GEOTECHNICAL ENGINEERING STUDY
MARRIOT TOWNPLACE SUITES
491-499 W. SAN CARLOS STREET & 270-280 JOSEFA STREET
(APN 259-47-013, -014, -015 & -016)
SAN JOSE, CALIFORNIA

August 26, 2020

Prepared for

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August 26, 2020 File No.: 303633-001

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SUBJECT: Geotechnical Engineering Study

REF.: Proposal for Geotechnical Engineering Study, Marriot-Townplace Suites West San Carlos, 491 West San Carlos Street, San Jose, California, by Earth Systems Pacific, November 27, 2019.

Dear Mr. Bernardis:

In accordance with your authorization of the above referenced proposal, this geotechnical engineering study has been prepared by Earth Systems Pacific (Earth Systems) for use in the development of plans and specifications for the proposed 8-story development in San Jose, California. The conclusions and recommendations presented herein are based on our understanding of the currently proposed development, a review of the subsurface conditions revealed by six Cone Penetrometer Tests (CPTs) and one exploratory boring advanced as a part of this investigation, and our engineering analysis.

We appreciate the opportunity to assist you on this project. Should you have any questions regarding the contents of this report, please contact the undersigned.

Sincerely,

Earth Systems Pacific

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1.0 INTRODUCTION

This report presents the results of the geotechnical engineering study performed by Earth Systems Pacific (Earth System), for the proposed 8-story development in San Jose, California. The attached Site Location Map, Figure 1, shows the general location of the site and the attached Site Plan, Figure 2, shows the location of the borings and Cone Penetrometer Tests (CPTs) advanced at the site as part of this investigation.

Site and Project Description

The subject 0.60-acre relatively site is flat and is located at the northeast intersection of West San Carlos Street and Josefa Street. The site is currently occupied by three single-story businesses along the southern and eastern property lines, two residences in the northwest portion of the site, and a small parking lot along the northern property line. The two commercial buildings located in the northeast portion of the site have an approximately 10-foot deep basement.

Based on the plans prepared by Studio Current, dated April 4, 2019, it is our understanding that the existing commercial buildings, residences, and adjacent parking lot will be demolished, and an eight-story hotel building will be constructed. The first three levels of the hotel will consist of Type IA construction (concrete podium) while levels four through eight will consist of Type 3A (wood framing). On the northern portion of the building, the first three levels will consist of a parking structure, while on the southern side of the building the first two levels will contain retail/commercial stores with a mezzanine level and on the third level will consist of facilities for the hotel including restrooms, a fitness center, guest and hotel laundry, and an employee breakroom. The upper five stories will consist of a total of 172 Extended Stay Hotel Suites of various sizes and type. The building will be accessed via Josefa street to the west. No basement is anticipated.

Scope of Services

The scope of work for the geotechnical engineering study included general site reconnaissance, evaluation of subsurface conditions through drilling one soil boring and laboratory testing of soil samples collected from the boring, advancing six CPTs, engineering evaluation of the subsurface data considering the proposed development, and preparation of this report. The analysis and engineering recommendations presented in the following sections of this report are based on our understanding of the proposed development at the subject site and our experience with projects of a similar nature.

The report and recommendations are intended to comply with the considerations of Section 1803 of the California Building Code (CBC), 2019 Edition, and common geotechnical engineering practice in this area at this time under similar conditions.

Preliminary geotechnical recommendations for site preparation and grading, foundations, slabs-on-grade, exterior flatwork, utility trench backfill, site drainage management, and geotechnical observation and testing are presented to guide the development of project plans and specifications. It is our intent that this report be used by the client to form the geotechnical basis of the design of the project as described herein, and in the preparation of plans and specifications.

Detailed evaluation of the site geology and potential geologic hazards, and analyses of the soil for mold or other microbial content, asbestos, radioisotopes, hydrocarbons, or other chemical properties are beyond the scope of this report. This report also does not address issues in the domain of contractors such as, but not limited to, site safety, loss of volume due to stripping of the site, shrinkage of soils during compaction, excavatability, shoring, temporary slope angles, and construction means and methods. Ancillary features such as temporary access roads, fences, light poles, and non-structural fills are not within our scope and are also not addressed.

To verify that pertinent issues have been addressed and to aid in conformance with the intent of this report, it is requested that final grading and foundation plans be submitted to this office for review. In the event that there are any changes in the nature, design, or locations of improvements, or if any assumptions used in the preparation of this report prove to be incorrect, the conclusions and recommendations contained herein should not be considered valid unless the changes are reviewed, and the conclusions of this report are verified or modified in writing by the geotechnical engineer. The criteria presented in this report are considered preliminary until such time as they are verified or modified in writing by the geotechnical engineer in the field during construction.

2.0 FIELD INVESTIGATION

Subsurface Exploration

As a part of the current phase of site investigation, Earth Systems advanced three Cone Penetrometer Tests (CPTs) on May 22, 2020 with a truck mounted rig, three CPTs on May 26 and 27, 2020 with a portable hydraulic rig, and one boring on April 2, 2020, at the approximate

locations shown on the Site Plan, Figure 2. Data from the CPTs and boring as part of this investigation were used to generate the conclusions and recommendations presented in this report.

Exploratory Boring

One soil boring was drilled to a depth of 51 feet as a part of the current investigation at the location shown on Figure 2. The soil boring was drilled using a truck mounted drilling rig equipped with 8-inch outer diameter hollow stem augers. The drilling process was supervised by one of our engineers who maintained a continuous log of the soil conditions encountered in the borehole and obtained Standard Penetration Tests and relatively undisturbed samples for visual examination and laboratory testing.

Cone Penetrometer Test

Three CPT soundings were performed with Middle Earth Geo Testing, Inc. (MEGT) 25-ton truck mounted CPT rig. The soundings were conducted in accordance with ASTM specifications and pushed to a maximum depth of 80 feet below the ground surface. Copies of the CPT soundings are included in Appendix A.

A CPT involves pushing a standardized size instrument of a conical shape into the ground at a specified constant rate. The cone used for this project had a tip area of 10 cm^2 and a friction sleeve area of 150 cm^2. The cone was pushed into ground at a constant rate of 20-mm per second using the 25-ton truck as reaction weight. The cone was fitted with load cells, which recorded the total force acting on the cone (Qc), sleeve friction (Fs), and pore pressure (u) readings at 5 cm depth intervals. The data collected from the CPT was used to interpret site stratigraphy, soil consistency, and strength using published relationships. Generally, cohesive soils (clays) have high friction ratios (sleeve friction divided by cone bearing – Rf), low cone bearing, and generate large excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing, and generate little in the way of excess pore water pressures.

Three Cone Penetrometer Tests (CPTs) were performed by Gregg Drilling, LLC utilizing their Ramset Portable CPT rig. The soundings were conducted in accordance with ASTM specifications and pushed to a maximum depth of 70 feet below the ground surface. The Conical Instrument (cone) utilized by Gregg had a tip area of 15 cm^2 and a friction sleeve area of 225 cm^2. A copy of all the CPT soundings are attached herein.

Subsurface Profile

A review of the boring logs and CPTs advanced at the site by Earth Systems indicate the presence of alternating layers of fine-grained and coarse-grained soils of variable thickness at variable depths, which is consistent with the alluvial fan deposits mapped by Knudsen and others (2000). The majority of the fine-grained soils were stiff to very stiff, while the majority of the coarse-grained soils were medium dense to dense. Details of subsurface soil conditions encountered at the site are shown on the logs of soil borings and CPTs presented in Appendix A.

Depth to groundwater encountered at the site during our investigation ranged from 19 to 22 feet below the ground surface. The historic high depth to groundwater level according to the CGS Seismic Hazards Zones Report for the San Jose West Quadrangle maps is reported to be approximately 20 feet below the ground surface. Variations in rainfall, temperature, and other factors may affect water levels, and therefore groundwater levels should not be considered constant.

During our subsurface investigation, moisture was encountered in the basement areas of the buildings. Additionally, based on discussions with the current building tenants, wet conditions do occur during the winter months. These wet conditions are likely a result of poor construction, and not groundwater intrusion; however, perched groundwater conditions during construction cannot be excluded.

3.0 DATA ANALYSIS

Subsurface Soil Classification

Based on the data acquired during our subsurface investigation (See Appendix A), the site is assigned to Site Class D ("stiff soil") as defined by Table 20.3-1 of the ASCE 7-16.

Seismic Design Parameters

The following seismic design parameters represent the general procedure as outlined in Section 1613 of the CBC 2019 edition and in ASCE 7-16. The values were obtained using the OSHPD Seismic Design Maps Web Application. The seismic factor S_1 is greater than 0.2g and the Site Class is 'D'. As such, a site-specific ground motion hazard analysis will need to be performed if the structural engineer determines that ASCE 7-16, Section 11.4.8, Exception 2 does not apply. Earth Systems should be notified to provide a site-specific ground motion hazard evaluation if needed. If required, the seismic factors presented below will not be applicable to the project.

Summary of Seismic Parameters - CBC 2019
(Site Coordinates 37.3262°N, 121.8985°W)

Parameter	Design Value
Site Class	D
Mapped Short Term Spectral Response Parameter, (S_s)	1.50g
Mapped 1-second Spectral Response Parameter, (S_1)	0.60g
Site Coefficient, (F_a)	1.0
Site Coefficient, (F_v)	1.7[1,2]
Site Modified Short Term Response Parameter, (S_{Ms})	1.50g
Site Modified 1-second Response Parameter, (S_{M1})	1.02g[1]
Design Short Term Response Parameter, (S_{Ds})	1.00g
Design 1-second Response Parameter, (S_{D1})	0.68g[1]

[1] The 2019 parameter is are based on the assumption that the buildings will conform to ASCE 7-16 11.4.8 - Exception No. 2.

[2] The 2019 CBC F_v parameter shall only be used for calculation of T_s. (ASCE Table 11.4-2, Supplement 1, Note a)

Liquefaction

Soil liquefaction is a phenomenon where saturated granular soils undergo a substantial loss of strength due to increased pore water pressure resulting from cyclic stress applications induced by earthquakes or other vibrations. In this process, the soil acquires mobility sufficient to permit both vertical and horizontal movements, which may result in significant deformations. Soils most susceptible to liquefaction are loose, uniformly graded, fine-grained sands. In addition, recent literature indicates that fine grained soils may also be susceptible to liquefaction or cyclic strain softening. Examples of highly susceptible fine-grained soil include "non-plastic silts and clayey silts of low plasticity (PI<12) at high water content to liquid limit ratios (w_c/LL>0.85)." Examples of soils moderately susceptible to liquefaction include "clayey silts and silty clays of moderate plasticity (12<PI<18) at natural water content and Liquid Limits ratios (w_c/LL) greater than 0.80" (Bray and Sancio, 2006). It is generally acknowledged that liquefaction will not affect surface improvements if these deposits are located at a depth greater than 50 feet below the ground surface. In the deeper deposits, the greater overburden pressure is sufficient to prevent liquefaction effects from occurring.

Analysis Parameters

The liquefaction analysis was carried out using an assumed groundwater table of 20 feet below ground surface (bgs) based on Plate 1.2 from the Seismic Hazard Zone Report for the San Jose West Quadrangle (2002). In accordance with USGS Interactive Deaggregations Web Application,

the predominant earthquake is the San Andreas fault with a magnitude of 7.10. The liquefaction analysis was based on the methodology suggested by Idriss and Boulanger, 2014 utilizing the peak ground acceleration of 0.58g (PGAm) based on the United States Geological Survey's Design Maps Web and presented in Appendix C. The methodology of NCEER 2001, Robertson 2009, Idriss and Boulanger 2008, and Moss et al. 2006 were also compared for analysis.

Analysis Results

The calculated liquefaction settlement for the site is less than one inch with the exception of CPT-2 which estimated approximately 2-inches of liquefaction related settlement. The liquefaction analysis results are included in Appendix C.

Discussion

In general, there is a high potential of the granular deposits to liquefy during a seismic event. Should liquefaction occur, liquefaction related settlements are estimated to be on the order of 1 inch or less with differential settlements estimated to be approximately half this value. The higher estimated liquefaction related settlements estimated at CPT-2 seemed to be isolated in the vicinity of this location. Based on the smaller estimated settlements of the other CPT locations, we believe the liquefiable layers encountered in CPT-2 to be discontinuous in nature. This subsurface profile of lenticular lenses of sandy soil are commonly encountered in alluvium soil. The discontinuous, lenticular sandy soil encountered are less able to facilitate water dissipation than if the sandy layers were continuous. Therefore, we anticipate the actual liquefaction related settlement that would occur at the site would be less than the calculated settlements.

Based on Plate 1.2 from the Seismic Hazard Zone Report for the San Jose West Quadrangle (2002) no historic ground failures have been reported in the immediate vicinity of the proposed development area.

Due to the non-uniform and discontinuous nature of the liquefiable layers at the site, relatively flat nature of the site, and the fact that there are no open creek channels crossing or bordering the subject property, it is our opinion the potential for lateral spreading to occur within the site is low.

Static Settlement

If the proposed building is supported on the foundation systems designed and constructed in compliance with the recommendations presented in the following sections of the report, the anticipated static settlements of the estimated to be on the order of 1 inch with a differential settlement of ½ inches.

4.0 CONCLUSIONS

General

Based on the results of the field investigation and the laboratory testing program, in our opinion, the site is geotechnically suitable for the proposed development provided that the recommendations contained herein are implemented in the design and construction. The primary geotechnical concerns are:

- Potential for the loose to medium dense saturated granular soils underlying the site to settle as a result of liquefaction, and
- Presence of existing basements below portions of the site. Backfilling the basement with engineered fill could result in post-construction settlement and differential settlement between the backfilled and the surrounding area. Recommendations to minimize post construction settlement are presented in the following sections of the report.

Site Preparation and Grading

The site is currently occupied by three commercial buildings, two residential buildings with one detached garage, an asphalt parking lot, and flat work. The two commercial buildings located in the northeast portion of the site have an approximately 10-foot deep basement. Demolition of the existing structures and associated footings is anticipated to result in some ground depressions. The two basement areas and the depressions resulting from demolition should be backfilled in accordance with the recommendations included in the following sections of this report and under the observations of our field technician. Grading operations are discussed in detail in the *Recommendations* section of this report.

Soil Expansion Potential

A plasticity index test performed on a sample of the upper soils from the site resulted in a liquid limit (LL) of 30 and a plasticity index (PI) of 11. These values indicate that the sample tested has a low expansion potential. Thus, measures other than moistening and compacting the soils are not considered necessary to mitigate soil expansion.

Foundations

Due to the firm nature of the onsite soils, the proposed loads of the building may be adequately supported on a reinforced concrete mat foundation. Details of the foundation recommendations are included in the following sections of the report.

Groundwater

Groundwater encountered at the site during our investigation ranged from 19 to 22 feet below the ground surface. The historic high depth to groundwater level according to the CGS Seismic Hazards Zones Report for the San Jose West Quadrangle maps is reported to be approximately 20 feet below the ground surface. Variations in rainfall, temperature, and other factors may affect water levels, and therefore groundwater levels should not be considered constant.

During our subsurface investigation, moisture was encountered in the basement areas of the buildings. Additionally, based on discussions with the current building tenants, wet conditions do occur during the winter months. These wet conditions are likely a result of poor construction, and not groundwater intrusion; however, perched groundwater conditions during construction cannot be excluded.

Corrosion Potential Screening Results

One sample of the near surface soil was collected for screening of corrosion potential of soils. The sample was sent to Cerco Analytical and tested in accordance with ASTM Test Methods. Based on the review of the test results, they conclude that the soil is classified as moderately corrosive to buried metallic utility pipes. The chloride ion concentration of the sample was 15 mg/kg. This low concentration is considered to be insufficient to attack steel embedded in a concrete mortar coating. The sulfate ion concentration of the sample was 32 mg/kg. This low concentration is considered to be insufficient to damage reinforced concrete structures. While no cement type restriction is required, in our opinion, it is generally a good idea to include some sulfate resistance and to maintain a relatively low water-cement ratio. The pH of the sample tested was 8.28, which does not present a corrosion problem for buried iron, steel, mortar-coated steel and reinforced concrete structures. The redox potential is slightly corrosive indicative of anaerobic soil conditions. Earth Systems does not practice corrosion engineering and we recommend that a qualified corrosion engineer be consulted regarding mitigation of the corrosive effects of the site soils on metals. The results of the test along with a brief corrosivity analysis by CERCO are included at the end of this report, in Appendix B.

Seismicity

The San Francisco Bay area is recognized by geologists and seismologists as one of the most seismically active regions in the United States. The significant earthquakes in this area are generally associated with crustal movement along well-defined, active fault zones which regionally trend in a northwesterly direction. Although research on earthquake prediction has greatly increased in recent years, seismologists cannot predict when and where an earthquake will occur. Nevertheless, based on current technology, it is reasonable to assume that the

proposed development will be subjected to at least one moderate to severe earthquake during its lifetime. During such an earthquake, the danger from fault offset on the site is low, but strong shaking of the site is likely to occur and, therefore, the project should be designed in accordance with the seismic design provisions of the latest California Building Code. The California Building Code seismic design parameters are not intended to prevent structural damage during an earthquake, but to reduce damage and minimize loss of life.

5.0 RECOMMENDATIONS

Site Preparation and Grading

General Site Preparation

1. Site clearing, placement of fill, and grading operations at the site should be conducted in accordance with the recommendations provided in this report. Compaction recommendations for site grading can be found later in this section.

2. The site should be prepared for grading by removing vegetation, debris, and other potentially deleterious materials from areas to receive improvements. Existing utility lines that will not be serving the proposed project should be either removed or abandoned. The appropriate method of utility abandonment will depend upon the type and depth of the utility. Recommendations for abandonment can be made as necessary.

3. Due to the presence of two basements at the site, a program of over-excavation and backfilling will be required in these areas. Soils within the basement areas areas should be cleaned out (excavated) to competent, undisturbed soil. The exposed ground should be inspected by the geotechnical engineer to determine the need for additional excavation work.

4. Ruts or depressions resulting from the removal of utilities, fill soils, tree root systems, and abandoned and/or buried structures, buried debris, and remnants of the former use of the site that are discovered during site grading should be removed and properly cleaned out down to undisturbed native soil. The bottoms of the resulting depressions should be scarified and cross-scarified at least 8 inches in depth, moisture conditioned and recompacted. The depressions should then be backfilled with approved, compacted, moisture conditioned structural fill, as recommended in other sections of this report.

5. Site clearing and backfilling operations should be conducted under the field observation of the geotechnical engineer.

6. The geotechnical engineer should be notified at least 48 hours prior to commencement of grading operations.

Compaction Recommendations

1. In general, the underlying native soil should be scarified at least 8 inches, moisture conditioned and recompacted to the recommended relative compaction presented below, unless noted otherwise. This scarification operation should be performed at locations designated for proposed structural fill, concrete slabs-on-grade, exterior flatwork, foundations, and pavement areas.

2. Recompacted native soils and fill soils should be compacted to a minimum relative compaction of 90 percent of maximum dry density at a moisture content at least 2 percentage points above optimum.

3. In areas to be paved, the upper 8 inches of subgrade soil should be compacted to a minimum 92 percent of maximum dry density at a moisture content at least 2 percentage points over optimum. The aggregate base courses should be compacted to a minimum 95 percent of maximum dry density at a moisture content that is slightly over optimum. The subgrade and base should be firm and unyielding when proof-rolled with heavy, rubber-tired equipment prior to paving. The pavement subgrade soils should be periodically moistened as necessary prior to placement of the aggregate base to maintain the soil moisture content near optimum.

General Fill Recommendations

1. Structural fill is defined herein as an import fill material which, when properly compacted, will support foundations, building slabs, pavements, and other fills. The on-site soil may be used as structural fill provided it is free of organics, deleterious material and rocks greater than 3 inches in size are removed.

2. Imported fill soils for general use at the site as non-expansive imported material should meet the following criteria:

   a. Be coarse grained and have a plasticity index of less than 15 and/or an expansion index less than 20;
   b. Be free of organics, debris or other deleterious material;
   c. Have a maximum rock size of 3 inches; and
   d. Contain sufficient clay binder to allow for stable foundation and utility trench excavations.

3. A representative sample of the proposed imported soils should be submitted at least three days before being transported to the site for evaluation by the geotechnical engineer. During importation to the site the material should be further reviewed on an intermittent basis.

Basement Backfill Recommendations

1. Due to the depth required to backfill the existing basement areas, the basement should be backfilled with imported granular soil. Backfilling with granular soil will minimize the post construction differential settlements that would occur if fine-grained soils were used.

2. Imported fill soils for use of the basement backfill should meet the following criteria:

   a. Be coarse grained and have a plasticity index of less than 20;
   b. Be free of organics, debris or other deleterious material;
   c. Have a maximum rock size of 3 inches; and
   d. Contain sufficient clay binder to allow for stable foundation and utility trench excavations.

3. A representative sample of the proposed imported soils should be submitted at least three days before being transported to the site for evaluation by the geotechnical engineer. During importation to the site the material should be further reviewed on an intermittent basis.

4. In order to minimize post construction differential settlement, the basement excavation walls should be sloped back at 2H:1V inclination and each layer of fill should be keyed into the side walls as it is being placed within the excavation area.

5. The suitability of the on-site soil as engineered fill will be evaluated in the field. However, in our opinion the pulverized existing pavement layer (asphalt and underlying aggregate baserock) may be more suitable since it would be granular in nature.

Foundations

1. The proposed development may be supported by a concrete mat foundation bearing on the stiff native or engineered fill material. The mat slab should be designed using a maximum allowable bearing pressure of 1,500 psf for dead plus live load. This value may be increased by one-third when transient loads such as wind or seismicity are included. The mat slab should be sufficiently thick to uniformly spread the concentrated loads

imposed by any building columns and basement walls. The mat should be designed using a modulus of subgrade reaction value of 15 psi per inch.

2. The basement slab should be underlain by a drain blanket at least 6 inches thick to control potential groundwater seepage. The drain blanket may consist of clean crushed rock underlain by a non-woven filter fabric or Class 2 permeable material. The soil subgrade should be shaped to slope from the center to the perimeter at a gradient of at least 1 percent. The basement slab and walls should be waterproofed as directed by the architect/engineer.

3. Rigid PVC perforated pipe consisting of Schedule 40 or SDR 35 pipe with a minimum 2 percent slope, should be placed around the perimeter of the drain blanket connecting to a catch basin, drain outlet, or sump, which discharges groundwater away from the project site.

4. Resistance to lateral loads should be calculated based on a passive equivalent fluid pressure of 300 pcf and a friction factor of 0.30. These values may be used in combination without reduction of either value. These values assume that backfill adjacent to foundations is properly compacted.

Exterior Flatwork

1. Exterior flatwork that will not experience vehicular traffic should have a minimum thickness of 4 full inches and should be underlain by a minimum of 6-inch layer of compacted non-expansive material such as clean sand or aggregate base.

2. Assuming that movement (i.e., 1/4-inch or more) of exterior flatwork beyond the structure is acceptable, the flatwork should be designed to be independent of the building foundations. The flatwork should not be doweled to foundations, and a separator should be placed between the two.

3. To reduce shrinkage cracks in concrete, the concrete aggregates should be of appropriate size and proportion, the water/cement ratio should be low, the concrete should be properly placed and finished, contraction joints should be installed, and the concrete should be properly cured. Concrete materials, placement and curing specifications should be at the direction of the designer; ACI 302.1R-04 and ACI 302.2R-04 are suggested as resources for the designer in preparing such specifications.

Utility Trench Backfills

1. A select, noncorrosive, granular, easily compacted material should be used as bedding and shading immediately around utility pipes. The site soils may be used for trench backfill above the select material.

2. Trench backfill in the upper 8 inches of subgrade beneath pavement areas should be compacted to a minimum of 92 percent of maximum dry density at a moisture content at least 3 percentage points above optimum moisture content and the aggregate base courses should be compacted to a minimum 95 percent of maximum dry density at a moisture content slightly over optimum. Trench backfill in other areas should be compacted to a minimum of 90 percent of maximum dry density at a moisture content at least 3 percentage points above optimum moisture content. Jetting of utility trench backfill should not be allowed.

3. Where utility trenches extend under perimeter foundations, the trenches should be backfilled entirely with approved fill soil compacted to a minimum of 90 percent of maximum dry density at a moisture content at least 3 percentage points above optimum moisture content. The zone of approved fill soil should extend a minimum distance of 2 feet on both sides of the foundation. If utility pipes pass through sleeves cast into the perimeter foundations, the annulus between the pipes and sleeves should be completely sealed.

4. Parallel trenches excavated in the area under foundations defined by a plane radiating at a 45-degree angle downward from the bottom edge of the footing should be avoided, if possible. Trench backfill within this zone, if necessary, should consist of Controlled Density Fill (Flowable Fill).

5. Where a *new* utility excavation will encroach into the "Zone of Foundation Influence" adjacent to an *existing* foundation, vault or other improvement, shoring or underpinning of the existing improvement should be provided. Excavation into the Zone of Foundation Influence for utility construction should proceed in the same manner as recommended for foundation excavations into this zone; see the "Foundations" sections for recommendations pertaining to this issue.

Surfacewater Drainage Management and Finish Improvements

1. Unpaved ground surfaces should be finish graded to direct surface runoff away from site improvements at a minimum 5 percent grade for a minimum distance of 10 feet. If this is not practical due to the terrain or other site features, swales with improved surfaces should be provided to divert drainage away from improvements. The landscaping should be planned and installed to maintain proper surface drainage conditions.

2. Runoff from driveways, roof gutters, downspouts, planter drains and other improvements should be collected in a closed pipe system which discharge in a non-erosive manner away from foundations, pavements, and other improvements.

3. Stabilization of surface soils, particularly those disturbed during construction, by vegetation or other means during and following construction is essential to protect the site from erosion damage. Care should be taken to establish and maintain vegetation.

4. Raised planter beds adjacent to foundations should be provided with sealed sides and bottoms so that irrigation water is not allowed to penetrate the subsurface beneath foundations. Outlets should be provided in the planters to direct accumulated irrigation water away from foundations.

5. Open areas adjacent to exterior flatwork should be irrigated or otherwise maintained so that constant moisture conditions are created throughout the year. Irrigation systems should be controlled to the minimum levels that will sustain the vegetation without saturating the soil.

6. Bio-retention swales constructed within 10 feet or less from the building foundation should be lined with a 20-mil pond liner.

Geotechnical Observation and Testing

1. It must be recognized that the recommendations contained in this report are based on a limited number of borings and rely on continuity of the subsurface conditions encountered.

2. It is assumed that the geotechnical engineer will be retained to provide consultation during the design phase, to interpret this report during construction, and to provide construction monitoring in the form of testing and observation.

3. Unless otherwise stated, the terms "compacted" and "recompacted" refer to soils placed in level lifts not exceeding 8 inches in loose thickness and compacted to a minimum of 90 percent of maximum dry density. The standard tests used to define maximum dry density and field density should be ASTM D 1557-12 and ASTM D 6938-17, respectively, or other methods acceptable to the geotechnical engineer and jurisdiction.

4. “Moisture conditioning” refers to adjusting the soil moisture to at least 3 percentage points above optimum moisture content prior to application of compactive effort. If the soils are overly moist so that they become unstable, or if the recommended compaction cannot be readily achieved, drying the soil to optimum moisture content or just above may be necessary. Placement of gravel layers or geotextiles may also be necessary to help stabilize unstable soils. The geotechnical engineer should be contacted for recommendations for mitigating unstable soils.

5. At a minimum, the following should be provided by the geotechnical engineer:

    - Review of final grading and foundation plans,
    - Professional observation during site preparation, grading, and foundation excavation,
    - Oversight of soil compaction testing during grading,
    - Oversight of soil special inspection during grading.

6. Special inspection of grading should be provided as per Section 1705.6 and 1705.8 and Table 1705.6 and 1705.8 of the CBC; the soils special inspector should be under the direction of the geotechnical engineer. In our opinion, the following operations should be subject to *continuous* soils special inspection:

    - Scarification and recompaction,
    - Fill placement and compaction,
    - Foundation excavation,
    - Over-excavation to the recommended depth.

7. In our opinion, the following operations may be subject to *periodic* soils special inspection; subject to approval by the Building Official:

    - Site preparation,
    - Compaction of utility trench backfill,
    - Removal of existing development features,
    - Compaction of subgrade and aggregate base,

- Observation of foundation excavations,
- Building pad moisture conditioning.

8. It will be necessary to develop a program of quality control prior to beginning grading. It is the responsibility of the owner, contractor, or project manager to determine any additional inspection items required by the architect/engineer or the governing jurisdiction.

9. The locations and frequencies of compaction tests should be as per the recommendations of the geotechnical engineer at the time of construction. The recommended test locations and frequencies may be subject to modification by the geotechnical engineer based upon soil and moisture conditions encountered, the size and type of equipment used by the contractor, the general trend of the compaction test results, and other factors.

10. A preconstruction conference among a representative of the owner, the geotechnical engineer, soils special inspector, the architect/engineer, and contractors is recommended to discuss planned construction procedures and quality control requirements. Earth Systems should be notified at least 48 hours prior to beginning grading operations.

6.0 CLOSURE

This report is valid for conditions as they exist at this time for the type of project described herein. Our intent was to perform the investigation in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the locality of this project at this time under similar conditions. No representation, warranty, or guarantee is either expressed or implied. This report is intended for the exclusive use by the client as discussed in the Scope of Services section. Application beyond the stated intent is strictly at the user's risk.

If changes with respect to the project type or location become necessary, if items not addressed in this report are incorporated into plans, or if any of the assumptions stated in this report are not correct, Earth Systems should be notified for modifications to this report. Any items not specifically addressed in this report should comply with the California Building Code and the requirements of the governing jurisdiction.

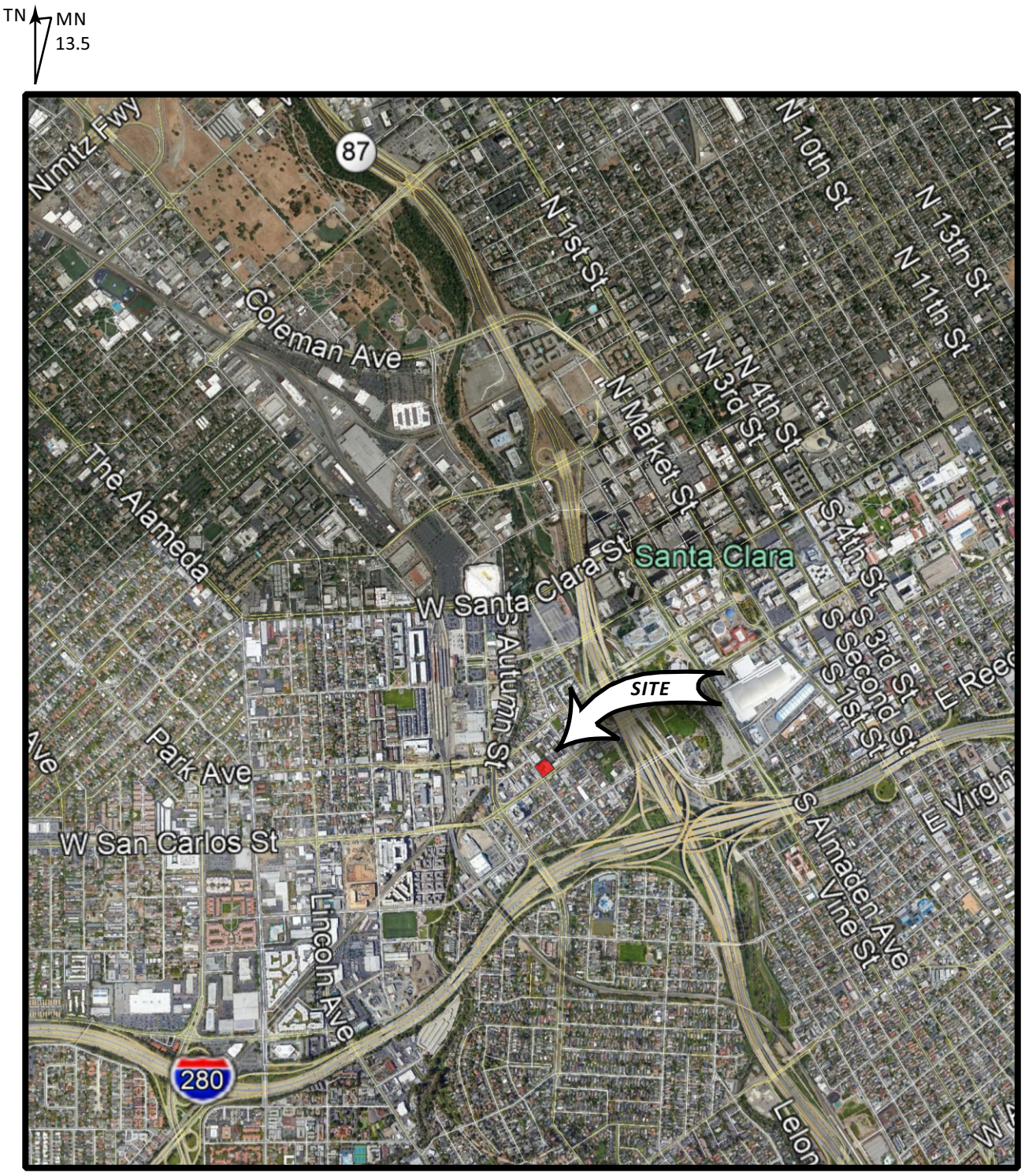
The preliminary recommendations of this report are based upon the geotechnical conditions encountered during the investigation and may be augmented by additional requirements of the architect/engineer, or by additional recommendations provided by this firm based on conditions exposed at the time of construction.

If Earth Systems is not retained to provide construction observation and testing services, it will not be responsible for the interpretation of the information by others or any consequences arising there from.

FIGURES

Figure 1 - Site Location Map
Figure 2 - Site Plan

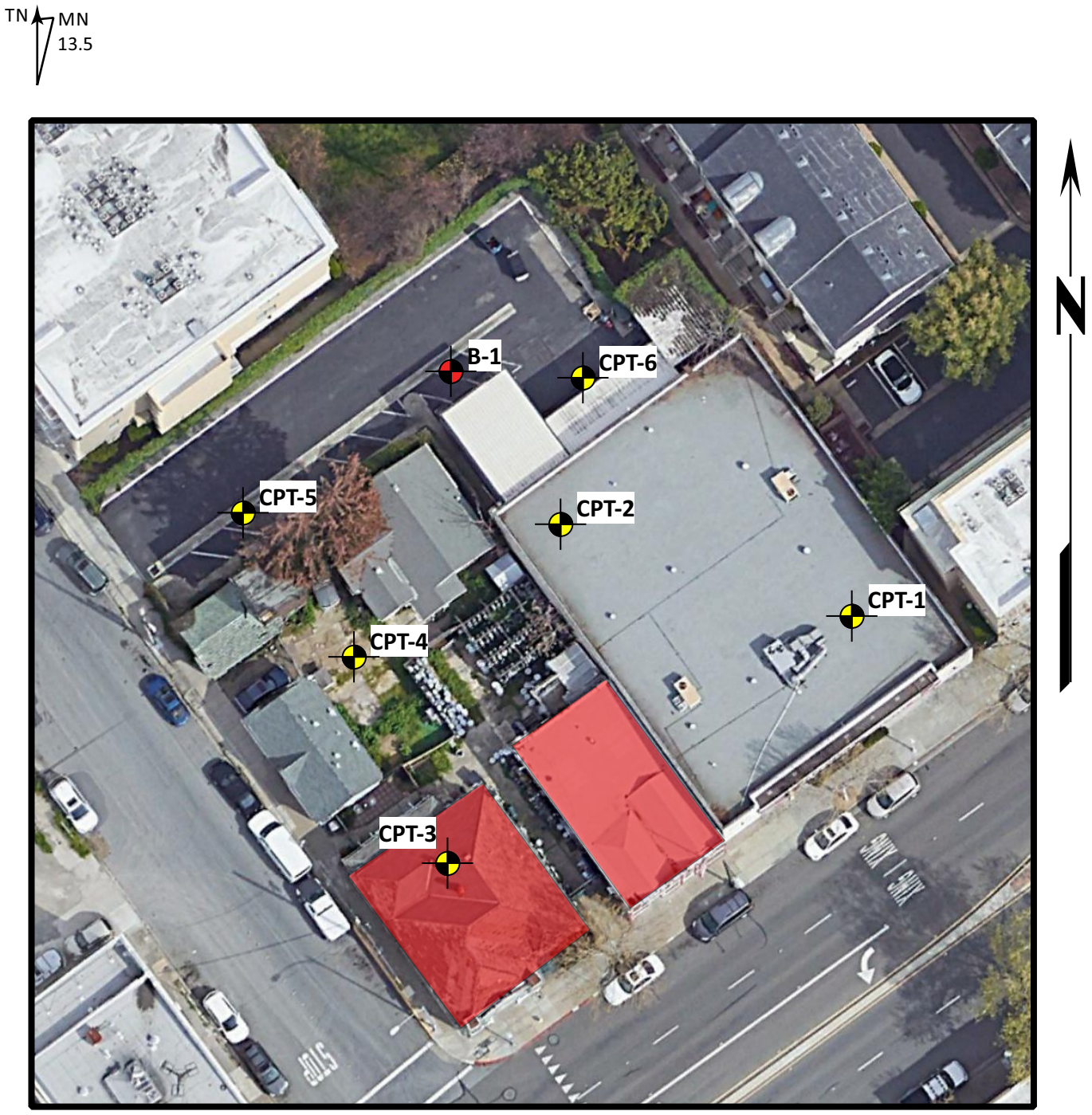
Figure 1



Base: Google Earth (2020)

Earth Systems Pacific	Marriot Townhome Suites West San Carlos Street & Josefa Street San Jose, California	**Site Location Map** **303633-001**

Figure 2



Base: Google Earth (2020)

Earth Systems Pacific	Marriot Townhome Suites West San Carlos Street & Josefa Street San Jose, California	Site Plan 303633-001

APPENDIX A

Boring Log (1)
Cone Penetrometer Tests (6)

Earth Systems Pacific

Boring No. 1
PAGE 1 OF 2
JOB NO.: 303633-001
DATE: 4/2/20

LOGGED BY: P. Penrose
DRILL RIG: Mobile B-53
AUGER TYPE: 8" Hollow Stem

Marriot Townhome Suites
West San Carlos Street & Josefa Steet
San Jose, California

DEPTH (feet)	USCS CLASS	SYMBOL	SOIL DESCRIPTION	SAMPLE DATA: INTERVAL (feet)	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.	POCKET PEN (t.s.f)
0	CL		SANDY CLAY; gray brown, moist							
2				2.5 - 3.0	1-1	■				3.0
4			- few gravels, dark gray brown	4.5 - 5.0	1-2	■				
8	SC		CLAYEY SAND with GRAVEL; gray brown, moist							
9				9.5 - 10.0	1-3	■				
13			- reddish brown							
14				14.5 - 15.0	1-4	■				
18			- gray brown, less gravel, less clay							
19				19.5 - 20.0	1-5	■				
22			▼							
23	CL		LEAN CLAY with SAND; gray brown, stiff, wet							
24				24.5 - 25.0	1-6	■				1.25
26										

LEGEND: ■ 2.5" Mod Cal Sample ▭ 2.0" Cal Sample ● SPT ○ Bulk Sample ▼ Groundwater

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.

Earth Systems Pacific

Boring No. 1
PAGE 2 OF 2
JOB NO.: 303633-001
DATE: 4/2/20

LOGGED BY: P. Penrose
DRILL RIG: Mobile B-53
AUGER TYPE: 8" Hollow Stem

Marriot Townhome Suites
West San Carlos Street & Josefa Street
San Jose, California

DEPTH (feet)	USCS CLASS	SYMBOL	SOIL DESCRIPTION	SAMPLE DATA: INTERVAL (feet)	SAMPLE NUMBER	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.	POCKET PEN (t.s.f)
27	CL									
28	SC		CLAYEY SAND with GRAVEL; dark gray, wet							
29				29.5 - 30.0	1-7	■				
30										
31										
32										
33	SC-SP		POORLY GRADED SAND with CLAY and GRAVEL; gray brown, wet	33.5 - 34.0	1-8	●				
34										
35										
36										
37										
38				38.5 - 39.0	1-9	●				
39										
40										
41										
42	SC		CLAYEY SAND; dark gray, wet							
43				43.5 - 44.0	1-10	●				
44										
45										
46										
47										
48	CL		SANDY LEAN CLAY; blue gray, wet	48.5 - 49.0	1-11	●				
49										
50										
51			Bottom of boring at 50' Groundwater encountered at 22'							
52										
53										

LEGEND: ■ 2.5" Mod Cal Sample ▭ 2.0" Cal Sample ● SPT ○ Bulk Sample ▼ Groundwater

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.

GREGG DRILLING, LLC.
GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

May 27, 2020

Earth Systems
Attn: Kira Ortiz

Subject: CPT Site Investigation
421 W. San Carlos St.
San Jose, California
GREGG Project Number: D2209106

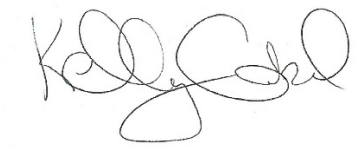
Dear Ms. Ortiz:

The following report presents the results of GREGG Drilling Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	UVOST Laser Induced Fluorescence	(UVOST)	☐
5	Groundwater Sampling	(GWS)	☐
6	Soil Sampling	(SS)	☐
7	Vapor Sampling	(VS)	☐
8	Pressuremeter Testing	(PMT)	☐
9	Vane Shear Testing	(VST)	☐
10	Dilatometer Testing	(DMT)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact me at 714-863-0988.

Sincerely,
Gregg Drilling, LLC.



CPT Reports Team
Gregg Drilling, LLC.

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (feet)	Depth of Groundwater Samples (feet)	Depth of Soil Samples (feet)	Depth of Pore Pressure Dissipation Tests (feet)
CPT-01	5/26/2020	71.85	-	-	34.6, 65.1
CPT-02	5/26/2020	37.24	-	-	33.3
CPT-03	5/27/2020	29.04	-	-	26.6

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Lunne, T., Robertson, P.K. and Powell, J.J.M., "Cone Penetration Testing in Geotechnical Practice" E & FN Spon. ISBN 0 419 23750, 1997

Roberston, P.K., "Soil Classification using the Cone Penetration Test", Canadian Geotechnical Journal, Vol. 27, 1990 pp. 151-158.

Mayne, P.W., "NHI (2002) Manual on Subsurface Investigations: Geotechnical Site Characterization", available through www.ce.gatech.edu/~geosys/Faculty/Mayne/papers/index.html, Section 5.3, pp. 107-112.

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

Robertson, P.K., Sully, J., Woeller, D.J., Lunne, T., Powell, J.J.M., and Gillespie, D.J., "Guidelines for Estimating Consolidation Parameters in Soils from Piezocone Tests", Canadian Geotechnical Journal, Vol. 29, No. 4, August 1992, pp. 539-550.

Robertson, P.K., T. Lunne and J.J.M. Powell, "Geo-Environmental Application of Penetration Testing", Geotechnical Site Characterization, Robertson & Mayne (editors), 1998 Balkema, Rotterdam, ISBN 90 5410 939 4 pp 35-47.

Campanella, R.G. and I. Weemees, "Development and Use of An Electrical Resistivity Cone for Groundwater Contamination Studies", Canadian Geotechnical Journal, Vol. 27 No. 5, 1990 pp. 557-567.

DeGroot, D.J. and A.J. Lutenegger, "Reliability of Soil Gas Sampling and Characterization Techniques", International Site Characterization Conference - Atlanta, 1998.

Woeller, D.J., P.K. Robertson, T.J. Boyd and Dave Thomas, "Detection of Polyaromatic Hydrocarbon Contaminants Using the UVIF-CPT", 53rd Canadian Geotechnical Conference Montreal, QC October pp. 733-739, 2000.

Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org

Cone Penetration Testing Procedure (CPT)

Gregg Drilling carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*.

The cone takes measurements of tip resistance (q_c), sleeve resistance (f_s), and penetration pore water pressure (u_2). Measurements are taken at either 2.5 or 5 cm intervals during penetration to provide a nearly continuous profile. CPT data reduction and basic interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored electronically for further analysis and reference. All CPT soundings are performed in accordance with revised ASTM standards (D 5778-12).

The 5mm thick porous plastic filter element is located directly behind the cone tip in the u_2 location. A new saturated filter element is used on each sounding to measure both penetration pore pressures as well as measurements during a dissipation test (*PPDT*). Prior to each test, the filter element is fully saturated with oil under vacuum pressure to improve accuracy.

When the sounding is completed, the test hole is backfilled according to client specifications. If grouting is used, the procedure generally consists of pushing a hollow tremie pipe with a "knock out" plug to the termination depth of the CPT hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

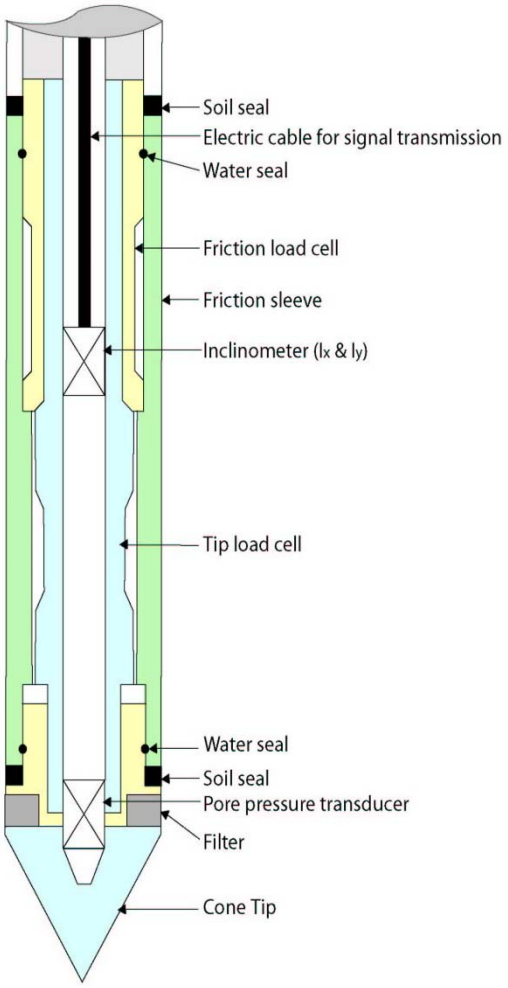


Figure CPT

Gregg 15cm^2 Standard Cone Specifications

Dimensions	
Cone base area	15 cm^2
Sleeve surface area	225 cm^2
Cone net area ratio	0.80
Specifications	
Cone load cell	
Full scale range	180 kN (20 tons)
Overload capacity	150%
Full scale tip stress	120 MPa (1,200 tsf)
Repeatability	120 kPa (1.2 tsf)
Sleeve load cell	
Full scale range	31 kN (3.5 tons)
Overload capacity	150%
Full scale sleeve stress	1,400 kPa (15 tsf)
Repeatability	1.4 kPa (0.015 tsf)
Pore pressure transducer	
Full scale range	7,000 kPa (1,000 psi)
Overload capacity	150%
Repeatability	7 kPa (1 psi)

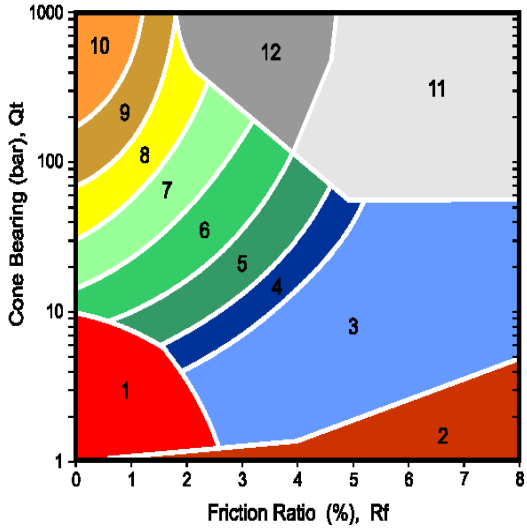
Note: The repeatability during field use will depend somewhat on ground conditions, abrasion, maintenance and zero load stability.

Cone Penetration Test Data & Interpretation

The Cone Penetration Test (CPT) data collected are presented in graphical and electronic form in the report. The plots include interpreted Soil Behavior Type (SBT) based on the charts described by Robertson (1990). Typical plots display SBT based on the non-normalized charts of Robertson et al (1986). For CPT soundings deeper than 30m, we recommend the use of the normalized charts of Robertson (1990) which can be displayed as SBTn, upon request. The report also includes spreadsheet output of computer calculations of basic interpretation in terms of SBT and SBTn and various geotechnical parameters using current published correlations based on the comprehensive review by Lunne, Robertson and Powell (1997), as well as recent updates by Professor Robertson (Guide to Cone Penetration Testing, 2015). The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg Drilling & Testing Inc. does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software. Some interpretation methods require input of the groundwater level to calculate vertical effective stress. An estimate of the in-situ groundwater level has been made based on field observations and/or CPT results, but should be verified by the user.

A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Note that it is not always possible to clearly identify a soil type based solely on q_t, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the correct soil behavior type.



ZONE		SBT
1		Sensitive, fine grained
2		Organic materials
3		Clay
4		Silty clay to clay
5		Clayey silt to silty clay
6		Sandy silt to clayey silt
7		Silty sand to sandy silt
8		Sand to silty sand
9		Sand
10		Gravely sand to sand
11		Very stiff fine grained*
12		Sand to clayey sand*

*over consolidated or cemented

Figure SBT (After Robertson et al., 1986) – Note: Colors may vary slightly compared to plots

Cone Penetration Test (CPT) Interpretation

Gregg uses a proprietary CPT interpretation and plotting software. The software takes the CPT data and performs basic interpretation in terms of soil behavior type (SBT) and various geotechnical parameters using current published empirical correlations based on the comprehensive review by Lunne, Robertson and Powell (1997). The interpretation is presented in tabular format using MS Excel. The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for any use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software.

The following provides a summary of the methods used for the interpretation. Many of the empirical correlations to estimate geotechnical parameters have constants that have a range of values depending on soil type, geologic origin and other factors. The software uses 'default' values that have been selected to provide, in general, conservatively low estimates of the various geotechnical parameters.

Input:

1 Units for display (Imperial or metric) (atm. pressure, p_a = 0.96 tsf or 0.1 MPa)
2 Depth interval to average results (ft or m). Data are collected at either 0.02 or 0.05m and can be averaged every 1, 3 or 5 intervals.
3 Elevation of ground surface (ft or m)
4 Depth to water table, z_w (ft or m) – input required
5 Net area ratio for cone, a (default to 0.80)
6 Relative Density constant, C_{Dr} (default to 350)
7 Young's modulus number for sands, α (default to 5)
8 Small strain shear modulus number
  a. for sands, S_G (default to 180 for SBT_n 5, 6, 7)
  b. for clays, C_G (default to 50 for SBT_n 1, 2, 3 & 4)
9 Undrained shear strength cone factor for clays, N_{kt} (default to 15)
10 Over Consolidation ratio number, k_{ocr} (default to 0.3)
11 Unit weight of water, (default to γ_w = 62.4 lb/ft^3 or 9.81 kN/m^3)

Column

1 Depth, z, (m) – CPT data is collected in meters
2 Depth (ft)
3 Cone resistance, q_c (tsf or MPa)
4 Sleeve resistance, f_s (tsf or MPa)
5 Penetration pore pressure, u (psi or MPa), measured behind the cone (i.e. u_2)
6 Other – any additional data
7 Total cone resistance, q_t (tsf or MPa) $q_t = q_c + u\,(1-a)$

8	Friction Ratio, R_f (%)	$R_f = (f_s/q_t) \times 100\%$
9	Soil Behavior Type (non-normalized), SBT	see note
10	Unit weight, γ (pcf or kN/m^3)	based on SBT, see note
11	Total overburden stress, σ_v (tsf)	$\sigma_{vo} = \sigma\, z$
12	In-situ pore pressure, u_o (tsf)	$u_o = \gamma_w (z - z_w)$
13	Effective overburden stress, σ'_{vo} (tsf)	$\sigma'_{vo} = \sigma_{vo} - u_o$
14	Normalized cone resistance, Q_{t1}	$Q_{t1} = (q_t - \sigma_{vo}) / \sigma'_{vo}$
15	Normalized friction ratio, F_r (%)	$F_r = f_s / (q_t - \sigma_{vo}) \times 100\%$
16	Normalized Pore Pressure ratio, B_q	$B_q = u - u_o / (q_t - \sigma_{vo})$
17	Soil Behavior Type (normalized), SBT_n	see note
18	SBT_n Index, I_c	see note
19	Normalized Cone resistance, Q_{tn} (n varies with I_c)	see note
20	Estimated permeability, k_{SBT} (cm/sec or ft/sec)	see note
21	Equivalent SPT N_{60}, blows/ft	see note
22	Equivalent SPT $(N_1)_{60}$ blows/ft	see note
23	Estimated Relative Density, D_r, (%)	see note
24	Estimated Friction Angle, ϕ', (degrees)	see note
25	Estimated Young's modulus, E_s (tsf)	see note
26	Estimated small strain Shear modulus, Go (tsf)	see note
27	Estimated Undrained shear strength, s_u (tsf)	see note
28	Estimated Undrained strength ratio	s_u/σ_v'
29	Estimated Over Consolidation ratio, OCR	see note

Notes:

1 Soil Behavior Type (non-normalized), SBT (Lunne et al., 1997 and table below)

2 Unit weight, γ either constant at 119 pcf or based on Non-normalized SBT (Lunne et al., 1997 and table below)

3 Soil Behavior Type (Normalized), SBT_n Lunne et al. (1997)

4 SBT_n Index, I_c $I_c = ((3.47 - \log Q_{t1})^2 + (\log F_r + 1.22)^2)^{0.5}$

5 Normalized Cone resistance, Q_{tn} (n varies with Ic)

$Q_{tn} = ((q_t - \sigma_{vo})/pa)\ (pa/(\sigma'_{vo})^n$ and recalculate I_c, then iterate:

When $I_c < 1.64$, n = 0.5 (clean sand)
When $I_c > 3.30$, n = 1.0 (clays)
When $1.64 < I_c < 3.30$, $n = (I_c - 1.64)0.3 + 0.5$
Iterate until the change in n, $\Delta n < 0.01$

6 Estimated permeability, k_{SBT} based on Normalized SBT_n (Lunne et al., 1997 and table below)

7 Equivalent SPT N_{60}, blows/ft Lunne et al. (1997)

$$\frac{(q_t/p_a)}{N_{60}} = 8.5\left(1 - \frac{I_c}{4.6}\right)$$

8 Equivalent SPT $(N_1)_{60}$ blows/ft $(N_1)_{60} = N_{60}\, C_N$,
where $C_N = (pa/\sigma'_{vo})^{0.5}$

9 Relative Density, D_r, (%) $D_r^2 = Q_{tn} / C_{Dr}$
Only SBT_n 5, 6, 7 & 8 *Show 'N/A' in zones 1, 2, 3, 4 & 9*

10 Friction Angle, ϕ', (degrees) $\tan\phi' = \frac{1}{2.68}\left[\log\left(\frac{q_c}{\sigma'_{vo}}\right) + 0.29\right]$
Only SBT_n 5, 6, 7 & 8 *Show'N/A' in zones 1, 2, 3, 4 & 9*

11 Young's modulus, E_s $E_s = \alpha\, q_t$
Only SBT_n 5, 6, 7 & 8 *Show 'N/A' in zones 1, 2, 3, 4 & 9*

12 Small strain shear modulus, Go

a. $G_o = S_G\,(q_t\ \sigma'_{vo}\ pa)^{1/3}$ *For SBT_n 5, 6, 7*

b. $G_o = C_G\, q_t$ *For SBT_n 1, 2, 3& 4*

Show 'N/A' in zones 8 & 9

13 Undrained shear strength, s_u $s_u = (q_t - \sigma_{vo}) / N_{kt}$
Only SBT_n 1, 2, 3, 4 & 9 *Show 'N/A' in zones 5, 6, 7 & 8*

14 Over Consolidation ratio, OCR $OCR = k_{ocr}\, Q_{t1}$
Only SBT_n 1, 2, 3, 4 & 9 *Show 'N/A' in zones 5, 6, 7 & 8*

The following updated and simplified SBT descriptions have been used in the software:

SBT Zones		**SBT_n Zones**	
1	sensitive fine grained	1	sensitive fine grained
2	organic soil	2	organic soil
3	clay	3	clay
4	clay & silty clay	4	clay & silty clay
5	clay & silty clay		
6	sandy silt & clayey silt		

7	silty sand & sandy silt	5	silty sand & sandy silt
8	sand & silty sand	6	sand & silty sand
9	sand		
10	sand	7	sand
11	very dense/stiff soil*	8	very dense/stiff soil*
12	very dense/stiff soil*	9	very dense/stiff soil*

*heavily overconsolidated and/or cemented

Track when soils fall with zones of same description and print that description (i.e. if soils fall only within SBT zones 4 & 5, print 'clays & silty clays')

Estimated Permeability (see Lunne et al., 1997)

SBT_n	Permeability (ft/sec)	(m/sec)
1	$3x\ 10^{-8}$	$1x\ 10^{-8}$
2	$3x\ 10^{-7}$	$1x\ 10^{-7}$
3	$1x\ 10^{-9}$	$3x\ 10^{-10}$
4	$3x\ 10^{-8}$	$1x\ 10^{-8}$
5	$3x\ 10^{-6}$	$1x\ 10^{-6}$
6	$3x\ 10^{-4}$	$1x\ 10^{-4}$
7	$3x\ 10^{-2}$	$1x\ 10^{-2}$
8	$3x\ 10^{-6}$	$1x\ 10^{-6}$
9	$1x\ 10^{-8}$	$3x\ 10^{-9}$

Estimated Unit Weight (see Lunne et al., 1997)

SBT	Approximate Unit Weight (lb/ft^3)	(kN/m^3)
1	111.4	17.5
2	79.6	12.5
3	111.4	17.5
4	114.6	18.0
5	114.6	18.0
6	114.6	18.0
7	117.8	18.5
8	120.9	19.0
9	124.1	19.5
10	127.3	20.0
11	130.5	20.5
12	120.9	19.0

Pore Pressure Dissipation Tests (PPDT)

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals can be used to measure equilibrium water pressure (at the time of the CPT). If conditions are hydrostatic, the equilibrium water pressure can be used to determine the approximate depth of the ground water table. A PPDT is conducted when penetration is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (*u)* with time is measured behind the tip of the cone and recorded.

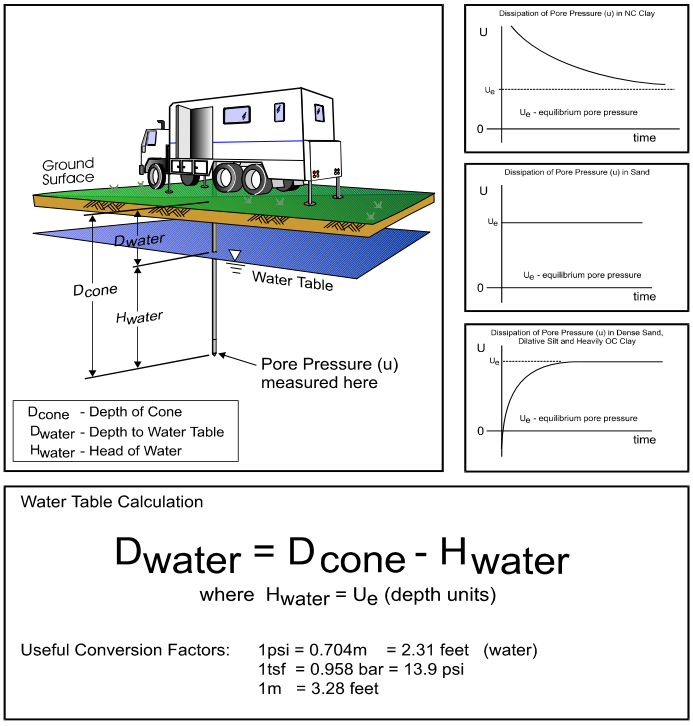
Pore pressure dissipation data can be interpreted to provide estimates of:

- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permeability (k_h)

In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until it reaches equilibrium, *Figure PPDT*. This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992 and Lunne et al. 1997.

A summary of the pore pressure dissipation tests are summarized in Table 1.



Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

Figure PPDT

Seismic Cone Penetration Testing (SCPT)

Seismic Cone Penetration Testing (SCPT) can be conducted at various intervals during the Cone Penetration Test. Shear wave velocity (Vs) can then be calculated over a specified interval with depth. A small interval for seismic testing, such as 1-1.5m (3-5ft) allows for a detailed look at the shear wave profile with depth. Conversely, a larger interval such as 3-6m (10-20ft) allows for a more average shear wave velocity to be calculated. Gregg's cones have a horizontally active geophone located 0.2m (0.66ft) behind the tip.

To conduct the seismic shear wave test, the penetration of the cone is stopped and the rods are decoupled from the rig. An automatic hammer is triggered to send a shear wave into the soil. The distance from the source to the cone is calculated knowing the total depth of the cone and the horizontal offset distance between the source and the cone. To calculate an interval velocity, a minimum of two tests must be performed at two different depths. The arrival times between the two wave traces are compared to obtain the difference in time (Δt). The difference in depth is calculated (Δd) and velocity can be determined using the simple equation: $v = \Delta d/\Delta t$

Multiple wave traces can be recorded at the same depth to improve quality of the data.

A complete reference on seismic cone penetration tests is presented by Robertson et al. 1986 and Lunne et al. 1997.

A summary the shear wave velocities, arrival times and wave traces are provided with the report.

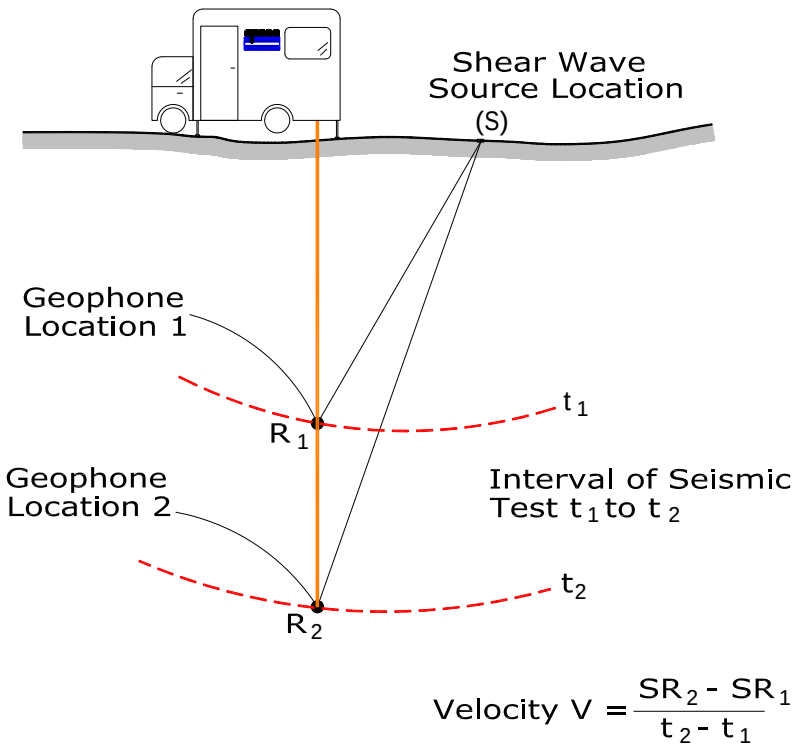


Figure SCPT

Groundwater Sampling

Gregg Drilling & Testing, Inc. conducts groundwater sampling using a sampler as shown in *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the pushing equipment to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 44.5mm (1¾ inch) hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

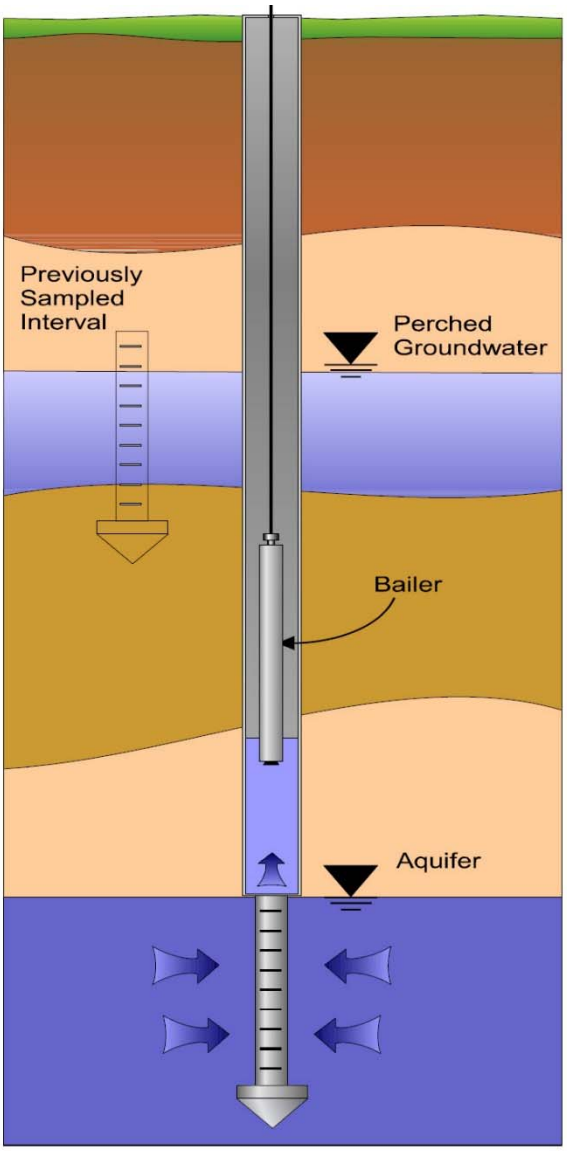


Figure GWS

Soil Sampling

Gregg Drilling & Testing, Inc. uses a piston-type push-in sampler to obtain small soil samples without generating any soil cuttings, *Figure SS*. Two different types of samplers (12 and 18 inch) are used depending on the soil type and density. The soil sampler is initially pushed in a "closed" position to the desired sampling interval using the CPT pushing equipment. Keeping the sampler closed minimizes the potential of cross contamination. The inner tip of the sampler is then retracted leaving a hollow soil sampler with inner 1¼" diameter sample tubes. The hollow sampler is then pushed in a locked "open" position to collect a soil sample. The filled sampler and push rods are then retrieved to the ground surface. Because the soil enters the sampler at a constant rate, the opportunity for 100% recovery is increased. For environmental analysis, the soil sample tube ends are sealed with Teflon and plastic caps. Often, a longer "split tube" can be used for geotechnical sampling.

For a detailed reference on direct push soil sampling, refer to Robertson et al, 1998.

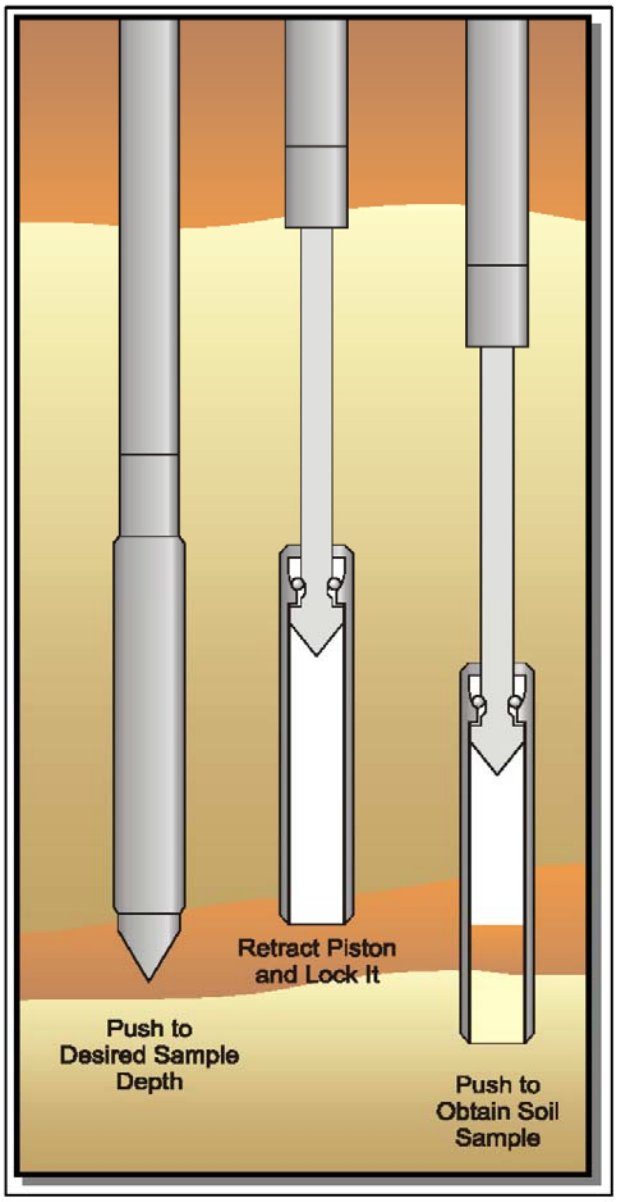


Figure SS

GREGG DRILLING, LLC
WWW.GREGGDRILLING.COM

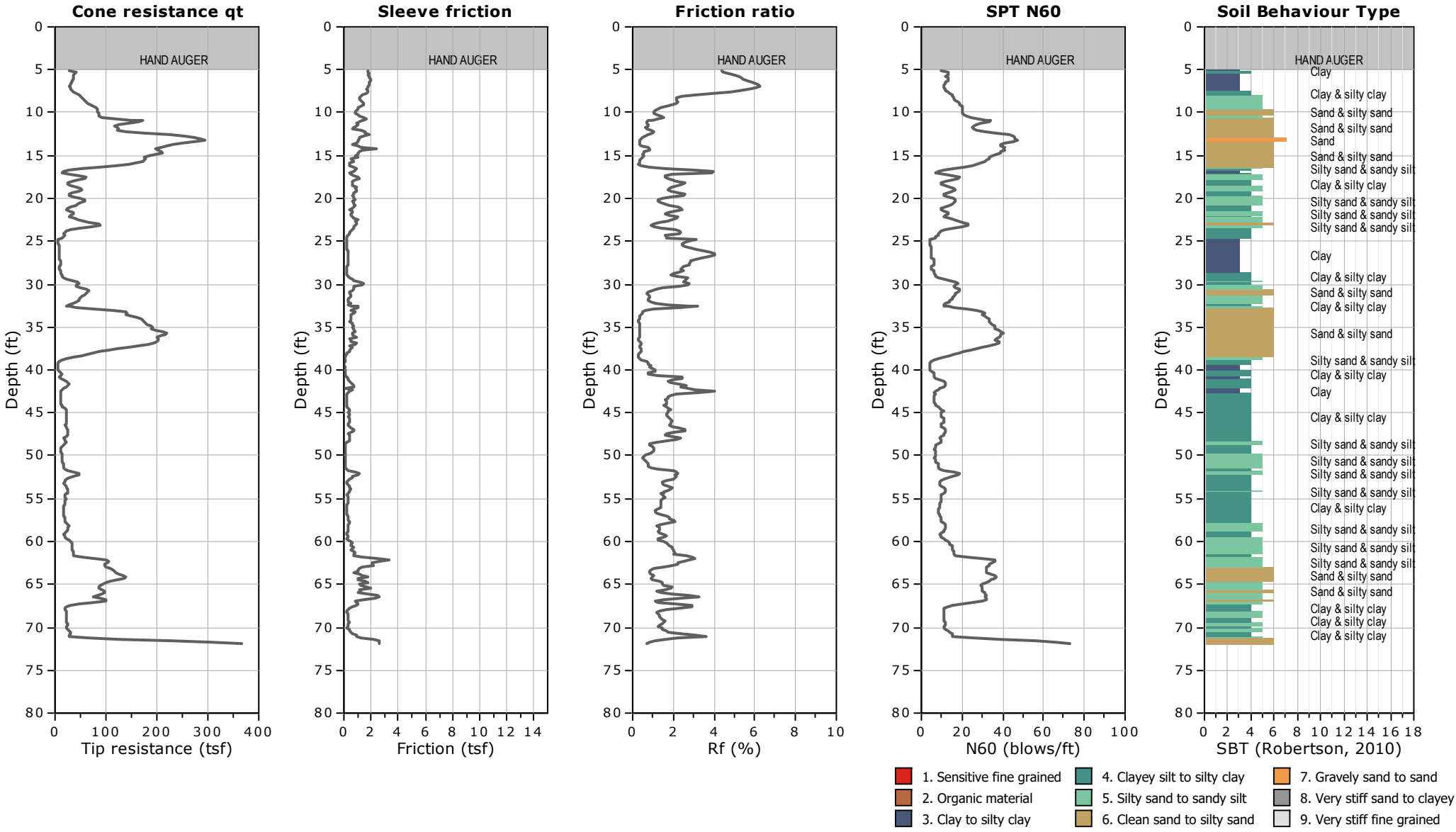
CPT: CPT-01

CLIENT: EARTH SYSTEM

SITE: 421 W. SAN CARLOS ST., SAN JOSE, CA

FIELD REP: KIRA ORTIZ

Total depth: 71.85 ft, Date: 5/26/2020



GREGG DRILLING, LLC
WWW.GREGGDRILLING.COM

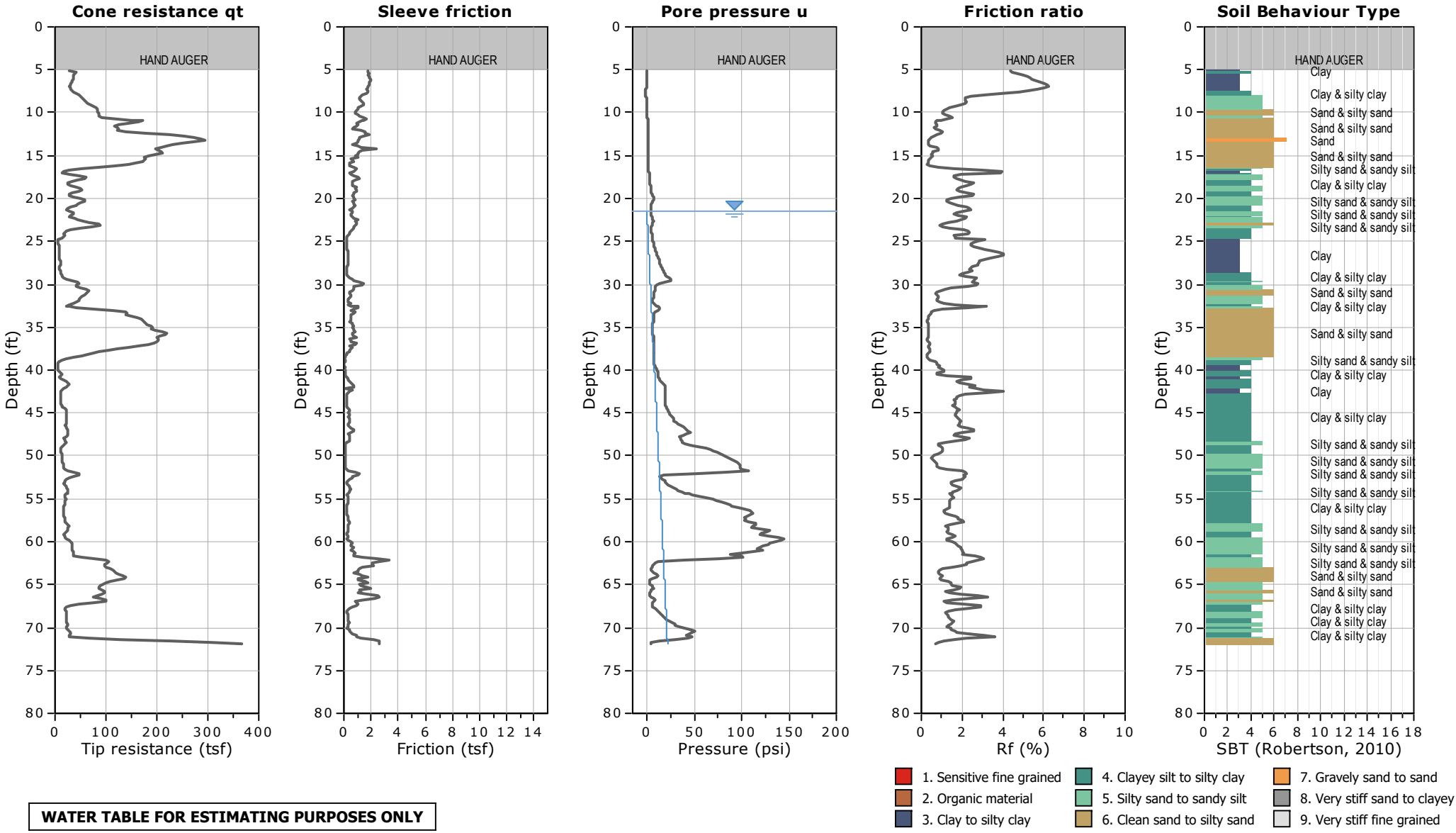
CPT: CPT-01

CLIENT: EARTH SYSTEM

SITE: 421 W. SAN CARLOS ST., SAN JOSE, CA

FIELD REP: KIRA ORTIZ

Total depth: 71.85 ft, Date: 5/26/2020



WATER TABLE FOR ESTIMATING PURPOSES ONLY

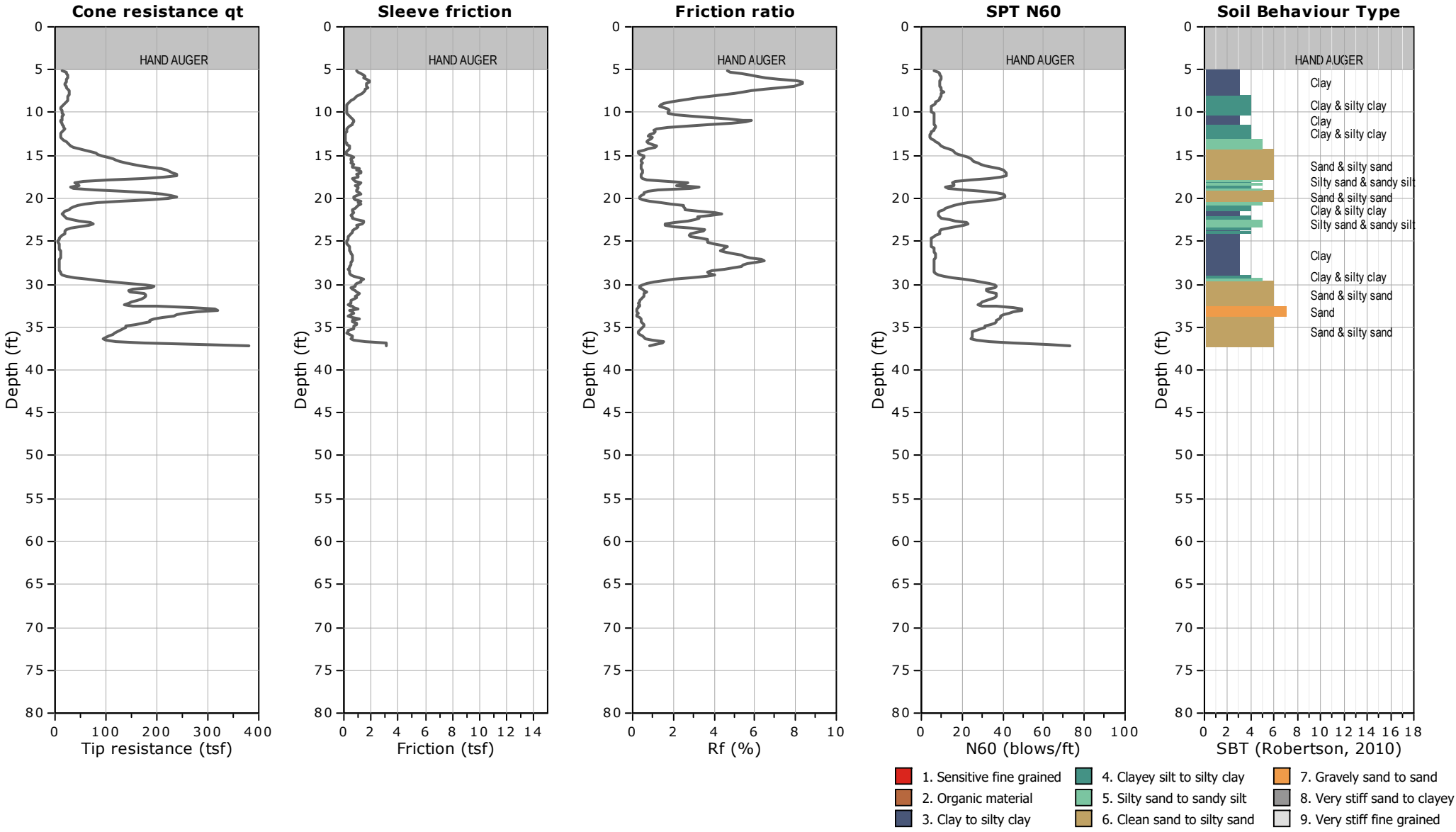
CPT: CPT-02

CLIENT: EARTH SYSTEM

SITE: 421 W. SAN CARLOS ST., SAN JOSE, CA

FIELD REP: KIRA ORTIZ

Total depth: 37.24 ft, Date: 5/26/2020



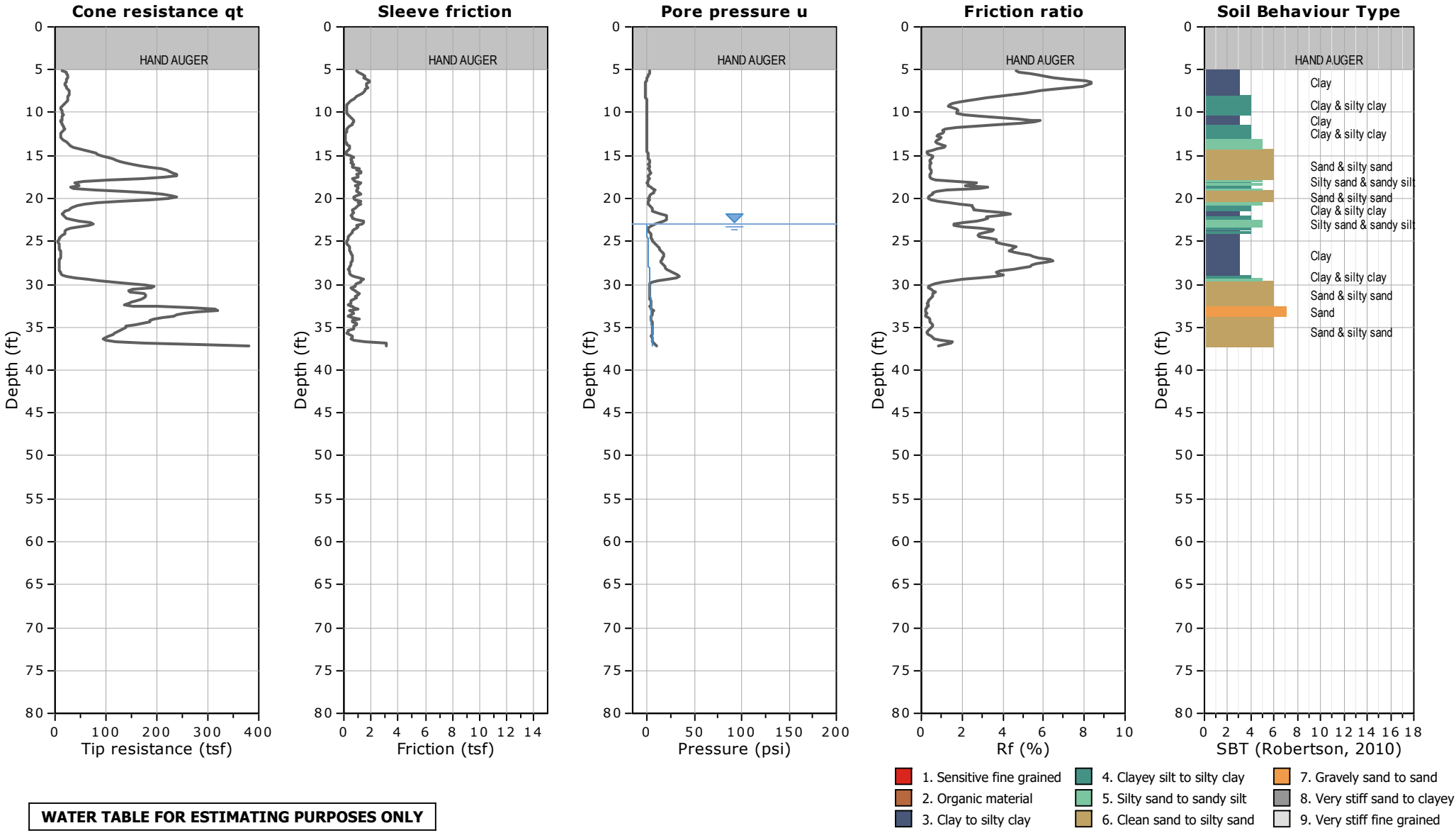
CPT: CPT-02

CLIENT: EARTH SYSTEM

SITE: 421 W. SAN CARLOS ST., SAN JOSE, CA

FIELD REP: KIRA ORTIZ

Total depth: 37.24 ft, Date: 5/26/2020



WATER TABLE FOR ESTIMATING PURPOSES ONLY

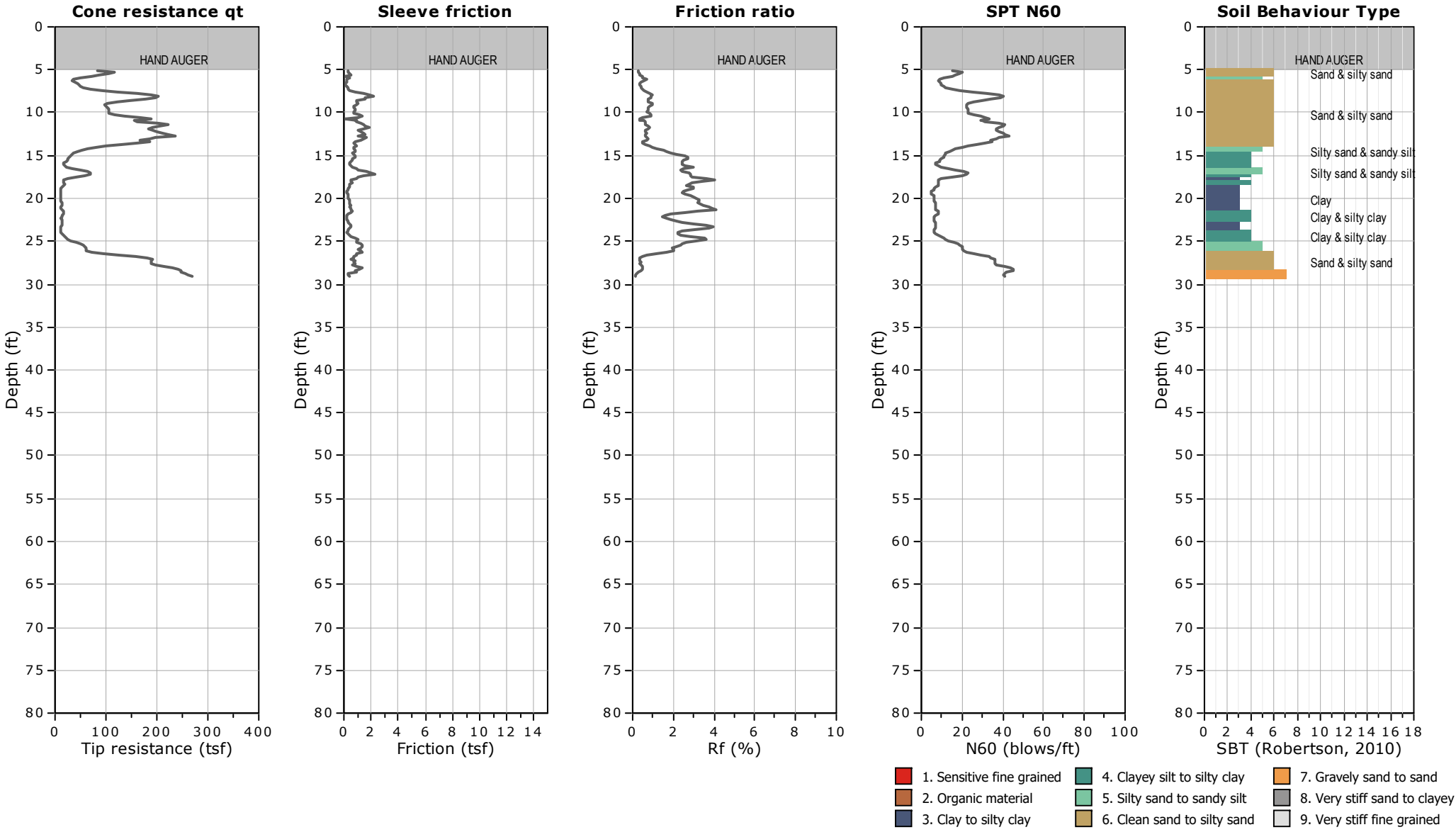
CPT: CPT-03

CLIENT: EARTH SYSTEM

SITE: 421 W. SAN CARLOS ST., SAN JOSE, CA

FIELD REP: KIRA ORTIZ

Total depth: 29.04 ft, Date: 5/27/2020



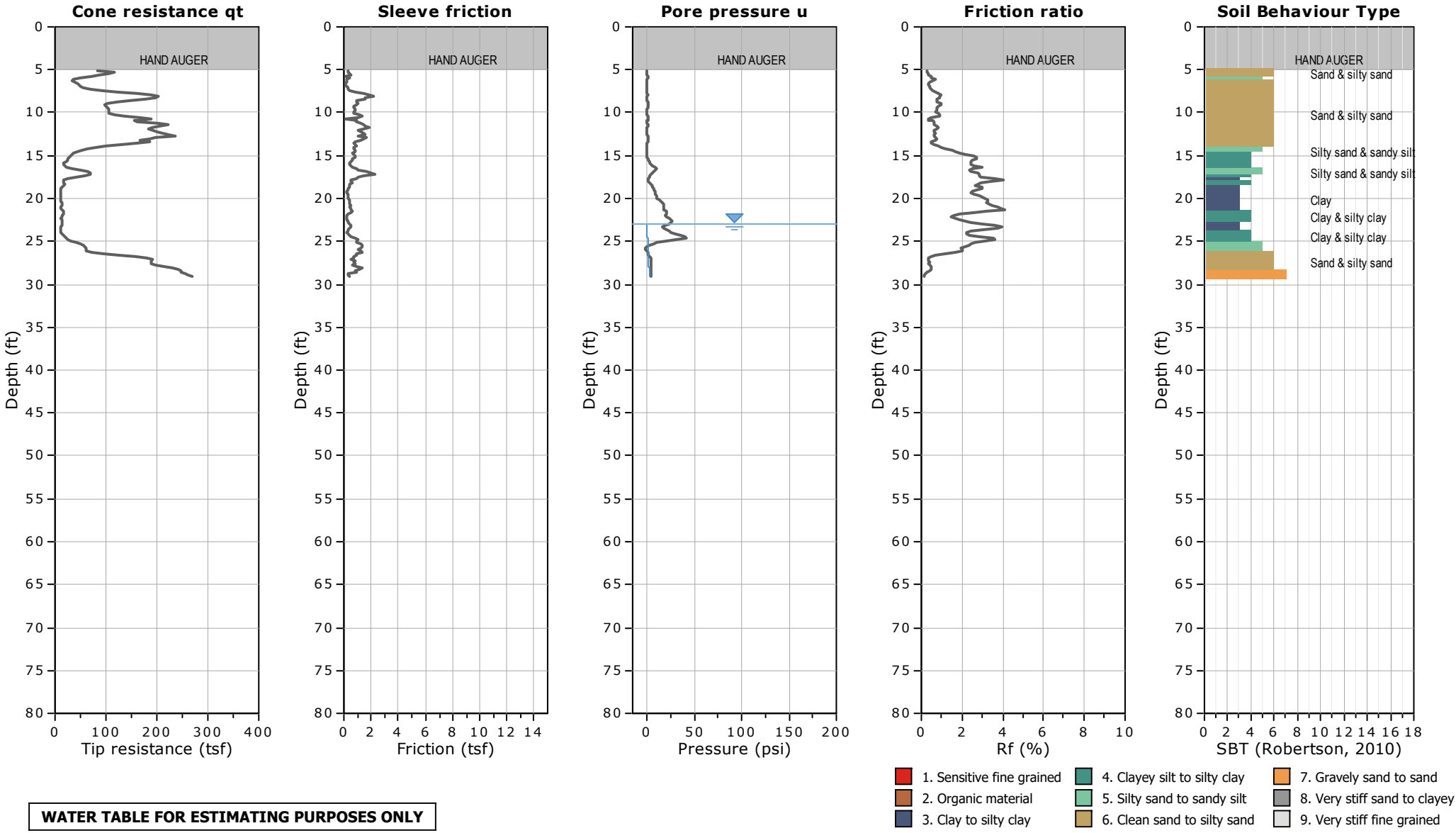
CPT: CPT-03

CLIENT: EARTH SYSTEM

SITE: 421 W. SAN CARLOS ST., SAN JOSE, CA

FIELD REP: KIRA ORTIZ

Total depth: 29.04 ft, Date: 5/27/2020

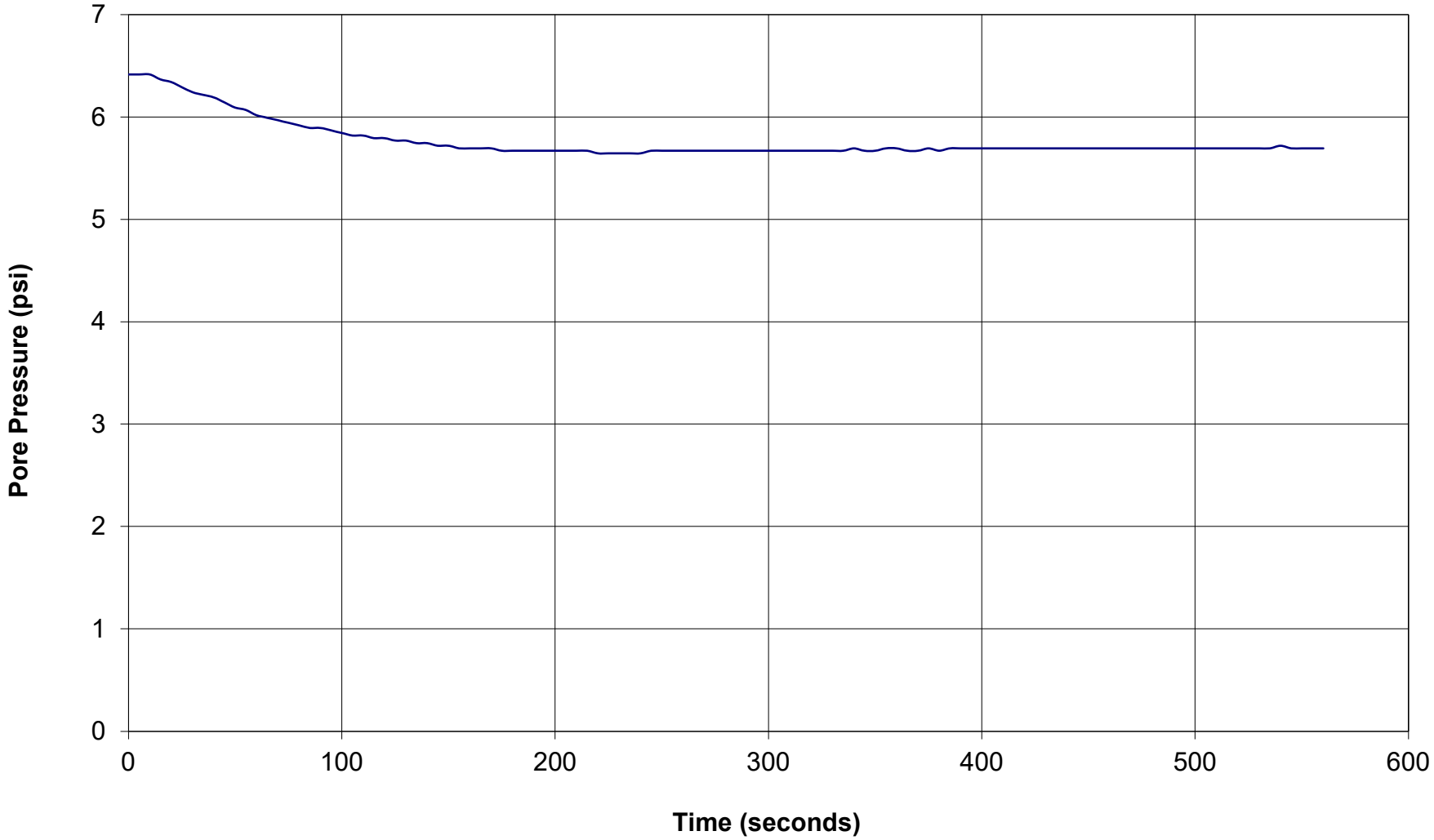


WATER TABLE FOR ESTIMATING PURPOSES ONLY

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

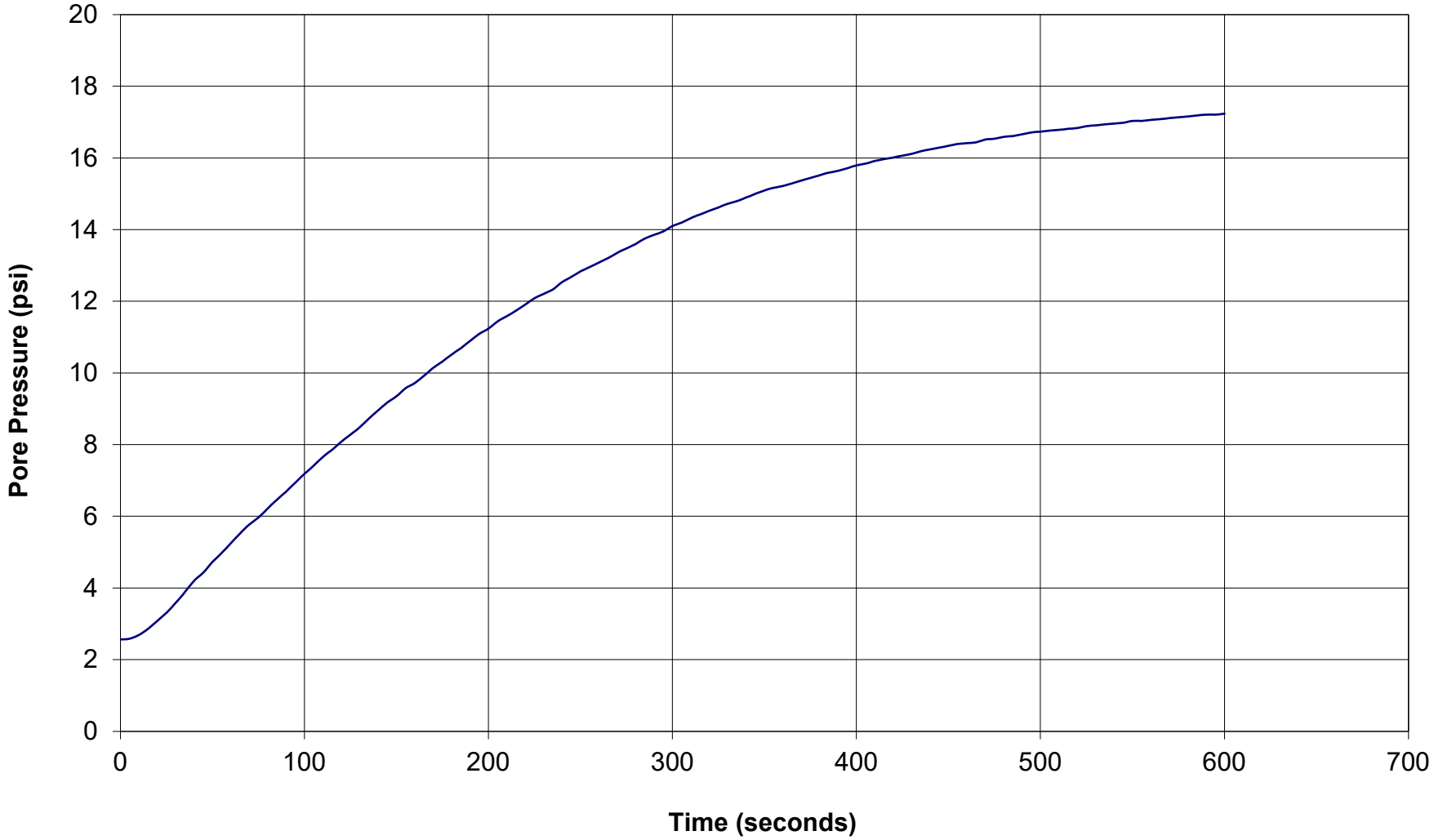
Sounding: CPT-01
Depth (ft): 34.61
Site: 491 W. SAN
Engineer: KIRA ORTIZ



GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

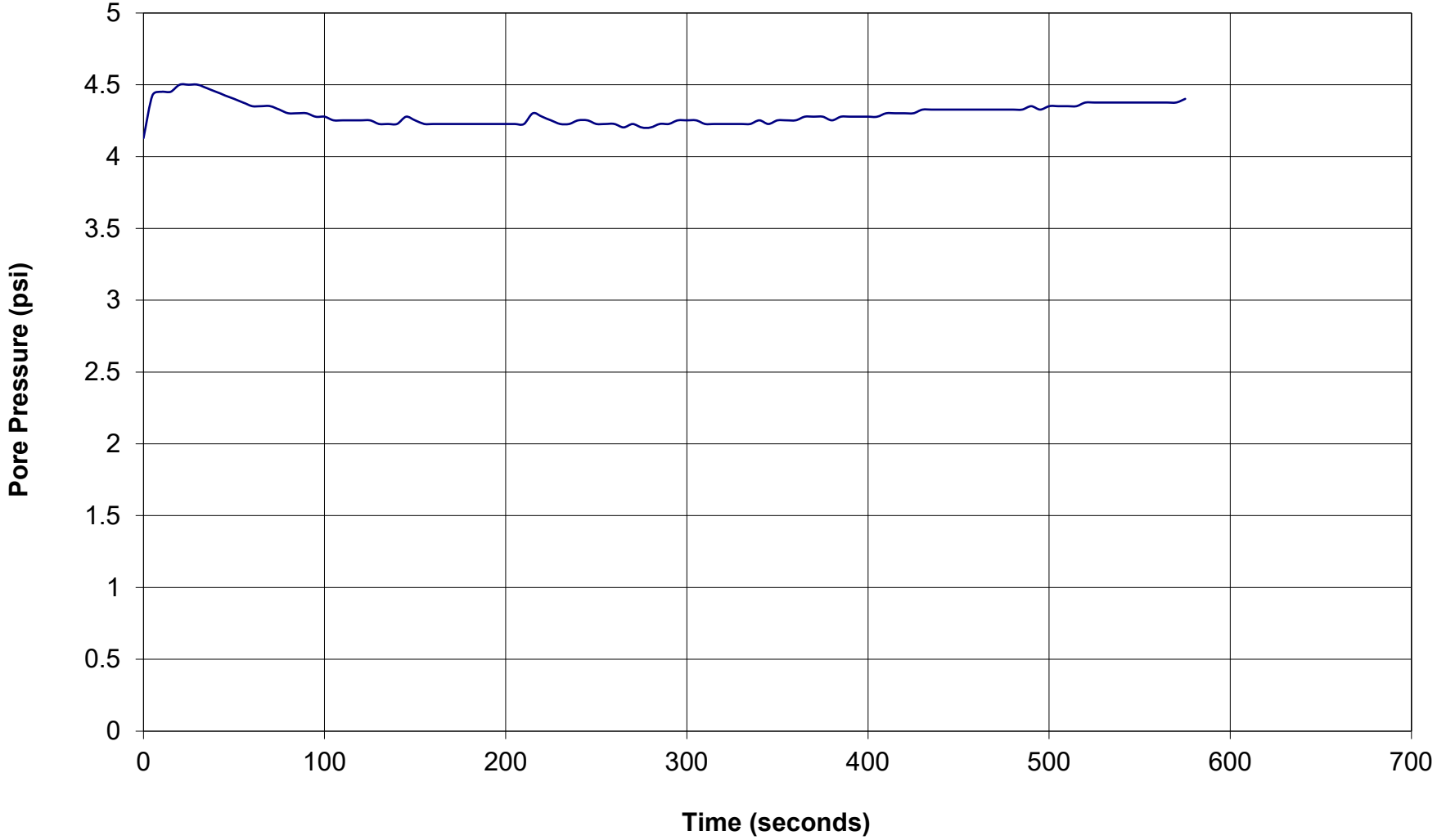
Sounding: CPT-01
Depth (ft): 65.12
Site: 491 W. SAN
Engineer: KIRA ORTIZ



GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

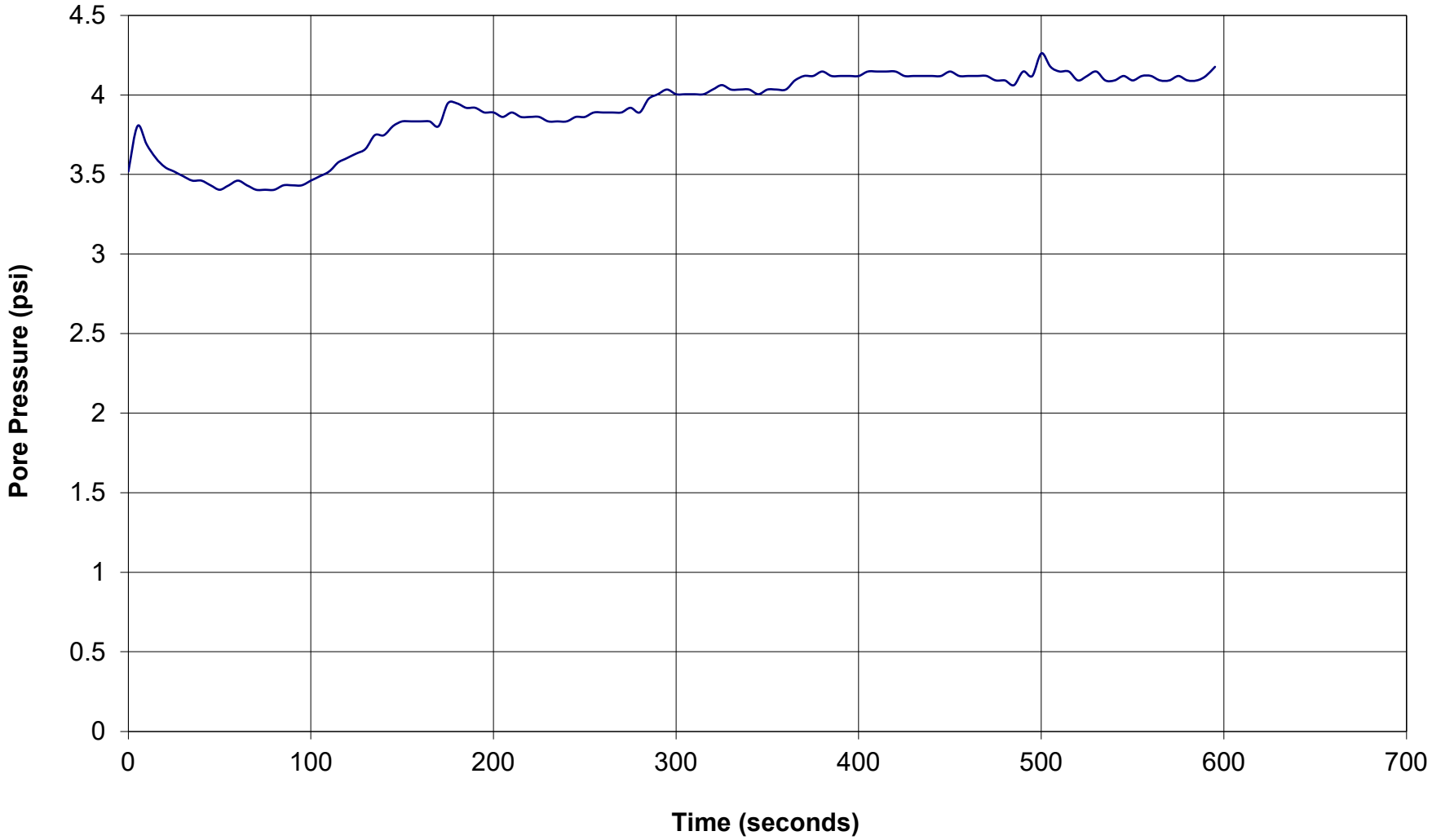
Sounding: CPT-02
Depth (ft): 33.30
Site: 491 W. SAN
Engineer: KIRA ORTIZ



GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-03
Depth (ft): 26.57
Site: 491 W. SAN
Engineer: KIRA ORTIZ

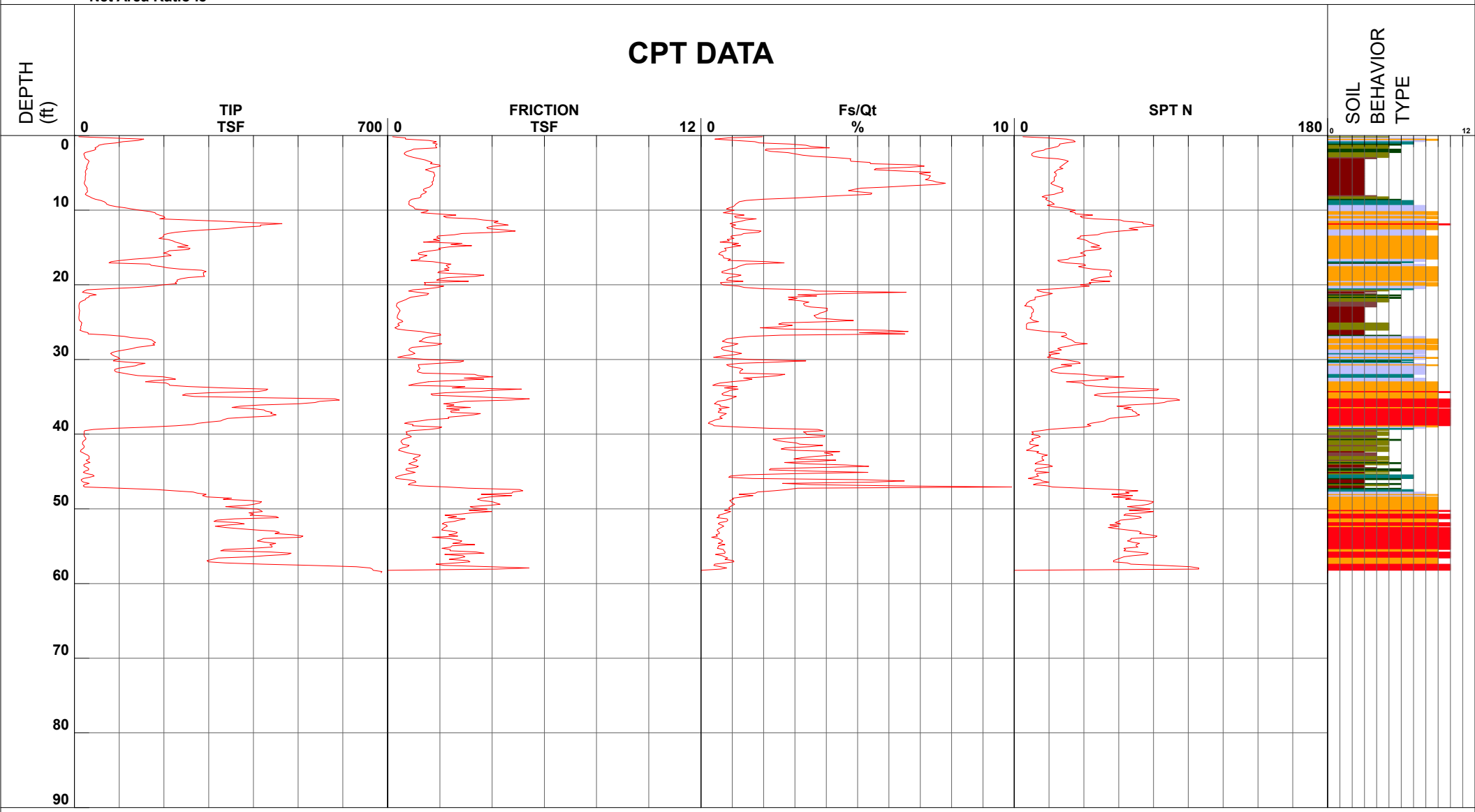


Earth Systems

Project	Marriot-Townplace Suites West San Carlos	Operator	JM-AJ	Filename	SDF(672).cpt
Job Number	303633-001	Cone Number	DDG1489	GPS	
Hole Number	CPT-04	Date and Time	5/22/2020 12:46:27 PM	Maximum Depth	58.56 ft
EST GW Depth During Test		19.00 ft			

Net Area Ratio .8

CPT DATA



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

Cone Size 15cm squared

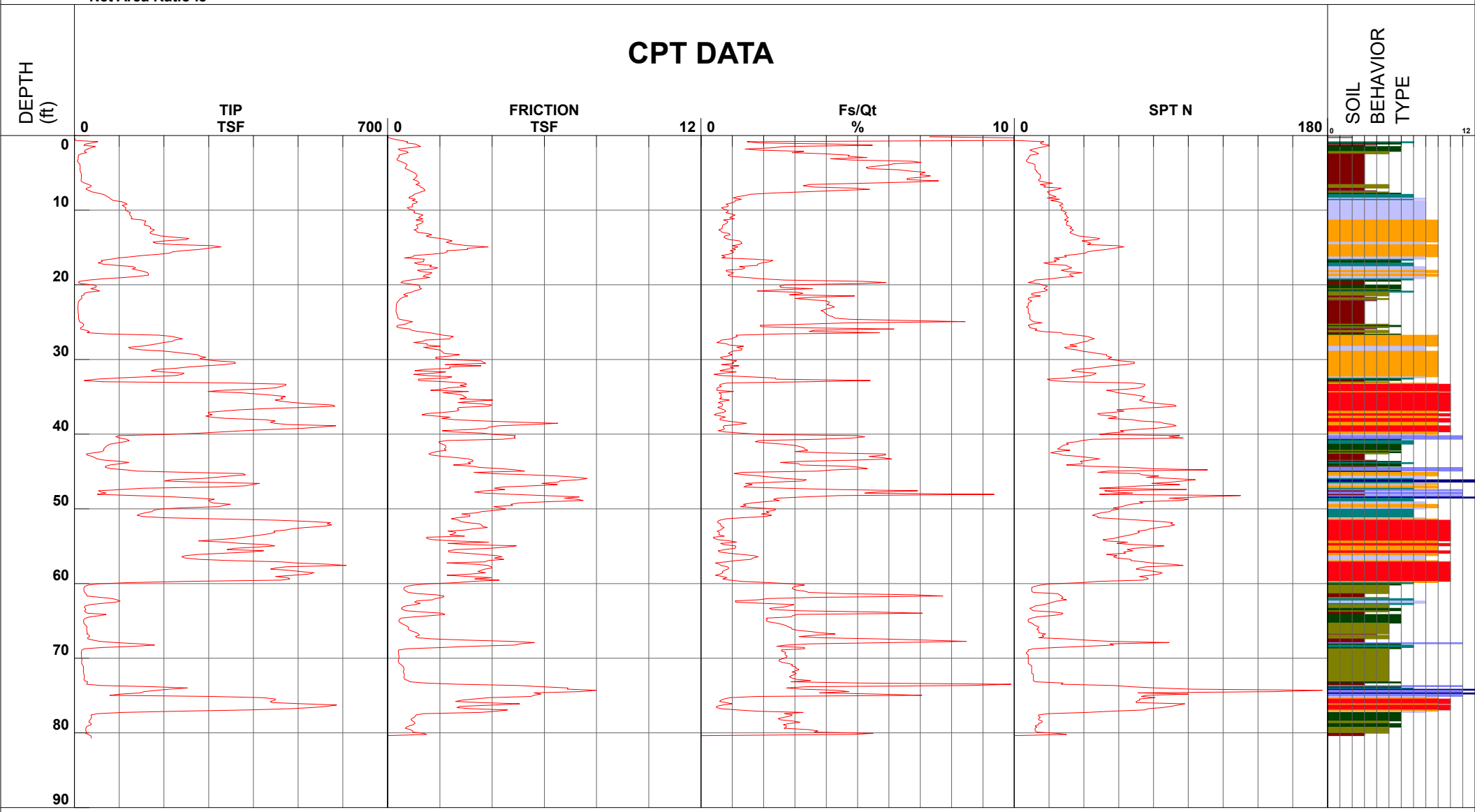
S*Soil behavior type and SPT based on data from UBC-1983

Earth Systems

Project	Marriot-Townplace Suites West San Carlos	Operator	JM-AJ	Filename	SDF(673).cpt
Job Number	303633-001	Cone Number	DDG1489	GPS	
Hole Number	CPT-05	Date and Time	5/22/2020 2:37:37 PM	Maximum Depth	80.71 ft
EST GW Depth During Test		21.00 ft			

Net Area Ratio .8

CPT DATA



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

Cone Size 15cm squared

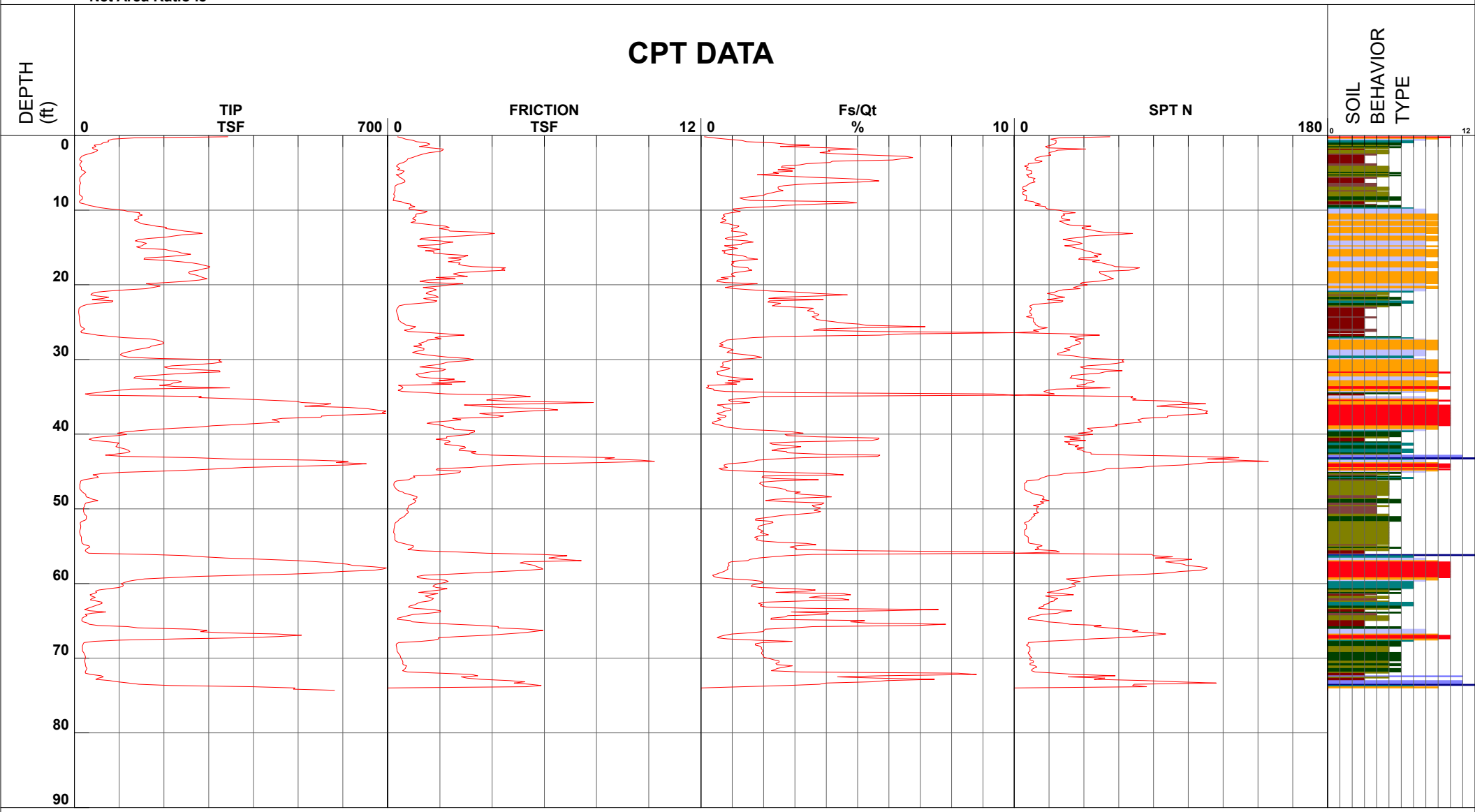
S*Soil behavior type and SPT based on data from UBC-1983

Earth Systems

Project	Marriot-Townplace Suites West San Carlos	Operator	JM-AJ	Filename	SDF(674).cpt
Job Number	303633-001	Cone Number	DDG1489	GPS	
Hole Number	CPT-06	Date and Time	5/22/2020 3:48:44 PM	Maximum Depth	74.31 ft
EST GW Depth During Test		21.00 ft			

Net Area Ratio .8

CPT DATA



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

Cone Size 15cm squared

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

APPENDIX B

Laboratory Test Results

Earth Systems Pacific

Marriott Townplace Suites 303633-001

BULK DENSITY TEST RESULTS

ASTM D 2937-17 (modified for ring liners)

July 28, 2020

BORING NO.	DEPTH feet	MOISTURE CONTENT, %	WET DENSITY, pcf	DRY DENSITY, pcf
B 1-3	9.5 - 10.0	10.5	122.3	110.7
B 1-4	14.5 - 15.0	4.5	127.4	121.9
B 1-5	19.5 - 20.0	8.4	137.5	126.8
B 1-6	24.5 - 25.0	24.0	127.5	102.9
B 1-7	19.5 - 20.0	8.5	130.7	120.5

Earth Systems Pacific

Marriott Townplace Suites 303633-001

PARTICLE SIZE ANALYSIS

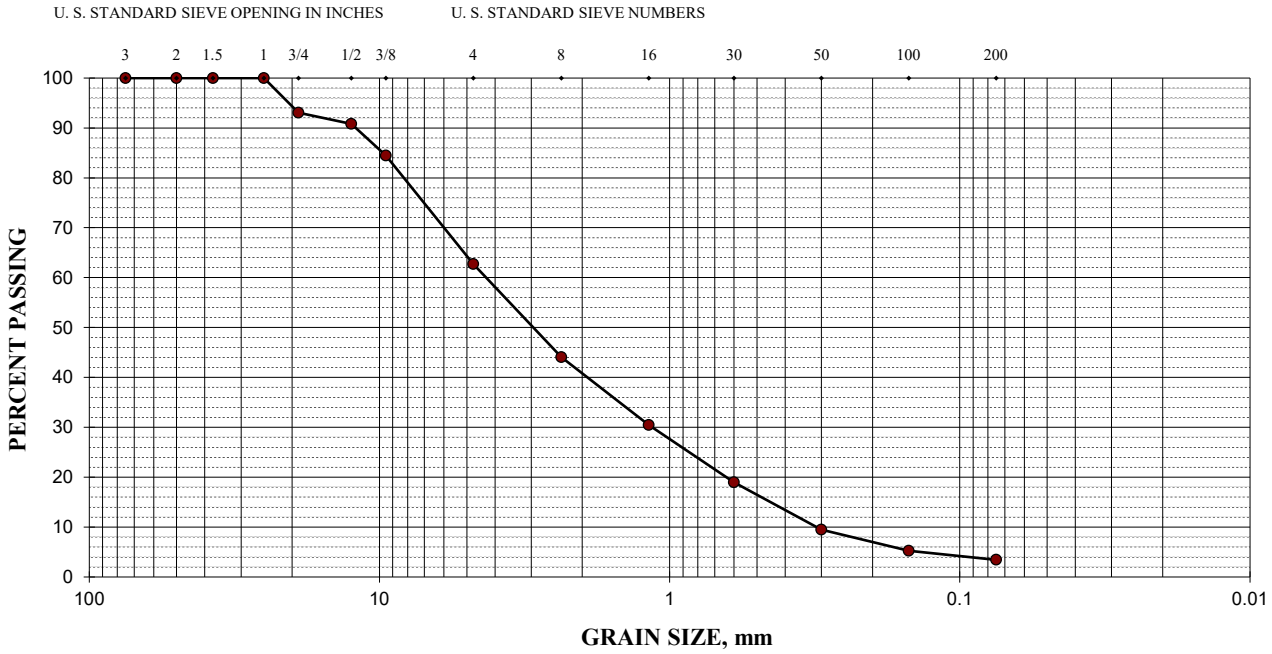
ASTM D 422-63/07; D 1140-14

Boring 1-8 @ 33.5 - 34.0 July 28, 2020

Brown Well-Graded Sand with Gravel (SW)

Cu = 13.8; Cc = 1.0

Sieve size	% Retained	% Passing
3" (75-mm)	0	100
2" (50-mm)	0	100
1.5" (37.5-mm)	0	100
1" (25-mm)	0	100
3/4" (19-mm)	7	93
1/2" (12.5-mm)	9	91
3/8" (9.5-mm)	16	84
#4 (4.75-mm)	37	63
#8 (2.36-mm)	56	44
#16 (1.18-mm)	70	30
#30 (600-µm)	81	19
#50 (300-µm)	90	10
#100 (150-µm)	95	5
#200 (75-µm)	97	3



Earth Systems Pacific

Marriott Townplace Suites 303633-001

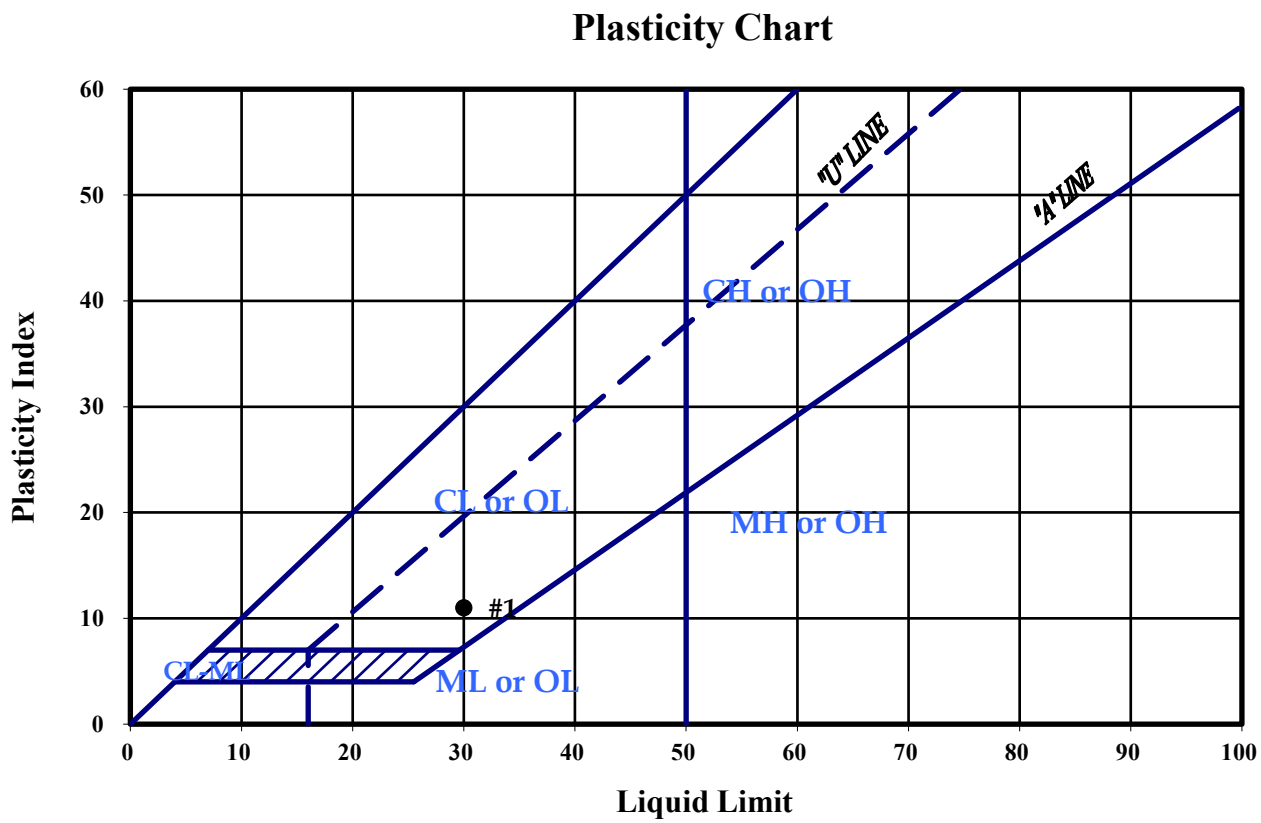
Dark Brown Sandy Clay with Silt

PLASTICITY INDEX

ASTM D 4318-17

July 28, 2020

Test No.:	1	2	3	4	5
Boring No.:	B 1-1				
Sample Depth:	2.5 - 3.0'				
Liquid Limit:	30				
Plastic Limit:	19				
Plasticity Index:	11				



California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax. 925 462 2775
www.cercoanalytical.com

18 August, 2020

Job No. 2007166
Cust. No. 11221

Ms. Kira Ortiz
Earth Systems
4500 Park Center Drive, Suite 1
Hollister, CA 95023

Subject: Project No.: 303633-001
Project Name: Marriot Townplace Suites
Corrosivity Analysis – ASTM Test Methods

Dear Ms. Ortiz:

Pursuant to your request, CERCO Analytical has analyzed the soil sample submitted on July 27, 2020. Based on the analytical results, a brief corrosivity evaluation is enclosed for your consideration.

Based upon the resistivity measurement, the sample is classified as "moderately corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion.

The chloride ion concentration was none detected at 15 mg/kg.

The sulfate ion concentration was 32 mg/kg and is determined to be insufficient to damage reinforced concrete structures and cement mortar-coated steel at this location.

The pH of the soil was 8.28 which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures.

The redox potential was 340-mV which is indicative of potentially "slightly corrosive" soils resulting from anaerobic soil conditions.

This corrosivity evaluation is based on general corrosion engineering standards and is non-specific in nature. For specific design recommendations or consultation, please call *JDH Corrosion Consultants, Inc. at (925) 927-6630.*

We appreciate the opportunity of working with you on this project. If you have any questions, or if you require further information, please do not hesitate to contact us.

Very truly yours,
CERCO ANALYTICAL, INC.

J. Darby Howard, Jr., P.E.
President

JDH/jdl
Enclosure

California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 **462 2771** Fax. 925 **462 2775**
www.cercoanalytical.com

Client: Earth Systems Pacific
Client's Project No.: 303633-001
Client's Project Name: Marriot Townplace Suites
Date Sampled: 22-Jul-20
Date Received: 27-Jul-20
Matrix: Soil
Authorization: Chain of Custody

Date of Report: 18-Aug-2020

Job/Sample No.	Sample I.D.	Redox (mV)	pH	Conductivity (umhos/cm)*	Resistivity (100% Saturation) (ohms-cm)	Sulfide (mg/kg)*	Chloride (mg/kg)*	Sulfate (mg/kg)*
2007166-001	1-2 @4.5-5.0'	340	8.28	-	2,500	-	N.D.	32

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327	ASTM D4327
Reporting Limit:	-	-	10	-	50	15	15
Date Analyzed:	6-Aug-2020	6-Aug-2020	-	17-Aug-2020	-	6-Aug-2020	6-Aug-2020

Cheryl McMillen
Laboratory Director

* Results Reported on "As Received" Basis
N.D. - None Detected

Quality Control Summary - All laboratory quality control parameters were found to be within established limits

2007166

Earth Systems Pacific
500 Park Center Drive, Suite 1
Hollister, CA 95023
Phone - (831) 637-2133
Fax - (831) 637-0510

11221

Laboratory Receiving Order and Schedule of Tests

File No.:	303633-001
Date:	7/22/2020
Sheet:	1 of 1

Job Name: Marriot Townplace Suites

Person for Action: KO/PP

Large Bags/Buckets: _____ Shelby Tubes: _____

Small Bags: _____ Brass Liners: _____

For Laboratory Use Only
Lab. No.:
Date Recorded:
Date Completed:

Sample Number	Sample Description	Moisture-Density	Plasticity Index	Long Hydro w/ Sieve Analysis	Long Hydro w/o Sieve Analysis	Short Hydro	Wet Sieve to No. 200	Unconfined Compression	Swell	Expansion Index	Direct Shear (ksf) 1	2	3	Consolidaton: Timed	Max. Load (ksf)	Unload (check)	Saturate at (ksf)	Compaction ASTM 1557-91: A	B	C	Field Curve	Cal Trans 216	R - Value	CBR	Moisture Only	
1-1																										2.5-3..0
1-2	Send to Cerco for Corrosion Testing ASTM Tube to be																									4.5-5.0
1-3																										9.5-10.0
1-4																										14.5-15.0
1-5																										19.5-20.0
1-6																										24.5-25.0
1-7																										29.5-30.0
1-8																										33.5-34.0
1-9																										38.5-39.0
1-10																										43.5-44.0
1-11																										48.5-49.0
Total																										

001

Kia Ortiz

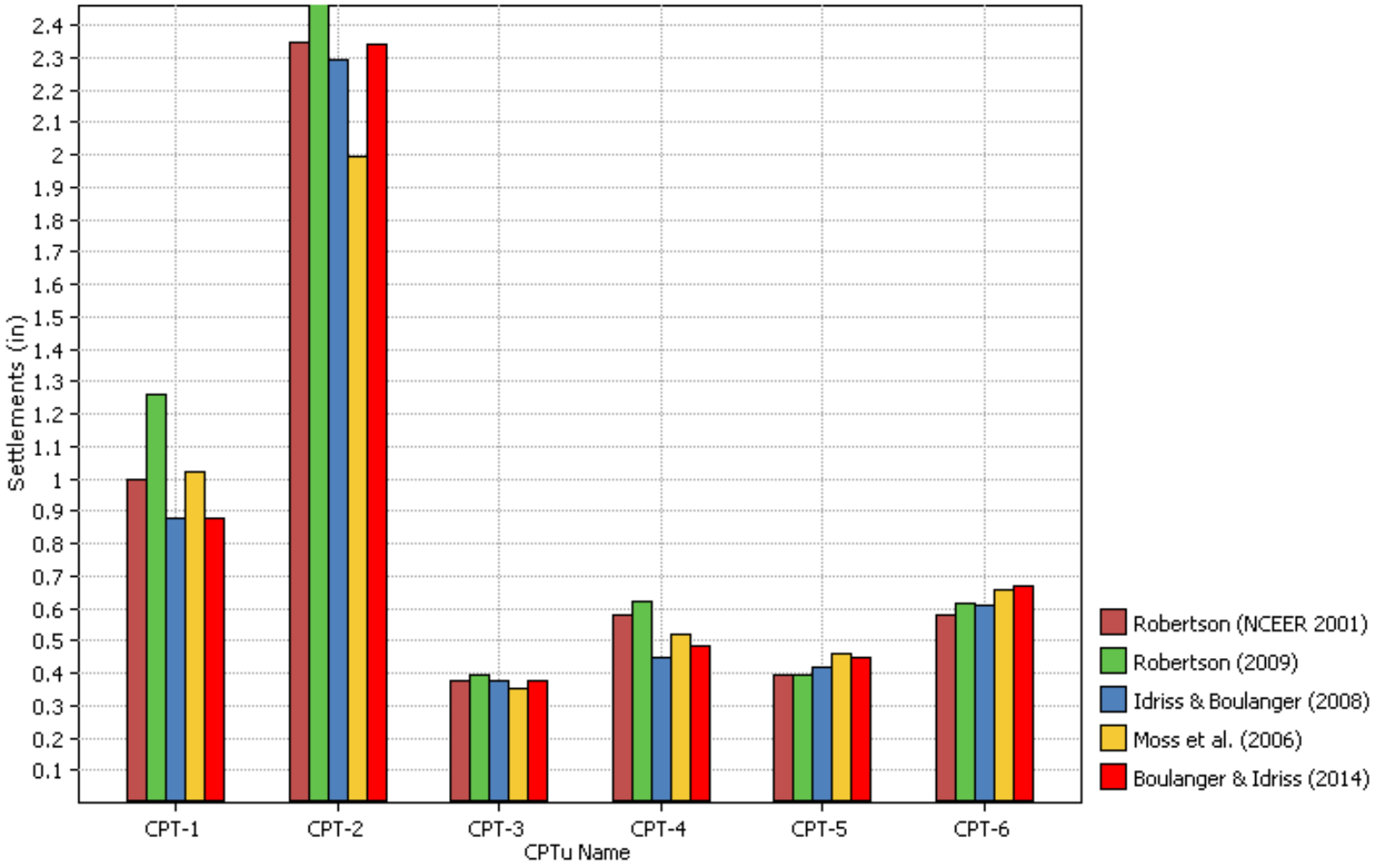
Comments: Please complete corrosion testing and bill to Earth Systems Pacific.

Date Results Required: _____

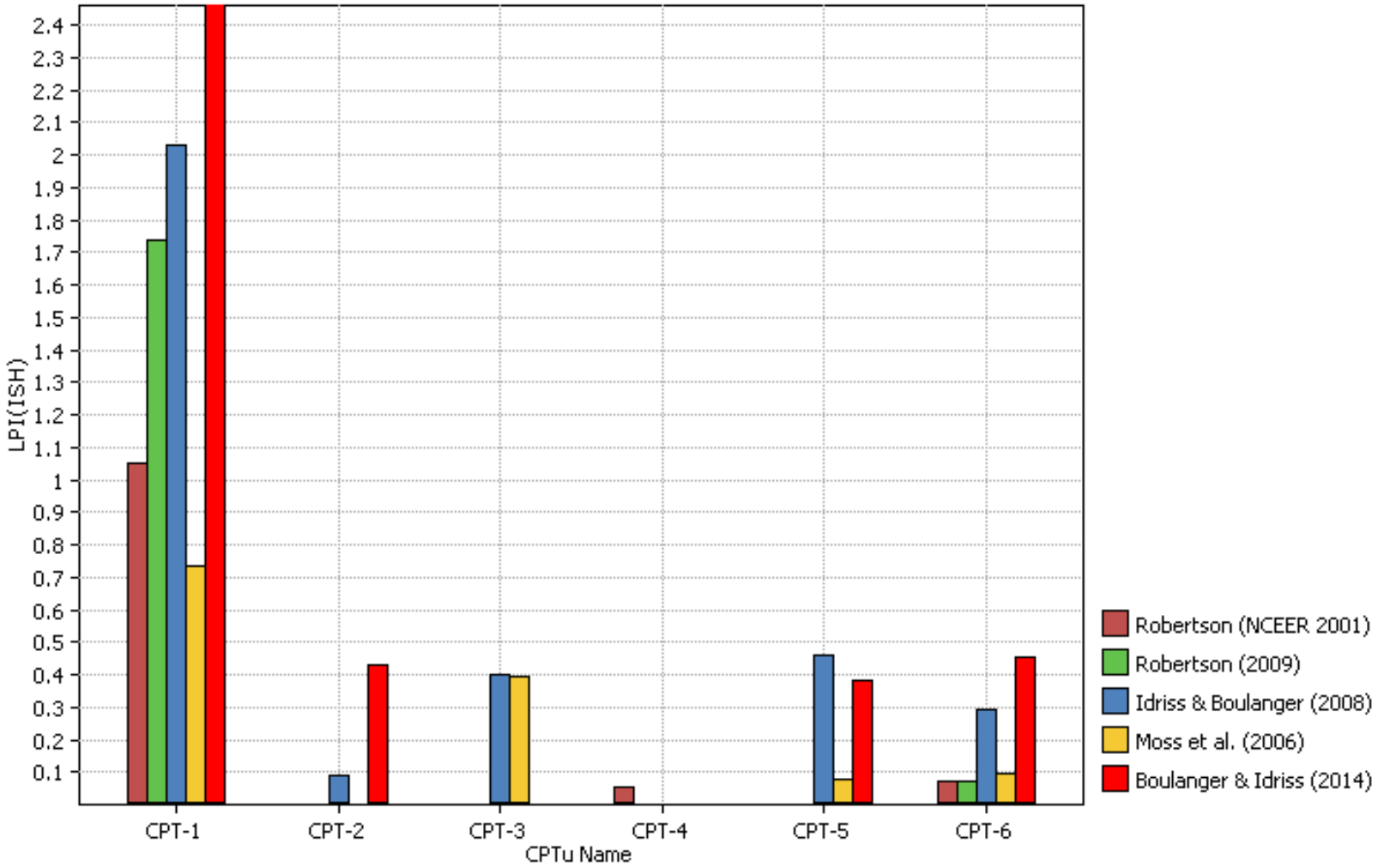
APPENDIX C

Liquefaction Analysis

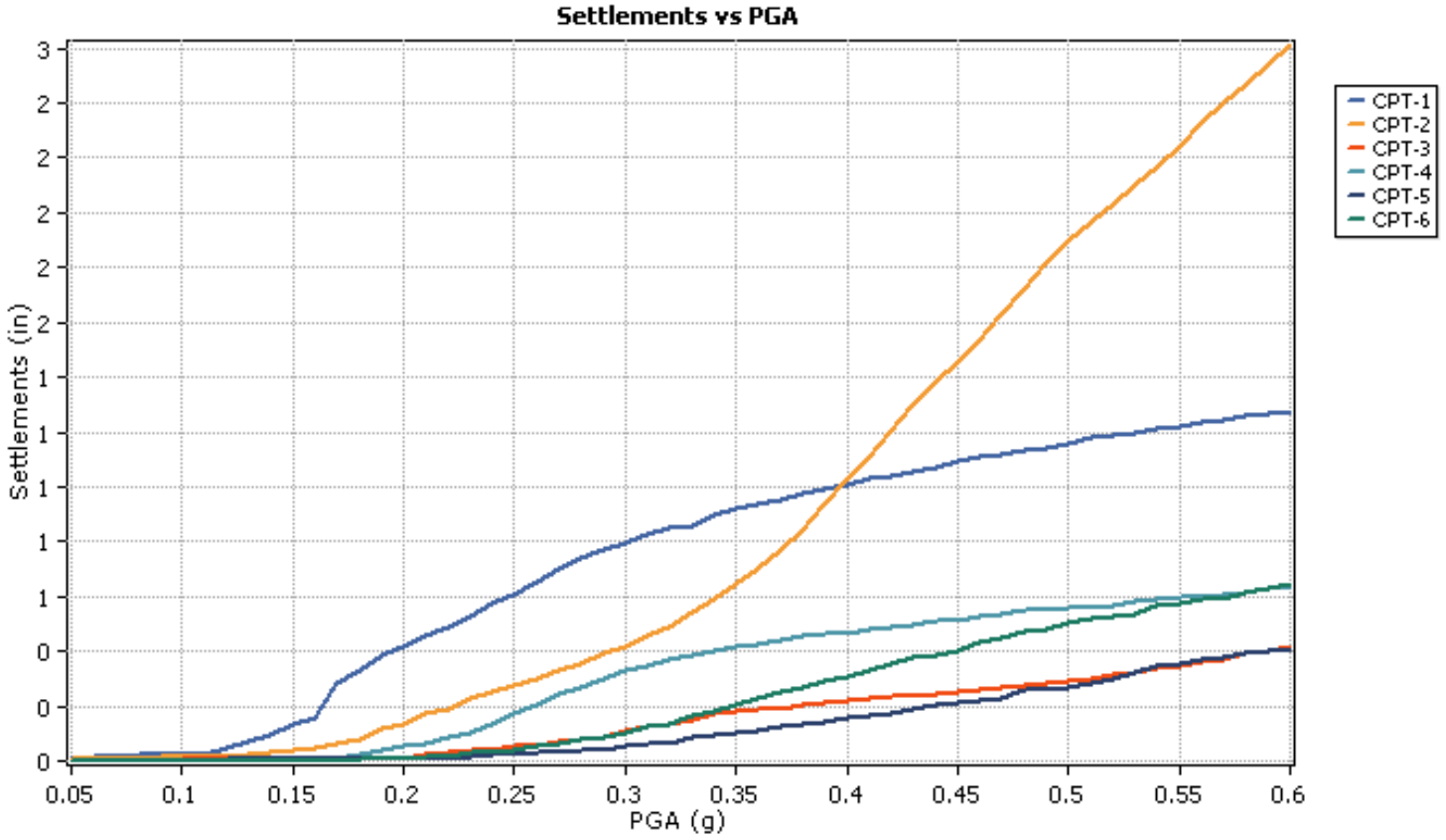
Estimated Vertical Settlement



Estimated Liquefaction Potential Index



Estimated Liquefaction Potential Index



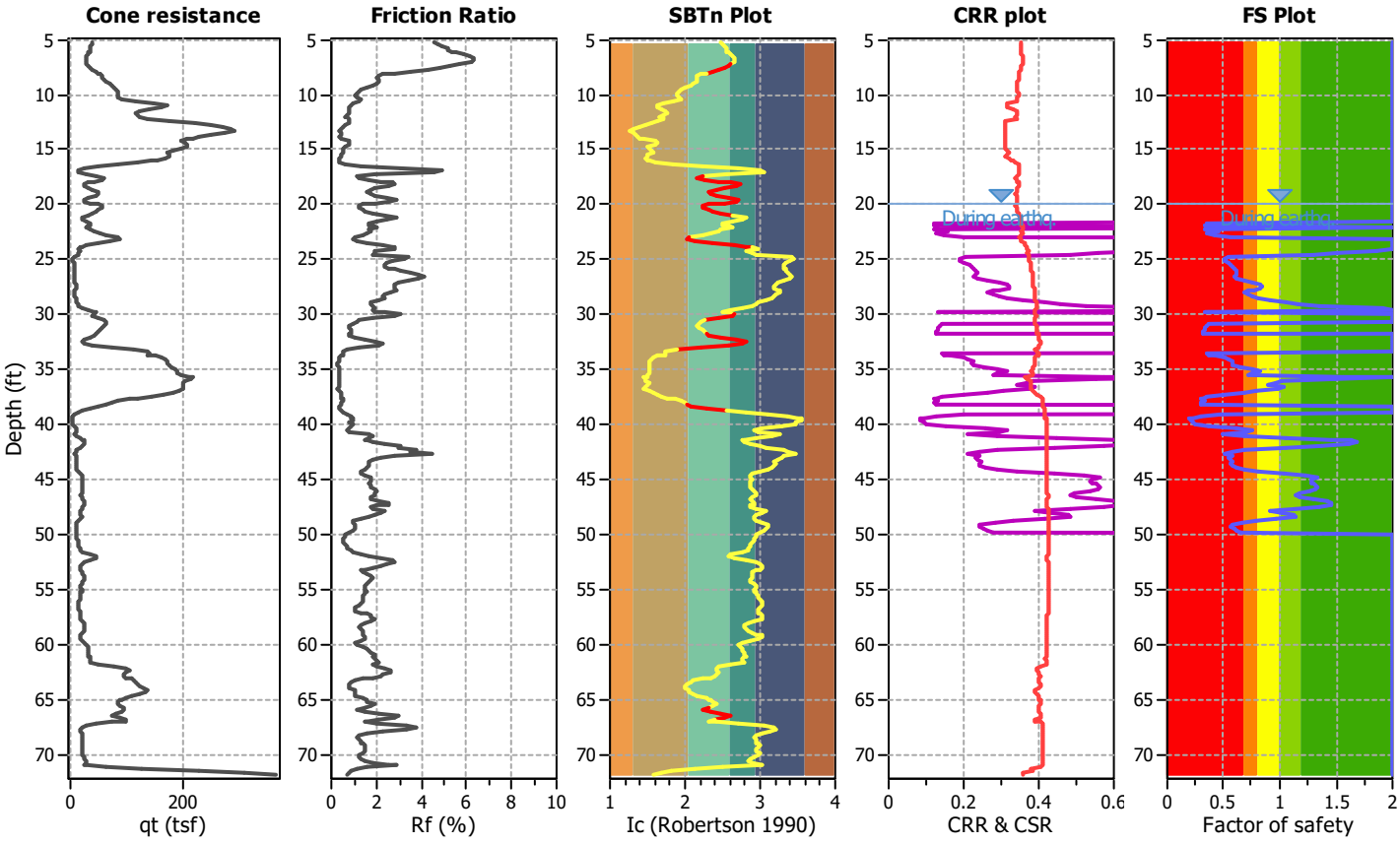
LIQUEFACTION ANALYSIS REPORT

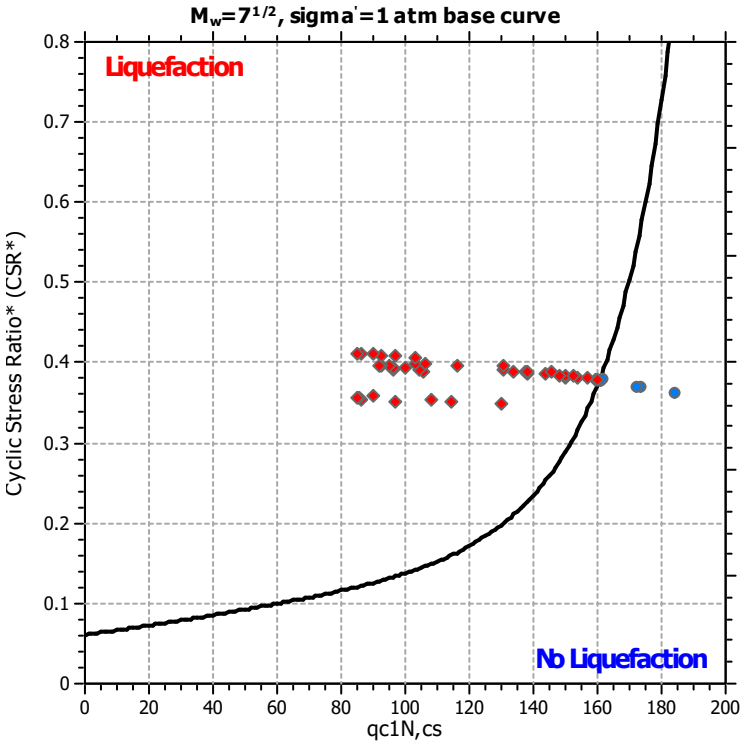
Project title : Marriot Townplace Suites **Location : San Jose, CA**

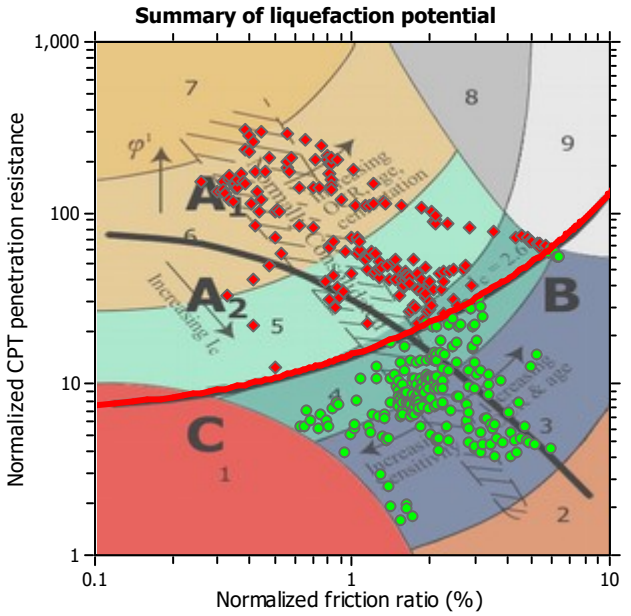
CPT file : CPT-1

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	21.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	20.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.10	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.58	Unit weight calculation:	Based on SBT	K_σ applied:	No		

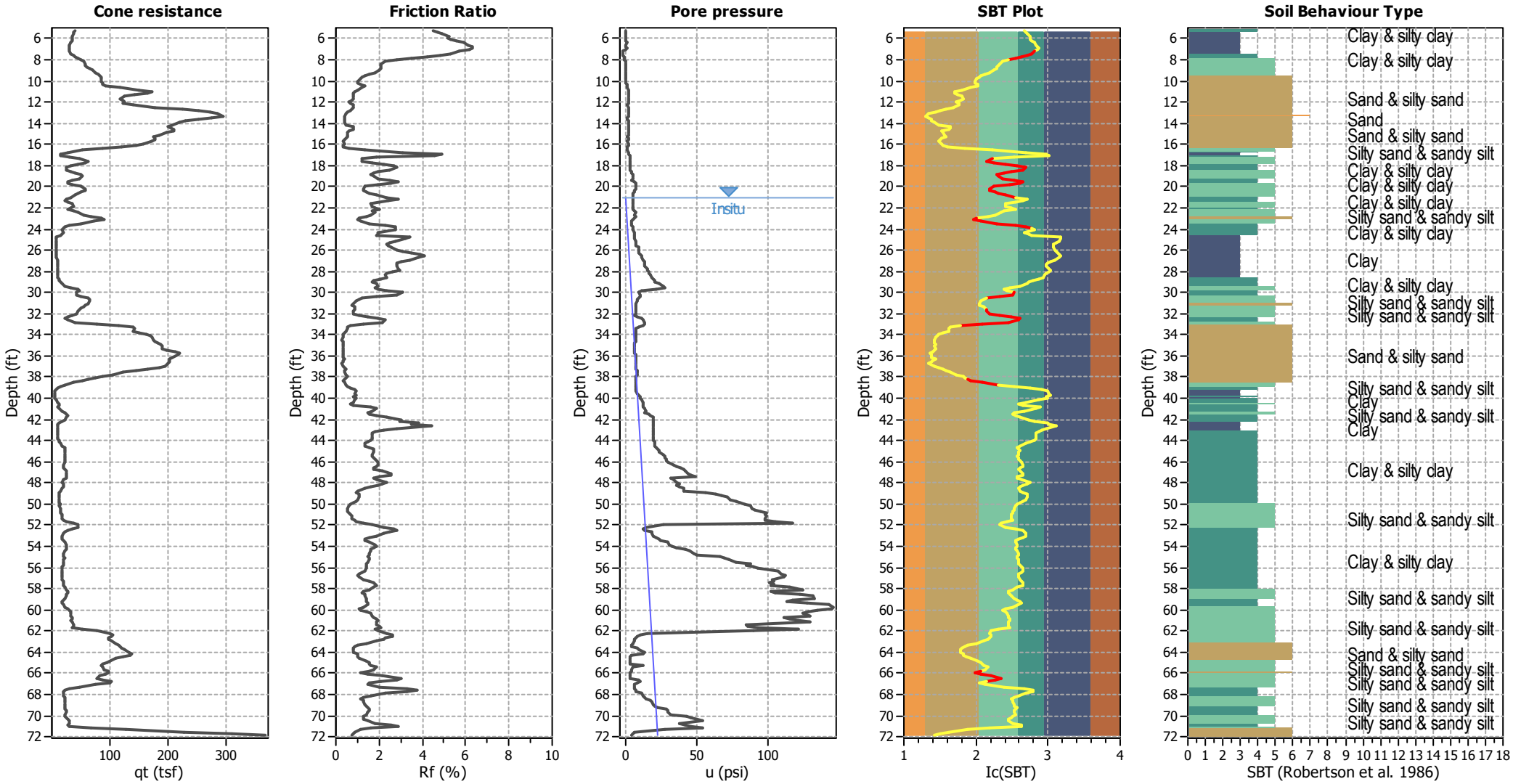






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

CPT basic interpretation plots



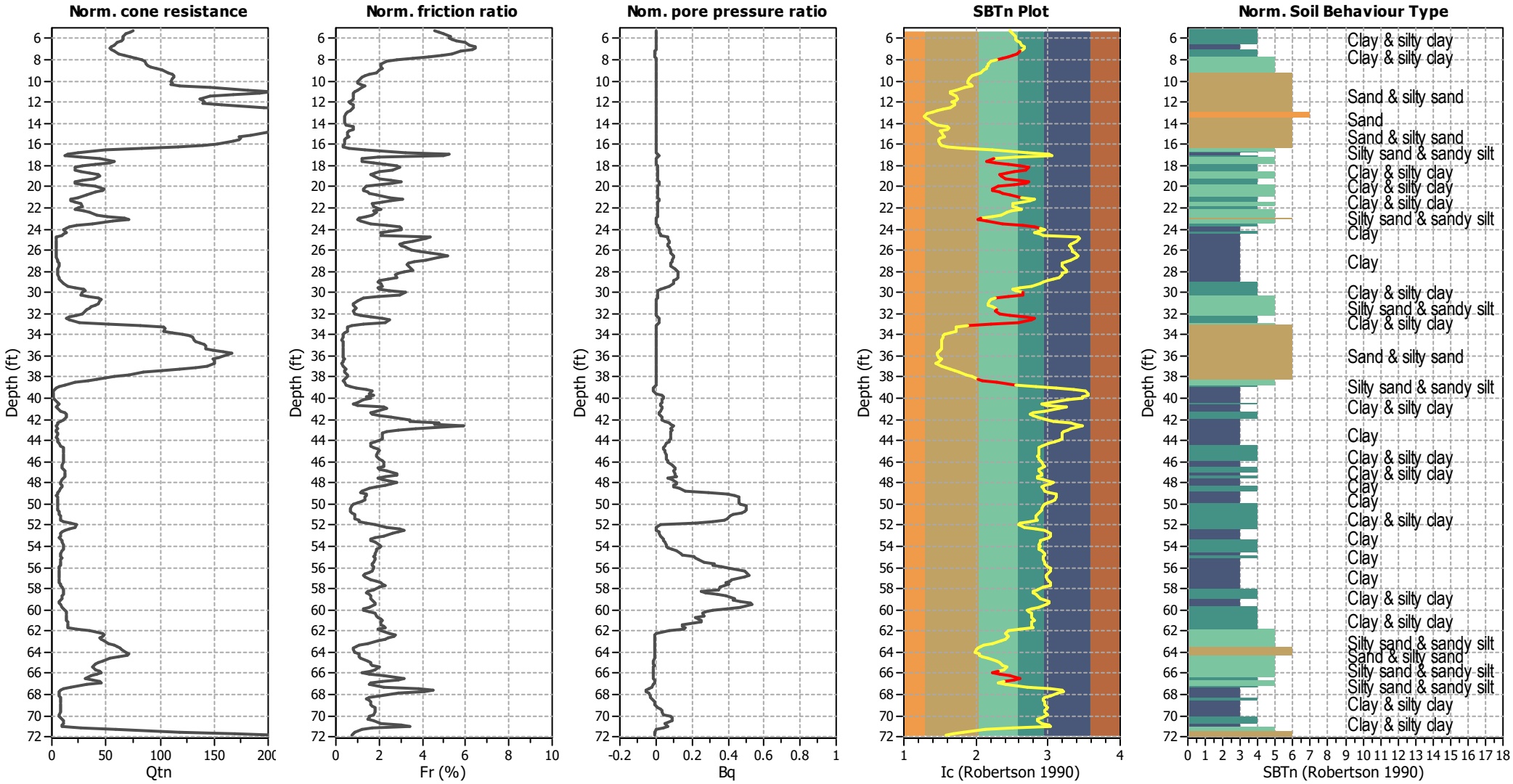
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

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

CPT basic interpretation plots (normalized)



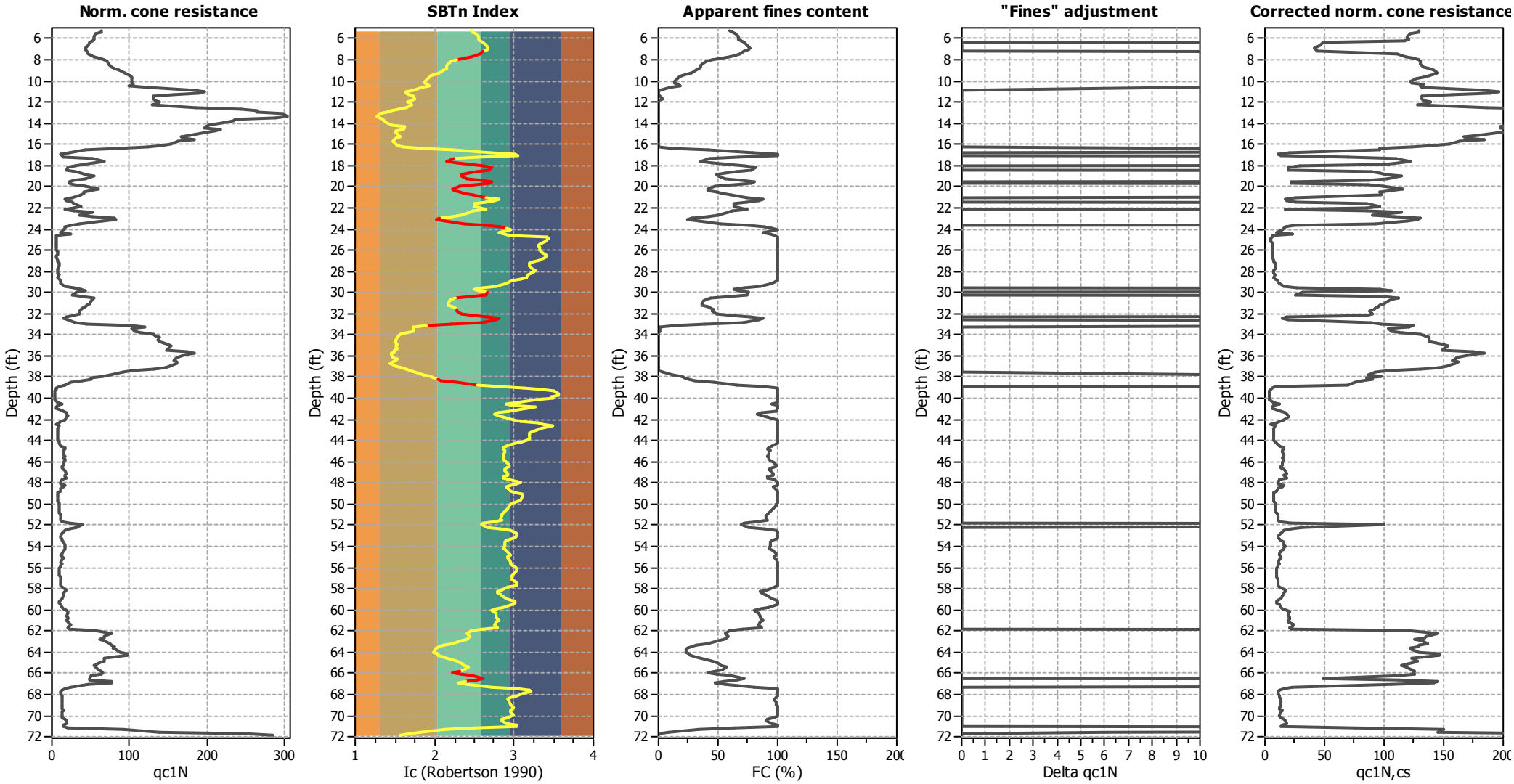
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

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

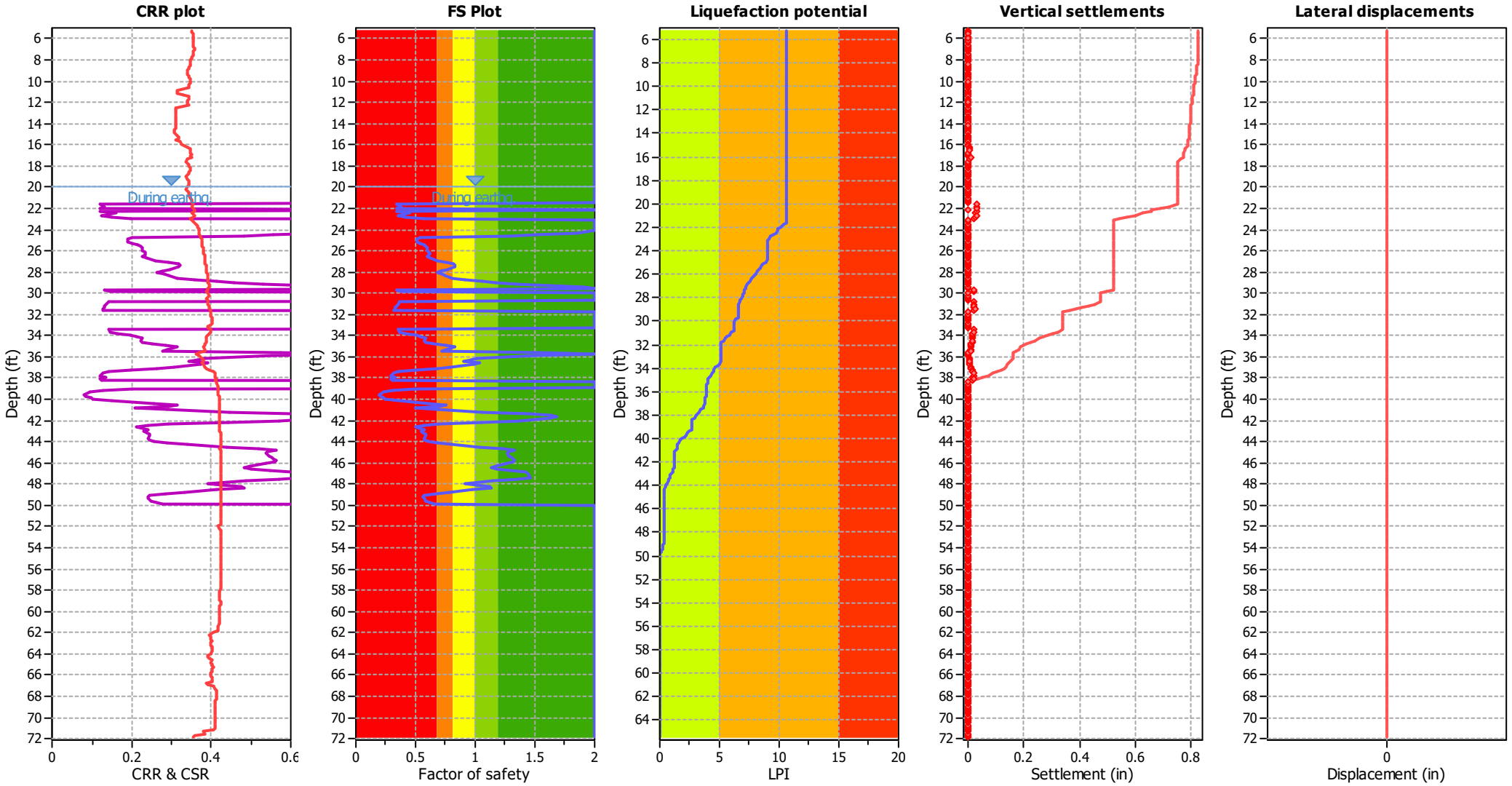
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

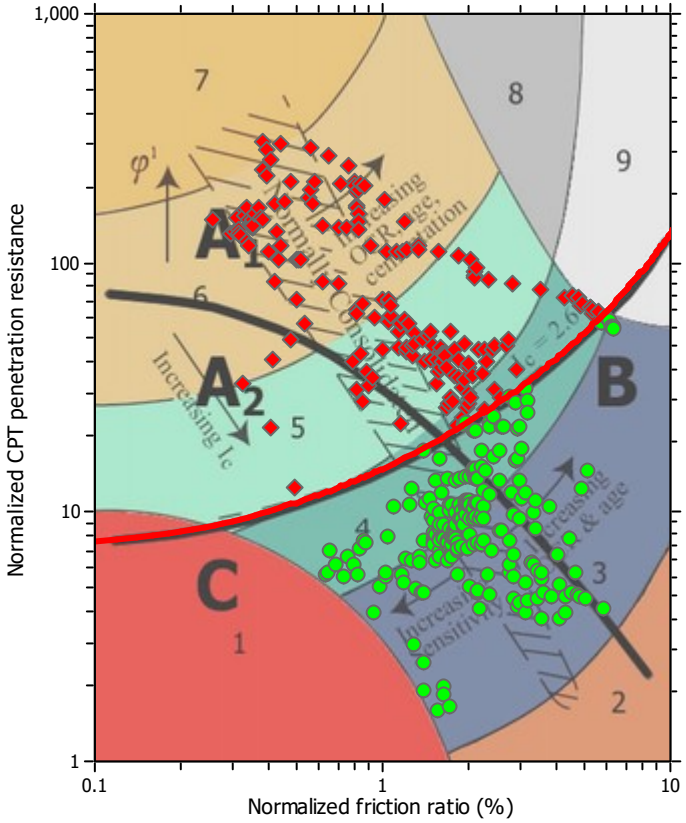
F.S. color scheme

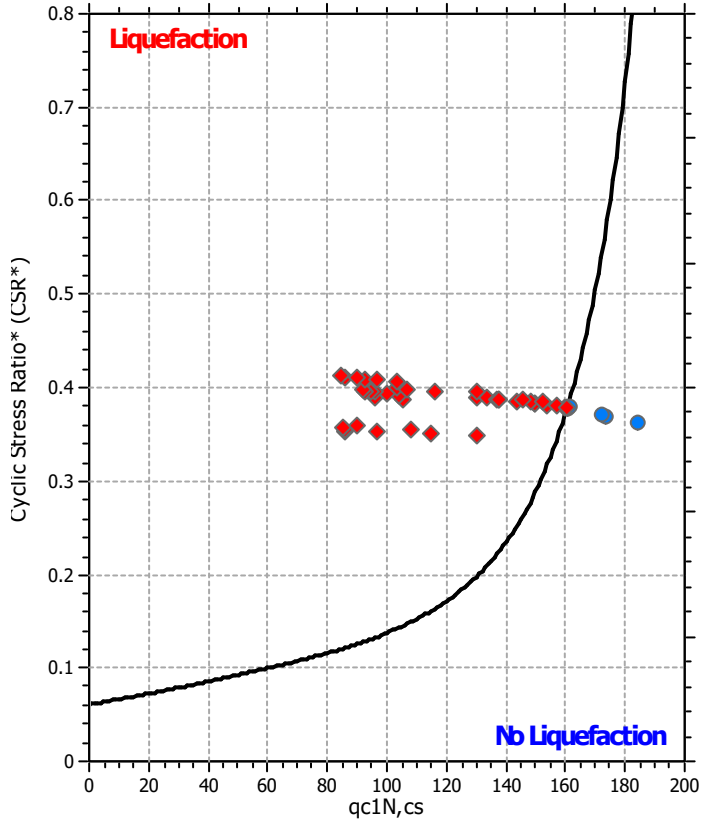
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

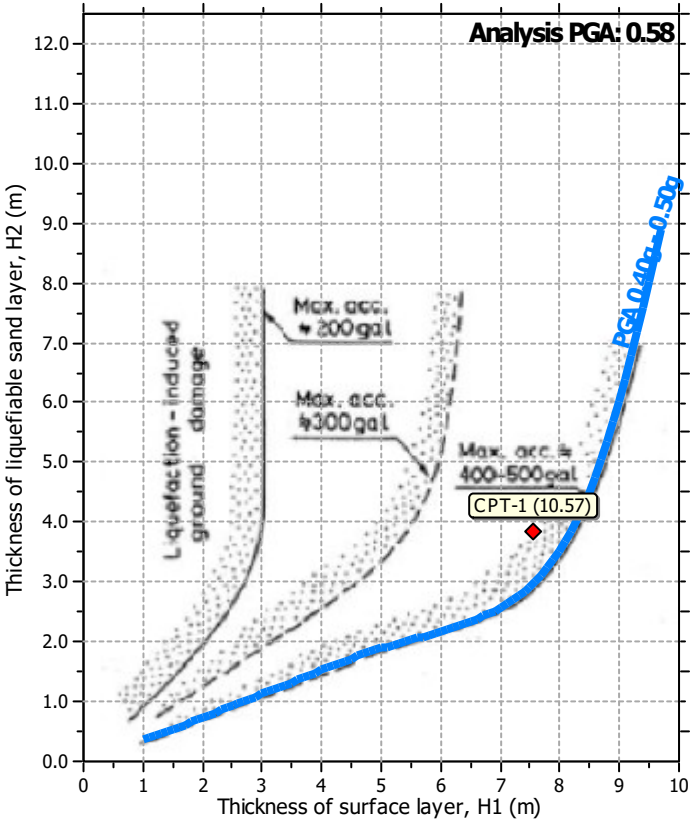
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



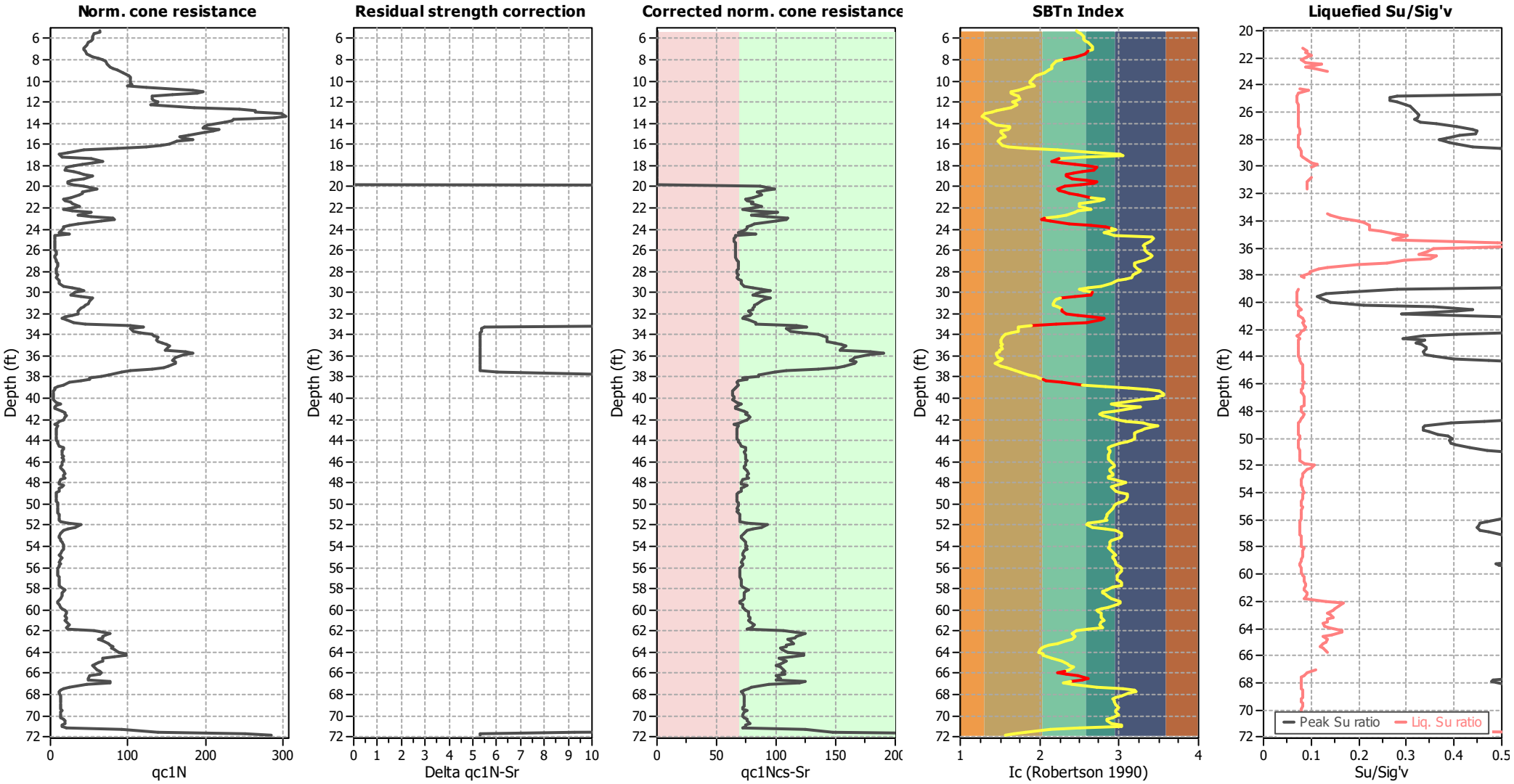




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

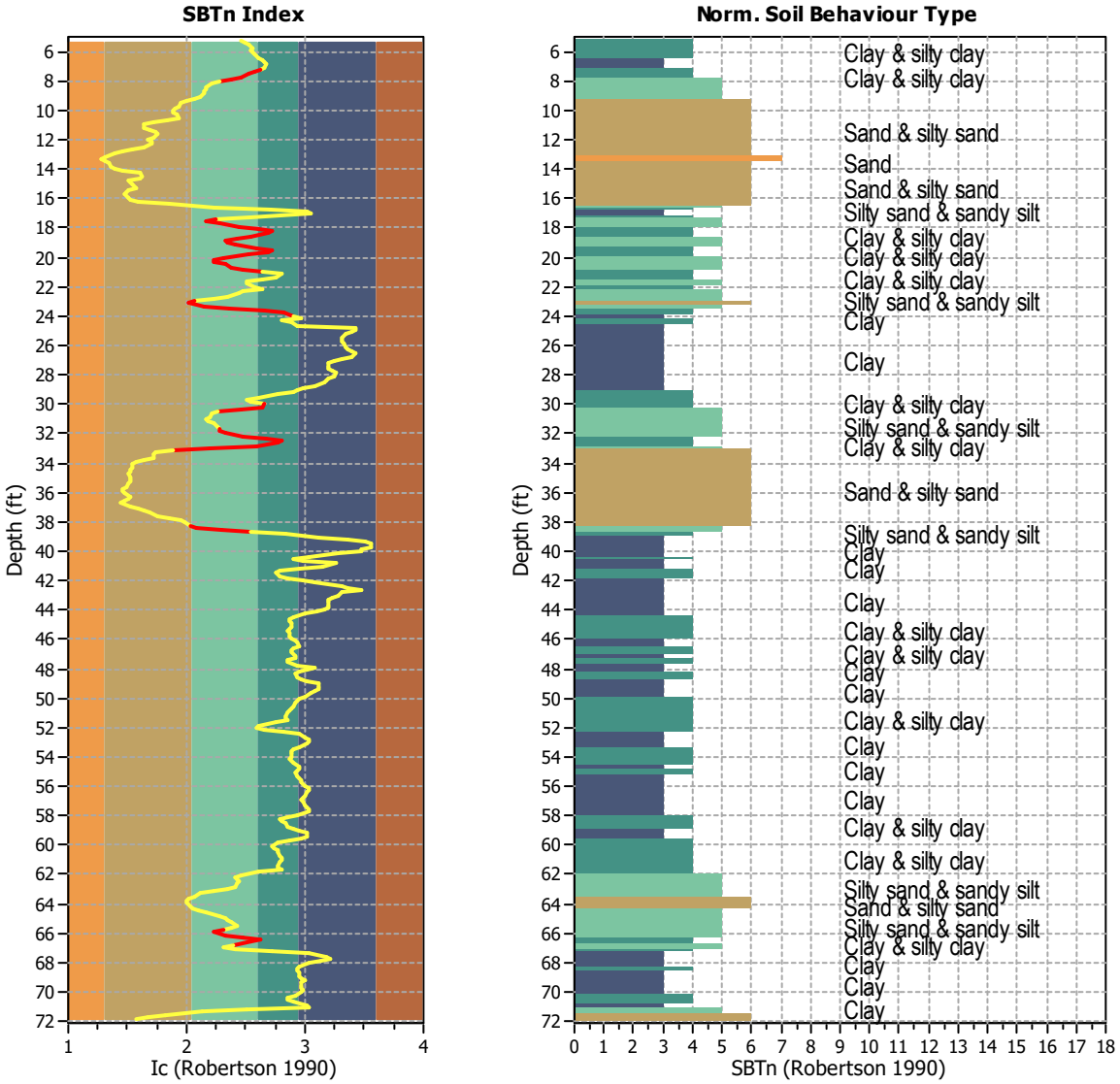
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

TRANSITION LAYER DETECTION ALGORITHM REPORT
Summary Details & Plots

Short description

The software will delete data when the cone is in transition from either clay to sand or vise-versa. To do this the software requires a range of I_c values over which the transition will be defined (typically somewhere between $1.80 < I_c < 3.0$) and a rate of change of I_c. Transitions typically occur when the rate of change of I_c is fast (i.e. delta I_c is small).

The SBT_n plot below, displays in red the detected transition layers based on the parameters listed below the graphs.



Transition layer algorithm properties		General statistics	
I_c minimum check value:	1.70	Total points in CPT file:	407
I_c maximum check value:	3.00	Total points excluded:	62
I_c change ratio value:	0.0250	Exclusion percentage:	15.23%
Minimum number of points in layer:	4	Number of layers detected:	13

Transition layer No	Number of points	Depth	SBT_n number	SBT_n description
Transition layer 1	6	Start depth: 7.38 (ft)	4	Clay & silty clay
		End depth: 8.20 (ft)	5	Silty sand & sandy silt
Transition layer 2	5	Start depth: 17.55 (ft)	5	Silty sand & sandy silt
		End depth: 18.21 (ft)	4	Clay & silty clay
Transition layer 3	4	Start depth: 18.37 (ft)	4	Clay & silty clay
		End depth: 18.86 (ft)	5	Silty sand & sandy silt
Transition layer 4	4	Start depth: 19.03 (ft)	5	Silty sand & sandy silt
		End depth: 19.52 (ft)	4	Clay & silty clay
Transition layer 5	4	Start depth: 19.69 (ft)	4	Clay & silty clay
		End depth: 20.18 (ft)	5	Silty sand & sandy silt
Transition layer 6	6	Start depth: 20.34 (ft)	5	Silty sand & sandy silt
		End depth: 21.16 (ft)	4	Clay & silty clay
Transition layer 7	7	Start depth: 23.13 (ft)	6	Sand & silty sand
		End depth: 24.11 (ft)	3	Clay
Transition layer 8	4	Start depth: 30.18 (ft)	4	Clay & silty clay
		End depth: 30.68 (ft)	5	Silty sand & sandy silt
Transition layer 9	5	Start depth: 31.82 (ft)	5	Silty sand & sandy silt
		End depth: 32.48 (ft)	4	Clay & silty clay
Transition layer 10	5	Start depth: 32.64 (ft)	4	Clay & silty clay
		End depth: 33.30 (ft)	6	Sand & silty sand
Transition layer 11	4	Start depth: 38.39 (ft)	5	Silty sand & sandy silt
		End depth: 38.88 (ft)	4	Clay & silty clay
Transition layer 12	4	Start depth: 65.94 (ft)	5	Silty sand & sandy silt
		End depth: 66.44 (ft)	4	Clay & silty clay
Transition layer 13	4	Start depth: 66.44 (ft)	4	Clay & silty clay
		End depth: 66.93 (ft)	5	Silty sand & sandy silt

Start depth: Depth where the transition layer begins
End depth: Depth where the transition layer ends

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data ::

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
1	5.25	0.32	0.00	0.32	0.99	0.374	1.11	0.336	1.00	1.00	2.000	No
2	5.41	0.33	0.00	0.33	0.99	0.374	1.11	0.336	1.00	1.00	2.000	No
3	5.58	0.34	0.00	0.34	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
4	5.74	0.35	0.00	0.35	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
5	5.91	0.37	0.00	0.37	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
6	6.07	0.37	0.00	0.37	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
7	6.23	0.38	0.00	0.38	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
8	6.40	0.40	0.00	0.40	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
9	6.56	0.41	0.00	0.41	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
10	6.73	0.42	0.00	0.42	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
11	6.89	0.43	0.00	0.43	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
12	7.05	0.44	0.00	0.44	0.99	0.372	1.11	0.334	1.00	1.00	2.000	No
13	7.22	0.45	0.00	0.45	0.99	0.371	1.11	0.334	1.00	1.00	2.000	No
14	7.38	0.46	0.00	0.46	0.98	0.371	1.11	0.334	1.00	1.00	2.000	Yes
15	7.55	0.47	0.00	0.47	0.98	0.371	1.11	0.334	1.00	1.00	2.000	Yes
16	7.71	0.48	0.00	0.48	0.98	0.371	1.11	0.334	1.00	1.00	2.000	Yes
17	7.87	0.49	0.00	0.49	0.98	0.371	1.11	0.333	1.00	1.00	2.000	Yes
18	8.04	0.50	0.00	0.50	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
19	8.20	0.51	0.00	0.51	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
20	8.37	0.52	0.00	0.52	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
21	8.53	0.53	0.00	0.53	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
22	8.69	0.54	0.00	0.54	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
23	8.86	0.55	0.00	0.55	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
24	9.02	0.56	0.00	0.56	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
25	9.19	0.57	0.00	0.57	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
26	9.35	0.58	0.00	0.58	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
27	9.51	0.59	0.00	0.59	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
28	9.68	0.60	0.00	0.60	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
29	9.84	0.61	0.00	0.61	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
30	10.01	0.62	0.00	0.62	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
31	10.17	0.63	0.00	0.63	0.97	0.367	1.11	0.331	1.00	1.00	2.000	No
32	10.33	0.64	0.00	0.64	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
33	10.50	0.65	0.00	0.65	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
34	10.66	0.66	0.00	0.66	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
35	10.83	0.67	0.00	0.67	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
36	10.99	0.68	0.00	0.68	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
37	11.15	0.69	0.00	0.69	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
38	11.32	0.70	0.00	0.70	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
39	11.48	0.71	0.00	0.71	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
40	11.65	0.72	0.00	0.72	0.97	0.365	1.11	0.329	1.00	1.00	2.000	No
41	11.81	0.73	0.00	0.73	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
42	11.98	0.74	0.00	0.74	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
43	12.14	0.75	0.00	0.75	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
44	12.30	0.76	0.00	0.76	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
45	12.47	0.77	0.00	0.77	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
46	12.63	0.78	0.00	0.78	0.97	0.364	1.11	0.327	1.00	1.00	2.000	No
47	12.80	0.79	0.00	0.79	0.96	0.364	1.11	0.327	1.00	1.00	2.000	No
48	12.96	0.80	0.00	0.80	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
49	13.12	0.81	0.00	0.81	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
50	13.29	0.82	0.00	0.82	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
51	13.45	0.83	0.00	0.83	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
52	13.62	0.84	0.00	0.84	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
53	13.78	0.85	0.00	0.85	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
54	13.94	0.86	0.00	0.86	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
55	14.11	0.87	0.00	0.87	0.96	0.362	1.11	0.325	1.00	1.00	2.000	No
56	14.27	0.88	0.00	0.88	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
57	14.44	0.89	0.00	0.89	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
58	14.60	0.90	0.00	0.90	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
59	14.76	0.91	0.00	0.91	0.96	0.361	1.11	0.324	1.00	1.00	2.000	No
60	14.93	0.92	0.00	0.92	0.96	0.360	1.11	0.324	1.00	1.00	2.000	No
61	15.09	0.93	0.00	0.93	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
62	15.26	0.94	0.00	0.94	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
63	15.42	0.95	0.00	0.95	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
64	15.58	0.96	0.00	0.96	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
65	15.75	0.97	0.00	0.97	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
66	15.91	0.98	0.00	0.98	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
67	16.08	0.99	0.00	0.99	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
68	16.24	1.00	0.00	1.00	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
69	16.40	1.01	0.00	1.01	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
70	16.57	1.02	0.00	1.02	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
71	16.73	1.03	0.00	1.03	0.95	0.357	1.11	0.322	1.00	1.00	2.000	No
72	16.90	1.04	0.00	1.04	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
73	17.06	1.05	0.00	1.05	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
74	17.22	1.06	0.00	1.06	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
75	17.39	1.07	0.00	1.07	0.94	0.356	1.11	0.321	1.00	1.00	2.000	No
76	17.55	1.08	0.00	1.08	0.94	0.356	1.11	0.320	1.00	1.00	2.000	Yes
77	17.72	1.09	0.00	1.09	0.94	0.356	1.11	0.320	1.00	1.00	2.000	Yes
78	17.88	1.10	0.00	1.10	0.94	0.355	1.11	0.320	1.00	1.00	2.000	Yes
79	18.04	1.10	0.00	1.10	0.94	0.355	1.11	0.320	1.00	1.00	2.000	Yes
80	18.21	1.11	0.00	1.11	0.94	0.355	1.11	0.319	1.00	1.00	2.000	Yes
81	18.37	1.12	0.00	1.12	0.94	0.355	1.11	0.319	1.00	1.00	2.000	Yes
82	18.54	1.13	0.00	1.13	0.94	0.354	1.11	0.319	1.00	1.00	2.000	Yes
83	18.70	1.14	0.00	1.14	0.94	0.354	1.11	0.319	1.00	1.00	2.000	Yes
84	18.86	1.15	0.00	1.15	0.94	0.354	1.11	0.318	1.00	1.00	2.000	Yes
85	19.03	1.16	0.00	1.16	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
86	19.19	1.17	0.00	1.17	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
87	19.36	1.18	0.00	1.18	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
88	19.52	1.19	0.00	1.19	0.94	0.353	1.11	0.317	1.00	1.00	2.000	Yes
89	19.69	1.20	0.00	1.20	0.93	0.352	1.11	0.317	1.00	1.00	2.000	Yes
90	19.85	1.21	0.00	1.21	0.93	0.352	1.11	0.317	1.00	1.00	2.000	Yes
91	20.01	1.22	0.00	1.22	0.93	0.352	1.11	0.317	1.00	1.00	2.000	Yes
92	20.18	1.23	0.01	1.22	0.93	0.353	1.11	0.318	1.00	1.00	2.000	Yes
93	20.34	1.24	0.01	1.23	0.93	0.354	1.11	0.319	1.00	1.00	2.000	Yes
94	20.51	1.25	0.02	1.23	0.93	0.355	1.11	0.320	1.00	1.00	2.000	Yes
95	20.67	1.26	0.02	1.24	0.93	0.357	1.11	0.321	1.00	1.00	2.000	Yes
96	20.83	1.27	0.03	1.24	0.93	0.358	1.11	0.322	1.00	1.00	2.000	Yes

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
97	21.00	1.28	0.03	1.25	0.93	0.359	1.11	0.323	1.00	1.00	2.000	Yes
98	21.16	1.29	0.04	1.25	0.93	0.360	1.11	0.324	1.00	1.00	2.000	Yes
99	21.33	1.30	0.04	1.26	0.93	0.361	1.11	0.325	1.00	1.00	0.353	No
100	21.49	1.31	0.05	1.26	0.93	0.362	1.11	0.326	1.00	1.00	0.353	No
101	21.65	1.32	0.05	1.26	0.93	0.363	1.11	0.327	1.00	1.00	0.353	No
102	21.82	1.33	0.06	1.27	0.92	0.364	1.11	0.328	1.00	1.00	0.352	No
103	21.98	1.33	0.06	1.27	0.92	0.365	1.11	0.329	1.00	1.00	0.355	No
104	22.15	1.34	0.07	1.28	0.92	0.366	1.11	0.330	1.00	1.00	0.358	No
105	22.31	1.35	0.07	1.28	0.92	0.367	1.11	0.330	1.00	1.00	0.358	No
106	22.47	1.36	0.08	1.29	0.92	0.368	1.11	0.331	1.00	1.00	0.351	No
107	22.64	1.37	0.08	1.29	0.92	0.369	1.11	0.332	1.00	1.00	0.359	No
108	22.80	1.38	0.09	1.30	0.92	0.370	1.11	0.333	1.00	1.00	0.355	No
109	22.97	1.39	0.09	1.30	0.92	0.371	1.11	0.334	1.00	1.00	0.348	No
110	23.13	1.40	0.10	1.30	0.92	0.372	1.11	0.335	1.00	1.00	2.000	Yes
111	23.29	1.41	0.10	1.31	0.92	0.373	1.11	0.336	1.00	1.00	2.000	Yes
112	23.46	1.42	0.11	1.31	0.92	0.374	1.11	0.337	1.00	1.00	2.000	Yes
113	23.62	1.43	0.11	1.32	0.92	0.375	1.11	0.337	1.00	1.00	2.000	Yes
114	23.79	1.44	0.12	1.32	0.92	0.376	1.11	0.338	1.00	1.00	2.000	Yes
115	23.95	1.45	0.12	1.33	0.91	0.377	1.11	0.339	1.00	1.00	2.000	Yes
116	24.11	1.46	0.13	1.33	0.91	0.378	1.11	0.340	1.00	1.00	2.000	Yes
117	24.28	1.47	0.13	1.33	0.91	0.379	1.11	0.341	1.00	1.00	0.371	No
118	24.44	1.48	0.14	1.34	0.91	0.379	1.11	0.341	1.00	1.00	0.369	No
119	24.61	1.49	0.14	1.34	0.91	0.380	1.11	0.342	1.00	1.00	0.374	No
120	24.77	1.49	0.15	1.35	0.91	0.381	1.11	0.343	1.00	1.00	0.374	No
121	24.93	1.50	0.15	1.35	0.91	0.382	1.11	0.344	1.00	1.00	0.375	No
122	25.10	1.51	0.16	1.35	0.91	0.383	1.11	0.345	1.00	1.00	0.376	No
123	25.26	1.52	0.16	1.36	0.91	0.384	1.11	0.345	1.00	1.00	0.377	No
124	25.43	1.53	0.17	1.36	0.91	0.385	1.11	0.346	1.00	1.00	0.378	No
125	25.59	1.54	0.17	1.36	0.91	0.385	1.11	0.347	1.00	1.00	0.379	No
126	25.75	1.54	0.18	1.37	0.91	0.386	1.11	0.347	1.00	1.00	0.379	No
127	25.92	1.55	0.18	1.37	0.90	0.387	1.11	0.348	1.00	1.00	0.380	No
128	26.08	1.56	0.19	1.37	0.90	0.388	1.11	0.349	1.00	1.00	0.381	No
129	26.25	1.57	0.20	1.38	0.90	0.389	1.11	0.350	1.00	1.00	0.382	No
130	26.41	1.58	0.20	1.38	0.90	0.389	1.11	0.350	1.00	1.00	0.382	No
131	26.57	1.59	0.20	1.38	0.90	0.390	1.11	0.351	1.00	1.00	0.383	No
132	26.74	1.60	0.21	1.39	0.90	0.391	1.11	0.352	1.00	1.00	0.384	No
133	26.90	1.61	0.22	1.39	0.90	0.392	1.11	0.352	1.00	1.00	0.385	No
134	27.07	1.61	0.22	1.39	0.90	0.392	1.11	0.353	1.00	1.00	0.385	No
135	27.23	1.62	0.23	1.40	0.90	0.393	1.11	0.354	1.00	1.00	0.386	No
136	27.40	1.63	0.23	1.40	0.90	0.394	1.11	0.354	1.00	1.00	0.387	No
137	27.56	1.64	0.24	1.41	0.90	0.395	1.11	0.355	1.00	1.00	0.387	No
138	27.72	1.65	0.24	1.41	0.90	0.395	1.11	0.356	1.00	1.00	0.388	No
139	27.89	1.66	0.25	1.41	0.89	0.396	1.11	0.356	1.00	1.00	0.389	No
140	28.05	1.67	0.25	1.42	0.89	0.397	1.11	0.357	1.00	1.00	0.390	No
141	28.22	1.68	0.26	1.42	0.89	0.397	1.11	0.358	1.00	1.00	0.390	No
142	28.38	1.68	0.26	1.42	0.89	0.398	1.11	0.358	1.00	1.00	0.391	No
143	28.54	1.69	0.27	1.43	0.89	0.399	1.11	0.359	1.00	1.00	0.391	No
144	28.71	1.70	0.27	1.43	0.89	0.400	1.11	0.359	1.00	1.00	0.392	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
145	28.87	1.71	0.28	1.43	0.89	0.400	1.11	0.360	1.00	1.00	0.392	No
146	29.04	1.72	0.28	1.44	0.89	0.401	1.11	0.361	1.00	1.00	0.393	No
147	29.20	1.73	0.29	1.44	0.89	0.401	1.11	0.361	1.00	1.00	0.393	No
148	29.36	1.74	0.29	1.45	0.89	0.402	1.11	0.362	1.00	1.00	0.393	No
149	29.53	1.75	0.30	1.45	0.89	0.403	1.11	0.362	1.00	1.00	0.392	No
150	29.69	1.76	0.30	1.45	0.89	0.403	1.11	0.363	1.00	1.00	0.390	No
151	29.86	1.77	0.31	1.46	0.88	0.404	1.11	0.363	1.00	1.00	0.388	No
152	30.02	1.78	0.31	1.46	0.88	0.404	1.11	0.364	1.00	1.00	0.392	No
153	30.18	1.79	0.32	1.47	0.88	0.405	1.11	0.364	1.00	1.00	2.000	Yes
154	30.35	1.80	0.32	1.47	0.88	0.405	1.11	0.365	1.00	1.00	2.000	Yes
155	30.51	1.81	0.33	1.48	0.88	0.406	1.11	0.365	1.00	1.00	2.000	Yes
156	30.68	1.82	0.33	1.48	0.88	0.406	1.11	0.366	1.00	1.00	2.000	Yes
157	30.84	1.83	0.34	1.49	0.88	0.407	1.11	0.366	1.00	1.00	0.391	No
158	31.00	1.83	0.34	1.49	0.88	0.408	1.11	0.367	1.00	1.00	0.393	No
159	31.17	1.84	0.35	1.50	0.88	0.408	1.11	0.367	1.00	1.00	0.395	No
160	31.33	1.85	0.35	1.50	0.88	0.409	1.11	0.368	1.00	1.00	0.396	No
161	31.50	1.86	0.36	1.50	0.88	0.409	1.11	0.368	1.00	1.00	0.397	No
162	31.66	1.87	0.36	1.51	0.88	0.410	1.11	0.368	1.00	1.00	0.397	No
163	31.82	1.88	0.37	1.51	0.87	0.410	1.11	0.369	1.00	1.00	2.000	Yes
164	31.99	1.89	0.37	1.52	0.87	0.411	1.11	0.369	1.00	1.00	2.000	Yes
165	32.15	1.90	0.38	1.52	0.87	0.411	1.11	0.370	1.00	1.00	2.000	Yes
166	32.32	1.91	0.38	1.52	0.87	0.412	1.11	0.370	1.00	1.00	2.000	Yes
167	32.48	1.92	0.39	1.53	0.87	0.412	1.11	0.371	1.00	1.00	2.000	Yes
168	32.64	1.93	0.39	1.53	0.87	0.412	1.11	0.371	1.00	1.00	2.000	Yes
169	32.81	1.94	0.40	1.54	0.87	0.413	1.11	0.371	1.00	1.00	2.000	Yes
170	32.97	1.95	0.40	1.54	0.87	0.413	1.11	0.372	1.00	1.00	2.000	Yes
171	33.14	1.96	0.41	1.55	0.87	0.414	1.11	0.372	1.00	1.00	2.000	Yes
172	33.30	1.97	0.41	1.55	0.87	0.414	1.11	0.373	1.00	1.00	2.000	Yes
173	33.46	1.98	0.42	1.56	0.87	0.414	1.11	0.373	1.00	1.00	0.399	No
174	33.63	1.99	0.43	1.56	0.86	0.415	1.11	0.373	1.00	1.00	0.398	No
175	33.79	2.00	0.43	1.57	0.86	0.415	1.11	0.374	1.00	1.00	0.395	No
176	33.96	2.01	0.44	1.57	0.86	0.416	1.11	0.374	1.00	1.00	0.390	No
177	34.12	2.02	0.44	1.57	0.86	0.416	1.11	0.374	1.00	1.00	0.389	No
178	34.28	2.02	0.45	1.58	0.86	0.416	1.11	0.375	1.00	1.00	0.387	No
179	34.45	2.03	0.45	1.58	0.86	0.417	1.11	0.375	1.00	1.00	0.388	No
180	34.61	2.04	0.46	1.59	0.86	0.417	1.11	0.375	1.00	1.00	0.388	No
181	34.78	2.05	0.46	1.59	0.86	0.417	1.11	0.376	1.00	1.00	0.385	No
182	34.94	2.06	0.47	1.60	0.86	0.418	1.11	0.376	1.00	1.00	0.382	No
183	35.10	2.07	0.47	1.60	0.86	0.418	1.11	0.376	1.00	1.00	0.380	No
184	35.27	2.08	0.48	1.61	0.86	0.418	1.11	0.376	1.00	1.00	0.383	No
185	35.43	2.09	0.48	1.61	0.86	0.419	1.11	0.377	1.00	1.00	0.384	No
186	35.60	2.10	0.49	1.62	0.85	0.419	1.11	0.377	1.00	1.00	0.368	No
187	35.76	2.11	0.49	1.62	0.85	0.419	1.11	0.377	1.00	1.00	0.361	No
188	35.93	2.12	0.50	1.63	0.85	0.420	1.11	0.378	1.00	1.00	0.370	No
189	36.09	2.13	0.50	1.63	0.85	0.420	1.11	0.378	1.00	1.00	0.378	No
190	36.25	2.14	0.51	1.64	0.85	0.420	1.11	0.378	1.00	1.00	0.379	No
191	36.42	2.15	0.51	1.64	0.85	0.420	1.11	0.378	1.00	1.00	0.381	No
192	36.58	2.16	0.52	1.65	0.85	0.421	1.11	0.379	1.00	1.00	0.378	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
193	36.75	2.17	0.52	1.65	0.85	0.421	1.11	0.379	1.00	1.00	0.379	No
194	36.91	2.18	0.53	1.65	0.85	0.421	1.11	0.379	1.00	1.00	0.384	No
195	37.07	2.19	0.53	1.66	0.85	0.422	1.11	0.379	1.00	1.00	0.388	No
196	37.24	2.20	0.54	1.66	0.85	0.422	1.11	0.380	1.00	1.00	0.396	No
197	37.40	2.21	0.54	1.67	0.84	0.422	1.11	0.380	1.00	1.00	0.406	No
198	37.57	2.22	0.55	1.67	0.84	0.422	1.11	0.380	1.00	1.00	0.409	No
199	37.73	2.23	0.55	1.68	0.84	0.423	1.11	0.380	1.00	1.00	0.411	No
200	37.89	2.24	0.56	1.68	0.84	0.423	1.11	0.380	1.00	1.00	0.409	No
201	38.06	2.25	0.56	1.69	0.84	0.423	1.11	0.381	1.00	1.00	0.412	No
202	38.22	2.26	0.57	1.69	0.84	0.423	1.11	0.381	1.00	1.00	0.411	No
203	38.39	2.27	0.57	1.69	0.84	0.424	1.11	0.381	1.00	1.00	2.000	Yes
204	38.55	2.28	0.58	1.70	0.84	0.424	1.11	0.381	1.00	1.00	2.000	Yes
205	38.71	2.28	0.58	1.70	0.84	0.424	1.11	0.382	1.00	1.00	2.000	Yes
206	38.88	2.29	0.59	1.70	0.84	0.425	1.11	0.382	1.00	1.00	2.000	Yes
207	39.04	2.30	0.59	1.71	0.84	0.425	1.11	0.382	1.00	1.00	0.417	No
208	39.21	2.31	0.60	1.71	0.84	0.425	1.11	0.383	1.00	1.00	0.418	No
209	39.37	2.32	0.60	1.71	0.83	0.426	1.11	0.383	1.00	1.00	0.418	No
210	39.53	2.32	0.61	1.71	0.83	0.426	1.11	0.383	1.00	1.00	0.419	No
211	39.70	2.33	0.61	1.72	0.83	0.426	1.11	0.383	1.00	1.00	0.419	No
212	39.86	2.34	0.62	1.72	0.83	0.427	1.11	0.384	1.00	1.00	0.419	No
213	40.03	2.35	0.62	1.72	0.83	0.427	1.11	0.384	1.00	1.00	0.419	No
214	40.19	2.35	0.63	1.72	0.83	0.427	1.11	0.384	1.00	1.00	0.420	No
215	40.35	2.36	0.63	1.73	0.83	0.427	1.11	0.385	1.00	1.00	0.420	No
216	40.52	2.37	0.64	1.73	0.83	0.428	1.11	0.385	1.00	1.00	0.419	No
217	40.68	2.38	0.65	1.73	0.83	0.428	1.11	0.385	1.00	1.00	0.420	No
218	40.85	2.39	0.65	1.74	0.83	0.428	1.11	0.385	1.00	1.00	0.421	No
219	41.01	2.40	0.66	1.74	0.83	0.428	1.11	0.385	1.00	1.00	0.421	No
220	41.17	2.40	0.66	1.74	0.82	0.429	1.11	0.386	1.00	1.00	0.420	No
221	41.34	2.41	0.67	1.75	0.82	0.429	1.11	0.386	1.00	1.00	0.419	No
222	41.50	2.42	0.67	1.75	0.82	0.429	1.11	0.386	1.00	1.00	0.419	No
223	41.67	2.43	0.68	1.76	0.82	0.429	1.11	0.386	1.00	1.00	0.419	No
224	41.83	2.44	0.68	1.76	0.82	0.429	1.11	0.386	1.00	1.00	0.419	No
225	41.99	2.45	0.69	1.76	0.82	0.429	1.11	0.386	1.00	1.00	0.420	No
226	42.16	2.46	0.69	1.77	0.82	0.430	1.11	0.386	1.00	1.00	0.421	No
227	42.32	2.47	0.70	1.77	0.82	0.430	1.11	0.387	1.00	1.00	0.421	No
228	42.49	2.48	0.70	1.78	0.82	0.430	1.11	0.387	1.00	1.00	0.422	No
229	42.65	2.49	0.71	1.78	0.82	0.430	1.11	0.387	1.00	1.00	0.422	No
230	42.81	2.50	0.71	1.78	0.82	0.430	1.11	0.387	1.00	1.00	0.422	No
231	42.98	2.50	0.72	1.79	0.81	0.430	1.11	0.387	1.00	1.00	0.423	No
232	43.14	2.51	0.72	1.79	0.81	0.431	1.11	0.387	1.00	1.00	0.423	No
233	43.31	2.52	0.73	1.79	0.81	0.431	1.11	0.388	1.00	1.00	0.423	No
234	43.47	2.53	0.73	1.80	0.81	0.431	1.11	0.388	1.00	1.00	0.423	No
235	43.64	2.54	0.74	1.80	0.81	0.431	1.11	0.388	1.00	1.00	0.423	No
236	43.80	2.55	0.74	1.80	0.81	0.431	1.11	0.388	1.00	1.00	0.423	No
237	43.96	2.56	0.75	1.81	0.81	0.431	1.11	0.388	1.00	1.00	0.423	No
238	44.13	2.56	0.75	1.81	0.81	0.432	1.11	0.388	1.00	1.00	0.423	No
239	44.29	2.57	0.76	1.81	0.81	0.432	1.11	0.388	1.00	1.00	0.423	No
240	44.46	2.58	0.76	1.82	0.81	0.432	1.11	0.388	1.00	1.00	0.423	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
241	44.62	2.59	0.77	1.82	0.81	0.432	1.11	0.389	1.00	1.00	0.422	No
242	44.78	2.60	0.77	1.83	0.81	0.432	1.11	0.389	1.00	1.00	0.423	No
243	44.95	2.61	0.78	1.83	0.80	0.432	1.11	0.389	1.00	1.00	0.423	No
244	45.11	2.62	0.78	1.83	0.80	0.432	1.11	0.389	1.00	1.00	0.423	No
245	45.28	2.63	0.79	1.84	0.80	0.432	1.11	0.389	1.00	1.00	0.423	No
246	45.44	2.64	0.79	1.84	0.80	0.432	1.11	0.389	1.00	1.00	0.423	No
247	45.60	2.64	0.80	1.85	0.80	0.432	1.11	0.389	1.00	1.00	0.423	No
248	45.77	2.65	0.80	1.85	0.80	0.433	1.11	0.389	1.00	1.00	0.423	No
249	45.93	2.66	0.81	1.85	0.80	0.433	1.11	0.389	1.00	1.00	0.423	No
250	46.10	2.67	0.81	1.86	0.80	0.433	1.11	0.389	1.00	1.00	0.423	No
251	46.26	2.68	0.82	1.86	0.80	0.433	1.11	0.389	1.00	1.00	0.424	No
252	46.42	2.69	0.82	1.87	0.80	0.433	1.11	0.389	1.00	1.00	0.424	No
253	46.59	2.70	0.83	1.87	0.80	0.433	1.11	0.389	1.00	1.00	0.424	No
254	46.75	2.71	0.83	1.87	0.79	0.433	1.11	0.390	1.00	1.00	0.424	No
255	46.92	2.72	0.84	1.88	0.79	0.433	1.11	0.390	1.00	1.00	0.423	No
256	47.08	2.73	0.84	1.88	0.79	0.433	1.11	0.390	1.00	1.00	0.423	No
257	47.24	2.74	0.85	1.89	0.79	0.433	1.11	0.390	1.00	1.00	0.423	No
258	47.41	2.75	0.86	1.89	0.79	0.433	1.11	0.390	1.00	1.00	0.423	No
259	47.57	2.76	0.86	1.90	0.79	0.433	1.11	0.390	1.00	1.00	0.423	No
260	47.74	2.76	0.87	1.90	0.79	0.433	1.11	0.390	1.00	1.00	0.424	No
261	47.90	2.77	0.87	1.90	0.79	0.433	1.11	0.390	1.00	1.00	0.425	No
262	48.06	2.78	0.88	1.91	0.79	0.433	1.11	0.390	1.00	1.00	0.425	No
263	48.23	2.79	0.88	1.91	0.79	0.433	1.11	0.390	1.00	1.00	0.424	No
264	48.39	2.80	0.89	1.91	0.79	0.433	1.11	0.390	1.00	1.00	0.424	No
265	48.56	2.81	0.89	1.92	0.78	0.433	1.11	0.390	1.00	1.00	0.425	No
266	48.72	2.82	0.90	1.92	0.78	0.433	1.11	0.390	1.00	1.00	0.425	No
267	48.88	2.83	0.90	1.93	0.78	0.433	1.11	0.390	1.00	1.00	0.425	No
268	49.05	2.83	0.91	1.93	0.78	0.434	1.11	0.390	1.00	1.00	0.426	No
269	49.21	2.84	0.91	1.93	0.78	0.434	1.11	0.390	1.00	1.00	0.426	No
270	49.38	2.85	0.92	1.93	0.78	0.434	1.11	0.390	1.00	1.00	0.426	No
271	49.54	2.86	0.92	1.94	0.78	0.434	1.11	0.390	1.00	1.00	0.426	No
272	49.70	2.87	0.93	1.94	0.78	0.434	1.11	0.390	1.00	1.00	0.426	No
273	49.87	2.88	0.93	1.94	0.78	0.434	1.11	0.390	1.00	1.00	0.426	No
274	50.03	2.88	0.94	1.95	0.78	0.434	1.11	0.390	1.00	1.00	2.000	No
275	50.20	2.89	0.94	1.95	0.78	0.434	1.11	0.390	1.00	1.00	2.000	No
276	50.36	2.90	0.95	1.95	0.78	0.434	1.11	0.391	1.00	1.00	2.000	No
277	50.52	2.91	0.95	1.96	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
278	50.69	2.92	0.96	1.96	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
279	50.85	2.92	0.96	1.96	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
280	51.02	2.93	0.97	1.97	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
281	51.18	2.94	0.97	1.97	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
282	51.35	2.95	0.98	1.97	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
283	51.51	2.96	0.98	1.98	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
284	51.67	2.97	0.99	1.98	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
285	51.84	2.98	0.99	1.98	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
286	52.00	2.99	1.00	1.99	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
287	52.17	3.00	1.00	1.99	0.77	0.434	1.11	0.391	1.00	1.00	2.000	No
288	52.33	3.01	1.01	2.00	0.76	0.434	1.11	0.391	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
289	52.49	3.02	1.01	2.00	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
290	52.66	3.02	1.02	2.01	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
291	52.82	3.03	1.02	2.01	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
292	52.99	3.04	1.03	2.01	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
293	53.15	3.05	1.03	2.02	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
294	53.31	3.06	1.04	2.02	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
295	53.48	3.07	1.04	2.02	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
296	53.64	3.08	1.05	2.03	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
297	53.81	3.09	1.05	2.03	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
298	53.97	3.10	1.06	2.04	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
299	54.13	3.11	1.06	2.04	0.76	0.434	1.11	0.390	1.00	1.00	2.000	No
300	54.30	3.12	1.07	2.05	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
301	54.46	3.12	1.08	2.05	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
302	54.63	3.13	1.08	2.05	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
303	54.79	3.14	1.09	2.06	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
304	54.95	3.15	1.09	2.06	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
305	55.12	3.16	1.10	2.06	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
306	55.28	3.17	1.10	2.07	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
307	55.45	3.18	1.11	2.07	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
308	55.61	3.19	1.11	2.08	0.75	0.433	1.11	0.390	1.00	1.00	2.000	No
309	55.77	3.20	1.12	2.08	0.75	0.433	1.11	0.389	1.00	1.00	2.000	No
310	55.94	3.20	1.12	2.08	0.75	0.433	1.11	0.389	1.00	1.00	2.000	No
311	56.10	3.21	1.13	2.09	0.75	0.433	1.11	0.389	1.00	1.00	2.000	No
312	56.27	3.22	1.13	2.09	0.74	0.433	1.11	0.389	1.00	1.00	2.000	No
313	56.43	3.23	1.14	2.09	0.74	0.433	1.11	0.389	1.00	1.00	2.000	No
314	56.59	3.24	1.14	2.10	0.74	0.433	1.11	0.389	1.00	1.00	2.000	No
315	56.76	3.25	1.15	2.10	0.74	0.433	1.11	0.389	1.00	1.00	2.000	No
316	56.92	3.26	1.15	2.10	0.74	0.433	1.11	0.389	1.00	1.00	2.000	No
317	57.09	3.27	1.16	2.11	0.74	0.432	1.11	0.389	1.00	1.00	2.000	No
318	57.25	3.27	1.16	2.11	0.74	0.432	1.11	0.389	1.00	1.00	2.000	No
319	57.41	3.28	1.17	2.12	0.74	0.432	1.11	0.389	1.00	1.00	2.000	No
320	57.58	3.29	1.17	2.12	0.74	0.432	1.11	0.389	1.00	1.00	2.000	No
321	57.74	3.30	1.18	2.12	0.74	0.432	1.11	0.389	1.00	1.00	2.000	No
322	57.91	3.31	1.18	2.13	0.74	0.432	1.11	0.389	1.00	1.00	2.000	No
323	58.07	3.32	1.19	2.13	0.74	0.432	1.11	0.389	1.00	1.00	2.000	No
324	58.23	3.33	1.19	2.14	0.73	0.432	1.11	0.388	1.00	1.00	2.000	No
325	58.40	3.34	1.20	2.14	0.73	0.432	1.11	0.388	1.00	1.00	2.000	No
326	58.56	3.35	1.20	2.14	0.73	0.432	1.11	0.388	1.00	1.00	2.000	No
327	58.73	3.36	1.21	2.15	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
328	58.89	3.36	1.21	2.15	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
329	59.06	3.37	1.22	2.15	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
330	59.22	3.38	1.22	2.16	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
331	59.38	3.39	1.23	2.16	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
332	59.55	3.40	1.23	2.17	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
333	59.71	3.41	1.24	2.17	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
334	59.88	3.42	1.24	2.17	0.73	0.431	1.11	0.388	1.00	1.00	2.000	No
335	60.04	3.43	1.25	2.18	0.73	0.431	1.11	0.387	1.00	1.00	2.000	No
336	60.20	3.44	1.25	2.18	0.73	0.430	1.11	0.387	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
337	60.37	3.45	1.26	2.19	0.72	0.430	1.11	0.387	1.00	1.00	2.000	No
338	60.53	3.45	1.26	2.19	0.72	0.430	1.11	0.387	1.00	1.00	2.000	No
339	60.70	3.46	1.27	2.19	0.72	0.430	1.11	0.387	1.00	1.00	2.000	No
340	60.86	3.47	1.27	2.20	0.72	0.430	1.11	0.387	1.00	1.00	2.000	No
341	61.02	3.48	1.28	2.20	0.72	0.430	1.11	0.387	1.00	1.00	2.000	No
342	61.19	3.49	1.29	2.21	0.72	0.430	1.11	0.387	1.00	1.00	2.000	No
343	61.35	3.50	1.29	2.21	0.72	0.429	1.11	0.386	1.00	1.00	2.000	No
344	61.52	3.51	1.30	2.22	0.72	0.429	1.11	0.386	1.00	1.00	2.000	No
345	61.68	3.52	1.30	2.22	0.72	0.429	1.11	0.386	1.00	1.00	2.000	No
346	61.84	3.53	1.31	2.23	0.72	0.429	1.11	0.386	1.00	1.00	2.000	No
347	62.01	3.54	1.31	2.23	0.72	0.429	1.11	0.386	1.00	1.00	2.000	No
348	62.17	3.55	1.32	2.24	0.72	0.428	1.11	0.385	1.00	1.00	2.000	No
349	62.34	3.56	1.32	2.24	0.71	0.428	1.11	0.385	1.00	1.00	2.000	No
350	62.50	3.57	1.33	2.25	0.71	0.428	1.11	0.385	1.00	1.00	2.000	No
351	62.66	3.58	1.33	2.25	0.71	0.428	1.11	0.385	1.00	1.00	2.000	No
352	62.83	3.59	1.34	2.26	0.71	0.427	1.11	0.385	1.00	1.00	2.000	No
353	62.99	3.60	1.34	2.26	0.71	0.427	1.11	0.384	1.00	1.00	2.000	No
354	63.16	3.61	1.35	2.27	0.71	0.427	1.11	0.384	1.00	1.00	2.000	No
355	63.32	3.62	1.35	2.27	0.71	0.427	1.11	0.384	1.00	1.00	2.000	No
356	63.48	3.63	1.36	2.28	0.71	0.427	1.11	0.384	1.00	1.00	2.000	No
357	63.65	3.64	1.36	2.28	0.71	0.426	1.11	0.384	1.00	1.00	2.000	No
358	63.81	3.65	1.37	2.29	0.71	0.426	1.11	0.383	1.00	1.00	2.000	No
359	63.98	3.67	1.37	2.29	0.71	0.426	1.11	0.383	1.00	1.00	2.000	No
360	64.14	3.68	1.38	2.30	0.71	0.426	1.11	0.383	1.00	1.00	2.000	No
361	64.30	3.69	1.38	2.30	0.71	0.426	1.11	0.383	1.00	1.00	2.000	No
362	64.47	3.70	1.39	2.31	0.70	0.425	1.11	0.383	1.00	1.00	2.000	No
363	64.63	3.71	1.39	2.31	0.70	0.425	1.11	0.382	1.00	1.00	2.000	No
364	64.80	3.72	1.40	2.32	0.70	0.425	1.11	0.382	1.00	1.00	2.000	No
365	64.96	3.73	1.40	2.32	0.70	0.425	1.11	0.382	1.00	1.00	2.000	No
366	65.12	3.74	1.41	2.33	0.70	0.424	1.11	0.382	1.00	1.00	2.000	No
367	65.29	3.75	1.41	2.33	0.70	0.424	1.11	0.382	1.00	1.00	2.000	No
368	65.45	3.76	1.42	2.34	0.70	0.424	1.11	0.381	1.00	1.00	2.000	No
369	65.62	3.77	1.42	2.34	0.70	0.424	1.11	0.381	1.00	1.00	2.000	No
370	65.78	3.78	1.43	2.35	0.70	0.423	1.11	0.381	1.00	1.00	2.000	No
371	65.94	3.79	1.43	2.35	0.70	0.423	1.11	0.381	1.00	1.00	2.000	Yes
372	66.11	3.80	1.44	2.36	0.70	0.423	1.11	0.381	1.00	1.00	2.000	Yes
373	66.27	3.81	1.44	2.36	0.70	0.423	1.11	0.380	1.00	1.00	2.000	Yes
374	66.44	3.82	1.45	2.37	0.70	0.423	1.11	0.380	1.00	1.00	2.000	Yes
375	66.60	3.83	1.45	2.37	0.69	0.422	1.11	0.380	1.00	1.00	2.000	Yes
376	66.77	3.84	1.46	2.38	0.69	0.422	1.11	0.380	1.00	1.00	2.000	Yes
377	66.93	3.85	1.46	2.38	0.69	0.422	1.11	0.380	1.00	1.00	2.000	Yes
378	67.09	3.86	1.47	2.39	0.69	0.422	1.11	0.379	1.00	1.00	2.000	No
379	67.26	3.87	1.47	2.39	0.69	0.421	1.11	0.379	1.00	1.00	2.000	No
380	67.42	3.88	1.48	2.40	0.69	0.421	1.11	0.379	1.00	1.00	2.000	No
381	67.59	3.89	1.48	2.40	0.69	0.421	1.11	0.379	1.00	1.00	2.000	No
382	67.75	3.90	1.49	2.41	0.69	0.421	1.11	0.379	1.00	1.00	2.000	No
383	67.91	3.91	1.49	2.41	0.69	0.421	1.11	0.378	1.00	1.00	2.000	No
384	68.08	3.92	1.50	2.42	0.69	0.420	1.11	0.378	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
385	68.24	3.92	1.51	2.42	0.69	0.420	1.11	0.378	1.00	1.00	2.000	No
386	68.41	3.93	1.51	2.42	0.69	0.420	1.11	0.378	1.00	1.00	2.000	No
387	68.57	3.94	1.52	2.43	0.69	0.420	1.11	0.378	1.00	1.00	2.000	No
388	68.73	3.95	1.52	2.43	0.69	0.420	1.11	0.378	1.00	1.00	2.000	No
389	68.90	3.96	1.53	2.43	0.68	0.420	1.11	0.378	1.00	1.00	2.000	No
390	69.06	3.97	1.53	2.44	0.68	0.420	1.11	0.378	1.00	1.00	2.000	No
391	69.23	3.98	1.54	2.44	0.68	0.419	1.11	0.377	1.00	1.00	2.000	No
392	69.39	3.99	1.54	2.45	0.68	0.419	1.11	0.377	1.00	1.00	2.000	No
393	69.55	4.00	1.55	2.45	0.68	0.419	1.11	0.377	1.00	1.00	2.000	No
394	69.72	4.01	1.55	2.45	0.68	0.419	1.11	0.377	1.00	1.00	2.000	No
395	69.88	4.01	1.56	2.46	0.68	0.419	1.11	0.377	1.00	1.00	2.000	No
396	70.05	4.02	1.56	2.46	0.68	0.419	1.11	0.377	1.00	1.00	2.000	No
397	70.21	4.03	1.57	2.47	0.68	0.418	1.11	0.376	1.00	1.00	2.000	No
398	70.37	4.04	1.57	2.47	0.68	0.418	1.11	0.376	1.00	1.00	2.000	No
399	70.54	4.05	1.58	2.47	0.68	0.418	1.11	0.376	1.00	1.00	2.000	No
400	70.70	4.06	1.58	2.48	0.68	0.418	1.11	0.376	1.00	1.00	2.000	No
401	70.87	4.07	1.59	2.48	0.68	0.418	1.11	0.376	1.00	1.00	2.000	No
402	71.03	4.08	1.59	2.49	0.68	0.418	1.11	0.376	1.00	1.00	2.000	No
403	71.19	4.09	1.60	2.49	0.67	0.417	1.11	0.375	1.00	1.00	2.000	No
404	71.36	4.10	1.60	2.50	0.67	0.417	1.11	0.375	1.00	1.00	2.000	No
405	71.52	4.11	1.61	2.50	0.67	0.417	1.11	0.375	1.00	1.00	2.000	No
406	71.69	4.12	1.61	2.51	0.67	0.416	1.11	0.375	1.00	1.00	2.000	No
407	71.85	4.13	1.62	2.51	0.67	0.416	1.11	0.374	1.00	1.00	2.000	No

