	1.02	-1.38	1.65	3.3	1.65	0.85	0.74	0.96	0.77	0.95	2	1.56	3.3	1.74	52.51	66.02	2.54	0.5	0.78	39.18	61.19	100.38	4	2	0	0	0	0	30.27	0.78	0	0	0	0	0	0	52.2	91.39	0.11	0.67
719	58.97	41.29	1.19	9.56	1.65	3.3	1.65	0.85	0.74	0.96	0.77	0.96	2	1.56	3.3	1.74	43.38	78.24	2.69	0.52	0.77	30.13	0	30.13	4	2	0	0	0	0	0	0	0	0	0	0	0	0	55.85	85.98	0.1	1.64
720	59.06	35.28	1.29	25.99	1.66	3.31	1.65	0.85	0.74	0.97	0.77	0.96	2	1.56	3.31	1.74	37.21	90.54	2.84	0.53	0.77	25.59	0	25.59	4	2	0	0	0	0	0	0	0	0	0	0	0	0	58.49	84.08	0.1	1.39
721	59.14	32.98	1.62	109.04	1.66	3.31	1.65	0.85	0.74	0.97	0.76	0.96	2	1.56	3.31	1.75	38.59	90.94	2.85	0.54	0.76	23.84	0	23.84	4	2	0	0	0	0	0	0	0	0	0	0	0	0	58.56	82.4	0.09	1.44
722	59.22	42.17	1.63	236.29	1.66	3.32	1.65	0.85	0.74	0.96	0.77	0.96	2	1.57	3.32	1.75	49.3	78.98	2.7	0.52	0.77	30.74	0	30.74	4	2	0	0	0	0	0	0	0	0	0	0	0	0	56.03	86.78	0.1	1.88
723	59.3	64.84	1.6	203.83	1.66	3.32	1.66	0.85	0.74	0.94	0.78	0.95	2	1.57	3.32	1.75	63.6	64.91	2.52	0.47	0.79	48.29	63.55	111.83	4	2	0	0	0	0	23.09	0.68	0	0	0	0	0	0	51.81	100.09	0.12	0.69
724	59.38	77.31	1.63	9.54	1.67	3.33	1.66	0.85	0.74	0.93	0.79	0.94	2	1.57	3.33	1.75	76.78	54.72	2.4	0.45	0.79	58.08	63.26	121.34	4	2	0	0	0	0	18.42	0.58	0	0	0	0	0	0	47.48	105.56	0.13	0.72
725	59.47	85.23	1.66	-7.66	1.67	3.33	1.66	0.85	0.74	0.93	0.8	0.94	2	1.57	3.33	1.76	83.89	50.07	2.34	0.44	0.8	64.36	63.09	127.44	4	2	0	0	0	0	15.91	0.51	0	0	0	0	0	0	45.04	109.4	0.14	0.73
726	59.55	89.17	1.63	-5.45	1.67	3.34	1.67	0.85	0.74	0.92	0.8	0.94	2	1.58	3.34	1.76	88.64	46.11	2.29	0.44	0.8	67.41	61.94	129.35	4	2	0	0	0	0	15.2	0.49	0	0	0	0	0	0	42.67	110.08	0.14	0.74
727	59.63	91.63	1.43	6.14	1.67	3.34	1.67	0.85	0.74	0.92	0.8	0.94	2	1.58	3.34	1.76	90.71	43.16	2.25	0.44	0.8	69.27	60.73	129.99	4	2	0	0	0	0	14.98	0.48	0	0	0	0	0	0	40.73	110	0.14	0.75
728	59.71	91.21	1.33	7.45	1.68	3.35	1.67	0.85	0.74	0.92	0.8	0.94	2	1.58	3.35	1.76	90.99	41.13	2.23	0.44	0.8	68.78	59.3	128.09	4	2	0	0	0	0	15.71	0.51	0	0	0	0	0	0	39.3	108.08	0.13	0.75
729	59.79	89.91	1.29	1.84	1.68	3.35	1.67	0.84	0.74	0.93	0.8	0.94	0.85	1.58	3.35	1.77	89.87	41.07	2.23	0.44	0.8	67.67	58.99	126.66	0.19	0.22	1	0.02	0	0	16.27	0.52	0	0	0	0	0	0	39.26	106.92	0.13	0.75