Abbreviations

Depth: Depth from free surface, at which CPT was performed (ft)
σ_v: Total overburden pressure at test point (tsf)
u_0: Water pressure at test point (tsf)
σ_v': Effective overburden pressure based on GWT during earthquake (tsf)
r_d: Nonlinear shear mass factor
CSR: Cyclic Stress Ratio
MSF: Magnitude Scaling Factor
CSR_{eq}: CSR adjusted for M=7.5
K_σ: Effective overburden stress factor
CSR^*: CSR fully adjusted

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
5.25	2.00	0.00	0.00	0.05	0.00	5.41	2.00	0.00	0.00	0.05	0.00
5.58	2.00	0.00	0.00	0.05	0.00	5.74	2.00	0.00	0.00	0.05	0.00
5.91	2.00	0.00	0.00	0.05	0.00	6.07	2.00	0.00	0.00	0.05	0.00
6.23	2.00	0.00	0.00	0.05	0.00	6.40	2.00	0.00	0.00	0.05	0.00
6.56	2.00	0.00	0.00	0.05	0.00	6.73	2.00	0.00	0.00	0.05	0.00
6.89	2.00	0.00	0.00	0.05	0.00	7.05	2.00	0.00	0.00	0.05	0.00
7.22	2.00	0.00	0.00	0.05	0.00	7.38	2.00	0.00	0.00	0.05	0.00
7.55	2.00	0.00	0.00	0.05	0.00	7.71	2.00	0.00	0.00	0.05	0.00
7.87	2.00	0.00	0.00	0.05	0.00	8.04	2.00	0.00	0.00	0.05	0.00
8.20	2.00	0.00	0.00	0.05	0.00	8.37	2.00	0.00	0.00	0.05	0.00
8.53	2.00	0.00	0.00	0.05	0.00	8.69	2.00	0.00	0.00	0.05	0.00
8.86	2.00	0.00	0.00	0.05	0.00	9.02	2.00	0.00	0.00	0.05	0.00
9.19	2.00	0.00	0.00	0.05	0.00	9.35	2.00	0.00	0.00	0.05	0.00
9.51	2.00	0.00	0.00	0.05	0.00	9.68	2.00	0.00	0.00	0.05	0.00
9.84	2.00	0.00	0.00	0.05	0.00	10.01	2.00	0.00	0.00	0.05	0.00
10.17	2.00	0.00	0.00	0.05	0.00	10.33	2.00	0.00	0.00	0.05	0.00
10.50	2.00	0.00	0.00	0.05	0.00	10.66	2.00	0.00	0.00	0.05	0.00
10.83	2.00	0.00	0.00	0.05	0.00	10.99	2.00	0.00	0.00	0.05	0.00
11.15	2.00	0.00	0.00	0.05	0.00	11.32	2.00	0.00	0.00	0.05	0.00
11.48	2.00	0.00	0.00	0.05	0.00	11.65	2.00	0.00	0.00	0.05	0.00
11.81	2.00	0.00	0.00	0.05	0.00	11.98	2.00	0.00	0.00	0.05	0.00
12.14	2.00	0.00	0.00	0.05	0.00	12.30	2.00	0.00	0.00	0.05	0.00
12.47	2.00	0.00	0.00	0.05	0.00	12.63	2.00	0.00	0.00	0.05	0.00
12.80	2.00	0.00	0.00	0.05	0.00	12.96	2.00	0.00	0.00	0.05	0.00
13.12	2.00	0.00	0.00	0.05	0.00	13.29	2.00	0.00	0.00	0.05	0.00
13.45	2.00	0.00	0.00	0.05	0.00	13.62	2.00	0.00	0.00	0.05	0.00
13.78	2.00	0.00	0.00	0.05	0.00	13.94	2.00	0.00	0.00	0.05	0.00
14.11	2.00	0.00	0.00	0.05	0.00	14.27	2.00	0.00	0.00	0.05	0.00
14.44	2.00	0.00	0.00	0.05	0.00	14.60	2.00	0.00	0.00	0.05	0.00
14.76	2.00	0.00	0.00	0.05	0.00	14.93	2.00	0.00	0.00	0.05	0.00
15.09	2.00	0.00	0.00	0.05	0.00	15.26	2.00	0.00	0.00	0.05	0.00
15.42	2.00	0.00	0.00	0.05	0.00	15.58	2.00	0.00	0.00	0.05	0.00
15.75	2.00	0.00	0.00	0.05	0.00	15.91	2.00	0.00	0.00	0.05	0.00
16.08	2.00	0.00	0.00	0.05	0.00	16.24	2.00	0.00	0.00	0.05	0.00
16.40	2.00	0.00	0.00	0.05	0.00	16.57	2.00	0.00	0.00	0.05	0.00
16.73	2.00	0.00	0.00	0.05	0.00	16.90	2.00	0.00	0.00	0.05	0.00
17.06	2.00	0.00	0.00	0.05	0.00	17.22	2.00	0.00	0.00	0.05	0.00
17.39	2.00	0.00	0.00	0.05	0.00	17.55	2.00	0.00	0.00	0.05	0.00
17.72	2.00	0.00	0.00	0.05	0.00	17.88	2.00	0.00	0.00	0.05	0.00
18.04	2.00	0.00	0.00	0.05	0.00	18.21	2.00	0.00	0.00	0.05	0.00
18.37	2.00	0.00	0.00	0.05	0.00	18.54	2.00	0.00	0.00	0.05	0.00
18.70	2.00	0.00	0.00	0.05	0.00	18.86	2.00	0.00	0.00	0.05	0.00
19.03	2.00	0.00	0.00	0.05	0.00	19.19	2.00	0.00	0.00	0.05	0.00
19.36	2.00	0.00	0.00	0.05	0.00	19.52	2.00	0.00	0.00	0.05	0.00
19.69	2.00	0.00	0.00	0.05	0.00	19.85	2.00	0.00	0.00	0.05	0.00
20.01	2.00	0.00	0.00	0.05	0.00	20.18	2.00	0.00	0.00	0.05	0.00
20.34	2.00	0.00	0.00	0.05	0.00	20.51	2.00	0.00	0.00	0.05	0.00
20.67	2.00	0.00	0.00	0.05	0.00	20.83	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
21.00	2.00	0.00	0.00	0.05	0.00	21.16	2.00	0.00	0.00	0.05	0.00
21.33	2.00	0.00	0.00	0.05	0.00	21.49	2.00	0.00	0.00	0.05	0.00
21.65	0.34	0.00	0.00	0.05	0.21	21.82	0.38	0.00	0.00	0.05	0.22
21.98	0.34	0.00	0.00	0.05	0.21	22.15	2.00	0.00	0.00	0.05	0.00
22.31	0.34	0.00	0.00	0.05	0.21	22.47	0.46	0.00	0.00	0.05	0.17
22.64	0.35	0.00	0.00	0.05	0.22	22.80	0.42	0.00	0.00	0.05	0.18
22.97	0.57	0.00	0.00	0.05	0.15	23.13	2.00	0.00	0.00	0.05	0.00
23.29	2.00	0.00	0.00	0.05	0.00	23.46	2.00	0.00	0.00	0.05	0.00
23.62	2.00	0.00	0.00	0.05	0.00	23.79	2.00	0.00	0.00	0.05	0.00
23.95	2.00	0.00	0.00	0.05	0.00	24.11	2.00	0.00	0.00	0.05	0.00
24.28	1.86	0.00	0.00	0.05	0.00	24.44	1.51	0.00	0.00	0.05	0.00
24.61	1.29	0.00	0.00	0.05	0.00	24.77	0.54	0.00	0.00	0.05	0.14
24.93	0.51	0.00	0.00	0.05	0.15	25.10	0.51	0.00	0.00	0.05	0.16
25.26	0.54	0.00	0.00	0.05	0.14	25.43	0.57	0.00	0.00	0.05	0.14
25.59	0.59	0.00	0.00	0.05	0.12	25.75	0.59	0.00	0.00	0.05	0.12
25.92	0.60	0.00	0.00	0.05	0.13	26.08	0.61	0.00	0.00	0.05	0.11
26.25	0.62	0.00	0.00	0.05	0.12	26.41	0.61	0.00	0.00	0.05	0.11
26.57	0.60	0.00	0.00	0.05	0.12	26.74	0.62	0.00	0.00	0.05	0.12
26.90	0.68	0.00	0.00	0.05	0.09	27.07	0.76	0.00	0.00	0.05	0.07
27.23	0.82	0.00	0.00	0.05	0.05	27.40	0.83	0.00	0.00	0.05	0.05
27.56	0.83	0.00	0.00	0.05	0.05	27.72	0.76	0.00	0.00	0.05	0.07
27.89	0.71	0.00	0.00	0.05	0.09	28.05	0.68	0.00	0.00	0.05	0.09
28.22	0.72	0.00	0.00	0.05	0.08	28.38	0.75	0.00	0.00	0.05	0.07
28.54	0.81	0.00	0.00	0.05	0.05	28.71	0.91	0.00	0.00	0.05	0.03
28.87	1.06	0.00	0.00	0.05	0.00	29.04	1.17	0.00	0.00	0.05	0.00
29.20	1.34	0.00	0.00	0.05	0.00	29.36	1.91	0.00	0.00	0.05	0.00
29.53	2.00	0.00	0.00	0.05	0.00	29.69	0.34	0.66	0.34	0.16	0.18
29.86	0.37	0.63	0.37	0.17	0.18	30.02	2.00	0.00	0.00	0.05	0.00
30.18	2.00	0.00	0.00	0.05	0.00	30.35	2.00	0.00	0.00	0.05	0.00
30.51	2.00	0.00	0.00	0.05	0.00	30.68	2.00	0.00	0.00	0.05	0.00
30.84	0.37	0.63	0.36	0.16	0.16	31.00	0.35	0.65	0.35	0.16	0.17
31.17	0.34	0.66	0.34	0.17	0.18	31.33	0.33	0.67	0.34	0.16	0.17
31.50	0.32	0.68	0.34	0.17	0.18	31.66	0.32	0.68	0.33	0.16	0.17
31.82	2.00	0.00	0.00	0.05	0.00	31.99	2.00	0.00	0.00	0.05	0.00
32.15	2.00	0.00	0.00	0.05	0.00	32.32	2.00	0.00	0.00	0.05	0.00
32.48	2.00	0.00	0.00	0.05	0.00	32.64	2.00	0.00	0.00	0.05	0.00
32.81	2.00	0.00	0.00	0.05	0.00	32.97	2.00	0.00	0.00	0.05	0.00
33.14	2.00	0.00	0.00	0.05	0.00	33.30	2.00	0.00	0.00	0.05	0.00
33.46	0.36	0.64	0.35	0.16	0.15	33.63	0.37	0.63	0.36	0.17	0.16
33.79	0.41	0.59	0.40	0.16	0.14	33.96	0.51	0.00	0.00	0.05	0.12
34.12	0.54	0.00	0.00	0.05	0.11	34.28	0.58	0.00	0.00	0.05	0.10
34.45	0.57	0.00	0.00	0.05	0.10	34.61	0.58	0.00	0.00	0.05	0.10
34.78	0.65	0.00	0.00	0.05	0.08	34.94	0.75	0.00	0.00	0.05	0.06
35.10	0.82	0.00	0.00	0.05	0.04	35.27	0.75	0.00	0.00	0.05	0.06
35.43	0.72	0.00	0.00	0.05	0.06	35.60	1.56	0.00	0.00	0.05	0.00
35.76	2.00	0.00	0.00	0.05	0.00	35.93	1.50	0.00	0.00	0.05	0.00
36.09	1.01	0.00	0.00	0.05	0.00	36.25	0.97	0.00	0.00	0.05	0.01
36.42	0.90	0.00	0.00	0.05	0.02	36.58	1.04	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
36.75	0.99	0.00	0.00	0.05	0.00	36.91	0.80	0.00	0.00	0.05	0.04
37.07	0.68	0.00	0.00	0.05	0.07	37.24	0.50	0.00	0.00	0.05	0.11
37.40	0.35	0.65	0.35	0.16	0.14	37.57	0.31	0.69	0.33	0.17	0.15
37.73	0.30	0.70	0.32	0.16	0.15	37.89	0.33	0.67	0.34	0.16	0.14
38.06	0.29	0.71	0.32	0.17	0.15	38.22	0.31	0.69	0.33	0.16	0.14
38.39	2.00	0.00	0.00	0.05	0.00	38.55	2.00	0.00	0.00	0.05	0.00
38.71	2.00	0.00	0.00	0.05	0.00	38.88	2.00	0.00	0.00	0.05	0.00
39.04	0.48	0.00	0.00	0.05	0.10	39.21	0.31	0.69	0.33	0.17	0.14
39.37	0.23	0.77	0.29	0.16	0.15	39.53	0.20	0.80	0.28	0.16	0.16
39.70	0.20	0.80	0.28	0.17	0.16	39.86	0.23	0.77	0.29	0.16	0.15
40.03	0.24	0.76	0.30	0.17	0.15	40.19	0.36	0.64	0.36	0.16	0.12
40.35	0.61	0.00	0.00	0.05	0.07	40.52	0.75	0.00	0.00	0.05	0.05
40.68	0.70	0.00	0.00	0.05	0.06	40.85	0.50	0.00	0.00	0.05	0.10
41.01	0.68	0.00	0.00	0.05	0.06	41.17	1.06	0.00	0.00	0.05	0.00
41.34	1.45	0.00	0.00	0.05	0.00	41.50	1.64	0.00	0.00	0.05	0.00
41.67	1.69	0.00	0.00	0.05	0.00	41.83	1.62	0.00	0.00	0.05	0.00
41.99	1.36	0.00	0.00	0.05	0.00	42.16	1.05	0.00	0.00	0.05	0.00
42.32	0.69	0.00	0.00	0.05	0.05	42.49	0.57	0.00	0.00	0.05	0.08
42.65	0.50	0.00	0.00	0.05	0.09	42.81	0.57	0.00	0.00	0.05	0.07
42.98	0.55	0.00	0.00	0.05	0.08	43.14	0.57	0.00	0.00	0.05	0.07
43.31	0.58	0.00	0.00	0.05	0.07	43.47	0.58	0.00	0.00	0.05	0.07
43.64	0.57	0.00	0.00	0.05	0.07	43.80	0.58	0.00	0.00	0.05	0.07
43.96	0.61	0.00	0.00	0.05	0.06	44.13	0.68	0.00	0.00	0.05	0.05
44.29	0.80	0.00	0.00	0.05	0.03	44.46	1.04	0.00	0.00	0.05	0.00
44.62	1.23	0.00	0.00	0.05	0.00	44.78	1.33	0.00	0.00	0.05	0.00
44.95	1.28	0.00	0.00	0.05	0.00	45.11	1.27	0.00	0.00	0.05	0.00
45.28	1.29	0.00	0.00	0.05	0.00	45.44	1.30	0.00	0.00	0.05	0.00
45.60	1.31	0.00	0.00	0.05	0.00	45.77	1.33	0.00	0.00	0.05	0.00
45.93	1.32	0.00	0.00	0.05	0.00	46.10	1.27	0.00	0.00	0.05	0.00
46.26	1.17	0.00	0.00	0.05	0.00	46.42	1.14	0.00	0.00	0.05	0.00
46.59	1.18	0.00	0.00	0.05	0.00	46.75	1.30	0.00	0.00	0.05	0.00
46.92	1.43	0.00	0.00	0.05	0.00	47.08	1.45	0.00	0.00	0.05	0.00
47.24	1.45	0.00	0.00	0.05	0.00	47.41	1.46	0.00	0.00	0.05	0.00
47.57	1.35	0.00	0.00	0.05	0.00	47.74	1.15	0.00	0.00	0.05	0.00
47.90	0.92	0.00	0.00	0.05	0.01	48.06	1.01	0.00	0.00	0.05	0.00
48.23	1.12	0.00	0.00	0.05	0.00	48.39	1.14	0.00	0.00	0.05	0.00
48.56	0.97	0.00	0.00	0.05	0.00	48.72	0.79	0.00	0.00	0.05	0.03
48.88	0.67	0.00	0.00	0.05	0.04	49.05	0.57	0.00	0.00	0.05	0.06
49.21	0.57	0.00	0.00	0.05	0.05	49.38	0.57	0.00	0.00	0.05	0.06
49.54	0.59	0.00	0.00	0.05	0.05	49.70	0.62	0.00	0.00	0.05	0.04
49.87	0.65	0.00	0.00	0.05	0.04	50.03	2.00	0.00	0.00	0.05	0.00
50.20	2.00	0.00	0.00	0.05	0.00	50.36	2.00	0.00	0.00	0.05	0.00
50.52	2.00	0.00	0.00	0.05	0.00	50.69	2.00	0.00	0.00	0.05	0.00
50.85	2.00	0.00	0.00	0.05	0.00	51.02	2.00	0.00	0.00	0.05	0.00
51.18	2.00	0.00	0.00	0.05	0.00	51.35	2.00	0.00	0.00	0.05	0.00
51.51	2.00	0.00	0.00	0.05	0.00	51.67	2.00	0.00	0.00	0.05	0.00
51.84	2.00	0.00	0.00	0.05	0.00	52.00	2.00	0.00	0.00	0.05	0.00
52.17	2.00	0.00	0.00	0.05	0.00	52.33	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
52.49	2.00	0.00	0.00	0.05	0.00	52.66	2.00	0.00	0.00	0.05	0.00
52.82	2.00	0.00	0.00	0.05	0.00	52.99	2.00	0.00	0.00	0.05	0.00
53.15	2.00	0.00	0.00	0.05	0.00	53.31	2.00	0.00	0.00	0.05	0.00
53.48	2.00	0.00	0.00	0.05	0.00	53.64	2.00	0.00	0.00	0.05	0.00
53.81	2.00	0.00	0.00	0.05	0.00	53.97	2.00	0.00	0.00	0.05	0.00
54.13	2.00	0.00	0.00	0.05	0.00	54.30	2.00	0.00	0.00	0.05	0.00
54.46	2.00	0.00	0.00	0.05	0.00	54.63	2.00	0.00	0.00	0.05	0.00
54.79	2.00	0.00	0.00	0.05	0.00	54.95	2.00	0.00	0.00	0.05	0.00
55.12	2.00	0.00	0.00	0.05	0.00	55.28	2.00	0.00	0.00	0.05	0.00
55.45	2.00	0.00	0.00	0.05	0.00	55.61	2.00	0.00	0.00	0.05	0.00
55.77	2.00	0.00	0.00	0.05	0.00	55.94	2.00	0.00	0.00	0.05	0.00
56.10	2.00	0.00	0.00	0.05	0.00	56.27	2.00	0.00	0.00	0.05	0.00
56.43	2.00	0.00	0.00	0.05	0.00	56.59	2.00	0.00	0.00	0.05	0.00
56.76	2.00	0.00	0.00	0.05	0.00	56.92	2.00	0.00	0.00	0.05	0.00
57.09	2.00	0.00	0.00	0.05	0.00	57.25	2.00	0.00	0.00	0.05	0.00
57.41	2.00	0.00	0.00	0.05	0.00	57.58	2.00	0.00	0.00	0.05	0.00
57.74	2.00	0.00	0.00	0.05	0.00	57.91	2.00	0.00	0.00	0.05	0.00
58.07	2.00	0.00	0.00	0.05	0.00	58.23	2.00	0.00	0.00	0.05	0.00
58.40	2.00	0.00	0.00	0.05	0.00	58.56	2.00	0.00	0.00	0.05	0.00
58.73	2.00	0.00	0.00	0.05	0.00	58.89	2.00	0.00	0.00	0.05	0.00
59.06	2.00	0.00	0.00	0.05	0.00	59.22	2.00	0.00	0.00	0.05	0.00
59.38	2.00	0.00	0.00	0.05	0.00	59.55	2.00	0.00	0.00	0.05	0.00
59.71	2.00	0.00	0.00	0.05	0.00	59.88	2.00	0.00	0.00	0.05	0.00
60.04	2.00	0.00	0.00	0.05	0.00	60.20	2.00	0.00	0.00	0.05	0.00
60.37	2.00	0.00	0.00	0.05	0.00	60.53	2.00	0.00	0.00	0.05	0.00
60.70	2.00	0.00	0.00	0.05	0.00	60.86	2.00	0.00	0.00	0.05	0.00
61.02	2.00	0.00	0.00	0.05	0.00	61.19	2.00	0.00	0.00	0.05	0.00
61.35	2.00	0.00	0.00	0.05	0.00	61.52	2.00	0.00	0.00	0.05	0.00
61.68	2.00	0.00	0.00	0.05	0.00	61.84	2.00	0.00	0.00	0.05	0.00
62.01	2.00	0.00	0.00	0.05	0.00	62.17	2.00	0.00	0.00	0.05	0.00
62.34	2.00	0.00	0.00	0.05	0.00	62.50	2.00	0.00	0.00	0.05	0.00
62.66	2.00	0.00	0.00	0.05	0.00	62.83	2.00	0.00	0.00	0.05	0.00
62.99	2.00	0.00	0.00	0.05	0.00	63.16	2.00	0.00	0.00	0.05	0.00
63.32	2.00	0.00	0.00	0.05	0.00	63.48	2.00	0.00	0.00	0.05	0.00
63.65	2.00	0.00	0.00	0.05	0.00	63.81	2.00	0.00	0.00	0.05	0.00
63.98	2.00	0.00	0.00	0.05	0.00	64.14	2.00	0.00	0.00	0.05	0.00
64.30	2.00	0.00	0.00	0.05	0.00	64.47	2.00	0.00	0.00	0.05	0.00
64.63	2.00	0.00	0.00	0.05	0.00	64.80	2.00	0.00	0.00	0.05	0.00
64.96	2.00	0.00	0.00	0.05	0.00	65.12	2.00	0.00	0.00	0.05	0.00
65.29	2.00	0.00	0.00	0.05	0.00	65.45	2.00	0.00	0.00	0.05	0.00
65.62	2.00	0.00	0.00	0.05	0.00	65.78	2.00	0.00	0.00	0.05	0.00
65.94	2.00	0.00	0.00	0.05	0.00	66.11	2.00	0.00	0.00	0.05	0.00
66.27	2.00	0.00	0.00	0.05	0.00	66.44	2.00	0.00	0.00	0.05	0.00
66.60	2.00	0.00	0.00	0.05	0.00	66.77	2.00	0.00	0.00	0.05	0.00
66.93	2.00	0.00	0.00	0.05	0.00	67.09	2.00	0.00	0.00	0.05	0.00
67.26	2.00	0.00	0.00	0.05	0.00	67.42	2.00	0.00	0.00	0.05	0.00
67.59	2.00	0.00	0.00	0.05	0.00	67.75	2.00	0.00	0.00	0.05	0.00
67.91	2.00	0.00	0.00	0.05	0.00	68.08	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
68.24	2.00	0.00	0.00	0.05	0.00	68.41	2.00	0.00	0.00	0.05	0.00
68.57	2.00	0.00	0.00	0.05	0.00	68.73	2.00	0.00	0.00	0.05	0.00
68.90	2.00	0.00	0.00	0.05	0.00	69.06	2.00	0.00	0.00	0.05	0.00
69.23	2.00	0.00	0.00	0.05	0.00	69.39	2.00	0.00	0.00	0.05	0.00
69.55	2.00	0.00	0.00	0.05	0.00	69.72	2.00	0.00	0.00	0.05	0.00
69.88	2.00	0.00	0.00	0.05	0.00	70.05	2.00	0.00	0.00	0.05	0.00
70.21	2.00	0.00	0.00	0.05	0.00	70.37	2.00	0.00	0.00	0.05	0.00
70.54	2.00	0.00	0.00	0.05	0.00	70.70	2.00	0.00	0.00	0.05	0.00
70.87	2.00	0.00	0.00	0.05	0.00	71.03	2.00	0.00	0.00	0.05	0.00
71.19	2.00	0.00	0.00	0.05	0.00	71.36	2.00	0.00	0.00	0.05	0.00
71.52	2.00	0.00	0.00	0.05	0.00	71.69	2.00	0.00	0.00	0.05	0.00
71.85	2.00	0.00	0.00	0.05	0.00						

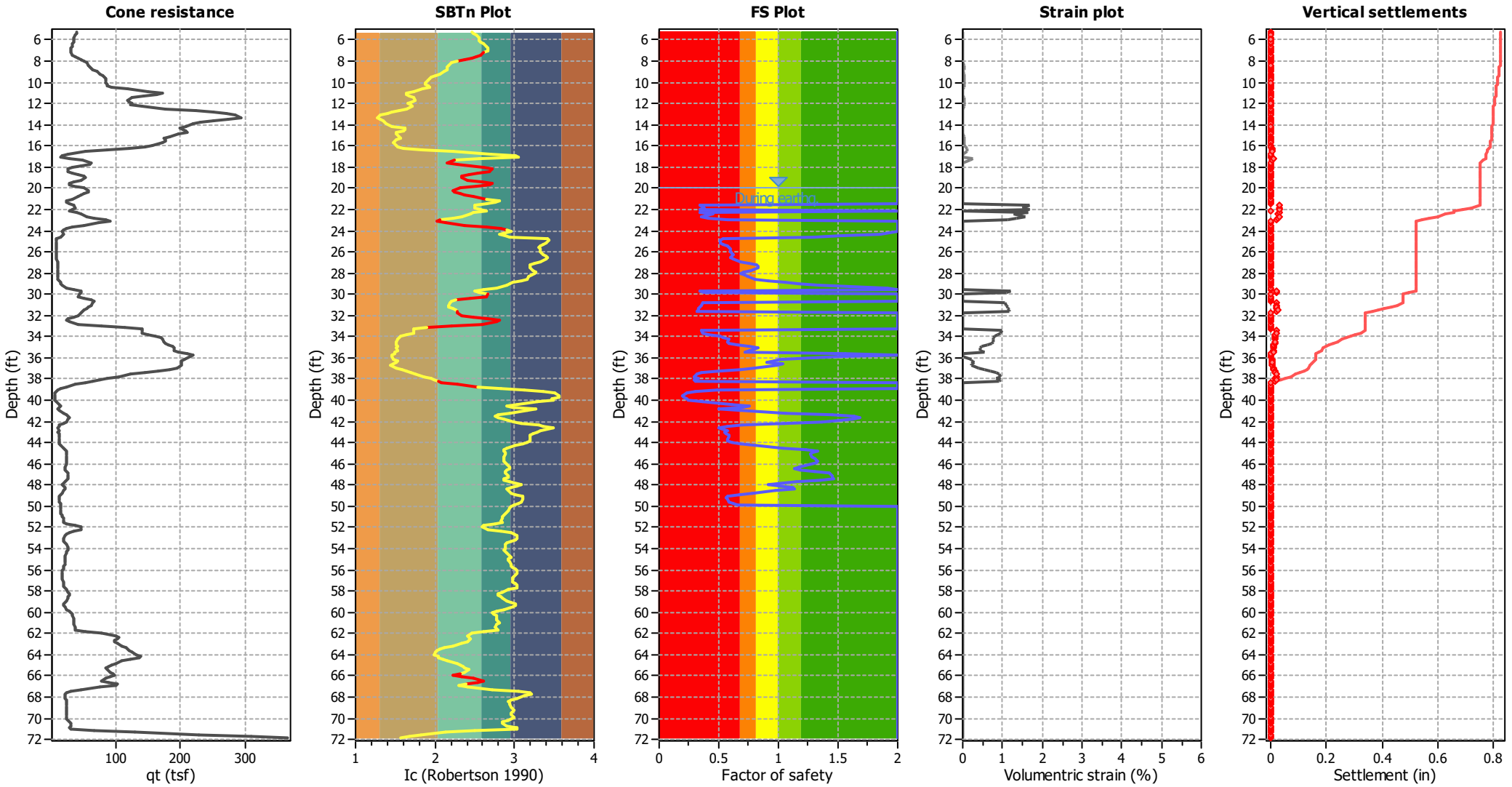
Overall liquefaction potential: 10.57

LPI_{ISH} > 5.0 - Liquefaction manifestation is expected

Abbreviations

FS: Calculated factor of safety for test point
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

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

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
5.25	2.47	74.59	2.60	194.20	49	807	0.35	0.026	0.01	11.65	0.01	0.000
5.41	2.49	72.02	2.72	195.83	50	803	0.35	0.027	0.01	11.65	0.01	0.000
5.58	2.52	68.68	2.86	196.51	51	793	0.35	0.029	0.01	11.65	0.01	0.000
5.74	2.55	65.63	3.03	199.16	53	789	0.35	0.031	0.01	11.65	0.01	0.000
5.91	2.55	65.71	3.02	198.69	52	788	0.35	0.032	0.01	11.65	0.01	0.000
6.07	2.56	65.55	3.08	201.61	53	796	0.35	0.033	0.01	11.65	0.01	0.000
6.23	2.58	64.10	3.19	204.38	55	798	0.35	0.034	0.01	11.65	0.01	0.000
6.40	2.61	60.82	3.41	207.50	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.56	2.64	58.07	3.57	207.16	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.73	2.66	55.29	3.74	206.64	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.89	2.67	54.19	3.78	204.69	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.05	2.66	54.59	3.71	202.71	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.22	2.62	57.61	3.44	198.20	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.38	2.57	62.09	3.15	195.65	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.55	2.52	67.36	2.85	192.28	0	0	0.35	0.000	0.00	0.00	0.00	0.000
7.71	2.45	72.74	2.55	185.52	0	0	0.35	0.000	0.00	0.00	0.00	0.000
7.87	2.37	78.42	2.19	171.99	0	0	0.35	0.000	0.00	0.00	0.00	0.000
8.04	2.28	83.01	1.89	156.64	0	0	0.35	0.000	0.00	0.00	0.00	0.000
8.20	2.21	85.76	1.69	144.71	0	0	0.35	0.000	0.00	0.00	0.00	0.000
8.37	2.17	87.47	1.60	139.76	31	787	0.35	0.054	0.03	11.65	0.02	0.001
8.53	2.16	89.19	1.58	140.58	31	805	0.35	0.053	0.03	11.65	0.02	0.001
8.69	2.15	91.93	1.56	143.66	32	835	0.35	0.050	0.03	11.65	0.02	0.001
8.86	2.14	96.19	1.54	148.34	33	876	0.34	0.046	0.03	11.65	0.02	0.001
9.02	2.11	102.18	1.48	151.24	33	912	0.34	0.043	0.02	11.65	0.02	0.001
9.19	2.07	107.24	1.40	150.34	32	926	0.34	0.043	0.02	11.65	0.02	0.001
9.35	2.01	110.84	1.31	145.05	30	907	0.34	0.046	0.03	11.65	0.02	0.001
9.51	1.96	112.20	1.25	139.88	29	880	0.34	0.051	0.03	11.65	0.02	0.001
9.68	1.93	112.24	1.22	136.47	28	864	0.34	0.054	0.04	11.65	0.03	0.001
9.84	1.91	111.32	1.20	133.16	27	847	0.35	0.058	0.04	11.65	0.03	0.001
10.01	1.88	110.31	1.17	129.60	26	827	0.35	0.063	0.05	11.65	0.03	0.001
10.17	1.89	110.95	1.18	130.39	26	840	0.35	0.063	0.05	11.65	0.03	0.001
10.33	1.92	110.36	1.21	133.64	27	878	0.34	0.058	0.04	11.65	0.03	0.001
10.50	1.94	117.83	1.23	144.73	29	963	0.34	0.048	0.03	11.65	0.02	0.001
10.66	1.84	146.61	1.14	166.79	33	1087	0.34	0.038	0.02	11.65	0.02	0.001
10.83	1.72	180.76	1.05	190.45	36	1190	0.32	0.033	0.02	11.65	0.01	0.000
10.99	1.64	203.12	1.00	202.59	37	1233	0.31	0.032	0.02	11.65	0.01	0.000
11.15	1.64	192.16	1.00	192.16	35	1169	0.31	0.035	0.02	11.65	0.01	0.000
11.32	1.68	167.48	1.03	171.86	32	1079	0.33	0.042	0.02	11.65	0.02	0.001
11.48	1.73	146.07	1.06	154.70	29	1001	0.34	0.050	0.03	11.65	0.02	0.001
11.65	1.75	137.18	1.07	147.33	28	971	0.34	0.055	0.04	11.65	0.03	0.001
11.81	1.72	139.11	1.05	146.13	27	954	0.34	0.058	0.04	11.65	0.03	0.001
11.98	1.67	140.34	1.02	142.49	26	914	0.34	0.066	0.05	11.65	0.03	0.001
12.14	1.70	139.07	1.04	144.61	27	950	0.34	0.061	0.04	11.65	0.03	0.001
12.30	1.71	157.12	1.04	163.84	31	1086	0.34	0.046	0.03	11.65	0.02	0.001
12.47	1.64	196.06	1.00	196.06	36	1262	0.31	0.035	0.02	11.65	0.01	0.001
12.63	1.54	243.95	1.00	243.95	43	1416	0.31	0.030	0.01	11.65	0.01	0.000
12.80	1.47	270.71	1.00	270.71	47	1447	0.31	0.029	0.01	11.65	0.01	0.000
12.96	1.40	287.45	1.00	287.45	49	1434	0.31	0.030	0.01	11.65	0.01	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
13.12	1.32	298.38	1.00	298.38	49	1357	0.31	0.033	0.01	11.65	0.01	0.000
13.29	1.27	304.35	1.00	304.35	49	1319	0.31	0.036	0.01	11.65	0.01	0.000
13.45	1.31	283.19	1.00	283.19	47	1285	0.31	0.038	0.01	11.65	0.01	0.000
13.62	1.34	259.15	1.00	259.15	43	1235	0.31	0.042	0.02	11.65	0.01	0.000
13.78	1.36	236.99	1.00	236.99	40	1152	0.31	0.048	0.02	11.65	0.01	0.001
13.94	1.39	225.15	1.00	225.15	38	1137	0.31	0.050	0.02	11.65	0.02	0.001
14.11	1.45	212.99	1.00	212.99	37	1171	0.31	0.048	0.02	11.65	0.02	0.001
14.27	1.61	204.90	1.00	204.90	37	1371	0.31	0.036	0.02	11.65	0.01	0.000
14.44	1.62	209.69	1.00	209.69	38	1421	0.31	0.035	0.02	11.65	0.01	0.000
14.60	1.60	213.52	1.00	213.52	39	1420	0.31	0.035	0.02	11.65	0.01	0.000
14.76	1.51	212.25	1.00	212.25	37	1274	0.31	0.044	0.02	11.65	0.01	0.001
14.93	1.52	198.63	1.00	198.63	35	1216	0.31	0.048	0.02	11.65	0.02	0.001
15.09	1.54	183.45	1.00	183.45	32	1161	0.31	0.054	0.03	11.65	0.02	0.001
15.26	1.57	173.66	1.00	173.66	31	1142	0.32	0.057	0.03	11.65	0.02	0.001
15.42	1.51	174.86	1.00	174.86	31	1074	0.32	0.066	0.04	11.65	0.03	0.001
15.58	1.49	173.17	1.00	173.17	30	1044	0.31	0.071	0.04	11.65	0.03	0.001
15.75	1.47	167.49	1.00	167.49	29	992	0.32	0.082	0.05	11.65	0.03	0.001
15.91	1.51	153.06	1.00	153.06	27	954	0.33	0.092	0.06	11.65	0.04	0.002
16.08	1.53	139.47	1.00	139.47	25	896	0.33	0.111	0.09	11.65	0.06	0.002
16.24	1.60	116.52	1.00	116.52	21	813	0.34	0.151	0.14	11.65	0.09	0.004
16.40	1.85	83.81	1.14	95.84	19	806	0.35	0.158	0.17	11.65	0.11	0.004
16.57	2.23	49.67	1.75	87.03	20	778	0.35	0.180	0.18	11.65	0.12	0.005
16.73	2.70	24.67	4.02	99.09	0	0	0.35	0.000	0.00	0.00	0.00	0.000
16.90	3.01	14.64	6.86	100.50	0	0	0.35	0.000	0.00	0.00	0.00	0.000
17.06	3.05	12.38	7.35	91.04	0	0	0.35	0.000	0.00	0.00	0.00	0.000
17.22	2.55	26.23	3.02	79.36	21	629	0.35	0.441	0.42	11.65	0.26	0.010
17.39	2.24	44.15	1.77	78.35	18	723	0.34	0.255	0.29	11.65	0.18	0.007
17.55	2.16	57.21	1.57	89.57	0	0	0.34	0.000	0.00	0.00	0.00	0.000
17.72	2.27	53.07	1.86	98.95	0	0	0.34	0.000	0.00	0.00	0.00	0.000
17.88	2.44	40.14	2.50	100.40	0	0	0.34	0.000	0.00	0.00	0.00	0.000
18.04	2.61	28.67	3.40	97.58	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.21	2.73	21.35	4.20	89.64	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.37	2.69	21.66	3.93	85.19	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.54	2.54	27.39	2.97	81.45	0	0	0.34	0.000	0.00	0.00	0.00	0.000
18.70	2.42	35.29	2.40	84.67	0	0	0.34	0.000	0.00	0.00	0.00	0.000
18.86	2.33	43.02	2.04	87.93	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.03	2.34	44.56	2.08	92.88	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.19	2.41	39.26	2.37	92.89	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.36	2.59	28.68	3.26	93.38	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.52	2.72	21.96	4.17	91.56	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.69	2.69	22.05	3.90	85.98	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.85	2.52	28.66	2.90	83.01	0	0	0.34	0.000	0.00	0.00	0.00	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)

Total estimated settlement: 0.07

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
20.01	98.68	2.00	0.00	0.66	0.00	20.18	116.05	2.00	0.00	0.66	0.00
20.34	106.09	2.00	0.00	0.66	0.00	20.51	96.72	2.00	0.00	0.65	0.00
20.67	98.13	2.00	0.00	0.65	0.00	20.83	97.43	2.00	0.00	0.65	0.00
21.00	26.15	2.00	0.00	0.64	0.00	21.16	16.70	2.00	0.00	0.64	0.00
21.33	18.00	2.00	0.00	0.64	0.00	21.49	25.05	2.00	0.00	0.64	0.00
21.65	85.94	0.34	1.67	0.63	0.03	21.82	96.62	0.38	1.51	0.63	0.03
21.98	85.62	0.34	1.67	0.63	0.03	22.15	16.63	2.00	0.00	0.62	0.00
22.31	85.13	0.34	1.66	0.62	0.03	22.47	114.56	0.46	1.29	0.62	0.02
22.64	89.94	0.35	1.57	0.62	0.03	22.80	108.26	0.42	1.34	0.61	0.03
22.97	130.26	0.57	1.15	0.61	0.02	23.13	127.69	2.00	0.00	0.61	0.00
23.29	119.38	2.00	0.00	0.61	0.00	23.46	92.37	2.00	0.00	0.60	0.00
23.62	24.28	2.00	0.00	0.60	0.00	23.79	17.34	2.00	0.00	0.60	0.00
23.95	15.91	2.00	0.00	0.59	0.00	24.11	14.52	2.00	0.00	0.59	0.00
24.28	10.35	1.86	0.00	0.59	0.00	24.44	23.55	1.51	0.00	0.59	0.00
24.61	5.94	1.29	0.00	0.58	0.00	24.77	5.55	0.54	0.00	0.58	0.00
24.93	5.04	0.51	0.00	0.58	0.00	25.10	5.20	0.51	0.00	0.57	0.00
25.26	5.54	0.54	0.00	0.57	0.00	25.43	5.81	0.57	0.00	0.57	0.00
25.59	6.05	0.59	0.00	0.57	0.00	25.75	6.00	0.59	0.00	0.56	0.00
25.92	6.05	0.60	0.00	0.56	0.00	26.08	6.23	0.61	0.00	0.56	0.00
26.25	6.42	0.62	0.00	0.56	0.00	26.41	6.21	0.61	0.00	0.55	0.00
26.57	6.09	0.60	0.00	0.55	0.00	26.74	6.10	0.62	0.00	0.55	0.00
26.90	6.78	0.68	0.00	0.54	0.00	27.07	7.73	0.76	0.00	0.54	0.00
27.23	8.15	0.82	0.00	0.54	0.00	27.40	8.42	0.83	0.00	0.54	0.00
27.56	8.16	0.83	0.00	0.53	0.00	27.72	7.97	0.76	0.00	0.53	0.00
27.89	6.90	0.71	0.00	0.53	0.00	28.05	6.82	0.68	0.00	0.52	0.00
28.22	7.23	0.72	0.00	0.52	0.00	28.38	8.01	0.75	0.00	0.52	0.00
28.54	7.56	0.81	0.00	0.52	0.00	28.71	8.76	0.91	0.00	0.51	0.00
28.87	10.87	1.06	0.00	0.51	0.00	29.04	11.46	1.17	0.00	0.51	0.00
29.20	11.68	1.34	0.00	0.51	0.00	29.36	15.64	1.91	0.00	0.50	0.00
29.53	26.86	2.00	0.00	0.50	0.00	29.69	96.00	0.34	1.20	0.50	0.02
29.86	105.54	0.37	1.10	0.49	0.02	30.02	31.79	2.00	0.00	0.49	0.00
30.18	26.14	2.00	0.00	0.49	0.00	30.35	99.56	2.00	0.00	0.49	0.00
30.51	111.76	2.00	0.00	0.48	0.00	30.68	106.13	2.00	0.00	0.48	0.00
30.84	104.21	0.37	1.08	0.48	0.02	31.00	99.73	0.35	1.11	0.47	0.02
31.17	96.07	0.34	1.14	0.47	0.02	31.33	94.77	0.33	1.15	0.47	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
31.50	92.44	0.32	1.16	0.47	0.02	31.66	91.80	0.32	1.16	0.46	0.02
31.82	87.70	2.00	0.00	0.46	0.00	31.99	89.76	2.00	0.00	0.46	0.00
32.15	84.87	2.00	0.00	0.46	0.00	32.32	18.12	2.00	0.00	0.45	0.00
32.48	14.34	2.00	0.00	0.45	0.00	32.64	19.37	2.00	0.00	0.45	0.00
32.81	88.44	2.00	0.00	0.44	0.00	32.97	97.61	2.00	0.00	0.44	0.00
33.14	123.97	2.00	0.00	0.44	0.00	33.30	120.41	2.00	0.00	0.44	0.00
33.46	103.30	0.36	0.98	0.43	0.02	33.63	106.50	0.37	0.95	0.43	0.02
33.79	116.33	0.41	0.88	0.43	0.02	33.96	130.39	0.51	0.80	0.42	0.02
34.12	133.87	0.54	0.78	0.42	0.01	34.28	137.90	0.58	0.75	0.42	0.01
34.45	137.23	0.57	0.75	0.42	0.02	34.61	137.88	0.58	0.74	0.41	0.01
34.78	143.59	0.65	0.60	0.41	0.01	34.94	149.70	0.75	0.46	0.41	0.01
35.10	153.51	0.82	0.44	0.41	0.01	35.27	149.78	0.75	0.45	0.40	0.01
35.43	148.20	0.72	0.56	0.40	0.01	35.60	173.81	1.56	0.00	0.40	0.00
35.76	184.46	2.00	0.00	0.39	0.00	35.93	172.75	1.50	0.00	0.39	0.00
36.09	161.06	1.01	0.22	0.39	0.00	36.25	159.48	0.97	0.22	0.39	0.00
36.42	157.02	0.90	0.31	0.38	0.01	36.58	161.85	1.04	0.21	0.38	0.00
36.75	160.30	0.99	0.21	0.38	0.00	36.91	152.45	0.80	0.41	0.37	0.01
37.07	145.81	0.68	0.53	0.37	0.01	37.24	130.37	0.50	0.69	0.37	0.01
37.40	103.34	0.35	0.83	0.37	0.02	37.57	92.47	0.31	0.90	0.36	0.02
37.73	86.08	0.30	0.95	0.36	0.02	37.89	96.98	0.33	0.86	0.36	0.02
38.06	84.76	0.29	0.95	0.35	0.02	38.22	90.07	0.31	0.90	0.35	0.02
38.39	81.90	2.00	0.00	0.35	0.00	38.55	75.33	2.00	0.00	0.35	0.00
38.71	69.99	2.00	0.00	0.34	0.00	38.88	9.12	2.00	0.00	0.34	0.00
39.04	5.59	0.48	0.00	0.34	0.00	39.21	4.28	0.31	0.00	0.34	0.00
39.37	3.82	0.23	0.00	0.33	0.00	39.53	3.29	0.20	0.00	0.33	0.00
39.70	3.29	0.20	0.00	0.33	0.00	39.86	4.07	0.23	0.00	0.32	0.00
40.03	4.14	0.24	0.00	0.32	0.00	40.19	3.63	0.36	0.00	0.32	0.00
40.35	7.63	0.61	0.00	0.32	0.00	40.52	11.82	0.75	0.00	0.31	0.00
40.68	7.91	0.70	0.00	0.31	0.00	40.85	5.99	0.50	0.00	0.31	0.00
41.01	5.68	0.68	0.00	0.30	0.00	41.17	13.74	1.06	0.00	0.30	0.00
41.34	17.66	1.45	0.00	0.30	0.00	41.50	17.81	1.64	0.00	0.30	0.00
41.67	19.78	1.69	0.00	0.29	0.00	41.83	19.13	1.62	0.00	0.29	0.00
41.99	15.89	1.36	0.00	0.29	0.00	42.16	11.70	1.05	0.00	0.29	0.00
42.32	9.34	0.69	0.00	0.28	0.00	42.49	4.72	0.57	0.00	0.28	0.00
42.65	8.10	0.50	0.00	0.28	0.00	42.81	7.04	0.57	0.00	0.27	0.00
42.98	7.06	0.55	0.00	0.27	0.00	43.14	7.25	0.57	0.00	0.27	0.00
43.31	7.65	0.58	0.00	0.27	0.00	43.47	7.55	0.58	0.00	0.26	0.00
43.64	7.40	0.57	0.00	0.26	0.00	43.80	7.22	0.58	0.00	0.26	0.00
43.96	7.81	0.61	0.00	0.25	0.00	44.13	8.42	0.68	0.00	0.25	0.00
44.29	9.50	0.80	0.00	0.25	0.00	44.46	11.73	1.04	0.00	0.25	0.00
44.62	16.08	1.23	0.00	0.24	0.00	44.78	15.54	1.33	0.00	0.24	0.00
44.95	15.09	1.28	0.00	0.24	0.00	45.11	14.50	1.27	0.00	0.24	0.00
45.28	15.25	1.29	0.00	0.23	0.00	45.44	15.51	1.30	0.00	0.23	0.00
45.60	15.05	1.31	0.00	0.23	0.00	45.77	15.70	1.33	0.00	0.22	0.00
45.93	16.16	1.32	0.00	0.22	0.00	46.10	14.63	1.27	0.00	0.22	0.00
46.26	14.15	1.17	0.00	0.22	0.00	46.42	12.98	1.14	0.00	0.21	0.00
46.59	13.49	1.18	0.00	0.21	0.00	46.75	15.48	1.30	0.00	0.21	0.00
46.92	16.85	1.43	0.00	0.20	0.00	47.08	17.70	1.45	0.00	0.20	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
47.24	16.19	1.45	0.00	0.20	0.00	47.41	16.98	1.46	0.00	0.20	0.00
47.57	18.31	1.35	0.00	0.19	0.00	47.74	12.62	1.15	0.00	0.19	0.00
47.90	10.50	0.92	0.00	0.19	0.00	48.06	10.81	1.01	0.00	0.19	0.00
48.23	15.67	1.12	0.00	0.18	0.00	48.39	14.19	1.14	0.00	0.18	0.00
48.56	11.26	0.97	0.00	0.18	0.00	48.72	10.31	0.79	0.00	0.17	0.00
48.88	7.86	0.67	0.00	0.17	0.00	49.05	7.24	0.57	0.00	0.17	0.00
49.21	7.03	0.57	0.00	0.17	0.00	49.38	7.46	0.57	0.00	0.16	0.00
49.54	7.27	0.59	0.00	0.16	0.00	49.70	7.60	0.62	0.00	0.16	0.00
49.87	8.45	0.65	0.00	0.15	0.00	50.03	8.33	2.00	0.00	0.15	0.00
50.20	8.03	2.00	0.00	0.15	0.00	50.36	8.04	2.00	0.00	0.15	0.00
50.52	8.53	2.00	0.00	0.14	0.00	50.69	8.50	2.00	0.00	0.14	0.00
50.85	9.57	2.00	0.00	0.14	0.00	51.02	10.53	2.00	0.00	0.14	0.00
51.18	10.78	2.00	0.00	0.13	0.00	51.35	11.25	2.00	0.00	0.13	0.00
51.51	11.02	2.00	0.00	0.13	0.00	51.67	11.96	2.00	0.00	0.12	0.00
51.84	21.36	2.00	0.00	0.12	0.00	52.00	100.49	2.00	0.00	0.12	0.00
52.17	32.21	2.00	0.00	0.12	0.00	52.33	22.45	2.00	0.00	0.11	0.00
52.49	16.07	2.00	0.00	0.11	0.00	52.66	14.67	2.00	0.00	0.11	0.00
52.82	13.17	2.00	0.00	0.10	0.00	52.99	11.13	2.00	0.00	0.10	0.00
53.15	10.48	2.00	0.00	0.10	0.00	53.31	11.78	2.00	0.00	0.10	0.00
53.48	13.45	2.00	0.00	0.09	0.00	53.64	15.33	2.00	0.00	0.09	0.00
53.81	15.94	2.00	0.00	0.09	0.00	53.97	16.66	2.00	0.00	0.09	0.00
54.13	16.01	2.00	0.00	0.08	0.00	54.30	16.01	2.00	0.00	0.08	0.00
54.46	13.75	2.00	0.00	0.08	0.00	54.63	12.65	2.00	0.00	0.07	0.00
54.79	11.73	2.00	0.00	0.07	0.00	54.95	13.08	2.00	0.00	0.07	0.00
55.12	13.81	2.00	0.00	0.07	0.00	55.28	12.76	2.00	0.00	0.06	0.00
55.45	11.33	2.00	0.00	0.06	0.00	55.61	11.82	2.00	0.00	0.06	0.00
55.77	11.50	2.00	0.00	0.05	0.00	55.94	10.65	2.00	0.00	0.05	0.00
56.10	9.58	2.00	0.00	0.05	0.00	56.27	9.52	2.00	0.00	0.05	0.00
56.43	9.64	2.00	0.00	0.04	0.00	56.59	9.34	2.00	0.00	0.04	0.00
56.76	9.28	2.00	0.00	0.04	0.00	56.92	10.07	2.00	0.00	0.04	0.00
57.09	10.41	2.00	0.00	0.03	0.00	57.25	11.01	2.00	0.00	0.03	0.00
57.41	11.26	2.00	0.00	0.03	0.00	57.58	10.88	2.00	0.00	0.02	0.00
57.74	11.30	2.00	0.00	0.02	0.00	57.91	12.13	2.00	0.00	0.02	0.00
58.07	17.68	2.00	0.00	0.02	0.00	58.23	16.57	2.00	0.00	0.01	0.00
58.40	15.43	2.00	0.00	0.01	0.00	58.56	15.46	2.00	0.00	0.01	0.00
58.73	14.39	2.00	0.00	0.00	0.00	58.89	13.39	2.00	0.00	0.00	0.00
59.06	11.44	2.00	0.00	0.00	0.00	59.22	9.82	2.00	0.00	0.00	0.00
59.38	9.56	2.00	0.00	0.00	0.00	59.55	11.69	2.00	0.00	0.00	0.00
59.71	12.90	2.00	0.00	0.00	0.00	59.88	15.24	2.00	0.00	0.00	0.00
60.04	18.52	2.00	0.00	0.00	0.00	60.20	20.21	2.00	0.00	0.00	0.00
60.37	19.51	2.00	0.00	0.00	0.00	60.53	19.01	2.00	0.00	0.00	0.00
60.70	21.12	2.00	0.00	0.00	0.00	60.86	20.74	2.00	0.00	0.00	0.00
61.02	19.02	2.00	0.00	0.00	0.00	61.19	20.03	2.00	0.00	0.00	0.00
61.35	24.57	2.00	0.00	0.00	0.00	61.52	22.62	2.00	0.00	0.00	0.00
61.68	21.02	2.00	0.00	0.00	0.00	61.84	21.71	2.00	0.00	0.00	0.00
62.01	120.85	2.00	0.00	0.00	0.00	62.17	145.40	2.00	0.00	0.00	0.00
62.34	139.87	2.00	0.00	0.00	0.00	62.50	135.26	2.00	0.00	0.00	0.00
62.66	133.86	2.00	0.00	0.00	0.00	62.83	126.13	2.00	0.00	0.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
62.99	131.55	2.00	0.00	0.00	0.00	63.16	136.42	2.00	0.00	0.00	0.00
63.32	129.80	2.00	0.00	0.00	0.00	63.48	129.34	2.00	0.00	0.00	0.00
63.65	122.15	2.00	0.00	0.00	0.00	63.81	123.45	2.00	0.00	0.00	0.00
63.98	128.70	2.00	0.00	0.00	0.00	64.14	145.92	2.00	0.00	0.00	0.00
64.30	146.90	2.00	0.00	0.00	0.00	64.47	135.76	2.00	0.00	0.00	0.00
64.63	122.66	2.00	0.00	0.00	0.00	64.80	127.94	2.00	0.00	0.00	0.00
64.96	123.95	2.00	0.00	0.00	0.00	65.12	119.45	2.00	0.00	0.00	0.00
65.29	115.13	2.00	0.00	0.00	0.00	65.45	118.10	2.00	0.00	0.00	0.00
65.62	122.98	2.00	0.00	0.00	0.00	65.78	126.03	2.00	0.00	0.00	0.00
65.94	124.25	2.00	0.00	0.00	0.00	66.11	125.44	2.00	0.00	0.00	0.00
66.27	112.58	2.00	0.00	0.00	0.00	66.44	49.16	2.00	0.00	0.00	0.00
66.60	112.13	2.00	0.00	0.00	0.00	66.77	144.74	2.00	0.00	0.00	0.00
66.93	141.39	2.00	0.00	0.00	0.00	67.09	106.18	2.00	0.00	0.00	0.00
67.26	23.40	2.00	0.00	0.00	0.00	67.42	16.37	2.00	0.00	0.00	0.00
67.59	12.63	2.00	0.00	0.00	0.00	67.75	11.24	2.00	0.00	0.00	0.00
67.91	11.55	2.00	0.00	0.00	0.00	68.08	12.55	2.00	0.00	0.00	0.00
68.24	12.78	2.00	0.00	0.00	0.00	68.41	13.17	2.00	0.00	0.00	0.00
68.57	13.37	2.00	0.00	0.00	0.00	68.73	13.14	2.00	0.00	0.00	0.00
68.90	13.21	2.00	0.00	0.00	0.00	69.06	13.37	2.00	0.00	0.00	0.00
69.23	12.47	2.00	0.00	0.00	0.00	69.39	12.53	2.00	0.00	0.00	0.00
69.55	15.21	2.00	0.00	0.00	0.00	69.72	13.42	2.00	0.00	0.00	0.00
69.88	12.19	2.00	0.00	0.00	0.00	70.05	12.03	2.00	0.00	0.00	0.00
70.21	13.29	2.00	0.00	0.00	0.00	70.37	16.46	2.00	0.00	0.00	0.00
70.54	17.56	2.00	0.00	0.00	0.00	70.70	18.69	2.00	0.00	0.00	0.00
70.87	14.48	2.00	0.00	0.00	0.00	71.03	13.90	2.00	0.00	0.00	0.00
71.19	76.17	2.00	0.00	0.00	0.00	71.36	149.87	2.00	0.00	0.00	0.00
71.52	144.70	2.00	0.00	0.00	0.00	71.69	250.96	2.00	0.00	0.00	0.00
71.85	254.00	2.00	0.00	0.00	0.00						

Total estimated settlement: 0.75

Abbreviations

$Q_{tn,cs}$:	Equivalent dean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumentric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

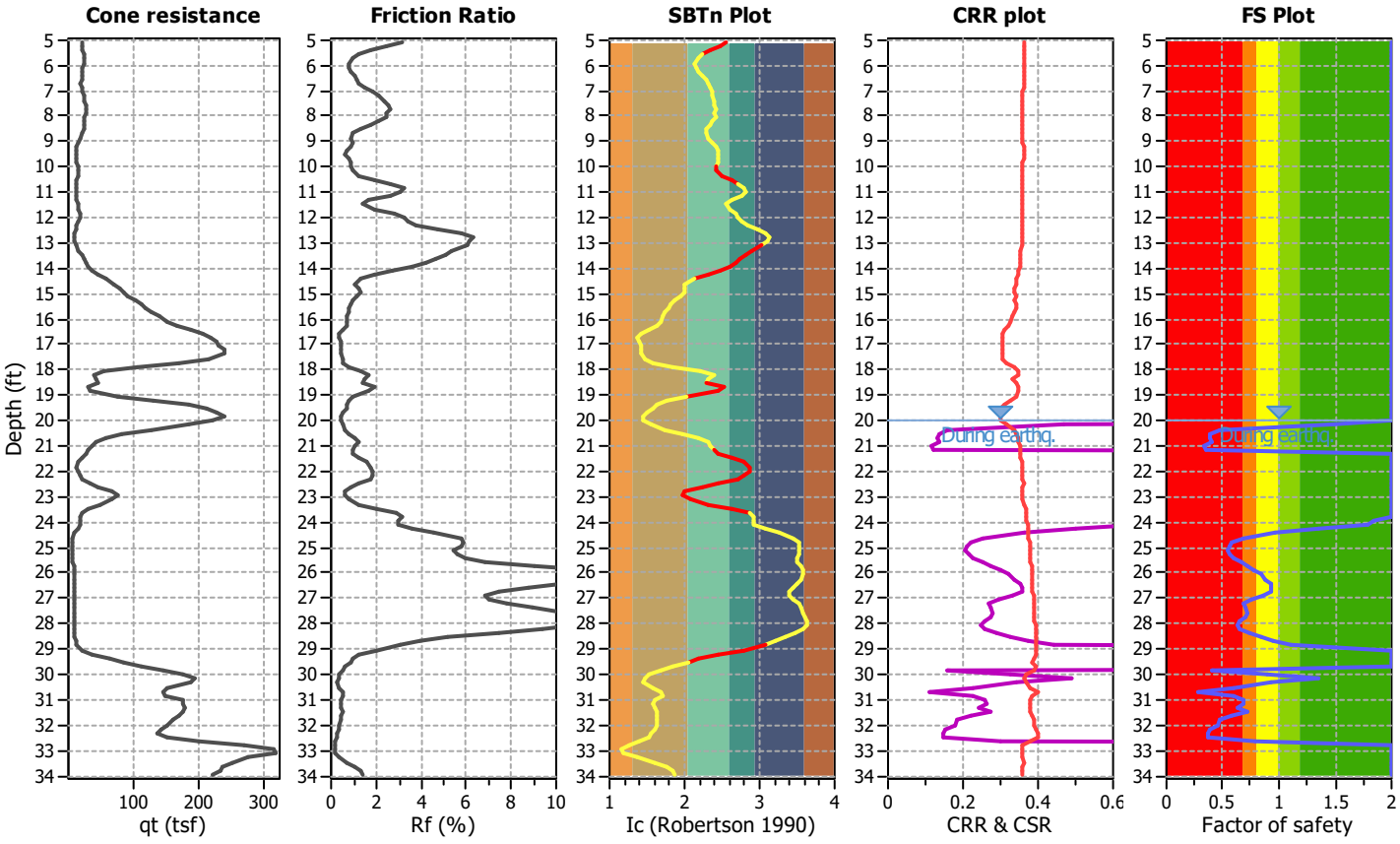
LIQUEFACTION ANALYSIS REPORT

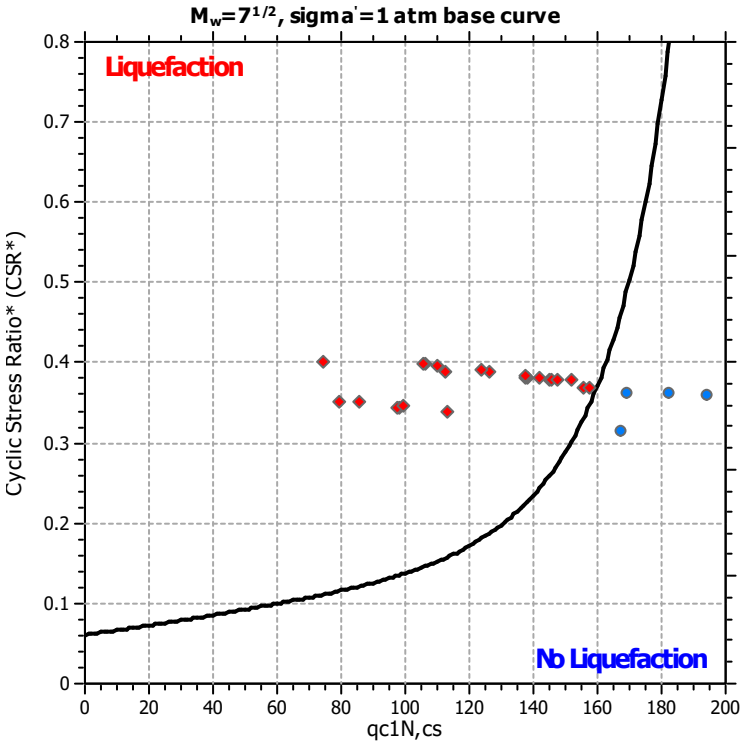
Project title : Marriot Townplace Suites **Location : San Jose, CA**

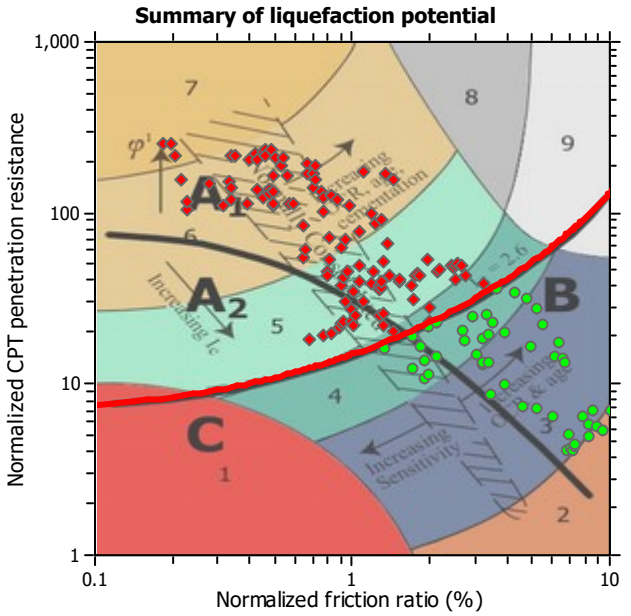
CPT file : CPT-2

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	20.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.10	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.58	Unit weight calculation:	Based on SBT	K_σ applied:	No		

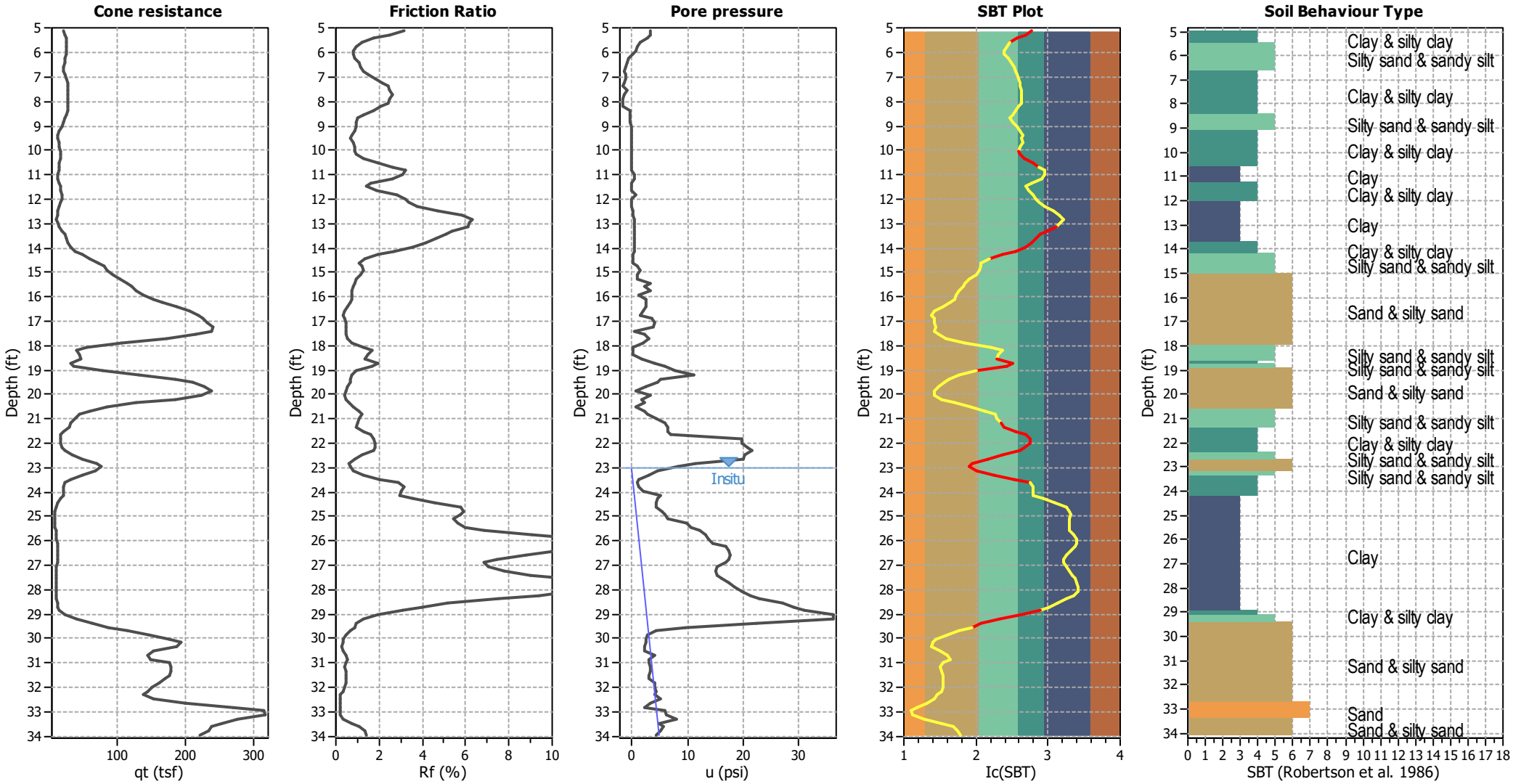






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

CPT basic interpretation plots



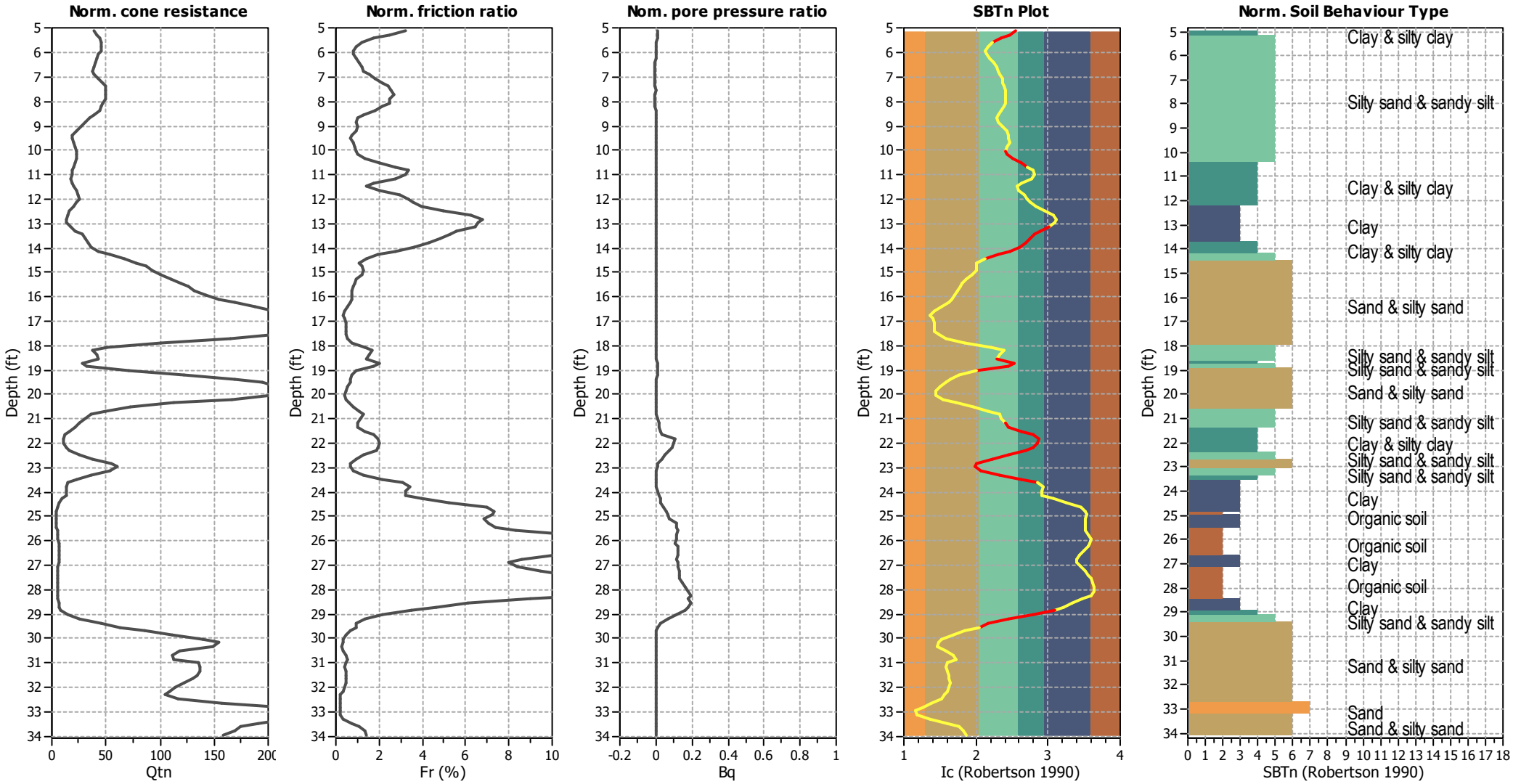
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

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

CPT basic interpretation plots (normalized)



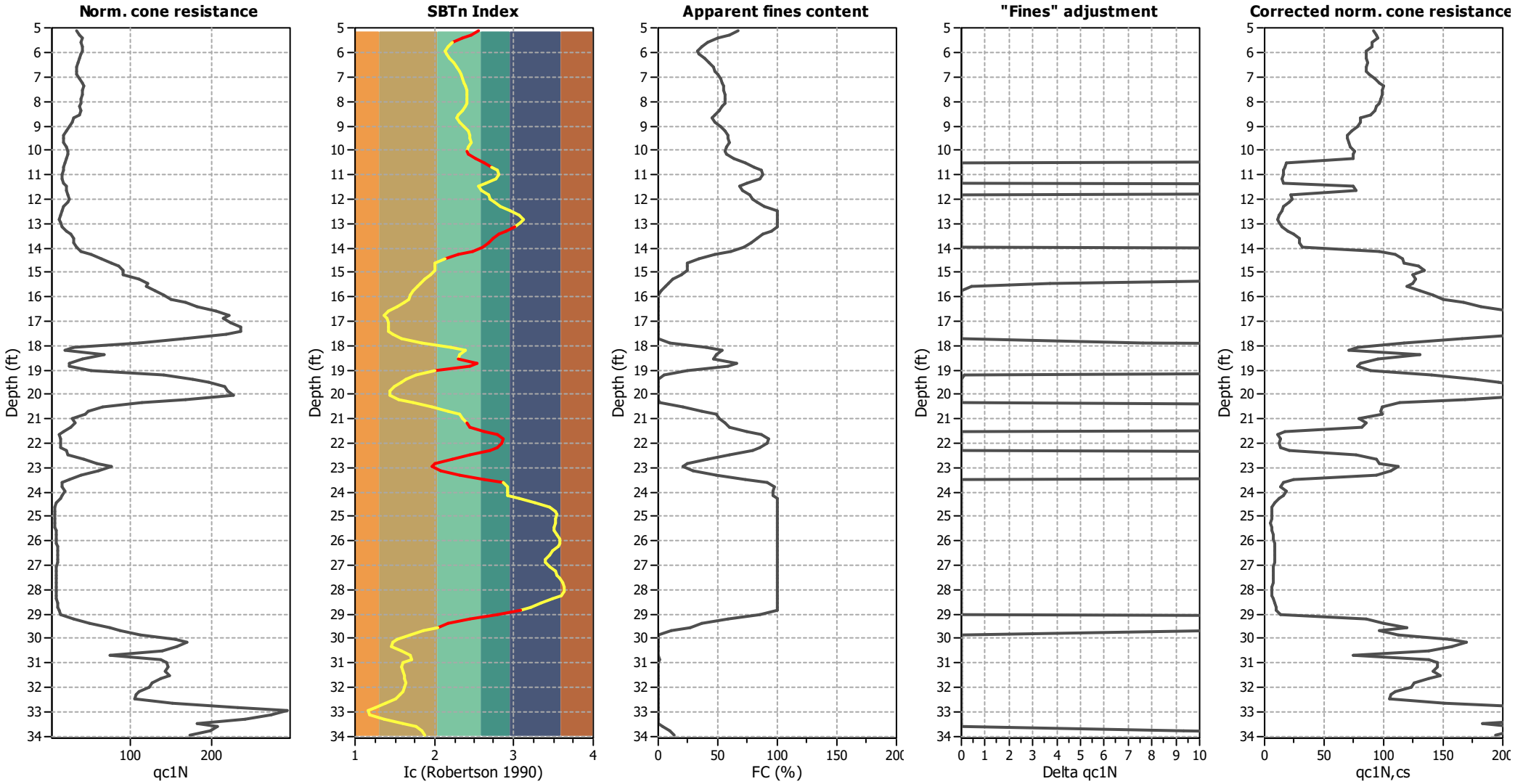
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

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

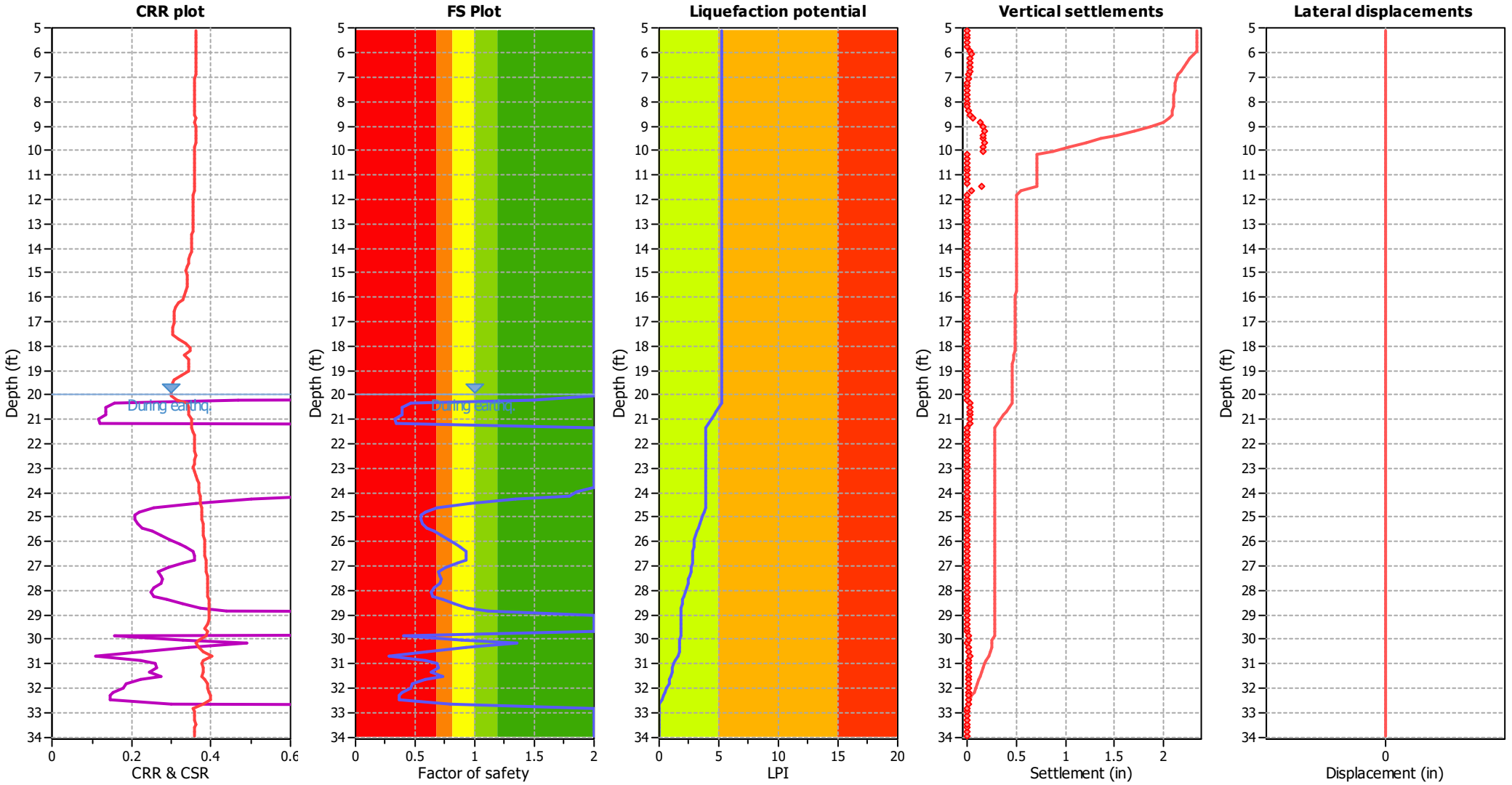
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

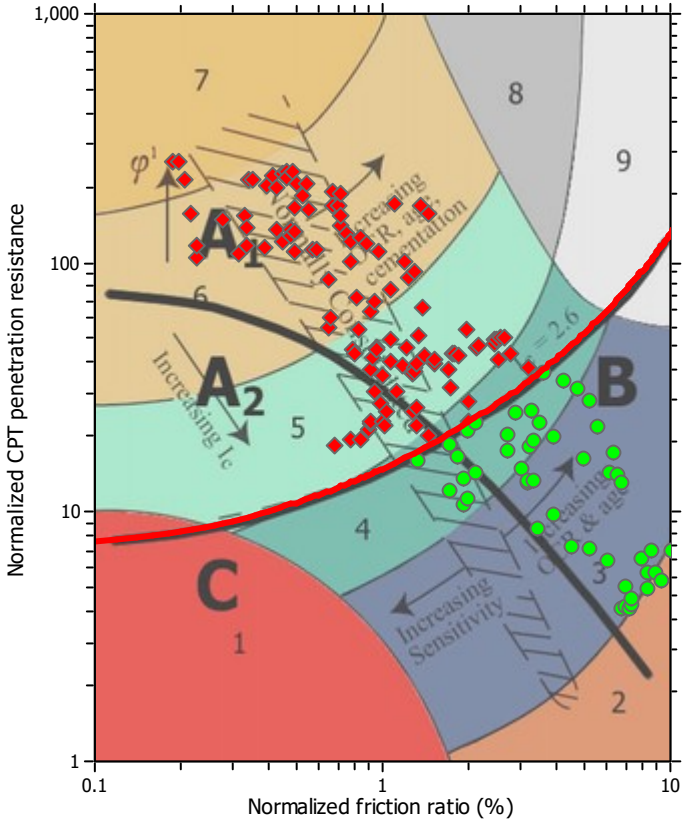
F.S. color scheme

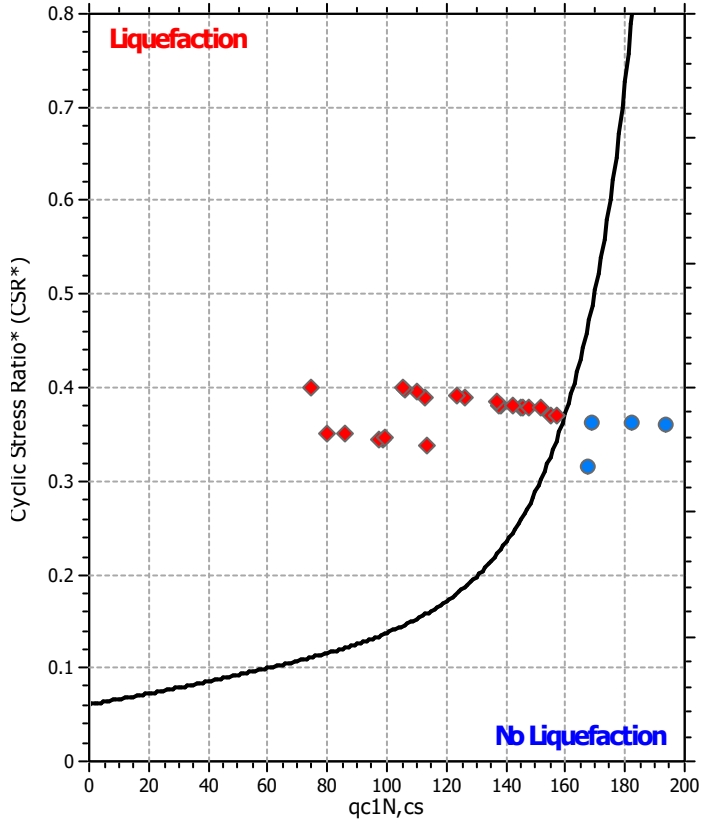
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

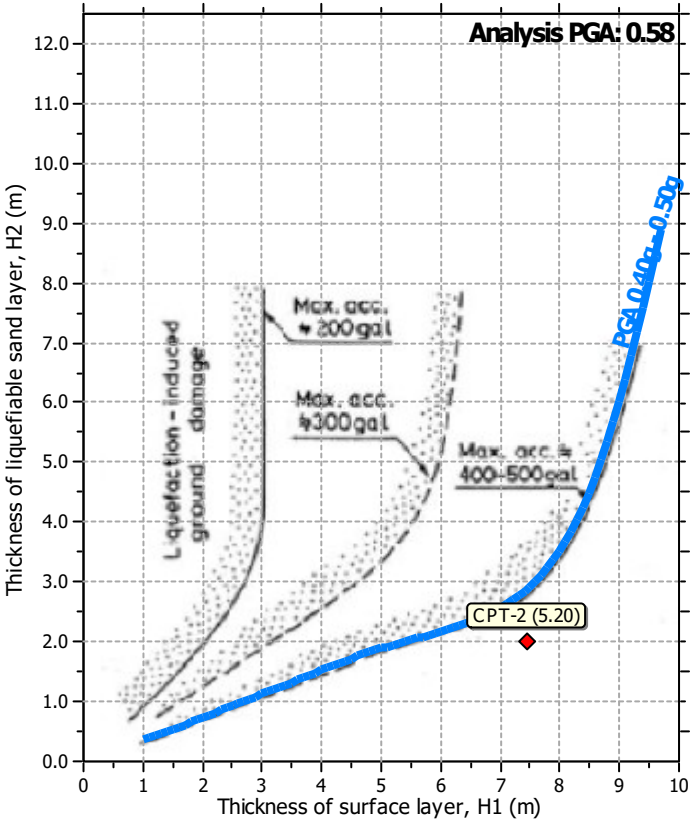
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



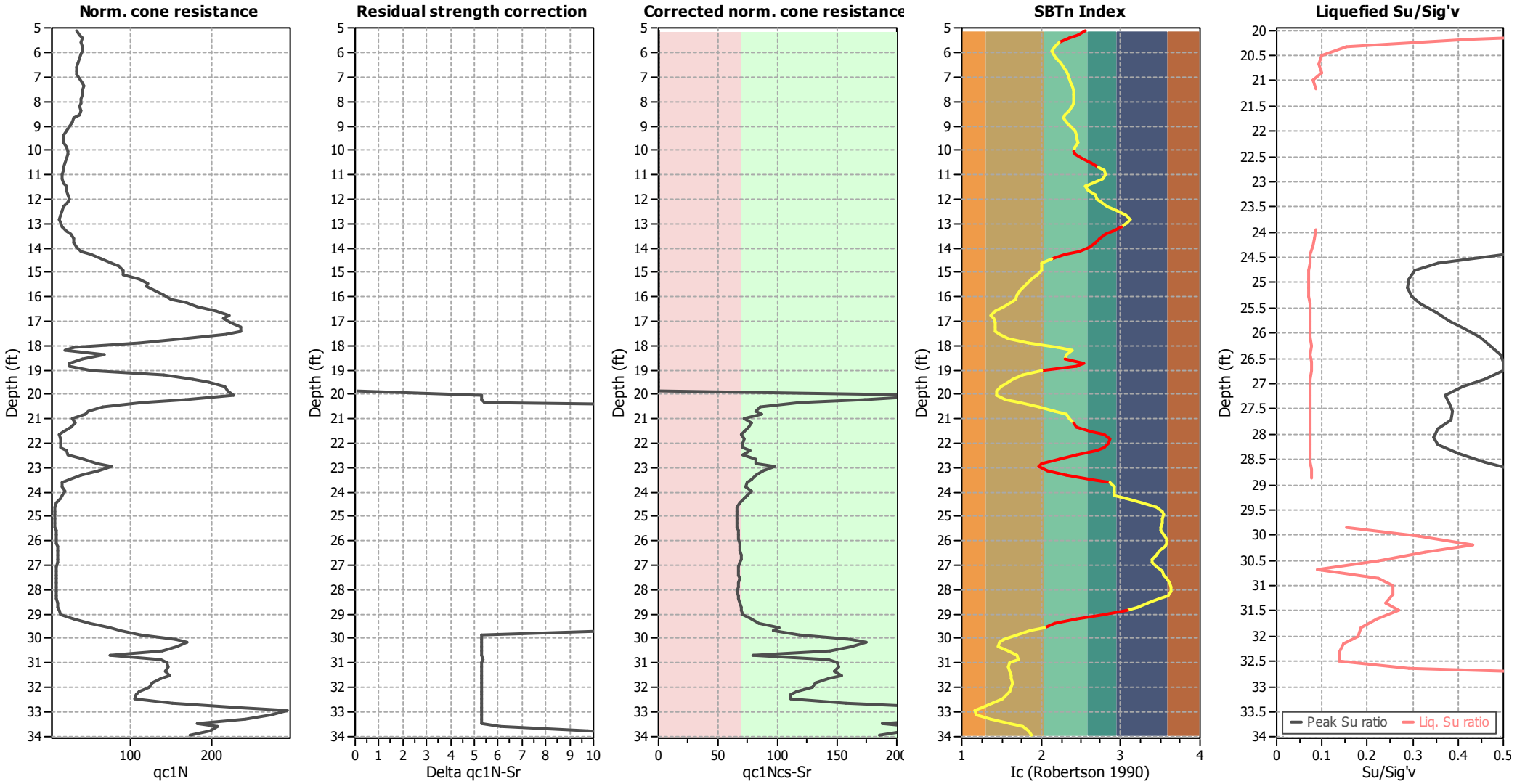




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

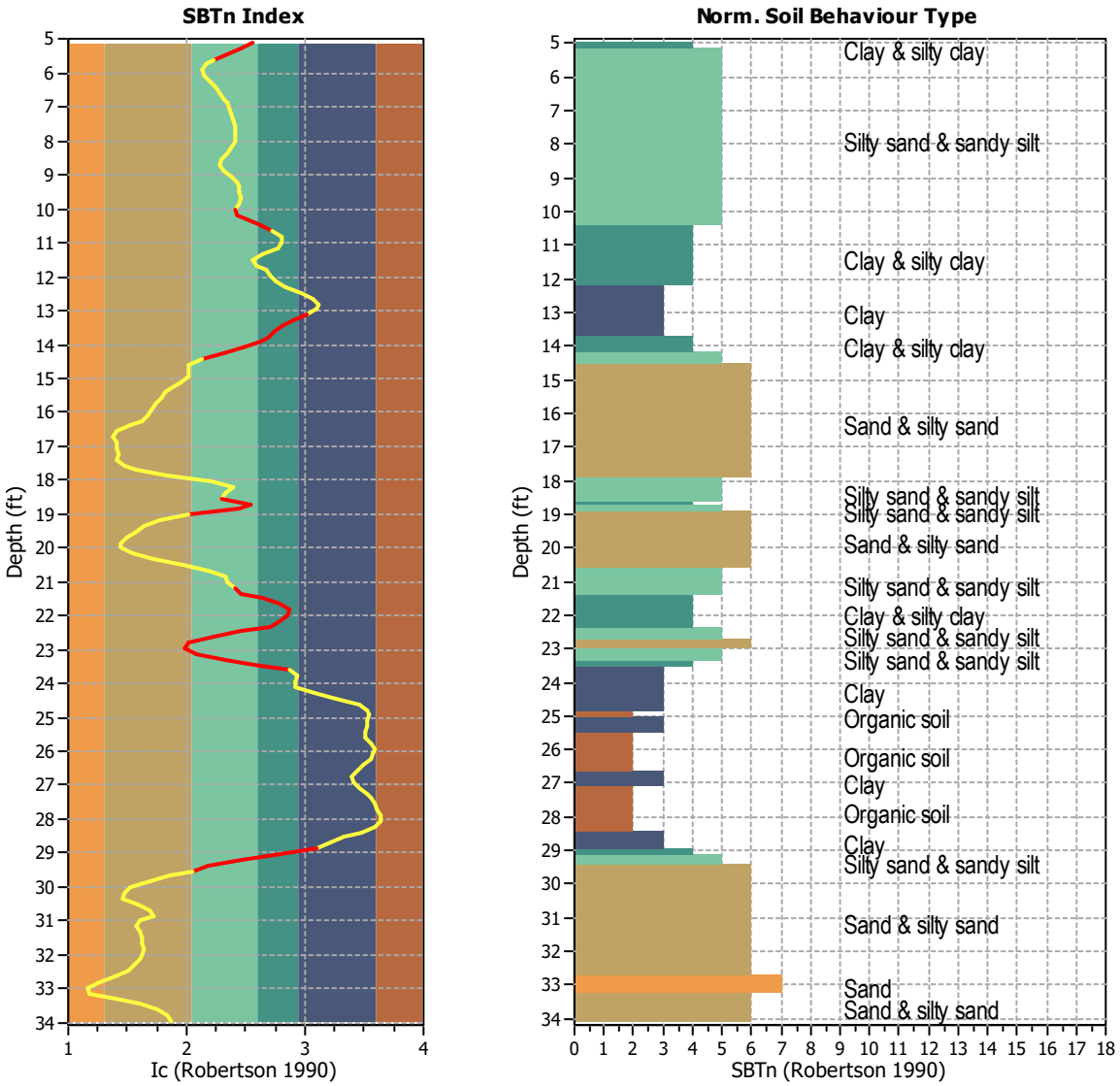
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

TRANSITION LAYER DETECTION ALGORITHM REPORT
Summary Details & Plots

Short description

The software will delete data when the cone is in transition from either clay to sand or vise-versa. To do this the software requires a range of I_c values over which the transition will be defined (typically somewhere between $1.80 < I_c < 3.0$) and a rate of change of I_c. Transitions typically occur when the rate of change of I_c is fast (i.e. delta I_c is small).

The SBT_n plot below, displays in red the detected transition layers based on the parameters listed below the graphs.



Transition layer algorithm properties		General statistics	
I_c minimum check value:	1.70	Total points in CPT file:	177
I_c maximum check value:	3.00	Total points excluded:	44
I_c change ratio value:	0.0250	Exclusion percentage:	24.86%
Minimum number of points in layer:	4	Number of layers detected:	8

Transition layer No	Number of points	Depth	SBT_n number	SBT_n description
Transition layer 1	5	Start depth: 5.09 (ft)	4	Clay & silty clay
		End depth: 5.74 (ft)	5	Silty sand & sandy silt
Transition layer 2	5	Start depth: 10.17 (ft)	5	Silty sand & sandy silt
		End depth: 10.83 (ft)	4	Clay & silty clay
Transition layer 3	9	Start depth: 13.29 (ft)	3	Clay
		End depth: 14.60 (ft)	6	Sand & silty sand
Transition layer 4	4	Start depth: 18.70 (ft)	4	Clay & silty clay
		End depth: 19.19 (ft)	6	Sand & silty sand
Transition layer 5	4	Start depth: 21.33 (ft)	5	Silty sand & sandy silt
		End depth: 21.82 (ft)	4	Clay & silty clay
Transition layer 6	6	Start depth: 21.98 (ft)	4	Clay & silty clay
		End depth: 22.80 (ft)	6	Sand & silty sand
Transition layer 7	6	Start depth: 22.97 (ft)	6	Sand & silty sand
		End depth: 23.79 (ft)	3	Clay
Transition layer 8	5	Start depth: 29.04 (ft)	4	Clay & silty clay
		End depth: 29.69 (ft)	6	Sand & silty sand

Start depth: Depth where the transition layer begins
End depth: Depth where the transition layer ends

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data ::

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
1	5.09	0.29	0.00	0.29	0.99	0.374	1.11	0.337	1.00	1.00	2.000	Yes
2	5.25	0.30	0.00	0.30	0.99	0.374	1.11	0.336	1.00	1.00	2.000	Yes
3	5.41	0.31	0.00	0.31	0.99	0.374	1.11	0.336	1.00	1.00	2.000	Yes
4	5.58	0.32	0.00	0.32	0.99	0.373	1.11	0.336	1.00	1.00	2.000	Yes
5	5.74	0.33	0.00	0.33	0.99	0.373	1.11	0.336	1.00	1.00	2.000	Yes
6	5.91	0.34	0.00	0.34	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
7	6.07	0.34	0.00	0.34	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
8	6.23	0.35	0.00	0.35	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
9	6.40	0.36	0.00	0.36	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
10	6.56	0.37	0.00	0.37	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
11	6.73	0.38	0.00	0.38	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
12	6.89	0.39	0.00	0.39	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
13	7.05	0.40	0.00	0.40	0.99	0.372	1.11	0.334	1.00	1.00	2.000	No
14	7.22	0.41	0.00	0.41	0.99	0.371	1.11	0.334	1.00	1.00	2.000	No
15	7.38	0.42	0.00	0.42	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
16	7.55	0.43	0.00	0.43	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
17	7.71	0.44	0.00	0.44	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
18	7.87	0.44	0.00	0.44	0.98	0.371	1.11	0.333	1.00	1.00	2.000	No
19	8.04	0.45	0.00	0.45	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
20	8.20	0.46	0.00	0.46	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
21	8.37	0.47	0.00	0.47	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
22	8.53	0.48	0.00	0.48	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
23	8.69	0.49	0.00	0.49	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
24	8.86	0.50	0.00	0.50	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
25	9.02	0.51	0.00	0.51	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
26	9.19	0.52	0.00	0.52	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
27	9.35	0.52	0.00	0.52	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
28	9.51	0.53	0.00	0.53	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
29	9.68	0.54	0.00	0.54	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
30	9.84	0.55	0.00	0.55	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
31	10.01	0.56	0.00	0.56	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
32	10.17	0.57	0.00	0.57	0.97	0.367	1.11	0.331	1.00	1.00	2.000	Yes
33	10.33	0.57	0.00	0.57	0.97	0.367	1.11	0.330	1.00	1.00	2.000	Yes
34	10.50	0.58	0.00	0.58	0.97	0.367	1.11	0.330	1.00	1.00	2.000	Yes
35	10.66	0.59	0.00	0.59	0.97	0.367	1.11	0.330	1.00	1.00	2.000	Yes
36	10.83	0.60	0.00	0.60	0.97	0.366	1.11	0.330	1.00	1.00	2.000	Yes
37	10.99	0.61	0.00	0.61	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
38	11.15	0.62	0.00	0.62	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
39	11.32	0.63	0.00	0.63	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
40	11.48	0.64	0.00	0.64	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
41	11.65	0.64	0.00	0.64	0.97	0.365	1.11	0.329	1.00	1.00	2.000	No
42	11.81	0.65	0.00	0.65	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
43	11.98	0.66	0.00	0.66	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
44	12.14	0.67	0.00	0.67	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
45	12.30	0.68	0.00	0.68	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
46	12.47	0.69	0.00	0.69	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
47	12.63	0.70	0.00	0.70	0.97	0.364	1.11	0.327	1.00	1.00	2.000	No
48	12.80	0.71	0.00	0.71	0.96	0.364	1.11	0.327	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
49	12.96	0.72	0.00	0.72	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
50	13.12	0.73	0.00	0.73	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
51	13.29	0.74	0.00	0.74	0.96	0.363	1.11	0.326	1.00	1.00	2.000	Yes
52	13.45	0.75	0.00	0.75	0.96	0.363	1.11	0.326	1.00	1.00	2.000	Yes
53	13.62	0.76	0.00	0.76	0.96	0.362	1.11	0.326	1.00	1.00	2.000	Yes
54	13.78	0.77	0.00	0.77	0.96	0.362	1.11	0.326	1.00	1.00	2.000	Yes
55	13.94	0.78	0.00	0.78	0.96	0.362	1.11	0.326	1.00	1.00	2.000	Yes
56	14.11	0.79	0.00	0.79	0.96	0.362	1.11	0.325	1.00	1.00	2.000	Yes
57	14.27	0.80	0.00	0.80	0.96	0.361	1.11	0.325	1.00	1.00	2.000	Yes
58	14.44	0.81	0.00	0.81	0.96	0.361	1.11	0.325	1.00	1.00	2.000	Yes
59	14.60	0.82	0.00	0.82	0.96	0.361	1.11	0.325	1.00	1.00	2.000	Yes
60	14.76	0.83	0.00	0.83	0.96	0.361	1.11	0.324	1.00	1.00	2.000	No
61	14.93	0.84	0.00	0.84	0.96	0.360	1.11	0.324	1.00	1.00	2.000	No
62	15.09	0.85	0.00	0.85	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
63	15.26	0.86	0.00	0.86	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
64	15.42	0.87	0.00	0.87	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
65	15.58	0.88	0.00	0.88	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
66	15.75	0.89	0.00	0.89	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
67	15.91	0.90	0.00	0.90	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
68	16.08	0.91	0.00	0.91	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
69	16.24	0.92	0.00	0.92	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
70	16.40	0.93	0.00	0.93	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
71	16.57	0.94	0.00	0.94	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
72	16.73	0.95	0.00	0.95	0.95	0.357	1.11	0.322	1.00	1.00	2.000	No
73	16.90	0.96	0.00	0.96	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
74	17.06	0.97	0.00	0.97	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
75	17.22	0.98	0.00	0.98	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
76	17.39	0.99	0.00	0.99	0.94	0.356	1.11	0.321	1.00	1.00	2.000	No
77	17.55	1.00	0.00	1.00	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
78	17.72	1.01	0.00	1.01	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
79	17.88	1.02	0.00	1.02	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
80	18.04	1.03	0.00	1.03	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
81	18.21	1.04	0.00	1.04	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
82	18.37	1.05	0.00	1.05	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
83	18.54	1.05	0.00	1.05	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
84	18.70	1.06	0.00	1.06	0.94	0.354	1.11	0.319	1.00	1.00	2.000	Yes
85	18.86	1.07	0.00	1.07	0.94	0.354	1.11	0.318	1.00	1.00	2.000	Yes
86	19.03	1.08	0.00	1.08	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
87	19.19	1.09	0.00	1.09	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
88	19.36	1.10	0.00	1.10	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
89	19.52	1.11	0.00	1.11	0.94	0.353	1.11	0.317	1.00	1.00	2.000	No
90	19.69	1.12	0.00	1.12	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
91	19.85	1.13	0.00	1.13	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
92	20.01	1.14	0.00	1.14	0.93	0.352	1.11	0.317	1.00	1.00	0.301	No
93	20.18	1.15	0.01	1.15	0.93	0.353	1.11	0.318	1.00	1.00	0.314	No
94	20.34	1.16	0.01	1.15	0.93	0.354	1.11	0.319	1.00	1.00	0.338	No
95	20.51	1.17	0.02	1.16	0.93	0.356	1.11	0.320	1.00	1.00	0.344	No
96	20.67	1.18	0.02	1.16	0.93	0.357	1.11	0.321	1.00	1.00	0.345	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
97	20.83	1.19	0.03	1.17	0.93	0.358	1.11	0.322	1.00	1.00	0.346	No
98	21.00	1.20	0.03	1.17	0.93	0.359	1.11	0.323	1.00	1.00	0.351	No
99	21.16	1.21	0.04	1.17	0.93	0.361	1.11	0.324	1.00	1.00	0.351	No
100	21.33	1.22	0.04	1.18	0.93	0.362	1.11	0.325	1.00	1.00	2.000	Yes
101	21.49	1.23	0.05	1.18	0.93	0.363	1.11	0.327	1.00	1.00	2.000	Yes
102	21.65	1.24	0.05	1.19	0.93	0.364	1.11	0.328	1.00	1.00	2.000	Yes
103	21.82	1.25	0.06	1.19	0.92	0.365	1.11	0.329	1.00	1.00	2.000	Yes
104	21.98	1.26	0.06	1.19	0.92	0.366	1.11	0.330	1.00	1.00	2.000	Yes
105	22.15	1.26	0.07	1.20	0.92	0.367	1.11	0.331	1.00	1.00	2.000	Yes
106	22.31	1.27	0.07	1.20	0.92	0.369	1.11	0.332	1.00	1.00	2.000	Yes
107	22.47	1.28	0.08	1.21	0.92	0.370	1.11	0.333	1.00	1.00	2.000	Yes
108	22.64	1.29	0.08	1.21	0.92	0.371	1.11	0.334	1.00	1.00	2.000	Yes
109	22.80	1.30	0.09	1.21	0.92	0.372	1.11	0.335	1.00	1.00	2.000	Yes
110	22.97	1.31	0.09	1.22	0.92	0.373	1.11	0.335	1.00	1.00	2.000	Yes
111	23.13	1.32	0.10	1.22	0.92	0.374	1.11	0.336	1.00	1.00	2.000	Yes
112	23.29	1.33	0.10	1.23	0.92	0.375	1.11	0.337	1.00	1.00	2.000	Yes
113	23.46	1.34	0.11	1.23	0.92	0.376	1.11	0.338	1.00	1.00	2.000	Yes
114	23.62	1.35	0.11	1.24	0.92	0.377	1.11	0.339	1.00	1.00	2.000	Yes
115	23.79	1.36	0.12	1.24	0.92	0.378	1.11	0.340	1.00	1.00	2.000	Yes
116	23.95	1.37	0.12	1.24	0.91	0.379	1.11	0.341	1.00	1.00	0.370	No
117	24.11	1.38	0.13	1.25	0.91	0.380	1.11	0.342	1.00	1.00	0.372	No
118	24.28	1.39	0.13	1.25	0.91	0.381	1.11	0.343	1.00	1.00	0.373	No
119	24.44	1.39	0.14	1.26	0.91	0.382	1.11	0.343	1.00	1.00	0.375	No
120	24.61	1.40	0.14	1.26	0.91	0.383	1.11	0.344	1.00	1.00	0.376	No
121	24.77	1.41	0.15	1.26	0.91	0.384	1.11	0.345	1.00	1.00	0.377	No
122	24.93	1.42	0.15	1.27	0.91	0.385	1.11	0.346	1.00	1.00	0.378	No
123	25.10	1.43	0.16	1.27	0.91	0.385	1.11	0.347	1.00	1.00	0.379	No
124	25.26	1.44	0.16	1.28	0.91	0.386	1.11	0.348	1.00	1.00	0.380	No
125	25.43	1.45	0.17	1.28	0.91	0.387	1.11	0.348	1.00	1.00	0.380	No
126	25.59	1.46	0.17	1.28	0.91	0.388	1.11	0.349	1.00	1.00	0.381	No
127	25.75	1.47	0.18	1.29	0.91	0.389	1.11	0.350	1.00	1.00	0.382	No
128	25.92	1.48	0.18	1.29	0.90	0.390	1.11	0.351	1.00	1.00	0.383	No
129	26.08	1.49	0.19	1.30	0.90	0.391	1.11	0.351	1.00	1.00	0.383	No
130	26.25	1.50	0.20	1.30	0.90	0.391	1.11	0.352	1.00	1.00	0.384	No
131	26.41	1.51	0.20	1.31	0.90	0.392	1.11	0.353	1.00	1.00	0.385	No
132	26.57	1.51	0.20	1.31	0.90	0.393	1.11	0.354	1.00	1.00	0.386	No
133	26.74	1.52	0.21	1.31	0.90	0.394	1.11	0.354	1.00	1.00	0.386	No
134	26.90	1.53	0.22	1.32	0.90	0.395	1.11	0.355	1.00	1.00	0.387	No
135	27.07	1.54	0.22	1.32	0.90	0.395	1.11	0.356	1.00	1.00	0.388	No
136	27.23	1.55	0.23	1.33	0.90	0.396	1.11	0.356	1.00	1.00	0.389	No
137	27.40	1.56	0.23	1.33	0.90	0.397	1.11	0.357	1.00	1.00	0.390	No
138	27.56	1.57	0.24	1.34	0.90	0.398	1.11	0.358	1.00	1.00	0.390	No
139	27.72	1.58	0.24	1.34	0.90	0.398	1.11	0.358	1.00	1.00	0.391	No
140	27.89	1.59	0.25	1.34	0.89	0.399	1.11	0.359	1.00	1.00	0.392	No
141	28.05	1.60	0.25	1.35	0.89	0.400	1.11	0.360	1.00	1.00	0.393	No
142	28.22	1.61	0.26	1.35	0.89	0.401	1.11	0.360	1.00	1.00	0.393	No
143	28.38	1.62	0.26	1.36	0.89	0.401	1.11	0.361	1.00	1.00	0.394	No
144	28.54	1.63	0.27	1.36	0.89	0.402	1.11	0.362	1.00	1.00	0.394	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
145	28.71	1.64	0.27	1.36	0.89	0.403	1.11	0.362	1.00	1.00	0.395	No
146	28.87	1.65	0.28	1.37	0.89	0.403	1.11	0.363	1.00	1.00	0.395	No
147	29.04	1.65	0.28	1.37	0.89	0.404	1.11	0.363	1.00	1.00	2.000	Yes
148	29.20	1.66	0.29	1.38	0.89	0.405	1.11	0.364	1.00	1.00	2.000	Yes
149	29.36	1.67	0.29	1.38	0.89	0.405	1.11	0.365	1.00	1.00	2.000	Yes
150	29.53	1.68	0.30	1.39	0.89	0.406	1.11	0.365	1.00	1.00	2.000	Yes
151	29.69	1.69	0.30	1.39	0.89	0.406	1.11	0.366	1.00	1.00	2.000	Yes
152	29.86	1.70	0.31	1.40	0.88	0.407	1.11	0.366	1.00	1.00	0.389	No
153	30.02	1.71	0.31	1.40	0.88	0.408	1.11	0.367	1.00	1.00	0.370	No
154	30.18	1.72	0.32	1.40	0.88	0.408	1.11	0.367	1.00	1.00	0.362	No
155	30.35	1.73	0.32	1.41	0.88	0.409	1.11	0.368	1.00	1.00	0.370	No
156	30.51	1.74	0.33	1.41	0.88	0.409	1.11	0.368	1.00	1.00	0.380	No
157	30.68	1.75	0.33	1.42	0.88	0.410	1.11	0.369	1.00	1.00	0.401	No
158	30.84	1.76	0.34	1.42	0.88	0.410	1.11	0.369	1.00	1.00	0.382	No
159	31.00	1.77	0.34	1.43	0.88	0.411	1.11	0.370	1.00	1.00	0.378	No
160	31.17	1.78	0.35	1.43	0.88	0.411	1.11	0.370	1.00	1.00	0.379	No
161	31.33	1.79	0.35	1.44	0.88	0.412	1.11	0.371	1.00	1.00	0.381	No
162	31.50	1.80	0.36	1.44	0.88	0.412	1.11	0.371	1.00	1.00	0.378	No
163	31.66	1.81	0.36	1.45	0.88	0.413	1.11	0.371	1.00	1.00	0.384	No
164	31.82	1.82	0.37	1.45	0.87	0.413	1.11	0.372	1.00	1.00	0.390	No
165	31.99	1.83	0.37	1.46	0.87	0.414	1.11	0.372	1.00	1.00	0.391	No
166	32.15	1.84	0.38	1.46	0.87	0.414	1.11	0.373	1.00	1.00	0.397	No
167	32.32	1.85	0.38	1.47	0.87	0.415	1.11	0.373	1.00	1.00	0.398	No
168	32.48	1.86	0.39	1.47	0.87	0.415	1.11	0.374	1.00	1.00	0.399	No
169	32.64	1.87	0.39	1.47	0.87	0.416	1.11	0.374	1.00	1.00	0.379	No
170	32.81	1.88	0.40	1.48	0.87	0.416	1.11	0.374	1.00	1.00	0.357	No
171	32.97	1.89	0.40	1.48	0.87	0.417	1.11	0.375	1.00	1.00	0.357	No
172	33.14	1.90	0.41	1.49	0.87	0.417	1.11	0.375	1.00	1.00	0.357	No
173	33.30	1.91	0.41	1.49	0.87	0.417	1.11	0.376	1.00	1.00	0.358	No
174	33.46	1.92	0.42	1.50	0.87	0.418	1.11	0.376	1.00	1.00	0.361	No
175	33.63	1.93	0.43	1.50	0.86	0.418	1.11	0.376	1.00	1.00	0.358	No
176	33.79	1.94	0.43	1.51	0.86	0.419	1.11	0.377	1.00	1.00	0.359	No
177	33.96	1.95	0.44	1.52	0.86	0.419	1.11	0.377	1.00	1.00	0.359	No

Abbreviations

Depth: Depth from free surface, at which CPT was performed (ft)
σ_v: Total overburden pressure at test point (tsf)
u_0: Water pressure at test point (tsf)
σ_v': Effective overburden pressure based on GWT during earthquake (tsf)
r_d: Nonlinear shear mass factor
CSR: Cyclic Stress Ratio
MSF: Magnitude Scaling Factor
CSR_{eq}: CSR adjusted for M=7.5
K_σ: Effective overburden stress factor
CSR^*: CSR fully adjusted

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
5.09	2.00	0.00	0.00	0.05	0.00	5.25	2.00	0.00	0.00	0.05	0.00
5.41	2.00	0.00	0.00	0.05	0.00	5.58	2.00	0.00	0.00	0.05	0.00
5.74	2.00	0.00	0.00	0.05	0.00	5.91	2.00	0.00	0.00	0.05	0.00
6.07	2.00	0.00	0.00	0.05	0.00	6.23	2.00	0.00	0.00	0.05	0.00
6.40	2.00	0.00	0.00	0.05	0.00	6.56	2.00	0.00	0.00	0.05	0.00
6.73	2.00	0.00	0.00	0.05	0.00	6.89	2.00	0.00	0.00	0.05	0.00
7.05	2.00	0.00	0.00	0.05	0.00	7.22	2.00	0.00	0.00	0.05	0.00
7.38	2.00	0.00	0.00	0.05	0.00	7.55	2.00	0.00	0.00	0.05	0.00
7.71	2.00	0.00	0.00	0.05	0.00	7.87	2.00	0.00	0.00	0.05	0.00
8.04	2.00	0.00	0.00	0.05	0.00	8.20	2.00	0.00	0.00	0.05	0.00
8.37	2.00	0.00	0.00	0.05	0.00	8.53	2.00	0.00	0.00	0.05	0.00
8.69	2.00	0.00	0.00	0.05	0.00	8.86	2.00	0.00	0.00	0.05	0.00
9.02	2.00	0.00	0.00	0.05	0.00	9.19	2.00	0.00	0.00	0.05	0.00
9.35	2.00	0.00	0.00	0.05	0.00	9.51	2.00	0.00	0.00	0.05	0.00
9.68	2.00	0.00	0.00	0.05	0.00	9.84	2.00	0.00	0.00	0.05	0.00
10.01	2.00	0.00	0.00	0.05	0.00	10.17	2.00	0.00	0.00	0.05	0.00
10.33	2.00	0.00	0.00	0.05	0.00	10.50	2.00	0.00	0.00	0.05	0.00
10.66	2.00	0.00	0.00	0.05	0.00	10.83	2.00	0.00	0.00	0.05	0.00
10.99	2.00	0.00	0.00	0.05	0.00	11.15	2.00	0.00	0.00	0.05	0.00
11.32	2.00	0.00	0.00	0.05	0.00	11.48	2.00	0.00	0.00	0.05	0.00
11.65	2.00	0.00	0.00	0.05	0.00	11.81	2.00	0.00	0.00	0.05	0.00
11.98	2.00	0.00	0.00	0.05	0.00	12.14	2.00	0.00	0.00	0.05	0.00
12.30	2.00	0.00	0.00	0.05	0.00	12.47	2.00	0.00	0.00	0.05	0.00
12.63	2.00	0.00	0.00	0.05	0.00	12.80	2.00	0.00	0.00	0.05	0.00
12.96	2.00	0.00	0.00	0.05	0.00	13.12	2.00	0.00	0.00	0.05	0.00
13.29	2.00	0.00	0.00	0.05	0.00	13.45	2.00	0.00	0.00	0.05	0.00
13.62	2.00	0.00	0.00	0.05	0.00	13.78	2.00	0.00	0.00	0.05	0.00
13.94	2.00	0.00	0.00	0.05	0.00	14.11	2.00	0.00	0.00	0.05	0.00
14.27	2.00	0.00	0.00	0.05	0.00	14.44	2.00	0.00	0.00	0.05	0.00
14.60	2.00	0.00	0.00	0.05	0.00	14.76	2.00	0.00	0.00	0.05	0.00
14.93	2.00	0.00	0.00	0.05	0.00	15.09	2.00	0.00	0.00	0.05	0.00
15.26	2.00	0.00	0.00	0.05	0.00	15.42	2.00	0.00	0.00	0.05	0.00
15.58	2.00	0.00	0.00	0.05	0.00	15.75	2.00	0.00	0.00	0.05	0.00
15.91	2.00	0.00	0.00	0.05	0.00	16.08	2.00	0.00	0.00	0.05	0.00
16.24	2.00	0.00	0.00	0.05	0.00	16.40	2.00	0.00	0.00	0.05	0.00
16.57	2.00	0.00	0.00	0.05	0.00	16.73	2.00	0.00	0.00	0.05	0.00
16.90	2.00	0.00	0.00	0.05	0.00	17.06	2.00	0.00	0.00	0.05	0.00
17.22	2.00	0.00	0.00	0.05	0.00	17.39	2.00	0.00	0.00	0.05	0.00
17.55	2.00	0.00	0.00	0.05	0.00	17.72	2.00	0.00	0.00	0.05	0.00
17.88	2.00	0.00	0.00	0.05	0.00	18.04	2.00	0.00	0.00	0.05	0.00
18.21	2.00	0.00	0.00	0.05	0.00	18.37	2.00	0.00	0.00	0.05	0.00
18.54	2.00	0.00	0.00	0.05	0.00	18.70	2.00	0.00	0.00	0.05	0.00
18.86	2.00	0.00	0.00	0.05	0.00	19.03	2.00	0.00	0.00	0.05	0.00
19.19	2.00	0.00	0.00	0.05	0.00	19.36	2.00	0.00	0.00	0.05	0.00
19.52	2.00	0.00	0.00	0.05	0.00	19.69	2.00	0.00	0.00	0.05	0.00
19.85	2.00	0.00	0.00	0.05	0.00	20.01	2.00	0.00	0.00	0.05	0.00
20.18	1.49	0.00	0.00	0.05	0.00	20.34	0.47	0.00	0.00	0.05	0.18
20.51	0.39	0.00	0.00	0.05	0.22	20.67	0.39	0.00	0.00	0.05	0.20

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
20.83	0.40	0.00	0.00	0.05	0.20	21.00	0.33	0.00	0.00	0.05	0.24
21.16	0.35	0.00	0.00	0.05	0.22	21.33	2.00	0.00	0.00	0.05	0.00
21.49	2.00	0.00	0.00	0.05	0.00	21.65	2.00	0.00	0.00	0.05	0.00
21.82	2.00	0.00	0.00	0.05	0.00	21.98	2.00	0.00	0.00	0.05	0.00
22.15	2.00	0.00	0.00	0.05	0.00	22.31	2.00	0.00	0.00	0.05	0.00
22.47	2.00	0.00	0.00	0.05	0.00	22.64	2.00	0.00	0.00	0.05	0.00
22.80	2.00	0.00	0.00	0.05	0.00	22.97	2.00	0.00	0.00	0.05	0.00
23.13	2.00	0.00	0.00	0.05	0.00	23.29	2.00	0.00	0.00	0.05	0.00
23.46	2.00	0.00	0.00	0.05	0.00	23.62	2.00	0.00	0.00	0.05	0.00
23.79	2.00	0.00	0.00	0.05	0.00	23.95	1.85	0.00	0.00	0.05	0.00
24.11	1.79	0.00	0.00	0.05	0.00	24.28	1.34	0.00	0.00	0.05	0.00
24.44	0.97	0.00	0.00	0.05	0.01	24.61	0.68	0.00	0.00	0.05	0.10
24.77	0.58	0.00	0.00	0.05	0.13	24.93	0.55	0.00	0.00	0.05	0.13
25.10	0.55	0.00	0.00	0.05	0.14	25.26	0.56	0.00	0.00	0.05	0.13
25.43	0.60	0.00	0.00	0.05	0.13	25.59	0.66	0.00	0.00	0.05	0.10
25.75	0.72	0.00	0.00	0.05	0.08	25.92	0.78	0.00	0.00	0.05	0.07
26.08	0.84	0.00	0.00	0.05	0.05	26.25	0.88	0.00	0.00	0.05	0.04
26.41	0.92	0.00	0.00	0.05	0.02	26.57	0.93	0.00	0.00	0.05	0.02
26.74	0.93	0.00	0.00	0.05	0.02	26.90	0.85	0.00	0.00	0.05	0.04
27.07	0.76	0.00	0.00	0.05	0.07	27.23	0.69	0.00	0.00	0.05	0.09
27.40	0.70	0.00	0.00	0.05	0.09	27.56	0.72	0.00	0.00	0.05	0.08
27.72	0.71	0.00	0.00	0.05	0.08	27.89	0.65	0.00	0.00	0.05	0.10
28.05	0.63	0.00	0.00	0.05	0.10	28.22	0.65	0.00	0.00	0.05	0.10
28.38	0.73	0.00	0.00	0.05	0.07	28.54	0.83	0.00	0.00	0.05	0.05
28.71	0.94	0.00	0.00	0.05	0.02	28.87	1.11	0.00	0.00	0.05	0.00
29.04	2.00	0.00	0.00	0.05	0.00	29.20	2.00	0.00	0.00	0.05	0.00
29.36	2.00	0.00	0.00	0.05	0.00	29.53	2.00	0.00	0.00	0.05	0.00
29.69	2.00	0.00	0.00	0.05	0.00	29.86	0.40	0.60	0.39	0.17	0.17
30.02	0.89	0.00	0.00	0.05	0.03	30.18	1.35	0.00	0.00	0.05	0.00
30.35	0.93	0.00	0.00	0.05	0.02	30.51	0.60	0.00	0.00	0.05	0.10
30.68	0.28	0.72	0.31	0.17	0.20	30.84	0.59	0.00	0.00	0.05	0.11
31.00	0.69	0.00	0.00	0.05	0.08	31.17	0.69	0.00	0.00	0.05	0.08
31.33	0.64	0.00	0.00	0.05	0.09	31.50	0.73	0.00	0.00	0.05	0.07
31.66	0.58	0.00	0.00	0.05	0.11	31.82	0.48	0.00	0.00	0.05	0.13
31.99	0.46	0.00	0.00	0.05	0.14	32.15	0.38	0.62	0.37	0.16	0.15
32.32	0.37	0.63	0.36	0.17	0.17	32.48	0.36	0.64	0.36	0.16	0.16
32.64	0.79	0.00	0.00	0.05	0.05	32.81	2.00	0.00	0.00	0.05	0.00
32.97	2.00	0.00	0.00	0.05	0.00	33.14	2.00	0.00	0.00	0.05	0.00
33.30	2.00	0.00	0.00	0.05	0.00	33.46	2.00	0.00	0.00	0.05	0.00
33.63	2.00	0.00	0.00	0.05	0.00	33.79	2.00	0.00	0.00	0.05	0.00
33.96	2.00	0.00	0.00	0.05	0.00						

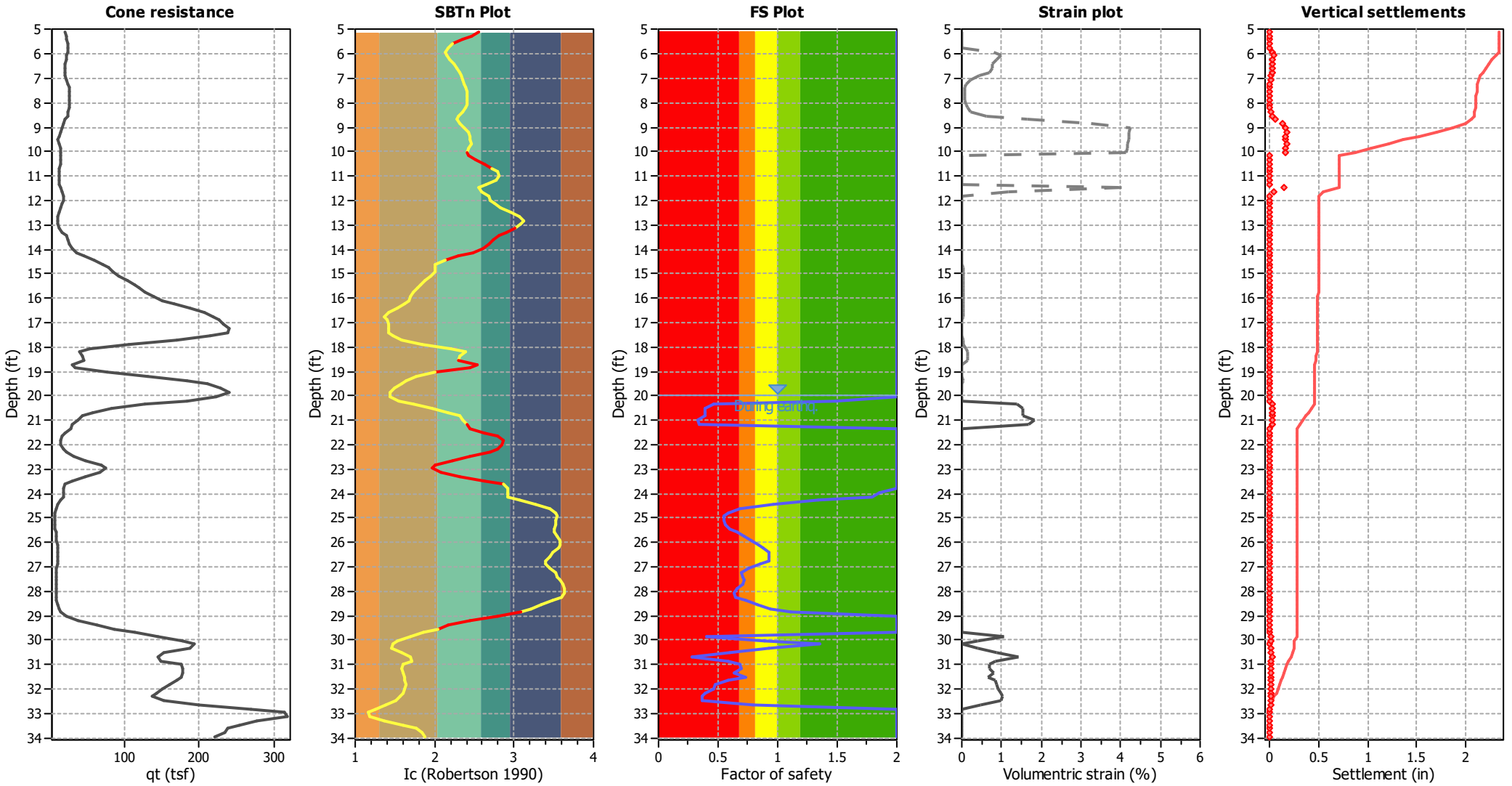
Overall liquefaction potential: 5.20

LPI_{ISH} > 5.0 - Liquefaction manifestation is expected

Abbreviations

FS: Calculated factor of safety for test point
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

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

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
5.09	2.56	38.36	3.08	118.09	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.25	2.46	41.10	2.59	106.56	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.41	2.34	43.63	2.10	91.68	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.58	2.23	45.53	1.75	79.76	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.74	2.17	45.64	1.60	73.02	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.91	2.13	45.30	1.51	68.61	15	321	0.36	0.719	1.01	11.65	0.81	0.033
6.07	2.15	43.62	1.54	67.35	15	314	0.36	0.865	1.24	11.65	0.99	0.038
6.23	2.19	41.88	1.65	69.20	16	321	0.36	0.824	1.11	11.65	0.89	0.034
6.40	2.25	39.98	1.79	71.65	16	328	0.36	0.781	0.99	11.65	0.78	0.032
6.56	2.28	38.49	1.90	73.15	17	331	0.36	0.795	0.96	11.65	0.76	0.029
6.73	2.31	37.83	1.99	75.16	18	336	0.36	0.772	0.89	11.65	0.70	0.029
6.89	2.34	39.54	2.08	82.17	20	364	0.36	0.534	0.55	11.65	0.43	0.016
7.05	2.36	42.87	2.16	92.81	22	406	0.36	0.323	0.28	11.65	0.22	0.008
7.22	2.38	46.90	2.22	104.31	25	454	0.36	0.209	0.16	11.65	0.12	0.005
7.38	2.40	49.24	2.29	112.98	28	487	0.36	0.164	0.11	11.65	0.09	0.003
7.55	2.40	50.29	2.33	117.00	29	502	0.36	0.152	0.10	11.65	0.08	0.003
7.71	2.42	49.87	2.38	118.87	29	507	0.36	0.154	0.10	11.65	0.08	0.003
7.87	2.41	49.00	2.34	114.53	28	496	0.36	0.175	0.12	11.65	0.09	0.003
8.04	2.41	47.33	2.36	111.91	28	490	0.36	0.193	0.13	11.65	0.10	0.004
8.20	2.38	45.84	2.24	102.55	25	468	0.36	0.245	0.19	11.65	0.14	0.006
8.37	2.35	43.69	2.12	92.44	22	439	0.36	0.342	0.30	11.65	0.23	0.009
8.53	2.30	39.53	1.95	77.15	18	385	0.36	0.705	0.79	11.65	0.60	0.023
8.69	2.28	35.05	1.88	66.07	15	339	0.36	1.573	2.15	11.65	1.64	0.063
8.86	2.31	30.71	1.99	61.26	15	311	0.36	2.911	4.28	11.65	3.25	0.132
9.02	2.37	27.08	2.20	59.63	14	294	0.36	4.574	6.74	11.65	4.24	0.163
9.19	2.42	22.72	2.40	54.42	14	262	0.36	11.783	18.87	11.65	4.22	0.172
9.35	2.45	19.43	2.51	48.81	12	233	0.36	34.392	61.84	11.65	4.21	0.162
9.51	2.45	18.39	2.51	46.11	12	223	0.36	55.222	106.39	11.65	4.19	0.161
9.68	2.46	19.54	2.57	50.30	13	243	0.36	26.302	45.27	11.65	4.18	0.171
9.84	2.44	21.57	2.46	53.14	13	265	0.36	13.402	21.89	11.65	4.17	0.160
10.01	2.42	22.97	2.38	54.75	14	280	0.36	9.024	14.37	11.65	4.15	0.169
10.17	2.43	23.05	2.46	56.62	0	0	0.36	0.000	0.00	0.00	0.00	0.000
10.33	2.51	22.30	2.82	62.78	0	0	0.36	0.000	0.00	0.00	0.00	0.000
10.50	2.63	21.24	3.50	74.43	0	0	0.36	0.000	0.00	0.00	0.00	0.000
10.66	2.72	20.47	4.15	84.89	0	0	0.36	0.000	0.00	0.00	0.00	0.000
10.83	2.80	19.22	4.79	91.98	0	0	0.36	0.000	0.00	0.00	0.00	0.000
10.99	2.81	18.18	4.85	88.17	0	0	0.36	0.000	0.00	0.00	0.00	0.000
11.15	2.77	17.63	4.57	80.59	0	0	0.36	0.000	0.00	0.00	0.00	0.000
11.32	2.64	18.61	3.57	66.42	0	0	0.36	0.000	0.00	0.00	0.00	0.000
11.48	2.56	20.32	3.11	63.26	17	322	0.36	5.016	6.18	11.65	4.03	0.155
11.65	2.60	23.00	3.31	76.13	21	382	0.36	1.671	1.62	11.65	1.16	0.047
11.81	2.68	24.79	3.82	94.77	0	0	0.36	0.000	0.00	0.00	0.00	0.000
11.98	2.71	25.18	4.03	101.56	0	0	0.36	0.000	0.00	0.00	0.00	0.000
12.14	2.75	22.87	4.40	100.61	0	0	0.36	0.000	0.00	0.00	0.00	0.000
12.30	2.83	19.80	5.06	100.14	0	0	0.36	0.000	0.00	0.00	0.00	0.000
12.47	2.96	16.40	6.32	103.67	0	0	0.36	0.000	0.00	0.00	0.00	0.000
12.63	3.07	14.32	7.53	107.78	0	0	0.36	0.000	0.00	0.00	0.00	0.000
12.80	3.12	13.14	8.19	107.62	0	0	0.36	0.000	0.00	0.00	0.00	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
12.96	3.09	13.99	7.83	109.50	0	0	0.36	0.000	0.00	0.00	0.00	0.000
13.12	3.02	17.16	6.95	119.30	0	0	0.36	0.000	0.00	0.00	0.00	0.000
13.29	2.90	21.93	5.68	124.61	0	0	0.35	0.000	0.00	0.00	0.00	0.000
13.45	2.81	27.56	4.86	134.05	0	0	0.35	0.000	0.00	0.00	0.00	0.000
13.62	2.74	31.04	4.33	134.37	0	0	0.35	0.000	0.00	0.00	0.00	0.000
13.78	2.69	33.52	3.90	130.60	0	0	0.35	0.000	0.00	0.00	0.00	0.000
13.94	2.62	35.94	3.43	123.10	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.11	2.47	43.36	2.64	114.59	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.27	2.30	53.98	1.96	105.80	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.44	2.13	66.69	1.52	101.43	0	0	0.34	0.000	0.00	0.00	0.00	0.000
14.60	2.01	77.95	1.31	102.38	0	0	0.34	0.000	0.00	0.00	0.00	0.000
14.76	2.01	87.24	1.32	114.83	24	902	0.34	0.080	0.06	11.65	0.04	0.002
14.93	2.01	92.24	1.31	121.27	25	960	0.34	0.070	0.05	11.65	0.03	0.001
15.09	1.96	100.43	1.25	125.22	26	988	0.34	0.066	0.05	11.65	0.03	0.001
15.26	1.87	110.18	1.16	127.92	25	985	0.34	0.068	0.05	11.65	0.03	0.001
15.42	1.81	119.40	1.12	133.45	26	1007	0.34	0.065	0.05	11.65	0.03	0.001
15.58	1.78	125.58	1.09	137.49	26	1027	0.34	0.064	0.05	11.65	0.03	0.001
15.75	1.74	132.09	1.06	140.53	27	1030	0.34	0.064	0.05	11.65	0.03	0.001
15.91	1.70	142.24	1.04	147.40	27	1063	0.33	0.061	0.04	11.65	0.03	0.001
16.08	1.67	154.87	1.02	157.70	29	1128	0.33	0.054	0.03	11.65	0.02	0.001
16.24	1.63	168.66	1.00	168.66	31	1168	0.32	0.051	0.03	11.65	0.02	0.001
16.40	1.52	187.42	1.00	187.42	33	1154	0.31	0.053	0.03	11.65	0.02	0.001
16.57	1.42	205.43	1.00	205.43	35	1115	0.31	0.058	0.03	11.65	0.02	0.001
16.73	1.37	216.12	1.00	216.12	36	1112	0.31	0.060	0.03	11.65	0.02	0.001
16.90	1.40	222.39	1.00	222.39	38	1198	0.31	0.052	0.02	11.65	0.02	0.001
17.06	1.41	226.98	1.00	226.98	39	1246	0.31	0.049	0.02	11.65	0.01	0.001
17.22	1.43	233.99	1.00	233.99	40	1307	0.31	0.045	0.02	11.65	0.01	0.000
17.39	1.42	231.57	1.00	231.57	39	1284	0.31	0.047	0.02	11.65	0.01	0.001
17.55	1.48	207.73	1.00	207.73	36	1246	0.30	0.051	0.03	11.65	0.02	0.001
17.72	1.58	164.84	1.00	164.84	30	1133	0.32	0.062	0.04	11.65	0.02	0.001
17.88	1.84	101.08	1.13	114.61	22	961	0.34	0.094	0.08	11.65	0.05	0.002
18.04	2.21	51.55	1.70	87.43	20	790	0.35	0.170	0.17	11.65	0.11	0.004
18.21	2.39	37.62	2.25	84.78	21	722	0.35	0.236	0.23	11.65	0.14	0.006
18.37	2.33	41.12	2.03	83.57	20	737	0.33	0.223	0.22	11.65	0.14	0.005
18.54	2.29	42.53	1.92	81.80	19	736	0.34	0.228	0.24	11.65	0.15	0.006
18.70	2.53	27.75	2.95	81.75	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.86	2.45	31.57	2.53	79.72	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.03	2.01	70.53	1.32	93.08	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.19	1.77	121.50	1.09	132.08	0	0	0.33	0.000	0.00	0.00	0.00	0.000
19.36	1.64	169.34	1.00	169.34	31	1308	0.31	0.053	0.03	11.65	0.02	0.001
19.52	1.58	194.05	1.00	194.05	35	1399	0.30	0.047	0.02	11.65	0.01	0.001
19.69	1.49	208.36	1.00	208.36	36	1355	0.30	0.050	0.02	11.65	0.01	0.001
19.85	1.44	218.27	1.00	218.27	37	1321	0.30	0.053	0.03	11.65	0.01	0.001

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)

Total estimated settlement: 1.88

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
20.01	227.02	2.00	0.00	0.66	0.00	20.18	167.76	1.49	0.00	0.66	0.00
20.34	113.18	0.47	1.38	0.66	0.03	20.51	98.40	0.39	1.54	0.65	0.03
20.67	97.21	0.39	1.55	0.65	0.03	20.83	99.35	0.40	1.52	0.65	0.03
21.00	79.63	0.33	1.81	0.64	0.04	21.16	85.81	0.35	1.70	0.64	0.03
21.33	81.18	2.00	0.00	0.64	0.00	21.49	16.82	2.00	0.00	0.64	0.00
21.65	11.23	2.00	0.00	0.63	0.00	21.82	13.54	2.00	0.00	0.63	0.00
21.98	11.96	2.00	0.00	0.63	0.00	22.15	13.38	2.00	0.00	0.62	0.00
22.31	20.42	2.00	0.00	0.62	0.00	22.47	76.29	2.00	0.00	0.62	0.00
22.64	94.38	2.00	0.00	0.62	0.00	22.80	96.06	2.00	0.00	0.61	0.00
22.97	112.67	2.00	0.00	0.61	0.00	23.13	105.50	2.00	0.00	0.61	0.00
23.29	93.35	2.00	0.00	0.61	0.00	23.46	23.83	2.00	0.00	0.60	0.00
23.62	15.33	2.00	0.00	0.60	0.00	23.79	13.57	2.00	0.00	0.60	0.00
23.95	18.71	1.85	0.00	0.59	0.00	24.11	15.25	1.79	0.00	0.59	0.00
24.28	12.50	1.34	0.00	0.59	0.00	24.44	7.94	0.97	0.00	0.59	0.00
24.61	6.22	0.68	0.00	0.58	0.00	24.77	5.55	0.58	0.00	0.58	0.00
24.93	5.59	0.55	0.00	0.58	0.00	25.10	5.62	0.55	0.00	0.57	0.00
25.26	5.43	0.56	0.00	0.57	0.00	25.43	5.97	0.60	0.00	0.57	0.00
25.59	6.48	0.66	0.00	0.57	0.00	25.75	7.06	0.72	0.00	0.56	0.00
25.92	7.41	0.78	0.00	0.56	0.00	26.08	8.01	0.84	0.00	0.56	0.00
26.25	8.74	0.88	0.00	0.56	0.00	26.41	8.40	0.92	0.00	0.55	0.00
26.57	9.12	0.93	0.00	0.55	0.00	26.74	9.07	0.93	0.00	0.55	0.00
26.90	8.47	0.85	0.00	0.54	0.00	27.07	7.27	0.76	0.00	0.54	0.00
27.23	6.74	0.69	0.00	0.54	0.00	27.40	6.82	0.70	0.00	0.54	0.00
27.56	7.68	0.72	0.00	0.53	0.00	27.72	7.08	0.71	0.00	0.53	0.00
27.89	6.60	0.65	0.00	0.53	0.00	28.05	6.35	0.63	0.00	0.52	0.00
28.22	6.62	0.65	0.00	0.52	0.00	28.38	7.05	0.73	0.00	0.52	0.00
28.54	8.52	0.83	0.00	0.52	0.00	28.71	9.22	0.94	0.00	0.51	0.00
28.87	9.97	1.11	0.00	0.51	0.00	29.04	12.94	2.00	0.00	0.51	0.00
29.20	85.64	2.00	0.00	0.51	0.00	29.36	99.55	2.00	0.00	0.50	0.00
29.53	119.55	2.00	0.00	0.50	0.00	29.69	96.50	2.00	0.00	0.50	0.00
29.86	112.76	0.40	1.05	0.49	0.02	30.02	155.32	0.89	0.40	0.49	0.01
30.18	169.11	1.35	0.00	0.49	0.00	30.35	157.19	0.93	0.39	0.49	0.01
30.51	138.32	0.60	0.86	0.48	0.02	30.68	74.34	0.28	1.43	0.48	0.03
30.84	137.62	0.59	0.86	0.48	0.02	31.00	145.08	0.69	0.69	0.47	0.01
31.17	145.51	0.69	0.68	0.47	0.01	31.33	141.98	0.64	0.82	0.47	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
31.50	147.81	0.73	0.66	0.47	0.01	31.66	137.23	0.58	0.84	0.46	0.02
31.82	126.09	0.48	0.89	0.46	0.02	31.99	123.53	0.46	0.90	0.46	0.02
32.15	110.25	0.38	0.98	0.46	0.02	32.32	106.05	0.37	1.01	0.45	0.02
32.48	105.47	0.36	1.01	0.45	0.02	32.64	151.80	0.79	0.49	0.45	0.01
32.81	233.24	2.00	0.00	0.44	0.00	32.97	254.00	2.00	0.00	0.44	0.00
33.14	254.00	2.00	0.00	0.44	0.00	33.30	241.06	2.00	0.00	0.44	0.00
33.46	182.59	2.00	0.00	0.43	0.00	33.63	207.34	2.00	0.00	0.43	0.00
33.79	208.11	2.00	0.00	0.43	0.00	33.96	194.11	2.00	0.00	0.42	0.00

Total estimated settlement: 0.46

Abbreviations

$Q_{tn,cs}$:	Equivalent dean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumentric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

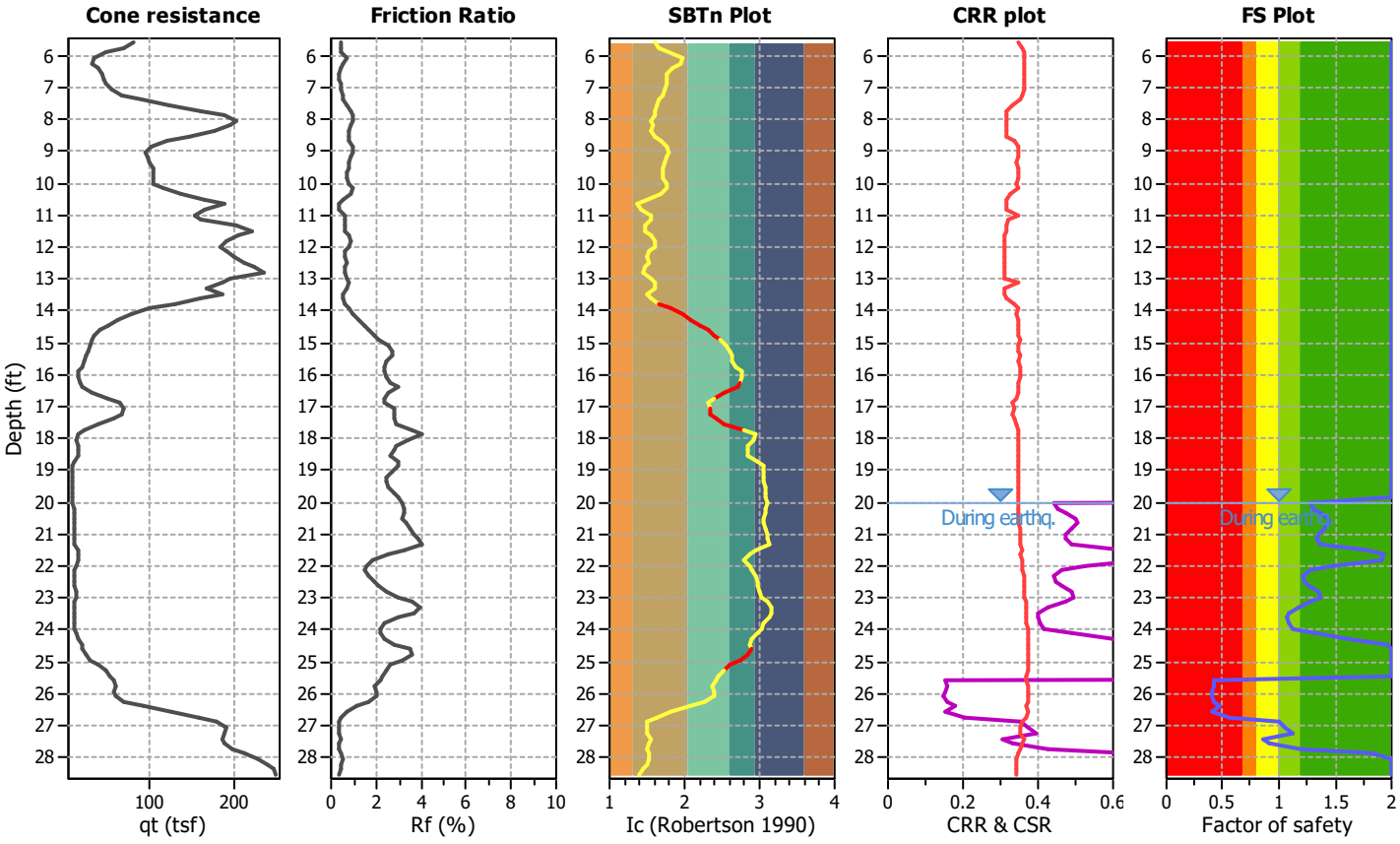
LIQUEFACTION ANALYSIS REPORT

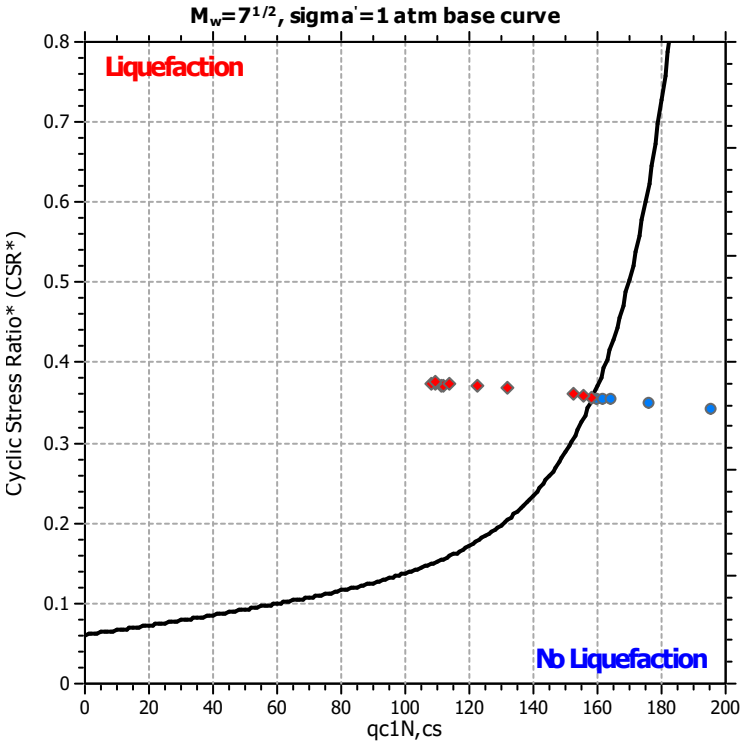
Project title : Marriot Townplace Suites **Location : San Jose, CA**

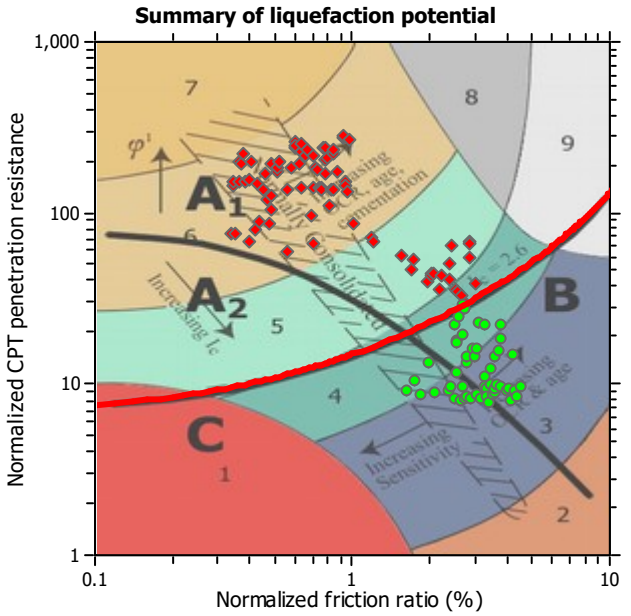
CPT file : CPT-3

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	20.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.10	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.58	Unit weight calculation:	Based on SBT	K_σ applied:	No		

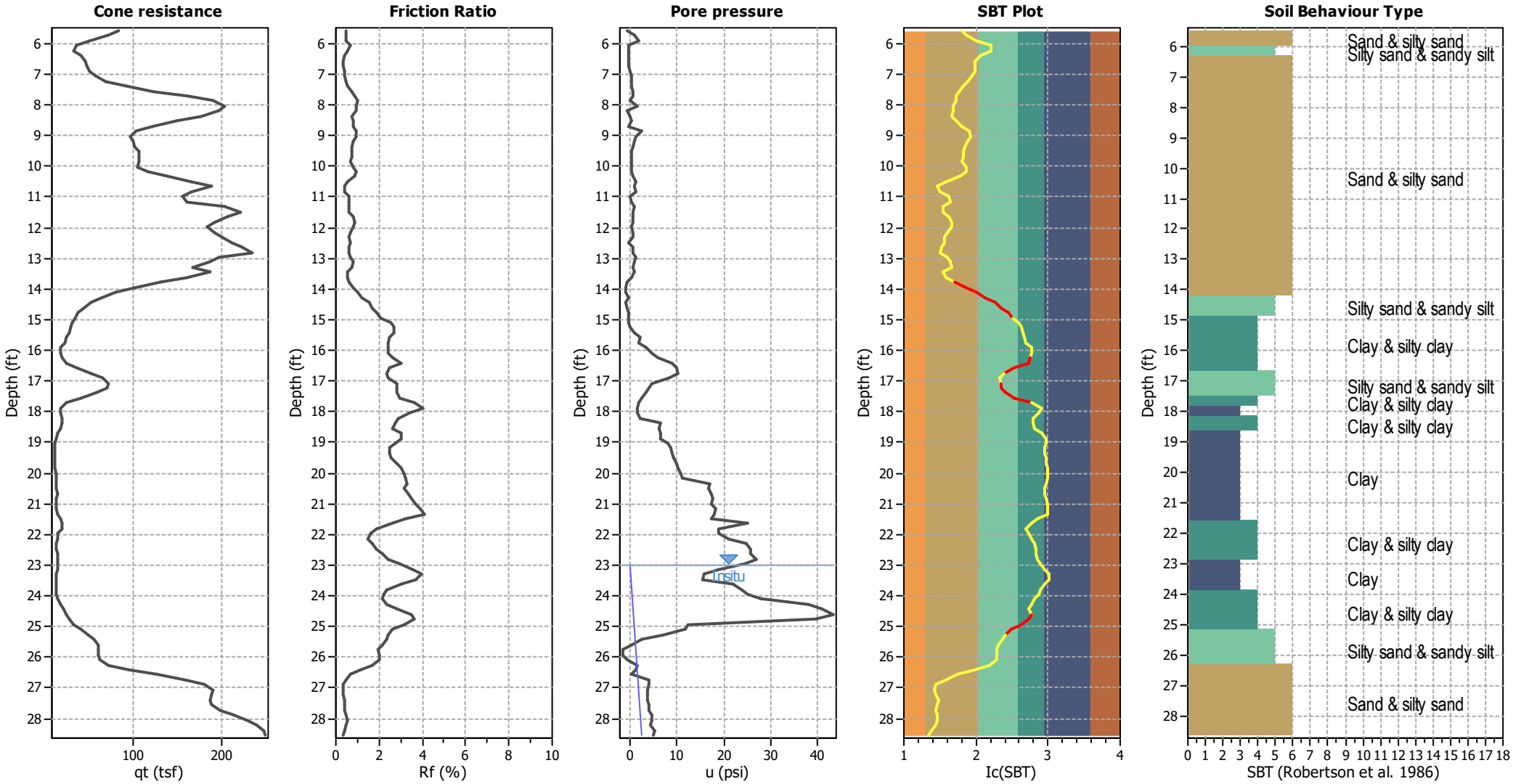






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

CPT basic interpretation plots



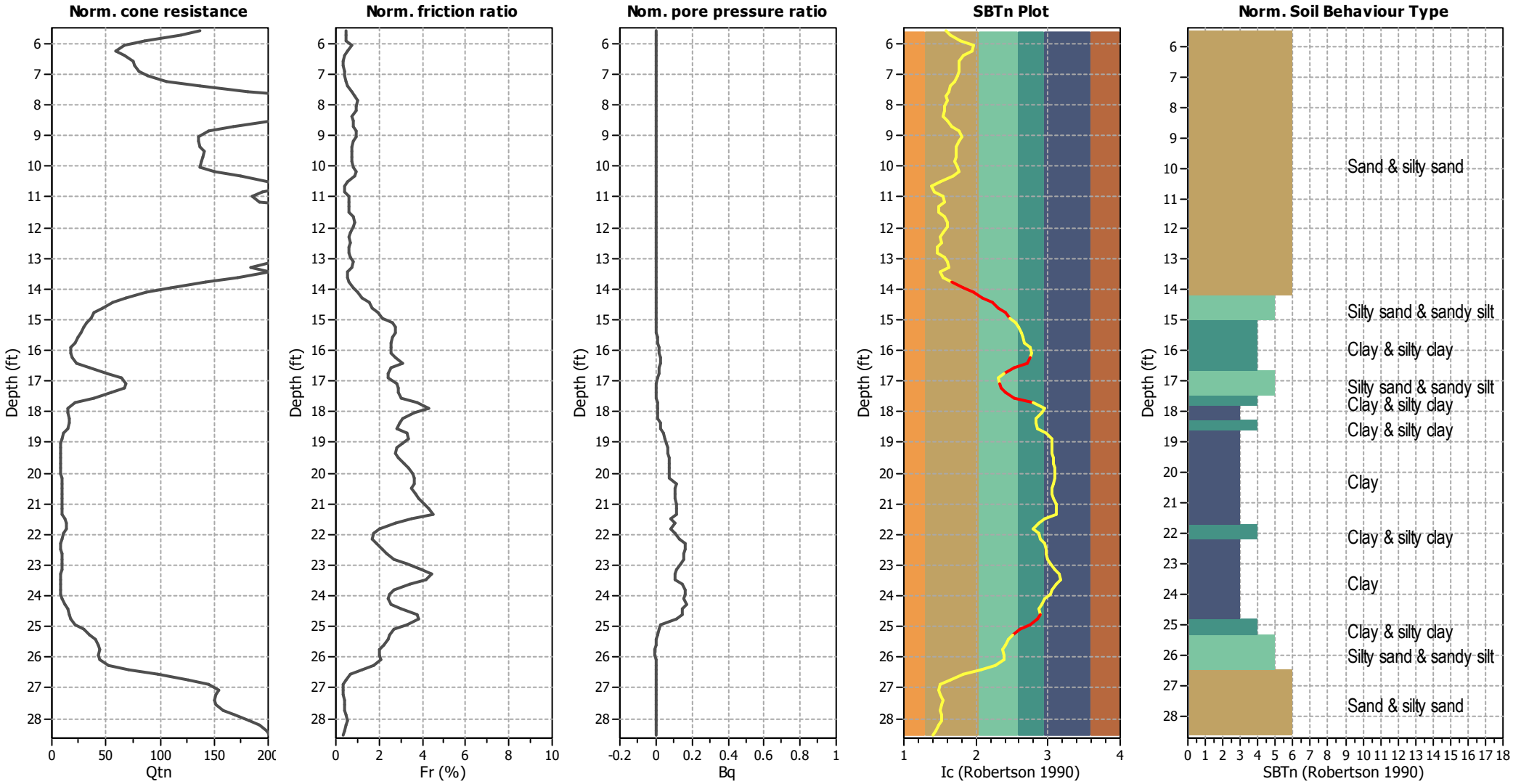
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

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

CPT basic interpretation plots (normalized)



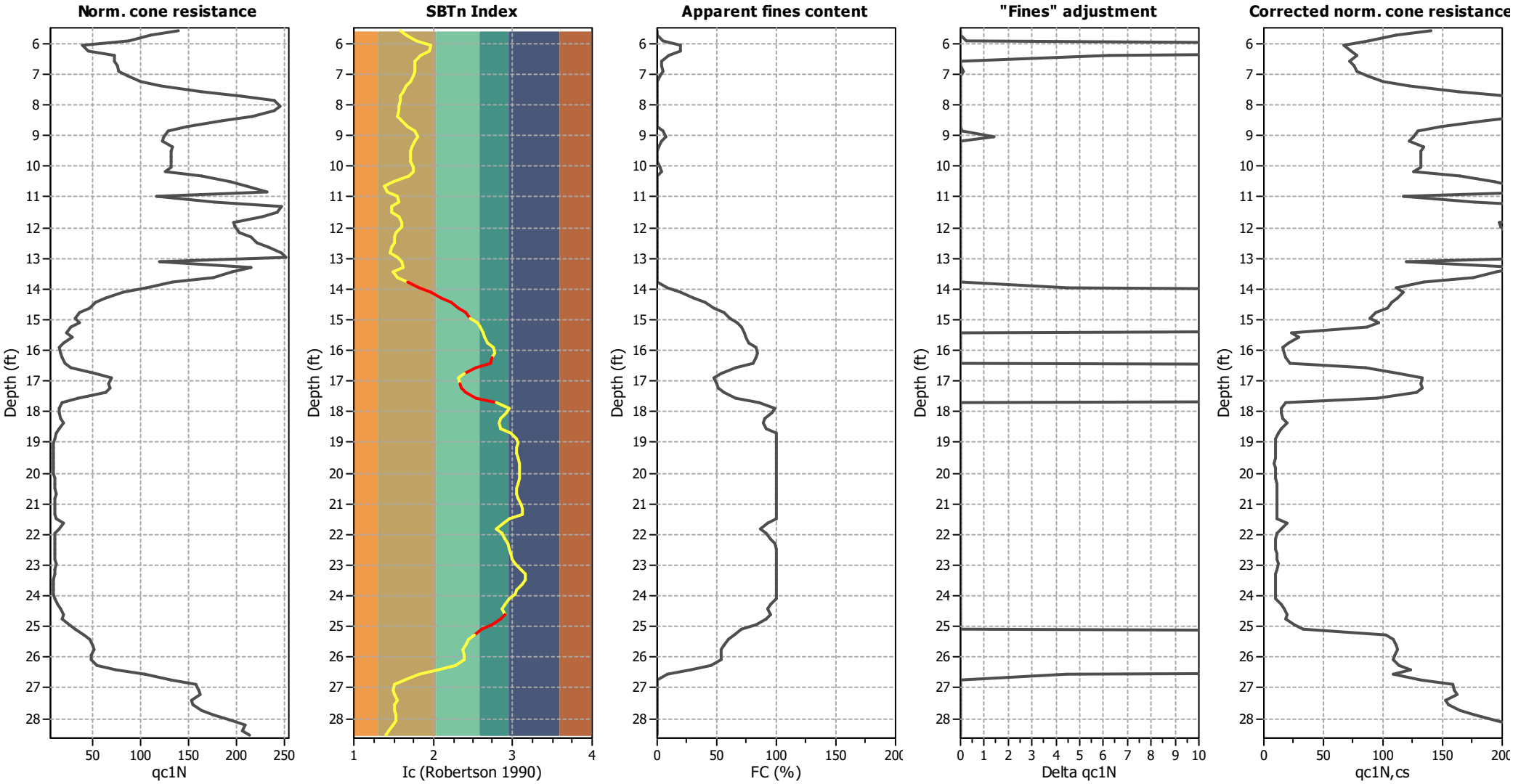
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

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

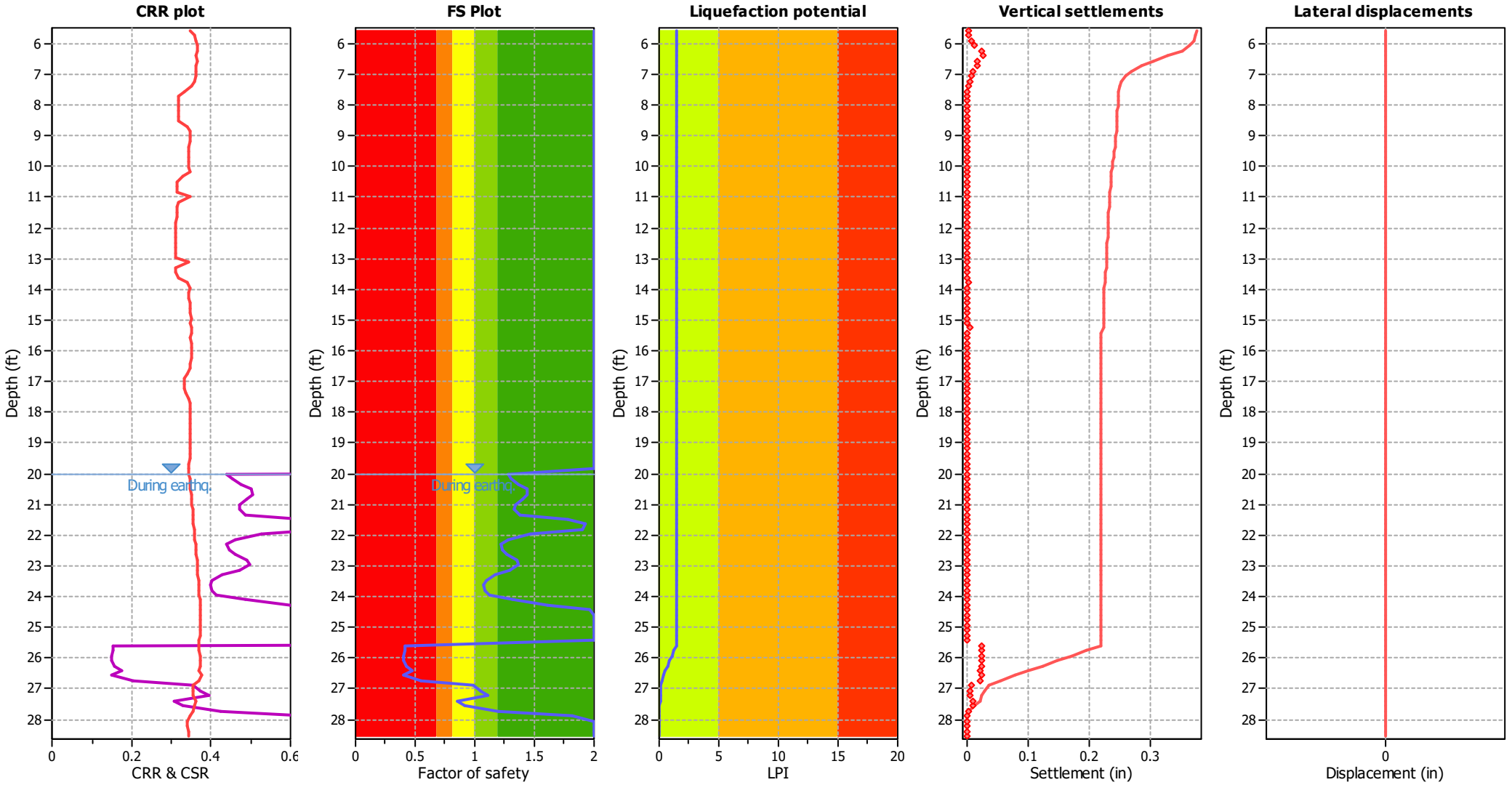
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

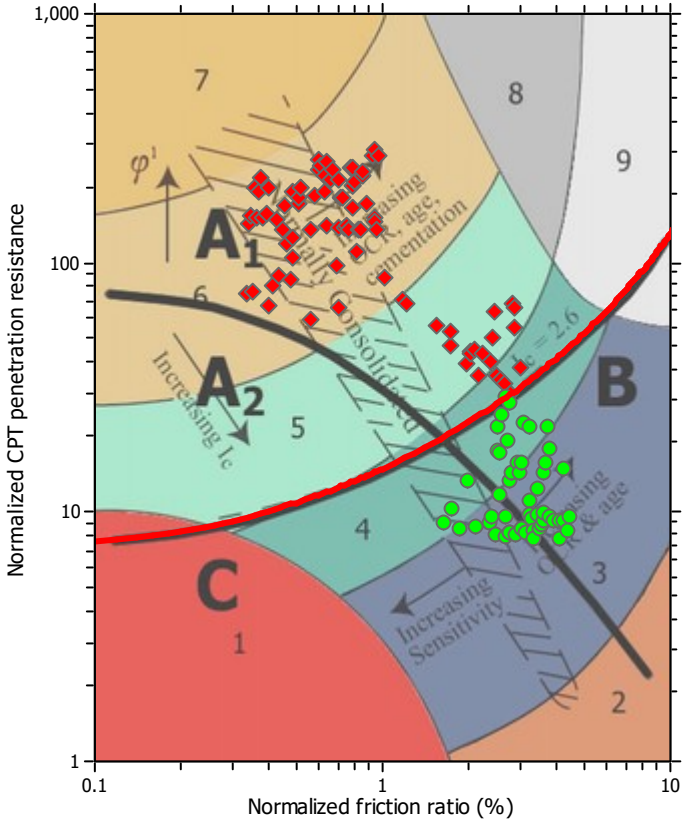
F.S. color scheme

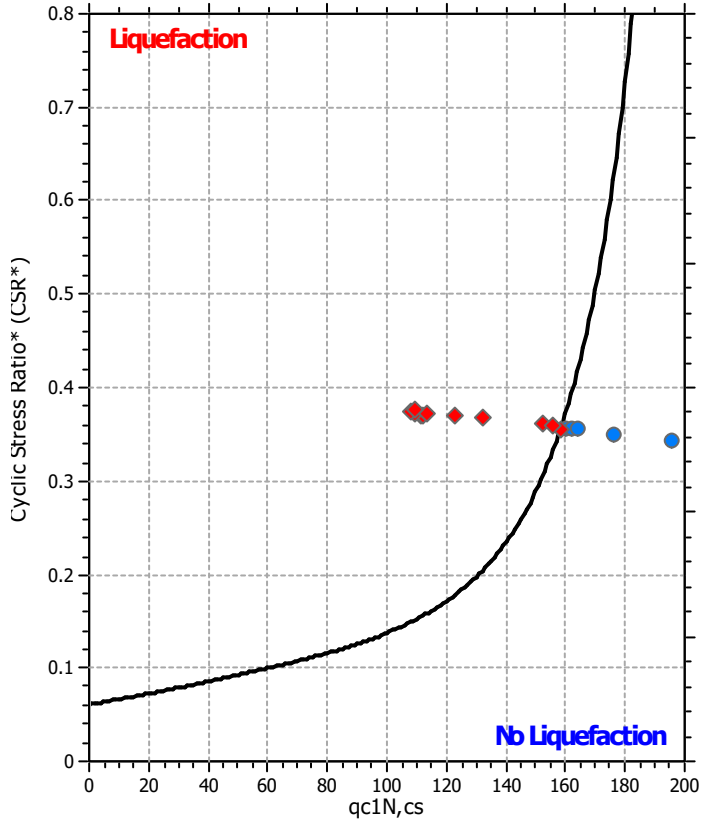
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

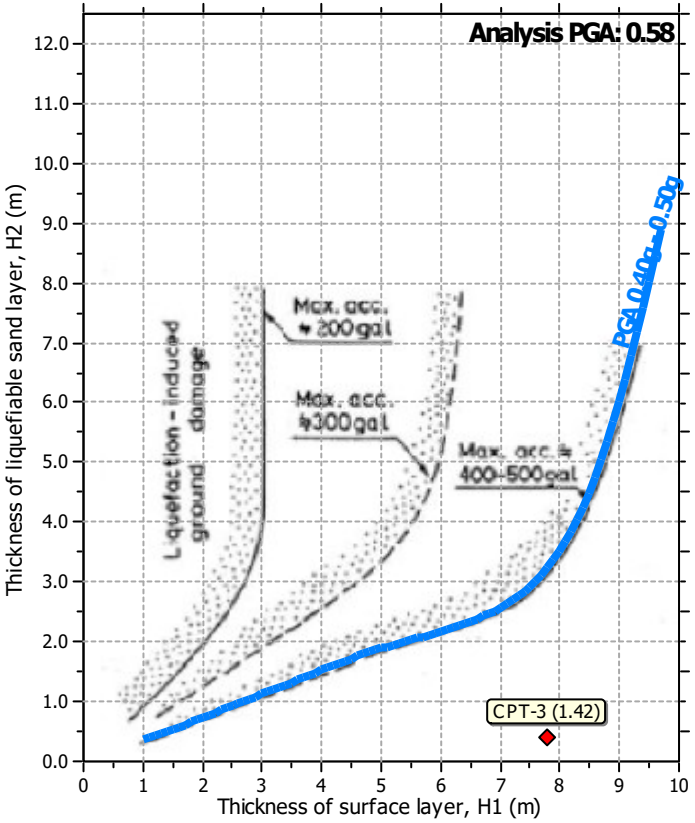
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



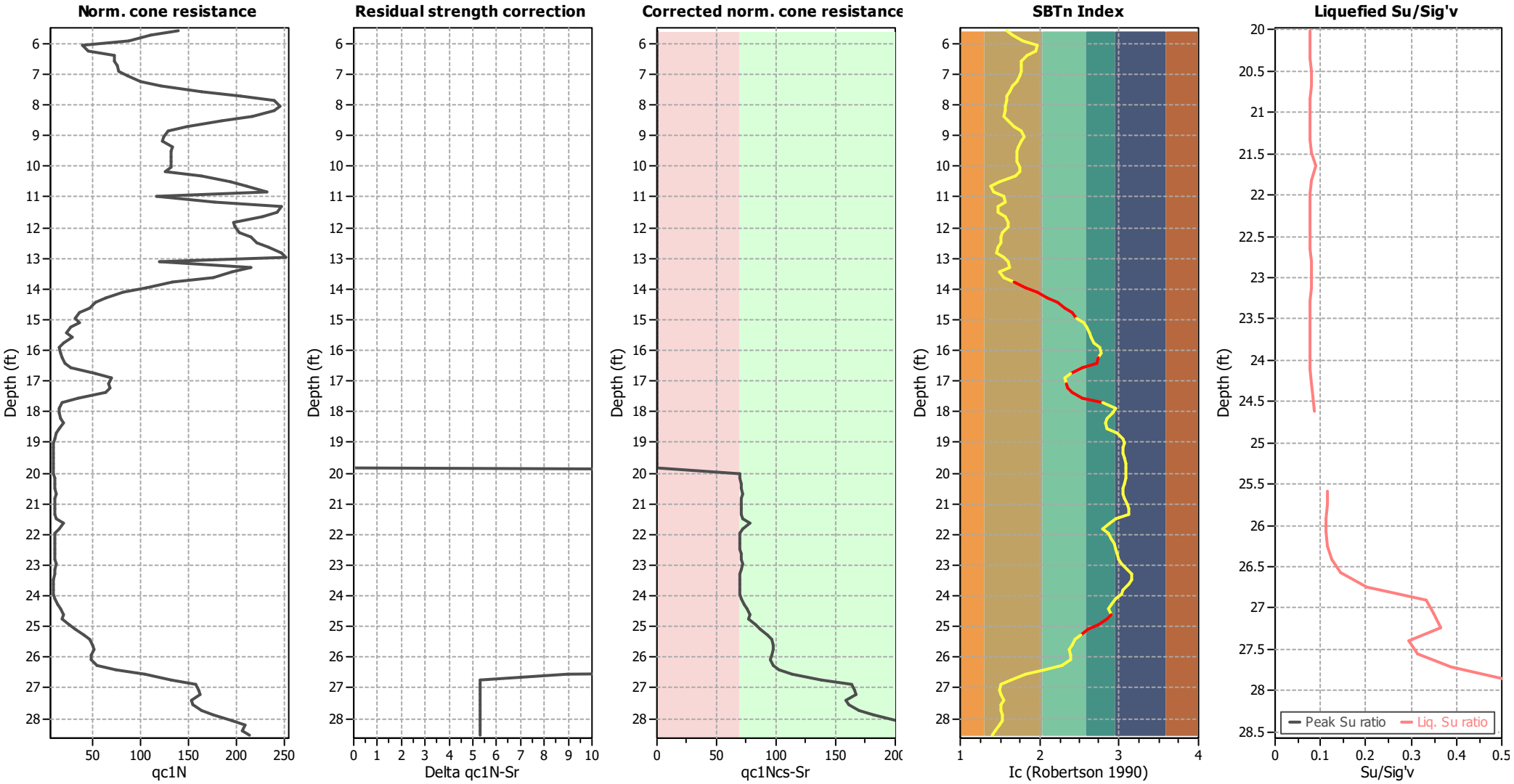




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

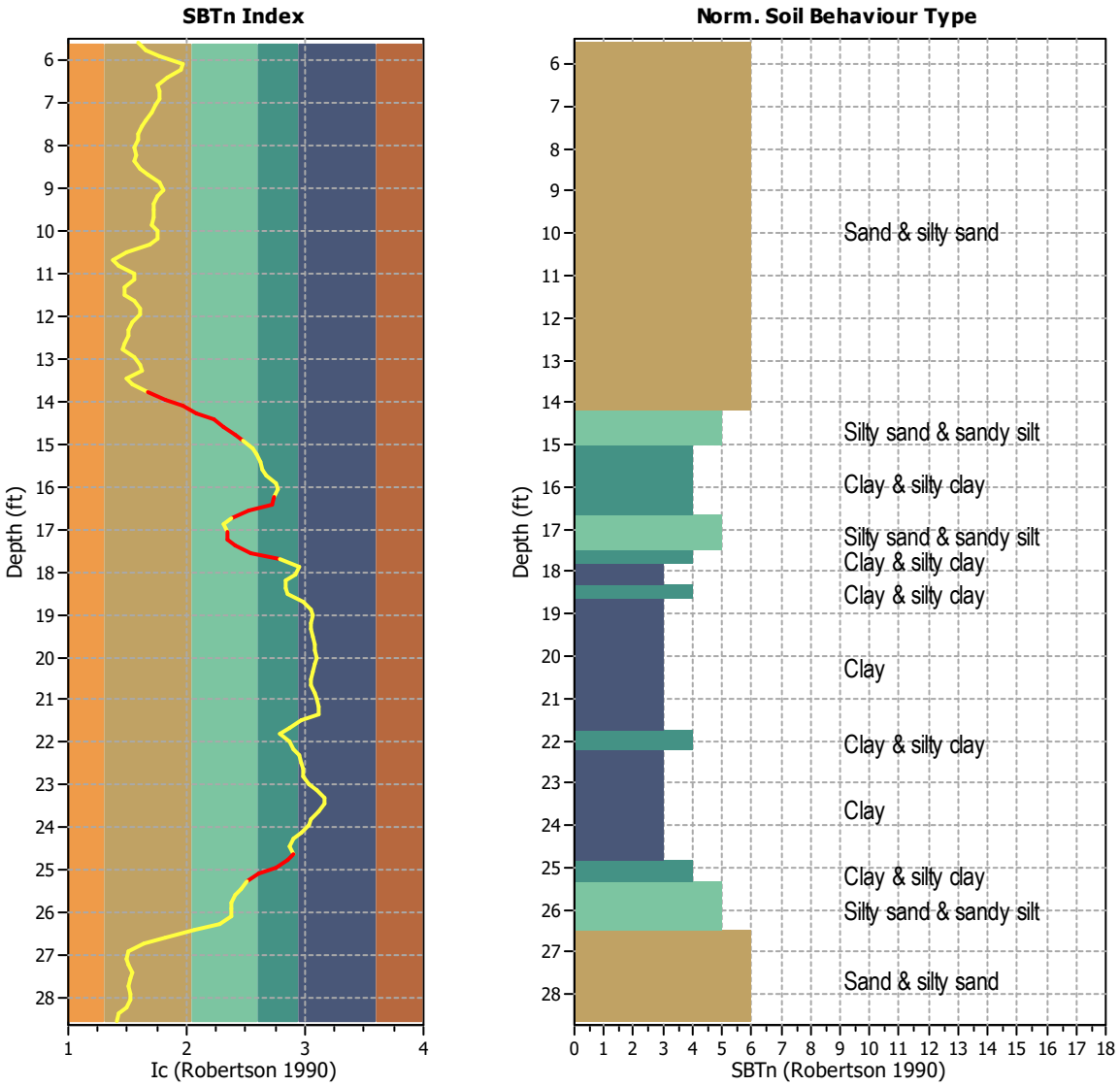
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

TRANSITION LAYER DETECTION ALGORITHM REPORT
Summary Details & Plots

Short description

The software will delete data when the cone is in transition from either clay to sand or vise-versa. To do this the software requires a range of I_c values over which the transition will be defined (typically somewhere between $1.80 < I_c < 3.0$) and a rate of change of I_c. Transitions typically occur when the rate of change of I_c is fast (i.e. delta I_c is small).

The SBT_n plot below, displays in red the detected transition layers based on the parameters listed below the graphs.



Transition layer algorithm properties		General statistics	
I_c minimum check value:	1.70	Total points in CPT file:	141
I_c maximum check value:	3.00	Total points excluded:	22
I_c change ratio value:	0.0250	Exclusion percentage:	15.60%
Minimum number of points in layer:	4	Number of layers detected:	4

Transition layer No	Number of points	Depth	SBT_n number	SBT_n description
Transition layer 1	8	Start depth: 13.94 (ft)	6	Sand & silty sand
		End depth: 15.09 (ft)	4	Clay & silty clay
Transition layer 2	4	Start depth: 16.40 (ft)	4	Clay & silty clay
		End depth: 16.90 (ft)	5	Silty sand & sandy silt
Transition layer 3	5	Start depth: 17.22 (ft)	5	Silty sand & sandy silt
		End depth: 17.88 (ft)	3	Clay
Transition layer 4	5	Start depth: 24.77 (ft)	3	Clay
		End depth: 25.43 (ft)	5	Silty sand & sandy silt

Start depth: Depth where the transition layer begins
End depth: Depth where the transition layer ends

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data ::

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
1	5.58	0.32	0.00	0.32	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
2	5.74	0.33	0.00	0.33	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
3	5.91	0.34	0.00	0.34	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
4	6.07	0.34	0.00	0.34	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
5	6.23	0.35	0.00	0.35	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
6	6.40	0.36	0.00	0.36	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
7	6.56	0.37	0.00	0.37	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
8	6.73	0.38	0.00	0.38	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
9	6.89	0.39	0.00	0.39	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
10	7.05	0.40	0.00	0.40	0.99	0.372	1.11	0.334	1.00	1.00	2.000	No
11	7.22	0.41	0.00	0.41	0.99	0.371	1.11	0.334	1.00	1.00	2.000	No
12	7.38	0.42	0.00	0.42	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
13	7.55	0.43	0.00	0.43	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
14	7.71	0.44	0.00	0.44	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
15	7.87	0.45	0.00	0.45	0.98	0.371	1.11	0.333	1.00	1.00	2.000	No
16	8.04	0.46	0.00	0.46	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
17	8.20	0.47	0.00	0.47	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
18	8.37	0.48	0.00	0.48	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
19	8.53	0.49	0.00	0.49	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
20	8.69	0.50	0.00	0.50	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
21	8.86	0.51	0.00	0.51	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
22	9.02	0.52	0.00	0.52	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
23	9.19	0.53	0.00	0.53	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
24	9.35	0.54	0.00	0.54	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
25	9.51	0.55	0.00	0.55	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
26	9.68	0.56	0.00	0.56	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
27	9.84	0.57	0.00	0.57	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
28	10.01	0.58	0.00	0.58	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
29	10.17	0.59	0.00	0.59	0.97	0.367	1.11	0.331	1.00	1.00	2.000	No
30	10.33	0.60	0.00	0.60	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
31	10.50	0.61	0.00	0.61	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
32	10.66	0.62	0.00	0.62	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
33	10.83	0.63	0.00	0.63	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
34	10.99	0.64	0.00	0.64	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
35	11.15	0.65	0.00	0.65	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
36	11.32	0.66	0.00	0.66	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
37	11.48	0.67	0.00	0.67	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
38	11.65	0.68	0.00	0.68	0.97	0.365	1.11	0.329	1.00	1.00	2.000	No
39	11.81	0.69	0.00	0.69	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
40	11.98	0.70	0.00	0.70	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
41	12.14	0.71	0.00	0.71	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
42	12.30	0.72	0.00	0.72	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
43	12.47	0.73	0.00	0.73	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
44	12.63	0.74	0.00	0.74	0.97	0.364	1.11	0.327	1.00	1.00	2.000	No
45	12.80	0.75	0.00	0.75	0.96	0.364	1.11	0.327	1.00	1.00	2.000	No
46	12.96	0.76	0.00	0.76	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
47	13.12	0.77	0.00	0.77	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
48	13.29	0.78	0.00	0.78	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
49	13.45	0.79	0.00	0.79	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
50	13.62	0.80	0.00	0.80	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
51	13.78	0.81	0.00	0.81	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
52	13.94	0.82	0.00	0.82	0.96	0.362	1.11	0.326	1.00	1.00	2.000	Yes
53	14.11	0.83	0.00	0.83	0.96	0.362	1.11	0.325	1.00	1.00	2.000	Yes
54	14.27	0.84	0.00	0.84	0.96	0.361	1.11	0.325	1.00	1.00	2.000	Yes
55	14.44	0.85	0.00	0.85	0.96	0.361	1.11	0.325	1.00	1.00	2.000	Yes
56	14.60	0.86	0.00	0.86	0.96	0.361	1.11	0.325	1.00	1.00	2.000	Yes
57	14.76	0.87	0.00	0.87	0.96	0.361	1.11	0.324	1.00	1.00	2.000	Yes
58	14.93	0.88	0.00	0.88	0.96	0.360	1.11	0.324	1.00	1.00	2.000	Yes
59	15.09	0.89	0.00	0.89	0.95	0.360	1.11	0.324	1.00	1.00	2.000	Yes
60	15.26	0.90	0.00	0.90	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
61	15.42	0.91	0.00	0.91	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
62	15.58	0.92	0.00	0.92	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
63	15.75	0.93	0.00	0.93	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
64	15.91	0.93	0.00	0.93	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
65	16.08	0.94	0.00	0.94	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
66	16.24	0.95	0.00	0.95	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
67	16.40	0.96	0.00	0.96	0.95	0.358	1.11	0.322	1.00	1.00	2.000	Yes
68	16.57	0.97	0.00	0.97	0.95	0.358	1.11	0.322	1.00	1.00	2.000	Yes
69	16.73	0.98	0.00	0.98	0.95	0.357	1.11	0.322	1.00	1.00	2.000	Yes
70	16.90	0.99	0.00	0.99	0.95	0.357	1.11	0.321	1.00	1.00	2.000	Yes
71	17.06	1.00	0.00	1.00	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
72	17.22	1.01	0.00	1.01	0.95	0.357	1.11	0.321	1.00	1.00	2.000	Yes
73	17.39	1.02	0.00	1.02	0.94	0.356	1.11	0.321	1.00	1.00	2.000	Yes
74	17.55	1.03	0.00	1.03	0.94	0.356	1.11	0.320	1.00	1.00	2.000	Yes
75	17.72	1.04	0.00	1.04	0.94	0.356	1.11	0.320	1.00	1.00	2.000	Yes
76	17.88	1.05	0.00	1.05	0.94	0.355	1.11	0.320	1.00	1.00	2.000	Yes
77	18.04	1.06	0.00	1.06	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
78	18.21	1.07	0.00	1.07	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
79	18.37	1.08	0.00	1.08	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
80	18.54	1.09	0.00	1.09	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
81	18.70	1.10	0.00	1.10	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
82	18.86	1.11	0.00	1.11	0.94	0.354	1.11	0.318	1.00	1.00	2.000	No
83	19.03	1.11	0.00	1.11	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
84	19.19	1.12	0.00	1.12	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
85	19.36	1.13	0.00	1.13	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
86	19.52	1.14	0.00	1.14	0.94	0.353	1.11	0.317	1.00	1.00	2.000	No
87	19.69	1.15	0.00	1.15	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
88	19.85	1.16	0.00	1.16	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
89	20.01	1.17	0.00	1.17	0.93	0.352	1.11	0.317	1.00	1.00	0.345	No
90	20.18	1.18	0.01	1.17	0.93	0.353	1.11	0.318	1.00	1.00	0.346	No
91	20.34	1.19	0.01	1.17	0.93	0.354	1.11	0.319	1.00	1.00	0.347	No
92	20.51	1.19	0.02	1.18	0.93	0.356	1.11	0.320	1.00	1.00	0.349	No
93	20.67	1.20	0.02	1.18	0.93	0.357	1.11	0.321	1.00	1.00	0.350	No
94	20.83	1.21	0.03	1.19	0.93	0.358	1.11	0.322	1.00	1.00	0.351	No
95	21.00	1.22	0.03	1.19	0.93	0.359	1.11	0.323	1.00	1.00	0.352	No
96	21.16	1.23	0.04	1.19	0.93	0.360	1.11	0.324	1.00	1.00	0.353	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
97	21.33	1.24	0.04	1.20	0.93	0.362	1.11	0.325	1.00	1.00	0.354	No
98	21.49	1.25	0.05	1.20	0.93	0.363	1.11	0.326	1.00	1.00	0.355	No
99	21.65	1.26	0.05	1.21	0.93	0.364	1.11	0.327	1.00	1.00	0.355	No
100	21.82	1.27	0.06	1.21	0.92	0.365	1.11	0.328	1.00	1.00	0.357	No
101	21.98	1.28	0.06	1.21	0.92	0.366	1.11	0.329	1.00	1.00	0.359	No
102	22.15	1.28	0.07	1.22	0.92	0.367	1.11	0.330	1.00	1.00	0.360	No
103	22.31	1.29	0.07	1.22	0.92	0.368	1.11	0.331	1.00	1.00	0.361	No
104	22.47	1.30	0.08	1.22	0.92	0.369	1.11	0.332	1.00	1.00	0.362	No
105	22.64	1.31	0.08	1.23	0.92	0.370	1.11	0.333	1.00	1.00	0.363	No
106	22.80	1.32	0.09	1.23	0.92	0.371	1.11	0.334	1.00	1.00	0.364	No
107	22.97	1.33	0.09	1.24	0.92	0.372	1.11	0.335	1.00	1.00	0.365	No
108	23.13	1.34	0.10	1.24	0.92	0.373	1.11	0.336	1.00	1.00	0.366	No
109	23.29	1.35	0.10	1.24	0.92	0.374	1.11	0.337	1.00	1.00	0.367	No
110	23.46	1.36	0.11	1.25	0.92	0.376	1.11	0.338	1.00	1.00	0.368	No
111	23.62	1.36	0.11	1.25	0.92	0.376	1.11	0.339	1.00	1.00	0.369	No
112	23.79	1.37	0.12	1.26	0.92	0.378	1.11	0.340	1.00	1.00	0.370	No
113	23.95	1.38	0.12	1.26	0.91	0.378	1.11	0.341	1.00	1.00	0.371	No
114	24.11	1.39	0.13	1.26	0.91	0.379	1.11	0.341	1.00	1.00	0.372	No
115	24.28	1.40	0.13	1.27	0.91	0.380	1.11	0.342	1.00	1.00	0.372	No
116	24.44	1.41	0.14	1.27	0.91	0.381	1.11	0.343	1.00	1.00	0.373	No
117	24.61	1.42	0.14	1.28	0.91	0.382	1.11	0.344	1.00	1.00	0.373	No
118	24.77	1.43	0.15	1.28	0.91	0.383	1.11	0.345	1.00	1.00	2.000	Yes
119	24.93	1.44	0.15	1.28	0.91	0.384	1.11	0.345	1.00	1.00	2.000	Yes
120	25.10	1.45	0.16	1.29	0.91	0.385	1.11	0.346	1.00	1.00	2.000	Yes
121	25.26	1.46	0.16	1.29	0.91	0.386	1.11	0.347	1.00	1.00	2.000	Yes
122	25.43	1.47	0.17	1.30	0.91	0.387	1.11	0.348	1.00	1.00	2.000	Yes
123	25.59	1.48	0.17	1.30	0.91	0.387	1.11	0.349	1.00	1.00	0.370	No
124	25.75	1.49	0.18	1.31	0.91	0.388	1.11	0.349	1.00	1.00	0.371	No
125	25.92	1.50	0.18	1.31	0.90	0.389	1.11	0.350	1.00	1.00	0.373	No
126	26.08	1.51	0.19	1.32	0.90	0.390	1.11	0.351	1.00	1.00	0.374	No
127	26.25	1.52	0.20	1.32	0.90	0.391	1.11	0.351	1.00	1.00	0.373	No
128	26.41	1.53	0.20	1.33	0.90	0.391	1.11	0.352	1.00	1.00	0.370	No
129	26.57	1.54	0.20	1.33	0.90	0.392	1.11	0.353	1.00	1.00	0.376	No
130	26.74	1.55	0.21	1.34	0.90	0.393	1.11	0.353	1.00	1.00	0.368	No
131	26.90	1.56	0.22	1.34	0.90	0.394	1.11	0.354	1.00	1.00	0.356	No
132	27.07	1.57	0.22	1.35	0.90	0.394	1.11	0.355	1.00	1.00	0.355	No
133	27.23	1.58	0.23	1.35	0.90	0.395	1.11	0.355	1.00	1.00	0.354	No
134	27.40	1.59	0.23	1.36	0.90	0.396	1.11	0.356	1.00	1.00	0.361	No
135	27.56	1.60	0.24	1.36	0.90	0.396	1.11	0.357	1.00	1.00	0.360	No
136	27.72	1.61	0.24	1.37	0.90	0.397	1.11	0.357	1.00	1.00	0.355	No
137	27.89	1.62	0.25	1.37	0.89	0.398	1.11	0.358	1.00	1.00	0.348	No
138	28.05	1.63	0.25	1.38	0.89	0.398	1.11	0.359	1.00	1.00	0.341	No
139	28.22	1.64	0.26	1.38	0.89	0.399	1.11	0.359	1.00	1.00	0.342	No
140	28.38	1.65	0.26	1.39	0.89	0.400	1.11	0.360	1.00	1.00	0.343	No
141	28.54	1.66	0.27	1.39	0.89	0.400	1.11	0.360	1.00	1.00	0.343	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition

Abbreviations

Depth: Depth from free surface, at which CPT was performed (ft)
σ_v: Total overburden pressure at test point (tsf)
u_0: Water pressure at test point (tsf)
σ_v': Effective overburden pressure based on GWT during earthquake (tsf)
r_d: Nonlinear shear mass factor
CSR: Cyclic Stress Ratio
MSF: Magnitude Scaling Factor
CSR_{eq}: CSR adjusted for M=7.5
K_σ: Effective overburden stress factor
CSR^*: CSR fully adjusted

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
5.58	2.00	0.00	0.00	0.05	0.00	5.74	2.00	0.00	0.00	0.05	0.00
5.91	2.00	0.00	0.00	0.05	0.00	6.07	2.00	0.00	0.00	0.05	0.00
6.23	2.00	0.00	0.00	0.05	0.00	6.40	2.00	0.00	0.00	0.05	0.00
6.56	2.00	0.00	0.00	0.05	0.00	6.73	2.00	0.00	0.00	0.05	0.00
6.89	2.00	0.00	0.00	0.05	0.00	7.05	2.00	0.00	0.00	0.05	0.00
7.22	2.00	0.00	0.00	0.05	0.00	7.38	2.00	0.00	0.00	0.05	0.00
7.55	2.00	0.00	0.00	0.05	0.00	7.71	2.00	0.00	0.00	0.05	0.00
7.87	2.00	0.00	0.00	0.05	0.00	8.04	2.00	0.00	0.00	0.05	0.00
8.20	2.00	0.00	0.00	0.05	0.00	8.37	2.00	0.00	0.00	0.05	0.00
8.53	2.00	0.00	0.00	0.05	0.00	8.69	2.00	0.00	0.00	0.05	0.00
8.86	2.00	0.00	0.00	0.05	0.00	9.02	2.00	0.00	0.00	0.05	0.00
9.19	2.00	0.00	0.00	0.05	0.00	9.35	2.00	0.00	0.00	0.05	0.00
9.51	2.00	0.00	0.00	0.05	0.00	9.68	2.00	0.00	0.00	0.05	0.00
9.84	2.00	0.00	0.00	0.05	0.00	10.01	2.00	0.00	0.00	0.05	0.00
10.17	2.00	0.00	0.00	0.05	0.00	10.33	2.00	0.00	0.00	0.05	0.00
10.50	2.00	0.00	0.00	0.05	0.00	10.66	2.00	0.00	0.00	0.05	0.00
10.83	2.00	0.00	0.00	0.05	0.00	10.99	2.00	0.00	0.00	0.05	0.00
11.15	2.00	0.00	0.00	0.05	0.00	11.32	2.00	0.00	0.00	0.05	0.00
11.48	2.00	0.00	0.00	0.05	0.00	11.65	2.00	0.00	0.00	0.05	0.00
11.81	2.00	0.00	0.00	0.05	0.00	11.98	2.00	0.00	0.00	0.05	0.00
12.14	2.00	0.00	0.00	0.05	0.00	12.30	2.00	0.00	0.00	0.05	0.00
12.47	2.00	0.00	0.00	0.05	0.00	12.63	2.00	0.00	0.00	0.05	0.00
12.80	2.00	0.00	0.00	0.05	0.00	12.96	2.00	0.00	0.00	0.05	0.00
13.12	2.00	0.00	0.00	0.05	0.00	13.29	2.00	0.00	0.00	0.05	0.00
13.45	2.00	0.00	0.00	0.05	0.00	13.62	2.00	0.00	0.00	0.05	0.00
13.78	2.00	0.00	0.00	0.05	0.00	13.94	2.00	0.00	0.00	0.05	0.00
14.11	2.00	0.00	0.00	0.05	0.00	14.27	2.00	0.00	0.00	0.05	0.00
14.44	2.00	0.00	0.00	0.05	0.00	14.60	2.00	0.00	0.00	0.05	0.00
14.76	2.00	0.00	0.00	0.05	0.00	14.93	2.00	0.00	0.00	0.05	0.00
15.09	2.00	0.00	0.00	0.05	0.00	15.26	2.00	0.00	0.00	0.05	0.00
15.42	2.00	0.00	0.00	0.05	0.00	15.58	2.00	0.00	0.00	0.05	0.00
15.75	2.00	0.00	0.00	0.05	0.00	15.91	2.00	0.00	0.00	0.05	0.00
16.08	2.00	0.00	0.00	0.05	0.00	16.24	2.00	0.00	0.00	0.05	0.00
16.40	2.00	0.00	0.00	0.05	0.00	16.57	2.00	0.00	0.00	0.05	0.00
16.73	2.00	0.00	0.00	0.05	0.00	16.90	2.00	0.00	0.00	0.05	0.00
17.06	2.00	0.00	0.00	0.05	0.00	17.22	2.00	0.00	0.00	0.05	0.00
17.39	2.00	0.00	0.00	0.05	0.00	17.55	2.00	0.00	0.00	0.05	0.00
17.72	2.00	0.00	0.00	0.05	0.00	17.88	2.00	0.00	0.00	0.05	0.00
18.04	2.00	0.00	0.00	0.05	0.00	18.21	2.00	0.00	0.00	0.05	0.00
18.37	2.00	0.00	0.00	0.05	0.00	18.54	2.00	0.00	0.00	0.05	0.00
18.70	2.00	0.00	0.00	0.05	0.00	18.86	2.00	0.00	0.00	0.05	0.00
19.03	2.00	0.00	0.00	0.05	0.00	19.19	2.00	0.00	0.00	0.05	0.00
19.36	2.00	0.00	0.00	0.05	0.00	19.52	2.00	0.00	0.00	0.05	0.00
19.69	2.00	0.00	0.00	0.05	0.00	19.85	2.00	0.00	0.00	0.05	0.00
20.01	1.28	0.00	0.00	0.05	0.00	20.18	1.31	0.00	0.00	0.05	0.00
20.34	1.37	0.00	0.00	0.05	0.00	20.51	1.43	0.00	0.00	0.05	0.00
20.67	1.44	0.00	0.00	0.05	0.00	20.83	1.40	0.00	0.00	0.05	0.00
21.00	1.34	0.00	0.00	0.05	0.00	21.16	1.33	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
21.33	1.38	0.00	0.00	0.05	0.00	21.49	1.78	0.00	0.00	0.05	0.00
21.65	1.93	0.00	0.00	0.05	0.00	21.82	1.90	0.00	0.00	0.05	0.00
21.98	1.47	0.00	0.00	0.05	0.00	22.15	1.28	0.00	0.00	0.05	0.00
22.31	1.22	0.00	0.00	0.05	0.00	22.47	1.24	0.00	0.00	0.05	0.00
22.64	1.27	0.00	0.00	0.05	0.00	22.80	1.35	0.00	0.00	0.05	0.00
22.97	1.36	0.00	0.00	0.05	0.00	23.13	1.29	0.00	0.00	0.05	0.00
23.29	1.17	0.00	0.00	0.05	0.00	23.46	1.09	0.00	0.00	0.05	0.00
23.62	1.08	0.00	0.00	0.05	0.00	23.79	1.09	0.00	0.00	0.05	0.00
23.95	1.12	0.00	0.00	0.05	0.00	24.11	1.31	0.00	0.00	0.05	0.00
24.28	1.61	0.00	0.00	0.05	0.00	24.44	1.97	0.00	0.00	0.05	0.00
24.61	2.00	0.00	0.00	0.05	0.00	24.77	2.00	0.00	0.00	0.05	0.00
24.93	2.00	0.00	0.00	0.05	0.00	25.10	2.00	0.00	0.00	0.05	0.00
25.26	2.00	0.00	0.00	0.05	0.00	25.43	2.00	0.00	0.00	0.05	0.00
25.59	0.42	0.00	0.00	0.05	0.17	25.75	0.42	0.00	0.00	0.05	0.17
25.92	0.41	0.00	0.00	0.05	0.19	26.08	0.40	0.00	0.00	0.05	0.18
26.25	0.43	0.00	0.00	0.05	0.18	26.41	0.48	0.00	0.00	0.05	0.15
26.57	0.40	0.00	0.00	0.05	0.17	26.74	0.55	0.00	0.00	0.05	0.14
26.90	0.99	0.00	0.00	0.05	0.00	27.07	1.05	0.00	0.00	0.05	0.00
27.23	1.11	0.00	0.00	0.05	0.00	27.40	0.85	0.00	0.00	0.05	0.04
27.56	0.92	0.00	0.00	0.05	0.02	27.72	1.20	0.00	0.00	0.05	0.00
27.89	1.82	0.00	0.00	0.05	0.00	28.05	2.00	0.00	0.00	0.05	0.00
28.22	2.00	0.00	0.00	0.05	0.00	28.38	2.00	0.00	0.00	0.05	0.00
28.54	2.00	0.00	0.00	0.05	0.00						

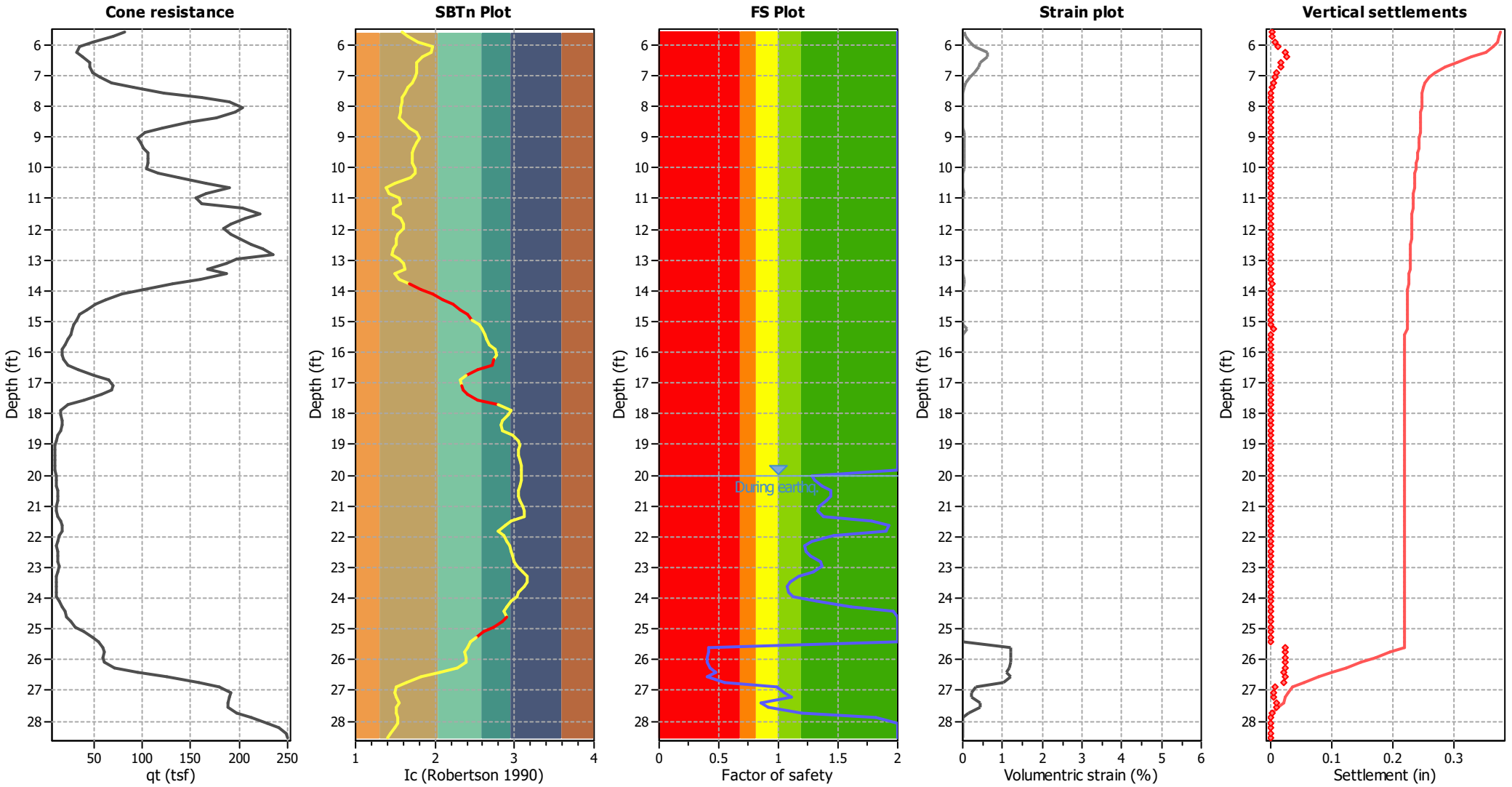
Overall liquefaction potential: 1.42

LPI_{ISH} > 5.0 - Liquefaction manifestation is expected

Abbreviations

FS: Calculated factor of safety for test point
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

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

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
5.58	1.59	136.88	1.00	136.88	25	555	0.35	0.061	0.05	11.65	0.04	0.001
5.74	1.65	119.39	1.00	119.39	22	515	0.36	0.081	0.07	11.65	0.06	0.002
5.91	1.78	86.20	1.00	86.20	17	418	0.36	0.189	0.24	11.65	0.19	0.008
6.07	1.96	66.64	1.25	83.61	17	382	0.37	0.302	0.36	11.65	0.29	0.011
6.23	1.95	59.51	1.24	73.92	15	343	0.36	0.562	0.79	11.65	0.63	0.024
6.40	1.83	67.78	1.00	67.78	13	359	0.36	0.473	0.77	11.65	0.62	0.025
6.56	1.76	75.22	1.00	75.22	14	379	0.36	0.381	0.57	11.65	0.45	0.017
6.73	1.76	76.25	1.00	76.25	15	389	0.36	0.353	0.52	11.65	0.41	0.017
6.89	1.77	80.78	1.00	80.78	15	422	0.36	0.257	0.35	11.65	0.28	0.011
7.05	1.75	89.16	1.00	89.16	17	459	0.36	0.187	0.23	11.65	0.18	0.007
7.22	1.71	105.40	1.00	105.40	20	531	0.36	0.113	0.11	11.65	0.09	0.004
7.38	1.65	136.36	1.00	136.89	25	659	0.35	0.060	0.05	11.65	0.04	0.001
7.55	1.63	181.21	1.00	181.21	33	866	0.33	0.033	0.02	11.65	0.01	0.001
7.71	1.59	232.52	1.00	232.52	42	1091	0.32	0.022	0.01	11.65	0.01	0.000
7.87	1.59	270.25	1.00	270.25	49	1282	0.32	0.018	0.01	11.65	0.00	0.000
8.04	1.57	283.22	1.00	283.22	51	1321	0.32	0.017	0.01	11.65	0.00	0.000
8.20	1.57	271.89	1.00	271.89	49	1289	0.32	0.018	0.01	11.65	0.00	0.000
8.37	1.55	241.21	1.00	241.21	43	1133	0.32	0.023	0.01	11.65	0.01	0.000
8.53	1.61	203.54	1.00	203.54	37	1021	0.32	0.029	0.01	11.65	0.01	0.000
8.69	1.67	167.87	1.02	171.23	32	905	0.34	0.037	0.02	11.65	0.02	0.001
8.86	1.77	145.56	1.09	158.01	30	872	0.35	0.042	0.03	11.65	0.02	0.001
9.02	1.80	134.97	1.10	149.10	29	839	0.35	0.047	0.03	11.65	0.02	0.001
9.19	1.76	135.64	1.08	146.25	28	821	0.35	0.050	0.03	11.65	0.03	0.001
9.35	1.73	137.31	1.06	145.15	27	813	0.34	0.053	0.04	11.65	0.03	0.001
9.51	1.72	140.81	1.05	147.76	28	831	0.35	0.052	0.03	11.65	0.03	0.001
9.68	1.72	139.51	1.05	146.23	27	830	0.34	0.053	0.04	11.65	0.03	0.001
9.84	1.70	138.74	1.04	144.44	27	824	0.34	0.056	0.04	11.65	0.03	0.001
10.01	1.75	137.16	1.07	147.00	28	861	0.34	0.052	0.03	11.65	0.03	0.001
10.17	1.76	150.74	1.08	162.15	31	961	0.35	0.042	0.02	11.65	0.02	0.001
10.33	1.69	174.23	1.03	179.93	33	1048	0.33	0.036	0.02	11.65	0.01	0.001
10.50	1.50	200.34	1.00	200.34	35	987	0.31	0.041	0.02	11.65	0.02	0.001
10.66	1.38	221.90	1.00	221.90	37	971	0.31	0.044	0.02	11.65	0.02	0.001
10.83	1.42	193.98	1.00	193.98	33	896	0.31	0.053	0.03	11.65	0.02	0.001
10.99	1.55	185.46	1.00	185.46	33	993	0.35	0.044	0.02	11.65	0.02	0.001
11.15	1.56	191.87	1.00	191.87	34	1045	0.32	0.040	0.02	11.65	0.02	0.001
11.32	1.48	237.58	1.00	237.58	41	1194	0.31	0.032	0.01	11.65	0.01	0.000
11.48	1.47	256.55	1.00	256.55	44	1286	0.31	0.029	0.01	11.65	0.01	0.000
11.65	1.56	239.91	1.00	239.91	43	1331	0.31	0.028	0.01	11.65	0.01	0.000
11.81	1.61	223.45	1.00	223.45	40	1313	0.31	0.029	0.01	11.65	0.01	0.000
11.98	1.60	213.08	1.00	213.08	38	1254	0.31	0.032	0.01	11.65	0.01	0.000
12.14	1.54	217.79	1.00	217.79	38	1202	0.31	0.035	0.02	11.65	0.01	0.000
12.30	1.51	225.45	1.00	225.45	40	1219	0.31	0.035	0.02	11.65	0.01	0.000
12.47	1.52	236.92	1.00	236.92	42	1295	0.31	0.032	0.01	11.65	0.01	0.000
12.63	1.47	247.09	1.00	247.09	43	1291	0.31	0.032	0.01	11.65	0.01	0.000
12.80	1.46	257.91	1.00	257.91	44	1334	0.31	0.031	0.01	11.65	0.01	0.000
12.96	1.55	217.50	1.00	217.50	39	1265	0.31	0.035	0.02	11.65	0.01	0.000
13.12	1.61	205.87	1.00	205.87	37	1279	0.34	0.035	0.02	11.65	0.01	0.000
13.29	1.62	183.83	1.00	183.83	33	1163	0.31	0.042	0.02	11.65	0.02	0.001