730	59.88	88.38	1.3	-1.43	1.68	3.36	1.68	0.84	0.74	0.93	0.79	0.94	2	1.59	3.36	1.77	88.33	42.19	2.24	0.45	0.8	66.42	59.42	125.84	4	2	0	0	0	0	16.59	0.53	0	0	0	0	0	0	40.06	106.48	0.13	0.74
731	59.96	86.79	1.35	-6.43	1.68	3.36	1.68	0.84	0.74	0.93	0.79	0.94	2	1.59	3.36	1.77	86.92	44.5	2.27	0.45	0.79	65.18	60.49	125.67	4	2	0	0	0	0	16.64	0.53	0	0	0	0	0	0	41.64	106.82	0.13	0.74
732	60.04	85.57	1.54	9.42	1.69	3.37	1.68	0.84	0.74	0.93	0.8	0.94	2	1.59	3.37	1.77	84.09	49.16	2.33	0.44	0.8	64.3	62.65	126.95	4	2	0	0	0	0	16.11	0.52	0	0	0	0	0	0	44.52	108.82	0.13	0.73
733	60.12	79.61	1.82	16.93	1.69	3.37	1.68	0.84	0.74	0.93	0.79	0.94	2	1.59	3.37	1.78	78.61	55.79	2.41	0.45	0.79	59.59	64.06	123.65	4	2	0	0	0	0	17.42	0.55	0	0	0	0	0	0	48	107.59	0.13	0.72
734	60.2	69.95	1.95	21.93	1.69	3.38	1.69	0.84	0.74	0.94	0.78	0.94	2	1.6	3.38	1.78	68.44	64.76	2.52	0.46	0.79	51.96	64.56	116.51	4	2	0	0	0	0	20.66	0.63	0	0	0	0	0	0	51.75	103.7	0.13	0.7
735	60.29	54.71	1.83	34.57	1.69	3.38	1.69	0.84	0.74	0.95	0.77	0.95	2	1.6	3.38	1.78	57.02	74.81	2.65	0.49	0.77	40.02	0	40.02	4	2	0	0	0	0	0	0	0	0	0	0	0	0	54.95	94.97	0.11	2.15
736	60.37	44.85	1.8	50.29	1.7	3.39	1.69	0.84	0.74	0.96	0.77	0.95	2	1.6	3.39	1.78	46.53	86.05	2.79	0.51	0.77	32.49	0	32.49	4	2	0	0	0	0	0	0	0	0	0	0	0	0	57.62	90.11	0.1	1.73
737	60.45	37.44	1.9	95.17	1.7	3.39	1.69	0.84	0.74	0.97	0.76	0.95	2	1.61	3.39	1.79	40.61	93.24	2.88	0.52	0.76	26.88	0	26.88	4	2	0	0	0	0	0	0	0	0	0	0	0	0	58.96	85.84	0.1	1.49
738	60.53	35.37	1.79	143.43	1.7	3.4	1.7	0.84	0.74	0.97	0.76	0.96	0.8	1.61	3.4	1.79	43.6	88.77	2.82	0.53	0.76	25.29	0	25.29	4	2	0	0	0	0	0	0	0	0	0	0	0	0	58.16	83.45	0.09	1.61
739	60.61	51.68	1.63	198.9	1.7	3.4	1.7	0.84	0.73	0.96	0.77	0.95	0.81	1.61	3.4	1.79	52.87	77.5	2.68	0.5	0.77	37.59	0	37.59	4	2	0	0	0	0	0	0	0	0	0	0	0	0	55.66	93.25	0.11	1.97
740	60.7	64.26	1.78	163.68	1.71	3.41	1.7	0.84	0.73	0.95	0.78	0.94	0.82	1.61	3.41	1.79	64.16	67.83	2.56	0.47	0.78	47.27	63.93	111.2	0.15	0.19	1	0.02	0	0	23.45	0.68	0	0	0	0	0	0	52.82	100.1	0.12	0.69
741	60.78	70.63	2.03	47.98	1.71	3.41	1.7	0.84	0.73	0.94	0.78	0.94	0.83	1.62	3.41	1.8	69.74	65.93	2.54	0.46	0.78	52.26	64.93	117.18	0.17	0.2	1	0.01	0	0	20.34	0.62	0	0	0	0	0	0	52.17	104.43	0.13	0.7
742	60.86	70.96	2.25	22.07	1.71	3.42	1.71	0.84	0.73	0.94	0.78	0.94	0.83	1.62	3.42	1.8	70.4	68.63	2.57	0.46	0.78	52.52	65.62	118.14	0.17	0.2	1	0.01	0	0	19.87	0.61	0	0	0	0	0	0	53.09	105.61	0.13	0.7