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
13.45	1.50	201.34	1.00	201.34	35	1116	0.31	0.046	0.02	11.65	0.02	0.001
13.62	1.54	172.13	1.00	172.13	30	1014	0.32	0.058	0.03	11.65	0.02	0.001
13.78	1.67	141.71	1.02	144.01	27	970	0.34	0.065	0.05	11.65	0.03	0.001
13.94	1.82	110.23	1.12	123.68	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.11	1.96	86.72	1.25	108.69	0	0	0.34	0.000	0.00	0.00	0.00	0.000
14.27	2.09	68.70	1.44	98.73	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.44	2.22	56.41	1.72	97.16	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.60	2.31	46.96	1.99	93.34	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.76	2.41	39.43	2.34	92.29	0	0	0.35	0.000	0.00	0.00	0.00	0.000
14.93	2.47	35.61	2.62	93.42	0	0	0.35	0.000	0.00	0.00	0.00	0.000
15.09	2.55	32.54	3.06	99.57	0	0	0.35	0.000	0.00	0.00	0.00	0.000
15.26	2.60	29.73	3.32	98.59	27	657	0.35	0.257	0.18	11.65	0.12	0.005
15.42	2.63	27.38	3.49	95.60	0	0	0.35	0.000	0.00	0.00	0.00	0.000
15.58	2.64	24.64	3.60	88.81	0	0	0.35	0.000	0.00	0.00	0.00	0.000
15.75	2.68	21.78	3.84	83.65	0	0	0.35	0.000	0.00	0.00	0.00	0.000
15.91	2.76	17.58	4.42	77.62	0	0	0.35	0.000	0.00	0.00	0.00	0.000
16.08	2.77	17.06	4.53	77.23	0	0	0.35	0.000	0.00	0.00	0.00	0.000
16.24	2.74	19.26	4.31	83.01	0	0	0.35	0.000	0.00	0.00	0.00	0.000
16.40	2.72	22.86	4.14	94.58	0	0	0.35	0.000	0.00	0.00	0.00	0.000
16.57	2.53	34.33	2.93	100.46	0	0	0.35	0.000	0.00	0.00	0.00	0.000
16.73	2.38	50.50	2.25	113.62	0	0	0.34	0.000	0.00	0.00	0.00	0.000
16.90	2.31	63.78	1.99	127.08	0	0	0.33	0.000	0.00	0.00	0.00	0.000
17.06	2.34	68.89	2.08	143.16	34	1214	0.33	0.054	0.03	11.65	0.02	0.001
17.22	2.35	66.52	2.12	140.90	0	0	0.33	0.000	0.00	0.00	0.00	0.000
17.39	2.41	55.41	2.35	129.98	0	0	0.34	0.000	0.00	0.00	0.00	0.000
17.55	2.54	38.32	2.97	113.63	0	0	0.34	0.000	0.00	0.00	0.00	0.000
17.72	2.79	21.94	4.67	102.52	0	0	0.35	0.000	0.00	0.00	0.00	0.000
17.88	2.95	14.87	6.20	92.23	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.04	2.92	14.20	5.92	84.07	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.21	2.84	15.76	5.15	81.18	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.37	2.83	15.80	5.06	79.90	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.54	2.85	14.28	5.26	75.14	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.70	2.98	11.05	6.56	72.45	0	0	0.35	0.000	0.00	0.00	0.00	0.000
18.86	3.05	9.32	7.29	67.97	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.03	3.06	8.56	7.42	63.52	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.19	3.05	8.26	7.31	60.38	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.36	3.05	8.18	7.32	59.88	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.52	3.07	8.06	7.51	60.56	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.69	3.08	8.24	7.67	63.23	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.85	3.09	8.34	7.78	64.94	0	0	0.35	0.000	0.00	0.00	0.00	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)

Total estimated settlement: 0.16

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
20.01	9.76	1.28	0.00	0.66	0.00	20.18	9.88	1.31	0.00	0.66	0.00
20.34	10.58	1.37	0.00	0.66	0.00	20.51	11.14	1.43	0.00	0.65	0.00
20.67	11.49	1.44	0.00	0.65	0.00	20.83	10.99	1.40	0.00	0.65	0.00
21.00	10.37	1.34	0.00	0.64	0.00	21.16	10.51	1.33	0.00	0.64	0.00
21.33	10.92	1.38	0.00	0.64	0.00	21.49	11.53	1.78	0.00	0.64	0.00
21.65	19.71	1.93	0.00	0.63	0.00	21.82	14.42	1.90	0.00	0.63	0.00
21.98	11.33	1.47	0.00	0.63	0.00	22.15	10.07	1.28	0.00	0.62	0.00
22.31	10.31	1.22	0.00	0.62	0.00	22.47	9.92	1.24	0.00	0.62	0.00
22.64	10.60	1.27	0.00	0.62	0.00	22.80	11.29	1.35	0.00	0.61	0.00
22.97	11.89	1.36	0.00	0.61	0.00	23.13	11.20	1.29	0.00	0.61	0.00
23.29	9.86	1.17	0.00	0.61	0.00	23.46	9.27	1.09	0.00	0.60	0.00
23.62	9.50	1.08	0.00	0.60	0.00	23.79	9.49	1.09	0.00	0.60	0.00
23.95	9.60	1.12	0.00	0.59	0.00	24.11	10.22	1.31	0.00	0.59	0.00
24.28	14.15	1.61	0.00	0.59	0.00	24.44	16.75	1.97	0.00	0.59	0.00
24.61	19.03	2.00	0.00	0.58	0.00	24.77	18.66	2.00	0.00	0.58	0.00
24.93	25.46	2.00	0.00	0.58	0.00	25.10	32.49	2.00	0.00	0.57	0.00
25.26	102.96	2.00	0.00	0.57	0.00	25.43	108.02	2.00	0.00	0.57	0.00
25.59	111.49	0.42	1.21	0.57	0.02	25.75	111.89	0.42	1.20	0.56	0.02
25.92	109.44	0.41	1.22	0.56	0.02	26.08	108.22	0.40	1.22	0.56	0.02
26.25	113.66	0.43	1.17	0.56	0.02	26.41	122.57	0.48	1.09	0.55	0.02
26.57	109.12	0.40	1.20	0.55	0.02	26.74	132.04	0.55	1.02	0.55	0.02
26.90	158.13	0.99	0.31	0.54	0.01	27.07	160.14	1.05	0.22	0.54	0.00
27.23	162.15	1.11	0.22	0.54	0.00	27.40	152.65	0.85	0.45	0.54	0.01
27.56	155.43	0.92	0.44	0.53	0.01	27.72	164.63	1.20	0.15	0.53	0.00
27.89	176.38	1.82	0.00	0.53	0.00	28.05	195.65	2.00	0.00	0.52	0.00
28.22	209.65	2.00	0.00	0.52	0.00	28.38	207.05	2.00	0.00	0.52	0.00
28.54	214.75	2.00	0.00	0.52	0.00						

Total estimated settlement: 0.22

Abbreviations

$Q_{tn,cs}$: Equivalent dean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

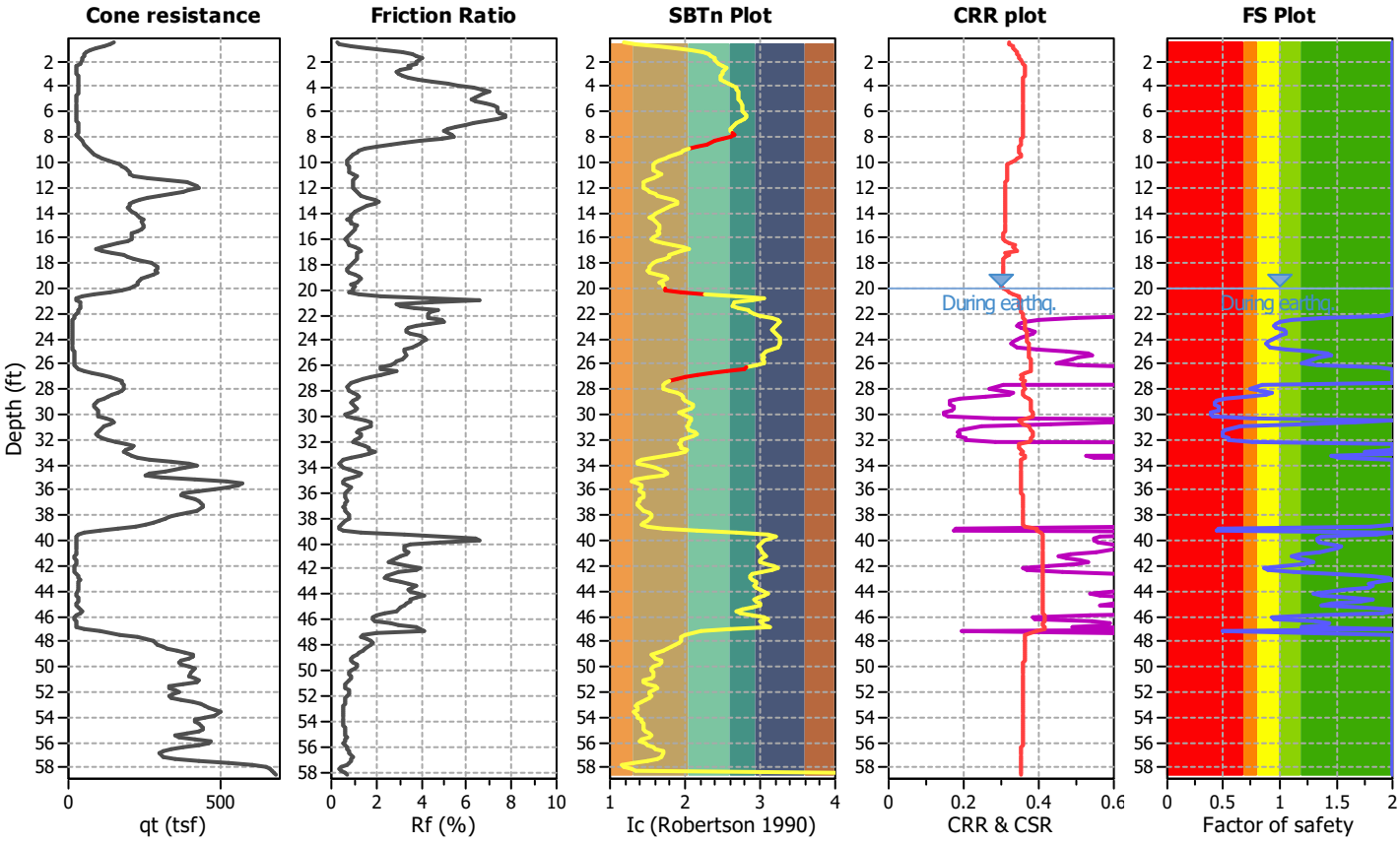
LIQUEFACTION ANALYSIS REPORT

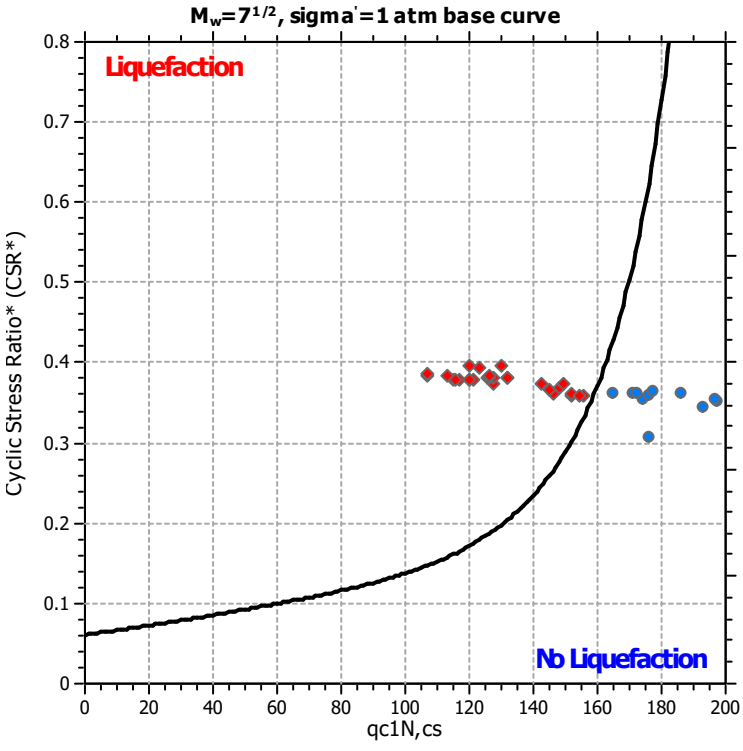
Project title : Marriot Townplace Suites **Location : San Jose, CA**

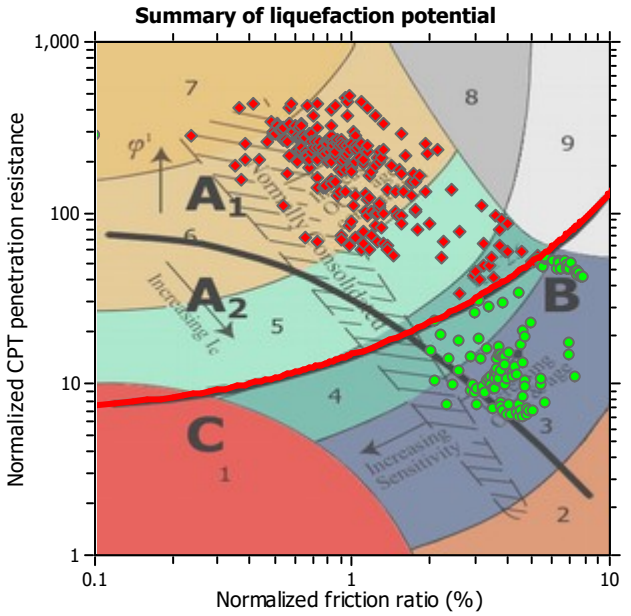
CPT file : CPT-4

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	19.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	20.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.10	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.58	Unit weight calculation:	Based on SBT	K_σ applied:	No		

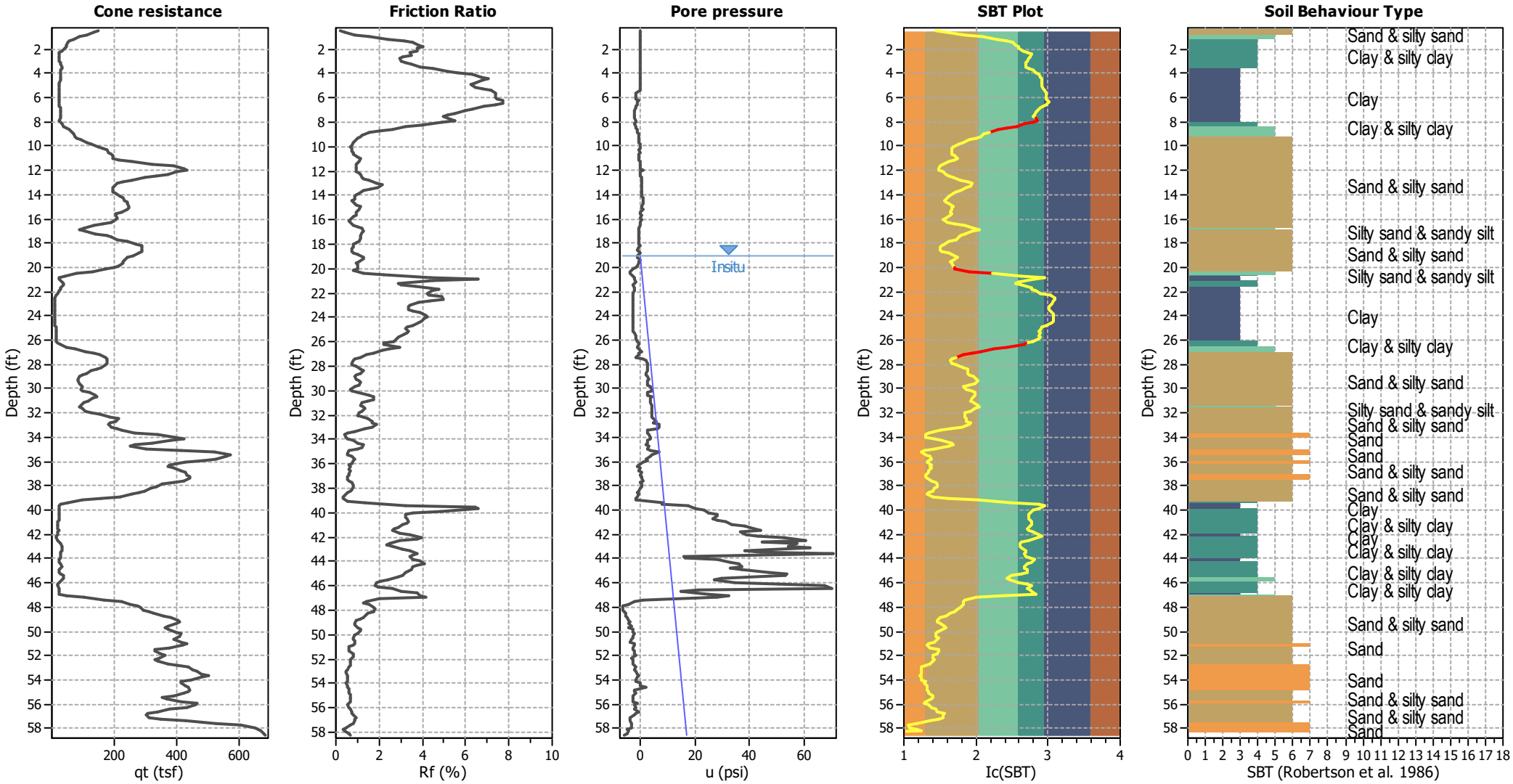






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

CPT basic interpretation plots



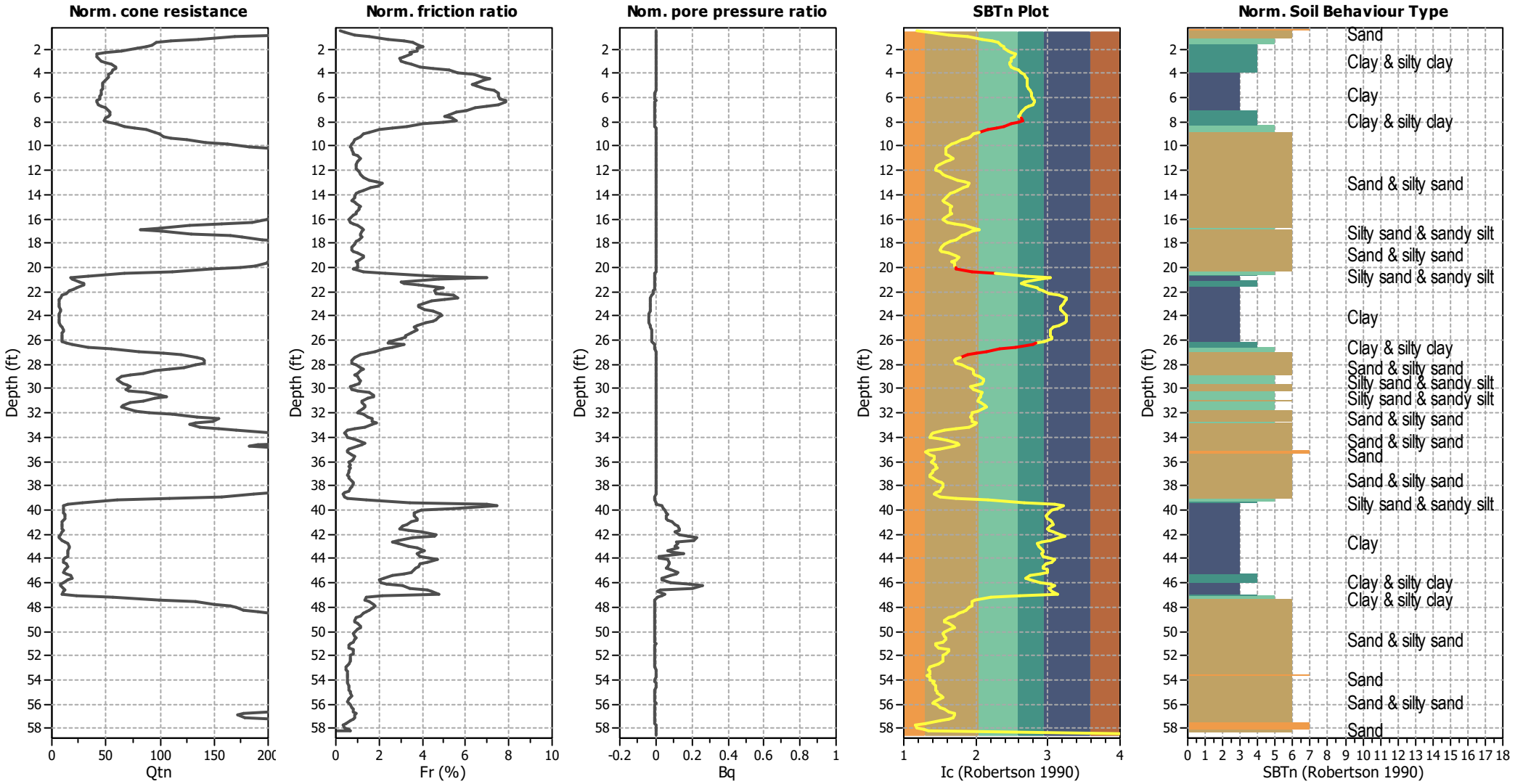
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	19.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

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

CPT basic interpretation plots (normalized)



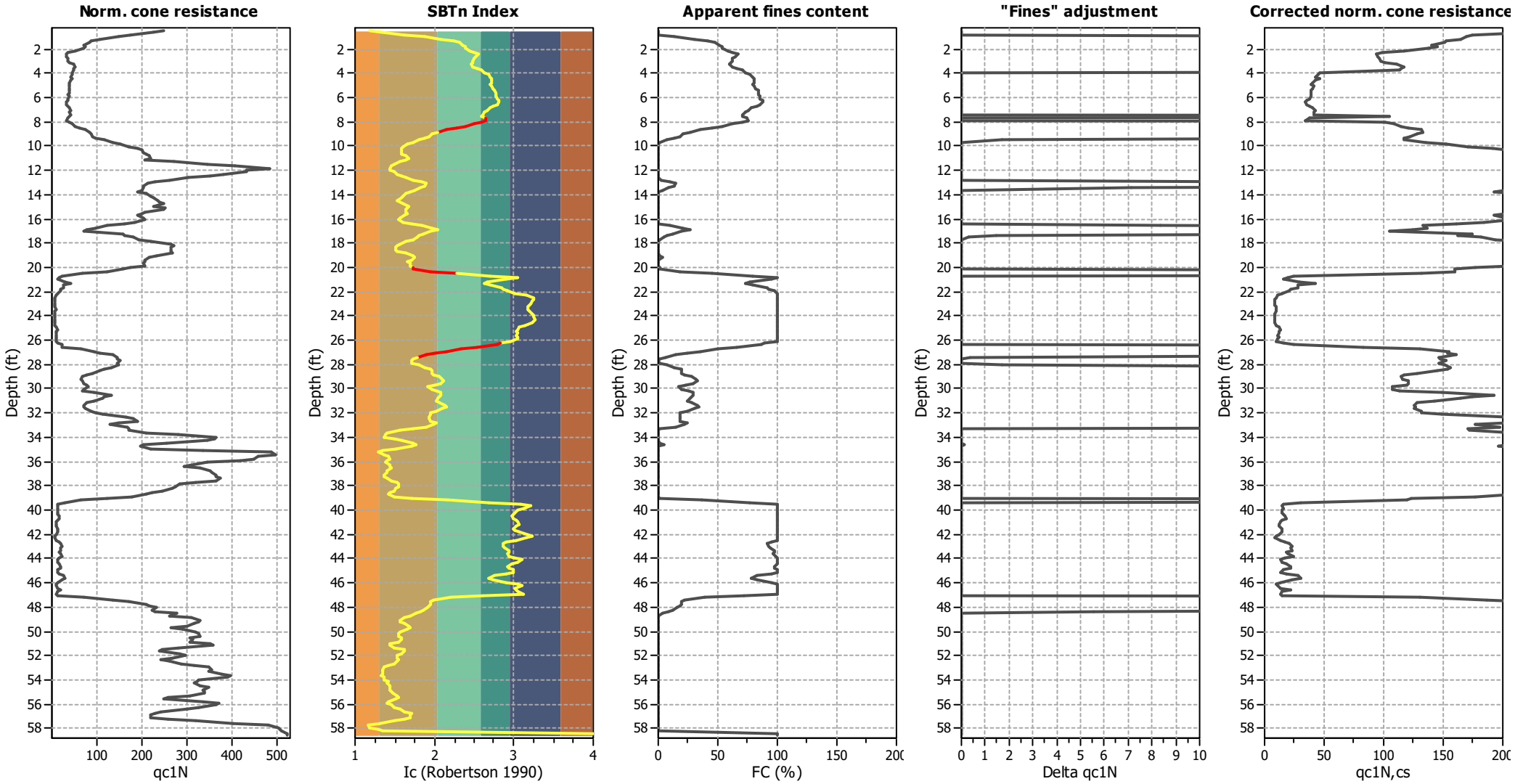
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	19.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

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

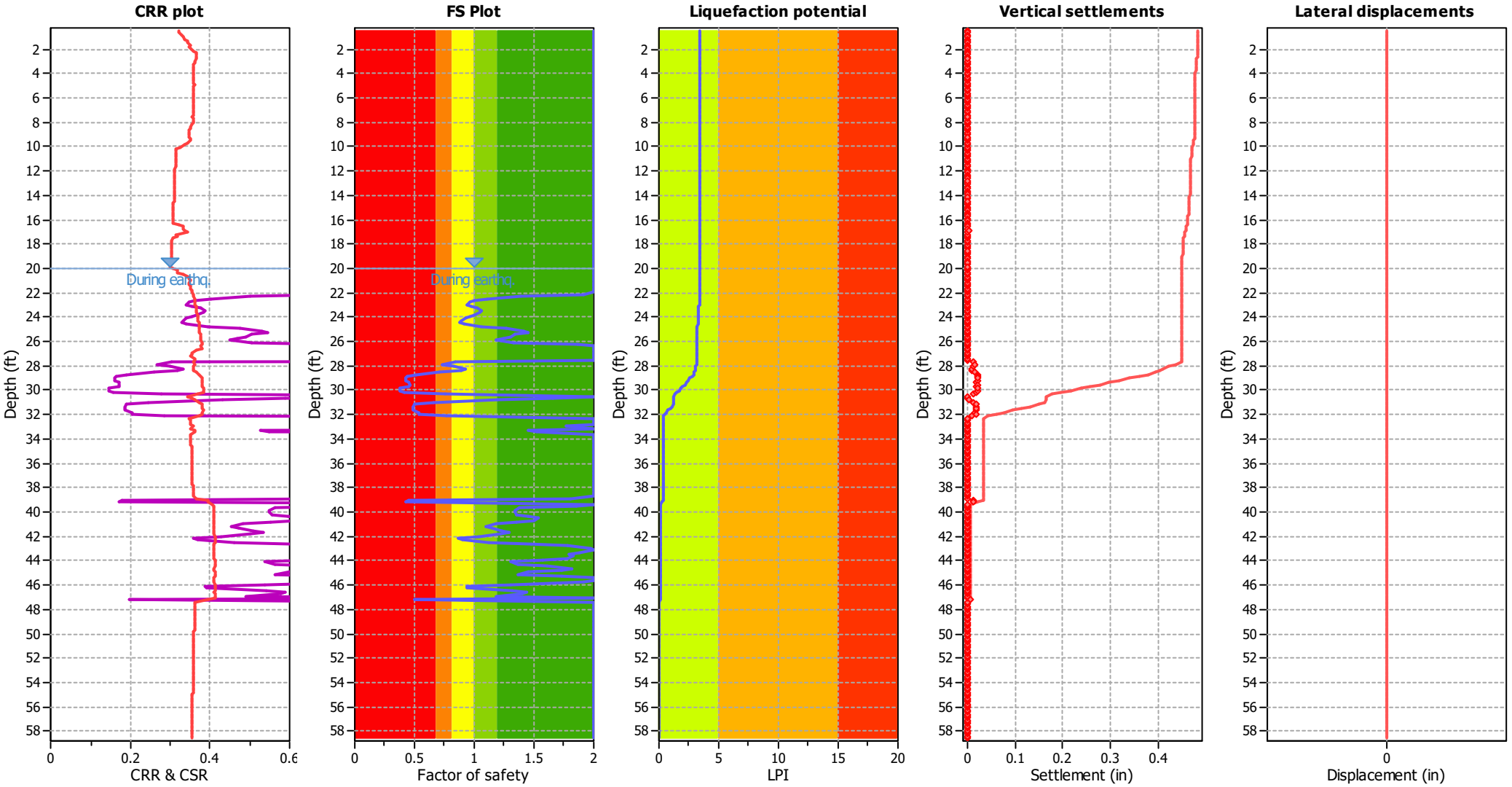
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	19.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	19.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

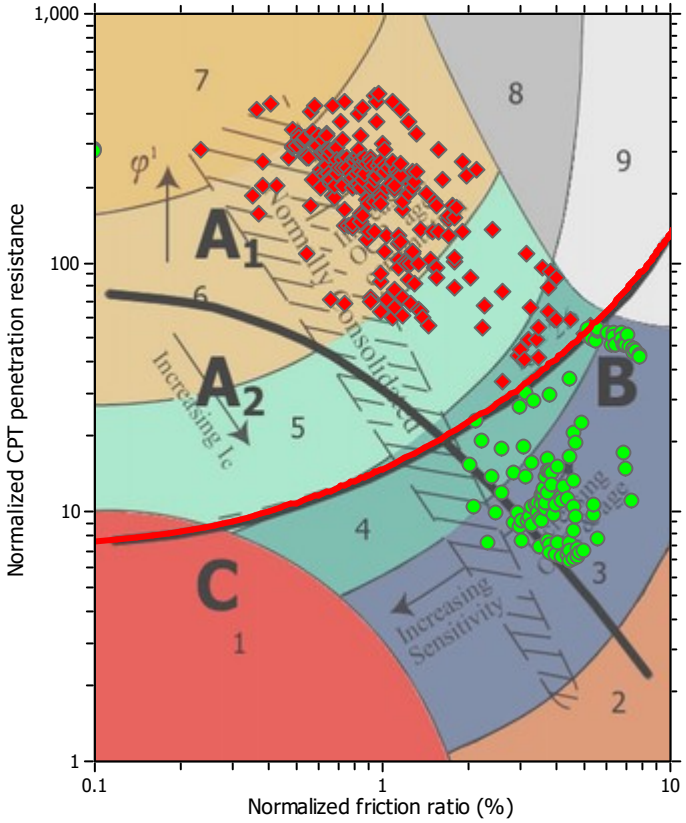
F.S. color scheme

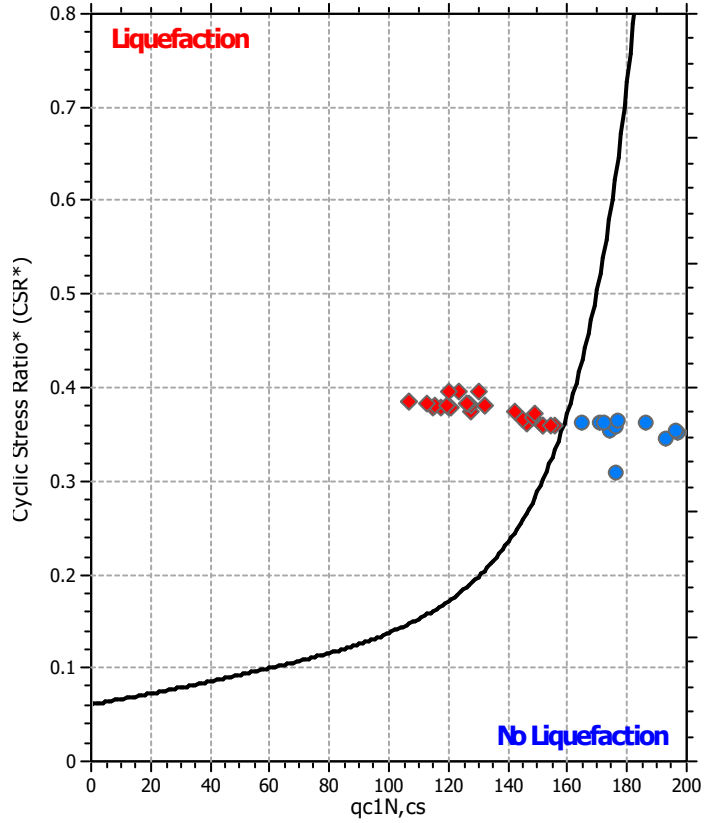
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

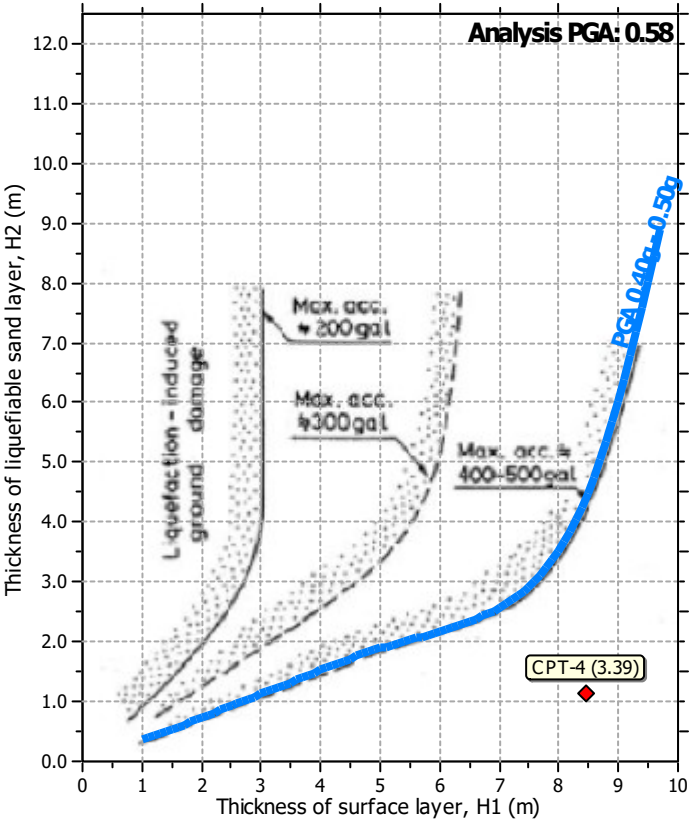
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



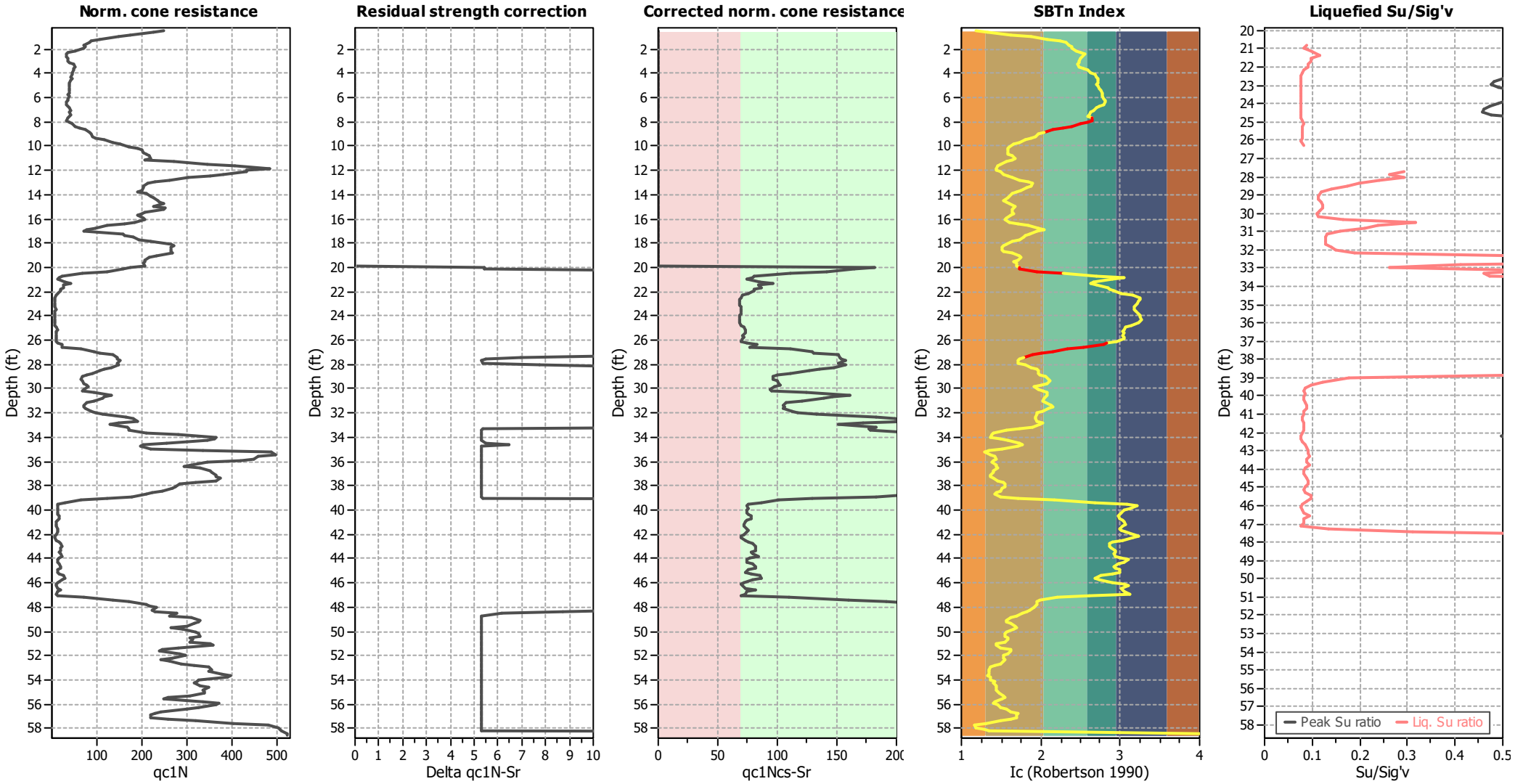




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	19.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

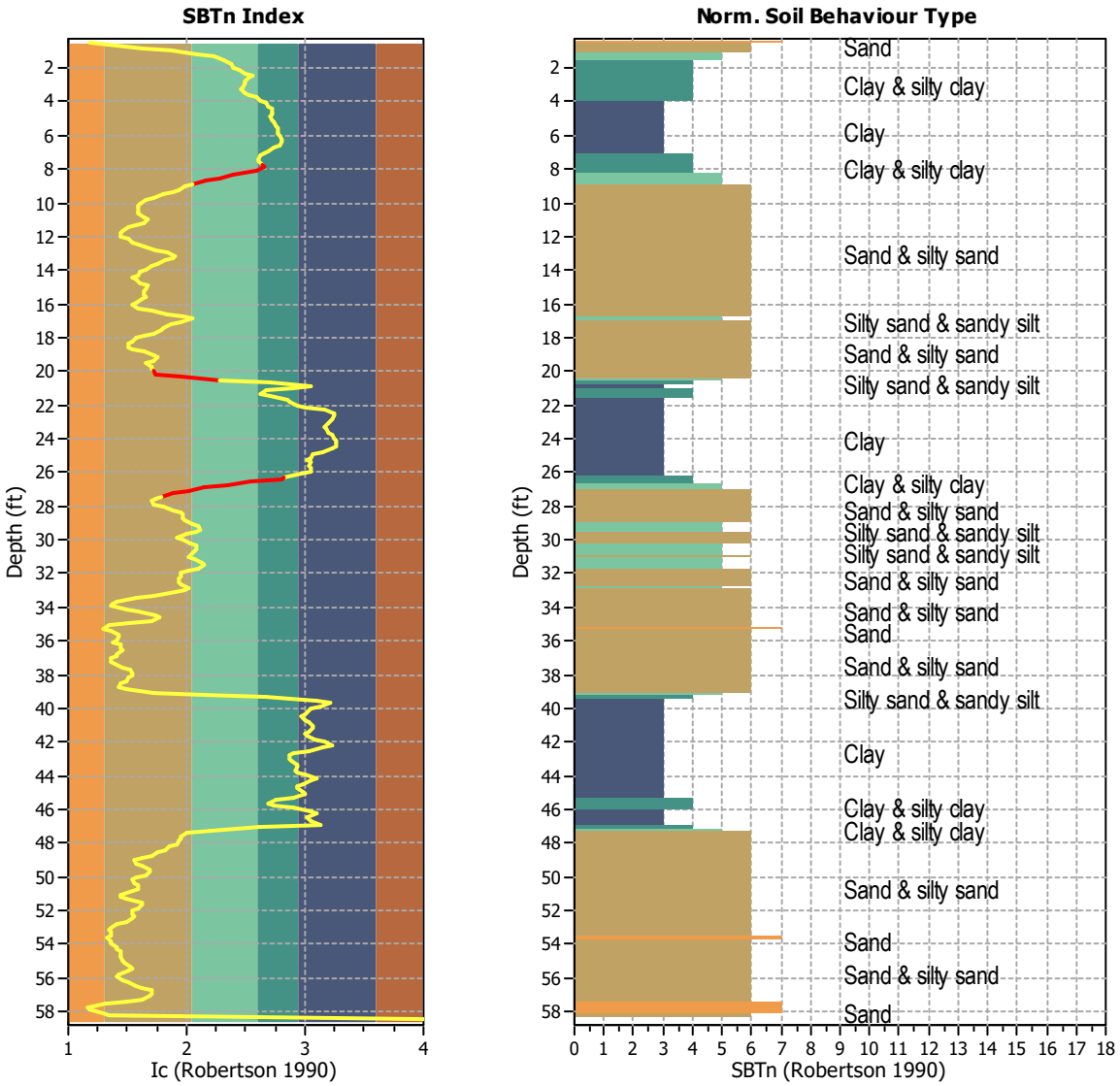
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	19.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

TRANSITION LAYER DETECTION ALGORITHM REPORT
Summary Details & Plots

Short description

The software will delete data when the cone is in transition from either clay to sand or vise-versa. To do this the software requires a range of I_c values over which the transition will be defined (typically somewhere between $1.80 < I_c < 3.0$) and a rate of change of I_c. Transitions typically occur when the rate of change of I_c is fast (i.e. delta I_c is small).

The SBT_n plot below, displays in red the detected transition layers based on the parameters listed below the graphs.



Transition layer algorithm properties		General statistics	
I_c minimum check value:	1.70	Total points in CPT file:	355
I_c maximum check value:	3.00	Total points excluded:	20
I_c change ratio value:	0.0250	Exclusion percentage:	5.63%
Minimum number of points in layer:	4	Number of layers detected:	3

Transition layer No	Number of points	Depth	SBT_n number	SBT_n description
Transition layer 1	8	Start depth: 7.87 (ft)	4	Clay & silty clay
		End depth: 9.02 (ft)	6	Sand & silty sand
Transition layer 2	4	Start depth: 20.18 (ft)	6	Sand & silty sand
		End depth: 20.67 (ft)	4	Clay & silty clay
Transition layer 3	8	Start depth: 26.41 (ft)	4	Clay & silty clay
		End depth: 27.56 (ft)	6	Sand & silty sand

Start depth: Depth where the transition layer begins
End depth: Depth where the transition layer ends

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data ::

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
1	0.49	0.03	0.00	0.03	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
2	0.66	0.04	0.00	0.04	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
3	0.82	0.05	0.00	0.05	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
4	0.98	0.06	0.00	0.06	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
5	1.15	0.07	0.00	0.07	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
6	1.31	0.08	0.00	0.08	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
7	1.48	0.09	0.00	0.09	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
8	1.64	0.10	0.00	0.10	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
9	1.80	0.11	0.00	0.11	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
10	1.97	0.12	0.00	0.12	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
11	2.13	0.13	0.00	0.13	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
12	2.30	0.14	0.00	0.14	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
13	2.46	0.15	0.00	0.15	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
14	2.62	0.16	0.00	0.16	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
15	2.79	0.17	0.00	0.17	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
16	2.95	0.18	0.00	0.18	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
17	3.12	0.19	0.00	0.19	1.00	0.376	1.11	0.339	1.00	1.00	2.000	No
18	3.28	0.20	0.00	0.20	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
19	3.44	0.21	0.00	0.21	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
20	3.61	0.22	0.00	0.22	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
21	3.77	0.23	0.00	0.23	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
22	3.94	0.24	0.00	0.24	1.00	0.375	1.11	0.338	1.00	1.00	2.000	No
23	4.10	0.25	0.00	0.25	1.00	0.375	1.11	0.338	1.00	1.00	2.000	No
24	4.27	0.26	0.00	0.26	0.99	0.375	1.11	0.337	1.00	1.00	2.000	No
25	4.43	0.27	0.00	0.27	0.99	0.375	1.11	0.337	1.00	1.00	2.000	No
26	4.59	0.28	0.00	0.28	0.99	0.375	1.11	0.337	1.00	1.00	2.000	No
27	4.76	0.29	0.00	0.29	0.99	0.374	1.11	0.337	1.00	1.00	2.000	No
28	4.92	0.30	0.00	0.30	0.99	0.374	1.11	0.337	1.00	1.00	2.000	No
29	5.09	0.31	0.00	0.31	0.99	0.374	1.11	0.337	1.00	1.00	2.000	No
30	5.25	0.32	0.00	0.32	0.99	0.374	1.11	0.336	1.00	1.00	2.000	No
31	5.41	0.33	0.00	0.33	0.99	0.374	1.11	0.336	1.00	1.00	2.000	No
32	5.58	0.34	0.00	0.34	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
33	5.74	0.35	0.00	0.35	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
34	5.91	0.36	0.00	0.36	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
35	6.07	0.37	0.00	0.37	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
36	6.23	0.38	0.00	0.38	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
37	6.40	0.39	0.00	0.39	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
38	6.56	0.40	0.00	0.40	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
39	6.73	0.41	0.00	0.41	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
40	6.89	0.42	0.00	0.42	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
41	7.05	0.43	0.00	0.43	0.99	0.372	1.11	0.334	1.00	1.00	2.000	No
42	7.22	0.44	0.00	0.44	0.99	0.371	1.11	0.334	1.00	1.00	2.000	No
43	7.38	0.45	0.00	0.45	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
44	7.55	0.46	0.00	0.46	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
45	7.71	0.47	0.00	0.47	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
46	7.87	0.48	0.00	0.48	0.98	0.371	1.11	0.333	1.00	1.00	2.000	Yes
47	8.04	0.49	0.00	0.49	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
48	8.20	0.50	0.00	0.50	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
49	8.37	0.51	0.00	0.51	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
50	8.53	0.52	0.00	0.52	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
51	8.69	0.53	0.00	0.53	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
52	8.86	0.54	0.00	0.54	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
53	9.02	0.54	0.00	0.54	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
54	9.19	0.56	0.00	0.56	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
55	9.35	0.56	0.00	0.56	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
56	9.51	0.57	0.00	0.57	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
57	9.68	0.58	0.00	0.58	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
58	9.84	0.59	0.00	0.59	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
59	10.01	0.60	0.00	0.60	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
60	10.17	0.61	0.00	0.61	0.97	0.367	1.11	0.331	1.00	1.00	2.000	No
61	10.33	0.62	0.00	0.62	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
62	10.50	0.64	0.00	0.64	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
63	10.66	0.65	0.00	0.65	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
64	10.83	0.66	0.00	0.66	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
65	10.99	0.67	0.00	0.67	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
66	11.15	0.68	0.00	0.68	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
67	11.32	0.69	0.00	0.69	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
68	11.48	0.70	0.00	0.70	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
69	11.65	0.71	0.00	0.71	0.97	0.365	1.11	0.329	1.00	1.00	2.000	No
70	11.81	0.72	0.00	0.72	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
71	11.98	0.73	0.00	0.73	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
72	12.14	0.74	0.00	0.74	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
73	12.30	0.75	0.00	0.75	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
74	12.47	0.77	0.00	0.77	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
75	12.63	0.78	0.00	0.78	0.97	0.364	1.11	0.327	1.00	1.00	2.000	No
76	12.80	0.79	0.00	0.79	0.96	0.364	1.11	0.327	1.00	1.00	2.000	No
77	12.96	0.80	0.00	0.80	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
78	13.12	0.81	0.00	0.81	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
79	13.29	0.82	0.00	0.82	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
80	13.45	0.83	0.00	0.83	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
81	13.62	0.84	0.00	0.84	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
82	13.78	0.85	0.00	0.85	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
83	13.94	0.86	0.00	0.86	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
84	14.11	0.87	0.00	0.87	0.96	0.362	1.11	0.325	1.00	1.00	2.000	No
85	14.27	0.88	0.00	0.88	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
86	14.44	0.89	0.00	0.89	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
87	14.60	0.90	0.00	0.90	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
88	14.76	0.92	0.00	0.92	0.96	0.361	1.11	0.324	1.00	1.00	2.000	No
89	14.93	0.93	0.00	0.93	0.96	0.360	1.11	0.324	1.00	1.00	2.000	No
90	15.09	0.94	0.00	0.94	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
91	15.26	0.95	0.00	0.95	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
92	15.42	0.96	0.00	0.96	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
93	15.58	0.97	0.00	0.97	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
94	15.75	0.98	0.00	0.98	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
95	15.91	0.99	0.00	0.99	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
96	16.08	1.00	0.00	1.00	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
97	16.24	1.01	0.00	1.01	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
98	16.40	1.02	0.00	1.02	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
99	16.57	1.03	0.00	1.03	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
100	16.73	1.04	0.00	1.04	0.95	0.357	1.11	0.322	1.00	1.00	2.000	No
101	16.90	1.05	0.00	1.05	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
102	17.06	1.06	0.00	1.06	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
103	17.22	1.07	0.00	1.07	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
104	17.39	1.08	0.00	1.08	0.94	0.356	1.11	0.321	1.00	1.00	2.000	No
105	17.55	1.09	0.00	1.09	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
106	17.72	1.10	0.00	1.10	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
107	17.88	1.11	0.00	1.11	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
108	18.04	1.12	0.00	1.12	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
109	18.21	1.13	0.00	1.13	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
110	18.37	1.15	0.00	1.15	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
111	18.54	1.16	0.00	1.16	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
112	18.70	1.17	0.00	1.17	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
113	18.86	1.18	0.00	1.18	0.94	0.354	1.11	0.318	1.00	1.00	2.000	No
114	19.03	1.19	0.00	1.19	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
115	19.19	1.20	0.00	1.20	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
116	19.36	1.21	0.00	1.21	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
117	19.52	1.22	0.00	1.22	0.94	0.353	1.11	0.317	1.00	1.00	2.000	No
118	19.69	1.23	0.00	1.23	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
119	19.85	1.24	0.00	1.24	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
120	20.01	1.25	0.00	1.25	0.93	0.352	1.11	0.317	1.00	1.00	0.308	No
121	20.18	1.26	0.01	1.26	0.93	0.353	1.11	0.318	1.00	1.00	2.000	Yes
122	20.34	1.27	0.01	1.26	0.93	0.354	1.11	0.319	1.00	1.00	2.000	Yes
123	20.51	1.28	0.02	1.27	0.93	0.355	1.11	0.320	1.00	1.00	2.000	Yes
124	20.67	1.29	0.02	1.27	0.93	0.356	1.11	0.321	1.00	1.00	2.000	Yes
125	20.83	1.30	0.03	1.28	0.93	0.357	1.11	0.322	1.00	1.00	0.349	No
126	21.00	1.31	0.03	1.28	0.93	0.359	1.11	0.323	1.00	1.00	0.351	No
127	21.16	1.32	0.04	1.29	0.93	0.360	1.11	0.324	1.00	1.00	0.349	No
128	21.33	1.33	0.04	1.29	0.93	0.361	1.11	0.325	1.00	1.00	0.347	No
129	21.49	1.34	0.05	1.30	0.93	0.362	1.11	0.325	1.00	1.00	0.351	No
130	21.65	1.35	0.05	1.30	0.93	0.363	1.11	0.326	1.00	1.00	0.352	No
131	21.82	1.36	0.06	1.31	0.92	0.364	1.11	0.327	1.00	1.00	0.355	No
132	21.98	1.37	0.06	1.31	0.92	0.365	1.11	0.328	1.00	1.00	0.356	No
133	22.15	1.38	0.07	1.31	0.92	0.366	1.11	0.329	1.00	1.00	0.358	No
134	22.31	1.39	0.07	1.32	0.92	0.367	1.11	0.330	1.00	1.00	0.359	No
135	22.47	1.40	0.08	1.32	0.92	0.368	1.11	0.331	1.00	1.00	0.361	No
136	22.64	1.41	0.08	1.33	0.92	0.369	1.11	0.332	1.00	1.00	0.362	No
137	22.80	1.42	0.09	1.33	0.92	0.370	1.11	0.333	1.00	1.00	0.363	No
138	22.97	1.43	0.09	1.33	0.92	0.371	1.11	0.333	1.00	1.00	0.364	No
139	23.13	1.44	0.10	1.34	0.92	0.371	1.11	0.334	1.00	1.00	0.365	No
140	23.29	1.44	0.10	1.34	0.92	0.372	1.11	0.335	1.00	1.00	0.365	No
141	23.46	1.45	0.11	1.35	0.92	0.373	1.11	0.336	1.00	1.00	0.366	No
142	23.62	1.46	0.11	1.35	0.92	0.374	1.11	0.337	1.00	1.00	0.367	No
143	23.79	1.47	0.12	1.35	0.92	0.375	1.11	0.338	1.00	1.00	0.368	No
144	23.95	1.48	0.12	1.36	0.91	0.376	1.11	0.338	1.00	1.00	0.369	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
145	24.11	1.49	0.13	1.36	0.91	0.377	1.11	0.339	1.00	1.00	0.370	No
146	24.28	1.50	0.13	1.37	0.91	0.378	1.11	0.340	1.00	1.00	0.371	No
147	24.44	1.51	0.14	1.37	0.91	0.379	1.11	0.341	1.00	1.00	0.372	No
148	24.61	1.52	0.14	1.37	0.91	0.379	1.11	0.341	1.00	1.00	0.372	No
149	24.77	1.53	0.15	1.38	0.91	0.380	1.11	0.342	1.00	1.00	0.373	No
150	24.93	1.53	0.15	1.38	0.91	0.381	1.11	0.343	1.00	1.00	0.373	No
151	25.10	1.54	0.16	1.38	0.91	0.382	1.11	0.344	1.00	1.00	0.374	No
152	25.26	1.55	0.16	1.39	0.91	0.383	1.11	0.344	1.00	1.00	0.375	No
153	25.43	1.56	0.17	1.39	0.91	0.384	1.11	0.345	1.00	1.00	0.376	No
154	25.59	1.57	0.17	1.40	0.91	0.384	1.11	0.346	1.00	1.00	0.377	No
155	25.75	1.58	0.18	1.40	0.91	0.385	1.11	0.346	1.00	1.00	0.377	No
156	25.92	1.59	0.18	1.40	0.90	0.386	1.11	0.347	1.00	1.00	0.378	No
157	26.08	1.60	0.19	1.41	0.90	0.387	1.11	0.348	1.00	1.00	0.379	No
158	26.25	1.61	0.20	1.41	0.90	0.387	1.11	0.349	1.00	1.00	0.379	No
159	26.41	1.62	0.20	1.42	0.90	0.388	1.11	0.349	1.00	1.00	2.000	Yes
160	26.57	1.63	0.20	1.42	0.90	0.389	1.11	0.350	1.00	1.00	2.000	Yes
161	26.74	1.64	0.21	1.43	0.90	0.390	1.11	0.350	1.00	1.00	2.000	Yes
162	26.90	1.65	0.22	1.43	0.90	0.390	1.11	0.351	1.00	1.00	2.000	Yes
163	27.07	1.66	0.22	1.44	0.90	0.391	1.11	0.352	1.00	1.00	2.000	Yes
164	27.23	1.67	0.23	1.44	0.90	0.392	1.11	0.352	1.00	1.00	2.000	Yes
165	27.40	1.68	0.23	1.45	0.90	0.392	1.11	0.353	1.00	1.00	2.000	Yes
166	27.56	1.69	0.24	1.45	0.90	0.393	1.11	0.353	1.00	1.00	2.000	Yes
167	27.72	1.70	0.24	1.46	0.90	0.393	1.11	0.354	1.00	1.00	0.359	No
168	27.89	1.71	0.25	1.46	0.89	0.394	1.11	0.355	1.00	1.00	0.362	No
169	28.05	1.72	0.25	1.47	0.89	0.395	1.11	0.355	1.00	1.00	0.360	No
170	28.22	1.73	0.26	1.47	0.89	0.395	1.11	0.356	1.00	1.00	0.358	No
171	28.38	1.74	0.26	1.48	0.89	0.396	1.11	0.356	1.00	1.00	0.360	No
172	28.54	1.75	0.27	1.48	0.89	0.396	1.11	0.357	1.00	1.00	0.365	No
173	28.71	1.76	0.27	1.49	0.89	0.397	1.11	0.357	1.00	1.00	0.374	No
174	28.87	1.77	0.28	1.49	0.89	0.398	1.11	0.358	1.00	1.00	0.378	No
175	29.04	1.78	0.28	1.50	0.89	0.398	1.11	0.358	1.00	1.00	0.380	No
176	29.20	1.79	0.29	1.50	0.89	0.399	1.11	0.359	1.00	1.00	0.380	No
177	29.36	1.80	0.29	1.51	0.89	0.399	1.11	0.359	1.00	1.00	0.379	No
178	29.53	1.81	0.30	1.51	0.89	0.400	1.11	0.360	1.00	1.00	0.379	No
179	29.69	1.82	0.30	1.52	0.89	0.400	1.11	0.360	1.00	1.00	0.380	No
180	29.86	1.83	0.31	1.52	0.88	0.401	1.11	0.361	1.00	1.00	0.385	No
181	30.02	1.84	0.31	1.53	0.88	0.401	1.11	0.361	1.00	1.00	0.385	No
182	30.18	1.85	0.32	1.53	0.88	0.402	1.11	0.362	1.00	1.00	0.384	No
183	30.35	1.86	0.32	1.54	0.88	0.402	1.11	0.362	1.00	1.00	0.369	No
184	30.51	1.87	0.33	1.54	0.88	0.403	1.11	0.362	1.00	1.00	0.345	No
185	30.68	1.88	0.33	1.55	0.88	0.403	1.11	0.363	1.00	1.00	0.354	No
186	30.84	1.89	0.34	1.55	0.88	0.404	1.11	0.363	1.00	1.00	0.361	No
187	31.00	1.90	0.34	1.56	0.88	0.404	1.11	0.364	1.00	1.00	0.374	No
188	31.17	1.91	0.35	1.56	0.88	0.405	1.11	0.364	1.00	1.00	0.381	No
189	31.33	1.92	0.35	1.57	0.88	0.405	1.11	0.365	1.00	1.00	0.382	No
190	31.50	1.93	0.36	1.57	0.88	0.406	1.11	0.365	1.00	1.00	0.382	No
191	31.66	1.94	0.36	1.58	0.88	0.406	1.11	0.365	1.00	1.00	0.383	No
192	31.82	1.95	0.37	1.58	0.87	0.406	1.11	0.366	1.00	1.00	0.381	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
193	31.99	1.96	0.37	1.59	0.87	0.407	1.11	0.366	1.00	1.00	0.381	No
194	32.15	1.97	0.38	1.59	0.87	0.407	1.11	0.366	1.00	1.00	0.373	No
195	32.32	1.98	0.38	1.60	0.87	0.408	1.11	0.367	1.00	1.00	0.349	No
196	32.48	1.99	0.39	1.60	0.87	0.408	1.11	0.367	1.00	1.00	0.350	No
197	32.64	2.00	0.39	1.61	0.87	0.408	1.11	0.367	1.00	1.00	0.350	No
198	32.81	2.02	0.40	1.62	0.87	0.409	1.11	0.368	1.00	1.00	0.350	No
199	32.97	2.03	0.40	1.62	0.87	0.409	1.11	0.368	1.00	1.00	0.358	No
200	33.14	2.04	0.41	1.63	0.87	0.409	1.11	0.368	1.00	1.00	0.351	No
201	33.30	2.05	0.41	1.63	0.87	0.410	1.11	0.369	1.00	1.00	0.362	No
202	33.46	2.06	0.42	1.64	0.87	0.410	1.11	0.369	1.00	1.00	0.361	No
203	33.63	2.07	0.43	1.64	0.86	0.410	1.11	0.369	1.00	1.00	0.352	No
204	33.79	2.08	0.43	1.65	0.86	0.411	1.11	0.370	1.00	1.00	0.352	No
205	33.96	2.09	0.44	1.65	0.86	0.411	1.11	0.370	1.00	1.00	0.352	No
206	34.12	2.10	0.44	1.66	0.86	0.411	1.11	0.370	1.00	1.00	0.352	No
207	34.28	2.11	0.45	1.67	0.86	0.412	1.11	0.370	1.00	1.00	0.353	No
208	34.45	2.12	0.45	1.67	0.86	0.412	1.11	0.371	1.00	1.00	0.353	No
209	34.61	2.13	0.46	1.68	0.86	0.412	1.11	0.371	1.00	1.00	0.353	No
210	34.78	2.14	0.46	1.68	0.86	0.412	1.11	0.371	1.00	1.00	0.353	No
211	34.94	2.15	0.47	1.69	0.86	0.413	1.11	0.371	1.00	1.00	0.354	No
212	35.10	2.16	0.47	1.69	0.86	0.413	1.11	0.372	1.00	1.00	0.354	No
213	35.27	2.18	0.48	1.70	0.86	0.413	1.11	0.372	1.00	1.00	0.354	No
214	35.43	2.19	0.48	1.71	0.86	0.413	1.11	0.372	1.00	1.00	0.354	No
215	35.60	2.20	0.49	1.71	0.85	0.414	1.11	0.372	1.00	1.00	0.354	No
216	35.76	2.21	0.49	1.72	0.85	0.414	1.11	0.372	1.00	1.00	0.355	No
217	35.93	2.22	0.50	1.72	0.85	0.414	1.11	0.373	1.00	1.00	0.355	No
218	36.09	2.23	0.50	1.73	0.85	0.414	1.11	0.373	1.00	1.00	0.355	No
219	36.25	2.24	0.51	1.73	0.85	0.415	1.11	0.373	1.00	1.00	0.355	No
220	36.42	2.25	0.51	1.74	0.85	0.415	1.11	0.373	1.00	1.00	0.355	No
221	36.58	2.26	0.52	1.75	0.85	0.415	1.11	0.373	1.00	1.00	0.356	No
222	36.75	2.27	0.52	1.75	0.85	0.415	1.11	0.374	1.00	1.00	0.356	No
223	36.91	2.29	0.53	1.76	0.85	0.415	1.11	0.374	1.00	1.00	0.356	No
224	37.07	2.30	0.53	1.76	0.85	0.416	1.11	0.374	1.00	1.00	0.356	No
225	37.24	2.31	0.54	1.77	0.85	0.416	1.11	0.374	1.00	1.00	0.356	No
226	37.40	2.32	0.54	1.77	0.84	0.416	1.11	0.374	1.00	1.00	0.356	No
227	37.57	2.33	0.55	1.78	0.84	0.416	1.11	0.374	1.00	1.00	0.356	No
228	37.73	2.34	0.55	1.79	0.84	0.416	1.11	0.374	1.00	1.00	0.357	No
229	37.89	2.35	0.56	1.79	0.84	0.416	1.11	0.375	1.00	1.00	0.357	No
230	38.06	2.36	0.56	1.80	0.84	0.417	1.11	0.375	1.00	1.00	0.357	No
231	38.22	2.37	0.57	1.80	0.84	0.417	1.11	0.375	1.00	1.00	0.357	No
232	38.39	2.38	0.57	1.81	0.84	0.417	1.11	0.375	1.00	1.00	0.357	No
233	38.55	2.39	0.58	1.81	0.84	0.417	1.11	0.375	1.00	1.00	0.357	No
234	38.71	2.40	0.58	1.82	0.84	0.417	1.11	0.375	1.00	1.00	0.357	No
235	38.88	2.41	0.59	1.82	0.84	0.417	1.11	0.376	1.00	1.00	0.364	No
236	39.04	2.42	0.59	1.83	0.84	0.418	1.11	0.376	1.00	1.00	0.395	No
237	39.21	2.43	0.60	1.83	0.84	0.418	1.11	0.376	1.00	1.00	0.396	No
238	39.37	2.44	0.60	1.84	0.83	0.418	1.11	0.376	1.00	1.00	0.405	No
239	39.53	2.45	0.61	1.84	0.83	0.418	1.11	0.376	1.00	1.00	0.409	No
240	39.70	2.46	0.61	1.85	0.83	0.418	1.11	0.376	1.00	1.00	0.409	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
241	39.86	2.47	0.62	1.85	0.83	0.418	1.11	0.376	1.00	1.00	0.409	No
242	40.03	2.48	0.62	1.86	0.83	0.418	1.11	0.377	1.00	1.00	0.410	No
243	40.19	2.49	0.63	1.86	0.83	0.419	1.11	0.377	1.00	1.00	0.410	No
244	40.35	2.50	0.63	1.87	0.83	0.419	1.11	0.377	1.00	1.00	0.410	No
245	40.52	2.51	0.64	1.87	0.83	0.419	1.11	0.377	1.00	1.00	0.409	No
246	40.68	2.52	0.65	1.88	0.83	0.419	1.11	0.377	1.00	1.00	0.409	No
247	40.85	2.53	0.65	1.88	0.83	0.419	1.11	0.377	1.00	1.00	0.410	No
248	41.01	2.54	0.66	1.88	0.83	0.419	1.11	0.377	1.00	1.00	0.411	No
249	41.17	2.55	0.66	1.89	0.82	0.420	1.11	0.378	1.00	1.00	0.411	No
250	41.34	2.56	0.67	1.89	0.82	0.420	1.11	0.378	1.00	1.00	0.411	No
251	41.50	2.57	0.67	1.90	0.82	0.420	1.11	0.378	1.00	1.00	0.411	No
252	41.67	2.58	0.68	1.90	0.82	0.420	1.11	0.378	1.00	1.00	0.411	No
253	41.83	2.59	0.68	1.90	0.82	0.420	1.11	0.378	1.00	1.00	0.411	No
254	41.99	2.60	0.69	1.91	0.82	0.420	1.11	0.378	1.00	1.00	0.412	No
255	42.16	2.60	0.69	1.91	0.82	0.420	1.11	0.378	1.00	1.00	0.412	No
256	42.32	2.61	0.70	1.92	0.82	0.421	1.11	0.378	1.00	1.00	0.413	No
257	42.49	2.62	0.70	1.92	0.82	0.421	1.11	0.378	1.00	1.00	0.412	No
258	42.65	2.63	0.71	1.93	0.82	0.421	1.11	0.379	1.00	1.00	0.411	No
259	42.81	2.64	0.71	1.93	0.82	0.421	1.11	0.379	1.00	1.00	0.411	No
260	42.98	2.65	0.72	1.93	0.81	0.421	1.11	0.379	1.00	1.00	0.410	No
261	43.14	2.66	0.72	1.94	0.81	0.421	1.11	0.379	1.00	1.00	0.410	No
262	43.31	2.67	0.73	1.94	0.81	0.421	1.11	0.379	1.00	1.00	0.410	No
263	43.47	2.68	0.73	1.95	0.81	0.421	1.11	0.379	1.00	1.00	0.411	No
264	43.64	2.69	0.74	1.95	0.81	0.421	1.11	0.379	1.00	1.00	0.411	No
265	43.80	2.70	0.74	1.96	0.81	0.421	1.11	0.379	1.00	1.00	0.410	No
266	43.96	2.71	0.75	1.96	0.81	0.421	1.11	0.379	1.00	1.00	0.412	No
267	44.13	2.72	0.75	1.97	0.81	0.421	1.11	0.379	1.00	1.00	0.413	No
268	44.29	2.73	0.76	1.97	0.81	0.422	1.11	0.379	1.00	1.00	0.412	No
269	44.46	2.74	0.76	1.98	0.81	0.422	1.11	0.379	1.00	1.00	0.412	No
270	44.62	2.75	0.77	1.98	0.81	0.422	1.11	0.379	1.00	1.00	0.411	No
271	44.78	2.76	0.77	1.99	0.81	0.422	1.11	0.379	1.00	1.00	0.411	No
272	44.95	2.77	0.78	1.99	0.80	0.422	1.11	0.379	1.00	1.00	0.412	No
273	45.11	2.78	0.78	1.99	0.80	0.422	1.11	0.379	1.00	1.00	0.413	No
274	45.28	2.79	0.79	2.00	0.80	0.422	1.11	0.380	1.00	1.00	0.412	No
275	45.44	2.80	0.79	2.00	0.80	0.422	1.11	0.380	1.00	1.00	0.410	No
276	45.60	2.81	0.80	2.01	0.80	0.422	1.11	0.380	1.00	1.00	0.409	No
277	45.77	2.82	0.80	2.01	0.80	0.422	1.11	0.380	1.00	1.00	0.411	No
278	45.93	2.83	0.81	2.02	0.80	0.422	1.11	0.380	1.00	1.00	0.413	No
279	46.10	2.83	0.81	2.02	0.80	0.422	1.11	0.380	1.00	1.00	0.414	No
280	46.26	2.84	0.82	2.02	0.80	0.422	1.11	0.380	1.00	1.00	0.414	No
281	46.42	2.85	0.82	2.03	0.80	0.422	1.11	0.380	1.00	1.00	0.413	No
282	46.59	2.86	0.83	2.03	0.80	0.422	1.11	0.380	1.00	1.00	0.411	No
283	46.75	2.87	0.83	2.04	0.79	0.422	1.11	0.380	1.00	1.00	0.413	No
284	46.92	2.88	0.84	2.04	0.79	0.422	1.11	0.380	1.00	1.00	0.413	No
285	47.08	2.89	0.84	2.05	0.79	0.422	1.11	0.380	1.00	1.00	0.414	No
286	47.24	2.90	0.85	2.05	0.79	0.422	1.11	0.380	1.00	1.00	0.396	No
287	47.41	2.91	0.86	2.06	0.79	0.422	1.11	0.380	1.00	1.00	0.362	No
288	47.57	2.92	0.86	2.06	0.79	0.422	1.11	0.380	1.00	1.00	0.362	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
289	47.74	2.93	0.87	2.07	0.79	0.422	1.11	0.380	1.00	1.00	0.362	No
290	47.90	2.95	0.87	2.08	0.79	0.422	1.11	0.380	1.00	1.00	0.361	No
291	48.06	2.96	0.88	2.08	0.79	0.422	1.11	0.379	1.00	1.00	0.361	No
292	48.23	2.97	0.88	2.09	0.79	0.422	1.11	0.379	1.00	1.00	0.361	No
293	48.39	2.98	0.89	2.09	0.79	0.422	1.11	0.379	1.00	1.00	0.361	No
294	48.56	2.99	0.89	2.10	0.78	0.421	1.11	0.379	1.00	1.00	0.361	No
295	48.72	3.00	0.90	2.11	0.78	0.421	1.11	0.379	1.00	1.00	0.361	No
296	48.88	3.01	0.90	2.11	0.78	0.421	1.11	0.379	1.00	1.00	0.361	No
297	49.05	3.02	0.91	2.12	0.78	0.421	1.11	0.379	1.00	1.00	0.361	No
298	49.21	3.03	0.91	2.12	0.78	0.421	1.11	0.379	1.00	1.00	0.361	No
299	49.38	3.05	0.92	2.13	0.78	0.421	1.11	0.379	1.00	1.00	0.361	No
300	49.54	3.06	0.92	2.13	0.78	0.421	1.11	0.379	1.00	1.00	0.361	No
301	49.70	3.07	0.93	2.14	0.78	0.421	1.11	0.379	1.00	1.00	0.360	No
302	49.87	3.08	0.93	2.15	0.78	0.421	1.11	0.378	1.00	1.00	0.360	No
303	50.03	3.09	0.94	2.15	0.78	0.420	1.11	0.378	1.00	1.00	2.000	No
304	50.20	3.10	0.94	2.16	0.78	0.420	1.11	0.378	1.00	1.00	2.000	No
305	50.36	3.11	0.95	2.16	0.78	0.420	1.11	0.378	1.00	1.00	2.000	No
306	50.52	3.12	0.95	2.17	0.77	0.420	1.11	0.378	1.00	1.00	2.000	No
307	50.69	3.13	0.96	2.18	0.77	0.420	1.11	0.378	1.00	1.00	2.000	No
308	50.85	3.14	0.96	2.18	0.77	0.420	1.11	0.378	1.00	1.00	2.000	No
309	51.02	3.16	0.97	2.19	0.77	0.420	1.11	0.378	1.00	1.00	2.000	No
310	51.18	3.17	0.97	2.19	0.77	0.420	1.11	0.378	1.00	1.00	2.000	No
311	51.35	3.18	0.98	2.20	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
312	51.51	3.19	0.98	2.20	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
313	51.67	3.20	0.99	2.21	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
314	51.84	3.21	0.99	2.22	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
315	52.00	3.22	1.00	2.22	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
316	52.17	3.23	1.00	2.23	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
317	52.33	3.24	1.01	2.23	0.76	0.419	1.11	0.377	1.00	1.00	2.000	No
318	52.49	3.25	1.01	2.24	0.76	0.419	1.11	0.377	1.00	1.00	2.000	No
319	52.66	3.26	1.02	2.24	0.76	0.418	1.11	0.376	1.00	1.00	2.000	No
320	52.82	3.27	1.02	2.25	0.76	0.418	1.11	0.376	1.00	1.00	2.000	No
321	52.99	3.28	1.03	2.26	0.76	0.418	1.11	0.376	1.00	1.00	2.000	No
322	53.15	3.29	1.03	2.26	0.76	0.418	1.11	0.376	1.00	1.00	2.000	No
323	53.31	3.31	1.04	2.27	0.76	0.418	1.11	0.376	1.00	1.00	2.000	No
324	53.48	3.32	1.04	2.27	0.76	0.418	1.11	0.376	1.00	1.00	2.000	No
325	53.64	3.33	1.05	2.28	0.76	0.418	1.11	0.376	1.00	1.00	2.000	No
326	53.81	3.34	1.05	2.28	0.76	0.417	1.11	0.376	1.00	1.00	2.000	No
327	53.97	3.35	1.06	2.29	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
328	54.13	3.36	1.06	2.29	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
329	54.30	3.37	1.07	2.30	0.75	0.417	1.11	0.375	1.00	1.00	2.000	No
330	54.46	3.38	1.08	2.31	0.75	0.417	1.11	0.375	1.00	1.00	2.000	No
331	54.63	3.39	1.08	2.31	0.75	0.417	1.11	0.375	1.00	1.00	2.000	No
332	54.79	3.40	1.09	2.32	0.75	0.416	1.11	0.375	1.00	1.00	2.000	No
333	54.95	3.41	1.09	2.32	0.75	0.416	1.11	0.375	1.00	1.00	2.000	No
334	55.12	3.42	1.10	2.33	0.75	0.416	1.11	0.374	1.00	1.00	2.000	No
335	55.28	3.44	1.10	2.33	0.75	0.416	1.11	0.374	1.00	1.00	2.000	No
336	55.45	3.45	1.11	2.34	0.75	0.416	1.11	0.374	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
337	55.61	3.46	1.11	2.35	0.75	0.416	1.11	0.374	1.00	1.00	2.000	No
338	55.77	3.47	1.12	2.35	0.75	0.415	1.11	0.374	1.00	1.00	2.000	No
339	55.94	3.48	1.12	2.36	0.75	0.415	1.11	0.374	1.00	1.00	2.000	No
340	56.10	3.49	1.13	2.36	0.75	0.415	1.11	0.373	1.00	1.00	2.000	No
341	56.27	3.50	1.13	2.37	0.74	0.415	1.11	0.373	1.00	1.00	2.000	No
342	56.43	3.51	1.14	2.37	0.74	0.415	1.11	0.373	1.00	1.00	2.000	No
343	56.59	3.52	1.14	2.38	0.74	0.414	1.11	0.373	1.00	1.00	2.000	No
344	56.76	3.53	1.15	2.39	0.74	0.414	1.11	0.373	1.00	1.00	2.000	No
345	56.92	3.54	1.15	2.39	0.74	0.414	1.11	0.373	1.00	1.00	2.000	No
346	57.09	3.55	1.16	2.40	0.74	0.414	1.11	0.372	1.00	1.00	2.000	No
347	57.25	3.57	1.16	2.40	0.74	0.414	1.11	0.372	1.00	1.00	2.000	No
348	57.41	3.58	1.17	2.41	0.74	0.414	1.11	0.372	1.00	1.00	2.000	No
349	57.58	3.59	1.17	2.41	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
350	57.74	3.60	1.18	2.42	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
351	57.91	3.61	1.18	2.43	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
352	58.07	3.62	1.19	2.43	0.74	0.413	1.11	0.371	1.00	1.00	2.000	No
353	58.23	3.63	1.19	2.44	0.73	0.413	1.11	0.371	1.00	1.00	2.000	No
354	58.40	3.64	1.20	2.44	0.73	0.413	1.11	0.371	1.00	1.00	2.000	No
355	58.56	3.65	1.20	2.44	0.73	0.413	1.11	0.371	1.00	1.00	2.000	No

Abbreviations

Depth: Depth from free surface, at which CPT was performed (ft)
σ_v: Total overburden pressure at test point (tsf)
u_0: Water pressure at test point (tsf)
σ_v': Effective overburden pressure based on GWT during earthquake (tsf)
r_d: Nonlinear shear mass factor
CSR: Cyclic Stress Ratio
MSF: Magnitude Scaling Factor
CSR_{eq}: CSR adjusted for M=7.5
K_σ: Effective overburden stress factor
CSR^*: CSR fully adjusted

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
0.49	2.00	0.00	0.00	0.05	0.00	0.66	2.00	0.00	0.00	0.05	0.00
0.82	2.00	0.00	0.00	0.05	0.00	0.98	2.00	0.00	0.00	0.05	0.00
1.15	2.00	0.00	0.00	0.05	0.00	1.31	2.00	0.00	0.00	0.05	0.00
1.48	2.00	0.00	0.00	0.05	0.00	1.64	2.00	0.00	0.00	0.05	0.00
1.80	2.00	0.00	0.00	0.05	0.00	1.97	2.00	0.00	0.00	0.05	0.00
2.13	2.00	0.00	0.00	0.05	0.00	2.30	2.00	0.00	0.00	0.05	0.00
2.46	2.00	0.00	0.00	0.05	0.00	2.62	2.00	0.00	0.00	0.05	0.00
2.79	2.00	0.00	0.00	0.05	0.00	2.95	2.00	0.00	0.00	0.05	0.00
3.12	2.00	0.00	0.00	0.05	0.00	3.28	2.00	0.00	0.00	0.05	0.00
3.44	2.00	0.00	0.00	0.05	0.00	3.61	2.00	0.00	0.00	0.05	0.00
3.77	2.00	0.00	0.00	0.05	0.00	3.94	2.00	0.00	0.00	0.05	0.00
4.10	2.00	0.00	0.00	0.05	0.00	4.27	2.00	0.00	0.00	0.05	0.00
4.43	2.00	0.00	0.00	0.05	0.00	4.59	2.00	0.00	0.00	0.05	0.00
4.76	2.00	0.00	0.00	0.05	0.00	4.92	2.00	0.00	0.00	0.05	0.00
5.09	2.00	0.00	0.00	0.05	0.00	5.25	2.00	0.00	0.00	0.05	0.00
5.41	2.00	0.00	0.00	0.05	0.00	5.58	2.00	0.00	0.00	0.05	0.00
5.74	2.00	0.00	0.00	0.05	0.00	5.91	2.00	0.00	0.00	0.05	0.00
6.07	2.00	0.00	0.00	0.05	0.00	6.23	2.00	0.00	0.00	0.05	0.00
6.40	2.00	0.00	0.00	0.05	0.00	6.56	2.00	0.00	0.00	0.05	0.00
6.73	2.00	0.00	0.00	0.05	0.00	6.89	2.00	0.00	0.00	0.05	0.00
7.05	2.00	0.00	0.00	0.05	0.00	7.22	2.00	0.00	0.00	0.05	0.00
7.38	2.00	0.00	0.00	0.05	0.00	7.55	2.00	0.00	0.00	0.05	0.00
7.71	2.00	0.00	0.00	0.05	0.00	7.87	2.00	0.00	0.00	0.05	0.00
8.04	2.00	0.00	0.00	0.05	0.00	8.20	2.00	0.00	0.00	0.05	0.00
8.37	2.00	0.00	0.00	0.05	0.00	8.53	2.00	0.00	0.00	0.05	0.00
8.69	2.00	0.00	0.00	0.05	0.00	8.86	2.00	0.00	0.00	0.05	0.00
9.02	2.00	0.00	0.00	0.05	0.00	9.19	2.00	0.00	0.00	0.05	0.00
9.35	2.00	0.00	0.00	0.05	0.00	9.51	2.00	0.00	0.00	0.05	0.00
9.68	2.00	0.00	0.00	0.05	0.00	9.84	2.00	0.00	0.00	0.05	0.00
10.01	2.00	0.00	0.00	0.05	0.00	10.17	2.00	0.00	0.00	0.05	0.00
10.33	2.00	0.00	0.00	0.05	0.00	10.50	2.00	0.00	0.00	0.05	0.00
10.66	2.00	0.00	0.00	0.05	0.00	10.83	2.00	0.00	0.00	0.05	0.00
10.99	2.00	0.00	0.00	0.05	0.00	11.15	2.00	0.00	0.00	0.05	0.00
11.32	2.00	0.00	0.00	0.05	0.00	11.48	2.00	0.00	0.00	0.05	0.00
11.65	2.00	0.00	0.00	0.05	0.00	11.81	2.00	0.00	0.00	0.05	0.00
11.98	2.00	0.00	0.00	0.05	0.00	12.14	2.00	0.00	0.00	0.05	0.00
12.30	2.00	0.00	0.00	0.05	0.00	12.47	2.00	0.00	0.00	0.05	0.00
12.63	2.00	0.00	0.00	0.05	0.00	12.80	2.00	0.00	0.00	0.05	0.00
12.96	2.00	0.00	0.00	0.05	0.00	13.12	2.00	0.00	0.00	0.05	0.00
13.29	2.00	0.00	0.00	0.05	0.00	13.45	2.00	0.00	0.00	0.05	0.00
13.62	2.00	0.00	0.00	0.05	0.00	13.78	2.00	0.00	0.00	0.05	0.00
13.94	2.00	0.00	0.00	0.05	0.00	14.11	2.00	0.00	0.00	0.05	0.00
14.27	2.00	0.00	0.00	0.05	0.00	14.44	2.00	0.00	0.00	0.05	0.00
14.60	2.00	0.00	0.00	0.05	0.00	14.76	2.00	0.00	0.00	0.05	0.00
14.93	2.00	0.00	0.00	0.05	0.00	15.09	2.00	0.00	0.00	0.05	0.00
15.26	2.00	0.00	0.00	0.05	0.00	15.42	2.00	0.00	0.00	0.05	0.00
15.58	2.00	0.00	0.00	0.05	0.00	15.75	2.00	0.00	0.00	0.05	0.00
15.91	2.00	0.00	0.00	0.05	0.00	16.08	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
16.24	2.00	0.00	0.00	0.05	0.00	16.40	2.00	0.00	0.00	0.05	0.00
16.57	2.00	0.00	0.00	0.05	0.00	16.73	2.00	0.00	0.00	0.05	0.00
16.90	2.00	0.00	0.00	0.05	0.00	17.06	2.00	0.00	0.00	0.05	0.00
17.22	2.00	0.00	0.00	0.05	0.00	17.39	2.00	0.00	0.00	0.05	0.00
17.55	2.00	0.00	0.00	0.05	0.00	17.72	2.00	0.00	0.00	0.05	0.00
17.88	2.00	0.00	0.00	0.05	0.00	18.04	2.00	0.00	0.00	0.05	0.00
18.21	2.00	0.00	0.00	0.05	0.00	18.37	2.00	0.00	0.00	0.05	0.00
18.54	2.00	0.00	0.00	0.05	0.00	18.70	2.00	0.00	0.00	0.05	0.00
18.86	2.00	0.00	0.00	0.05	0.00	19.03	2.00	0.00	0.00	0.05	0.00
19.19	2.00	0.00	0.00	0.05	0.00	19.36	2.00	0.00	0.00	0.05	0.00
19.52	2.00	0.00	0.00	0.05	0.00	19.69	2.00	0.00	0.00	0.05	0.00
19.85	2.00	0.00	0.00	0.05	0.00	20.01	2.00	0.00	0.00	0.05	0.00
20.18	2.00	0.00	0.00	0.05	0.00	20.34	2.00	0.00	0.00	0.05	0.00
20.51	2.00	0.00	0.00	0.05	0.00	20.67	2.00	0.00	0.00	0.05	0.00
20.83	2.00	0.00	0.00	0.05	0.00	21.00	2.00	0.00	0.00	0.05	0.00
21.16	2.00	0.00	0.00	0.05	0.00	21.33	2.00	0.00	0.00	0.05	0.00
21.49	2.00	0.00	0.00	0.05	0.00	21.65	2.00	0.00	0.00	0.05	0.00
21.82	2.00	0.00	0.00	0.05	0.00	21.98	2.00	0.00	0.00	0.05	0.00
22.15	1.92	0.00	0.00	0.05	0.00	22.31	1.39	0.00	0.00	0.05	0.00
22.47	1.11	0.00	0.00	0.05	0.00	22.64	1.00	0.00	0.00	0.05	0.00
22.80	0.96	0.00	0.00	0.05	0.01	22.97	0.94	0.00	0.00	0.05	0.02
23.13	0.97	0.00	0.00	0.05	0.01	23.29	1.03	0.00	0.00	0.05	0.00
23.46	1.06	0.00	0.00	0.05	0.00	23.62	1.05	0.00	0.00	0.05	0.00
23.79	1.00	0.00	0.00	0.05	0.00	23.95	0.96	0.00	0.00	0.05	0.01
24.11	0.92	0.00	0.00	0.05	0.02	24.28	0.89	0.00	0.00	0.05	0.03
24.44	0.88	0.00	0.00	0.05	0.04	24.61	0.92	0.00	0.00	0.05	0.03
24.77	1.06	0.00	0.00	0.05	0.00	24.93	1.27	0.00	0.00	0.05	0.00
25.10	1.42	0.00	0.00	0.05	0.00	25.26	1.45	0.00	0.00	0.05	0.00
25.43	1.34	0.00	0.00	0.05	0.00	25.59	1.30	0.00	0.00	0.05	0.00
25.75	1.24	0.00	0.00	0.05	0.00	25.92	1.19	0.00	0.00	0.05	0.00
26.08	1.33	0.00	0.00	0.05	0.00	26.25	1.87	0.00	0.00	0.05	0.00
26.41	2.00	0.00	0.00	0.05	0.00	26.57	2.00	0.00	0.00	0.05	0.00
26.74	2.00	0.00	0.00	0.05	0.00	26.90	2.00	0.00	0.00	0.05	0.00
27.07	2.00	0.00	0.00	0.05	0.00	27.23	2.00	0.00	0.00	0.05	0.00
27.40	2.00	0.00	0.00	0.05	0.00	27.56	2.00	0.00	0.00	0.05	0.00
27.72	0.84	0.00	0.00	0.05	0.04	27.89	0.74	0.00	0.00	0.05	0.08
28.05	0.83	0.00	0.00	0.05	0.05	28.22	0.92	0.00	0.00	0.05	0.02
28.38	0.89	0.00	0.00	0.05	0.03	28.54	0.71	0.00	0.00	0.05	0.08
28.71	0.51	0.00	0.00	0.05	0.14	28.87	0.44	0.00	0.00	0.05	0.15
29.04	0.42	0.00	0.00	0.05	0.17	29.20	0.43	0.00	0.00	0.05	0.16
29.36	0.45	0.00	0.00	0.05	0.15	29.53	0.46	0.00	0.00	0.05	0.15
29.69	0.45	0.00	0.00	0.05	0.15	29.86	0.38	0.00	0.00	0.05	0.17
30.02	0.38	0.00	0.00	0.05	0.16	30.18	0.41	0.00	0.00	0.05	0.16
30.35	0.76	0.00	0.00	0.05	0.07	30.51	2.00	0.00	0.00	0.05	0.00
30.68	1.66	0.00	0.00	0.05	0.00	30.84	1.19	0.00	0.00	0.05	0.00
31.00	0.66	0.00	0.00	0.05	0.09	31.17	0.50	0.00	0.00	0.05	0.14
31.33	0.49	0.00	0.00	0.05	0.13	31.50	0.49	0.00	0.00	0.05	0.14
31.66	0.49	0.00	0.00	0.05	0.13	31.82	0.54	0.00	0.00	0.05	0.12

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
31.99	0.54	0.00	0.00	0.05	0.12	32.15	0.76	0.00	0.00	0.05	0.06
32.32	2.00	0.00	0.00	0.05	0.00	32.48	2.00	0.00	0.00	0.05	0.00
32.64	2.00	0.00	0.00	0.05	0.00	32.81	2.00	0.00	0.00	0.05	0.00
32.97	1.76	0.00	0.00	0.05	0.00	33.14	2.00	0.00	0.00	0.05	0.00
33.30	1.45	0.00	0.00	0.05	0.00	33.46	1.52	0.00	0.00	0.05	0.00
33.63	2.00	0.00	0.00	0.05	0.00	33.79	2.00	0.00	0.00	0.05	0.00
33.96	2.00	0.00	0.00	0.05	0.00	34.12	2.00	0.00	0.00	0.05	0.00
34.28	2.00	0.00	0.00	0.05	0.00	34.45	2.00	0.00	0.00	0.05	0.00
34.61	2.00	0.00	0.00	0.05	0.00	34.78	2.00	0.00	0.00	0.05	0.00
34.94	2.00	0.00	0.00	0.05	0.00	35.10	2.00	0.00	0.00	0.05	0.00
35.27	2.00	0.00	0.00	0.05	0.00	35.43	2.00	0.00	0.00	0.05	0.00
35.60	2.00	0.00	0.00	0.05	0.00	35.76	2.00	0.00	0.00	0.05	0.00
35.93	2.00	0.00	0.00	0.05	0.00	36.09	2.00	0.00	0.00	0.05	0.00
36.25	2.00	0.00	0.00	0.05	0.00	36.42	2.00	0.00	0.00	0.05	0.00
36.58	2.00	0.00	0.00	0.05	0.00	36.75	2.00	0.00	0.00	0.05	0.00
36.91	2.00	0.00	0.00	0.05	0.00	37.07	2.00	0.00	0.00	0.05	0.00
37.24	2.00	0.00	0.00	0.05	0.00	37.40	2.00	0.00	0.00	0.05	0.00
37.57	2.00	0.00	0.00	0.05	0.00	37.73	2.00	0.00	0.00	0.05	0.00
37.89	2.00	0.00	0.00	0.05	0.00	38.06	2.00	0.00	0.00	0.05	0.00
38.22	2.00	0.00	0.00	0.05	0.00	38.39	2.00	0.00	0.00	0.05	0.00
38.55	2.00	0.00	0.00	0.05	0.00	38.71	2.00	0.00	0.00	0.05	0.00
38.88	1.80	0.00	0.00	0.05	0.00	39.04	0.45	0.00	0.00	0.05	0.11
39.21	0.43	0.00	0.00	0.05	0.12	39.37	2.00	0.00	0.00	0.05	0.00
39.53	1.85	0.00	0.00	0.05	0.00	39.70	1.38	0.00	0.00	0.05	0.00
39.86	1.34	0.00	0.00	0.05	0.00	40.03	1.34	0.00	0.00	0.05	0.00
40.19	1.36	0.00	0.00	0.05	0.00	40.35	1.45	0.00	0.00	0.05	0.00
40.52	1.54	0.00	0.00	0.05	0.00	40.68	1.50	0.00	0.00	0.05	0.00
40.85	1.35	0.00	0.00	0.05	0.00	41.01	1.18	0.00	0.00	0.05	0.00
41.17	1.10	0.00	0.00	0.05	0.00	41.34	1.15	0.00	0.00	0.05	0.00
41.50	1.24	0.00	0.00	0.05	0.00	41.67	1.30	0.00	0.00	0.05	0.00
41.83	1.22	0.00	0.00	0.05	0.00	41.99	1.04	0.00	0.00	0.05	0.00
42.16	0.87	0.00	0.00	0.05	0.02	42.32	0.90	0.00	0.00	0.05	0.02
42.49	1.12	0.00	0.00	0.05	0.00	42.65	1.48	0.00	0.00	0.05	0.00
42.81	1.79	0.00	0.00	0.05	0.00	42.98	1.97	0.00	0.00	0.05	0.00
43.14	2.00	0.00	0.00	0.05	0.00	43.31	1.88	0.00	0.00	0.05	0.00
43.47	1.80	0.00	0.00	0.05	0.00	43.64	1.83	0.00	0.00	0.05	0.00
43.80	1.79	0.00	0.00	0.05	0.00	43.96	1.58	0.00	0.00	0.05	0.00
44.13	1.30	0.00	0.00	0.05	0.00	44.29	1.37	0.00	0.00	0.05	0.00
44.46	1.61	0.00	0.00	0.05	0.00	44.62	1.82	0.00	0.00	0.05	0.00
44.78	1.73	0.00	0.00	0.05	0.00	44.95	1.46	0.00	0.00	0.05	0.00
45.11	1.36	0.00	0.00	0.05	0.00	45.28	1.73	0.00	0.00	0.05	0.00
45.44	2.00	0.00	0.00	0.05	0.00	45.60	2.00	0.00	0.00	0.05	0.00
45.77	1.92	0.00	0.00	0.05	0.00	45.93	1.30	0.00	0.00	0.05	0.00
46.10	0.93	0.00	0.00	0.05	0.01	46.26	0.95	0.00	0.00	0.05	0.01
46.42	1.31	0.00	0.00	0.05	0.00	46.59	1.43	0.00	0.00	0.05	0.00
46.75	1.40	0.00	0.00	0.05	0.00	46.92	1.19	0.00	0.00	0.05	0.00
47.08	2.00	0.00	0.00	0.05	0.00	47.24	0.50	0.00	0.00	0.05	0.07
47.41	2.00	0.00	0.00	0.05	0.00	47.57	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
47.74	2.00	0.00	0.00	0.05	0.00	47.90	2.00	0.00	0.00	0.05	0.00
48.06	2.00	0.00	0.00	0.05	0.00	48.23	2.00	0.00	0.00	0.05	0.00
48.39	2.00	0.00	0.00	0.05	0.00	48.56	2.00	0.00	0.00	0.05	0.00
48.72	2.00	0.00	0.00	0.05	0.00	48.88	2.00	0.00	0.00	0.05	0.00
49.05	2.00	0.00	0.00	0.05	0.00	49.21	2.00	0.00	0.00	0.05	0.00
49.38	2.00	0.00	0.00	0.05	0.00	49.54	2.00	0.00	0.00	0.05	0.00
49.70	2.00	0.00	0.00	0.05	0.00	49.87	2.00	0.00	0.00	0.05	0.00
50.03	2.00	0.00	0.00	0.05	0.00	50.20	2.00	0.00	0.00	0.05	0.00
50.36	2.00	0.00	0.00	0.05	0.00	50.52	2.00	0.00	0.00	0.05	0.00
50.69	2.00	0.00	0.00	0.05	0.00	50.85	2.00	0.00	0.00	0.05	0.00
51.02	2.00	0.00	0.00	0.05	0.00	51.18	2.00	0.00	0.00	0.05	0.00
51.35	2.00	0.00	0.00	0.05	0.00	51.51	2.00	0.00	0.00	0.05	0.00
51.67	2.00	0.00	0.00	0.05	0.00	51.84	2.00	0.00	0.00	0.05	0.00
52.00	2.00	0.00	0.00	0.05	0.00	52.17	2.00	0.00	0.00	0.05	0.00
52.33	2.00	0.00	0.00	0.05	0.00	52.49	2.00	0.00	0.00	0.05	0.00
52.66	2.00	0.00	0.00	0.05	0.00	52.82	2.00	0.00	0.00	0.05	0.00
52.99	2.00	0.00	0.00	0.05	0.00	53.15	2.00	0.00	0.00	0.05	0.00
53.31	2.00	0.00	0.00	0.05	0.00	53.48	2.00	0.00	0.00	0.05	0.00
53.64	2.00	0.00	0.00	0.05	0.00	53.81	2.00	0.00	0.00	0.05	0.00
53.97	2.00	0.00	0.00	0.05	0.00	54.13	2.00	0.00	0.00	0.05	0.00
54.30	2.00	0.00	0.00	0.05	0.00	54.46	2.00	0.00	0.00	0.05	0.00
54.63	2.00	0.00	0.00	0.05	0.00	54.79	2.00	0.00	0.00	0.05	0.00
54.95	2.00	0.00	0.00	0.05	0.00	55.12	2.00	0.00	0.00	0.05	0.00
55.28	2.00	0.00	0.00	0.05	0.00	55.45	2.00	0.00	0.00	0.05	0.00
55.61	2.00	0.00	0.00	0.05	0.00	55.77	2.00	0.00	0.00	0.05	0.00
55.94	2.00	0.00	0.00	0.05	0.00	56.10	2.00	0.00	0.00	0.05	0.00
56.27	2.00	0.00	0.00	0.05	0.00	56.43	2.00	0.00	0.00	0.05	0.00
56.59	2.00	0.00	0.00	0.05	0.00	56.76	2.00	0.00	0.00	0.05	0.00
56.92	2.00	0.00	0.00	0.05	0.00	57.09	2.00	0.00	0.00	0.05	0.00
57.25	2.00	0.00	0.00	0.05	0.00	57.41	2.00	0.00	0.00	0.05	0.00
57.58	2.00	0.00	0.00	0.05	0.00	57.74	2.00	0.00	0.00	0.05	0.00
57.91	2.00	0.00	0.00	0.05	0.00	58.07	2.00	0.00	0.00	0.05	0.00
58.23	2.00	0.00	0.00	0.05	0.00	58.40	2.00	0.00	0.00	0.05	0.00
58.56	2.00	0.00	0.00	0.05	0.00						

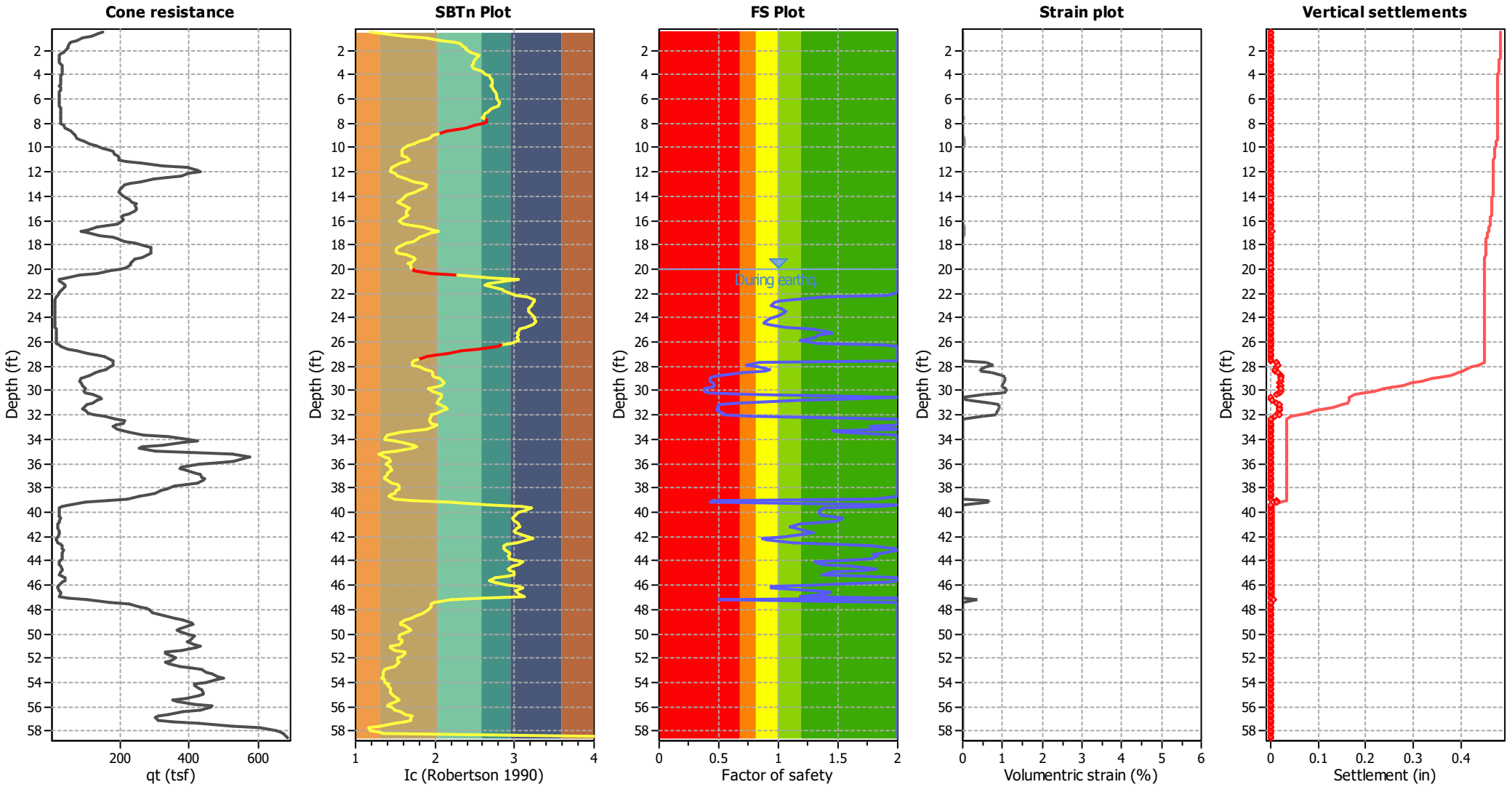
Overall liquefaction potential: 3.39

LPI_{ISH} > 5.0 - Liquefaction manifestation is expected

Abbreviations

FS: Calculated factor of safety for test point
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

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

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.49	1.17	284.86	1.00	284.86	45	600	0.32	0.002	0.00	11.65	0.00	0.000
0.66	1.33	255.50	1.00	255.50	42	658	0.32	0.003	0.00	11.65	0.00	0.000
0.82	1.62	216.38	1.00	216.38	39	800	0.33	0.003	0.00	11.65	0.00	0.000
0.98	1.88	169.15	1.17	197.49	39	867	0.33	0.003	0.00	11.65	0.00	0.000
1.15	2.09	135.12	1.43	193.73	42	905	0.34	0.003	0.00	11.65	0.00	0.000
1.31	2.24	109.58	1.76	192.93	44	886	0.34	0.004	0.00	11.65	0.00	0.000
1.48	2.31	96.26	1.99	191.93	45	858	0.34	0.005	0.00	11.65	0.00	0.000
1.64	2.35	92.06	2.11	194.39	47	857	0.35	0.005	0.00	11.65	0.00	0.000
1.80	2.38	86.79	2.24	194.66	48	844	0.35	0.006	0.00	11.65	0.00	0.000
1.97	2.39	79.01	2.26	178.49	44	773	0.35	0.008	0.00	11.65	0.00	0.000
2.13	2.45	63.76	2.52	160.47	40	673	0.36	0.011	0.00	11.65	0.00	0.000
2.30	2.50	49.13	2.75	135.33	35	553	0.36	0.017	0.01	11.65	0.01	0.000
2.46	2.56	41.67	3.07	128.09	34	506	0.37	0.022	0.01	11.65	0.01	0.000
2.62	2.53	41.13	2.91	119.60	31	480	0.36	0.028	0.02	11.65	0.01	0.001
2.79	2.50	42.74	2.76	117.77	30	481	0.36	0.031	0.02	11.65	0.02	0.001
2.95	2.49	45.12	2.70	121.96	31	501	0.36	0.030	0.02	11.65	0.01	0.001
3.12	2.48	49.70	2.65	131.74	34	544	0.36	0.027	0.01	11.65	0.01	0.000
3.28	2.47	55.41	2.60	144.32	37	600	0.36	0.023	0.01	11.65	0.01	0.000
3.44	2.48	59.08	2.69	159.13	41	654	0.36	0.021	0.01	11.65	0.01	0.000
3.61	2.53	59.04	2.92	172.63	45	692	0.36	0.020	0.01	11.65	0.01	0.000
3.77	2.59	56.57	3.27	184.81	50	716	0.36	0.020	0.01	11.65	0.01	0.000
3.94	2.63	54.49	3.49	190.16	0	0	0.36	0.000	0.00	0.00	0.00	0.000
4.10	2.68	52.36	3.83	200.79	0	0	0.36	0.000	0.00	0.00	0.00	0.000
4.27	2.70	52.33	3.97	207.77	0	0	0.36	0.000	0.00	0.00	0.00	0.000
4.43	2.72	51.04	4.14	211.46	0	0	0.36	0.000	0.00	0.00	0.00	0.000
4.59	2.71	49.72	4.10	203.81	0	0	0.36	0.000	0.00	0.00	0.00	0.000
4.76	2.71	46.83	4.11	192.26	0	0	0.36	0.000	0.00	0.00	0.00	0.000
4.92	2.71	46.33	4.06	188.23	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.09	2.72	46.62	4.12	191.88	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.25	2.73	46.87	4.25	199.21	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.41	2.76	46.03	4.44	204.36	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.58	2.77	45.29	4.54	205.60	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.74	2.77	45.19	4.55	205.42	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.91	2.77	44.79	4.56	204.47	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.07	2.78	43.81	4.65	203.77	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.23	2.81	42.22	4.84	204.22	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.40	2.81	41.72	4.87	203.08	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.56	2.79	43.16	4.67	201.56	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.73	2.74	46.30	4.31	199.47	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.89	2.69	50.05	3.94	197.28	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.05	2.66	52.07	3.72	193.80	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.22	2.63	53.42	3.51	187.35	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.38	2.60	53.76	3.35	180.05	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.55	2.60	52.54	3.33	174.75	47	673	0.36	0.067	0.02	11.65	0.02	0.001
7.71	2.64	49.34	3.58	176.66	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.87	2.66	48.49	3.68	178.52	0	0	0.36	0.000	0.00	0.00	0.00	0.000
8.04	2.60	52.28	3.31	173.16	0	0	0.36	0.000	0.00	0.00	0.00	0.000
8.20	2.49	58.82	2.74	160.89	0	0	0.35	0.000	0.00	0.00	0.00	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
8.37	2.39	66.69	2.27	151.65	0	0	0.35	0.000	0.00	0.00	0.00	0.000
8.53	2.28	76.97	1.88	145.01	0	0	0.35	0.000	0.00	0.00	0.00	0.000
8.69	2.16	87.35	1.57	137.14	0	0	0.35	0.000	0.00	0.00	0.00	0.000
8.86	2.05	95.44	1.37	130.78	0	0	0.35	0.000	0.00	0.00	0.00	0.000
9.02	1.98	99.10	1.27	125.90	0	0	0.35	0.000	0.00	0.00	0.00	0.000
9.19	1.94	102.93	1.22	126.03	26	766	0.35	0.065	0.05	11.65	0.04	0.001
9.35	1.88	110.59	1.17	129.38	26	784	0.35	0.063	0.05	11.65	0.04	0.001
9.51	1.80	125.04	1.11	138.45	27	825	0.35	0.057	0.04	11.65	0.03	0.001
9.68	1.73	142.82	1.06	150.75	28	881	0.34	0.050	0.03	11.65	0.02	0.001
9.84	1.66	162.68	1.01	164.60	30	946	0.34	0.044	0.03	11.65	0.02	0.001
10.01	1.60	182.82	1.00	182.82	33	1008	0.32	0.039	0.02	11.65	0.02	0.001
10.17	1.59	202.49	1.00	202.49	36	1110	0.31	0.034	0.02	11.65	0.01	0.000
10.33	1.59	215.08	1.00	215.08	39	1184	0.31	0.030	0.01	11.65	0.01	0.000
10.50	1.58	221.72	1.00	221.72	40	1225	0.31	0.029	0.01	11.65	0.01	0.000
10.66	1.59	228.03	1.00	228.03	41	1273	0.31	0.028	0.01	11.65	0.01	0.000
10.83	1.63	236.26	1.00	236.26	43	1400	0.31	0.025	0.01	11.65	0.01	0.000
10.99	1.68	236.75	1.02	242.07	45	1483	0.31	0.023	0.01	11.65	0.01	0.000
11.15	1.64	255.90	1.00	255.50	47	1556	0.31	0.022	0.01	11.65	0.01	0.000
11.32	1.57	299.73	1.00	299.73	54	1702	0.31	0.019	0.01	11.65	0.00	0.000
11.48	1.50	369.12	1.00	369.12	64	1949	0.31	0.016	0.00	11.65	0.00	0.000
11.65	1.46	441.84	1.00	441.84	76	2233	0.31	0.014	0.00	11.65	0.00	0.000
11.81	1.44	470.42	1.00	470.42	80	2342	0.31	0.013	0.00	11.65	0.00	0.000
11.98	1.44	478.20	1.00	478.20	82	2415	0.31	0.013	0.00	11.65	0.00	0.000
12.14	1.50	443.22	1.00	443.22	77	2402	0.31	0.013	0.00	11.65	0.00	0.000
12.30	1.54	415.67	1.00	415.67	73	2366	0.31	0.014	0.00	11.65	0.00	0.000
12.47	1.59	370.80	1.00	370.80	67	2262	0.31	0.015	0.00	11.65	0.00	0.000
12.63	1.64	328.97	1.00	328.09	60	2137	0.31	0.016	0.00	11.65	0.00	0.000
12.80	1.74	286.73	1.06	304.88	58	2097	0.31	0.017	0.00	11.65	0.00	0.000
12.96	1.84	255.90	1.14	290.72	57	2119	0.31	0.017	0.00	11.65	0.00	0.000
13.12	1.90	234.75	1.19	278.98	56	2103	0.31	0.017	0.01	11.65	0.00	0.000
13.29	1.88	222.58	1.17	261.46	52	1975	0.31	0.019	0.01	11.65	0.00	0.000
13.45	1.83	215.39	1.13	242.40	47	1796	0.31	0.022	0.01	11.65	0.01	0.000
13.62	1.75	208.59	1.07	223.69	42	1606	0.31	0.027	0.01	11.65	0.01	0.000
13.78	1.70	209.92	1.04	217.56	41	1528	0.31	0.029	0.01	11.65	0.01	0.000
13.94	1.65	215.68	1.00	216.21	40	1490	0.31	0.031	0.01	11.65	0.01	0.000
14.11	1.61	226.46	1.00	226.46	41	1497	0.31	0.031	0.01	11.65	0.01	0.000
14.27	1.59	234.28	1.00	234.28	42	1526	0.31	0.031	0.01	11.65	0.01	0.000
14.44	1.53	240.10	1.00	240.10	42	1474	0.31	0.033	0.01	11.65	0.01	0.000
14.60	1.57	248.93	1.00	248.93	44	1607	0.31	0.029	0.01	11.65	0.01	0.000
14.76	1.60	245.79	1.00	245.79	44	1652	0.31	0.028	0.01	11.65	0.01	0.000
14.93	1.67	250.27	1.02	254.50	47	1839	0.31	0.024	0.01	11.65	0.01	0.000
15.09	1.65	248.91	1.00	249.87	46	1799	0.31	0.026	0.01	11.65	0.01	0.000
15.26	1.65	241.28	1.00	241.65	44	1747	0.31	0.027	0.01	11.65	0.01	0.000
15.42	1.64	223.15	1.00	223.15	41	1607	0.31	0.031	0.01	11.65	0.01	0.000
15.58	1.66	203.50	1.01	205.45	38	1511	0.31	0.035	0.02	11.65	0.01	0.000
15.75	1.63	201.37	1.00	201.37	37	1453	0.31	0.038	0.02	11.65	0.01	0.000
15.91	1.57	202.56	1.00	202.56	36	1364	0.31	0.043	0.02	11.65	0.01	0.001
16.08	1.54	199.13	1.00	199.13	35	1301	0.31	0.047	0.02	11.65	0.02	0.001

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
16.24	1.60	184.91	1.00	184.91	33	1298	0.31	0.048	0.03	11.65	0.02	0.001
16.40	1.71	156.80	1.04	163.82	31	1276	0.32	0.050	0.03	11.65	0.02	0.001
16.57	1.84	127.81	1.13	145.04	28	1227	0.33	0.055	0.04	11.65	0.02	0.001
16.73	1.97	99.66	1.26	125.60	26	1134	0.33	0.066	0.05	11.65	0.03	0.001
16.90	2.05	82.11	1.37	112.14	24	1039	0.34	0.083	0.07	11.65	0.04	0.002
17.06	1.95	101.97	1.24	126.71	26	1153	0.34	0.066	0.05	11.65	0.03	0.001
17.22	1.86	129.47	1.15	149.41	30	1310	0.31	0.051	0.03	11.65	0.02	0.001
17.39	1.80	165.13	1.10	182.31	35	1549	0.32	0.038	0.02	11.65	0.01	0.000
17.55	1.78	176.37	1.09	192.53	37	1627	0.31	0.036	0.02	11.65	0.01	0.000
17.72	1.73	195.05	1.06	206.00	39	1694	0.30	0.034	0.02	11.65	0.01	0.000
17.88	1.64	222.04	1.00	221.71	41	1740	0.30	0.033	0.01	11.65	0.01	0.000
18.04	1.57	247.86	1.00	247.86	44	1779	0.30	0.032	0.01	11.65	0.01	0.000
18.21	1.54	262.81	1.00	262.81	46	1811	0.30	0.031	0.01	11.65	0.01	0.000
18.37	1.52	263.03	1.00	263.03	46	1774	0.30	0.033	0.01	11.65	0.01	0.000
18.54	1.51	260.14	1.00	260.14	46	1747	0.30	0.034	0.01	11.65	0.01	0.000
18.70	1.53	259.74	1.00	259.74	46	1809	0.30	0.033	0.01	11.65	0.01	0.000
18.86	1.63	247.59	1.00	247.59	45	1972	0.30	0.029	0.01	11.65	0.01	0.000
19.03	1.72	230.54	1.05	243.13	46	2081	0.30	0.027	0.01	11.65	0.01	0.000
19.19	1.76	211.31	1.08	227.62	43	1998	0.30	0.029	0.01	11.65	0.01	0.000
19.36	1.72	203.71	1.05	213.57	40	1827	0.30	0.033	0.01	11.65	0.01	0.000
19.52	1.66	199.87	1.01	202.08	37	1672	0.30	0.039	0.02	11.65	0.01	0.000
19.69	1.70	198.83	1.04	206.25	38	1754	0.30	0.036	0.02	11.65	0.01	0.000
19.85	1.70	188.52	1.04	196.04	37	1675	0.30	0.040	0.02	11.65	0.01	0.000

Total estimated settlement: 0.03

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
20.01	176.41	2.00	0.00	0.66	0.00	20.18	159.44	2.00	0.00	0.66	0.00
20.34	159.56	2.00	0.00	0.66	0.00	20.51	131.28	2.00	0.00	0.65	0.00
20.67	24.46	2.00	0.00	0.65	0.00	20.83	18.92	2.00	0.00	0.65	0.00
21.00	15.29	2.00	0.00	0.64	0.00	21.16	29.82	2.00	0.00	0.64	0.00
21.33	42.28	2.00	0.00	0.64	0.00	21.49	28.44	2.00	0.00	0.64	0.00
21.65	27.74	2.00	0.00	0.63	0.00	21.82	21.80	2.00	0.00	0.63	0.00
21.98	21.14	2.00	0.00	0.63	0.00	22.15	15.18	1.92	0.00	0.62	0.00
22.31	10.91	1.39	0.00	0.62	0.00	22.47	9.27	1.11	0.00	0.62	0.00
22.64	8.86	1.00	0.00	0.62	0.00	22.80	8.38	0.96	0.00	0.61	0.00
22.97	8.46	0.94	0.00	0.61	0.00	23.13	8.54	0.97	0.00	0.61	0.00
23.29	9.21	1.03	0.00	0.61	0.00	23.46	9.90	1.06	0.00	0.60	0.00
23.62	9.37	1.05	0.00	0.60	0.00	23.79	9.12	1.00	0.00	0.60	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
23.95	8.75	0.96	0.00	0.59	0.00	24.11	8.59	0.92	0.00	0.59	0.00
24.28	8.30	0.89	0.00	0.59	0.00	24.44	8.18	0.88	0.00	0.59	0.00
24.61	8.42	0.92	0.00	0.58	0.00	24.77	9.20	1.06	0.00	0.58	0.00
24.93	11.70	1.27	0.00	0.58	0.00	25.10	13.71	1.42	0.00	0.57	0.00
25.26	12.79	1.45	0.00	0.57	0.00	25.43	12.73	1.34	0.00	0.57	0.00
25.59	11.16	1.30	0.00	0.57	0.00	25.75	11.94	1.24	0.00	0.56	0.00
25.92	11.30	1.19	0.00	0.56	0.00	26.08	9.96	1.33	0.00	0.56	0.00
26.25	15.58	1.87	0.00	0.56	0.00	26.41	24.89	2.00	0.00	0.55	0.00
26.57	82.34	2.00	0.00	0.55	0.00	26.74	129.95	2.00	0.00	0.55	0.00
26.90	154.47	2.00	0.00	0.54	0.00	27.07	153.55	2.00	0.00	0.54	0.00
27.23	160.65	2.00	0.00	0.54	0.00	27.40	145.95	2.00	0.00	0.54	0.00
27.56	147.91	2.00	0.00	0.53	0.00	27.72	152.00	0.84	0.58	0.53	0.01
27.89	146.47	0.74	0.75	0.53	0.02	28.05	151.59	0.83	0.58	0.52	0.01
28.22	155.68	0.92	0.42	0.52	0.01	28.38	154.13	0.89	0.43	0.52	0.01
28.54	145.07	0.71	0.75	0.52	0.01	28.71	127.53	0.51	0.98	0.51	0.02
28.87	117.16	0.44	1.05	0.51	0.02	29.04	115.04	0.42	1.06	0.51	0.02
29.20	115.55	0.43	1.05	0.51	0.02	29.36	120.17	0.45	1.01	0.50	0.02
29.53	121.02	0.46	1.00	0.50	0.02	29.69	119.73	0.45	1.00	0.50	0.02
29.86	106.96	0.38	1.09	0.49	0.02	30.02	106.84	0.38	1.09	0.49	0.02
30.18	113.06	0.41	1.03	0.49	0.02	30.35	148.42	0.76	0.55	0.49	0.01
30.51	192.97	2.00	0.00	0.48	0.00	30.68	174.47	1.66	0.00	0.48	0.00
30.84	165.08	1.19	0.14	0.48	0.00	31.00	142.25	0.66	0.71	0.47	0.01
31.17	127.72	0.50	0.90	0.47	0.02	31.33	125.90	0.49	0.91	0.47	0.02
31.50	126.53	0.49	0.90	0.47	0.02	31.66	126.07	0.49	0.90	0.46	0.02
31.82	131.95	0.54	0.86	0.46	0.02	31.99	132.00	0.54	0.85	0.46	0.02
32.15	149.32	0.76	0.51	0.46	0.01	32.32	203.51	2.00	0.00	0.45	0.00
32.48	222.32	2.00	0.00	0.45	0.00	32.64	235.55	2.00	0.00	0.45	0.00
32.81	202.66	2.00	0.00	0.44	0.00	32.97	176.33	1.76	0.00	0.44	0.00
33.14	197.58	2.00	0.00	0.44	0.00	33.30	171.27	1.45	0.00	0.44	0.00
33.46	172.48	1.52	0.00	0.43	0.00	33.63	211.42	2.00	0.00	0.43	0.00
33.79	254.00	2.00	0.00	0.43	0.00	33.96	254.00	2.00	0.00	0.42	0.00
34.12	254.00	2.00	0.00	0.42	0.00	34.28	254.00	2.00	0.00	0.42	0.00
34.45	254.00	2.00	0.00	0.42	0.00	34.61	204.27	2.00	0.00	0.41	0.00
34.78	196.89	2.00	0.00	0.41	0.00	34.94	221.07	2.00	0.00	0.41	0.00
35.10	254.00	2.00	0.00	0.41	0.00	35.27	254.00	2.00	0.00	0.40	0.00
35.43	254.00	2.00	0.00	0.40	0.00	35.60	254.00	2.00	0.00	0.40	0.00
35.76	254.00	2.00	0.00	0.39	0.00	35.93	254.00	2.00	0.00	0.39	0.00
36.09	254.00	2.00	0.00	0.39	0.00	36.25	254.00	2.00	0.00	0.39	0.00
36.42	254.00	2.00	0.00	0.38	0.00	36.58	254.00	2.00	0.00	0.38	0.00
36.75	254.00	2.00	0.00	0.38	0.00	36.91	254.00	2.00	0.00	0.37	0.00
37.07	254.00	2.00	0.00	0.37	0.00	37.24	254.00	2.00	0.00	0.37	0.00
37.40	254.00	2.00	0.00	0.37	0.00	37.57	254.00	2.00	0.00	0.36	0.00
37.73	254.00	2.00	0.00	0.36	0.00	37.89	254.00	2.00	0.00	0.36	0.00
38.06	254.00	2.00	0.00	0.35	0.00	38.22	254.00	2.00	0.00	0.35	0.00
38.39	244.68	2.00	0.00	0.35	0.00	38.55	223.05	2.00	0.00	0.35	0.00
38.71	212.16	2.00	0.00	0.34	0.00	38.88	177.43	1.80	0.00	0.34	0.00
39.04	123.38	0.45	0.67	0.34	0.01	39.21	120.00	0.43	0.67	0.34	0.01
39.37	30.54	2.00	0.00	0.33	0.00	39.53	16.04	1.85	0.00	0.33	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
39.70	14.90	1.38	0.00	0.33	0.00	39.86	15.39	1.34	0.00	0.32	0.00
40.03	14.74	1.34	0.00	0.32	0.00	40.19	14.97	1.36	0.00	0.32	0.00
40.35	16.00	1.45	0.00	0.32	0.00	40.52	17.66	1.54	0.00	0.31	0.00
40.68	17.73	1.50	0.00	0.31	0.00	40.85	14.88	1.35	0.00	0.31	0.00
41.01	13.00	1.18	0.00	0.30	0.00	41.17	12.40	1.10	0.00	0.30	0.00
41.34	12.43	1.15	0.00	0.30	0.00	41.50	14.45	1.24	0.00	0.30	0.00
41.67	15.08	1.30	0.00	0.29	0.00	41.83	14.43	1.22	0.00	0.29	0.00
41.99	12.01	1.04	0.00	0.29	0.00	42.16	9.46	0.87	0.00	0.29	0.00
42.32	9.08	0.90	0.00	0.28	0.00	42.49	12.81	1.12	0.00	0.28	0.00
42.65	16.52	1.48	0.00	0.28	0.00	42.81	20.40	1.79	0.00	0.27	0.00
42.98	22.73	1.97	0.00	0.27	0.00	43.14	22.41	2.00	0.00	0.27	0.00
43.31	22.59	1.88	0.00	0.27	0.00	43.47	17.96	1.80	0.00	0.26	0.00
43.64	19.97	1.83	0.00	0.26	0.00	43.80	23.96	1.79	0.00	0.26	0.00
43.96	16.77	1.58	0.00	0.25	0.00	44.13	13.97	1.30	0.00	0.25	0.00
44.29	14.77	1.37	0.00	0.25	0.00	44.46	18.83	1.61	0.00	0.25	0.00
44.62	21.81	1.82	0.00	0.24	0.00	44.78	21.59	1.73	0.00	0.24	0.00
44.95	15.84	1.46	0.00	0.24	0.00	45.11	13.15	1.36	0.00	0.24	0.00
45.28	18.26	1.73	0.00	0.23	0.00	45.44	27.79	2.00	0.00	0.23	0.00
45.60	30.23	2.00	0.00	0.23	0.00	45.77	22.88	1.92	0.00	0.22	0.00
45.93	13.23	1.30	0.00	0.22	0.00	46.10	9.80	0.93	0.00	0.22	0.00
46.26	10.58	0.95	0.00	0.22	0.00	46.42	13.27	1.31	0.00	0.21	0.00
46.59	22.23	1.43	0.00	0.21	0.00	46.75	14.89	1.40	0.00	0.21	0.00
46.92	13.00	1.19	0.00	0.20	0.00	47.08	14.91	2.00	0.00	0.20	0.00
47.24	129.89	0.50	0.38	0.20	0.01	47.41	186.29	2.00	0.00	0.20	0.00
47.57	216.60	2.00	0.00	0.19	0.00	47.74	254.00	2.00	0.00	0.19	0.00
47.90	254.00	2.00	0.00	0.19	0.00	48.06	254.00	2.00	0.00	0.19	0.00
48.23	243.37	2.00	0.00	0.18	0.00	48.39	237.04	2.00	0.00	0.18	0.00
48.56	254.00	2.00	0.00	0.18	0.00	48.72	254.00	2.00	0.00	0.17	0.00
48.88	254.00	2.00	0.00	0.17	0.00	49.05	254.00	2.00	0.00	0.17	0.00
49.21	254.00	2.00	0.00	0.17	0.00	49.38	254.00	2.00	0.00	0.16	0.00
49.54	254.00	2.00	0.00	0.16	0.00	49.70	254.00	2.00	0.00	0.16	0.00
49.87	254.00	2.00	0.00	0.15	0.00	50.03	254.00	2.00	0.00	0.15	0.00
50.20	254.00	2.00	0.00	0.15	0.00	50.36	254.00	2.00	0.00	0.15	0.00
50.52	254.00	2.00	0.00	0.14	0.00	50.69	254.00	2.00	0.00	0.14	0.00
50.85	254.00	2.00	0.00	0.14	0.00	51.02	254.00	2.00	0.00	0.14	0.00
51.18	254.00	2.00	0.00	0.13	0.00	51.35	254.00	2.00	0.00	0.13	0.00
51.51	247.18	2.00	0.00	0.13	0.00	51.67	240.73	2.00	0.00	0.12	0.00
51.84	254.00	2.00	0.00	0.12	0.00	52.00	254.00	2.00	0.00	0.12	0.00
52.17	254.00	2.00	0.00	0.12	0.00	52.33	242.50	2.00	0.00	0.11	0.00
52.49	254.00	2.00	0.00	0.11	0.00	52.66	254.00	2.00	0.00	0.11	0.00
52.82	254.00	2.00	0.00	0.10	0.00	52.99	254.00	2.00	0.00	0.10	0.00
53.15	254.00	2.00	0.00	0.10	0.00	53.31	254.00	2.00	0.00	0.10	0.00
53.48	254.00	2.00	0.00	0.09	0.00	53.64	254.00	2.00	0.00	0.09	0.00
53.81	254.00	2.00	0.00	0.09	0.00	53.97	254.00	2.00	0.00	0.09	0.00
54.13	254.00	2.00	0.00	0.08	0.00	54.30	254.00	2.00	0.00	0.08	0.00
54.46	254.00	2.00	0.00	0.08	0.00	54.63	254.00	2.00	0.00	0.07	0.00
54.79	254.00	2.00	0.00	0.07	0.00	54.95	254.00	2.00	0.00	0.07	0.00
55.12	254.00	2.00	0.00	0.07	0.00	55.28	254.00	2.00	0.00	0.06	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
55.45	254.00	2.00	0.00	0.06	0.00	55.61	250.13	2.00	0.00	0.06	0.00
55.77	254.00	2.00	0.00	0.05	0.00	55.94	254.00	2.00	0.00	0.05	0.00
56.10	254.00	2.00	0.00	0.05	0.00	56.27	254.00	2.00	0.00	0.05	0.00
56.43	254.00	2.00	0.00	0.04	0.00	56.59	242.86	2.00	0.00	0.04	0.00
56.76	230.87	2.00	0.00	0.04	0.00	56.92	219.08	2.00	0.00	0.04	0.00
57.09	221.54	2.00	0.00	0.03	0.00	57.25	254.00	2.00	0.00	0.03	0.00
57.41	254.00	2.00	0.00	0.03	0.00	57.58	254.00	2.00	0.00	0.02	0.00
57.74	254.00	2.00	0.00	0.02	0.00	57.91	254.00	2.00	0.00	0.02	0.00
58.07	254.00	2.00	0.00	0.02	0.00	58.23	254.00	2.00	0.00	0.01	0.00
58.40	522.52	2.00	0.00	0.01	0.00	58.56	521.06	2.00	0.00	0.01	0.00

Total estimated settlement: 0.45

Abbreviations

$Q_{tn,cs}$: Equivalent dean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

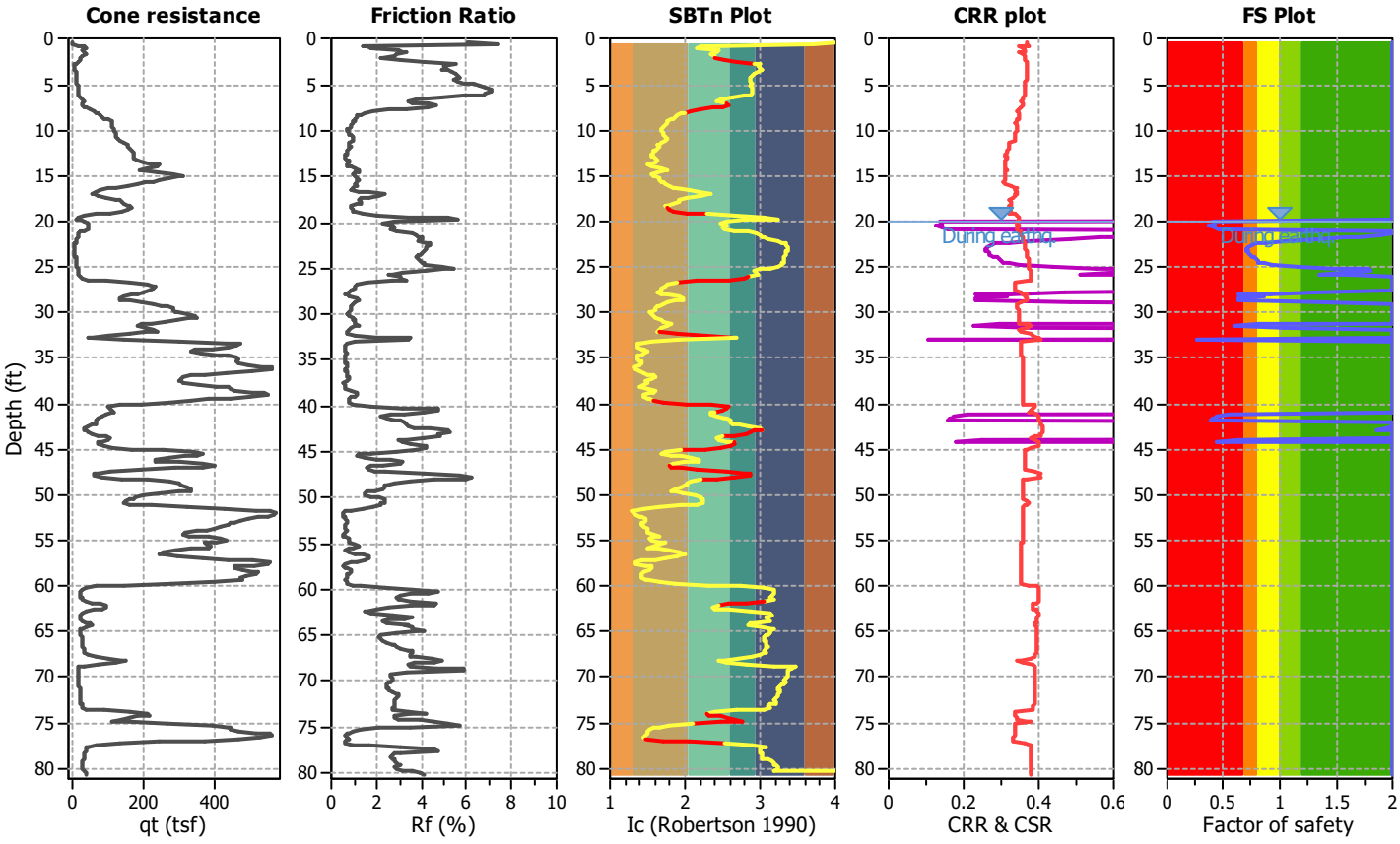
LIQUEFACTION ANALYSIS REPORT

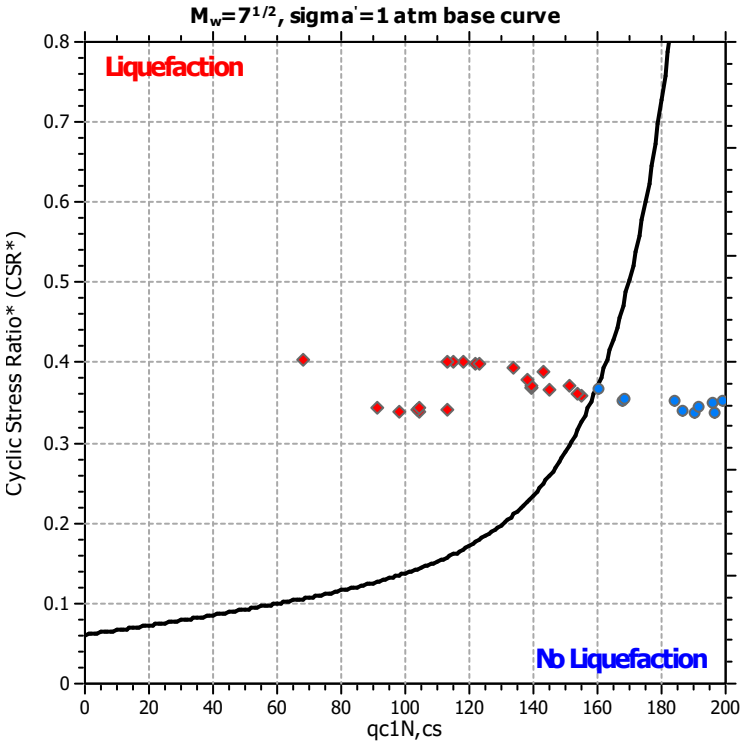
Project title : Marriot Townplace Suites **Location : San Jose, CA**

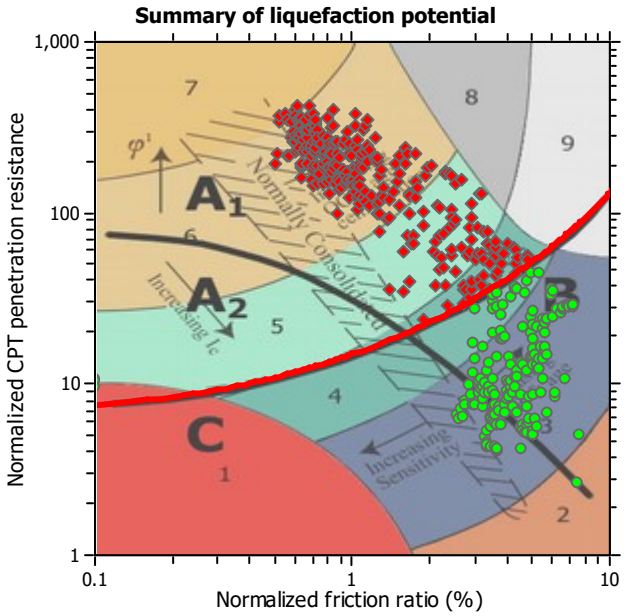
CPT file : CPT-5

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	21.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	20.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.10	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.58	Unit weight calculation:	Based on SBT	K_σ applied:	No		

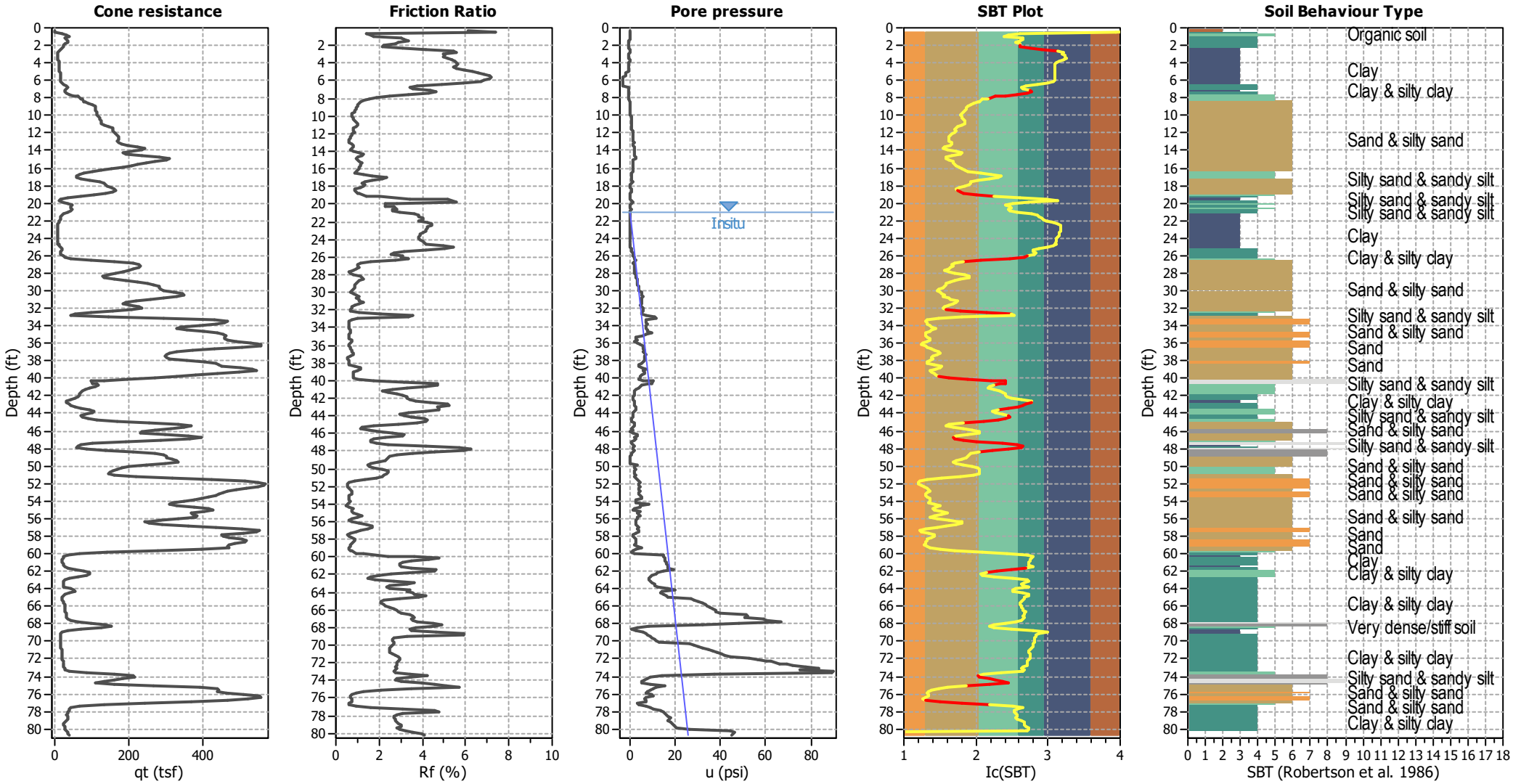






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

CPT basic interpretation plots



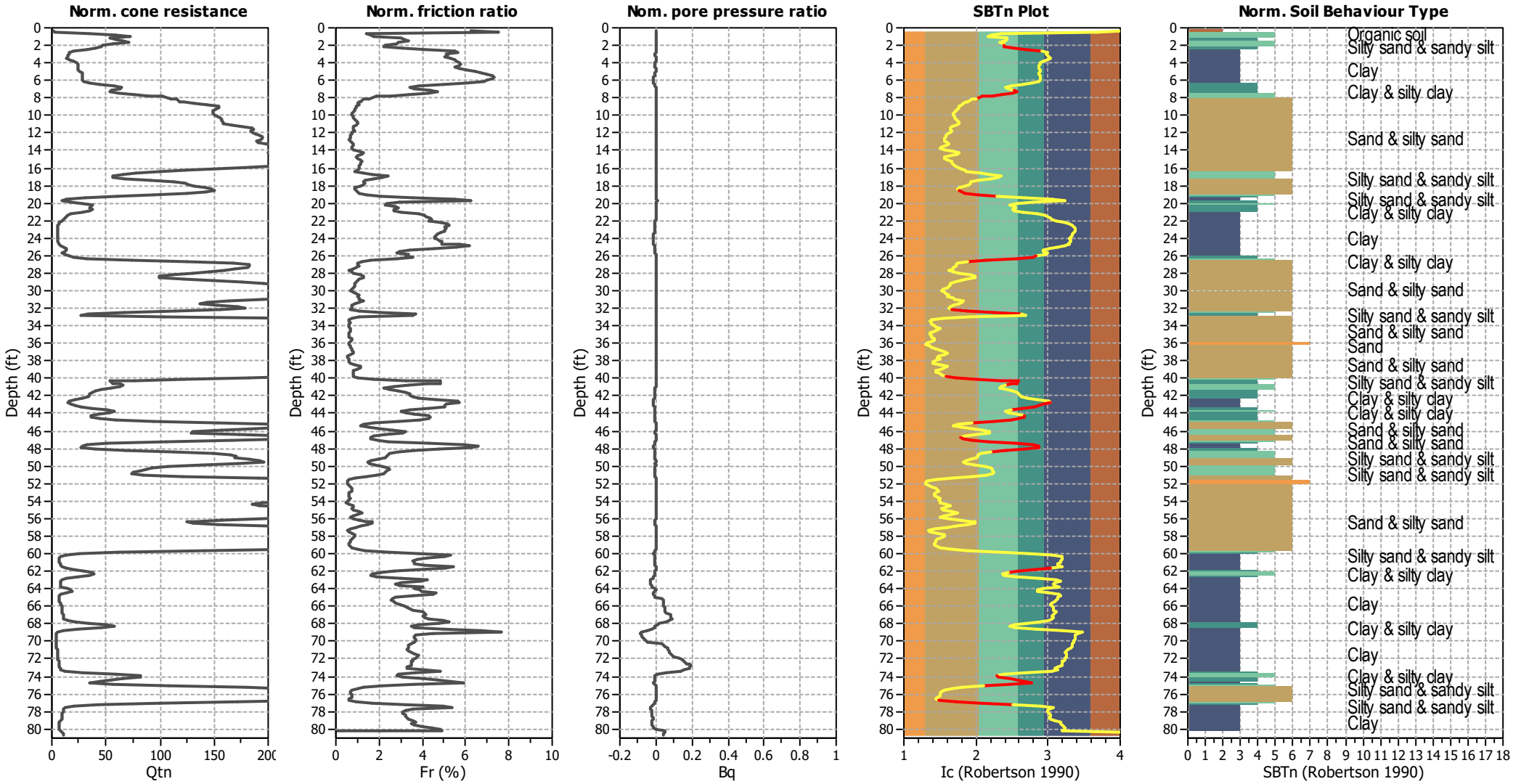
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

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

CPT basic interpretation plots (normalized)



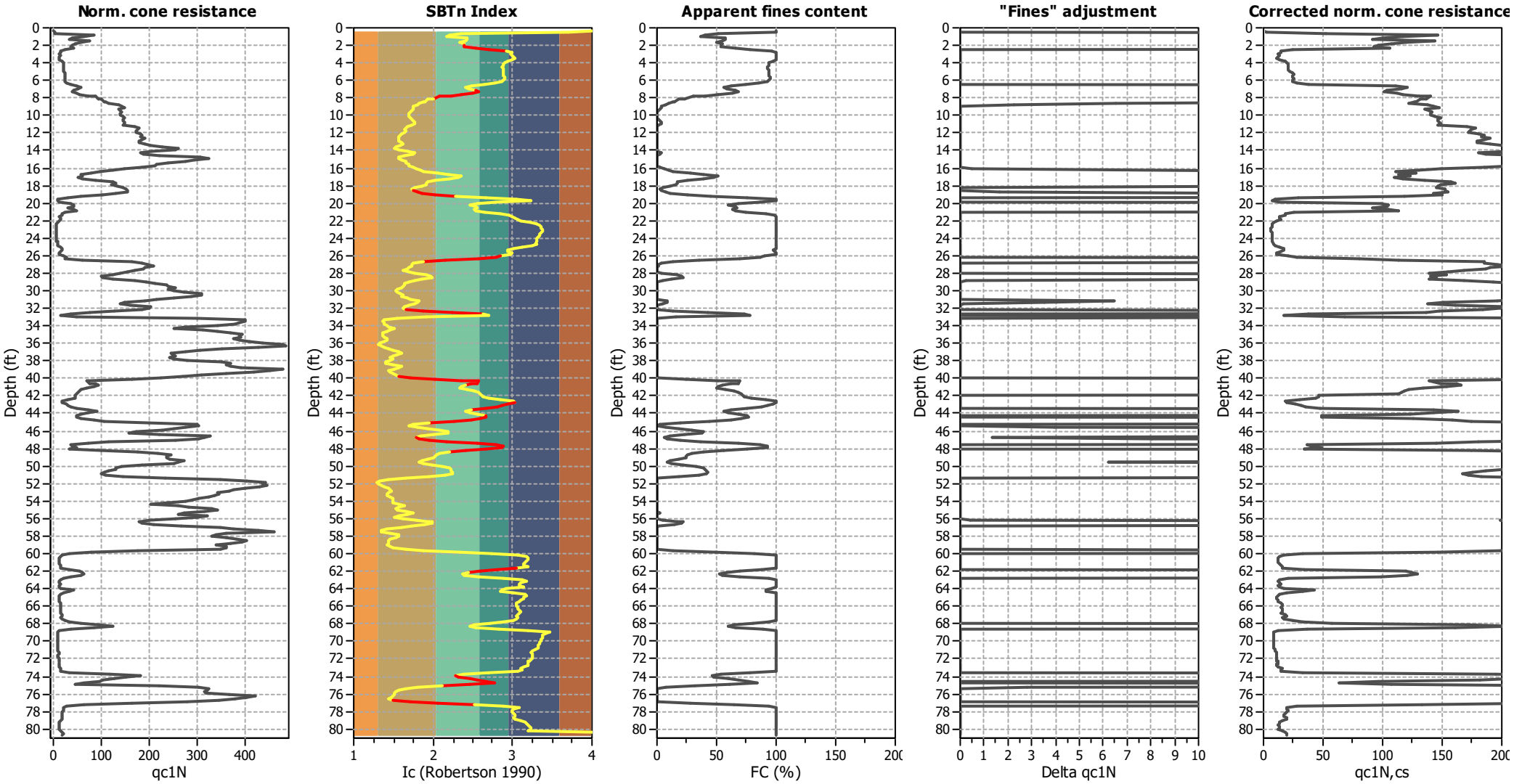
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

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

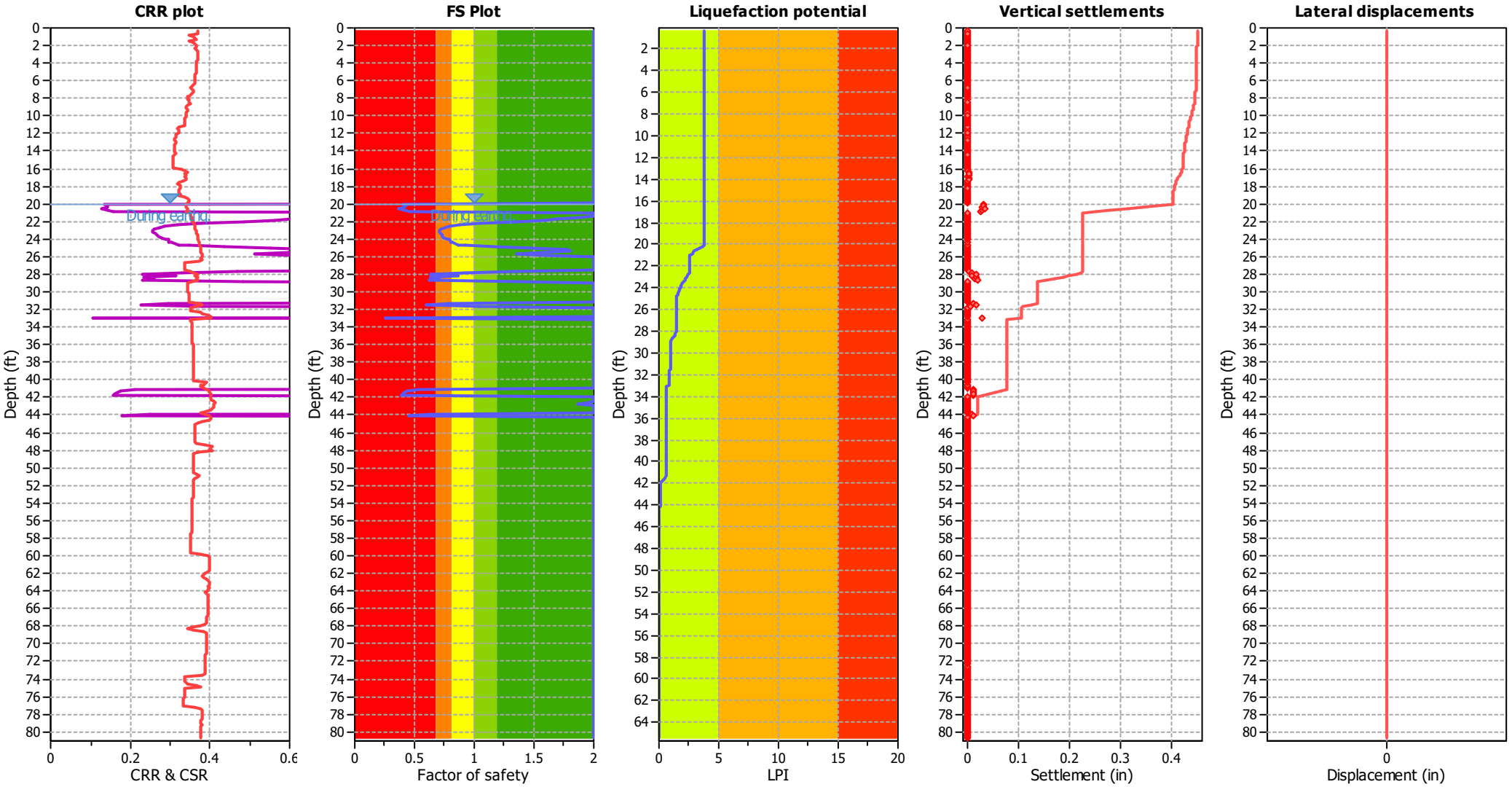
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

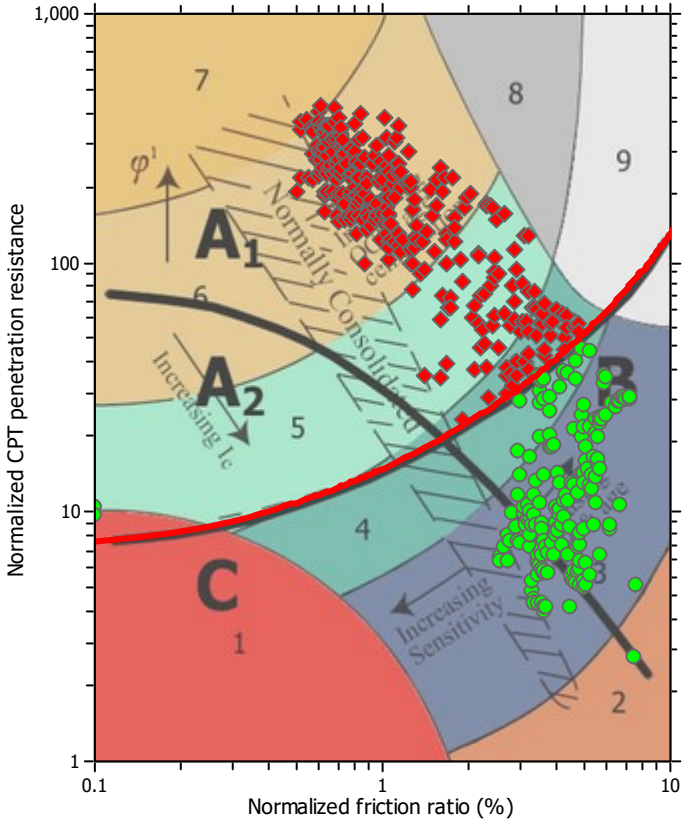
F.S. color scheme

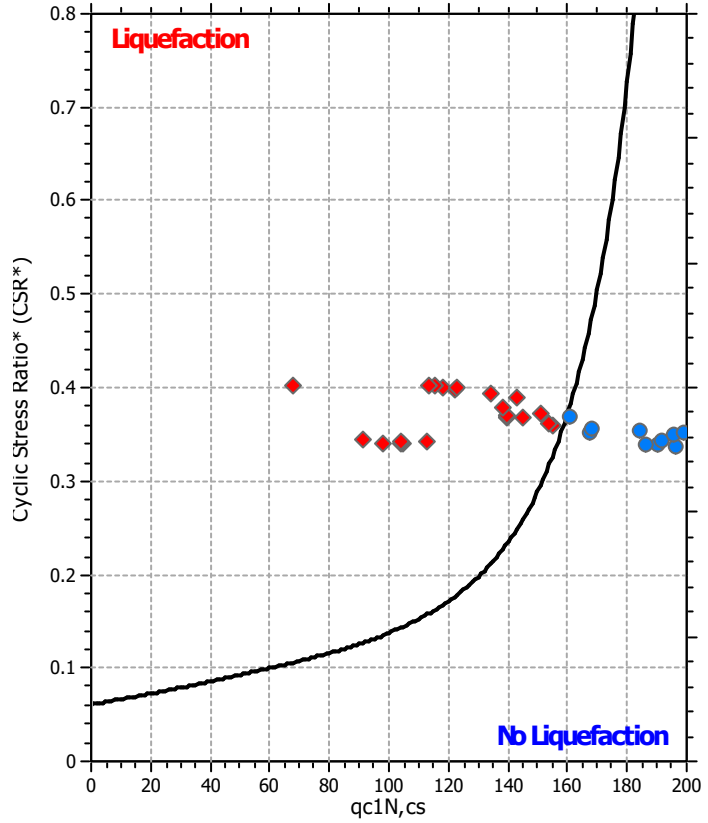
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

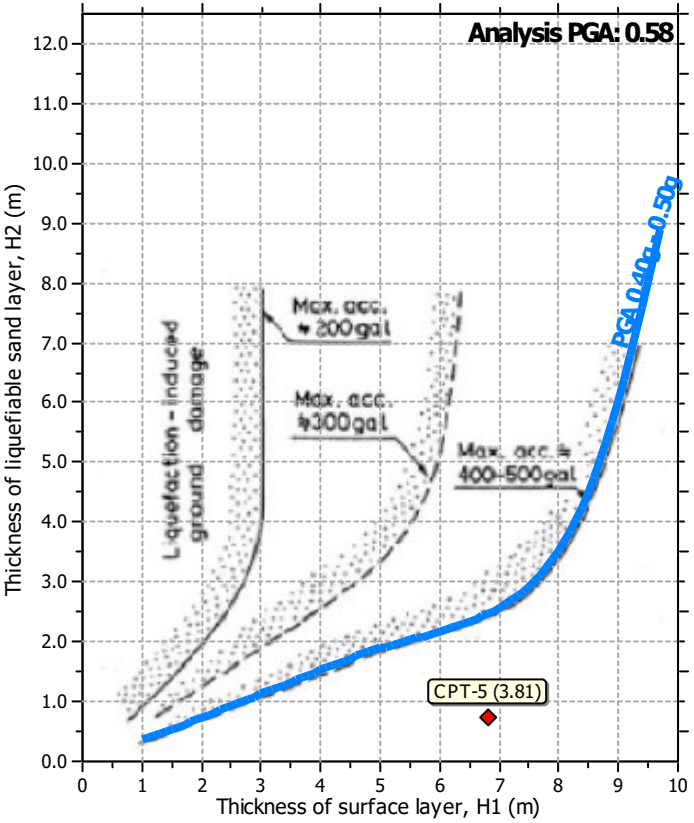
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



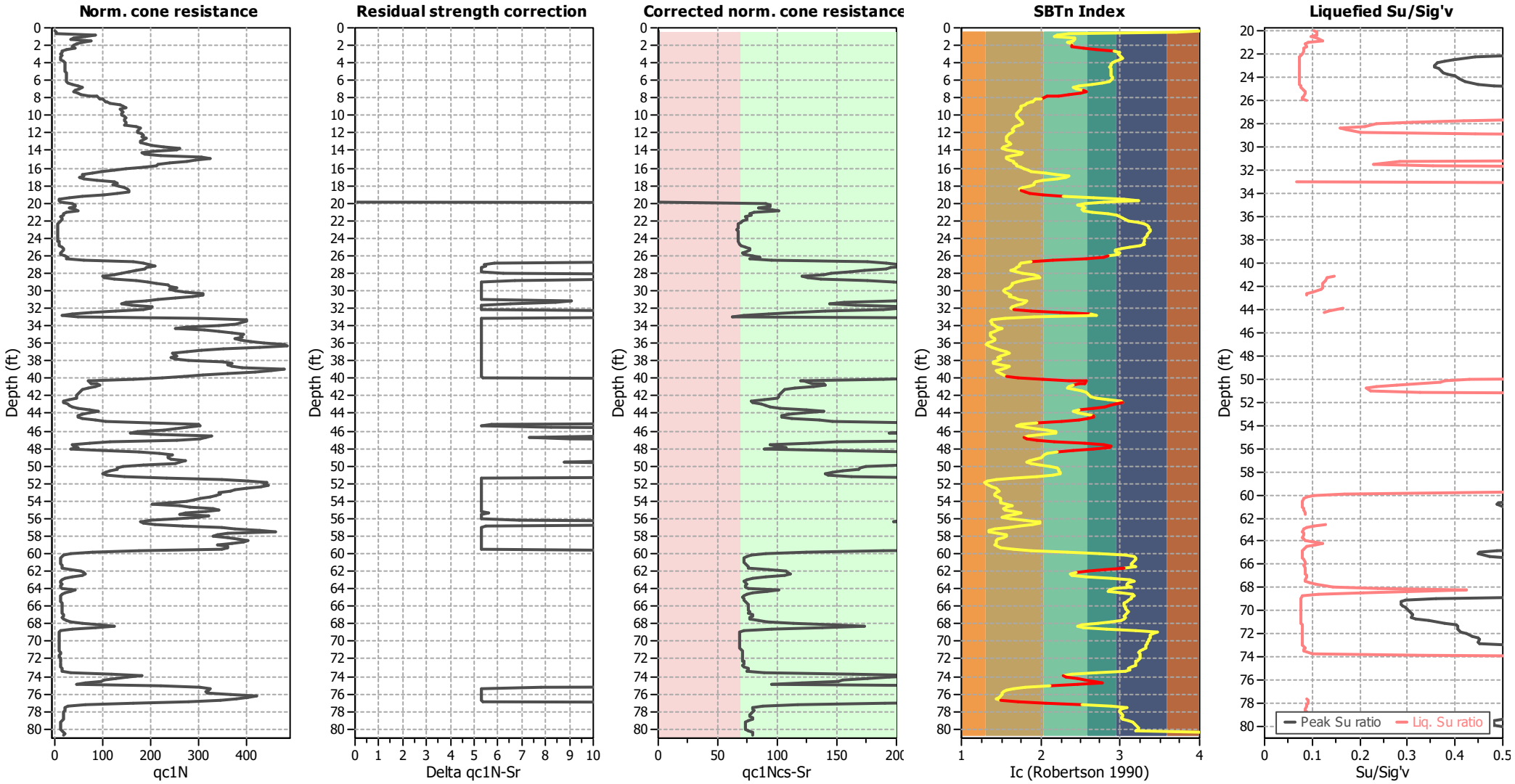




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

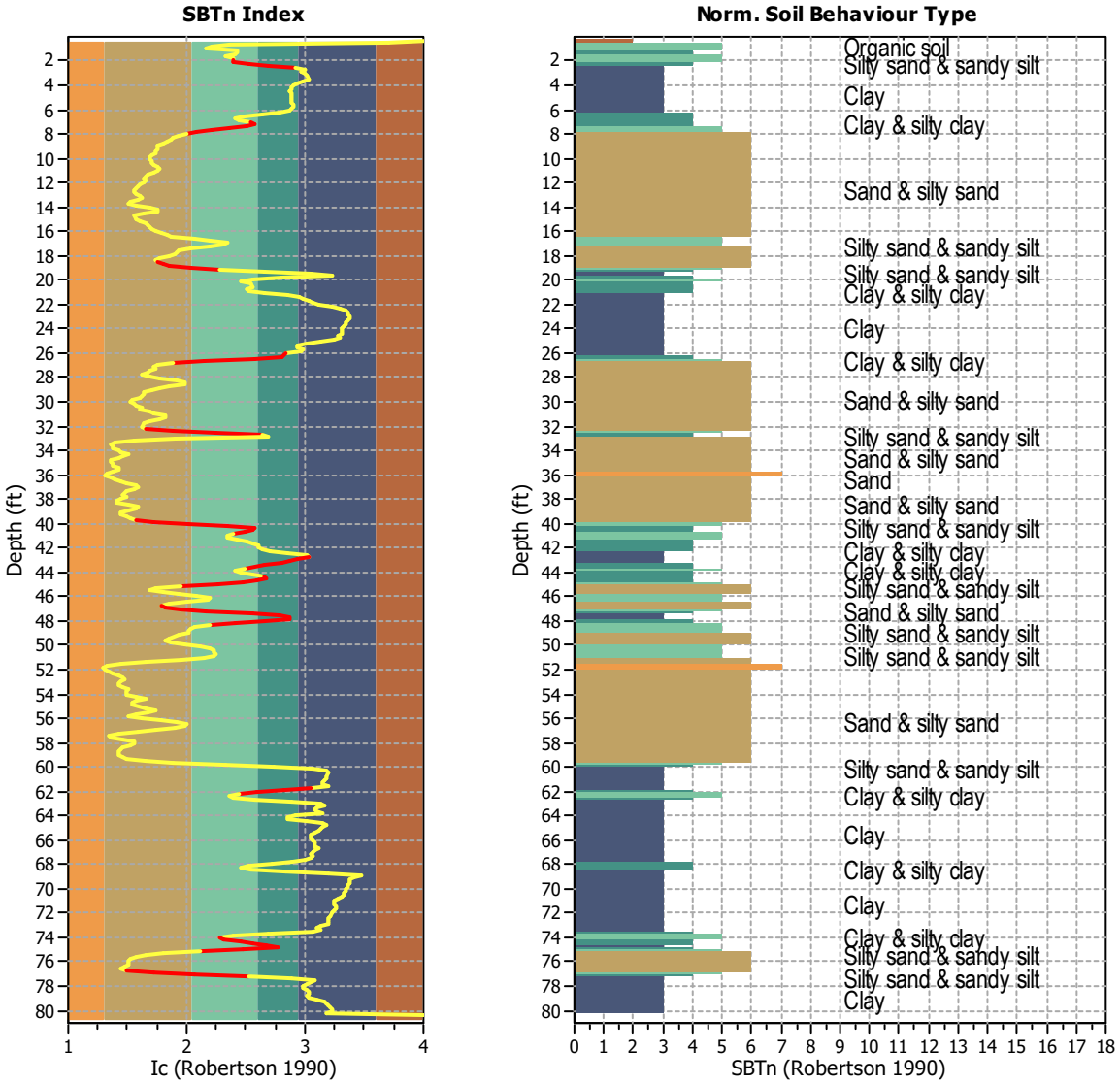
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	20.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	21.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

TRANSITION LAYER DETECTION ALGORITHM REPORT
Summary Details & Plots

Short description

The software will delete data when the cone is in transition from either clay to sand or vise-versa. To do this the software requires a range of I_c values over which the transition will be defined (typically somewhere between $1.80 < I_c < 3.0$) and a rate of change of I_c. Transitions typically occur when the rate of change of I_c is fast (i.e. delta I_c is small).

The SBT_n plot below, displays in red the detected transition layers based on the parameters listed below the graphs.



Transition layer algorithm properties		General statistics	
I_c minimum check value:	1.70	Total points in CPT file:	491
I_c maximum check value:	3.00	Total points excluded:	74
I_c change ratio value:	0.0250	Exclusion percentage:	15.07%
Minimum number of points in layer:	4	Number of layers detected:	15

Transition layer No	Number of points	Depth	SBT_n number	SBT_n description
Transition layer 1	5	Start depth: 2.13 (ft)	5	Silty sand & sandy silt
		End depth: 2.79 (ft)	3	Clay
Transition layer 2	7	Start depth: 7.22 (ft)	4	Clay & silty clay
		End depth: 8.20 (ft)	6	Sand & silty sand
Transition layer 3	5	Start depth: 18.70 (ft)	6	Sand & silty sand
		End depth: 19.36 (ft)	4	Clay & silty clay
Transition layer 4	5	Start depth: 26.25 (ft)	4	Clay & silty clay
		End depth: 26.90 (ft)	6	Sand & silty sand
Transition layer 5	4	Start depth: 32.32 (ft)	6	Sand & silty sand
		End depth: 32.81 (ft)	4	Clay & silty clay
Transition layer 6	4	Start depth: 39.86 (ft)	6	Sand & silty sand
		End depth: 40.35 (ft)	4	Clay & silty clay
Transition layer 7	4	Start depth: 40.52 (ft)	4	Clay & silty clay
		End depth: 41.01 (ft)	5	Silty sand & sandy silt
Transition layer 8	6	Start depth: 42.98 (ft)	3	Clay
		End depth: 43.80 (ft)	5	Silty sand & sandy silt
Transition layer 9	6	Start depth: 44.46 (ft)	4	Clay & silty clay
		End depth: 45.28 (ft)	6	Sand & silty sand
Transition layer 10	6	Start depth: 46.92 (ft)	6	Sand & silty sand
		End depth: 47.74 (ft)	3	Clay
Transition layer 11	5	Start depth: 47.90 (ft)	3	Clay
		End depth: 48.56 (ft)	5	Silty sand & sandy silt
Transition layer 12	4	Start depth: 61.84 (ft)	3	Clay
		End depth: 62.34 (ft)	5	Silty sand & sandy silt
Transition layer 13	5	Start depth: 74.15 (ft)	5	Silty sand & sandy silt
		End depth: 74.80 (ft)	3	Clay
Transition layer 14	4	Start depth: 74.80 (ft)	3	Clay
		End depth: 75.30 (ft)	6	Sand & silty sand
Transition layer 15	4	Start depth: 76.94 (ft)	6	Sand & silty sand
		End depth: 77.43 (ft)	3	Clay

Start depth: Depth where the transition layer begins
End depth: Depth where the transition layer ends

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data ::

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
1	0.33	0.01	0.00	0.01	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
2	0.49	0.02	0.00	0.02	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
3	0.66	0.03	0.00	0.03	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
4	0.82	0.04	0.00	0.04	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
5	0.98	0.05	0.00	0.05	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
6	1.15	0.06	0.00	0.06	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
7	1.31	0.07	0.00	0.07	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
8	1.48	0.08	0.00	0.08	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
9	1.64	0.09	0.00	0.09	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
10	1.80	0.10	0.00	0.10	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
11	1.97	0.11	0.00	0.11	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
12	2.13	0.12	0.00	0.12	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
13	2.30	0.13	0.00	0.13	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
14	2.46	0.14	0.00	0.14	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
15	2.62	0.14	0.00	0.14	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
16	2.79	0.15	0.00	0.15	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
17	2.95	0.16	0.00	0.16	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
18	3.12	0.17	0.00	0.17	1.00	0.376	1.11	0.339	1.00	1.00	2.000	No
19	3.28	0.18	0.00	0.18	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
20	3.44	0.19	0.00	0.19	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
21	3.61	0.20	0.00	0.20	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
22	3.77	0.21	0.00	0.21	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
23	3.94	0.22	0.00	0.22	1.00	0.375	1.11	0.338	1.00	1.00	2.000	No
24	4.10	0.23	0.00	0.23	1.00	0.375	1.11	0.338	1.00	1.00	2.000	No
25	4.27	0.24	0.00	0.24	0.99	0.375	1.11	0.337	1.00	1.00	2.000	No
26	4.43	0.25	0.00	0.25	0.99	0.375	1.11	0.337	1.00	1.00	2.000	No
27	4.59	0.25	0.00	0.25	0.99	0.375	1.11	0.337	1.00	1.00	2.000	No
28	4.76	0.26	0.00	0.26	0.99	0.374	1.11	0.337	1.00	1.00	2.000	No
29	4.92	0.27	0.00	0.27	0.99	0.374	1.11	0.337	1.00	1.00	2.000	No
30	5.09	0.28	0.00	0.28	0.99	0.374	1.11	0.337	1.00	1.00	2.000	No
31	5.25	0.29	0.00	0.29	0.99	0.374	1.11	0.336	1.00	1.00	2.000	No
32	5.41	0.30	0.00	0.30	0.99	0.374	1.11	0.336	1.00	1.00	2.000	No
33	5.58	0.31	0.00	0.31	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
34	5.74	0.32	0.00	0.32	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
35	5.91	0.33	0.00	0.33	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
36	6.07	0.34	0.00	0.34	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
37	6.23	0.35	0.00	0.35	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
38	6.40	0.36	0.00	0.36	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
39	6.56	0.37	0.00	0.37	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
40	6.73	0.38	0.00	0.38	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
41	6.89	0.39	0.00	0.39	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
42	7.05	0.40	0.00	0.40	0.99	0.372	1.11	0.334	1.00	1.00	2.000	No
43	7.22	0.41	0.00	0.41	0.99	0.371	1.11	0.334	1.00	1.00	2.000	Yes
44	7.38	0.42	0.00	0.42	0.98	0.371	1.11	0.334	1.00	1.00	2.000	Yes
45	7.55	0.43	0.00	0.43	0.98	0.371	1.11	0.334	1.00	1.00	2.000	Yes
46	7.71	0.44	0.00	0.44	0.98	0.371	1.11	0.334	1.00	1.00	2.000	Yes
47	7.87	0.45	0.00	0.45	0.98	0.371	1.11	0.333	1.00	1.00	2.000	Yes
48	8.04	0.46	0.00	0.46	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
49	8.20	0.47	0.00	0.47	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
50	8.37	0.48	0.00	0.48	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
51	8.53	0.49	0.00	0.49	0.98	0.370	1.11	0.333	1.00	1.00	2.000	No
52	8.69	0.50	0.00	0.50	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
53	8.86	0.51	0.00	0.51	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
54	9.02	0.52	0.00	0.52	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
55	9.19	0.53	0.00	0.53	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
56	9.35	0.54	0.00	0.54	0.98	0.369	1.11	0.332	1.00	1.00	2.000	No
57	9.51	0.55	0.00	0.55	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
58	9.68	0.56	0.00	0.56	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
59	9.84	0.57	0.00	0.57	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
60	10.01	0.58	0.00	0.58	0.98	0.368	1.11	0.331	1.00	1.00	2.000	No
61	10.17	0.59	0.00	0.59	0.97	0.367	1.11	0.331	1.00	1.00	2.000	No
62	10.33	0.60	0.00	0.60	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
63	10.50	0.61	0.00	0.61	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
64	10.66	0.62	0.00	0.62	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
65	10.83	0.63	0.00	0.63	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
66	10.99	0.64	0.00	0.64	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
67	11.15	0.65	0.00	0.65	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
68	11.32	0.66	0.00	0.66	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
69	11.48	0.67	0.00	0.67	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
70	11.65	0.68	0.00	0.68	0.97	0.365	1.11	0.329	1.00	1.00	2.000	No
71	11.81	0.69	0.00	0.69	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
72	11.98	0.70	0.00	0.70	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
73	12.14	0.71	0.00	0.71	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
74	12.30	0.72	0.00	0.72	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
75	12.47	0.73	0.00	0.73	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
76	12.63	0.74	0.00	0.74	0.97	0.364	1.11	0.327	1.00	1.00	2.000	No
77	12.80	0.75	0.00	0.75	0.96	0.364	1.11	0.327	1.00	1.00	2.000	No
78	12.96	0.76	0.00	0.76	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
79	13.12	0.77	0.00	0.77	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
80	13.29	0.78	0.00	0.78	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
81	13.45	0.79	0.00	0.79	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
82	13.62	0.80	0.00	0.80	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
83	13.78	0.81	0.00	0.81	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
84	13.94	0.82	0.00	0.82	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
85	14.11	0.83	0.00	0.83	0.96	0.362	1.11	0.325	1.00	1.00	2.000	No
86	14.27	0.84	0.00	0.84	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
87	14.44	0.86	0.00	0.86	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
88	14.60	0.87	0.00	0.87	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
89	14.76	0.88	0.00	0.88	0.96	0.361	1.11	0.324	1.00	1.00	2.000	No
90	14.93	0.89	0.00	0.89	0.96	0.360	1.11	0.324	1.00	1.00	2.000	No
91	15.09	0.90	0.00	0.90	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
92	15.26	0.91	0.00	0.91	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
93	15.42	0.92	0.00	0.92	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
94	15.58	0.93	0.00	0.93	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
95	15.75	0.94	0.00	0.94	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
96	15.91	0.95	0.00	0.95	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
97	16.08	0.96	0.00	0.96	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
98	16.24	0.97	0.00	0.97	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
99	16.40	0.98	0.00	0.98	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
100	16.57	0.99	0.00	0.99	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
101	16.73	1.00	0.00	1.00	0.95	0.357	1.11	0.322	1.00	1.00	2.000	No
102	16.90	1.01	0.00	1.01	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
103	17.06	1.02	0.00	1.02	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
104	17.22	1.03	0.00	1.03	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
105	17.39	1.04	0.00	1.04	0.94	0.356	1.11	0.321	1.00	1.00	2.000	No
106	17.55	1.05	0.00	1.05	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
107	17.72	1.06	0.00	1.06	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
108	17.88	1.07	0.00	1.07	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
109	18.04	1.08	0.00	1.08	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
110	18.21	1.09	0.00	1.09	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
111	18.37	1.10	0.00	1.10	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
112	18.54	1.11	0.00	1.11	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
113	18.70	1.12	0.00	1.12	0.94	0.354	1.11	0.319	1.00	1.00	2.000	Yes
114	18.86	1.13	0.00	1.13	0.94	0.354	1.11	0.318	1.00	1.00	2.000	Yes
115	19.03	1.15	0.00	1.15	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
116	19.19	1.16	0.00	1.16	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
117	19.36	1.17	0.00	1.17	0.94	0.353	1.11	0.318	1.00	1.00	2.000	Yes
118	19.52	1.17	0.00	1.17	0.94	0.353	1.11	0.317	1.00	1.00	2.000	No
119	19.69	1.18	0.00	1.18	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
120	19.85	1.19	0.00	1.19	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
121	20.01	1.20	0.00	1.20	0.93	0.352	1.11	0.317	1.00	1.00	0.340	No
122	20.18	1.21	0.01	1.21	0.93	0.353	1.11	0.318	1.00	1.00	0.340	No
123	20.34	1.22	0.01	1.21	0.93	0.354	1.11	0.319	1.00	1.00	0.341	No
124	20.51	1.23	0.02	1.22	0.93	0.356	1.11	0.320	1.00	1.00	0.345	No
125	20.67	1.24	0.02	1.22	0.93	0.357	1.11	0.321	1.00	1.00	0.343	No
126	20.83	1.25	0.03	1.23	0.93	0.358	1.11	0.322	1.00	1.00	0.342	No
127	21.00	1.26	0.03	1.23	0.93	0.359	1.11	0.323	1.00	1.00	0.350	No
128	21.16	1.27	0.04	1.24	0.93	0.360	1.11	0.324	1.00	1.00	0.352	No
129	21.33	1.28	0.04	1.24	0.93	0.361	1.11	0.325	1.00	1.00	0.353	No
130	21.49	1.29	0.05	1.24	0.93	0.362	1.11	0.326	1.00	1.00	0.355	No
131	21.65	1.30	0.05	1.25	0.93	0.363	1.11	0.327	1.00	1.00	0.356	No
132	21.82	1.31	0.06	1.25	0.92	0.364	1.11	0.328	1.00	1.00	0.357	No
133	21.98	1.32	0.06	1.26	0.92	0.365	1.11	0.329	1.00	1.00	0.358	No
134	22.15	1.33	0.07	1.26	0.92	0.367	1.11	0.330	1.00	1.00	0.360	No
135	22.31	1.34	0.07	1.26	0.92	0.368	1.11	0.331	1.00	1.00	0.361	No
136	22.47	1.35	0.08	1.27	0.92	0.369	1.11	0.332	1.00	1.00	0.362	No
137	22.64	1.35	0.08	1.27	0.92	0.370	1.11	0.333	1.00	1.00	0.363	No
138	22.80	1.36	0.09	1.28	0.92	0.371	1.11	0.333	1.00	1.00	0.364	No
139	22.97	1.37	0.09	1.28	0.92	0.372	1.11	0.334	1.00	1.00	0.365	No
140	23.13	1.38	0.10	1.28	0.92	0.373	1.11	0.335	1.00	1.00	0.366	No
141	23.29	1.39	0.10	1.29	0.92	0.374	1.11	0.336	1.00	1.00	0.367	No
142	23.46	1.40	0.11	1.29	0.92	0.375	1.11	0.337	1.00	1.00	0.368	No
143	23.62	1.41	0.11	1.29	0.92	0.375	1.11	0.338	1.00	1.00	0.369	No
144	23.79	1.42	0.12	1.30	0.92	0.376	1.11	0.339	1.00	1.00	0.370	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
145	23.95	1.42	0.12	1.30	0.91	0.377	1.11	0.340	1.00	1.00	0.370	No
146	24.11	1.43	0.13	1.31	0.91	0.378	1.11	0.340	1.00	1.00	0.371	No
147	24.28	1.44	0.13	1.31	0.91	0.379	1.11	0.341	1.00	1.00	0.372	No
148	24.44	1.45	0.14	1.31	0.91	0.380	1.11	0.342	1.00	1.00	0.373	No
149	24.61	1.46	0.14	1.32	0.91	0.381	1.11	0.343	1.00	1.00	0.374	No
150	24.77	1.47	0.15	1.32	0.91	0.382	1.11	0.344	1.00	1.00	0.375	No
151	24.93	1.48	0.15	1.32	0.91	0.383	1.11	0.344	1.00	1.00	0.375	No
152	25.10	1.49	0.16	1.33	0.91	0.384	1.11	0.345	1.00	1.00	0.376	No
153	25.26	1.50	0.16	1.33	0.91	0.384	1.11	0.346	1.00	1.00	0.376	No
154	25.43	1.51	0.17	1.34	0.91	0.385	1.11	0.347	1.00	1.00	0.377	No
155	25.59	1.52	0.17	1.34	0.91	0.386	1.11	0.347	1.00	1.00	0.378	No
156	25.75	1.53	0.18	1.35	0.91	0.387	1.11	0.348	1.00	1.00	0.379	No
157	25.92	1.53	0.18	1.35	0.90	0.388	1.11	0.349	1.00	1.00	0.380	No
158	26.08	1.54	0.19	1.35	0.90	0.388	1.11	0.350	1.00	1.00	0.379	No
159	26.25	1.55	0.20	1.36	0.90	0.389	1.11	0.350	1.00	1.00	2.000	Yes
160	26.41	1.56	0.20	1.36	0.90	0.390	1.11	0.351	1.00	1.00	2.000	Yes
161	26.57	1.57	0.20	1.37	0.90	0.391	1.11	0.352	1.00	1.00	2.000	Yes
162	26.74	1.58	0.21	1.37	0.90	0.391	1.11	0.352	1.00	1.00	2.000	Yes
163	26.90	1.60	0.22	1.38	0.90	0.392	1.11	0.353	1.00	1.00	2.000	Yes
164	27.07	1.61	0.22	1.39	0.90	0.393	1.11	0.353	1.00	1.00	0.337	No
165	27.23	1.62	0.23	1.39	0.90	0.393	1.11	0.354	1.00	1.00	0.337	No
166	27.40	1.63	0.23	1.40	0.90	0.394	1.11	0.355	1.00	1.00	0.338	No
167	27.56	1.64	0.24	1.40	0.90	0.395	1.11	0.355	1.00	1.00	0.338	No
168	27.72	1.65	0.24	1.41	0.90	0.395	1.11	0.356	1.00	1.00	0.351	No
169	27.89	1.66	0.25	1.41	0.89	0.396	1.11	0.356	1.00	1.00	0.359	No
170	28.05	1.67	0.25	1.42	0.89	0.397	1.11	0.357	1.00	1.00	0.368	No
171	28.22	1.68	0.26	1.42	0.89	0.397	1.11	0.358	1.00	1.00	0.362	No
172	28.38	1.69	0.26	1.43	0.89	0.398	1.11	0.358	1.00	1.00	0.369	No
173	28.54	1.70	0.27	1.43	0.89	0.399	1.11	0.359	1.00	1.00	0.367	No
174	28.71	1.71	0.27	1.44	0.89	0.399	1.11	0.359	1.00	1.00	0.371	No
175	28.87	1.72	0.28	1.44	0.89	0.400	1.11	0.360	1.00	1.00	0.355	No
176	29.04	1.73	0.28	1.45	0.89	0.400	1.11	0.360	1.00	1.00	0.343	No
177	29.20	1.74	0.29	1.45	0.89	0.401	1.11	0.361	1.00	1.00	0.343	No
178	29.36	1.75	0.29	1.46	0.89	0.401	1.11	0.361	1.00	1.00	0.344	No
179	29.53	1.76	0.30	1.47	0.89	0.402	1.11	0.362	1.00	1.00	0.344	No
180	29.69	1.77	0.30	1.47	0.89	0.402	1.11	0.362	1.00	1.00	0.345	No
181	29.86	1.78	0.31	1.48	0.88	0.403	1.11	0.363	1.00	1.00	0.345	No
182	30.02	1.79	0.31	1.48	0.88	0.403	1.11	0.363	1.00	1.00	0.346	No
183	30.18	1.81	0.32	1.49	0.88	0.404	1.11	0.363	1.00	1.00	0.346	No
184	30.35	1.82	0.32	1.49	0.88	0.404	1.11	0.364	1.00	1.00	0.346	No
185	30.51	1.83	0.33	1.50	0.88	0.405	1.11	0.364	1.00	1.00	0.347	No
186	30.68	1.84	0.33	1.51	0.88	0.405	1.11	0.365	1.00	1.00	0.347	No
187	30.84	1.85	0.34	1.51	0.88	0.406	1.11	0.365	1.00	1.00	0.348	No
188	31.00	1.86	0.34	1.52	0.88	0.406	1.11	0.366	1.00	1.00	0.348	No
189	31.17	1.87	0.35	1.52	0.88	0.407	1.11	0.366	1.00	1.00	0.348	No
190	31.33	1.88	0.35	1.53	0.88	0.407	1.11	0.366	1.00	1.00	0.372	No
191	31.50	1.89	0.36	1.53	0.88	0.408	1.11	0.367	1.00	1.00	0.379	No
192	31.66	1.90	0.36	1.54	0.88	0.408	1.11	0.367	1.00	1.00	0.367	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
193	31.82	1.91	0.37	1.54	0.87	0.408	1.11	0.367	1.00	1.00	0.350	No
194	31.99	1.92	0.37	1.55	0.87	0.409	1.11	0.368	1.00	1.00	0.350	No
195	32.15	1.93	0.38	1.55	0.87	0.409	1.11	0.368	1.00	1.00	0.352	No
196	32.32	1.94	0.38	1.56	0.87	0.410	1.11	0.369	1.00	1.00	2.000	Yes
197	32.48	1.95	0.39	1.56	0.87	0.410	1.11	0.369	1.00	1.00	2.000	Yes
198	32.64	1.96	0.39	1.57	0.87	0.410	1.11	0.369	1.00	1.00	2.000	Yes
199	32.81	1.97	0.40	1.57	0.87	0.411	1.11	0.370	1.00	1.00	2.000	Yes
200	32.97	1.98	0.40	1.58	0.87	0.411	1.11	0.370	1.00	1.00	0.403	No
201	33.14	2.00	0.41	1.59	0.87	0.412	1.11	0.370	1.00	1.00	0.353	No
202	33.30	2.01	0.41	1.59	0.87	0.412	1.11	0.371	1.00	1.00	0.353	No
203	33.46	2.02	0.42	1.60	0.87	0.412	1.11	0.371	1.00	1.00	0.353	No
204	33.63	2.03	0.43	1.60	0.86	0.413	1.11	0.371	1.00	1.00	0.353	No
205	33.79	2.04	0.43	1.61	0.86	0.413	1.11	0.371	1.00	1.00	0.354	No
206	33.96	2.05	0.44	1.61	0.86	0.413	1.11	0.372	1.00	1.00	0.354	No
207	34.12	2.06	0.44	1.62	0.86	0.413	1.11	0.372	1.00	1.00	0.354	No
208	34.28	2.07	0.45	1.62	0.86	0.414	1.11	0.372	1.00	1.00	0.355	No
209	34.45	2.08	0.45	1.63	0.86	0.414	1.11	0.373	1.00	1.00	0.355	No
210	34.61	2.09	0.46	1.64	0.86	0.414	1.11	0.373	1.00	1.00	0.355	No
211	34.78	2.10	0.46	1.64	0.86	0.415	1.11	0.373	1.00	1.00	0.355	No
212	34.94	2.11	0.47	1.65	0.86	0.415	1.11	0.373	1.00	1.00	0.355	No
213	35.10	2.12	0.47	1.65	0.86	0.415	1.11	0.374	1.00	1.00	0.356	No
214	35.27	2.14	0.48	1.66	0.86	0.415	1.11	0.374	1.00	1.00	0.356	No
215	35.43	2.15	0.48	1.67	0.86	0.416	1.11	0.374	1.00	1.00	0.356	No
216	35.60	2.16	0.49	1.67	0.85	0.416	1.11	0.374	1.00	1.00	0.356	No
217	35.76	2.17	0.49	1.68	0.85	0.416	1.11	0.374	1.00	1.00	0.357	No
218	35.93	2.18	0.50	1.68	0.85	0.416	1.11	0.375	1.00	1.00	0.357	No
219	36.09	2.19	0.50	1.69	0.85	0.417	1.11	0.375	1.00	1.00	0.357	No
220	36.25	2.20	0.51	1.69	0.85	0.417	1.11	0.375	1.00	1.00	0.357	No
221	36.42	2.21	0.51	1.70	0.85	0.417	1.11	0.375	1.00	1.00	0.357	No
222	36.58	2.22	0.52	1.71	0.85	0.417	1.11	0.375	1.00	1.00	0.357	No
223	36.75	2.23	0.52	1.71	0.85	0.417	1.11	0.376	1.00	1.00	0.358	No
224	36.91	2.25	0.53	1.72	0.85	0.418	1.11	0.376	1.00	1.00	0.358	No
225	37.07	2.26	0.53	1.72	0.85	0.418	1.11	0.376	1.00	1.00	0.358	No
226	37.24	2.27	0.54	1.73	0.85	0.418	1.11	0.376	1.00	1.00	0.358	No
227	37.40	2.28	0.54	1.73	0.84	0.418	1.11	0.376	1.00	1.00	0.358	No
228	37.57	2.29	0.55	1.74	0.84	0.418	1.11	0.376	1.00	1.00	0.358	No
229	37.73	2.30	0.55	1.75	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
230	37.89	2.31	0.56	1.75	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
231	38.06	2.32	0.56	1.76	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
232	38.22	2.33	0.57	1.76	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
233	38.39	2.34	0.57	1.77	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
234	38.55	2.35	0.58	1.77	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
235	38.71	2.36	0.58	1.78	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
236	38.88	2.38	0.59	1.79	0.84	0.419	1.11	0.377	1.00	1.00	0.359	No
237	39.04	2.39	0.59	1.79	0.84	0.420	1.11	0.378	1.00	1.00	0.359	No
238	39.21	2.40	0.60	1.80	0.84	0.420	1.11	0.378	1.00	1.00	0.360	No
239	39.37	2.41	0.60	1.80	0.83	0.420	1.11	0.378	1.00	1.00	0.360	No
240	39.53	2.42	0.61	1.81	0.83	0.420	1.11	0.378	1.00	1.00	0.360	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
241	39.70	2.43	0.61	1.82	0.83	0.420	1.11	0.378	1.00	1.00	0.360	No
242	39.86	2.44	0.62	1.82	0.83	0.420	1.11	0.378	1.00	1.00	2.000	Yes
243	40.03	2.45	0.62	1.83	0.83	0.420	1.11	0.378	1.00	1.00	2.000	Yes
244	40.19	2.46	0.63	1.83	0.83	0.420	1.11	0.378	1.00	1.00	2.000	Yes
245	40.35	2.47	0.63	1.84	0.83	0.420	1.11	0.378	1.00	1.00	2.000	Yes
246	40.52	2.48	0.64	1.84	0.83	0.420	1.11	0.378	1.00	1.00	2.000	Yes
247	40.68	2.50	0.65	1.85	0.83	0.421	1.11	0.378	1.00	1.00	2.000	Yes
248	40.85	2.51	0.65	1.86	0.83	0.421	1.11	0.378	1.00	1.00	2.000	Yes
249	41.01	2.52	0.66	1.86	0.83	0.421	1.11	0.379	1.00	1.00	2.000	Yes
250	41.17	2.53	0.66	1.87	0.82	0.421	1.11	0.379	1.00	1.00	0.393	No
251	41.34	2.54	0.67	1.87	0.82	0.421	1.11	0.379	1.00	1.00	0.399	No
252	41.50	2.55	0.67	1.88	0.82	0.421	1.11	0.379	1.00	1.00	0.400	No
253	41.67	2.56	0.68	1.88	0.82	0.421	1.11	0.379	1.00	1.00	0.401	No
254	41.83	2.57	0.68	1.89	0.82	0.421	1.11	0.379	1.00	1.00	0.402	No
255	41.99	2.58	0.69	1.89	0.82	0.421	1.11	0.379	1.00	1.00	0.403	No
256	42.16	2.59	0.69	1.90	0.82	0.421	1.11	0.379	1.00	1.00	0.403	No
257	42.32	2.60	0.70	1.90	0.82	0.421	1.11	0.379	1.00	1.00	0.404	No
258	42.49	2.61	0.70	1.91	0.82	0.421	1.11	0.379	1.00	1.00	0.409	No
259	42.65	2.62	0.71	1.91	0.82	0.421	1.11	0.379	1.00	1.00	0.412	No
260	42.81	2.63	0.71	1.92	0.82	0.422	1.11	0.379	1.00	1.00	0.411	No
261	42.98	2.64	0.72	1.92	0.81	0.422	1.11	0.379	1.00	1.00	2.000	Yes
262	43.14	2.65	0.72	1.93	0.81	0.422	1.11	0.379	1.00	1.00	2.000	Yes
263	43.31	2.66	0.73	1.93	0.81	0.422	1.11	0.379	1.00	1.00	2.000	Yes
264	43.47	2.67	0.73	1.94	0.81	0.422	1.11	0.379	1.00	1.00	2.000	Yes
265	43.64	2.68	0.74	1.95	0.81	0.422	1.11	0.379	1.00	1.00	2.000	Yes
266	43.80	2.69	0.74	1.95	0.81	0.422	1.11	0.379	1.00	1.00	2.000	Yes
267	43.96	2.70	0.75	1.96	0.81	0.422	1.11	0.379	1.00	1.00	0.390	No
268	44.13	2.71	0.75	1.96	0.81	0.422	1.11	0.380	1.00	1.00	0.399	No
269	44.29	2.72	0.76	1.97	0.81	0.422	1.11	0.380	1.00	1.00	0.402	No
270	44.46	2.74	0.76	1.97	0.81	0.422	1.11	0.380	1.00	1.00	2.000	Yes
271	44.62	2.75	0.77	1.98	0.81	0.422	1.11	0.380	1.00	1.00	2.000	Yes
272	44.78	2.76	0.77	1.98	0.81	0.422	1.11	0.379	1.00	1.00	2.000	Yes
273	44.95	2.77	0.78	1.99	0.80	0.422	1.11	0.379	1.00	1.00	2.000	Yes
274	45.11	2.78	0.78	2.00	0.80	0.422	1.11	0.379	1.00	1.00	2.000	Yes
275	45.28	2.79	0.79	2.00	0.80	0.422	1.11	0.379	1.00	1.00	2.000	Yes
276	45.44	2.80	0.79	2.01	0.80	0.422	1.11	0.379	1.00	1.00	0.361	No
277	45.60	2.81	0.80	2.01	0.80	0.422	1.11	0.379	1.00	1.00	0.361	No
278	45.77	2.82	0.80	2.02	0.80	0.422	1.11	0.379	1.00	1.00	0.361	No
279	45.93	2.83	0.81	2.03	0.80	0.421	1.11	0.379	1.00	1.00	0.361	No
280	46.10	2.85	0.81	2.03	0.80	0.421	1.11	0.379	1.00	1.00	0.361	No
281	46.26	2.86	0.82	2.04	0.80	0.421	1.11	0.379	1.00	1.00	0.361	No
282	46.42	2.87	0.82	2.04	0.80	0.421	1.11	0.379	1.00	1.00	0.361	No
283	46.59	2.88	0.83	2.05	0.80	0.421	1.11	0.379	1.00	1.00	0.361	No
284	46.75	2.89	0.83	2.06	0.79	0.421	1.11	0.379	1.00	1.00	0.361	No
285	46.92	2.90	0.84	2.06	0.79	0.421	1.11	0.379	1.00	1.00	2.000	Yes
286	47.08	2.91	0.84	2.07	0.79	0.421	1.11	0.379	1.00	1.00	2.000	Yes
287	47.24	2.92	0.85	2.07	0.79	0.421	1.11	0.379	1.00	1.00	2.000	Yes
288	47.41	2.94	0.86	2.08	0.79	0.421	1.11	0.379	1.00	1.00	2.000	Yes

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR*	Belongs to transition
289	47.57	2.95	0.86	2.09	0.79	0.421	1.11	0.379	1.00	1.00	2.000	Yes
290	47.74	2.96	0.87	2.09	0.79	0.421	1.11	0.378	1.00	1.00	2.000	Yes
291	47.90	2.97	0.87	2.10	0.79	0.421	1.11	0.378	1.00	1.00	2.000	Yes
292	48.06	2.98	0.88	2.10	0.79	0.420	1.11	0.378	1.00	1.00	2.000	Yes
293	48.23	2.99	0.88	2.11	0.79	0.420	1.11	0.378	1.00	1.00	2.000	Yes
294	48.39	3.00	0.89	2.11	0.79	0.420	1.11	0.378	1.00	1.00	2.000	Yes
295	48.56	3.01	0.89	2.12	0.78	0.420	1.11	0.378	1.00	1.00	2.000	Yes
296	48.72	3.02	0.90	2.13	0.78	0.420	1.11	0.378	1.00	1.00	0.360	No
297	48.88	3.03	0.90	2.13	0.78	0.420	1.11	0.378	1.00	1.00	0.360	No
298	49.05	3.05	0.91	2.14	0.78	0.420	1.11	0.378	1.00	1.00	0.360	No
299	49.21	3.06	0.91	2.15	0.78	0.420	1.11	0.378	1.00	1.00	0.360	No
300	49.38	3.07	0.92	2.15	0.78	0.420	1.11	0.378	1.00	1.00	0.359	No
301	49.54	3.08	0.92	2.16	0.78	0.419	1.11	0.377	1.00	1.00	0.359	No
302	49.70	3.09	0.93	2.16	0.78	0.419	1.11	0.377	1.00	1.00	0.359	No
303	49.87	3.10	0.93	2.17	0.78	0.419	1.11	0.377	1.00	1.00	0.359	No
304	50.03	3.11	0.94	2.18	0.78	0.419	1.11	0.377	1.00	1.00	2.000	No
305	50.20	3.12	0.94	2.18	0.78	0.419	1.11	0.377	1.00	1.00	2.000	No
306	50.36	3.13	0.95	2.19	0.78	0.419	1.11	0.377	1.00	1.00	2.000	No
307	50.52	3.14	0.95	2.19	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
308	50.69	3.16	0.96	2.20	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
309	50.85	3.17	0.96	2.20	0.77	0.419	1.11	0.377	1.00	1.00	2.000	No
310	51.02	3.18	0.97	2.21	0.77	0.418	1.11	0.376	1.00	1.00	2.000	No
311	51.18	3.19	0.97	2.22	0.77	0.418	1.11	0.376	1.00	1.00	2.000	No
312	51.35	3.20	0.98	2.22	0.77	0.418	1.11	0.376	1.00	1.00	2.000	No
313	51.51	3.21	0.98	2.23	0.77	0.418	1.11	0.376	1.00	1.00	2.000	No
314	51.67	3.22	0.99	2.23	0.77	0.418	1.11	0.376	1.00	1.00	2.000	No
315	51.84	3.23	0.99	2.24	0.77	0.418	1.11	0.376	1.00	1.00	2.000	No
316	52.00	3.24	1.00	2.24	0.77	0.418	1.11	0.376	1.00	1.00	2.000	No
317	52.17	3.25	1.00	2.25	0.77	0.417	1.11	0.376	1.00	1.00	2.000	No
318	52.33	3.26	1.01	2.26	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
319	52.49	3.28	1.01	2.26	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
320	52.66	3.29	1.02	2.27	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
321	52.82	3.30	1.02	2.27	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
322	52.99	3.31	1.03	2.28	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
323	53.15	3.32	1.03	2.29	0.76	0.417	1.11	0.375	1.00	1.00	2.000	No
324	53.31	3.33	1.04	2.29	0.76	0.416	1.11	0.375	1.00	1.00	2.000	No
325	53.48	3.34	1.04	2.30	0.76	0.416	1.11	0.375	1.00	1.00	2.000	No
326	53.64	3.35	1.05	2.30	0.76	0.416	1.11	0.374	1.00	1.00	2.000	No
327	53.81	3.36	1.05	2.31	0.76	0.416	1.11	0.374	1.00	1.00	2.000	No
328	53.97	3.37	1.06	2.31	0.76	0.416	1.11	0.374	1.00	1.00	2.000	No
329	54.13	3.38	1.06	2.32	0.76	0.416	1.11	0.374	1.00	1.00	2.000	No
330	54.30	3.39	1.07	2.32	0.75	0.416	1.11	0.374	1.00	1.00	2.000	No
331	54.46	3.41	1.08	2.33	0.75	0.415	1.11	0.374	1.00	1.00	2.000	No
332	54.63	3.42	1.08	2.34	0.75	0.415	1.11	0.374	1.00	1.00	2.000	No
333	54.79	3.43	1.09	2.34	0.75	0.415	1.11	0.373	1.00	1.00	2.000	No
334	54.95	3.44	1.09	2.35	0.75	0.415	1.11	0.373	1.00	1.00	2.000	No
335	55.12	3.45	1.10	2.35	0.75	0.415	1.11	0.373	1.00	1.00	2.000	No
336	55.28	3.46	1.10	2.36	0.75	0.415	1.11	0.373	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
337	55.45	3.47	1.11	2.37	0.75	0.414	1.11	0.373	1.00	1.00	2.000	No
338	55.61	3.48	1.11	2.37	0.75	0.414	1.11	0.373	1.00	1.00	2.000	No
339	55.77	3.49	1.12	2.38	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No
340	55.94	3.50	1.12	2.38	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No
341	56.10	3.51	1.13	2.39	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No
342	56.27	3.53	1.13	2.39	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
343	56.43	3.54	1.14	2.40	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
344	56.59	3.55	1.14	2.41	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
345	56.76	3.56	1.15	2.41	0.74	0.413	1.11	0.371	1.00	1.00	2.000	No
346	56.92	3.57	1.15	2.42	0.74	0.413	1.11	0.371	1.00	1.00	2.000	No
347	57.09	3.58	1.16	2.42	0.74	0.412	1.11	0.371	1.00	1.00	2.000	No
348	57.25	3.59	1.16	2.43	0.74	0.412	1.11	0.371	1.00	1.00	2.000	No
349	57.41	3.60	1.17	2.44	0.74	0.412	1.11	0.371	1.00	1.00	2.000	No
350	57.58	3.61	1.17	2.44	0.74	0.412	1.11	0.371	1.00	1.00	2.000	No
351	57.74	3.62	1.18	2.45	0.74	0.412	1.11	0.370	1.00	1.00	2.000	No
352	57.91	3.64	1.18	2.45	0.74	0.411	1.11	0.370	1.00	1.00	2.000	No
353	58.07	3.65	1.19	2.46	0.74	0.411	1.11	0.370	1.00	1.00	2.000	No
354	58.23	3.66	1.19	2.46	0.73	0.411	1.11	0.370	1.00	1.00	2.000	No
355	58.40	3.67	1.20	2.47	0.73	0.411	1.11	0.370	1.00	1.00	2.000	No
356	58.56	3.68	1.20	2.48	0.73	0.411	1.11	0.369	1.00	1.00	2.000	No
357	58.73	3.69	1.21	2.48	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
358	58.89	3.70	1.21	2.49	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
359	59.06	3.71	1.22	2.49	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
360	59.22	3.72	1.22	2.50	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
361	59.38	3.73	1.23	2.51	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
362	59.55	3.75	1.23	2.51	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
363	59.71	3.76	1.24	2.52	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
364	59.88	3.77	1.24	2.52	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
365	60.04	3.78	1.25	2.53	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
366	60.20	3.79	1.25	2.53	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
367	60.37	3.80	1.26	2.54	0.72	0.409	1.11	0.368	1.00	1.00	2.000	No
368	60.53	3.81	1.26	2.54	0.72	0.408	1.11	0.367	1.00	1.00	2.000	No
369	60.70	3.82	1.27	2.55	0.72	0.408	1.11	0.367	1.00	1.00	2.000	No
370	60.86	3.83	1.27	2.55	0.72	0.408	1.11	0.367	1.00	1.00	2.000	No
371	61.02	3.84	1.28	2.56	0.72	0.408	1.11	0.367	1.00	1.00	2.000	No
372	61.19	3.85	1.29	2.56	0.72	0.408	1.11	0.367	1.00	1.00	2.000	No
373	61.35	3.85	1.29	2.56	0.72	0.408	1.11	0.367	1.00	1.00	2.000	No
374	61.52	3.86	1.30	2.57	0.72	0.408	1.11	0.367	1.00	1.00	2.000	No
375	61.68	3.87	1.30	2.57	0.72	0.407	1.11	0.367	1.00	1.00	2.000	No
376	61.84	3.88	1.31	2.58	0.72	0.407	1.11	0.366	1.00	1.00	2.000	Yes
377	62.01	3.90	1.31	2.58	0.72	0.407	1.11	0.366	1.00	1.00	2.000	Yes
378	62.17	3.91	1.32	2.59	0.72	0.407	1.11	0.366	1.00	1.00	2.000	Yes
379	62.34	3.92	1.32	2.60	0.71	0.407	1.11	0.366	1.00	1.00	2.000	Yes
380	62.50	3.93	1.33	2.60	0.71	0.406	1.11	0.366	1.00	1.00	2.000	No
381	62.66	3.94	1.33	2.60	0.71	0.406	1.11	0.366	1.00	1.00	2.000	No
382	62.83	3.95	1.34	2.61	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No
383	62.99	3.96	1.34	2.61	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No
384	63.16	3.97	1.35	2.62	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
385	63.32	3.97	1.35	2.62	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No
386	63.48	3.98	1.36	2.63	0.71	0.405	1.11	0.365	1.00	1.00	2.000	No
387	63.65	3.99	1.36	2.63	0.71	0.405	1.11	0.365	1.00	1.00	2.000	No
388	63.81	4.00	1.37	2.64	0.71	0.405	1.11	0.365	1.00	1.00	2.000	No
389	63.98	4.01	1.37	2.64	0.71	0.405	1.11	0.364	1.00	1.00	2.000	No
390	64.14	4.02	1.38	2.65	0.71	0.405	1.11	0.364	1.00	1.00	2.000	No
391	64.30	4.03	1.38	2.65	0.71	0.405	1.11	0.364	1.00	1.00	2.000	No
392	64.47	4.04	1.39	2.66	0.70	0.404	1.11	0.364	1.00	1.00	2.000	No
393	64.63	4.05	1.39	2.66	0.70	0.404	1.11	0.364	1.00	1.00	2.000	No
394	64.80	4.06	1.40	2.66	0.70	0.404	1.11	0.364	1.00	1.00	2.000	No
395	64.96	4.07	1.40	2.67	0.70	0.404	1.11	0.363	1.00	1.00	2.000	No
396	65.12	4.08	1.41	2.67	0.70	0.404	1.11	0.363	1.00	1.00	2.000	No
397	65.29	4.09	1.41	2.68	0.70	0.404	1.11	0.363	1.00	1.00	2.000	No
398	65.45	4.10	1.42	2.68	0.70	0.403	1.11	0.363	1.00	1.00	2.000	No
399	65.62	4.11	1.42	2.69	0.70	0.403	1.11	0.363	1.00	1.00	2.000	No
400	65.78	4.12	1.43	2.69	0.70	0.403	1.11	0.363	1.00	1.00	2.000	No
401	65.94	4.13	1.43	2.69	0.70	0.403	1.11	0.363	1.00	1.00	2.000	No
402	66.11	4.14	1.44	2.70	0.70	0.403	1.11	0.362	1.00	1.00	2.000	No
403	66.27	4.15	1.44	2.70	0.70	0.403	1.11	0.362	1.00	1.00	2.000	No
404	66.44	4.16	1.45	2.71	0.70	0.402	1.11	0.362	1.00	1.00	2.000	No
405	66.60	4.17	1.45	2.71	0.69	0.402	1.11	0.362	1.00	1.00	2.000	No
406	66.77	4.18	1.46	2.72	0.69	0.402	1.11	0.362	1.00	1.00	2.000	No
407	66.93	4.19	1.46	2.72	0.69	0.402	1.11	0.362	1.00	1.00	2.000	No
408	67.09	4.20	1.47	2.73	0.69	0.402	1.11	0.361	1.00	1.00	2.000	No
409	67.26	4.21	1.47	2.73	0.69	0.402	1.11	0.361	1.00	1.00	2.000	No
410	67.42	4.22	1.48	2.74	0.69	0.401	1.11	0.361	1.00	1.00	2.000	No
411	67.59	4.23	1.48	2.74	0.69	0.401	1.11	0.361	1.00	1.00	2.000	No
412	67.75	4.24	1.49	2.75	0.69	0.401	1.11	0.361	1.00	1.00	2.000	No
413	67.91	4.25	1.49	2.75	0.69	0.401	1.11	0.361	1.00	1.00	2.000	No
414	68.08	4.26	1.50	2.76	0.69	0.400	1.11	0.360	1.00	1.00	2.000	No
415	68.24	4.27	1.51	2.76	0.69	0.400	1.11	0.360	1.00	1.00	2.000	No
416	68.41	4.28	1.51	2.77	0.69	0.400	1.11	0.360	1.00	1.00	2.000	No
417	68.57	4.29	1.52	2.78	0.69	0.400	1.11	0.360	1.00	1.00	2.000	No
418	68.73	4.30	1.52	2.78	0.69	0.400	1.11	0.360	1.00	1.00	2.000	No
419	68.90	4.31	1.53	2.78	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
420	69.06	4.32	1.53	2.79	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
421	69.23	4.33	1.54	2.79	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
422	69.39	4.34	1.54	2.80	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
423	69.55	4.35	1.55	2.80	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
424	69.72	4.36	1.55	2.80	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
425	69.88	4.36	1.56	2.81	0.68	0.398	1.11	0.359	1.00	1.00	2.000	No
426	70.05	4.37	1.56	2.81	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
427	70.21	4.38	1.57	2.82	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
428	70.37	4.39	1.57	2.82	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
429	70.54	4.40	1.58	2.82	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
430	70.70	4.41	1.58	2.83	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
431	70.87	4.42	1.59	2.83	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
432	71.03	4.43	1.59	2.84	0.68	0.397	1.11	0.358	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
433	71.19	4.44	1.60	2.84	0.67	0.397	1.11	0.357	1.00	1.00	2.000	No
434	71.36	4.45	1.60	2.85	0.67	0.397	1.11	0.357	1.00	1.00	2.000	No
435	71.52	4.46	1.61	2.85	0.67	0.397	1.11	0.357	1.00	1.00	2.000	No
436	71.69	4.47	1.61	2.85	0.67	0.397	1.11	0.357	1.00	1.00	2.000	No
437	71.85	4.48	1.62	2.86	0.67	0.397	1.11	0.357	1.00	1.00	2.000	No
438	72.01	4.48	1.62	2.86	0.67	0.396	1.11	0.357	1.00	1.00	2.000	No
439	72.18	4.49	1.63	2.87	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
440	72.34	4.50	1.63	2.87	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
441	72.51	4.51	1.64	2.88	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
442	72.67	4.52	1.64	2.88	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
443	72.83	4.53	1.65	2.88	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
444	73.00	4.54	1.65	2.89	0.67	0.395	1.11	0.356	1.00	1.00	2.000	No
445	73.16	4.55	1.66	2.89	0.67	0.395	1.11	0.356	1.00	1.00	2.000	No
446	73.33	4.56	1.66	2.90	0.67	0.395	1.11	0.355	1.00	1.00	2.000	No
447	73.49	4.57	1.67	2.90	0.66	0.395	1.11	0.355	1.00	1.00	2.000	No
448	73.65	4.58	1.67	2.91	0.66	0.395	1.11	0.355	1.00	1.00	2.000	No
449	73.82	4.59	1.68	2.91	0.66	0.394	1.11	0.355	1.00	1.00	2.000	No
450	73.98	4.60	1.68	2.92	0.66	0.394	1.11	0.355	1.00	1.00	2.000	No
451	74.15	4.62	1.69	2.93	0.66	0.394	1.11	0.354	1.00	1.00	2.000	Yes
452	74.31	4.63	1.69	2.93	0.66	0.394	1.11	0.354	1.00	1.00	2.000	Yes
453	74.48	4.64	1.70	2.94	0.66	0.393	1.11	0.354	1.00	1.00	2.000	Yes
454	74.64	4.65	1.70	2.94	0.66	0.393	1.11	0.354	1.00	1.00	2.000	Yes
455	74.80	4.66	1.71	2.95	0.66	0.393	1.11	0.353	1.00	1.00	2.000	Yes
456	74.97	4.67	1.72	2.96	0.66	0.392	1.11	0.353	1.00	1.00	2.000	Yes
457	75.13	4.68	1.72	2.96	0.66	0.392	1.11	0.353	1.00	1.00	2.000	Yes
458	75.30	4.69	1.73	2.97	0.66	0.392	1.11	0.353	1.00	1.00	2.000	Yes
459	75.46	4.70	1.73	2.97	0.66	0.392	1.11	0.352	1.00	1.00	2.000	No
460	75.62	4.72	1.74	2.98	0.66	0.391	1.11	0.352	1.00	1.00	2.000	No
461	75.79	4.73	1.74	2.99	0.66	0.391	1.11	0.352	1.00	1.00	2.000	No
462	75.95	4.74	1.75	2.99	0.65	0.391	1.11	0.352	1.00	1.00	2.000	No
463	76.12	4.75	1.75	3.00	0.65	0.391	1.11	0.352	1.00	1.00	2.000	No
464	76.28	4.76	1.76	3.00	0.65	0.390	1.11	0.351	1.00	1.00	2.000	No
465	76.44	4.77	1.76	3.01	0.65	0.390	1.11	0.351	1.00	1.00	2.000	No
466	76.61	4.78	1.77	3.02	0.65	0.390	1.11	0.351	1.00	1.00	2.000	No
467	76.77	4.79	1.77	3.02	0.65	0.390	1.11	0.351	1.00	1.00	2.000	No
468	76.94	4.80	1.78	3.03	0.65	0.389	1.11	0.350	1.00	1.00	2.000	Yes
469	77.10	4.81	1.78	3.03	0.65	0.389	1.11	0.350	1.00	1.00	2.000	Yes
470	77.26	4.82	1.79	3.04	0.65	0.389	1.11	0.350	1.00	1.00	2.000	Yes
471	77.43	4.84	1.79	3.04	0.65	0.389	1.11	0.350	1.00	1.00	2.000	Yes
472	77.59	4.85	1.80	3.05	0.65	0.389	1.11	0.350	1.00	1.00	2.000	No
473	77.76	4.86	1.80	3.05	0.65	0.388	1.11	0.349	1.00	1.00	2.000	No
474	77.92	4.87	1.81	3.06	0.65	0.388	1.11	0.349	1.00	1.00	2.000	No
475	78.08	4.88	1.81	3.06	0.65	0.388	1.11	0.349	1.00	1.00	2.000	No
476	78.25	4.89	1.82	3.07	0.65	0.388	1.11	0.349	1.00	1.00	2.000	No
477	78.41	4.89	1.82	3.07	0.65	0.388	1.11	0.349	1.00	1.00	2.000	No
478	78.58	4.90	1.83	3.08	0.64	0.387	1.11	0.349	1.00	1.00	2.000	No
479	78.74	4.91	1.83	3.08	0.64	0.387	1.11	0.348	1.00	1.00	2.000	No
480	78.90	4.92	1.84	3.09	0.64	0.387	1.11	0.348	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
481	79.07	4.93	1.84	3.09	0.64	0.387	1.11	0.348	1.00	1.00	2.000	No
482	79.23	4.94	1.85	3.10	0.64	0.387	1.11	0.348	1.00	1.00	2.000	No
483	79.40	4.95	1.85	3.10	0.64	0.387	1.11	0.348	1.00	1.00	2.000	No
484	79.56	4.96	1.86	3.10	0.64	0.386	1.11	0.348	1.00	1.00	2.000	No
485	79.72	4.97	1.86	3.11	0.64	0.386	1.11	0.348	1.00	1.00	2.000	No
486	79.89	4.98	1.87	3.11	0.64	0.386	1.11	0.347	1.00	1.00	2.000	No
487	80.05	4.99	1.87	3.12	0.64	0.386	1.11	0.347	1.00	1.00	2.000	No
488	80.22	5.00	1.88	3.12	0.64	0.386	1.11	0.347	1.00	1.00	2.000	No
489	80.38	5.01	1.88	3.12	0.64	0.386	1.11	0.347	1.00	1.00	2.000	No
490	80.54	5.02	1.89	3.13	0.64	0.386	1.11	0.347	1.00	1.00	2.000	No
491	80.71	5.02	1.89	3.13	0.64	0.386	1.11	0.347	1.00	1.00	2.000	No