743	60.94	68.5	2.59	6.99	1.71	3.42	1.71	0.84	0.73	0.94	0.78	0.94	0.83	1.62	3.42	1.8	69.49	72.17	2.61	0.46	0.78	50.57	0	50.57	4	2	0	0	0	0	0	0	0	0	0	0	0	0	54.19	104.76	0.13	2.62
744	61.02	68.39	2.82	13.07	1.72	3.43	1.71	0.84	0.73	0.94	0.78	0.94	0.83	1.62	3.43	1.8	68.98	75.32	2.65	0.46	0.78	50.47	0	50.47	4	2	0	0	0	0	0	0	0	0	0	0	0	0	55.09	105.56	0.13	2.59
745	61.11	69.54	3.09	15.57	1.72	3.43	1.71	0.84	0.73	0.94	0.78	0.94	2	1.63	3.43	1.81	69.88	77.06	2.68	0.46	0.78	51.37	0	51.37	4	2	0	0	0	0	0	0	0	0	0	0	0	0	55.55	106.91	0.13	2.63
746	61.19	71.06	3.42	17.13	1.72	3.44	1.72	0.84	0.73	0.94	0.78	0.94	2	1.63	3.44	1.81	76.88	73.81	2.64	0.46	0.78	52.5	0	52.5	4	2	0	0	0	0	0	0	0	0	0	0	0	0	54.67	107.17	0.13	2.9
747	61.27	89.15	3.54	28.13	1.72	3.44	1.72	0.84	0.73	0.91	0.8	0.93	2	1.63	3.44	1.81	92.54	64.56	2.52	0.43	0.79	66.91	68.78	135.69	4	2	0	0	0	0	12.96	0.41	0	0	0	0	0	0	51.68	118.58	0.15	0.74
748	61.35	115.81	3.41	65.42	1.73	3.45	1.72	0.84	0.73	0.89	0.83	0.92	2	1.63	3.45	1.82	121.85	39.25	2.2	0.4	0.8

	Input Data				CSR calculation results									CRR 7.5 calculation results											Other results																	
No.	Depth (ft)	qc (tsf)	fs (tsf)	u (psi)	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	rd	CSR	MSF	CSR,eq	Ksigma	CSR*	uo (tsf)	σ,v (tsf)	σ',vo (tsf)	qt (tsf)	Fines (%)	Ic	m	Cn	qc1N	Δqc1N	qc1N,cs	CRR 7.5	FS	PL	LPI	DF	ev (%)	γ lim (%)	Fa	γ max (%)	ev dry (%)	Dry settle. (in)	Liq. settle (in)	Vert. settle. (in)	Lat. disp. (in)	Δqc1N-Sr	qc1Ncs-Sr	Su ratio Liq.	Su ratio Peak
749	61.43	159.05	0	12.87	1.73	3.45	1.72	0.84	0.73	0.94	0.78	0.94	2	1.64	3.45	1.82	173.95	3.01	1.75	0.46	0.78	116.98	0	116.98	4	2	0	0	0	0	19.86	0.61	0	0	0	0	0	0	5.84	122.82	0.16	0.85
750	61.52	245.92	0	-2.96	1.73	3.46	1.73	0.84	0.73	0.8	0.92	0.85	1.07	1.64	3.46	1.82	238.5	100	4.06	0.26	0.87	201.43	0	201.43	4	2	0	0	0	0	0	0	0	0	0	0	0	0	60.02	261.46	0.86	9.23
751	61.6	310.53	0	-9.35	1.73	3.46	1.73	0.84	0.73	0.8	0.92	0.85	1.07	1.64	3.46	1.82	299.07	100	4.06	0.26	0.87	254.32	0	254.32	4	2	0	0	0	0	0	0	0	0	0	0	0	0	60.02	314.34	0.9	11.6
752	61.68	341.11	0	-11.94	1.74	3.46	1.73	0.84	0.73	0.8	0.92	0.85	1.07	1.64	3.46	1.82	330.76	100	4.06	0.26	0.87	279.32	0	279.32	4	2	0	0	0	0	0	0	0	0	0	0	0	0	60.02	339.34	0.91	12.84