Abbreviations

Depth: Depth from free surface, at which CPT was performed (ft)
σ_v: Total overburden pressure at test point (tsf)
u_0: Water pressure at test point (tsf)
σ_v': Effective overburden pressure based on GWT during earthquake (tsf)
r_d: Nonlinear shear mass factor
CSR: Cyclic Stress Ratio
MSF: Magnitude Scaling Factor
CSR_{eq}: CSR adjusted for M=7.5
K_σ: Effective overburden stress factor
CSR^*: CSR fully adjusted

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
0.33	2.00	0.00	0.00	0.05	0.00	0.49	2.00	0.00	0.00	0.05	0.00
0.66	2.00	0.00	0.00	0.05	0.00	0.82	2.00	0.00	0.00	0.05	0.00
0.98	2.00	0.00	0.00	0.05	0.00	1.15	2.00	0.00	0.00	0.05	0.00
1.31	2.00	0.00	0.00	0.05	0.00	1.48	2.00	0.00	0.00	0.05	0.00
1.64	2.00	0.00	0.00	0.05	0.00	1.80	2.00	0.00	0.00	0.05	0.00
1.97	2.00	0.00	0.00	0.05	0.00	2.13	2.00	0.00	0.00	0.05	0.00
2.30	2.00	0.00	0.00	0.05	0.00	2.46	2.00	0.00	0.00	0.05	0.00
2.62	2.00	0.00	0.00	0.05	0.00	2.79	2.00	0.00	0.00	0.05	0.00
2.95	2.00	0.00	0.00	0.05	0.00	3.12	2.00	0.00	0.00	0.05	0.00
3.28	2.00	0.00	0.00	0.05	0.00	3.44	2.00	0.00	0.00	0.05	0.00
3.61	2.00	0.00	0.00	0.05	0.00	3.77	2.00	0.00	0.00	0.05	0.00
3.94	2.00	0.00	0.00	0.05	0.00	4.10	2.00	0.00	0.00	0.05	0.00
4.27	2.00	0.00	0.00	0.05	0.00	4.43	2.00	0.00	0.00	0.05	0.00
4.59	2.00	0.00	0.00	0.05	0.00	4.76	2.00	0.00	0.00	0.05	0.00
4.92	2.00	0.00	0.00	0.05	0.00	5.09	2.00	0.00	0.00	0.05	0.00
5.25	2.00	0.00	0.00	0.05	0.00	5.41	2.00	0.00	0.00	0.05	0.00
5.58	2.00	0.00	0.00	0.05	0.00	5.74	2.00	0.00	0.00	0.05	0.00
5.91	2.00	0.00	0.00	0.05	0.00	6.07	2.00	0.00	0.00	0.05	0.00
6.23	2.00	0.00	0.00	0.05	0.00	6.40	2.00	0.00	0.00	0.05	0.00
6.56	2.00	0.00	0.00	0.05	0.00	6.73	2.00	0.00	0.00	0.05	0.00
6.89	2.00	0.00	0.00	0.05	0.00	7.05	2.00	0.00	0.00	0.05	0.00
7.22	2.00	0.00	0.00	0.05	0.00	7.38	2.00	0.00	0.00	0.05	0.00
7.55	2.00	0.00	0.00	0.05	0.00	7.71	2.00	0.00	0.00	0.05	0.00
7.87	2.00	0.00	0.00	0.05	0.00	8.04	2.00	0.00	0.00	0.05	0.00
8.20	2.00	0.00	0.00	0.05	0.00	8.37	2.00	0.00	0.00	0.05	0.00
8.53	2.00	0.00	0.00	0.05	0.00	8.69	2.00	0.00	0.00	0.05	0.00
8.86	2.00	0.00	0.00	0.05	0.00	9.02	2.00	0.00	0.00	0.05	0.00
9.19	2.00	0.00	0.00	0.05	0.00	9.35	2.00	0.00	0.00	0.05	0.00
9.51	2.00	0.00	0.00	0.05	0.00	9.68	2.00	0.00	0.00	0.05	0.00
9.84	2.00	0.00	0.00	0.05	0.00	10.01	2.00	0.00	0.00	0.05	0.00
10.17	2.00	0.00	0.00	0.05	0.00	10.33	2.00	0.00	0.00	0.05	0.00
10.50	2.00	0.00	0.00	0.05	0.00	10.66	2.00	0.00	0.00	0.05	0.00
10.83	2.00	0.00	0.00	0.05	0.00	10.99	2.00	0.00	0.00	0.05	0.00
11.15	2.00	0.00	0.00	0.05	0.00	11.32	2.00	0.00	0.00	0.05	0.00
11.48	2.00	0.00	0.00	0.05	0.00	11.65	2.00	0.00	0.00	0.05	0.00
11.81	2.00	0.00	0.00	0.05	0.00	11.98	2.00	0.00	0.00	0.05	0.00
12.14	2.00	0.00	0.00	0.05	0.00	12.30	2.00	0.00	0.00	0.05	0.00
12.47	2.00	0.00	0.00	0.05	0.00	12.63	2.00	0.00	0.00	0.05	0.00
12.80	2.00	0.00	0.00	0.05	0.00	12.96	2.00	0.00	0.00	0.05	0.00
13.12	2.00	0.00	0.00	0.05	0.00	13.29	2.00	0.00	0.00	0.05	0.00
13.45	2.00	0.00	0.00	0.05	0.00	13.62	2.00	0.00	0.00	0.05	0.00
13.78	2.00	0.00	0.00	0.05	0.00	13.94	2.00	0.00	0.00	0.05	0.00
14.11	2.00	0.00	0.00	0.05	0.00	14.27	2.00	0.00	0.00	0.05	0.00
14.44	2.00	0.00	0.00	0.05	0.00	14.60	2.00	0.00	0.00	0.05	0.00
14.76	2.00	0.00	0.00	0.05	0.00	14.93	2.00	0.00	0.00	0.05	0.00
15.09	2.00	0.00	0.00	0.05	0.00	15.26	2.00	0.00	0.00	0.05	0.00
15.42	2.00	0.00	0.00	0.05	0.00	15.58	2.00	0.00	0.00	0.05	0.00
15.75	2.00	0.00	0.00	0.05	0.00	15.91	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
16.08	2.00	0.00	0.00	0.05	0.00	16.24	2.00	0.00	0.00	0.05	0.00
16.40	2.00	0.00	0.00	0.05	0.00	16.57	2.00	0.00	0.00	0.05	0.00
16.73	2.00	0.00	0.00	0.05	0.00	16.90	2.00	0.00	0.00	0.05	0.00
17.06	2.00	0.00	0.00	0.05	0.00	17.22	2.00	0.00	0.00	0.05	0.00
17.39	2.00	0.00	0.00	0.05	0.00	17.55	2.00	0.00	0.00	0.05	0.00
17.72	2.00	0.00	0.00	0.05	0.00	17.88	2.00	0.00	0.00	0.05	0.00
18.04	2.00	0.00	0.00	0.05	0.00	18.21	2.00	0.00	0.00	0.05	0.00
18.37	2.00	0.00	0.00	0.05	0.00	18.54	2.00	0.00	0.00	0.05	0.00
18.70	2.00	0.00	0.00	0.05	0.00	18.86	2.00	0.00	0.00	0.05	0.00
19.03	2.00	0.00	0.00	0.05	0.00	19.19	2.00	0.00	0.00	0.05	0.00
19.36	2.00	0.00	0.00	0.05	0.00	19.52	2.00	0.00	0.00	0.05	0.00
19.69	2.00	0.00	0.00	0.05	0.00	19.85	2.00	0.00	0.00	0.05	0.00
20.01	0.40	0.00	0.00	0.05	0.20	20.18	0.42	0.00	0.00	0.05	0.21
20.34	0.42	0.00	0.00	0.05	0.20	20.51	0.37	0.00	0.00	0.05	0.23
20.67	0.42	0.00	0.00	0.05	0.19	20.83	0.46	0.00	0.00	0.05	0.18
21.00	2.00	0.00	0.00	0.05	0.00	21.16	2.00	0.00	0.00	0.05	0.00
21.33	2.00	0.00	0.00	0.05	0.00	21.49	1.89	0.00	0.00	0.05	0.00
21.65	1.69	0.00	0.00	0.05	0.00	21.82	1.58	0.00	0.00	0.05	0.00
21.98	1.36	0.00	0.00	0.05	0.00	22.15	1.05	0.00	0.00	0.05	0.00
22.31	0.88	0.00	0.00	0.05	0.04	22.47	0.79	0.00	0.00	0.05	0.07
22.64	0.75	0.00	0.00	0.05	0.08	22.80	0.72	0.00	0.00	0.05	0.09
22.97	0.70	0.00	0.00	0.05	0.10	23.13	0.70	0.00	0.00	0.05	0.09
23.29	0.72	0.00	0.00	0.05	0.09	23.46	0.73	0.00	0.00	0.05	0.09
23.62	0.73	0.00	0.00	0.05	0.08	23.79	0.75	0.00	0.00	0.05	0.08
23.95	0.78	0.00	0.00	0.05	0.07	24.11	0.79	0.00	0.00	0.05	0.06
24.28	0.80	0.00	0.00	0.05	0.07	24.44	0.81	0.00	0.00	0.05	0.06
24.61	0.86	0.00	0.00	0.05	0.04	24.77	0.93	0.00	0.00	0.05	0.02
24.93	1.16	0.00	0.00	0.05	0.00	25.10	1.47	0.00	0.00	0.05	0.00
25.26	1.78	0.00	0.00	0.05	0.00	25.43	1.81	0.00	0.00	0.05	0.00
25.59	1.58	0.00	0.00	0.05	0.00	25.75	1.35	0.00	0.00	0.05	0.00
25.92	1.59	0.00	0.00	0.05	0.00	26.08	2.00	0.00	0.00	0.05	0.00
26.25	2.00	0.00	0.00	0.05	0.00	26.41	2.00	0.00	0.00	0.05	0.00
26.57	2.00	0.00	0.00	0.05	0.00	26.74	2.00	0.00	0.00	0.05	0.00
26.90	2.00	0.00	0.00	0.05	0.00	27.07	2.00	0.00	0.00	0.05	0.00
27.23	2.00	0.00	0.00	0.05	0.00	27.40	2.00	0.00	0.00	0.05	0.00
27.56	2.00	0.00	0.00	0.05	0.00	27.72	1.34	0.00	0.00	0.05	0.00
27.89	0.91	0.00	0.00	0.05	0.03	28.05	0.63	0.00	0.00	0.05	0.10
28.22	0.87	0.00	0.00	0.05	0.04	28.38	0.63	0.00	0.00	0.05	0.10
28.54	0.71	0.00	0.00	0.05	0.08	28.71	0.63	0.00	0.00	0.05	0.11
28.87	1.36	0.00	0.00	0.05	0.00	29.04	2.00	0.00	0.00	0.05	0.00
29.20	2.00	0.00	0.00	0.05	0.00	29.36	2.00	0.00	0.00	0.05	0.00
29.53	2.00	0.00	0.00	0.05	0.00	29.69	2.00	0.00	0.00	0.05	0.00
29.86	2.00	0.00	0.00	0.05	0.00	30.02	2.00	0.00	0.00	0.05	0.00
30.18	2.00	0.00	0.00	0.05	0.00	30.35	2.00	0.00	0.00	0.05	0.00
30.51	2.00	0.00	0.00	0.05	0.00	30.68	2.00	0.00	0.00	0.05	0.00
30.84	2.00	0.00	0.00	0.05	0.00	31.00	2.00	0.00	0.00	0.05	0.00
31.17	2.00	0.00	0.00	0.05	0.00	31.33	0.80	0.00	0.00	0.05	0.05
31.50	0.60	0.00	0.00	0.05	0.11	31.66	1.04	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
31.82	2.00	0.00	0.00	0.05	0.00	31.99	2.00	0.00	0.00	0.05	0.00
32.15	2.00	0.00	0.00	0.05	0.00	32.32	2.00	0.00	0.00	0.05	0.00
32.48	2.00	0.00	0.00	0.05	0.00	32.64	2.00	0.00	0.00	0.05	0.00
32.81	2.00	0.00	0.00	0.05	0.00	32.97	0.26	0.74	0.30	0.16	0.18
33.14	2.00	0.00	0.00	0.05	0.00	33.30	2.00	0.00	0.00	0.05	0.00
33.46	2.00	0.00	0.00	0.05	0.00	33.63	2.00	0.00	0.00	0.05	0.00
33.79	2.00	0.00	0.00	0.05	0.00	33.96	2.00	0.00	0.00	0.05	0.00
34.12	2.00	0.00	0.00	0.05	0.00	34.28	2.00	0.00	0.00	0.05	0.00
34.45	2.00	0.00	0.00	0.05	0.00	34.61	2.00	0.00	0.00	0.05	0.00
34.78	2.00	0.00	0.00	0.05	0.00	34.94	2.00	0.00	0.00	0.05	0.00
35.10	2.00	0.00	0.00	0.05	0.00	35.27	2.00	0.00	0.00	0.05	0.00
35.43	2.00	0.00	0.00	0.05	0.00	35.60	2.00	0.00	0.00	0.05	0.00
35.76	2.00	0.00	0.00	0.05	0.00	35.93	2.00	0.00	0.00	0.05	0.00
36.09	2.00	0.00	0.00	0.05	0.00	36.25	2.00	0.00	0.00	0.05	0.00
36.42	2.00	0.00	0.00	0.05	0.00	36.58	2.00	0.00	0.00	0.05	0.00
36.75	2.00	0.00	0.00	0.05	0.00	36.91	2.00	0.00	0.00	0.05	0.00
37.07	2.00	0.00	0.00	0.05	0.00	37.24	2.00	0.00	0.00	0.05	0.00
37.40	2.00	0.00	0.00	0.05	0.00	37.57	2.00	0.00	0.00	0.05	0.00
37.73	2.00	0.00	0.00	0.05	0.00	37.89	2.00	0.00	0.00	0.05	0.00
38.06	2.00	0.00	0.00	0.05	0.00	38.22	2.00	0.00	0.00	0.05	0.00
38.39	2.00	0.00	0.00	0.05	0.00	38.55	2.00	0.00	0.00	0.05	0.00
38.71	2.00	0.00	0.00	0.05	0.00	38.88	2.00	0.00	0.00	0.05	0.00
39.04	2.00	0.00	0.00	0.05	0.00	39.21	2.00	0.00	0.00	0.05	0.00
39.37	2.00	0.00	0.00	0.05	0.00	39.53	2.00	0.00	0.00	0.05	0.00
39.70	2.00	0.00	0.00	0.05	0.00	39.86	2.00	0.00	0.00	0.05	0.00
40.03	2.00	0.00	0.00	0.05	0.00	40.19	2.00	0.00	0.00	0.05	0.00
40.35	2.00	0.00	0.00	0.05	0.00	40.52	2.00	0.00	0.00	0.05	0.00
40.68	2.00	0.00	0.00	0.05	0.00	40.85	2.00	0.00	0.00	0.05	0.00
41.01	2.00	0.00	0.00	0.05	0.00	41.17	0.54	0.00	0.00	0.05	0.08
41.34	0.44	0.56	0.42	0.17	0.11	41.50	0.42	0.58	0.40	0.16	0.10
41.67	0.40	0.60	0.39	0.17	0.11	41.83	0.39	0.61	0.38	0.16	0.11
41.99	2.00	0.00	0.00	0.05	0.00	42.16	2.00	0.00	0.00	0.05	0.00
42.32	2.00	0.00	0.00	0.05	0.00	42.49	2.00	0.00	0.00	0.05	0.00
42.65	1.96	0.00	0.00	0.05	0.00	42.81	1.86	0.00	0.00	0.05	0.00
42.98	2.00	0.00	0.00	0.05	0.00	43.14	2.00	0.00	0.00	0.05	0.00
43.31	2.00	0.00	0.00	0.05	0.00	43.47	2.00	0.00	0.00	0.05	0.00
43.64	2.00	0.00	0.00	0.05	0.00	43.80	2.00	0.00	0.00	0.05	0.00
43.96	0.64	0.00	0.00	0.05	0.06	44.13	0.45	0.55	0.42	0.17	0.09
44.29	2.00	0.00	0.00	0.05	0.00	44.46	2.00	0.00	0.00	0.05	0.00
44.62	2.00	0.00	0.00	0.05	0.00	44.78	2.00	0.00	0.00	0.05	0.00
44.95	2.00	0.00	0.00	0.05	0.00	45.11	2.00	0.00	0.00	0.05	0.00
45.28	2.00	0.00	0.00	0.05	0.00	45.44	2.00	0.00	0.00	0.05	0.00
45.60	2.00	0.00	0.00	0.05	0.00	45.77	2.00	0.00	0.00	0.05	0.00
45.93	2.00	0.00	0.00	0.05	0.00	46.10	2.00	0.00	0.00	0.05	0.00
46.26	2.00	0.00	0.00	0.05	0.00	46.42	2.00	0.00	0.00	0.05	0.00
46.59	2.00	0.00	0.00	0.05	0.00	46.75	2.00	0.00	0.00	0.05	0.00
46.92	2.00	0.00	0.00	0.05	0.00	47.08	2.00	0.00	0.00	0.05	0.00
47.24	2.00	0.00	0.00	0.05	0.00	47.41	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
47.57	2.00	0.00	0.00	0.05	0.00	47.74	2.00	0.00	0.00	0.05	0.00
47.90	2.00	0.00	0.00	0.05	0.00	48.06	2.00	0.00	0.00	0.05	0.00
48.23	2.00	0.00	0.00	0.05	0.00	48.39	2.00	0.00	0.00	0.05	0.00
48.56	2.00	0.00	0.00	0.05	0.00	48.72	2.00	0.00	0.00	0.05	0.00
48.88	2.00	0.00	0.00	0.05	0.00	49.05	2.00	0.00	0.00	0.05	0.00
49.21	2.00	0.00	0.00	0.05	0.00	49.38	2.00	0.00	0.00	0.05	0.00
49.54	2.00	0.00	0.00	0.05	0.00	49.70	2.00	0.00	0.00	0.05	0.00
49.87	2.00	0.00	0.00	0.05	0.00	50.03	2.00	0.00	0.00	0.05	0.00
50.20	2.00	0.00	0.00	0.05	0.00	50.36	2.00	0.00	0.00	0.05	0.00
50.52	2.00	0.00	0.00	0.05	0.00	50.69	2.00	0.00	0.00	0.05	0.00
50.85	2.00	0.00	0.00	0.05	0.00	51.02	2.00	0.00	0.00	0.05	0.00
51.18	2.00	0.00	0.00	0.05	0.00	51.35	2.00	0.00	0.00	0.05	0.00
51.51	2.00	0.00	0.00	0.05	0.00	51.67	2.00	0.00	0.00	0.05	0.00
51.84	2.00	0.00	0.00	0.05	0.00	52.00	2.00	0.00	0.00	0.05	0.00
52.17	2.00	0.00	0.00	0.05	0.00	52.33	2.00	0.00	0.00	0.05	0.00
52.49	2.00	0.00	0.00	0.05	0.00	52.66	2.00	0.00	0.00	0.05	0.00
52.82	2.00	0.00	0.00	0.05	0.00	52.99	2.00	0.00	0.00	0.05	0.00
53.15	2.00	0.00	0.00	0.05	0.00	53.31	2.00	0.00	0.00	0.05	0.00
53.48	2.00	0.00	0.00	0.05	0.00	53.64	2.00	0.00	0.00	0.05	0.00
53.81	2.00	0.00	0.00	0.05	0.00	53.97	2.00	0.00	0.00	0.05	0.00
54.13	2.00	0.00	0.00	0.05	0.00	54.30	2.00	0.00	0.00	0.05	0.00
54.46	2.00	0.00	0.00	0.05	0.00	54.63	2.00	0.00	0.00	0.05	0.00
54.79	2.00	0.00	0.00	0.05	0.00	54.95	2.00	0.00	0.00	0.05	0.00
55.12	2.00	0.00	0.00	0.05	0.00	55.28	2.00	0.00	0.00	0.05	0.00
55.45	2.00	0.00	0.00	0.05	0.00	55.61	2.00	0.00	0.00	0.05	0.00
55.77	2.00	0.00	0.00	0.05	0.00	55.94	2.00	0.00	0.00	0.05	0.00
56.10	2.00	0.00	0.00	0.05	0.00	56.27	2.00	0.00	0.00	0.05	0.00
56.43	2.00	0.00	0.00	0.05	0.00	56.59	2.00	0.00	0.00	0.05	0.00
56.76	2.00	0.00	0.00	0.05	0.00	56.92	2.00	0.00	0.00	0.05	0.00
57.09	2.00	0.00	0.00	0.05	0.00	57.25	2.00	0.00	0.00	0.05	0.00
57.41	2.00	0.00	0.00	0.05	0.00	57.58	2.00	0.00	0.00	0.05	0.00
57.74	2.00	0.00	0.00	0.05	0.00	57.91	2.00	0.00	0.00	0.05	0.00
58.07	2.00	0.00	0.00	0.05	0.00	58.23	2.00	0.00	0.00	0.05	0.00
58.40	2.00	0.00	0.00	0.05	0.00	58.56	2.00	0.00	0.00	0.05	0.00
58.73	2.00	0.00	0.00	0.05	0.00	58.89	2.00	0.00	0.00	0.05	0.00
59.06	2.00	0.00	0.00	0.05	0.00	59.22	2.00	0.00	0.00	0.05	0.00
59.38	2.00	0.00	0.00	0.05	0.00	59.55	2.00	0.00	0.00	0.05	0.00
59.71	2.00	0.00	0.00	0.05	0.00	59.88	2.00	0.00	0.00	0.05	0.00
60.04	2.00	0.00	0.00	0.05	0.00	60.20	2.00	0.00	0.00	0.05	0.00
60.37	2.00	0.00	0.00	0.05	0.00	60.53	2.00	0.00	0.00	0.05	0.00
60.70	2.00	0.00	0.00	0.05	0.00	60.86	2.00	0.00	0.00	0.05	0.00
61.02	2.00	0.00	0.00	0.05	0.00	61.19	2.00	0.00	0.00	0.05	0.00
61.35	2.00	0.00	0.00	0.05	0.00	61.52	2.00	0.00	0.00	0.05	0.00
61.68	2.00	0.00	0.00	0.05	0.00	61.84	2.00	0.00	0.00	0.05	0.00
62.01	2.00	0.00	0.00	0.05	0.00	62.17	2.00	0.00	0.00	0.05	0.00
62.34	2.00	0.00	0.00	0.05	0.00	62.50	2.00	0.00	0.00	0.05	0.00
62.66	2.00	0.00	0.00	0.05	0.00	62.83	2.00	0.00	0.00	0.05	0.00
62.99	2.00	0.00	0.00	0.05	0.00	63.16	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
63.32	2.00	0.00	0.00	0.05	0.00	63.48	2.00	0.00	0.00	0.05	0.00
63.65	2.00	0.00	0.00	0.05	0.00	63.81	2.00	0.00	0.00	0.05	0.00
63.98	2.00	0.00	0.00	0.05	0.00	64.14	2.00	0.00	0.00	0.05	0.00
64.30	2.00	0.00	0.00	0.05	0.00	64.47	2.00	0.00	0.00	0.05	0.00
64.63	2.00	0.00	0.00	0.05	0.00	64.80	2.00	0.00	0.00	0.05	0.00
64.96	2.00	0.00	0.00	0.05	0.00	65.12	2.00	0.00	0.00	0.05	0.00
65.29	2.00	0.00	0.00	0.05	0.00	65.45	2.00	0.00	0.00	0.05	0.00
65.62	2.00	0.00	0.00	0.05	0.00	65.78	2.00	0.00	0.00	0.05	0.00
65.94	2.00	0.00	0.00	0.05	0.00	66.11	2.00	0.00	0.00	0.05	0.00
66.27	2.00	0.00	0.00	0.05	0.00	66.44	2.00	0.00	0.00	0.05	0.00
66.60	2.00	0.00	0.00	0.05	0.00	66.77	2.00	0.00	0.00	0.05	0.00
66.93	2.00	0.00	0.00	0.05	0.00	67.09	2.00	0.00	0.00	0.05	0.00
67.26	2.00	0.00	0.00	0.05	0.00	67.42	2.00	0.00	0.00	0.05	0.00
67.59	2.00	0.00	0.00	0.05	0.00	67.75	2.00	0.00	0.00	0.05	0.00
67.91	2.00	0.00	0.00	0.05	0.00	68.08	2.00	0.00	0.00	0.05	0.00
68.24	2.00	0.00	0.00	0.05	0.00	68.41	2.00	0.00	0.00	0.05	0.00
68.57	2.00	0.00	0.00	0.05	0.00	68.73	2.00	0.00	0.00	0.05	0.00
68.90	2.00	0.00	0.00	0.05	0.00	69.06	2.00	0.00	0.00	0.05	0.00
69.23	2.00	0.00	0.00	0.05	0.00	69.39	2.00	0.00	0.00	0.05	0.00
69.55	2.00	0.00	0.00	0.05	0.00	69.72	2.00	0.00	0.00	0.05	0.00
69.88	2.00	0.00	0.00	0.05	0.00	70.05	2.00	0.00	0.00	0.05	0.00
70.21	2.00	0.00	0.00	0.05	0.00	70.37	2.00	0.00	0.00	0.05	0.00
70.54	2.00	0.00	0.00	0.05	0.00	70.70	2.00	0.00	0.00	0.05	0.00
70.87	2.00	0.00	0.00	0.05	0.00	71.03	2.00	0.00	0.00	0.05	0.00
71.19	2.00	0.00	0.00	0.05	0.00	71.36	2.00	0.00	0.00	0.05	0.00
71.52	2.00	0.00	0.00	0.05	0.00	71.69	2.00	0.00	0.00	0.05	0.00
71.85	2.00	0.00	0.00	0.05	0.00	72.01	2.00	0.00	0.00	0.05	0.00
72.18	2.00	0.00	0.00	0.05	0.00	72.34	2.00	0.00	0.00	0.05	0.00
72.51	2.00	0.00	0.00	0.05	0.00	72.67	2.00	0.00	0.00	0.05	0.00
72.83	2.00	0.00	0.00	0.05	0.00	73.00	2.00	0.00	0.00	0.05	0.00
73.16	2.00	0.00	0.00	0.05	0.00	73.33	2.00	0.00	0.00	0.05	0.00
73.49	2.00	0.00	0.00	0.05	0.00	73.65	2.00	0.00	0.00	0.05	0.00
73.82	2.00	0.00	0.00	0.05	0.00	73.98	2.00	0.00	0.00	0.05	0.00
74.15	2.00	0.00	0.00	0.05	0.00	74.31	2.00	0.00	0.00	0.05	0.00
74.48	2.00	0.00	0.00	0.05	0.00	74.64	2.00	0.00	0.00	0.05	0.00
74.80	2.00	0.00	0.00	0.05	0.00	74.97	2.00	0.00	0.00	0.05	0.00
75.13	2.00	0.00	0.00	0.05	0.00	75.30	2.00	0.00	0.00	0.05	0.00
75.46	2.00	0.00	0.00	0.05	0.00	75.62	2.00	0.00	0.00	0.05	0.00
75.79	2.00	0.00	0.00	0.05	0.00	75.95	2.00	0.00	0.00	0.05	0.00
76.12	2.00	0.00	0.00	0.05	0.00	76.28	2.00	0.00	0.00	0.05	0.00
76.44	2.00	0.00	0.00	0.05	0.00	76.61	2.00	0.00	0.00	0.05	0.00
76.77	2.00	0.00	0.00	0.05	0.00	76.94	2.00	0.00	0.00	0.05	0.00
77.10	2.00	0.00	0.00	0.05	0.00	77.26	2.00	0.00	0.00	0.05	0.00
77.43	2.00	0.00	0.00	0.05	0.00	77.59	2.00	0.00	0.00	0.05	0.00
77.76	2.00	0.00	0.00	0.05	0.00	77.92	2.00	0.00	0.00	0.05	0.00
78.08	2.00	0.00	0.00	0.05	0.00	78.25	2.00	0.00	0.00	0.05	0.00
78.41	2.00	0.00	0.00	0.05	0.00	78.58	2.00	0.00	0.00	0.05	0.00
78.74	2.00	0.00	0.00	0.05	0.00	78.90	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
79.07	2.00	0.00	0.00	0.05	0.00	79.23	2.00	0.00	0.00	0.05	0.00
79.40	2.00	0.00	0.00	0.05	0.00	79.56	2.00	0.00	0.00	0.05	0.00
79.72	2.00	0.00	0.00	0.05	0.00	79.89	2.00	0.00	0.00	0.05	0.00
80.05	2.00	0.00	0.00	0.05	0.00	80.22	2.00	0.00	0.00	0.05	0.00
80.38	2.00	0.00	0.00	0.05	0.00	80.54	2.00	0.00	0.00	0.05	0.00
80.71	2.00	0.00	0.00	0.05	0.00						

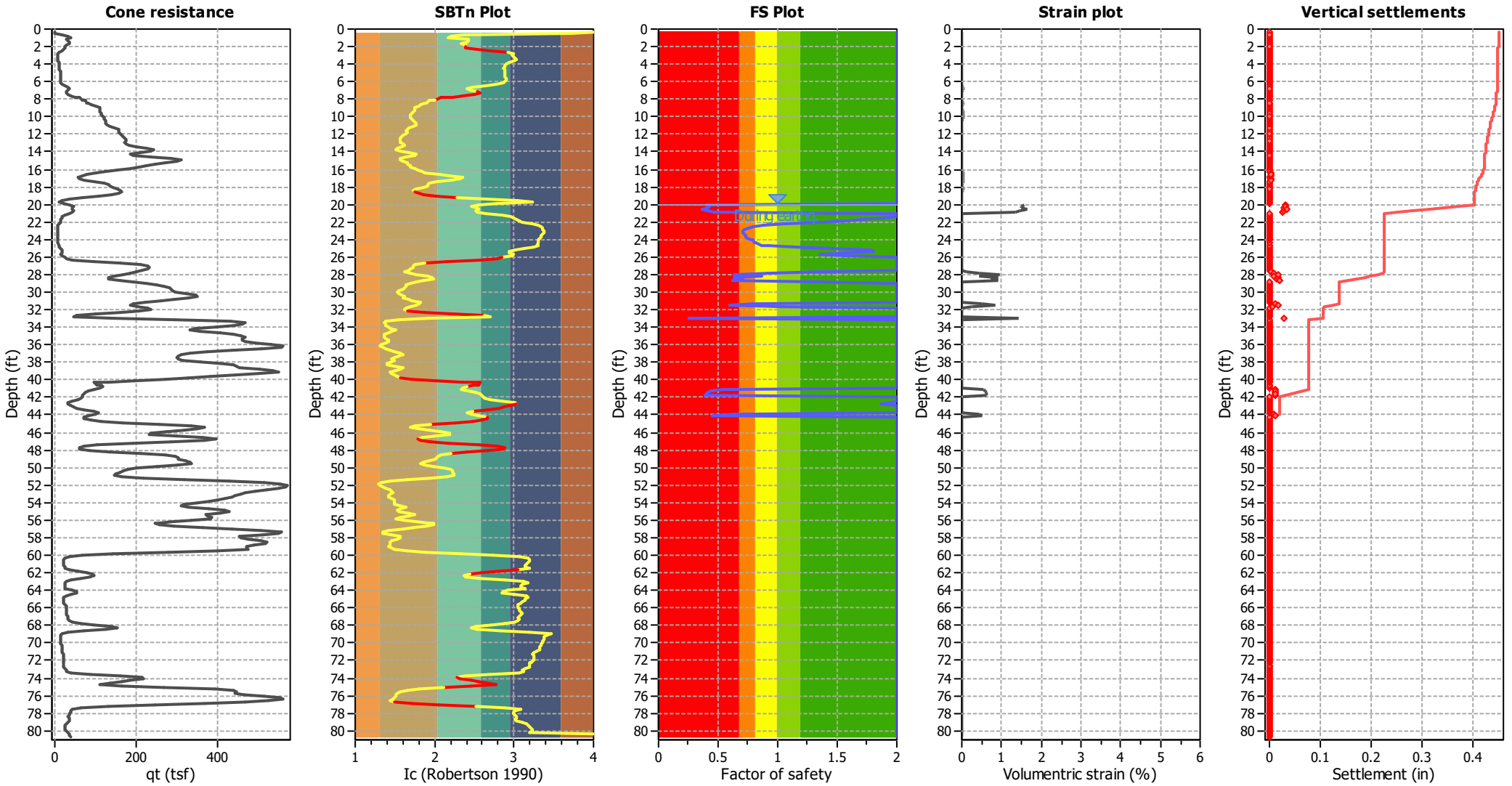
Overall liquefaction potential: 3.81

LPI_{ISH} > 5.0 - Liquefaction manifestation is expected

Abbreviations

FS: Calculated factor of safety for test point
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

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

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.33	4.05	0.90	26.37	23.87	0	0	0.37	0.000	0.00	0.00	0.00	0.000
0.49	3.70	2.60	18.13	47.21	0	0	0.37	0.000	0.00	0.00	0.00	0.000
0.66	2.36	35.49	2.14	76.11	18	334	0.37	0.006	0.01	11.65	0.01	0.000
0.82	2.21	59.06	1.70	100.64	23	465	0.35	0.005	0.00	11.65	0.00	0.000
0.98	2.17	73.05	1.59	116.14	26	541	0.36	0.005	0.00	11.65	0.00	0.000
1.15	2.43	53.42	2.46	131.28	33	555	0.36	0.006	0.00	11.65	0.00	0.000
1.31	2.42	58.40	2.41	140.63	35	598	0.37	0.006	0.00	11.65	0.00	0.000
1.48	2.40	65.60	2.32	152.50	38	655	0.35	0.006	0.00	11.65	0.00	0.000
1.64	2.34	70.56	2.07	145.99	35	647	0.36	0.007	0.00	11.65	0.00	0.000
1.80	2.39	56.25	2.29	128.73	32	555	0.36	0.010	0.01	11.65	0.01	0.000
1.97	2.39	47.33	2.26	106.79	26	463	0.36	0.017	0.01	11.65	0.01	0.000
2.13	2.39	46.17	2.25	104.10	0	0	0.37	0.000	0.00	0.00	0.00	0.000
2.30	2.53	40.31	2.93	117.98	0	0	0.36	0.000	0.00	0.00	0.00	0.000
2.46	2.69	31.89	3.95	125.81	0	0	0.37	0.000	0.00	0.00	0.00	0.000
2.62	2.92	20.62	5.85	120.64	0	0	0.37	0.000	0.00	0.00	0.00	0.000
2.79	3.00	16.25	6.73	109.47	0	0	0.37	0.000	0.00	0.00	0.00	0.000
2.95	2.97	16.01	6.45	103.30	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.12	3.00	14.88	6.77	100.77	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.28	3.01	14.22	6.87	97.71	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.44	3.03	14.09	7.07	99.64	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.61	2.99	16.45	6.59	108.38	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.77	2.93	19.92	6.00	119.49	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.94	2.89	22.62	5.64	127.53	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.10	2.89	23.57	5.56	131.00	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.27	2.88	23.64	5.51	130.35	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.43	2.87	23.61	5.43	128.15	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.59	2.88	23.79	5.49	130.62	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.76	2.88	24.64	5.54	136.48	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.92	2.89	26.12	5.58	145.69	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.09	2.88	27.73	5.50	152.46	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.25	2.88	28.68	5.52	158.40	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.41	2.89	28.82	5.62	162.08	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.58	2.89	28.85	5.65	162.86	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.74	2.90	28.40	5.68	161.42	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.91	2.89	28.09	5.60	157.25	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.07	2.87	29.09	5.44	158.26	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.23	2.78	34.54	4.62	159.53	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.40	2.64	44.84	3.59	161.15	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.56	2.48	57.50	2.69	154.84	40	637	0.36	0.054	0.02	11.65	0.02	0.001
6.73	2.42	64.82	2.38	154.13	38	658	0.35	0.052	0.02	11.65	0.02	0.001
6.89	2.44	62.54	2.49	155.65	39	655	0.35	0.055	0.02	11.65	0.02	0.001
7.05	2.54	55.27	2.98	164.71	43	657	0.36	0.057	0.02	11.65	0.02	0.001
7.22	2.57	54.14	3.13	169.64	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.38	2.51	61.23	2.79	171.13	0	0	0.35	0.000	0.00	0.00	0.00	0.000
7.55	2.36	77.05	2.15	165.50	0	0	0.35	0.000	0.00	0.00	0.00	0.000
7.71	2.22	90.54	1.71	155.17	0	0	0.35	0.000	0.00	0.00	0.00	0.000
7.87	2.09	102.55	1.43	146.93	0	0	0.34	0.000	0.00	0.00	0.00	0.000
8.04	2.00	110.57	1.30	143.79	0	0	0.34	0.000	0.00	0.00	0.00	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
8.20	1.94	114.90	1.23	140.83	0	0	0.35	0.000	0.00	0.00	0.00	0.000
8.37	1.89	118.01	1.18	139.32	28	771	0.35	0.051	0.03	11.65	0.03	0.001
8.53	1.87	122.16	1.17	142.33	28	794	0.35	0.049	0.03	11.65	0.02	0.001
8.69	1.83	131.70	1.13	148.74	29	829	0.35	0.045	0.03	11.65	0.02	0.001
8.86	1.80	143.65	1.11	159.41	31	891	0.34	0.040	0.02	11.65	0.02	0.001
9.02	1.76	154.84	1.08	166.53	32	925	0.34	0.038	0.02	11.65	0.02	0.001
9.19	1.76	154.09	1.08	165.71	32	930	0.34	0.039	0.02	11.65	0.02	0.001
9.35	1.74	151.64	1.07	161.63	31	911	0.34	0.041	0.02	11.65	0.02	0.001
9.51	1.73	148.61	1.06	157.73	30	895	0.34	0.044	0.03	11.65	0.02	0.001
9.68	1.71	149.49	1.04	155.71	29	882	0.34	0.047	0.03	11.65	0.02	0.001
9.84	1.69	149.13	1.03	153.93	29	875	0.34	0.049	0.03	11.65	0.02	0.001
10.01	1.69	149.84	1.03	154.44	29	885	0.34	0.049	0.03	11.65	0.02	0.001
10.17	1.70	153.67	1.04	159.78	30	928	0.34	0.045	0.03	11.65	0.02	0.001
10.33	1.71	156.14	1.04	162.96	31	957	0.34	0.043	0.03	11.65	0.02	0.001
10.50	1.72	157.13	1.05	165.57	31	987	0.34	0.041	0.02	11.65	0.02	0.001
10.66	1.75	157.16	1.07	168.36	32	1024	0.34	0.039	0.02	11.65	0.02	0.001
10.83	1.76	158.46	1.08	171.21	33	1056	0.34	0.038	0.02	11.65	0.02	0.001
10.99	1.76	158.07	1.08	170.49	32	1059	0.34	0.039	0.02	11.65	0.02	0.001
11.15	1.73	165.85	1.06	175.07	33	1081	0.34	0.038	0.02	11.65	0.02	0.001
11.32	1.67	175.50	1.02	178.96	33	1089	0.32	0.038	0.02	11.65	0.02	0.001
11.48	1.65	185.58	1.00	186.21	34	1131	0.32	0.036	0.02	11.65	0.01	0.001
11.65	1.64	186.31	1.00	186.17	34	1137	0.32	0.037	0.02	11.65	0.01	0.001
11.81	1.66	184.04	1.01	186.33	34	1154	0.32	0.036	0.02	11.65	0.01	0.001
11.98	1.63	185.19	1.00	185.19	34	1134	0.32	0.038	0.02	11.65	0.01	0.001
12.14	1.60	188.35	1.00	188.35	34	1123	0.32	0.040	0.02	11.65	0.01	0.001
12.30	1.58	191.67	1.00	191.67	34	1124	0.31	0.040	0.02	11.65	0.01	0.001
12.47	1.58	194.86	1.00	194.86	35	1141	0.31	0.040	0.02	11.65	0.01	0.001
12.63	1.56	194.59	1.00	194.59	35	1131	0.31	0.041	0.02	11.65	0.02	0.001
12.80	1.56	193.08	1.00	193.08	34	1129	0.31	0.042	0.02	11.65	0.02	0.001
12.96	1.57	188.96	1.00	188.96	34	1124	0.32	0.043	0.02	11.65	0.02	0.001
13.12	1.61	191.10	1.00	191.10	35	1190	0.32	0.040	0.02	11.65	0.01	0.001
13.29	1.62	199.11	1.00	199.11	36	1270	0.31	0.036	0.02	11.65	0.01	0.000
13.45	1.59	216.19	1.00	216.19	39	1340	0.31	0.033	0.01	11.65	0.01	0.000
13.62	1.53	240.02	1.00	240.02	42	1394	0.31	0.032	0.01	11.65	0.01	0.000
13.78	1.50	258.15	1.00	258.15	45	1462	0.31	0.030	0.01	11.65	0.01	0.000
13.94	1.57	250.90	1.00	250.90	45	1536	0.31	0.028	0.01	11.65	0.01	0.000
14.11	1.68	223.49	1.03	229.09	42	1577	0.31	0.027	0.01	11.65	0.01	0.000
14.27	1.76	199.51	1.08	215.41	41	1559	0.31	0.028	0.01	11.65	0.01	0.000
14.44	1.75	204.71	1.07	219.28	42	1587	0.31	0.028	0.01	11.65	0.01	0.000
14.60	1.64	247.62	1.00	247.62	45	1691	0.31	0.025	0.01	11.65	0.01	0.000
14.76	1.56	294.77	1.00	294.77	53	1854	0.31	0.023	0.01	11.65	0.00	0.000
14.93	1.57	319.51	1.00	319.51	57	2032	0.31	0.020	0.01	11.65	0.00	0.000
15.09	1.60	308.32	1.00	308.32	56	2053	0.31	0.020	0.01	11.65	0.00	0.000
15.26	1.66	278.31	1.01	281.46	52	2006	0.31	0.021	0.01	11.65	0.00	0.000
15.42	1.67	249.82	1.02	253.68	47	1825	0.31	0.024	0.01	11.65	0.01	0.000
15.58	1.69	227.04	1.03	234.48	44	1720	0.31	0.027	0.01	11.65	0.01	0.000
15.75	1.70	207.82	1.04	216.21	40	1606	0.31	0.030	0.01	11.65	0.01	0.000
15.91	1.75	184.33	1.07	197.00	37	1509	0.31	0.034	0.02	11.65	0.01	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
16.08	1.78	153.81	1.09	168.40	32	1327	0.33	0.043	0.02	11.65	0.02	0.001
16.24	1.84	123.00	1.13	139.50	27	1140	0.34	0.059	0.04	11.65	0.03	0.001
16.40	1.87	99.61	1.16	115.96	23	971	0.34	0.088	0.07	11.65	0.05	0.002
16.57	2.06	77.98	1.39	108.23	23	966	0.34	0.090	0.08	11.65	0.05	0.002
16.73	2.20	66.12	1.66	109.69	25	977	0.34	0.089	0.07	11.65	0.04	0.002
16.90	2.35	56.29	2.12	119.52	29	1016	0.34	0.082	0.05	11.65	0.03	0.001
17.06	2.31	57.00	1.99	113.47	27	988	0.34	0.089	0.06	11.65	0.04	0.002
17.22	2.20	66.51	1.66	110.61	25	1006	0.34	0.086	0.07	11.65	0.04	0.002
17.39	2.03	90.76	1.34	121.56	26	1117	0.33	0.068	0.05	11.65	0.03	0.001
17.55	1.93	113.26	1.22	138.21	28	1241	0.32	0.055	0.04	11.65	0.02	0.001
17.72	1.92	123.80	1.21	149.88	30	1349	0.32	0.048	0.03	11.65	0.02	0.001
17.88	1.91	126.78	1.20	151.79	31	1366	0.33	0.047	0.03	11.65	0.02	0.001
18.04	1.85	131.93	1.15	151.58	30	1335	0.33	0.050	0.03	11.65	0.02	0.001
18.21	1.77	141.83	1.08	153.55	29	1289	0.33	0.054	0.03	11.65	0.02	0.001
18.37	1.74	148.06	1.06	157.28	30	1302	0.32	0.054	0.03	11.65	0.02	0.001
18.54	1.76	150.22	1.08	161.77	31	1365	0.32	0.049	0.03	11.65	0.02	0.001
18.70	1.80	142.51	1.11	157.55	0	0	0.32	0.000	0.00	0.00	0.00	0.000
18.86	1.85	125.17	1.15	143.76	0	0	0.33	0.000	0.00	0.00	0.00	0.000
19.03	2.03	93.72	1.34	125.41	0	0	0.32	0.000	0.00	0.00	0.00	0.000
19.19	2.28	60.24	1.89	113.98	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.36	2.66	30.25	3.73	112.71	0	0	0.34	0.000	0.00	0.00	0.00	0.000
19.52	3.05	13.79	7.27	100.27	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.69	3.23	8.84	9.65	85.27	0	0	0.35	0.000	0.00	0.00	0.00	0.000
19.85	2.80	17.38	4.78	83.05	0	0	0.34	0.000	0.00	0.00	0.00	0.000

Total estimated settlement: 0.05

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
20.01	98.20	0.40	1.57	0.66	0.03	20.18	104.46	0.42	1.48	0.66	0.03
20.34	103.74	0.42	1.49	0.66	0.03	20.51	91.10	0.37	1.65	0.65	0.03
20.67	104.30	0.42	1.47	0.65	0.03	20.83	112.90	0.46	1.37	0.65	0.03
21.00	25.24	2.00	0.00	0.64	0.00	21.16	18.30	2.00	0.00	0.64	0.00
21.33	18.51	2.00	0.00	0.64	0.00	21.49	13.22	1.89	0.00	0.64	0.00
21.65	13.94	1.69	0.00	0.63	0.00	21.82	14.30	1.58	0.00	0.63	0.00
21.98	10.91	1.36	0.00	0.63	0.00	22.15	8.92	1.05	0.00	0.62	0.00
22.31	7.50	0.88	0.00	0.62	0.00	22.47	7.14	0.79	0.00	0.62	0.00
22.64	6.90	0.75	0.00	0.62	0.00	22.80	6.67	0.72	0.00	0.61	0.00
22.97	6.43	0.70	0.00	0.61	0.00	23.13	6.61	0.70	0.00	0.61	0.00
23.29	6.78	0.72	0.00	0.61	0.00	23.46	6.87	0.73	0.00	0.60	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
23.62	6.88	0.73	0.00	0.60	0.00	23.79	6.95	0.75	0.00	0.60	0.00
23.95	7.39	0.78	0.00	0.59	0.00	24.11	7.59	0.79	0.00	0.59	0.00
24.28	7.48	0.80	0.00	0.59	0.00	24.44	7.63	0.81	0.00	0.59	0.00
24.61	7.97	0.86	0.00	0.58	0.00	24.77	8.81	0.93	0.00	0.58	0.00
24.93	9.24	1.16	0.00	0.58	0.00	25.10	13.70	1.47	0.00	0.57	0.00
25.26	16.70	1.78	0.00	0.57	0.00	25.43	16.96	1.81	0.00	0.57	0.00
25.59	14.57	1.58	0.00	0.57	0.00	25.75	11.18	1.35	0.00	0.56	0.00
25.92	11.32	1.59	0.00	0.56	0.00	26.08	20.79	2.00	0.00	0.56	0.00
26.25	27.45	2.00	0.00	0.56	0.00	26.41	80.19	2.00	0.00	0.55	0.00
26.57	113.16	2.00	0.00	0.55	0.00	26.74	185.84	2.00	0.00	0.55	0.00
26.90	185.90	2.00	0.00	0.54	0.00	27.07	196.73	2.00	0.00	0.54	0.00
27.23	207.78	2.00	0.00	0.54	0.00	27.40	190.37	2.00	0.00	0.54	0.00
27.56	186.68	2.00	0.00	0.53	0.00	27.72	167.81	1.34	0.11	0.53	0.00
27.89	155.23	0.91	0.43	0.53	0.01	28.05	139.47	0.63	0.93	0.52	0.02
28.22	153.50	0.87	0.43	0.52	0.01	28.38	139.64	0.63	0.92	0.52	0.02
28.54	145.17	0.71	0.75	0.52	0.01	28.71	139.44	0.63	0.91	0.51	0.02
28.87	168.74	1.36	0.00	0.51	0.00	29.04	192.08	2.00	0.00	0.51	0.00
29.20	211.90	2.00	0.00	0.51	0.00	29.36	236.25	2.00	0.00	0.50	0.00
29.53	239.28	2.00	0.00	0.50	0.00	29.69	252.95	2.00	0.00	0.50	0.00
29.86	239.98	2.00	0.00	0.49	0.00	30.02	250.74	2.00	0.00	0.49	0.00
30.18	254.00	2.00	0.00	0.49	0.00	30.35	254.00	2.00	0.00	0.49	0.00
30.51	254.00	2.00	0.00	0.48	0.00	30.68	254.00	2.00	0.00	0.48	0.00
30.84	251.99	2.00	0.00	0.48	0.00	31.00	213.18	2.00	0.00	0.47	0.00
31.17	195.95	2.00	0.00	0.47	0.00	31.33	151.19	0.80	0.52	0.47	0.01
31.50	137.95	0.60	0.84	0.47	0.02	31.66	160.84	1.04	0.26	0.46	0.01
31.82	203.45	2.00	0.00	0.46	0.00	31.99	199.09	2.00	0.00	0.46	0.00
32.15	184.24	2.00	0.00	0.46	0.00	32.32	147.00	2.00	0.00	0.45	0.00
32.48	136.41	2.00	0.00	0.45	0.00	32.64	37.78	2.00	0.00	0.45	0.00
32.81	16.48	2.00	0.00	0.44	0.00	32.97	67.90	0.26	1.42	0.44	0.03
33.14	254.00	2.00	0.00	0.44	0.00	33.30	254.00	2.00	0.00	0.44	0.00
33.46	254.00	2.00	0.00	0.43	0.00	33.63	254.00	2.00	0.00	0.43	0.00
33.79	254.00	2.00	0.00	0.43	0.00	33.96	254.00	2.00	0.00	0.42	0.00
34.12	254.00	2.00	0.00	0.42	0.00	34.28	250.22	2.00	0.00	0.42	0.00
34.45	254.00	2.00	0.00	0.42	0.00	34.61	254.00	2.00	0.00	0.41	0.00
34.78	254.00	2.00	0.00	0.41	0.00	34.94	254.00	2.00	0.00	0.41	0.00
35.10	254.00	2.00	0.00	0.41	0.00	35.27	254.00	2.00	0.00	0.40	0.00
35.43	254.00	2.00	0.00	0.40	0.00	35.60	254.00	2.00	0.00	0.40	0.00
35.76	254.00	2.00	0.00	0.39	0.00	35.93	254.00	2.00	0.00	0.39	0.00
36.09	254.00	2.00	0.00	0.39	0.00	36.25	254.00	2.00	0.00	0.39	0.00
36.42	254.00	2.00	0.00	0.38	0.00	36.58	254.00	2.00	0.00	0.38	0.00
36.75	254.00	2.00	0.00	0.38	0.00	36.91	254.00	2.00	0.00	0.37	0.00
37.07	246.12	2.00	0.00	0.37	0.00	37.24	246.86	2.00	0.00	0.37	0.00
37.40	254.00	2.00	0.00	0.37	0.00	37.57	240.68	2.00	0.00	0.36	0.00
37.73	251.35	2.00	0.00	0.36	0.00	37.89	254.00	2.00	0.00	0.36	0.00
38.06	254.00	2.00	0.00	0.35	0.00	38.22	254.00	2.00	0.00	0.35	0.00
38.39	254.00	2.00	0.00	0.35	0.00	38.55	254.00	2.00	0.00	0.35	0.00
38.71	254.00	2.00	0.00	0.34	0.00	38.88	254.00	2.00	0.00	0.34	0.00
39.04	254.00	2.00	0.00	0.34	0.00	39.21	254.00	2.00	0.00	0.34	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
39.37	254.00	2.00	0.00	0.33	0.00	39.53	254.00	2.00	0.00	0.33	0.00
39.70	254.00	2.00	0.00	0.33	0.00	39.86	223.90	2.00	0.00	0.32	0.00
40.03	221.29	2.00	0.00	0.32	0.00	40.19	139.44	2.00	0.00	0.32	0.00
40.35	139.36	2.00	0.00	0.32	0.00	40.52	148.26	2.00	0.00	0.31	0.00
40.68	162.43	2.00	0.00	0.31	0.00	40.85	165.75	2.00	0.00	0.31	0.00
41.01	153.87	2.00	0.00	0.30	0.00	41.17	134.05	0.54	0.56	0.30	0.01
41.34	121.86	0.44	0.59	0.30	0.01	41.50	118.14	0.42	0.60	0.30	0.01
41.67	115.26	0.40	0.61	0.29	0.01	41.83	113.27	0.39	0.61	0.29	0.01
41.99	46.71	2.00	0.00	0.29	0.00	42.16	46.87	2.00	0.00	0.29	0.00
42.32	44.08	2.00	0.00	0.28	0.00	42.49	29.94	2.00	0.00	0.28	0.00
42.65	18.10	1.96	0.00	0.28	0.00	42.81	19.63	1.86	0.00	0.27	0.00
42.98	26.75	2.00	0.00	0.27	0.00	43.14	31.74	2.00	0.00	0.27	0.00
43.31	35.41	2.00	0.00	0.27	0.00	43.47	47.44	2.00	0.00	0.26	0.00
43.64	142.94	2.00	0.00	0.26	0.00	43.80	163.05	2.00	0.00	0.26	0.00
43.96	143.11	0.64	0.44	0.25	0.01	44.13	122.99	0.45	0.50	0.25	0.01
44.29	48.58	2.00	0.00	0.25	0.00	44.46	48.45	2.00	0.00	0.25	0.00
44.62	125.95	2.00	0.00	0.24	0.00	44.78	158.19	2.00	0.00	0.24	0.00
44.95	174.70	2.00	0.00	0.24	0.00	45.11	245.54	2.00	0.00	0.24	0.00
45.28	254.00	2.00	0.00	0.23	0.00	45.44	254.00	2.00	0.00	0.23	0.00
45.60	254.00	2.00	0.00	0.23	0.00	45.77	254.00	2.00	0.00	0.22	0.00
45.93	254.00	2.00	0.00	0.22	0.00	46.10	254.00	2.00	0.00	0.22	0.00
46.26	235.31	2.00	0.00	0.22	0.00	46.42	254.00	2.00	0.00	0.21	0.00
46.59	254.00	2.00	0.00	0.21	0.00	46.75	254.00	2.00	0.00	0.21	0.00
46.92	254.00	2.00	0.00	0.20	0.00	47.08	254.00	2.00	0.00	0.20	0.00
47.24	179.92	2.00	0.00	0.20	0.00	47.41	145.02	2.00	0.00	0.20	0.00
47.57	36.21	2.00	0.00	0.19	0.00	47.74	39.94	2.00	0.00	0.19	0.00
47.90	48.55	2.00	0.00	0.19	0.00	48.06	33.96	2.00	0.00	0.19	0.00
48.23	174.13	2.00	0.00	0.18	0.00	48.39	254.00	2.00	0.00	0.18	0.00
48.56	254.00	2.00	0.00	0.18	0.00	48.72	254.00	2.00	0.00	0.17	0.00
48.88	254.00	2.00	0.00	0.17	0.00	49.05	254.00	2.00	0.00	0.17	0.00
49.21	254.00	2.00	0.00	0.17	0.00	49.38	254.00	2.00	0.00	0.16	0.00
49.54	254.00	2.00	0.00	0.16	0.00	49.70	254.00	2.00	0.00	0.16	0.00
49.87	235.73	2.00	0.00	0.15	0.00	50.03	209.49	2.00	0.00	0.15	0.00
50.20	204.04	2.00	0.00	0.15	0.00	50.36	202.60	2.00	0.00	0.15	0.00
50.52	186.26	2.00	0.00	0.14	0.00	50.69	175.22	2.00	0.00	0.14	0.00
50.85	167.61	2.00	0.00	0.14	0.00	51.02	171.70	2.00	0.00	0.14	0.00
51.18	182.74	2.00	0.00	0.13	0.00	51.35	233.77	2.00	0.00	0.13	0.00
51.51	254.00	2.00	0.00	0.13	0.00	51.67	254.00	2.00	0.00	0.12	0.00
51.84	254.00	2.00	0.00	0.12	0.00	52.00	254.00	2.00	0.00	0.12	0.00
52.17	254.00	2.00	0.00	0.12	0.00	52.33	254.00	2.00	0.00	0.11	0.00
52.49	254.00	2.00	0.00	0.11	0.00	52.66	254.00	2.00	0.00	0.11	0.00
52.82	254.00	2.00	0.00	0.10	0.00	52.99	254.00	2.00	0.00	0.10	0.00
53.15	254.00	2.00	0.00	0.10	0.00	53.31	254.00	2.00	0.00	0.10	0.00
53.48	254.00	2.00	0.00	0.09	0.00	53.64	254.00	2.00	0.00	0.09	0.00
53.81	254.00	2.00	0.00	0.09	0.00	53.97	254.00	2.00	0.00	0.09	0.00
54.13	239.83	2.00	0.00	0.08	0.00	54.30	201.95	2.00	0.00	0.08	0.00
54.46	254.00	2.00	0.00	0.08	0.00	54.63	254.00	2.00	0.00	0.07	0.00
54.79	254.00	2.00	0.00	0.07	0.00	54.95	254.00	2.00	0.00	0.07	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
55.12	254.00	2.00	0.00	0.07	0.00	55.28	254.00	2.00	0.00	0.06	0.00
55.45	254.00	2.00	0.00	0.06	0.00	55.61	254.00	2.00	0.00	0.06	0.00
55.77	254.00	2.00	0.00	0.05	0.00	55.94	253.42	2.00	0.00	0.05	0.00
56.10	198.85	2.00	0.00	0.05	0.00	56.27	218.94	2.00	0.00	0.05	0.00
56.43	233.05	2.00	0.00	0.04	0.00	56.59	237.21	2.00	0.00	0.04	0.00
56.76	238.64	2.00	0.00	0.04	0.00	56.92	254.00	2.00	0.00	0.04	0.00
57.09	254.00	2.00	0.00	0.03	0.00	57.25	254.00	2.00	0.00	0.03	0.00
57.41	254.00	2.00	0.00	0.03	0.00	57.58	254.00	2.00	0.00	0.02	0.00
57.74	254.00	2.00	0.00	0.02	0.00	57.91	254.00	2.00	0.00	0.02	0.00
58.07	254.00	2.00	0.00	0.02	0.00	58.23	254.00	2.00	0.00	0.01	0.00
58.40	254.00	2.00	0.00	0.01	0.00	58.56	254.00	2.00	0.00	0.01	0.00
58.73	254.00	2.00	0.00	0.00	0.00	58.89	254.00	2.00	0.00	0.00	0.00
59.06	254.00	2.00	0.00	0.00	0.00	59.22	254.00	2.00	0.00	0.00	0.00
59.38	254.00	2.00	0.00	0.00	0.00	59.55	254.00	2.00	0.00	0.00	0.00
59.71	199.32	2.00	0.00	0.00	0.00	59.88	146.93	2.00	0.00	0.00	0.00
60.04	32.88	2.00	0.00	0.00	0.00	60.20	17.58	2.00	0.00	0.00	0.00
60.37	13.96	2.00	0.00	0.00	0.00	60.53	12.27	2.00	0.00	0.00	0.00
60.70	11.95	2.00	0.00	0.00	0.00	60.86	11.97	2.00	0.00	0.00	0.00
61.02	12.12	2.00	0.00	0.00	0.00	61.19	13.00	2.00	0.00	0.00	0.00
61.35	14.46	2.00	0.00	0.00	0.00	61.52	15.51	2.00	0.00	0.00	0.00
61.68	15.91	2.00	0.00	0.00	0.00	61.84	34.50	2.00	0.00	0.00	0.00
62.01	119.28	2.00	0.00	0.00	0.00	62.17	124.40	2.00	0.00	0.00	0.00
62.34	128.72	2.00	0.00	0.00	0.00	62.50	121.24	2.00	0.00	0.00	0.00
62.66	98.38	2.00	0.00	0.00	0.00	62.83	20.35	2.00	0.00	0.00	0.00
62.99	13.83	2.00	0.00	0.00	0.00	63.16	12.33	2.00	0.00	0.00	0.00
63.32	13.45	2.00	0.00	0.00	0.00	63.48	14.22	2.00	0.00	0.00	0.00
63.65	12.62	2.00	0.00	0.00	0.00	63.81	13.50	2.00	0.00	0.00	0.00
63.98	16.61	2.00	0.00	0.00	0.00	64.14	43.08	2.00	0.00	0.00	0.00
64.30	32.90	2.00	0.00	0.00	0.00	64.47	19.78	2.00	0.00	0.00	0.00
64.63	13.91	2.00	0.00	0.00	0.00	64.80	11.79	2.00	0.00	0.00	0.00
64.96	11.18	2.00	0.00	0.00	0.00	65.12	11.42	2.00	0.00	0.00	0.00
65.29	11.61	2.00	0.00	0.00	0.00	65.45	12.65	2.00	0.00	0.00	0.00
65.62	14.03	2.00	0.00	0.00	0.00	65.78	15.63	2.00	0.00	0.00	0.00
65.94	15.55	2.00	0.00	0.00	0.00	66.11	15.12	2.00	0.00	0.00	0.00
66.27	15.34	2.00	0.00	0.00	0.00	66.44	15.51	2.00	0.00	0.00	0.00
66.60	16.21	2.00	0.00	0.00	0.00	66.77	15.24	2.00	0.00	0.00	0.00
66.93	18.65	2.00	0.00	0.00	0.00	67.09	18.97	2.00	0.00	0.00	0.00
67.26	16.25	2.00	0.00	0.00	0.00	67.42	16.79	2.00	0.00	0.00	0.00
67.59	23.88	2.00	0.00	0.00	0.00	67.75	32.48	2.00	0.00	0.00	0.00
67.91	56.89	2.00	0.00	0.00	0.00	68.08	172.04	2.00	0.00	0.00	0.00
68.24	207.16	2.00	0.00	0.00	0.00	68.41	160.78	2.00	0.00	0.00	0.00
68.57	36.70	2.00	0.00	0.00	0.00	68.73	12.28	2.00	0.00	0.00	0.00
68.90	8.81	2.00	0.00	0.00	0.00	69.06	8.46	2.00	0.00	0.00	0.00
69.23	8.09	2.00	0.00	0.00	0.00	69.39	8.19	2.00	0.00	0.00	0.00
69.55	8.36	2.00	0.00	0.00	0.00	69.72	8.39	2.00	0.00	0.00	0.00
69.88	8.48	2.00	0.00	0.00	0.00	70.05	8.55	2.00	0.00	0.00	0.00
70.21	8.76	2.00	0.00	0.00	0.00	70.37	8.61	2.00	0.00	0.00	0.00
70.54	8.54	2.00	0.00	0.00	0.00	70.70	8.59	2.00	0.00	0.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
70.87	9.27	2.00	0.00	0.00	0.00	71.03	10.30	2.00	0.00	0.00	0.00
71.19	10.68	2.00	0.00	0.00	0.00	71.36	10.82	2.00	0.00	0.00	0.00
71.52	10.61	2.00	0.00	0.00	0.00	71.69	10.56	2.00	0.00	0.00	0.00
71.85	10.92	2.00	0.00	0.00	0.00	72.01	10.85	2.00	0.00	0.00	0.00
72.18	11.19	2.00	0.00	0.00	0.00	72.34	11.72	2.00	0.00	0.00	0.00
72.51	11.72	2.00	0.00	0.00	0.00	72.67	11.37	2.00	0.00	0.00	0.00
72.83	11.28	2.00	0.00	0.00	0.00	73.00	11.90	2.00	0.00	0.00	0.00
73.16	15.96	2.00	0.00	0.00	0.00	73.33	15.16	2.00	0.00	0.00	0.00
73.49	14.54	2.00	0.00	0.00	0.00	73.65	32.66	2.00	0.00	0.00	0.00
73.82	195.32	2.00	0.00	0.00	0.00	73.98	254.00	2.00	0.00	0.00	0.00
74.15	234.10	2.00	0.00	0.00	0.00	74.31	210.07	2.00	0.00	0.00	0.00
74.48	181.97	2.00	0.00	0.00	0.00	74.64	96.17	2.00	0.00	0.00	0.00
74.80	62.90	2.00	0.00	0.00	0.00	74.97	106.97	2.00	0.00	0.00	0.00
75.13	254.00	2.00	0.00	0.00	0.00	75.30	254.00	2.00	0.00	0.00	0.00
75.46	254.00	2.00	0.00	0.00	0.00	75.62	254.00	2.00	0.00	0.00	0.00
75.79	254.00	2.00	0.00	0.00	0.00	75.95	254.00	2.00	0.00	0.00	0.00
76.12	254.00	2.00	0.00	0.00	0.00	76.28	254.00	2.00	0.00	0.00	0.00
76.44	254.00	2.00	0.00	0.00	0.00	76.61	254.00	2.00	0.00	0.00	0.00
76.77	254.00	2.00	0.00	0.00	0.00	76.94	254.00	2.00	0.00	0.00	0.00
77.10	226.85	2.00	0.00	0.00	0.00	77.26	133.23	2.00	0.00	0.00	0.00
77.43	28.21	2.00	0.00	0.00	0.00	77.59	19.76	2.00	0.00	0.00	0.00
77.76	19.81	2.00	0.00	0.00	0.00	77.92	20.36	2.00	0.00	0.00	0.00
78.08	19.58	2.00	0.00	0.00	0.00	78.25	18.40	2.00	0.00	0.00	0.00
78.41	17.05	2.00	0.00	0.00	0.00	78.58	16.89	2.00	0.00	0.00	0.00
78.74	19.54	2.00	0.00	0.00	0.00	78.90	19.46	2.00	0.00	0.00	0.00
79.07	15.36	2.00	0.00	0.00	0.00	79.23	13.48	2.00	0.00	0.00	0.00
79.40	13.09	2.00	0.00	0.00	0.00	79.56	12.80	2.00	0.00	0.00	0.00
79.72	13.02	2.00	0.00	0.00	0.00	79.89	13.56	2.00	0.00	0.00	0.00
80.05	12.63	2.00	0.00	0.00	0.00	80.22	15.53	2.00	0.00	0.00	0.00
80.38	18.74	2.00	0.00	0.00	0.00	80.54	19.73	2.00	0.00	0.00	0.00
80.71	19.42	2.00	0.00	0.00	0.00						

Total estimated settlement: 0.40

Abbreviations

$Q_{tn,cs}$:	Equivalent dean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumentric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

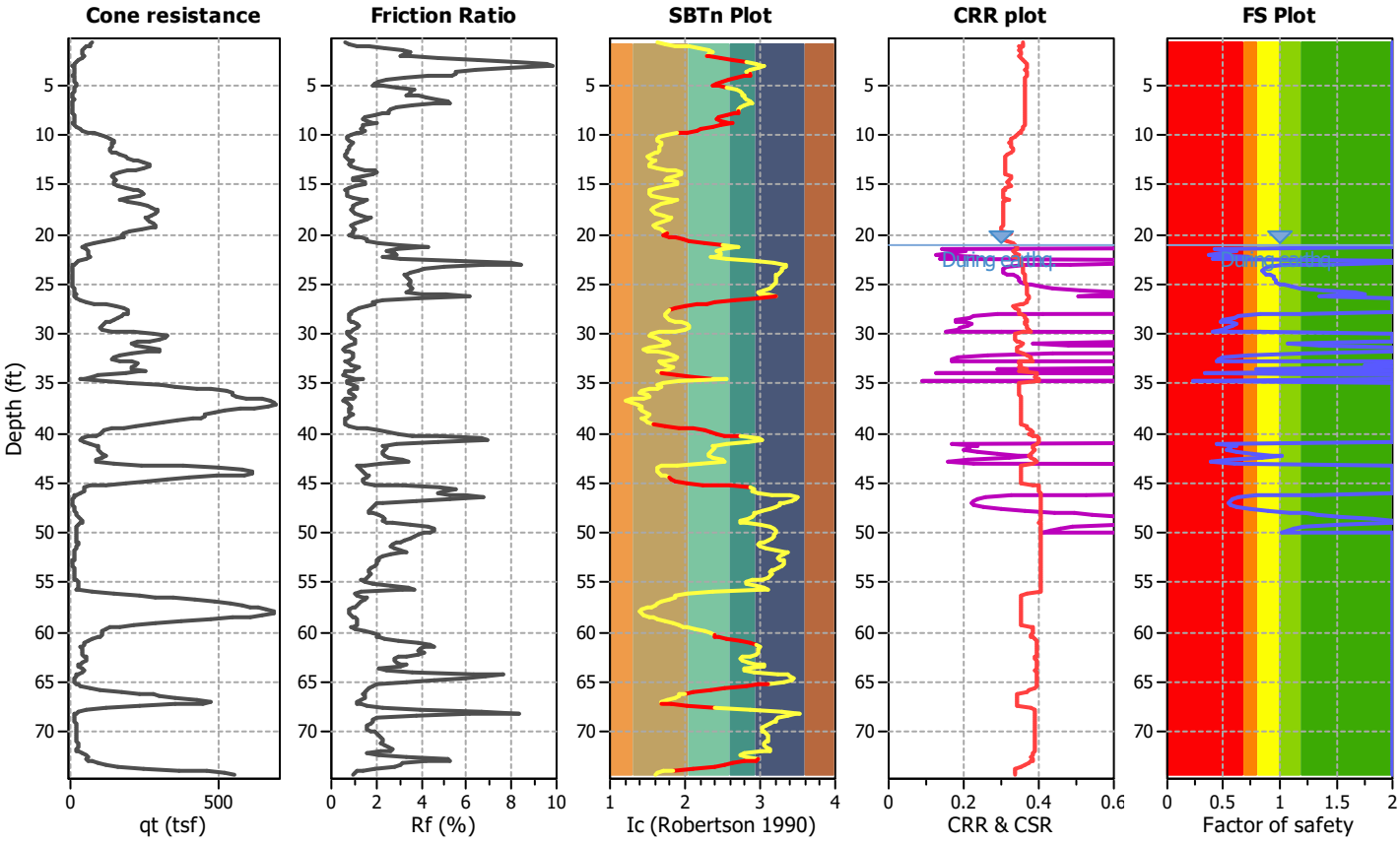
LIQUEFACTION ANALYSIS REPORT

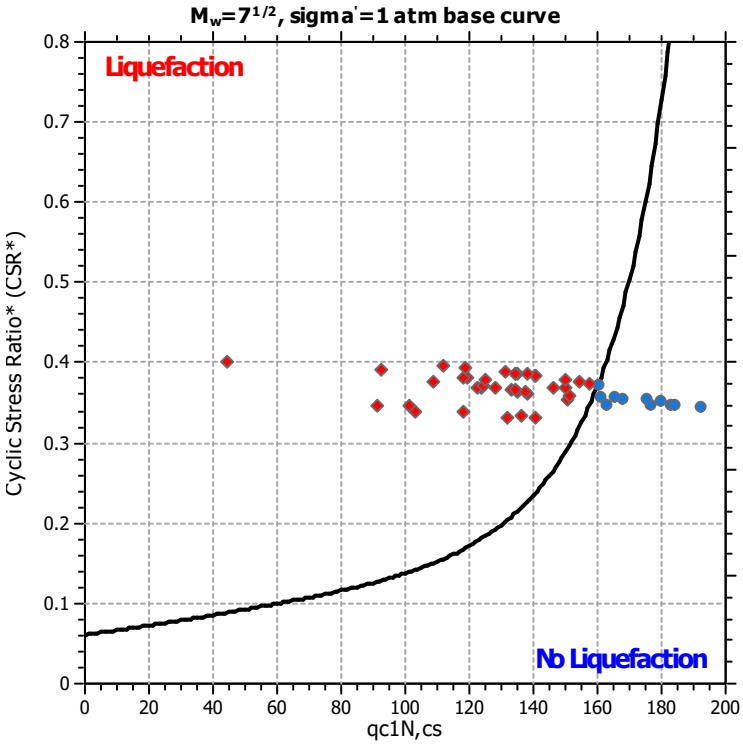
Project title : Marriot Townplace Suites **Location : San Jose, CA**

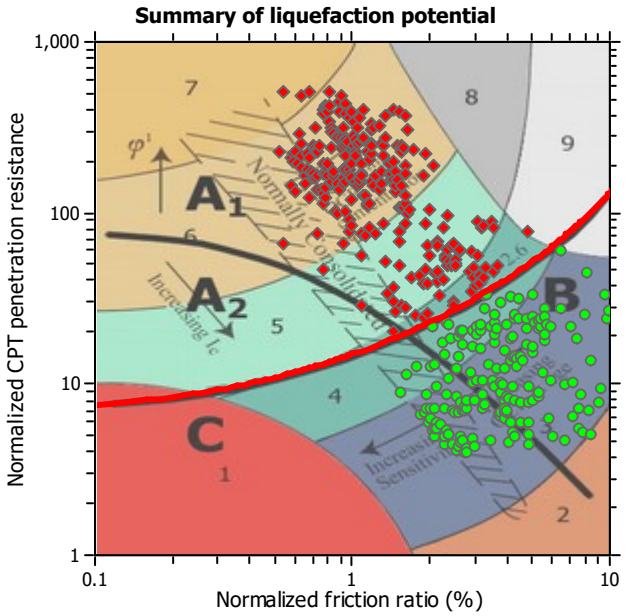
CPT file : CPT-6

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	21.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.10	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.58	Unit weight calculation:	Based on SBT	K_σ applied:	No		

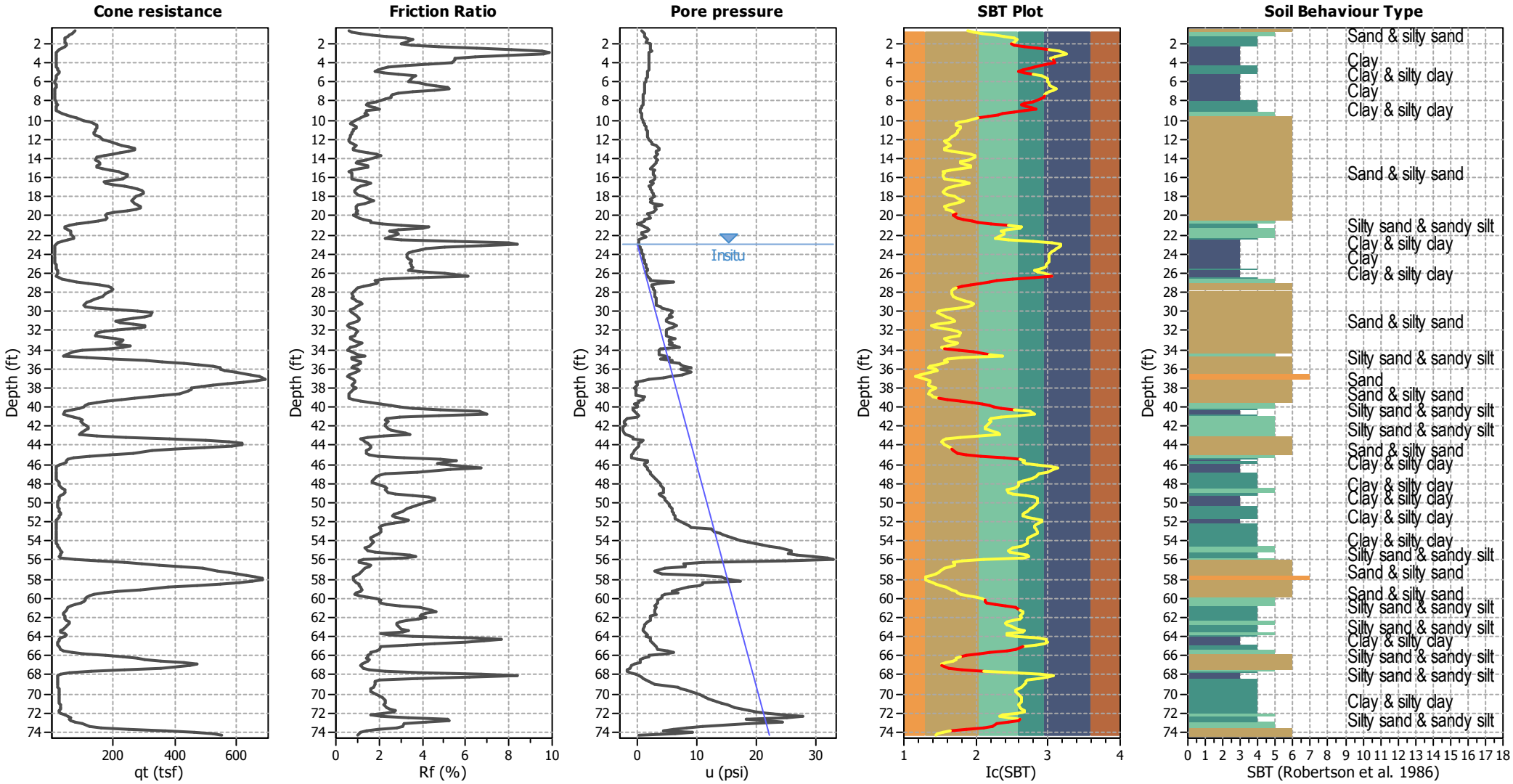






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

CPT basic interpretation plots



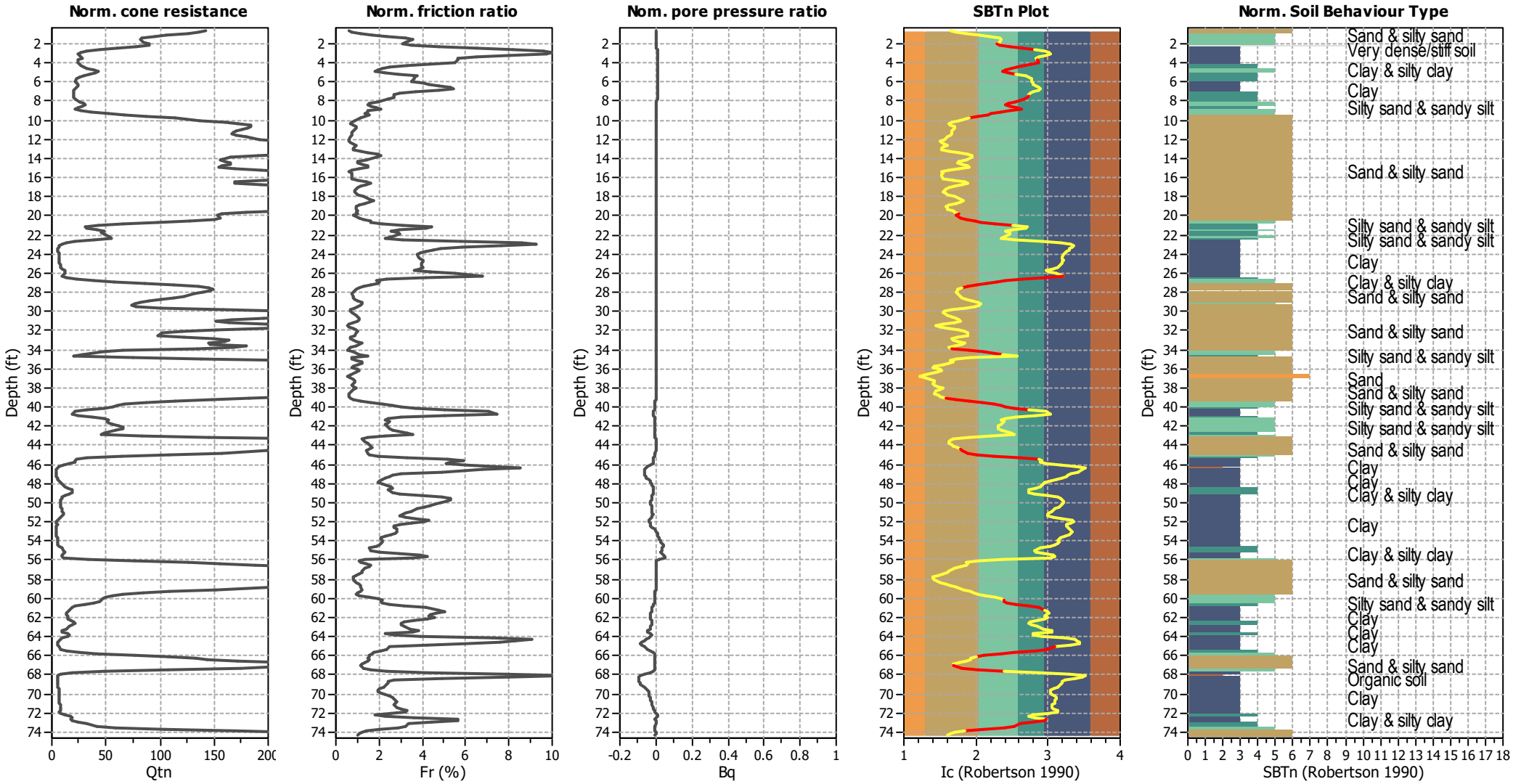
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	21.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

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

CPT basic interpretation plots (normalized)



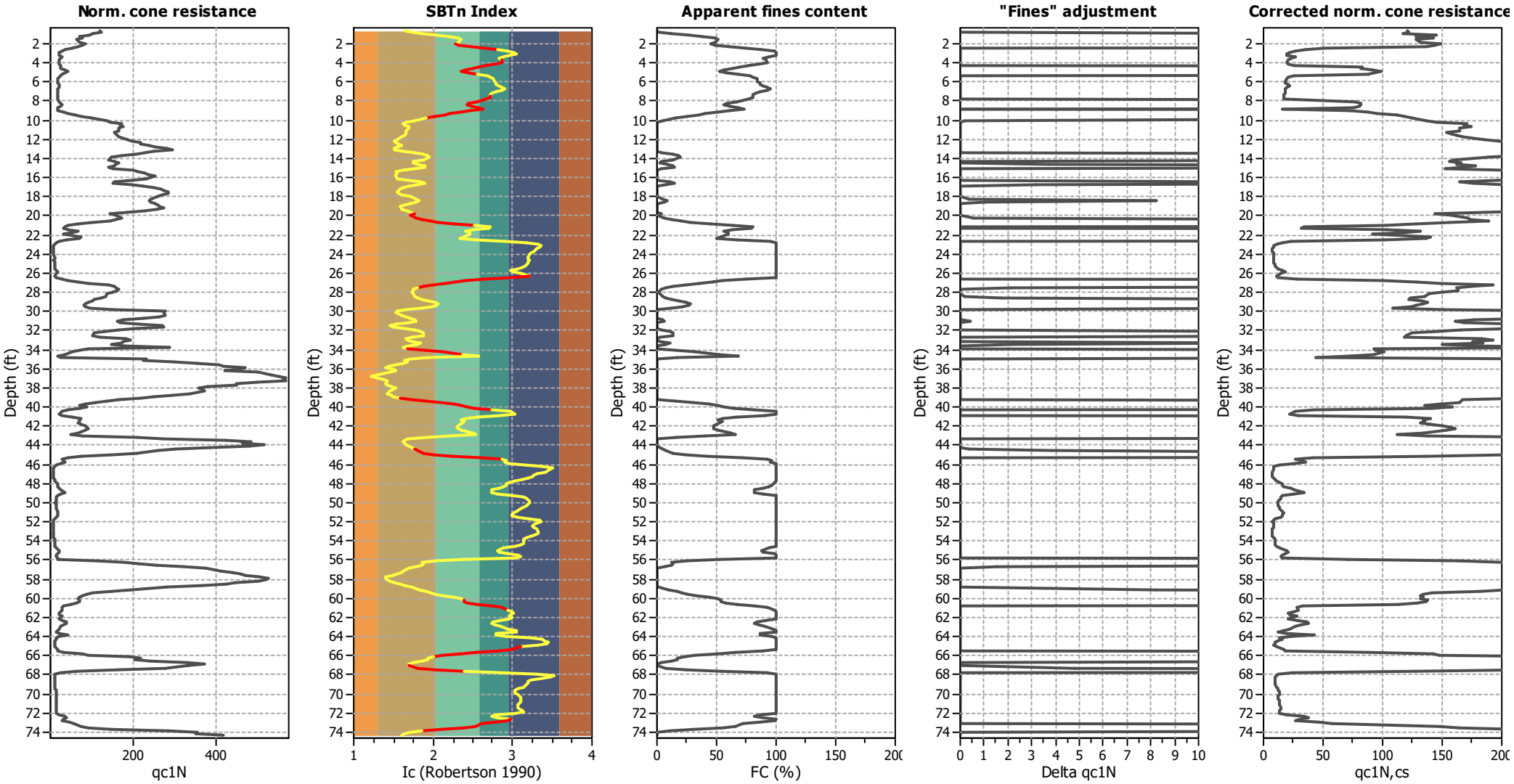
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	21.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

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

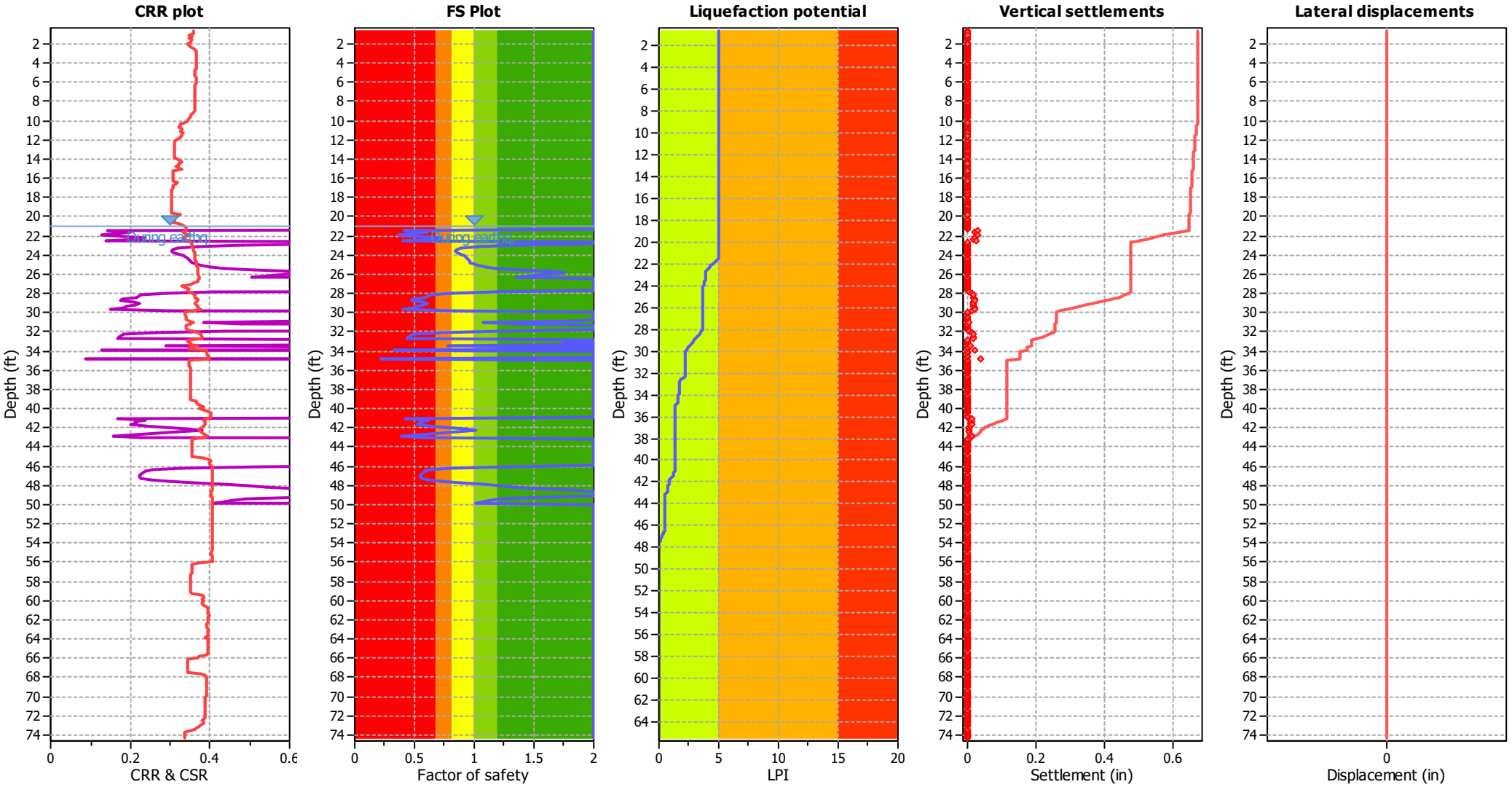
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	21.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	21.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

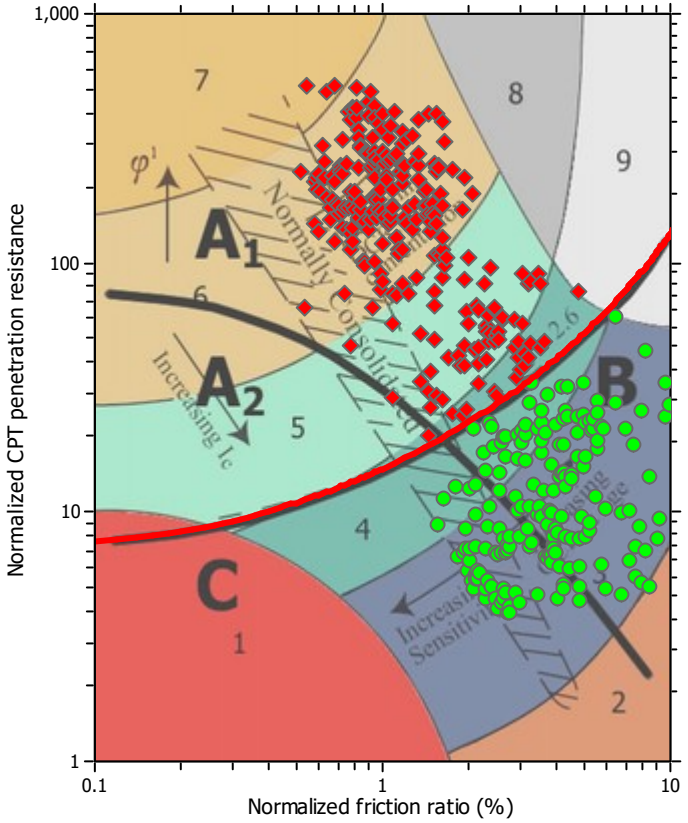
F.S. color scheme

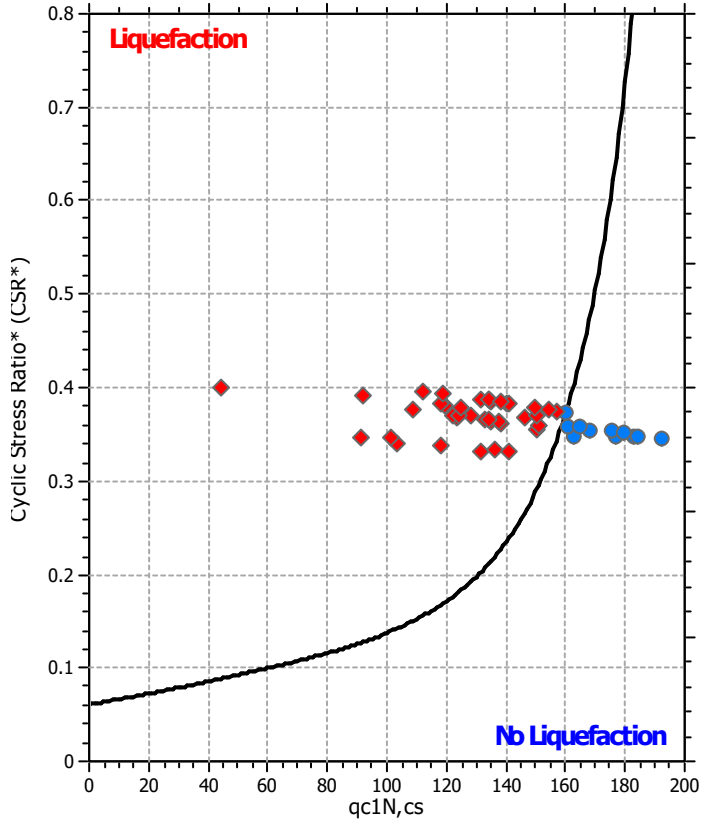
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

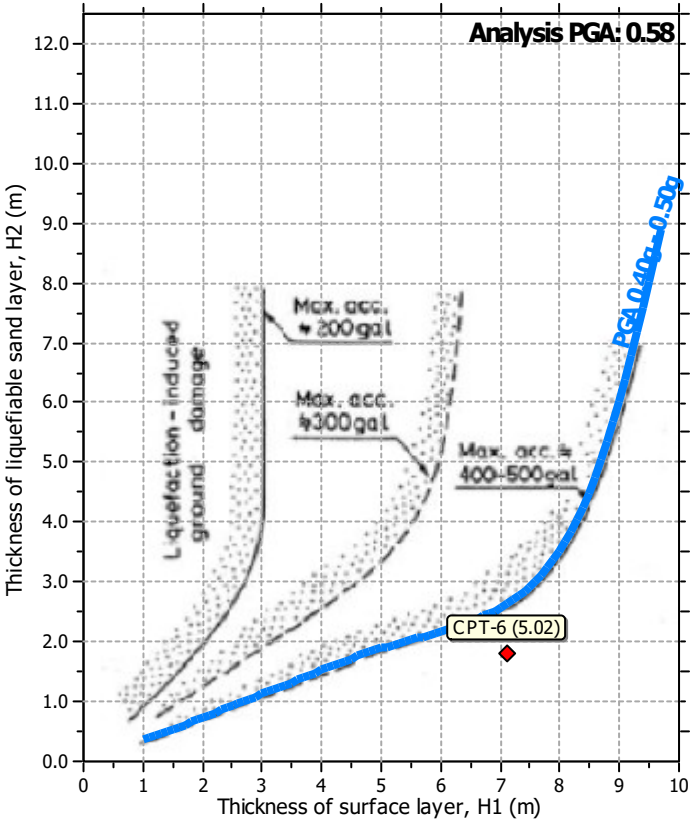
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



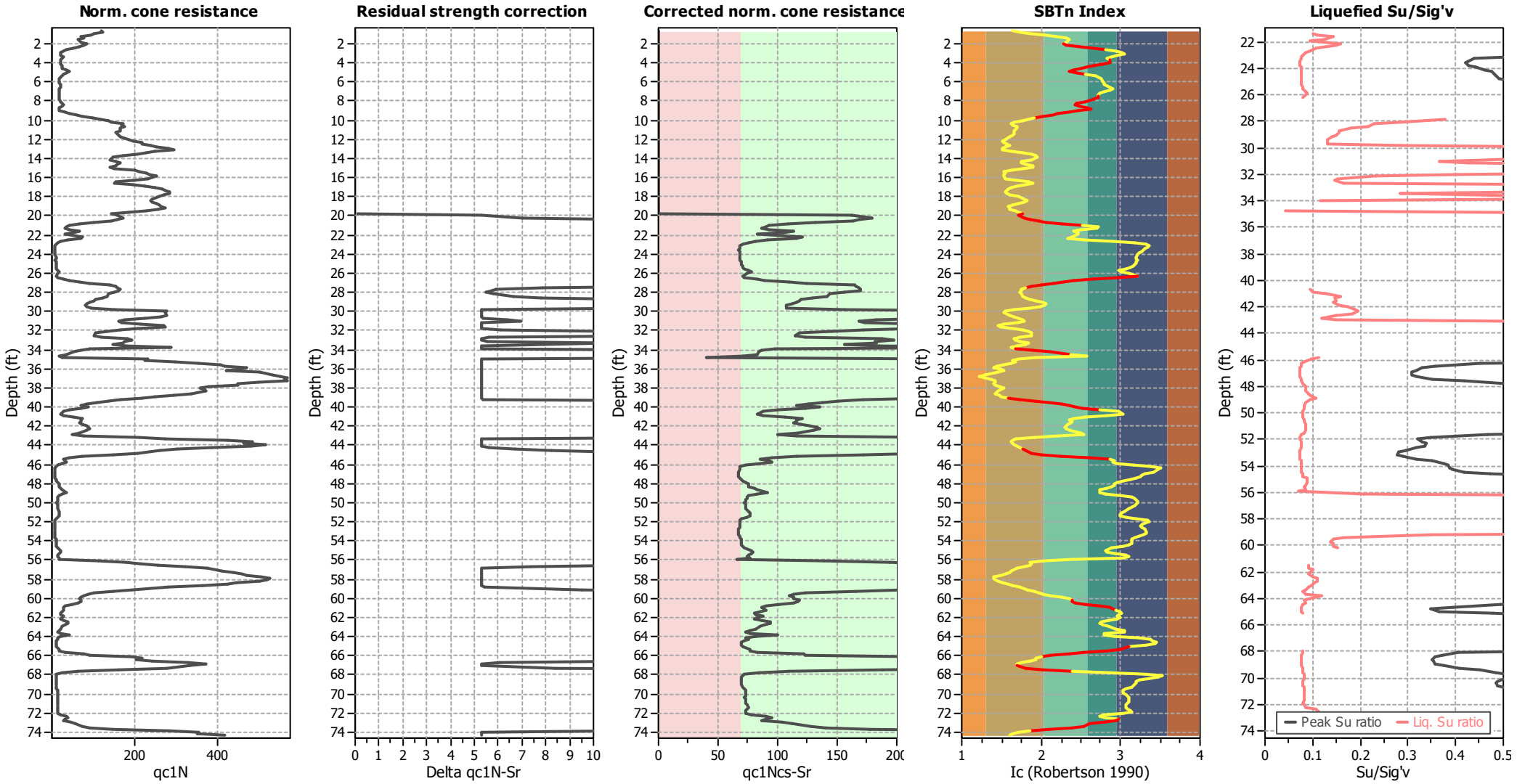




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	21.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

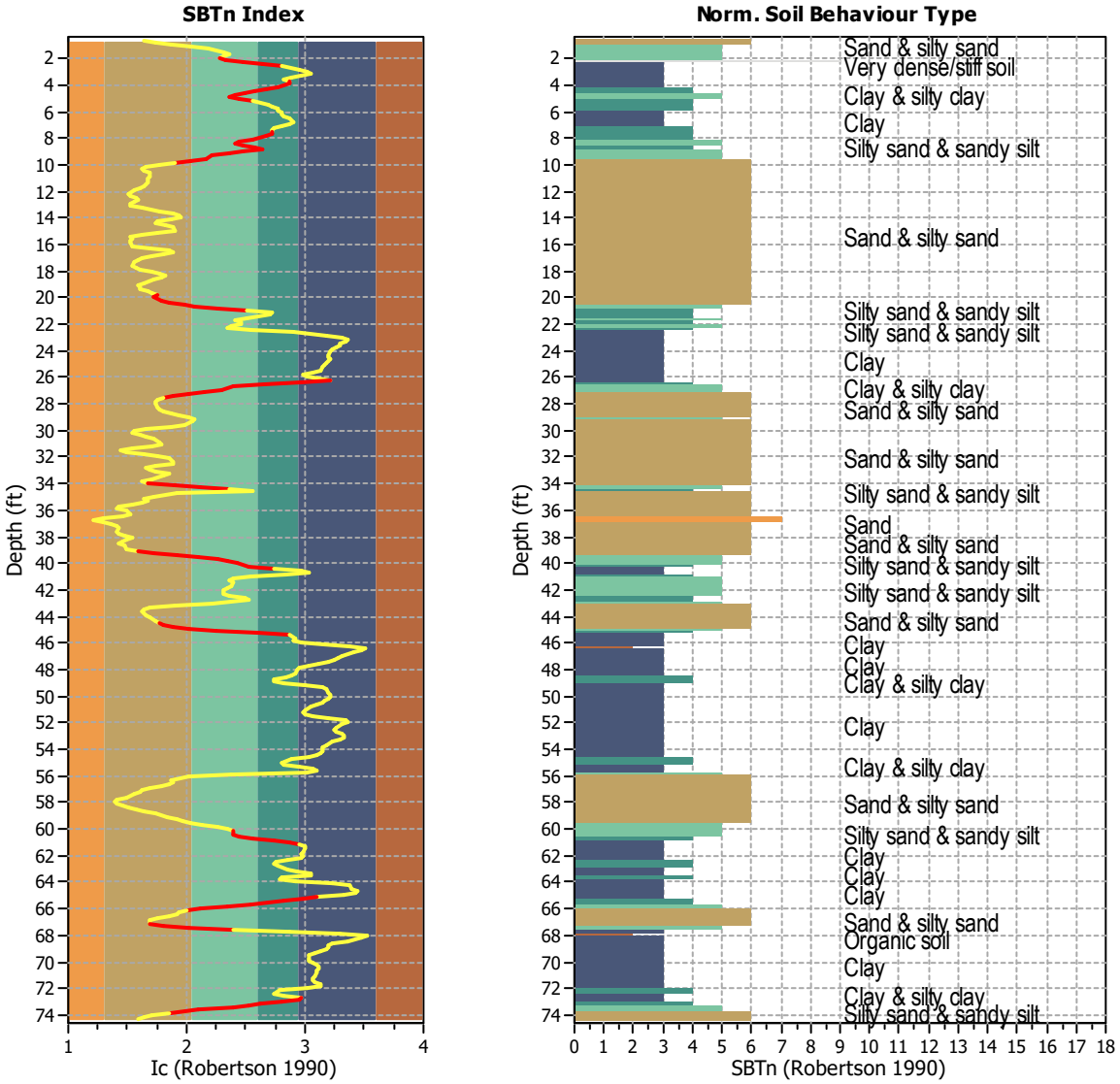
Analysis method:	B&I (2014)	Depth to GWT (erthq.):	21.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	No
Earthquake magnitude M_w:	7.10	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.58	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

TRANSITION LAYER DETECTION ALGORITHM REPORT
Summary Details & Plots

Short description

The software will delete data when the cone is in transition from either clay to sand or vise-versa. To do this the software requires a range of I_c values over which the transition will be defined (typically somewhere between $1.80 < I_c < 3.0$) and a rate of change of I_c. Transitions typically occur when the rate of change of I_c is fast (i.e. delta I_c is small).

The SBT_n plot below, displays in red the detected transition layers based on the parameters listed below the graphs.



Transition layer algorithm properties		General statistics	
I_c minimum check value:	1.70	Total points in CPT file:	450
I_c maximum check value:	3.00	Total points excluded:	94
I_c change ratio value:	0.0250	Exclusion percentage:	20.89%
Minimum number of points in layer:	4	Number of layers detected:	15

Transition layer No	Number of points	Depth	SBT_n number	SBT_n description
Transition layer 1	5	Start depth: 2.13 (ft)	5	Silty sand & sandy silt
		End depth: 2.79 (ft)	3	Clay
Transition layer 2	6	Start depth: 3.94 (ft)	3	Clay
		End depth: 4.76 (ft)	5	Silty sand & sandy silt
Transition layer 3	4	Start depth: 4.92 (ft)	5	Silty sand & sandy silt
		End depth: 5.41 (ft)	4	Clay & silty clay
Transition layer 4	4	Start depth: 7.71 (ft)	4	Clay & silty clay
		End depth: 8.20 (ft)	5	Silty sand & sandy silt
Transition layer 5	4	Start depth: 8.37 (ft)	5	Silty sand & sandy silt
		End depth: 8.86 (ft)	4	Clay & silty clay
Transition layer 6	8	Start depth: 8.86 (ft)	4	Clay & silty clay
		End depth: 10.01 (ft)	6	Sand & silty sand
Transition layer 7	8	Start depth: 20.01 (ft)	6	Sand & silty sand
		End depth: 21.16 (ft)	4	Clay & silty clay
Transition layer 8	9	Start depth: 26.41 (ft)	3	Clay
		End depth: 27.72 (ft)	6	Sand & silty sand
Transition layer 9	4	Start depth: 34.12 (ft)	6	Sand & silty sand
		End depth: 34.61 (ft)	4	Clay & silty clay
Transition layer 10	9	Start depth: 39.21 (ft)	6	Sand & silty sand
		End depth: 40.52 (ft)	3	Clay
Transition layer 11	7	Start depth: 44.62 (ft)	6	Sand & silty sand
		End depth: 45.60 (ft)	3	Clay
Transition layer 12	7	Start depth: 60.37 (ft)	5	Silty sand & sandy silt
		End depth: 61.35 (ft)	3	Clay
Transition layer 13	7	Start depth: 65.29 (ft)	3	Clay
		End depth: 66.27 (ft)	6	Sand & silty sand
Transition layer 14	4	Start depth: 67.26 (ft)	6	Sand & silty sand
		End depth: 67.75 (ft)	3	Clay
Transition layer 15	8	Start depth: 72.83 (ft)	3	Clay
		End depth: 73.98 (ft)	6	Sand & silty sand

Start depth: Depth where the transition layer begins
End depth: Depth where the transition layer ends

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data ::

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
1	0.66	0.04	0.00	0.04	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
2	0.82	0.05	0.00	0.05	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
3	0.98	0.06	0.00	0.06	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
4	1.15	0.07	0.00	0.07	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
5	1.31	0.08	0.00	0.08	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
6	1.48	0.09	0.00	0.09	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
7	1.64	0.10	0.00	0.10	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
8	1.80	0.11	0.00	0.11	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
9	1.97	0.12	0.00	0.12	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
10	2.13	0.13	0.00	0.13	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
11	2.30	0.14	0.00	0.14	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
12	2.46	0.15	0.00	0.15	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
13	2.62	0.16	0.00	0.16	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
14	2.79	0.17	0.00	0.17	1.00	0.377	1.11	0.339	1.00	1.00	2.000	Yes
15	2.95	0.18	0.00	0.18	1.00	0.377	1.11	0.339	1.00	1.00	2.000	No
16	3.12	0.19	0.00	0.19	1.00	0.376	1.11	0.339	1.00	1.00	2.000	No
17	3.28	0.20	0.00	0.20	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
18	3.44	0.21	0.00	0.21	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
19	3.61	0.22	0.00	0.22	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
20	3.77	0.22	0.00	0.22	1.00	0.376	1.11	0.338	1.00	1.00	2.000	No
21	3.94	0.23	0.00	0.23	1.00	0.375	1.11	0.338	1.00	1.00	2.000	Yes
22	4.10	0.24	0.00	0.24	1.00	0.375	1.11	0.338	1.00	1.00	2.000	Yes
23	4.27	0.25	0.00	0.25	0.99	0.375	1.11	0.337	1.00	1.00	2.000	Yes
24	4.43	0.26	0.00	0.26	0.99	0.375	1.11	0.337	1.00	1.00	2.000	Yes
25	4.59	0.27	0.00	0.27	0.99	0.375	1.11	0.337	1.00	1.00	2.000	Yes
26	4.76	0.28	0.00	0.28	0.99	0.374	1.11	0.337	1.00	1.00	2.000	Yes
27	4.92	0.29	0.00	0.29	0.99	0.374	1.11	0.337	1.00	1.00	2.000	Yes
28	5.09	0.30	0.00	0.30	0.99	0.374	1.11	0.337	1.00	1.00	2.000	Yes
29	5.25	0.31	0.00	0.31	0.99	0.374	1.11	0.336	1.00	1.00	2.000	Yes
30	5.41	0.32	0.00	0.32	0.99	0.374	1.11	0.336	1.00	1.00	2.000	Yes
31	5.58	0.33	0.00	0.33	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
32	5.74	0.33	0.00	0.33	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
33	5.91	0.34	0.00	0.34	0.99	0.373	1.11	0.336	1.00	1.00	2.000	No
34	6.07	0.35	0.00	0.35	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
35	6.23	0.36	0.00	0.36	0.99	0.373	1.11	0.335	1.00	1.00	2.000	No
36	6.40	0.37	0.00	0.37	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
37	6.56	0.38	0.00	0.38	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
38	6.73	0.39	0.00	0.39	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
39	6.89	0.40	0.00	0.40	0.99	0.372	1.11	0.335	1.00	1.00	2.000	No
40	7.05	0.41	0.00	0.41	0.99	0.372	1.11	0.334	1.00	1.00	2.000	No
41	7.22	0.42	0.00	0.42	0.99	0.371	1.11	0.334	1.00	1.00	2.000	No
42	7.38	0.43	0.00	0.43	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
43	7.55	0.43	0.00	0.43	0.98	0.371	1.11	0.334	1.00	1.00	2.000	No
44	7.71	0.44	0.00	0.44	0.98	0.371	1.11	0.334	1.00	1.00	2.000	Yes
45	7.87	0.45	0.00	0.45	0.98	0.371	1.11	0.333	1.00	1.00	2.000	Yes
46	8.04	0.46	0.00	0.46	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
47	8.20	0.47	0.00	0.47	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
48	8.37	0.48	0.00	0.48	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
49	8.53	0.49	0.00	0.49	0.98	0.370	1.11	0.333	1.00	1.00	2.000	Yes
50	8.69	0.50	0.00	0.50	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
51	8.86	0.50	0.00	0.50	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
52	9.02	0.51	0.00	0.51	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
53	9.19	0.52	0.00	0.52	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
54	9.35	0.53	0.00	0.53	0.98	0.369	1.11	0.332	1.00	1.00	2.000	Yes
55	9.51	0.54	0.00	0.54	0.98	0.368	1.11	0.331	1.00	1.00	2.000	Yes
56	9.68	0.55	0.00	0.55	0.98	0.368	1.11	0.331	1.00	1.00	2.000	Yes
57	9.84	0.56	0.00	0.56	0.98	0.368	1.11	0.331	1.00	1.00	2.000	Yes
58	10.01	0.57	0.00	0.57	0.98	0.368	1.11	0.331	1.00	1.00	2.000	Yes
59	10.17	0.58	0.00	0.58	0.97	0.367	1.11	0.331	1.00	1.00	2.000	No
60	10.33	0.59	0.00	0.59	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
61	10.50	0.60	0.00	0.60	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
62	10.66	0.61	0.00	0.61	0.97	0.367	1.11	0.330	1.00	1.00	2.000	No
63	10.83	0.62	0.00	0.62	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
64	10.99	0.63	0.00	0.63	0.97	0.366	1.11	0.330	1.00	1.00	2.000	No
65	11.15	0.64	0.00	0.64	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
66	11.32	0.65	0.00	0.65	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
67	11.48	0.66	0.00	0.66	0.97	0.366	1.11	0.329	1.00	1.00	2.000	No
68	11.65	0.67	0.00	0.67	0.97	0.365	1.11	0.329	1.00	1.00	2.000	No
69	11.81	0.68	0.00	0.68	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
70	11.98	0.69	0.00	0.69	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
71	12.14	0.70	0.00	0.70	0.97	0.365	1.11	0.328	1.00	1.00	2.000	No
72	12.30	0.71	0.00	0.71	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
73	12.47	0.72	0.00	0.72	0.97	0.364	1.11	0.328	1.00	1.00	2.000	No
74	12.63	0.73	0.00	0.73	0.97	0.364	1.11	0.327	1.00	1.00	2.000	No
75	12.80	0.74	0.00	0.74	0.96	0.364	1.11	0.327	1.00	1.00	2.000	No
76	12.96	0.75	0.00	0.75	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
77	13.12	0.76	0.00	0.76	0.96	0.363	1.11	0.327	1.00	1.00	2.000	No
78	13.29	0.78	0.00	0.78	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
79	13.45	0.79	0.00	0.79	0.96	0.363	1.11	0.326	1.00	1.00	2.000	No
80	13.62	0.80	0.00	0.80	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
81	13.78	0.81	0.00	0.81	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
82	13.94	0.82	0.00	0.82	0.96	0.362	1.11	0.326	1.00	1.00	2.000	No
83	14.11	0.83	0.00	0.83	0.96	0.362	1.11	0.325	1.00	1.00	2.000	No
84	14.27	0.84	0.00	0.84	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
85	14.44	0.85	0.00	0.85	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
86	14.60	0.86	0.00	0.86	0.96	0.361	1.11	0.325	1.00	1.00	2.000	No
87	14.76	0.87	0.00	0.87	0.96	0.361	1.11	0.324	1.00	1.00	2.000	No
88	14.93	0.88	0.00	0.88	0.96	0.360	1.11	0.324	1.00	1.00	2.000	No
89	15.09	0.89	0.00	0.89	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
90	15.26	0.90	0.00	0.90	0.95	0.360	1.11	0.324	1.00	1.00	2.000	No
91	15.42	0.91	0.00	0.91	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
92	15.58	0.92	0.00	0.92	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
93	15.75	0.93	0.00	0.93	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
94	15.91	0.94	0.00	0.94	0.95	0.359	1.11	0.323	1.00	1.00	2.000	No
95	16.08	0.95	0.00	0.95	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
96	16.24	0.96	0.00	0.96	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
97	16.40	0.97	0.00	0.97	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
98	16.57	0.99	0.00	0.99	0.95	0.358	1.11	0.322	1.00	1.00	2.000	No
99	16.73	1.00	0.00	1.00	0.95	0.357	1.11	0.322	1.00	1.00	2.000	No
100	16.90	1.01	0.00	1.01	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
101	17.06	1.02	0.00	1.02	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
102	17.22	1.03	0.00	1.03	0.95	0.357	1.11	0.321	1.00	1.00	2.000	No
103	17.39	1.04	0.00	1.04	0.94	0.356	1.11	0.321	1.00	1.00	2.000	No
104	17.55	1.05	0.00	1.05	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
105	17.72	1.06	0.00	1.06	0.94	0.356	1.11	0.320	1.00	1.00	2.000	No
106	17.88	1.07	0.00	1.07	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
107	18.04	1.08	0.00	1.08	0.94	0.355	1.11	0.320	1.00	1.00	2.000	No
108	18.21	1.09	0.00	1.09	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
109	18.37	1.10	0.00	1.10	0.94	0.355	1.11	0.319	1.00	1.00	2.000	No
110	18.54	1.12	0.00	1.12	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
111	18.70	1.13	0.00	1.13	0.94	0.354	1.11	0.319	1.00	1.00	2.000	No
112	18.86	1.14	0.00	1.14	0.94	0.354	1.11	0.318	1.00	1.00	2.000	No
113	19.03	1.15	0.00	1.15	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
114	19.19	1.16	0.00	1.16	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
115	19.36	1.17	0.00	1.17	0.94	0.353	1.11	0.318	1.00	1.00	2.000	No
116	19.52	1.18	0.00	1.18	0.94	0.353	1.11	0.317	1.00	1.00	2.000	No
117	19.69	1.19	0.00	1.19	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
118	19.85	1.20	0.00	1.20	0.93	0.352	1.11	0.317	1.00	1.00	2.000	No
119	20.01	1.21	0.00	1.21	0.93	0.352	1.11	0.317	1.00	1.00	2.000	Yes
120	20.18	1.22	0.00	1.22	0.93	0.351	1.11	0.316	1.00	1.00	2.000	Yes
121	20.34	1.23	0.00	1.23	0.93	0.351	1.11	0.316	1.00	1.00	2.000	Yes
122	20.51	1.24	0.00	1.24	0.93	0.351	1.11	0.316	1.00	1.00	2.000	Yes
123	20.67	1.25	0.00	1.25	0.93	0.351	1.11	0.315	1.00	1.00	2.000	Yes
124	20.83	1.26	0.00	1.26	0.93	0.350	1.11	0.315	1.00	1.00	2.000	Yes
125	21.00	1.27	0.00	1.27	0.93	0.350	1.11	0.315	1.00	1.00	2.000	Yes
126	21.16	1.28	0.00	1.28	0.93	0.351	1.11	0.316	1.00	1.00	2.000	Yes
127	21.33	1.29	0.01	1.28	0.93	0.352	1.11	0.317	1.00	1.00	0.342	No
128	21.49	1.30	0.02	1.29	0.93	0.353	1.11	0.318	1.00	1.00	0.340	No
129	21.65	1.31	0.02	1.29	0.93	0.354	1.11	0.319	1.00	1.00	0.332	No
130	21.82	1.33	0.03	1.30	0.92	0.355	1.11	0.320	1.00	1.00	0.338	No
131	21.98	1.34	0.03	1.30	0.92	0.356	1.11	0.321	1.00	1.00	0.346	No
132	22.15	1.35	0.04	1.31	0.92	0.358	1.11	0.322	1.00	1.00	0.331	No
133	22.31	1.36	0.04	1.31	0.92	0.359	1.11	0.323	1.00	1.00	0.334	No
134	22.47	1.37	0.05	1.32	0.92	0.359	1.11	0.323	1.00	1.00	0.347	No
135	22.64	1.38	0.05	1.32	0.92	0.361	1.11	0.324	1.00	1.00	0.351	No
136	22.80	1.39	0.06	1.33	0.92	0.361	1.11	0.325	1.00	1.00	0.354	No
137	22.97	1.40	0.06	1.33	0.92	0.362	1.11	0.326	1.00	1.00	0.355	No
138	23.13	1.40	0.07	1.34	0.92	0.363	1.11	0.327	1.00	1.00	0.357	No
139	23.29	1.41	0.07	1.34	0.92	0.364	1.11	0.328	1.00	1.00	0.358	No
140	23.46	1.42	0.08	1.35	0.92	0.365	1.11	0.329	1.00	1.00	0.359	No
141	23.62	1.43	0.08	1.35	0.92	0.366	1.11	0.330	1.00	1.00	0.359	No
142	23.79	1.44	0.09	1.35	0.92	0.367	1.11	0.330	1.00	1.00	0.360	No
143	23.95	1.45	0.09	1.36	0.91	0.368	1.11	0.331	1.00	1.00	0.361	No
144	24.11	1.46	0.10	1.36	0.91	0.369	1.11	0.332	1.00	1.00	0.362	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
145	24.28	1.47	0.10	1.37	0.91	0.370	1.11	0.333	1.00	1.00	0.363	No
146	24.44	1.48	0.11	1.37	0.91	0.371	1.11	0.334	1.00	1.00	0.364	No
147	24.61	1.49	0.11	1.37	0.91	0.372	1.11	0.334	1.00	1.00	0.365	No
148	24.77	1.49	0.12	1.38	0.91	0.373	1.11	0.335	1.00	1.00	0.365	No
149	24.93	1.50	0.12	1.38	0.91	0.373	1.11	0.336	1.00	1.00	0.366	No
150	25.10	1.51	0.13	1.38	0.91	0.374	1.11	0.337	1.00	1.00	0.367	No
151	25.26	1.52	0.13	1.39	0.91	0.375	1.11	0.337	1.00	1.00	0.368	No
152	25.43	1.53	0.14	1.39	0.91	0.376	1.11	0.338	1.00	1.00	0.369	No
153	25.59	1.54	0.14	1.40	0.91	0.377	1.11	0.339	1.00	1.00	0.369	No
154	25.75	1.55	0.15	1.40	0.91	0.377	1.11	0.340	1.00	1.00	0.369	No
155	25.92	1.56	0.15	1.41	0.90	0.378	1.11	0.340	1.00	1.00	0.370	No
156	26.08	1.57	0.16	1.41	0.90	0.379	1.11	0.341	1.00	1.00	0.371	No
157	26.25	1.58	0.16	1.41	0.90	0.380	1.11	0.342	1.00	1.00	0.372	No
158	26.41	1.59	0.17	1.42	0.90	0.381	1.11	0.342	1.00	1.00	2.000	Yes
159	26.57	1.60	0.17	1.42	0.90	0.381	1.11	0.343	1.00	1.00	2.000	Yes
160	26.74	1.61	0.18	1.43	0.90	0.382	1.11	0.344	1.00	1.00	2.000	Yes
161	26.90	1.62	0.18	1.43	0.90	0.383	1.11	0.344	1.00	1.00	2.000	Yes
162	27.07	1.63	0.19	1.44	0.90	0.383	1.11	0.345	1.00	1.00	2.000	Yes
163	27.23	1.64	0.19	1.44	0.90	0.384	1.11	0.346	1.00	1.00	2.000	Yes
164	27.40	1.65	0.20	1.45	0.90	0.385	1.11	0.346	1.00	1.00	2.000	Yes
165	27.56	1.66	0.20	1.45	0.90	0.385	1.11	0.347	1.00	1.00	2.000	Yes
166	27.72	1.67	0.21	1.46	0.90	0.386	1.11	0.347	1.00	1.00	2.000	Yes
167	27.89	1.68	0.21	1.47	0.89	0.387	1.11	0.348	1.00	1.00	0.346	No
168	28.05	1.69	0.22	1.47	0.89	0.387	1.11	0.349	1.00	1.00	0.354	No
169	28.22	1.70	0.23	1.48	0.89	0.388	1.11	0.349	1.00	1.00	0.361	No
170	28.38	1.71	0.23	1.48	0.89	0.389	1.11	0.350	1.00	1.00	0.363	No
171	28.54	1.72	0.24	1.49	0.89	0.389	1.11	0.350	1.00	1.00	0.368	No
172	28.71	1.73	0.24	1.49	0.89	0.390	1.11	0.351	1.00	1.00	0.369	No
173	28.87	1.74	0.25	1.50	0.89	0.390	1.11	0.351	1.00	1.00	0.365	No
174	29.04	1.75	0.25	1.50	0.89	0.391	1.11	0.352	1.00	1.00	0.364	No
175	29.20	1.76	0.26	1.51	0.89	0.392	1.11	0.352	1.00	1.00	0.366	No
176	29.36	1.77	0.26	1.51	0.89	0.392	1.11	0.353	1.00	1.00	0.369	No
177	29.53	1.78	0.27	1.52	0.89	0.393	1.11	0.353	1.00	1.00	0.371	No
178	29.69	1.79	0.27	1.52	0.89	0.393	1.11	0.354	1.00	1.00	0.377	No
179	29.86	1.80	0.28	1.53	0.88	0.394	1.11	0.354	1.00	1.00	0.360	No
180	30.02	1.81	0.28	1.53	0.88	0.394	1.11	0.355	1.00	1.00	0.338	No
181	30.18	1.82	0.29	1.54	0.88	0.395	1.11	0.355	1.00	1.00	0.338	No
182	30.35	1.83	0.29	1.54	0.88	0.395	1.11	0.356	1.00	1.00	0.339	No
183	30.51	1.85	0.30	1.55	0.88	0.396	1.11	0.356	1.00	1.00	0.339	No
184	30.68	1.86	0.30	1.55	0.88	0.396	1.11	0.357	1.00	1.00	0.340	No
185	30.84	1.87	0.31	1.56	0.88	0.397	1.11	0.357	1.00	1.00	0.347	No
186	31.00	1.88	0.31	1.56	0.88	0.397	1.11	0.357	1.00	1.00	0.357	No
187	31.17	1.89	0.32	1.57	0.88	0.398	1.11	0.358	1.00	1.00	0.353	No
188	31.33	1.90	0.32	1.58	0.88	0.398	1.11	0.358	1.00	1.00	0.341	No
189	31.50	1.91	0.33	1.58	0.88	0.399	1.11	0.359	1.00	1.00	0.342	No
190	31.66	1.92	0.33	1.59	0.88	0.399	1.11	0.359	1.00	1.00	0.342	No
191	31.82	1.93	0.34	1.59	0.87	0.400	1.11	0.359	1.00	1.00	0.342	No
192	31.99	1.94	0.34	1.60	0.87	0.400	1.11	0.360	1.00	1.00	0.357	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
193	32.15	1.95	0.35	1.60	0.87	0.400	1.11	0.360	1.00	1.00	0.368	No
194	32.32	1.96	0.35	1.61	0.87	0.401	1.11	0.361	1.00	1.00	0.378	No
195	32.48	1.97	0.36	1.61	0.87	0.401	1.11	0.361	1.00	1.00	0.381	No
196	32.64	1.98	0.36	1.62	0.87	0.402	1.11	0.361	1.00	1.00	0.382	No
197	32.81	1.99	0.37	1.62	0.87	0.402	1.11	0.362	1.00	1.00	0.347	No
198	32.97	2.00	0.37	1.63	0.87	0.402	1.11	0.362	1.00	1.00	0.345	No
199	33.14	2.01	0.38	1.63	0.87	0.403	1.11	0.362	1.00	1.00	0.353	No
200	33.30	2.02	0.38	1.64	0.87	0.403	1.11	0.363	1.00	1.00	0.347	No
201	33.46	2.03	0.39	1.64	0.87	0.404	1.11	0.363	1.00	1.00	0.369	No
202	33.63	2.04	0.39	1.65	0.86	0.404	1.11	0.363	1.00	1.00	0.351	No
203	33.79	2.05	0.40	1.66	0.86	0.404	1.11	0.364	1.00	1.00	0.346	No
204	33.96	2.07	0.40	1.66	0.86	0.405	1.11	0.364	1.00	1.00	0.392	No
205	34.12	2.07	0.41	1.67	0.86	0.405	1.11	0.364	1.00	1.00	2.000	Yes
206	34.28	2.08	0.41	1.67	0.86	0.405	1.11	0.365	1.00	1.00	2.000	Yes
207	34.45	2.09	0.42	1.67	0.86	0.406	1.11	0.365	1.00	1.00	2.000	Yes
208	34.61	2.10	0.42	1.68	0.86	0.406	1.11	0.365	1.00	1.00	2.000	Yes
209	34.78	2.11	0.43	1.68	0.86	0.406	1.11	0.366	1.00	1.00	0.401	No
210	34.94	2.12	0.43	1.69	0.86	0.407	1.11	0.366	1.00	1.00	0.348	No
211	35.10	2.13	0.44	1.69	0.86	0.407	1.11	0.366	1.00	1.00	0.349	No
212	35.27	2.15	0.45	1.70	0.86	0.407	1.11	0.366	1.00	1.00	0.349	No
213	35.43	2.16	0.45	1.71	0.86	0.408	1.11	0.367	1.00	1.00	0.349	No
214	35.60	2.17	0.46	1.71	0.85	0.408	1.11	0.367	1.00	1.00	0.349	No
215	35.76	2.18	0.46	1.72	0.85	0.408	1.11	0.367	1.00	1.00	0.350	No
216	35.93	2.19	0.47	1.72	0.85	0.408	1.11	0.367	1.00	1.00	0.350	No
217	36.09	2.20	0.47	1.73	0.85	0.408	1.11	0.368	1.00	1.00	0.350	No
218	36.25	2.21	0.48	1.74	0.85	0.409	1.11	0.368	1.00	1.00	0.350	No
219	36.42	2.22	0.48	1.74	0.85	0.409	1.11	0.368	1.00	1.00	0.350	No
220	36.58	2.23	0.49	1.75	0.85	0.409	1.11	0.368	1.00	1.00	0.351	No
221	36.75	2.25	0.49	1.75	0.85	0.409	1.11	0.368	1.00	1.00	0.351	No
222	36.91	2.26	0.50	1.76	0.85	0.410	1.11	0.368	1.00	1.00	0.351	No
223	37.07	2.27	0.50	1.77	0.85	0.410	1.11	0.369	1.00	1.00	0.351	No
224	37.24	2.28	0.51	1.77	0.85	0.410	1.11	0.369	1.00	1.00	0.351	No
225	37.40	2.29	0.51	1.78	0.84	0.410	1.11	0.369	1.00	1.00	0.351	No
226	37.57	2.30	0.52	1.79	0.84	0.410	1.11	0.369	1.00	1.00	0.351	No
227	37.73	2.31	0.52	1.79	0.84	0.410	1.11	0.369	1.00	1.00	0.352	No
228	37.89	2.32	0.53	1.80	0.84	0.411	1.11	0.369	1.00	1.00	0.352	No
229	38.06	2.34	0.53	1.80	0.84	0.411	1.11	0.370	1.00	1.00	0.352	No
230	38.22	2.35	0.54	1.81	0.84	0.411	1.11	0.370	1.00	1.00	0.352	No
231	38.39	2.36	0.54	1.82	0.84	0.411	1.11	0.370	1.00	1.00	0.352	No
232	38.55	2.37	0.55	1.82	0.84	0.411	1.11	0.370	1.00	1.00	0.352	No
233	38.71	2.38	0.55	1.83	0.84	0.411	1.11	0.370	1.00	1.00	0.352	No
234	38.88	2.39	0.56	1.83	0.84	0.412	1.11	0.370	1.00	1.00	0.353	No
235	39.04	2.40	0.56	1.84	0.84	0.412	1.11	0.370	1.00	1.00	0.353	No
236	39.21	2.41	0.57	1.84	0.84	0.412	1.11	0.371	1.00	1.00	2.000	Yes
237	39.37	2.42	0.57	1.85	0.83	0.412	1.11	0.371	1.00	1.00	2.000	Yes
238	39.53	2.43	0.58	1.85	0.83	0.412	1.11	0.371	1.00	1.00	2.000	Yes
239	39.70	2.44	0.58	1.86	0.83	0.412	1.11	0.371	1.00	1.00	2.000	Yes
240	39.86	2.45	0.59	1.86	0.83	0.412	1.11	0.371	1.00	1.00	2.000	Yes

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
241	40.03	2.46	0.59	1.87	0.83	0.413	1.11	0.371	1.00	1.00	2.000	Yes
242	40.19	2.47	0.60	1.88	0.83	0.413	1.11	0.371	1.00	1.00	2.000	Yes
243	40.35	2.48	0.60	1.88	0.83	0.413	1.11	0.371	1.00	1.00	2.000	Yes
244	40.52	2.50	0.61	1.89	0.83	0.413	1.11	0.372	1.00	1.00	2.000	Yes
245	40.68	2.51	0.61	1.89	0.83	0.413	1.11	0.372	1.00	1.00	0.402	No
246	40.85	2.52	0.62	1.90	0.83	0.413	1.11	0.372	1.00	1.00	0.401	No
247	41.01	2.53	0.62	1.90	0.83	0.413	1.11	0.372	1.00	1.00	0.393	No
248	41.17	2.54	0.63	1.91	0.82	0.413	1.11	0.372	1.00	1.00	0.383	No
249	41.34	2.55	0.63	1.91	0.82	0.413	1.11	0.372	1.00	1.00	0.386	No
250	41.50	2.56	0.64	1.92	0.82	0.414	1.11	0.372	1.00	1.00	0.386	No
251	41.67	2.57	0.64	1.92	0.82	0.414	1.11	0.372	1.00	1.00	0.388	No
252	41.83	2.58	0.65	1.93	0.82	0.414	1.11	0.372	1.00	1.00	0.383	No
253	41.99	2.59	0.65	1.93	0.82	0.414	1.11	0.372	1.00	1.00	0.379	No
254	42.16	2.60	0.66	1.94	0.82	0.414	1.11	0.372	1.00	1.00	0.374	No
255	42.32	2.61	0.67	1.94	0.82	0.414	1.11	0.372	1.00	1.00	0.372	No
256	42.49	2.62	0.67	1.95	0.82	0.414	1.11	0.373	1.00	1.00	0.376	No
257	42.65	2.63	0.68	1.96	0.82	0.414	1.11	0.373	1.00	1.00	0.387	No
258	42.81	2.64	0.68	1.96	0.82	0.414	1.11	0.373	1.00	1.00	0.396	No
259	42.98	2.65	0.69	1.97	0.81	0.414	1.11	0.373	1.00	1.00	0.385	No
260	43.14	2.66	0.69	1.97	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
261	43.31	2.68	0.70	1.98	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
262	43.47	2.69	0.70	1.98	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
263	43.64	2.70	0.71	1.99	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
264	43.80	2.71	0.71	2.00	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
265	43.96	2.72	0.72	2.00	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
266	44.13	2.73	0.72	2.01	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
267	44.29	2.74	0.73	2.02	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
268	44.46	2.75	0.73	2.02	0.81	0.414	1.11	0.373	1.00	1.00	0.355	No
269	44.62	2.76	0.74	2.03	0.81	0.414	1.11	0.373	1.00	1.00	2.000	Yes
270	44.78	2.78	0.74	2.03	0.81	0.414	1.11	0.373	1.00	1.00	2.000	Yes
271	44.95	2.79	0.75	2.04	0.80	0.414	1.11	0.373	1.00	1.00	2.000	Yes
272	45.11	2.80	0.75	2.04	0.80	0.414	1.11	0.373	1.00	1.00	2.000	Yes
273	45.28	2.81	0.76	2.05	0.80	0.414	1.11	0.373	1.00	1.00	2.000	Yes
274	45.44	2.82	0.76	2.06	0.80	0.414	1.11	0.373	1.00	1.00	2.000	Yes
275	45.60	2.83	0.77	2.06	0.80	0.414	1.11	0.373	1.00	1.00	2.000	Yes
276	45.77	2.84	0.77	2.07	0.80	0.414	1.11	0.373	1.00	1.00	0.400	No
277	45.93	2.85	0.78	2.07	0.80	0.414	1.11	0.373	1.00	1.00	0.403	No
278	46.10	2.86	0.78	2.08	0.80	0.414	1.11	0.373	1.00	1.00	0.406	No
279	46.26	2.87	0.79	2.08	0.80	0.414	1.11	0.373	1.00	1.00	0.407	No
280	46.42	2.88	0.79	2.08	0.80	0.414	1.11	0.373	1.00	1.00	0.407	No
281	46.59	2.89	0.80	2.09	0.80	0.414	1.11	0.373	1.00	1.00	0.407	No
282	46.75	2.90	0.80	2.09	0.79	0.415	1.11	0.373	1.00	1.00	0.407	No
283	46.92	2.90	0.81	2.10	0.79	0.415	1.11	0.373	1.00	1.00	0.407	No
284	47.08	2.91	0.81	2.10	0.79	0.415	1.11	0.373	1.00	1.00	0.407	No
285	47.24	2.92	0.82	2.10	0.79	0.415	1.11	0.373	1.00	1.00	0.407	No
286	47.41	2.93	0.82	2.11	0.79	0.415	1.11	0.373	1.00	1.00	0.407	No
287	47.57	2.94	0.83	2.11	0.79	0.415	1.11	0.373	1.00	1.00	0.407	No
288	47.74	2.95	0.83	2.11	0.79	0.415	1.11	0.373	1.00	1.00	0.407	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
289	47.90	2.96	0.84	2.12	0.79	0.415	1.11	0.373	1.00	1.00	0.406	No
290	48.06	2.97	0.84	2.12	0.79	0.415	1.11	0.373	1.00	1.00	0.406	No
291	48.23	2.98	0.85	2.13	0.79	0.415	1.11	0.373	1.00	1.00	0.406	No
292	48.39	2.99	0.85	2.13	0.79	0.415	1.11	0.373	1.00	1.00	0.406	No
293	48.56	3.00	0.86	2.14	0.78	0.415	1.11	0.373	1.00	1.00	0.404	No
294	48.72	3.01	0.86	2.14	0.78	0.415	1.11	0.373	1.00	1.00	0.404	No
295	48.88	3.01	0.87	2.14	0.78	0.415	1.11	0.373	1.00	1.00	0.401	No
296	49.05	3.02	0.88	2.15	0.78	0.415	1.11	0.373	1.00	1.00	0.404	No
297	49.21	3.03	0.88	2.15	0.78	0.415	1.11	0.373	1.00	1.00	0.406	No
298	49.38	3.04	0.89	2.16	0.78	0.415	1.11	0.373	1.00	1.00	0.406	No
299	49.54	3.05	0.89	2.16	0.78	0.415	1.11	0.373	1.00	1.00	0.406	No
300	49.70	3.06	0.90	2.17	0.78	0.415	1.11	0.373	1.00	1.00	0.406	No
301	49.87	3.07	0.90	2.17	0.78	0.415	1.11	0.373	1.00	1.00	0.406	No
302	50.03	3.08	0.91	2.18	0.78	0.415	1.11	0.373	1.00	1.00	2.000	No
303	50.20	3.09	0.91	2.18	0.78	0.415	1.11	0.373	1.00	1.00	2.000	No
304	50.36	3.10	0.92	2.19	0.78	0.415	1.11	0.373	1.00	1.00	2.000	No
305	50.52	3.11	0.92	2.19	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
306	50.69	3.12	0.93	2.19	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
307	50.85	3.13	0.93	2.20	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
308	51.02	3.14	0.94	2.20	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
309	51.18	3.15	0.94	2.21	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
310	51.35	3.16	0.95	2.21	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
311	51.51	3.17	0.95	2.22	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
312	51.67	3.18	0.96	2.22	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
313	51.84	3.19	0.96	2.22	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
314	52.00	3.20	0.97	2.23	0.77	0.415	1.11	0.373	1.00	1.00	2.000	No
315	52.17	3.20	0.97	2.23	0.77	0.414	1.11	0.373	1.00	1.00	2.000	No
316	52.33	3.21	0.98	2.24	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
317	52.49	3.22	0.98	2.24	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
318	52.66	3.23	0.99	2.24	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
319	52.82	3.24	0.99	2.25	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
320	52.99	3.25	1.00	2.25	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
321	53.15	3.26	1.00	2.25	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
322	53.31	3.27	1.01	2.26	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
323	53.48	3.27	1.01	2.26	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
324	53.64	3.28	1.02	2.26	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
325	53.81	3.29	1.02	2.27	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
326	53.97	3.30	1.03	2.27	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
327	54.13	3.31	1.03	2.28	0.76	0.414	1.11	0.373	1.00	1.00	2.000	No
328	54.30	3.32	1.04	2.28	0.75	0.414	1.11	0.373	1.00	1.00	2.000	No
329	54.46	3.33	1.04	2.28	0.75	0.414	1.11	0.373	1.00	1.00	2.000	No
330	54.63	3.34	1.05	2.29	0.75	0.414	1.11	0.373	1.00	1.00	2.000	No
331	54.79	3.35	1.05	2.29	0.75	0.414	1.11	0.373	1.00	1.00	2.000	No
332	54.95	3.35	1.06	2.30	0.75	0.414	1.11	0.373	1.00	1.00	2.000	No
333	55.12	3.36	1.06	2.30	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No
334	55.28	3.37	1.07	2.30	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No
335	55.45	3.38	1.07	2.31	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No
336	55.61	3.39	1.08	2.31	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR*	Belongs to transition
337	55.77	3.40	1.08	2.32	0.75	0.414	1.11	0.372	1.00	1.00	2.000	No
338	55.94	3.41	1.09	2.32	0.75	0.413	1.11	0.372	1.00	1.00	2.000	No
339	56.10	3.42	1.10	2.33	0.75	0.413	1.11	0.372	1.00	1.00	2.000	No
340	56.27	3.43	1.10	2.33	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
341	56.43	3.44	1.11	2.34	0.74	0.413	1.11	0.372	1.00	1.00	2.000	No
342	56.59	3.46	1.11	2.35	0.74	0.413	1.11	0.371	1.00	1.00	2.000	No
343	56.76	3.47	1.12	2.35	0.74	0.413	1.11	0.371	1.00	1.00	2.000	No
344	56.92	3.48	1.12	2.36	0.74	0.412	1.11	0.371	1.00	1.00	2.000	No
345	57.09	3.49	1.13	2.36	0.74	0.412	1.11	0.371	1.00	1.00	2.000	No
346	57.25	3.50	1.13	2.37	0.74	0.412	1.11	0.371	1.00	1.00	2.000	No
347	57.41	3.51	1.14	2.38	0.74	0.412	1.11	0.370	1.00	1.00	2.000	No
348	57.58	3.52	1.14	2.38	0.74	0.412	1.11	0.370	1.00	1.00	2.000	No
349	57.74	3.53	1.15	2.39	0.74	0.411	1.11	0.370	1.00	1.00	2.000	No
350	57.91	3.55	1.15	2.39	0.74	0.411	1.11	0.370	1.00	1.00	2.000	No
351	58.07	3.56	1.16	2.40	0.74	0.411	1.11	0.370	1.00	1.00	2.000	No
352	58.23	3.57	1.16	2.41	0.73	0.411	1.11	0.370	1.00	1.00	2.000	No
353	58.40	3.58	1.17	2.41	0.73	0.411	1.11	0.369	1.00	1.00	2.000	No
354	58.56	3.59	1.17	2.42	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
355	58.73	3.60	1.18	2.43	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
356	58.89	3.61	1.18	2.43	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
357	59.06	3.62	1.19	2.44	0.73	0.410	1.11	0.369	1.00	1.00	2.000	No
358	59.22	3.63	1.19	2.44	0.73	0.410	1.11	0.368	1.00	1.00	2.000	No
359	59.38	3.64	1.20	2.45	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
360	59.55	3.66	1.20	2.45	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
361	59.71	3.67	1.21	2.46	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
362	59.88	3.68	1.21	2.46	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
363	60.04	3.69	1.22	2.47	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
364	60.20	3.70	1.22	2.47	0.73	0.409	1.11	0.368	1.00	1.00	2.000	No
365	60.37	3.71	1.23	2.48	0.72	0.408	1.11	0.367	1.00	1.00	2.000	Yes
366	60.53	3.72	1.23	2.48	0.72	0.408	1.11	0.367	1.00	1.00	2.000	Yes
367	60.70	3.73	1.24	2.49	0.72	0.408	1.11	0.367	1.00	1.00	2.000	Yes
368	60.86	3.74	1.24	2.49	0.72	0.408	1.11	0.367	1.00	1.00	2.000	Yes
369	61.02	3.75	1.25	2.50	0.72	0.408	1.11	0.367	1.00	1.00	2.000	Yes
370	61.19	3.76	1.25	2.50	0.72	0.407	1.11	0.367	1.00	1.00	2.000	Yes
371	61.35	3.77	1.26	2.51	0.72	0.407	1.11	0.366	1.00	1.00	2.000	Yes
372	61.52	3.78	1.26	2.51	0.72	0.407	1.11	0.366	1.00	1.00	2.000	No
373	61.68	3.79	1.27	2.52	0.72	0.407	1.11	0.366	1.00	1.00	2.000	No
374	61.84	3.80	1.27	2.52	0.72	0.407	1.11	0.366	1.00	1.00	2.000	No
375	62.01	3.81	1.28	2.53	0.72	0.407	1.11	0.366	1.00	1.00	2.000	No
376	62.17	3.82	1.28	2.53	0.72	0.406	1.11	0.366	1.00	1.00	2.000	No
377	62.34	3.83	1.29	2.54	0.71	0.406	1.11	0.366	1.00	1.00	2.000	No
378	62.50	3.84	1.29	2.54	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No
379	62.66	3.85	1.30	2.55	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No
380	62.83	3.86	1.31	2.55	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No
381	62.99	3.87	1.31	2.56	0.71	0.406	1.11	0.365	1.00	1.00	2.000	No
382	63.16	3.88	1.32	2.56	0.71	0.405	1.11	0.365	1.00	1.00	2.000	No
383	63.32	3.89	1.32	2.57	0.71	0.405	1.11	0.365	1.00	1.00	2.000	No
384	63.48	3.90	1.33	2.57	0.71	0.405	1.11	0.365	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
385	63.65	3.91	1.33	2.58	0.71	0.405	1.11	0.364	1.00	1.00	2.000	No
386	63.81	3.92	1.34	2.58	0.71	0.405	1.11	0.364	1.00	1.00	2.000	No
387	63.98	3.93	1.34	2.59	0.71	0.405	1.11	0.364	1.00	1.00	2.000	No
388	64.14	3.94	1.35	2.59	0.71	0.404	1.11	0.364	1.00	1.00	2.000	No
389	64.30	3.95	1.35	2.60	0.71	0.404	1.11	0.364	1.00	1.00	2.000	No
390	64.47	3.96	1.36	2.60	0.70	0.404	1.11	0.364	1.00	1.00	2.000	No
391	64.63	3.97	1.36	2.61	0.70	0.404	1.11	0.363	1.00	1.00	2.000	No
392	64.80	3.98	1.37	2.61	0.70	0.404	1.11	0.363	1.00	1.00	2.000	No
393	64.96	3.99	1.37	2.62	0.70	0.404	1.11	0.363	1.00	1.00	2.000	No
394	65.12	4.00	1.38	2.62	0.70	0.403	1.11	0.363	1.00	1.00	2.000	No
395	65.29	4.01	1.38	2.62	0.70	0.403	1.11	0.363	1.00	1.00	2.000	Yes
396	65.45	4.01	1.39	2.63	0.70	0.403	1.11	0.363	1.00	1.00	2.000	Yes
397	65.62	4.03	1.39	2.63	0.70	0.403	1.11	0.363	1.00	1.00	2.000	Yes
398	65.78	4.04	1.40	2.64	0.70	0.403	1.11	0.362	1.00	1.00	2.000	Yes
399	65.94	4.05	1.40	2.64	0.70	0.403	1.11	0.362	1.00	1.00	2.000	Yes
400	66.11	4.06	1.41	2.65	0.70	0.402	1.11	0.362	1.00	1.00	2.000	Yes
401	66.27	4.07	1.41	2.66	0.70	0.402	1.11	0.362	1.00	1.00	2.000	Yes
402	66.44	4.08	1.42	2.66	0.70	0.402	1.11	0.362	1.00	1.00	2.000	No
403	66.60	4.09	1.42	2.67	0.69	0.402	1.11	0.361	1.00	1.00	2.000	No
404	66.77	4.10	1.43	2.67	0.69	0.401	1.11	0.361	1.00	1.00	2.000	No
405	66.93	4.11	1.43	2.68	0.69	0.401	1.11	0.361	1.00	1.00	2.000	No
406	67.09	4.12	1.44	2.69	0.69	0.401	1.11	0.361	1.00	1.00	2.000	No
407	67.26	4.14	1.44	2.69	0.69	0.401	1.11	0.360	1.00	1.00	2.000	Yes
408	67.42	4.15	1.45	2.70	0.69	0.400	1.11	0.360	1.00	1.00	2.000	Yes
409	67.59	4.16	1.45	2.70	0.69	0.400	1.11	0.360	1.00	1.00	2.000	Yes
410	67.75	4.17	1.46	2.71	0.69	0.400	1.11	0.360	1.00	1.00	2.000	Yes
411	67.91	4.18	1.46	2.71	0.69	0.400	1.11	0.360	1.00	1.00	2.000	No
412	68.08	4.19	1.47	2.72	0.69	0.400	1.11	0.360	1.00	1.00	2.000	No
413	68.24	4.20	1.47	2.72	0.69	0.399	1.11	0.359	1.00	1.00	2.000	No
414	68.41	4.21	1.48	2.73	0.69	0.399	1.11	0.359	1.00	1.00	2.000	No
415	68.57	4.22	1.48	2.73	0.69	0.399	1.11	0.359	1.00	1.00	2.000	No
416	68.73	4.22	1.49	2.73	0.69	0.399	1.11	0.359	1.00	1.00	2.000	No
417	68.90	4.23	1.49	2.74	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
418	69.06	4.24	1.50	2.74	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
419	69.23	4.25	1.50	2.75	0.68	0.399	1.11	0.359	1.00	1.00	2.000	No
420	69.39	4.26	1.51	2.75	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
421	69.55	4.27	1.51	2.75	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
422	69.72	4.28	1.52	2.76	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
423	69.88	4.29	1.53	2.76	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
424	70.05	4.30	1.53	2.77	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
425	70.21	4.31	1.54	2.77	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
426	70.37	4.31	1.54	2.77	0.68	0.398	1.11	0.358	1.00	1.00	2.000	No
427	70.54	4.32	1.55	2.78	0.68	0.397	1.11	0.358	1.00	1.00	2.000	No
428	70.70	4.33	1.55	2.78	0.68	0.397	1.11	0.357	1.00	1.00	2.000	No
429	70.87	4.34	1.56	2.79	0.68	0.397	1.11	0.357	1.00	1.00	2.000	No
430	71.03	4.35	1.56	2.79	0.68	0.397	1.11	0.357	1.00	1.00	2.000	No
431	71.19	4.36	1.57	2.80	0.67	0.397	1.11	0.357	1.00	1.00	2.000	No
432	71.36	4.37	1.57	2.80	0.67	0.397	1.11	0.357	1.00	1.00	2.000	No

:: Cyclic Stress Ratio fully adjusted (CSR*) calculation data :: (continued)

Point ID	Depth (ft)	σ_v (tsf)	u_0 (tsf)	σ_v' (tsf)	r_d	CSR	MSF	CSR_{eq}	K_σ	User FS	CSR^*	Belongs to transition
433	71.52	4.38	1.58	2.80	0.67	0.396	1.11	0.357	1.00	1.00	2.000	No
434	71.69	4.39	1.58	2.81	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
435	71.85	4.40	1.59	2.81	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
436	72.01	4.41	1.59	2.82	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
437	72.18	4.42	1.60	2.82	0.67	0.396	1.11	0.356	1.00	1.00	2.000	No
438	72.34	4.43	1.60	2.83	0.67	0.395	1.11	0.356	1.00	1.00	2.000	No
439	72.51	4.44	1.61	2.83	0.67	0.395	1.11	0.356	1.00	1.00	2.000	No
440	72.67	4.45	1.61	2.84	0.67	0.395	1.11	0.355	1.00	1.00	2.000	No
441	72.83	4.46	1.62	2.84	0.67	0.395	1.11	0.355	1.00	1.00	2.000	Yes
442	73.00	4.47	1.62	2.85	0.67	0.395	1.11	0.355	1.00	1.00	2.000	Yes
443	73.16	4.48	1.63	2.85	0.67	0.394	1.11	0.355	1.00	1.00	2.000	Yes
444	73.33	4.49	1.63	2.86	0.67	0.394	1.11	0.355	1.00	1.00	2.000	Yes
445	73.49	4.50	1.64	2.87	0.66	0.394	1.11	0.354	1.00	1.00	2.000	Yes
446	73.65	4.51	1.64	2.87	0.66	0.394	1.11	0.354	1.00	1.00	2.000	Yes
447	73.82	4.53	1.65	2.88	0.66	0.393	1.11	0.354	1.00	1.00	2.000	Yes
448	73.98	4.54	1.65	2.88	0.66	0.393	1.11	0.354	1.00	1.00	2.000	Yes
449	74.15	4.55	1.66	2.89	0.66	0.393	1.11	0.353	1.00	1.00	2.000	No
450	74.31	4.56	1.66	2.90	0.66	0.393	1.11	0.353	1.00	1.00	2.000	No

Abbreviations

Depth: Depth from free surface, at which CPT was performed (ft)
σ_v: Total overburden pressure at test point (tsf)
u_0: Water pressure at test point (tsf)
σ_v': Effective overburden pressure based on GWT during earthquake (tsf)
r_d: Nonlinear shear mass factor
CSR: Cyclic Stress Ratio
MSF: Magnitude Scaling Factor
CSR_{eq}: CSR adjusted for M=7.5
K_σ: Effective overburden stress factor
CSR^*: CSR fully adjusted

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
0.66	2.00	0.00	0.00	0.05	0.00	0.82	2.00	0.00	0.00	0.05	0.00
0.98	2.00	0.00	0.00	0.05	0.00	1.15	2.00	0.00	0.00	0.05	0.00
1.31	2.00	0.00	0.00	0.05	0.00	1.48	2.00	0.00	0.00	0.05	0.00
1.64	2.00	0.00	0.00	0.05	0.00	1.80	2.00	0.00	0.00	0.05	0.00
1.97	2.00	0.00	0.00	0.05	0.00	2.13	2.00	0.00	0.00	0.05	0.00
2.30	2.00	0.00	0.00	0.05	0.00	2.46	2.00	0.00	0.00	0.05	0.00
2.62	2.00	0.00	0.00	0.05	0.00	2.79	2.00	0.00	0.00	0.05	0.00
2.95	2.00	0.00	0.00	0.05	0.00	3.12	2.00	0.00	0.00	0.05	0.00
3.28	2.00	0.00	0.00	0.05	0.00	3.44	2.00	0.00	0.00	0.05	0.00
3.61	2.00	0.00	0.00	0.05	0.00	3.77	2.00	0.00	0.00	0.05	0.00
3.94	2.00	0.00	0.00	0.05	0.00	4.10	2.00	0.00	0.00	0.05	0.00
4.27	2.00	0.00	0.00	0.05	0.00	4.43	2.00	0.00	0.00	0.05	0.00
4.59	2.00	0.00	0.00	0.05	0.00	4.76	2.00	0.00	0.00	0.05	0.00
4.92	2.00	0.00	0.00	0.05	0.00	5.09	2.00	0.00	0.00	0.05	0.00
5.25	2.00	0.00	0.00	0.05	0.00	5.41	2.00	0.00	0.00	0.05	0.00
5.58	2.00	0.00	0.00	0.05	0.00	5.74	2.00	0.00	0.00	0.05	0.00
5.91	2.00	0.00	0.00	0.05	0.00	6.07	2.00	0.00	0.00	0.05	0.00
6.23	2.00	0.00	0.00	0.05	0.00	6.40	2.00	0.00	0.00	0.05	0.00
6.56	2.00	0.00	0.00	0.05	0.00	6.73	2.00	0.00	0.00	0.05	0.00
6.89	2.00	0.00	0.00	0.05	0.00	7.05	2.00	0.00	0.00	0.05	0.00
7.22	2.00	0.00	0.00	0.05	0.00	7.38	2.00	0.00	0.00	0.05	0.00
7.55	2.00	0.00	0.00	0.05	0.00	7.71	2.00	0.00	0.00	0.05	0.00
7.87	2.00	0.00	0.00	0.05	0.00	8.04	2.00	0.00	0.00	0.05	0.00
8.20	2.00	0.00	0.00	0.05	0.00	8.37	2.00	0.00	0.00	0.05	0.00
8.53	2.00	0.00	0.00	0.05	0.00	8.69	2.00	0.00	0.00	0.05	0.00
8.86	2.00	0.00	0.00	0.05	0.00	9.02	2.00	0.00	0.00	0.05	0.00
9.19	2.00	0.00	0.00	0.05	0.00	9.35	2.00	0.00	0.00	0.05	0.00
9.51	2.00	0.00	0.00	0.05	0.00	9.68	2.00	0.00	0.00	0.05	0.00
9.84	2.00	0.00	0.00	0.05	0.00	10.01	2.00	0.00	0.00	0.05	0.00
10.17	2.00	0.00	0.00	0.05	0.00	10.33	2.00	0.00	0.00	0.05	0.00
10.50	2.00	0.00	0.00	0.05	0.00	10.66	2.00	0.00	0.00	0.05	0.00
10.83	2.00	0.00	0.00	0.05	0.00	10.99	2.00	0.00	0.00	0.05	0.00
11.15	2.00	0.00	0.00	0.05	0.00	11.32	2.00	0.00	0.00	0.05	0.00
11.48	2.00	0.00	0.00	0.05	0.00	11.65	2.00	0.00	0.00	0.05	0.00
11.81	2.00	0.00	0.00	0.05	0.00	11.98	2.00	0.00	0.00	0.05	0.00
12.14	2.00	0.00	0.00	0.05	0.00	12.30	2.00	0.00	0.00	0.05	0.00
12.47	2.00	0.00	0.00	0.05	0.00	12.63	2.00	0.00	0.00	0.05	0.00
12.80	2.00	0.00	0.00	0.05	0.00	12.96	2.00	0.00	0.00	0.05	0.00
13.12	2.00	0.00	0.00	0.05	0.00	13.29	2.00	0.00	0.00	0.05	0.00
13.45	2.00	0.00	0.00	0.05	0.00	13.62	2.00	0.00	0.00	0.05	0.00
13.78	2.00	0.00	0.00	0.05	0.00	13.94	2.00	0.00	0.00	0.05	0.00
14.11	2.00	0.00	0.00	0.05	0.00	14.27	2.00	0.00	0.00	0.05	0.00
14.44	2.00	0.00	0.00	0.05	0.00	14.60	2.00	0.00	0.00	0.05	0.00
14.76	2.00	0.00	0.00	0.05	0.00	14.93	2.00	0.00	0.00	0.05	0.00
15.09	2.00	0.00	0.00	0.05	0.00	15.26	2.00	0.00	0.00	0.05	0.00
15.42	2.00	0.00	0.00	0.05	0.00	15.58	2.00	0.00	0.00	0.05	0.00
15.75	2.00	0.00	0.00	0.05	0.00	15.91	2.00	0.00	0.00	0.05	0.00
16.08	2.00	0.00	0.00	0.05	0.00	16.24	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
16.40	2.00	0.00	0.00	0.05	0.00	16.57	2.00	0.00	0.00	0.05	0.00
16.73	2.00	0.00	0.00	0.05	0.00	16.90	2.00	0.00	0.00	0.05	0.00
17.06	2.00	0.00	0.00	0.05	0.00	17.22	2.00	0.00	0.00	0.05	0.00
17.39	2.00	0.00	0.00	0.05	0.00	17.55	2.00	0.00	0.00	0.05	0.00
17.72	2.00	0.00	0.00	0.05	0.00	17.88	2.00	0.00	0.00	0.05	0.00
18.04	2.00	0.00	0.00	0.05	0.00	18.21	2.00	0.00	0.00	0.05	0.00
18.37	2.00	0.00	0.00	0.05	0.00	18.54	2.00	0.00	0.00	0.05	0.00
18.70	2.00	0.00	0.00	0.05	0.00	18.86	2.00	0.00	0.00	0.05	0.00
19.03	2.00	0.00	0.00	0.05	0.00	19.19	2.00	0.00	0.00	0.05	0.00
19.36	2.00	0.00	0.00	0.05	0.00	19.52	2.00	0.00	0.00	0.05	0.00
19.69	2.00	0.00	0.00	0.05	0.00	19.85	2.00	0.00	0.00	0.05	0.00
20.01	2.00	0.00	0.00	0.05	0.00	20.18	2.00	0.00	0.00	0.05	0.00
20.34	2.00	0.00	0.00	0.05	0.00	20.51	2.00	0.00	0.00	0.05	0.00
20.67	2.00	0.00	0.00	0.05	0.00	20.83	2.00	0.00	0.00	0.05	0.00
21.00	2.00	0.00	0.00	0.05	0.00	21.16	2.00	0.00	0.00	0.05	0.00
21.33	2.00	0.00	0.00	0.05	0.00	21.49	0.42	0.00	0.00	0.05	0.19
21.65	0.61	0.00	0.00	0.05	0.13	21.82	0.50	0.00	0.00	0.05	0.17
21.98	0.37	0.00	0.00	0.05	0.20	22.15	0.72	0.00	0.00	0.05	0.10
22.31	0.65	0.00	0.00	0.05	0.11	22.47	0.40	0.00	0.00	0.05	0.19
22.64	2.00	0.00	0.00	0.05	0.00	22.80	1.99	0.00	0.00	0.05	0.00
22.97	1.36	0.00	0.00	0.05	0.00	23.13	1.04	0.00	0.00	0.05	0.00
23.29	0.89	0.00	0.00	0.05	0.04	23.46	0.85	0.00	0.00	0.05	0.05
23.62	0.84	0.00	0.00	0.05	0.05	23.79	0.85	0.00	0.00	0.05	0.05
23.95	0.88	0.00	0.00	0.05	0.04	24.11	0.92	0.00	0.00	0.05	0.03
24.28	0.94	0.00	0.00	0.05	0.02	24.44	0.95	0.00	0.00	0.05	0.01
24.61	0.96	0.00	0.00	0.05	0.01	24.77	0.97	0.00	0.00	0.05	0.01
24.93	1.00	0.00	0.00	0.05	0.00	25.10	1.04	0.00	0.00	0.05	0.00
25.26	1.10	0.00	0.00	0.05	0.00	25.43	1.18	0.00	0.00	0.05	0.00
25.59	1.38	0.00	0.00	0.05	0.00	25.75	1.67	0.00	0.00	0.05	0.00
25.92	1.76	0.00	0.00	0.05	0.00	26.08	1.59	0.00	0.00	0.05	0.00
26.25	1.36	0.00	0.00	0.05	0.00	26.41	2.00	0.00	0.00	0.05	0.00
26.57	2.00	0.00	0.00	0.05	0.00	26.74	2.00	0.00	0.00	0.05	0.00
26.90	2.00	0.00	0.00	0.05	0.00	27.07	2.00	0.00	0.00	0.05	0.00
27.23	2.00	0.00	0.00	0.05	0.00	27.40	2.00	0.00	0.00	0.05	0.00
27.56	2.00	0.00	0.00	0.05	0.00	27.72	2.00	0.00	0.00	0.05	0.00
27.89	1.18	0.00	0.00	0.05	0.00	28.05	0.82	0.00	0.00	0.05	0.05
28.22	0.63	0.00	0.00	0.05	0.11	28.38	0.59	0.00	0.00	0.05	0.11
28.54	0.49	0.00	0.00	0.05	0.14	28.71	0.48	0.00	0.00	0.05	0.15
28.87	0.57	0.00	0.00	0.05	0.12	29.04	0.61	0.00	0.00	0.05	0.11
29.20	0.58	0.00	0.00	0.05	0.11	29.36	0.52	0.00	0.00	0.05	0.13
29.53	0.49	0.00	0.00	0.05	0.15	29.69	0.40	0.60	0.38	0.16	0.16
29.86	0.83	0.00	0.00	0.05	0.05	30.02	2.00	0.00	0.00	0.05	0.00
30.18	2.00	0.00	0.00	0.05	0.00	30.35	2.00	0.00	0.00	0.05	0.00
30.51	2.00	0.00	0.00	0.05	0.00	30.68	2.00	0.00	0.00	0.05	0.00
30.84	1.86	0.00	0.00	0.05	0.00	31.00	1.08	0.00	0.00	0.05	0.00
31.17	1.36	0.00	0.00	0.05	0.00	31.33	2.00	0.00	0.00	0.05	0.00
31.50	2.00	0.00	0.00	0.05	0.00	31.66	2.00	0.00	0.00	0.05	0.00
31.82	2.00	0.00	0.00	0.05	0.00	31.99	1.22	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
32.15	0.72	0.00	0.00	0.05	0.07	32.32	0.48	0.00	0.00	0.05	0.14
32.48	0.45	0.00	0.00	0.05	0.14	32.64	0.44	0.56	0.42	0.16	0.14
32.81	2.00	0.00	0.00	0.05	0.00	32.97	2.00	0.00	0.00	0.05	0.00
33.14	1.75	0.00	0.00	0.05	0.00	33.30	2.00	0.00	0.00	0.05	0.00
33.46	0.79	0.00	0.00	0.05	0.05	33.63	2.00	0.00	0.00	0.05	0.00
33.79	2.00	0.00	0.00	0.05	0.00	33.96	0.33	0.67	0.34	0.17	0.17
34.12	2.00	0.00	0.00	0.05	0.00	34.28	2.00	0.00	0.00	0.05	0.00
34.45	2.00	0.00	0.00	0.05	0.00	34.61	2.00	0.00	0.00	0.05	0.00
34.78	0.22	0.78	0.29	0.17	0.19	34.94	2.00	0.00	0.00	0.05	0.00
35.10	2.00	0.00	0.00	0.05	0.00	35.27	2.00	0.00	0.00	0.05	0.00
35.43	2.00	0.00	0.00	0.05	0.00	35.60	2.00	0.00	0.00	0.05	0.00
35.76	2.00	0.00	0.00	0.05	0.00	35.93	2.00	0.00	0.00	0.05	0.00
36.09	2.00	0.00	0.00	0.05	0.00	36.25	2.00	0.00	0.00	0.05	0.00
36.42	2.00	0.00	0.00	0.05	0.00	36.58	2.00	0.00	0.00	0.05	0.00
36.75	2.00	0.00	0.00	0.05	0.00	36.91	2.00	0.00	0.00	0.05	0.00
37.07	2.00	0.00	0.00	0.05	0.00	37.24	2.00	0.00	0.00	0.05	0.00
37.40	2.00	0.00	0.00	0.05	0.00	37.57	2.00	0.00	0.00	0.05	0.00
37.73	2.00	0.00	0.00	0.05	0.00	37.89	2.00	0.00	0.00	0.05	0.00
38.06	2.00	0.00	0.00	0.05	0.00	38.22	2.00	0.00	0.00	0.05	0.00
38.39	2.00	0.00	0.00	0.05	0.00	38.55	2.00	0.00	0.00	0.05	0.00
38.71	2.00	0.00	0.00	0.05	0.00	38.88	2.00	0.00	0.00	0.05	0.00
39.04	2.00	0.00	0.00	0.05	0.00	39.21	2.00	0.00	0.00	0.05	0.00
39.37	2.00	0.00	0.00	0.05	0.00	39.53	2.00	0.00	0.00	0.05	0.00
39.70	2.00	0.00	0.00	0.05	0.00	39.86	2.00	0.00	0.00	0.05	0.00
40.03	2.00	0.00	0.00	0.05	0.00	40.19	2.00	0.00	0.00	0.05	0.00
40.35	2.00	0.00	0.00	0.05	0.00	40.52	2.00	0.00	0.00	0.05	0.00
40.68	2.00	0.00	0.00	0.05	0.00	40.85	2.00	0.00	0.00	0.05	0.00
41.01	0.43	0.57	0.41	0.16	0.10	41.17	0.62	0.00	0.00	0.05	0.07
41.34	0.55	0.00	0.00	0.05	0.09	41.50	0.56	0.00	0.00	0.05	0.08
41.67	0.52	0.00	0.00	0.05	0.09	41.83	0.62	0.00	0.00	0.05	0.07
41.99	0.76	0.00	0.00	0.05	0.04	42.16	0.92	0.00	0.00	0.05	0.01
42.32	1.02	0.00	0.00	0.05	0.00	42.49	0.85	0.00	0.00	0.05	0.03
42.65	0.55	0.00	0.00	0.05	0.08	42.81	0.39	0.61	0.38	0.16	0.10
42.98	0.59	0.00	0.00	0.05	0.07	43.14	2.00	0.00	0.00	0.05	0.00
43.31	2.00	0.00	0.00	0.05	0.00	43.47	2.00	0.00	0.00	0.05	0.00
43.64	2.00	0.00	0.00	0.05	0.00	43.80	2.00	0.00	0.00	0.05	0.00
43.96	2.00	0.00	0.00	0.05	0.00	44.13	2.00	0.00	0.00	0.05	0.00
44.29	2.00	0.00	0.00	0.05	0.00	44.46	2.00	0.00	0.00	0.05	0.00
44.62	2.00	0.00	0.00	0.05	0.00	44.78	2.00	0.00	0.00	0.05	0.00
44.95	2.00	0.00	0.00	0.05	0.00	45.11	2.00	0.00	0.00	0.05	0.00
45.28	2.00	0.00	0.00	0.05	0.00	45.44	2.00	0.00	0.00	0.05	0.00
45.60	2.00	0.00	0.00	0.05	0.00	45.77	2.00	0.00	0.00	0.05	0.00
45.93	2.00	0.00	0.00	0.05	0.00	46.10	1.30	0.00	0.00	0.05	0.00
46.26	0.80	0.00	0.00	0.05	0.03	46.42	0.63	0.00	0.00	0.05	0.05
46.59	0.59	0.00	0.00	0.05	0.06	46.75	0.56	0.00	0.00	0.05	0.06
46.92	0.54	0.00	0.00	0.05	0.07	47.08	0.55	0.00	0.00	0.05	0.06
47.24	0.56	0.00	0.00	0.05	0.06	47.41	0.62	0.00	0.00	0.05	0.05
47.57	0.74	0.00	0.00	0.05	0.04	47.74	0.89	0.00	0.00	0.05	0.01

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
47.90	1.08	0.00	0.00	0.05	0.00	48.06	1.22	0.00	0.00	0.05	0.00
48.23	1.33	0.00	0.00	0.05	0.00	48.39	1.53	0.00	0.00	0.05	0.00
48.56	1.83	0.00	0.00	0.05	0.00	48.72	2.00	0.00	0.00	0.05	0.00
48.88	2.00	0.00	0.00	0.05	0.00	49.05	2.00	0.00	0.00	0.05	0.00
49.21	1.52	0.00	0.00	0.05	0.00	49.38	1.20	0.00	0.00	0.05	0.00
49.54	1.13	0.00	0.00	0.05	0.00	49.70	1.07	0.00	0.00	0.05	0.00
49.87	1.01	0.00	0.00	0.05	0.00	50.03	2.00	0.00	0.00	0.05	0.00
50.20	2.00	0.00	0.00	0.05	0.00	50.36	2.00	0.00	0.00	0.05	0.00
50.52	2.00	0.00	0.00	0.05	0.00	50.69	2.00	0.00	0.00	0.05	0.00
50.85	2.00	0.00	0.00	0.05	0.00	51.02	2.00	0.00	0.00	0.05	0.00
51.18	2.00	0.00	0.00	0.05	0.00	51.35	2.00	0.00	0.00	0.05	0.00
51.51	2.00	0.00	0.00	0.05	0.00	51.67	2.00	0.00	0.00	0.05	0.00
51.84	2.00	0.00	0.00	0.05	0.00	52.00	2.00	0.00	0.00	0.05	0.00
52.17	2.00	0.00	0.00	0.05	0.00	52.33	2.00	0.00	0.00	0.05	0.00
52.49	2.00	0.00	0.00	0.05	0.00	52.66	2.00	0.00	0.00	0.05	0.00
52.82	2.00	0.00	0.00	0.05	0.00	52.99	2.00	0.00	0.00	0.05	0.00
53.15	2.00	0.00	0.00	0.05	0.00	53.31	2.00	0.00	0.00	0.05	0.00
53.48	2.00	0.00	0.00	0.05	0.00	53.64	2.00	0.00	0.00	0.05	0.00
53.81	2.00	0.00	0.00	0.05	0.00	53.97	2.00	0.00	0.00	0.05	0.00
54.13	2.00	0.00	0.00	0.05	0.00	54.30	2.00	0.00	0.00	0.05	0.00
54.46	2.00	0.00	0.00	0.05	0.00	54.63	2.00	0.00	0.00	0.05	0.00
54.79	2.00	0.00	0.00	0.05	0.00	54.95	2.00	0.00	0.00	0.05	0.00
55.12	2.00	0.00	0.00	0.05	0.00	55.28	2.00	0.00	0.00	0.05	0.00
55.45	2.00	0.00	0.00	0.05	0.00	55.61	2.00	0.00	0.00	0.05	0.00
55.77	2.00	0.00	0.00	0.05	0.00	55.94	2.00	0.00	0.00	0.05	0.00
56.10	2.00	0.00	0.00	0.05	0.00	56.27	2.00	0.00	0.00	0.05	0.00
56.43	2.00	0.00	0.00	0.05	0.00	56.59	2.00	0.00	0.00	0.05	0.00
56.76	2.00	0.00	0.00	0.05	0.00	56.92	2.00	0.00	0.00	0.05	0.00
57.09	2.00	0.00	0.00	0.05	0.00	57.25	2.00	0.00	0.00	0.05	0.00
57.41	2.00	0.00	0.00	0.05	0.00	57.58	2.00	0.00	0.00	0.05	0.00
57.74	2.00	0.00	0.00	0.05	0.00	57.91	2.00	0.00	0.00	0.05	0.00
58.07	2.00	0.00	0.00	0.05	0.00	58.23	2.00	0.00	0.00	0.05	0.00
58.40	2.00	0.00	0.00	0.05	0.00	58.56	2.00	0.00	0.00	0.05	0.00
58.73	2.00	0.00	0.00	0.05	0.00	58.89	2.00	0.00	0.00	0.05	0.00
59.06	2.00	0.00	0.00	0.05	0.00	59.22	2.00	0.00	0.00	0.05	0.00
59.38	2.00	0.00	0.00	0.05	0.00	59.55	2.00	0.00	0.00	0.05	0.00
59.71	2.00	0.00	0.00	0.05	0.00	59.88	2.00	0.00	0.00	0.05	0.00
60.04	2.00	0.00	0.00	0.05	0.00	60.20	2.00	0.00	0.00	0.05	0.00
60.37	2.00	0.00	0.00	0.05	0.00	60.53	2.00	0.00	0.00	0.05	0.00
60.70	2.00	0.00	0.00	0.05	0.00	60.86	2.00	0.00	0.00	0.05	0.00
61.02	2.00	0.00	0.00	0.05	0.00	61.19	2.00	0.00	0.00	0.05	0.00
61.35	2.00	0.00	0.00	0.05	0.00	61.52	2.00	0.00	0.00	0.05	0.00
61.68	2.00	0.00	0.00	0.05	0.00	61.84	2.00	0.00	0.00	0.05	0.00
62.01	2.00	0.00	0.00	0.05	0.00	62.17	2.00	0.00	0.00	0.05	0.00
62.34	2.00	0.00	0.00	0.05	0.00	62.50	2.00	0.00	0.00	0.05	0.00
62.66	2.00	0.00	0.00	0.05	0.00	62.83	2.00	0.00	0.00	0.05	0.00
62.99	2.00	0.00	0.00	0.05	0.00	63.16	2.00	0.00	0.00	0.05	0.00
63.32	2.00	0.00	0.00	0.05	0.00	63.48	2.00	0.00	0.00	0.05	0.00

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}	Depth (ft)	FS	m(FS)	H_1*m(FS)	d_z	LPI_{ISH}
63.65	2.00	0.00	0.00	0.05	0.00	63.81	2.00	0.00	0.00	0.05	0.00
63.98	2.00	0.00	0.00	0.05	0.00	64.14	2.00	0.00	0.00	0.05	0.00
64.30	2.00	0.00	0.00	0.05	0.00	64.47	2.00	0.00	0.00	0.05	0.00
64.63	2.00	0.00	0.00	0.05	0.00	64.80	2.00	0.00	0.00	0.05	0.00
64.96	2.00	0.00	0.00	0.05	0.00	65.12	2.00	0.00	0.00	0.05	0.00
65.29	2.00	0.00	0.00	0.05	0.00	65.45	2.00	0.00	0.00	0.05	0.00
65.62	2.00	0.00	0.00	0.05	0.00	65.78	2.00	0.00	0.00	0.05	0.00
65.94	2.00	0.00	0.00	0.05	0.00	66.11	2.00	0.00	0.00	0.05	0.00
66.27	2.00	0.00	0.00	0.05	0.00	66.44	2.00	0.00	0.00	0.05	0.00
66.60	2.00	0.00	0.00	0.05	0.00	66.77	2.00	0.00	0.00	0.05	0.00
66.93	2.00	0.00	0.00	0.05	0.00	67.09	2.00	0.00	0.00	0.05	0.00
67.26	2.00	0.00	0.00	0.05	0.00	67.42	2.00	0.00	0.00	0.05	0.00
67.59	2.00	0.00	0.00	0.05	0.00	67.75	2.00	0.00	0.00	0.05	0.00
67.91	2.00	0.00	0.00	0.05	0.00	68.08	2.00	0.00	0.00	0.05	0.00
68.24	2.00	0.00	0.00	0.05	0.00	68.41	2.00	0.00	0.00	0.05	0.00
68.57	2.00	0.00	0.00	0.05	0.00	68.73	2.00	0.00	0.00	0.05	0.00
68.90	2.00	0.00	0.00	0.05	0.00	69.06	2.00	0.00	0.00	0.05	0.00
69.23	2.00	0.00	0.00	0.05	0.00	69.39	2.00	0.00	0.00	0.05	0.00
69.55	2.00	0.00	0.00	0.05	0.00	69.72	2.00	0.00	0.00	0.05	0.00
69.88	2.00	0.00	0.00	0.05	0.00	70.05	2.00	0.00	0.00	0.05	0.00
70.21	2.00	0.00	0.00	0.05	0.00	70.37	2.00	0.00	0.00	0.05	0.00
70.54	2.00	0.00	0.00	0.05	0.00	70.70	2.00	0.00	0.00	0.05	0.00
70.87	2.00	0.00	0.00	0.05	0.00	71.03	2.00	0.00	0.00	0.05	0.00
71.19	2.00	0.00	0.00	0.05	0.00	71.36	2.00	0.00	0.00	0.05	0.00
71.52	2.00	0.00	0.00	0.05	0.00	71.69	2.00	0.00	0.00	0.05	0.00
71.85	2.00	0.00	0.00	0.05	0.00	72.01	2.00	0.00	0.00	0.05	0.00
72.18	2.00	0.00	0.00	0.05	0.00	72.34	2.00	0.00	0.00	0.05	0.00
72.51	2.00	0.00	0.00	0.05	0.00	72.67	2.00	0.00	0.00	0.05	0.00
72.83	2.00	0.00	0.00	0.05	0.00	73.00	2.00	0.00	0.00	0.05	0.00
73.16	2.00	0.00	0.00	0.05	0.00	73.33	2.00	0.00	0.00	0.05	0.00
73.49	2.00	0.00	0.00	0.05	0.00	73.65	2.00	0.00	0.00	0.05	0.00
73.82	2.00	0.00	0.00	0.05	0.00	73.98	2.00	0.00	0.00	0.05	0.00
74.15	2.00	0.00	0.00	0.05	0.00	74.31	2.00	0.00	0.00	0.05	0.00

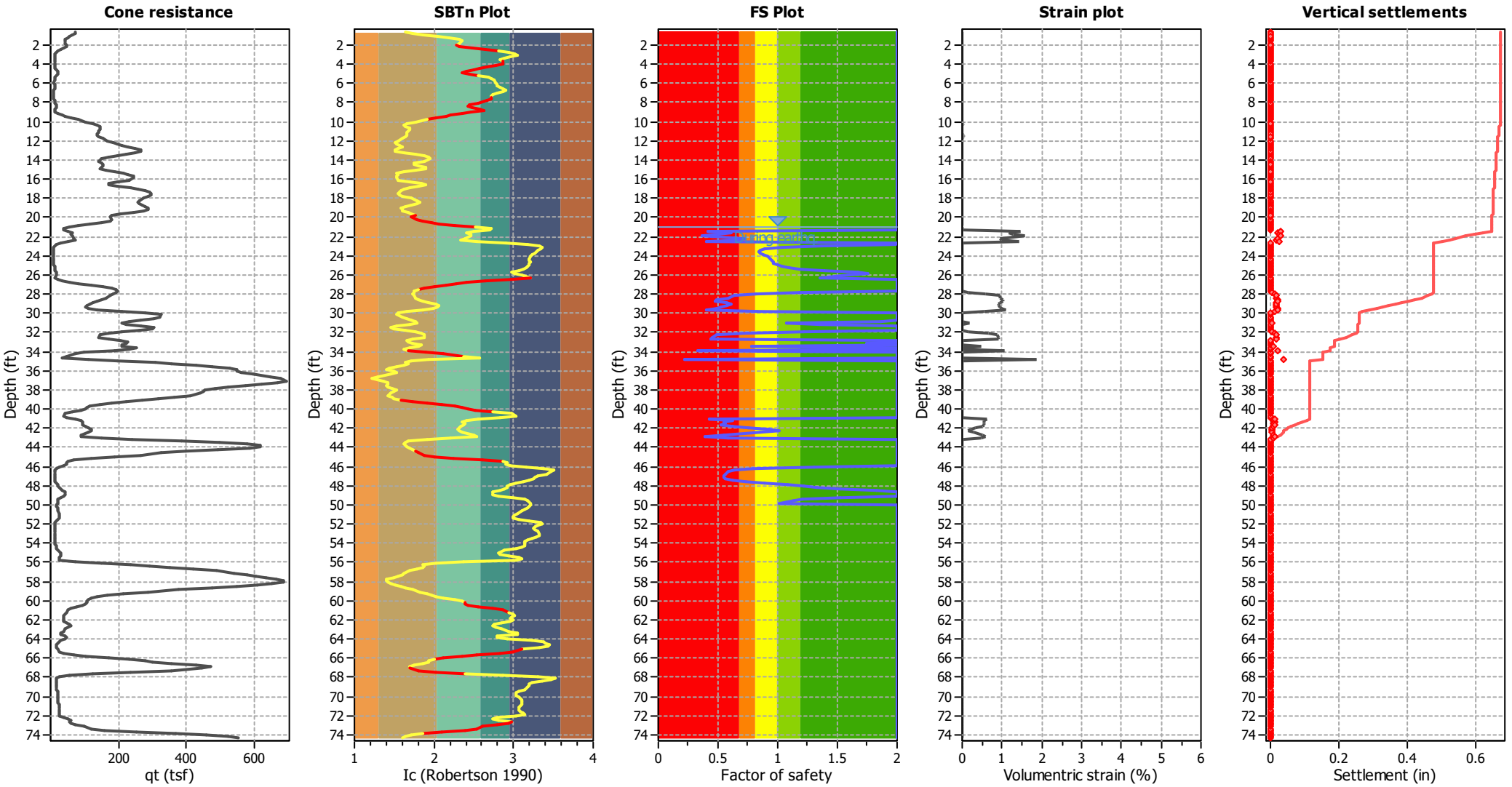
Overall liquefaction potential: 5.02

LPI_{ISH} > 5.0 - Liquefaction manifestation is expected

Abbreviations

FS: Calculated factor of safety for test point
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

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

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.66	1.64	142.80	1.00	142.39	26	543	0.36	0.003	0.00	11.65	0.00	0.000
0.82	1.73	135.51	1.06	143.39	27	577	0.36	0.004	0.00	11.65	0.00	0.000
0.98	1.87	125.84	1.16	145.72	29	636	0.36	0.004	0.00	11.65	0.00	0.000
1.15	2.04	105.57	1.36	143.29	30	666	0.35	0.005	0.00	11.65	0.00	0.000
1.31	2.18	95.72	1.62	154.99	35	721	0.35	0.005	0.00	11.65	0.00	0.000
1.48	2.32	83.07	2.01	167.25	40	746	0.35	0.006	0.00	11.65	0.00	0.000
1.64	2.36	82.28	2.14	176.30	43	774	0.35	0.006	0.00	11.65	0.00	0.000
1.80	2.32	84.67	2.01	170.36	40	760	0.35	0.007	0.00	11.65	0.00	0.000
1.97	2.28	90.18	1.89	170.46	40	772	0.35	0.008	0.00	11.65	0.00	0.000
2.13	2.33	89.86	2.03	182.70	0	0	0.35	0.000	0.00	0.00	0.00	0.000
2.30	2.47	77.20	2.64	203.45	0	0	0.35	0.000	0.00	0.00	0.00	0.000
2.46	2.64	60.27	3.61	217.70	0	0	0.36	0.000	0.00	0.00	0.00	0.000
2.62	2.81	44.01	4.86	213.68	0	0	0.36	0.000	0.00	0.00	0.00	0.000
2.79	2.95	32.75	6.16	201.60	0	0	0.37	0.000	0.00	0.00	0.00	0.000
2.95	3.02	26.58	6.95	184.64	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.12	3.04	23.78	7.24	172.23	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.28	2.96	25.38	6.35	161.15	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.44	2.88	27.04	5.50	148.78	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.61	2.83	27.63	5.02	138.66	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.77	2.86	24.81	5.33	132.13	0	0	0.37	0.000	0.00	0.00	0.00	0.000
3.94	2.87	23.61	5.40	127.51	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.10	2.78	25.37	4.60	116.80	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.27	2.67	27.40	3.81	104.30	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.43	2.58	29.10	3.18	92.65	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.59	2.50	32.65	2.76	90.18	0	0	0.37	0.000	0.00	0.00	0.00	0.000
4.76	2.41	38.94	2.35	91.63	0	0	0.36	0.000	0.00	0.00	0.00	0.000
4.92	2.36	42.84	2.17	92.81	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.09	2.44	40.65	2.48	100.88	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.25	2.56	34.76	3.09	107.34	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.41	2.69	29.30	3.94	115.33	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.58	2.73	25.42	4.18	106.34	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.74	2.76	22.57	4.48	101.11	0	0	0.36	0.000	0.00	0.00	0.00	0.000
5.91	2.77	21.60	4.52	97.54	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.07	2.80	22.17	4.78	105.90	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.23	2.80	23.66	4.76	112.61	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.40	2.82	24.09	4.99	120.08	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.56	2.87	23.09	5.38	124.14	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.73	2.90	21.42	5.68	121.73	0	0	0.36	0.000	0.00	0.00	0.00	0.000
6.89	2.87	20.76	5.41	112.33	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.05	2.80	20.66	4.78	98.75	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.22	2.74	20.37	4.33	88.32	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.38	2.72	20.11	4.17	83.88	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.55	2.72	19.96	4.16	83.01	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.71	2.72	20.10	4.15	83.42	0	0	0.36	0.000	0.00	0.00	0.00	0.000
7.87	2.67	21.76	3.76	81.77	0	0	0.36	0.000	0.00	0.00	0.00	0.000
8.04	2.55	25.74	3.06	78.79	0	0	0.36	0.000	0.00	0.00	0.00	0.000
8.20	2.45	29.14	2.53	73.72	0	0	0.36	0.000	0.00	0.00	0.00	0.000
8.37	2.42	30.61	2.39	73.05	0	0	0.36	0.000	0.00	0.00	0.00	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
8.53	2.47	28.24	2.64	74.54	0	0	0.36	0.000	0.00	0.00	0.00	0.000
8.69	2.57	24.35	3.13	76.20	0	0	0.36	0.000	0.00	0.00	0.00	0.000
8.86	2.63	21.51	3.53	76.01	0	0	0.36	0.000	0.00	0.00	0.00	0.000
9.02	2.47	26.43	2.63	69.60	0	0	0.36	0.000	0.00	0.00	0.00	0.000
9.19	2.36	36.56	2.14	78.28	0	0	0.36	0.000	0.00	0.00	0.00	0.000
9.35	2.21	52.04	1.70	88.48	0	0	0.36	0.000	0.00	0.00	0.00	0.000
9.51	2.16	67.61	1.57	106.23	0	0	0.35	0.000	0.00	0.00	0.00	0.000
9.68	2.03	87.57	1.34	117.60	0	0	0.35	0.000	0.00	0.00	0.00	0.000
9.84	1.91	113.76	1.19	135.84	0	0	0.35	0.000	0.00	0.00	0.00	0.000
10.01	1.77	136.78	1.09	148.86	0	0	0.34	0.000	0.00	0.00	0.00	0.000
10.17	1.66	160.35	1.01	162.22	30	922	0.34	0.045	0.03	11.65	0.02	0.001
10.33	1.63	172.07	1.00	172.07	31	961	0.32	0.042	0.02	11.65	0.02	0.001
10.50	1.64	184.43	1.00	184.27	34	1058	0.33	0.035	0.02	11.65	0.01	0.001
10.66	1.70	183.47	1.03	189.80	35	1120	0.32	0.033	0.02	11.65	0.01	0.000
10.83	1.70	181.26	1.04	187.65	35	1118	0.33	0.033	0.02	11.65	0.01	0.001
10.99	1.68	175.92	1.02	179.73	33	1070	0.33	0.037	0.02	11.65	0.01	0.001
11.15	1.66	170.80	1.01	173.17	32	1035	0.33	0.040	0.02	11.65	0.02	0.001
11.32	1.66	167.45	1.01	169.76	31	1023	0.33	0.042	0.02	11.65	0.02	0.001
11.48	1.66	166.21	1.01	167.44	31	1013	0.33	0.044	0.03	11.65	0.02	0.001
11.65	1.64	170.38	1.00	170.38	31	1023	0.33	0.044	0.03	11.65	0.02	0.001
11.81	1.60	180.35	1.00	180.35	33	1051	0.33	0.043	0.02	11.65	0.02	0.001
11.98	1.55	192.12	1.00	192.12	34	1070	0.31	0.042	0.02	11.65	0.02	0.001
12.14	1.51	211.06	1.00	211.06	37	1129	0.31	0.039	0.02	11.65	0.01	0.001
12.30	1.53	223.58	1.00	223.58	39	1231	0.31	0.034	0.01	11.65	0.01	0.000
12.47	1.57	240.68	1.00	240.68	43	1398	0.31	0.028	0.01	11.65	0.01	0.000
12.63	1.60	254.74	1.00	254.74	46	1529	0.31	0.024	0.01	11.65	0.01	0.000
12.80	1.55	276.84	1.00	276.84	49	1593	0.31	0.023	0.01	11.65	0.01	0.000
12.96	1.52	295.08	1.00	295.08	52	1640	0.31	0.023	0.01	11.65	0.01	0.000
13.12	1.52	292.74	1.00	292.74	51	1644	0.31	0.023	0.01	11.65	0.01	0.000
13.29	1.63	276.49	1.00	276.49	50	1773	0.31	0.021	0.01	11.65	0.00	0.000
13.45	1.76	248.49	1.08	268.63	51	1871	0.31	0.020	0.01	11.65	0.00	0.000
13.62	1.88	220.75	1.17	257.86	51	1910	0.31	0.019	0.01	11.65	0.00	0.000
13.78	1.94	191.03	1.23	234.92	48	1794	0.31	0.022	0.01	11.65	0.01	0.000
13.94	1.95	164.47	1.24	204.21	42	1576	0.31	0.026	0.01	11.65	0.01	0.000
14.11	1.87	156.12	1.16	181.84	36	1376	0.33	0.034	0.02	11.65	0.01	0.000
14.27	1.76	159.57	1.08	171.82	33	1236	0.33	0.041	0.02	11.65	0.02	0.001
14.44	1.74	165.01	1.07	175.84	33	1263	0.32	0.040	0.02	11.65	0.01	0.001
14.60	1.81	165.37	1.12	184.54	36	1386	0.32	0.035	0.02	11.65	0.01	0.000
14.76	1.89	157.39	1.18	185.33	37	1453	0.31	0.032	0.02	11.65	0.01	0.000
14.93	1.90	154.53	1.19	183.25	37	1453	0.32	0.033	0.02	11.65	0.01	0.000
15.09	1.76	169.70	1.08	183.25	35	1366	0.33	0.037	0.02	11.65	0.01	0.000
15.26	1.62	192.83	1.00	192.83	35	1318	0.31	0.040	0.02	11.65	0.01	0.001
15.42	1.52	218.05	1.00	218.05	38	1334	0.31	0.040	0.02	11.65	0.01	0.000
15.58	1.55	229.81	1.00	229.81	41	1454	0.31	0.035	0.01	11.65	0.01	0.000
15.75	1.53	243.42	1.00	243.42	43	1507	0.31	0.033	0.01	11.65	0.01	0.000
15.91	1.52	244.32	1.00	244.32	43	1516	0.31	0.033	0.01	11.65	0.01	0.000
16.08	1.54	230.41	1.00	230.41	41	1473	0.31	0.036	0.02	11.65	0.01	0.000
16.24	1.69	196.50	1.03	202.53	38	1512	0.31	0.034	0.02	11.65	0.01	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
16.40	1.84	169.18	1.14	192.95	38	1585	0.32	0.032	0.02	11.65	0.01	0.000
16.57	1.89	169.48	1.18	199.92	40	1692	0.31	0.030	0.01	11.65	0.01	0.000
16.73	1.81	193.64	1.11	215.26	42	1755	0.31	0.028	0.01	11.65	0.01	0.000
16.90	1.70	226.79	1.04	234.88	44	1803	0.31	0.028	0.01	11.65	0.01	0.000
17.06	1.63	249.08	1.00	249.08	45	1829	0.31	0.027	0.01	11.65	0.01	0.000
17.22	1.59	265.11	1.00	265.11	48	1861	0.31	0.027	0.01	11.65	0.01	0.000
17.39	1.56	276.09	1.00	276.09	49	1881	0.31	0.027	0.01	11.65	0.01	0.000
17.55	1.55	281.52	1.00	281.52	50	1896	0.30	0.027	0.01	11.65	0.01	0.000
17.72	1.57	278.81	1.00	278.81	50	1952	0.30	0.026	0.01	11.65	0.01	0.000
17.88	1.61	269.19	1.00	269.19	49	1987	0.30	0.026	0.01	11.65	0.01	0.000
18.04	1.71	254.15	1.04	265.00	50	2129	0.30	0.023	0.01	11.65	0.00	0.000
18.21	1.78	242.72	1.09	264.75	51	2238	0.30	0.022	0.01	11.65	0.00	0.000
18.37	1.83	235.96	1.13	265.83	52	2330	0.30	0.021	0.01	11.65	0.00	0.000
18.54	1.79	239.22	1.10	262.79	51	2264	0.30	0.022	0.01	11.65	0.00	0.000
18.70	1.72	246.13	1.05	259.03	49	2148	0.30	0.024	0.01	11.65	0.01	0.000
18.86	1.63	253.83	1.00	253.83	46	1988	0.30	0.027	0.01	11.65	0.01	0.000
19.03	1.59	260.08	1.00	260.08	47	1926	0.30	0.029	0.01	11.65	0.01	0.000
19.19	1.60	257.97	1.00	257.97	47	1961	0.30	0.028	0.01	11.65	0.01	0.000
19.36	1.61	245.16	1.00	245.16	44	1880	0.30	0.031	0.01	11.65	0.01	0.000
19.52	1.68	216.35	1.02	220.96	41	1825	0.30	0.032	0.01	11.65	0.01	0.000
19.69	1.71	180.20	1.05	188.54	35	1604	0.30	0.040	0.02	11.65	0.01	0.000
19.85	1.76	157.50	1.08	169.81	32	1499	0.32	0.046	0.03	11.65	0.02	0.001
20.01	1.72	153.09	1.05	160.51	0	0	0.32	0.000	0.00	0.00	0.00	0.000
20.18	1.78	156.13	1.10	170.98	0	0	0.31	0.000	0.00	0.00	0.00	0.000
20.34	1.86	150.17	1.15	173.13	0	0	0.31	0.000	0.00	0.00	0.00	0.000
20.51	1.98	127.08	1.27	161.47	0	0	0.30	0.000	0.00	0.00	0.00	0.000
20.67	2.06	97.98	1.39	135.88	0	0	0.32	0.000	0.00	0.00	0.00	0.000
20.83	2.27	65.23	1.86	121.11	0	0	0.33	0.000	0.00	0.00	0.00	0.000

Total estimated settlement: 0.02

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
21.00	102.19	2.00	0.00	0.64	0.00	21.16	33.92	2.00	0.00	0.64	0.00
21.33	31.14	2.00	0.00	0.64	0.00	21.49	103.32	0.42	1.45	0.64	0.03
21.65	131.61	0.61	1.18	0.63	0.02	21.82	118.36	0.50	1.28	0.63	0.03
21.98	91.45	0.37	1.58	0.63	0.03	22.15	140.64	0.72	0.95	0.62	0.02
22.31	135.99	0.65	0.99	0.62	0.02	22.47	101.13	0.40	1.43	0.62	0.03
22.64	22.86	2.00	0.00	0.62	0.00	22.80	15.61	1.99	0.00	0.61	0.00
22.97	11.29	1.36	0.00	0.61	0.00	23.13	8.32	1.04	0.00	0.61	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
23.29	8.06	0.89	0.00	0.61	0.00	23.46	7.78	0.85	0.00	0.60	0.00
23.62	7.65	0.84	0.00	0.60	0.00	23.79	7.86	0.85	0.00	0.60	0.00
23.95	8.07	0.88	0.00	0.59	0.00	24.11	8.39	0.92	0.00	0.59	0.00
24.28	8.84	0.94	0.00	0.59	0.00	24.44	8.82	0.95	0.00	0.59	0.00
24.61	8.72	0.96	0.00	0.58	0.00	24.77	9.09	0.97	0.00	0.58	0.00
24.93	9.13	1.00	0.00	0.58	0.00	25.10	9.60	1.04	0.00	0.57	0.00
25.26	10.14	1.10	0.00	0.57	0.00	25.43	10.71	1.18	0.00	0.57	0.00
25.59	11.74	1.38	0.00	0.57	0.00	25.75	15.33	1.67	0.00	0.56	0.00
25.92	18.10	1.76	0.00	0.56	0.00	26.08	14.06	1.59	0.00	0.56	0.00
26.25	11.18	1.36	0.00	0.56	0.00	26.41	12.36	2.00	0.00	0.55	0.00
26.57	28.09	2.00	0.00	0.55	0.00	26.74	99.62	2.00	0.00	0.55	0.00
26.90	128.44	2.00	0.00	0.54	0.00	27.07	149.18	2.00	0.00	0.54	0.00
27.23	193.28	2.00	0.00	0.54	0.00	27.40	174.64	2.00	0.00	0.54	0.00
27.56	162.13	2.00	0.00	0.53	0.00	27.72	163.92	2.00	0.00	0.53	0.00
27.89	163.29	1.18	0.15	0.53	0.00	28.05	150.37	0.82	0.59	0.52	0.01
28.22	138.42	0.63	0.93	0.52	0.02	28.38	134.90	0.59	0.95	0.52	0.02
28.54	123.64	0.49	1.01	0.52	0.02	28.71	122.31	0.48	1.02	0.51	0.02
28.87	133.15	0.57	0.94	0.51	0.02	29.04	137.35	0.61	0.91	0.51	0.02
29.20	134.18	0.58	0.93	0.51	0.02	29.36	127.94	0.52	0.96	0.50	0.02
29.53	124.35	0.49	0.98	0.50	0.02	29.69	108.73	0.40	1.08	0.50	0.02
29.86	151.34	0.83	0.55	0.49	0.01	30.02	254.00	2.00	0.00	0.49	0.00
30.18	254.00	2.00	0.00	0.49	0.00	30.35	254.00	2.00	0.00	0.49	0.00
30.51	254.00	2.00	0.00	0.48	0.00	30.68	226.00	2.00	0.00	0.48	0.00
30.84	176.92	1.86	0.00	0.48	0.00	31.00	161.18	1.08	0.19	0.47	0.00
31.17	168.44	1.36	0.00	0.47	0.00	31.33	215.16	2.00	0.00	0.47	0.00
31.50	254.00	2.00	0.00	0.47	0.00	31.66	254.00	2.00	0.00	0.46	0.00
31.82	209.04	2.00	0.00	0.46	0.00	31.99	165.37	1.22	0.13	0.46	0.00
32.15	146.10	0.72	0.65	0.46	0.01	32.32	124.98	0.48	0.88	0.45	0.02
32.48	119.67	0.45	0.91	0.45	0.02	32.64	118.10	0.44	0.91	0.45	0.02
32.81	182.89	2.00	0.00	0.44	0.00	32.97	192.45	2.00	0.00	0.44	0.00
33.14	175.73	1.75	0.00	0.44	0.00	33.30	184.55	2.00	0.00	0.44	0.00
33.46	150.20	0.79	0.49	0.43	0.01	33.63	179.82	2.00	0.00	0.43	0.00
33.79	254.00	2.00	0.00	0.43	0.00	33.96	92.24	0.33	1.06	0.42	0.02
34.12	93.74	2.00	0.00	0.42	0.00	34.28	100.67	2.00	0.00	0.42	0.00
34.45	92.77	2.00	0.00	0.42	0.00	34.61	72.50	2.00	0.00	0.41	0.00
34.78	44.08	0.22	1.88	0.41	0.04	34.94	231.61	2.00	0.00	0.41	0.00
35.10	226.33	2.00	0.00	0.41	0.00	35.27	254.00	2.00	0.00	0.40	0.00
35.43	254.00	2.00	0.00	0.40	0.00	35.60	254.00	2.00	0.00	0.40	0.00
35.76	254.00	2.00	0.00	0.39	0.00	35.93	254.00	2.00	0.00	0.39	0.00
36.09	254.00	2.00	0.00	0.39	0.00	36.25	254.00	2.00	0.00	0.39	0.00
36.42	254.00	2.00	0.00	0.38	0.00	36.58	254.00	2.00	0.00	0.38	0.00
36.75	254.00	2.00	0.00	0.38	0.00	36.91	254.00	2.00	0.00	0.37	0.00
37.07	254.00	2.00	0.00	0.37	0.00	37.24	254.00	2.00	0.00	0.37	0.00
37.40	254.00	2.00	0.00	0.37	0.00	37.57	254.00	2.00	0.00	0.36	0.00
37.73	254.00	2.00	0.00	0.36	0.00	37.89	254.00	2.00	0.00	0.36	0.00
38.06	254.00	2.00	0.00	0.35	0.00	38.22	254.00	2.00	0.00	0.35	0.00
38.39	254.00	2.00	0.00	0.35	0.00	38.55	254.00	2.00	0.00	0.35	0.00
38.71	254.00	2.00	0.00	0.34	0.00	38.88	249.21	2.00	0.00	0.34	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
39.04	217.80	2.00	0.00	0.34	0.00	39.21	167.08	2.00	0.00	0.34	0.00
39.37	165.57	2.00	0.00	0.33	0.00	39.53	165.08	2.00	0.00	0.33	0.00
39.70	149.10	2.00	0.00	0.33	0.00	39.86	135.69	2.00	0.00	0.32	0.00
40.03	158.97	2.00	0.00	0.32	0.00	40.19	140.92	2.00	0.00	0.32	0.00
40.35	43.01	2.00	0.00	0.32	0.00	40.52	27.43	2.00	0.00	0.31	0.00
40.68	22.38	2.00	0.00	0.31	0.00	40.85	29.32	2.00	0.00	0.31	0.00
41.01	118.93	0.43	0.62	0.30	0.01	41.17	140.37	0.62	0.53	0.30	0.01
41.34	134.50	0.55	0.55	0.30	0.01	41.50	134.98	0.56	0.54	0.30	0.01
41.67	131.32	0.52	0.55	0.29	0.01	41.83	140.77	0.62	0.51	0.29	0.01
41.99	149.78	0.76	0.32	0.29	0.01	42.16	157.25	0.92	0.23	0.29	0.00
42.32	160.70	1.02	0.16	0.28	0.00	42.49	154.22	0.85	0.30	0.28	0.01
42.65	134.20	0.55	0.51	0.28	0.01	42.81	112.12	0.39	0.58	0.27	0.01
42.98	138.25	0.59	0.49	0.27	0.01	43.14	247.80	2.00	0.00	0.27	0.00
43.31	254.00	2.00	0.00	0.27	0.00	43.47	254.00	2.00	0.00	0.26	0.00
43.64	254.00	2.00	0.00	0.26	0.00	43.80	254.00	2.00	0.00	0.26	0.00
43.96	254.00	2.00	0.00	0.25	0.00	44.13	254.00	2.00	0.00	0.25	0.00
44.29	254.00	2.00	0.00	0.25	0.00	44.46	254.00	2.00	0.00	0.25	0.00
44.62	254.00	2.00	0.00	0.24	0.00	44.78	232.68	2.00	0.00	0.24	0.00
44.95	201.74	2.00	0.00	0.24	0.00	45.11	136.66	2.00	0.00	0.24	0.00
45.28	41.33	2.00	0.00	0.23	0.00	45.44	27.14	2.00	0.00	0.23	0.00
45.60	33.22	2.00	0.00	0.23	0.00	45.77	35.87	2.00	0.00	0.22	0.00
45.93	25.29	2.00	0.00	0.22	0.00	46.10	13.53	1.30	0.00	0.22	0.00
46.26	8.84	0.80	0.00	0.22	0.00	46.42	8.46	0.63	0.00	0.21	0.00
46.59	8.00	0.59	0.00	0.21	0.00	46.75	7.44	0.56	0.00	0.21	0.00
46.92	7.62	0.54	0.00	0.20	0.00	47.08	7.57	0.55	0.00	0.20	0.00
47.24	7.50	0.56	0.00	0.20	0.00	47.41	8.08	0.62	0.00	0.20	0.00
47.57	9.62	0.74	0.00	0.19	0.00	47.74	11.30	0.89	0.00	0.19	0.00
47.90	13.30	1.08	0.00	0.19	0.00	48.06	15.98	1.22	0.00	0.19	0.00
48.23	15.95	1.33	0.00	0.18	0.00	48.39	17.04	1.53	0.00	0.18	0.00
48.56	22.69	1.83	0.00	0.18	0.00	48.72	26.18	2.00	0.00	0.17	0.00
48.88	34.17	2.00	0.00	0.17	0.00	49.05	25.23	2.00	0.00	0.17	0.00
49.21	16.12	1.52	0.00	0.17	0.00	49.38	14.67	1.20	0.00	0.16	0.00
49.54	14.20	1.13	0.00	0.16	0.00	49.70	13.66	1.07	0.00	0.16	0.00
49.87	12.58	1.01	0.00	0.15	0.00	50.03	12.28	2.00	0.00	0.15	0.00
50.20	12.55	2.00	0.00	0.15	0.00	50.36	12.67	2.00	0.00	0.15	0.00
50.52	13.21	2.00	0.00	0.14	0.00	50.69	13.67	2.00	0.00	0.14	0.00
50.85	15.87	2.00	0.00	0.14	0.00	51.02	16.92	2.00	0.00	0.14	0.00
51.18	16.37	2.00	0.00	0.13	0.00	51.35	16.42	2.00	0.00	0.13	0.00
51.51	14.88	2.00	0.00	0.13	0.00	51.67	9.92	2.00	0.00	0.12	0.00
51.84	7.94	2.00	0.00	0.12	0.00	52.00	7.77	2.00	0.00	0.12	0.00
52.17	8.28	2.00	0.00	0.12	0.00	52.33	8.49	2.00	0.00	0.11	0.00
52.49	8.39	2.00	0.00	0.11	0.00	52.66	8.05	2.00	0.00	0.11	0.00
52.82	7.44	2.00	0.00	0.10	0.00	52.99	7.05	2.00	0.00	0.10	0.00
53.15	7.09	2.00	0.00	0.10	0.00	53.31	7.37	2.00	0.00	0.10	0.00
53.48	7.77	2.00	0.00	0.09	0.00	53.64	8.67	2.00	0.00	0.09	0.00
53.81	9.44	2.00	0.00	0.09	0.00	53.97	9.26	2.00	0.00	0.09	0.00
54.13	9.22	2.00	0.00	0.08	0.00	54.30	9.50	2.00	0.00	0.08	0.00
54.46	9.76	2.00	0.00	0.08	0.00	54.63	10.51	2.00	0.00	0.07	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
54.79	12.86	2.00	0.00	0.07	0.00	54.95	19.82	2.00	0.00	0.07	0.00
55.12	21.10	2.00	0.00	0.07	0.00	55.28	18.01	2.00	0.00	0.06	0.00
55.45	15.37	2.00	0.00	0.06	0.00	55.61	14.61	2.00	0.00	0.06	0.00
55.77	16.25	2.00	0.00	0.05	0.00	55.94	70.95	2.00	0.00	0.05	0.00
56.10	164.03	2.00	0.00	0.05	0.00	56.27	200.67	2.00	0.00	0.05	0.00
56.43	238.93	2.00	0.00	0.04	0.00	56.59	254.00	2.00	0.00	0.04	0.00
56.76	254.00	2.00	0.00	0.04	0.00	56.92	254.00	2.00	0.00	0.04	0.00
57.09	254.00	2.00	0.00	0.03	0.00	57.25	254.00	2.00	0.00	0.03	0.00
57.41	254.00	2.00	0.00	0.03	0.00	57.58	254.00	2.00	0.00	0.02	0.00
57.74	254.00	2.00	0.00	0.02	0.00	57.91	254.00	2.00	0.00	0.02	0.00
58.07	254.00	2.00	0.00	0.02	0.00	58.23	254.00	2.00	0.00	0.01	0.00
58.40	254.00	2.00	0.00	0.01	0.00	58.56	254.00	2.00	0.00	0.01	0.00
58.73	254.00	2.00	0.00	0.00	0.00	58.89	254.00	2.00	0.00	0.00	0.00
59.06	202.66	2.00	0.00	0.00	0.00	59.22	181.98	2.00	0.00	0.00	0.00
59.38	141.85	2.00	0.00	0.00	0.00	59.55	133.78	2.00	0.00	0.00	0.00
59.71	131.56	2.00	0.00	0.00	0.00	59.88	133.74	2.00	0.00	0.00	0.00
60.04	132.04	2.00	0.00	0.00	0.00	60.20	137.95	2.00	0.00	0.00	0.00
60.37	136.47	2.00	0.00	0.00	0.00	60.53	129.84	2.00	0.00	0.00	0.00
60.70	113.08	2.00	0.00	0.00	0.00	60.86	33.18	2.00	0.00	0.00	0.00
61.02	28.23	2.00	0.00	0.00	0.00	61.19	29.84	2.00	0.00	0.00	0.00
61.35	25.02	2.00	0.00	0.00	0.00	61.52	20.37	2.00	0.00	0.00	0.00
61.68	21.95	2.00	0.00	0.00	0.00	61.84	27.49	2.00	0.00	0.00	0.00
62.01	22.95	2.00	0.00	0.00	0.00	62.17	20.75	2.00	0.00	0.00	0.00
62.34	28.32	2.00	0.00	0.00	0.00	62.50	37.09	2.00	0.00	0.00	0.00
62.66	37.25	2.00	0.00	0.00	0.00	62.83	32.15	2.00	0.00	0.00	0.00
62.99	26.32	2.00	0.00	0.00	0.00	63.16	21.99	2.00	0.00	0.00	0.00
63.32	17.23	2.00	0.00	0.00	0.00	63.48	12.79	2.00	0.00	0.00	0.00
63.65	19.67	2.00	0.00	0.00	0.00	63.81	42.62	2.00	0.00	0.00	0.00
63.98	22.76	2.00	0.00	0.00	0.00	64.14	13.61	2.00	0.00	0.00	0.00
64.30	15.83	2.00	0.00	0.00	0.00	64.47	12.04	2.00	0.00	0.00	0.00
64.63	9.58	2.00	0.00	0.00	0.00	64.80	9.27	2.00	0.00	0.00	0.00
64.96	9.07	2.00	0.00	0.00	0.00	65.12	10.78	2.00	0.00	0.00	0.00
65.29	16.63	2.00	0.00	0.00	0.00	65.45	18.50	2.00	0.00	0.00	0.00
65.62	89.08	2.00	0.00	0.00	0.00	65.78	142.57	2.00	0.00	0.00	0.00
65.94	147.43	2.00	0.00	0.00	0.00	66.11	252.59	2.00	0.00	0.00	0.00
66.27	254.00	2.00	0.00	0.00	0.00	66.44	245.96	2.00	0.00	0.00	0.00
66.60	254.00	2.00	0.00	0.00	0.00	66.77	254.00	2.00	0.00	0.00	0.00
66.93	254.00	2.00	0.00	0.00	0.00	67.09	254.00	2.00	0.00	0.00	0.00
67.26	254.00	2.00	0.00	0.00	0.00	67.42	220.72	2.00	0.00	0.00	0.00
67.59	127.35	2.00	0.00	0.00	0.00	67.75	24.80	2.00	0.00	0.00	0.00
67.91	11.60	2.00	0.00	0.00	0.00	68.08	10.66	2.00	0.00	0.00	0.00
68.24	10.06	2.00	0.00	0.00	0.00	68.41	9.47	2.00	0.00	0.00	0.00
68.57	9.57	2.00	0.00	0.00	0.00	68.73	9.74	2.00	0.00	0.00	0.00
68.90	9.73	2.00	0.00	0.00	0.00	69.06	9.80	2.00	0.00	0.00	0.00
69.23	10.90	2.00	0.00	0.00	0.00	69.39	11.86	2.00	0.00	0.00	0.00
69.55	12.58	2.00	0.00	0.00	0.00	69.72	13.18	2.00	0.00	0.00	0.00
69.88	13.33	2.00	0.00	0.00	0.00	70.05	12.98	2.00	0.00	0.00	0.00
70.21	12.63	2.00	0.00	0.00	0.00	70.37	12.39	2.00	0.00	0.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
70.54	12.62	2.00	0.00	0.00	0.00	70.70	13.02	2.00	0.00	0.00	0.00
70.87	13.21	2.00	0.00	0.00	0.00	71.03	13.39	2.00	0.00	0.00	0.00
71.19	14.02	2.00	0.00	0.00	0.00	71.36	15.05	2.00	0.00	0.00	0.00
71.52	14.42	2.00	0.00	0.00	0.00	71.69	13.67	2.00	0.00	0.00	0.00
71.85	12.83	2.00	0.00	0.00	0.00	72.01	13.25	2.00	0.00	0.00	0.00
72.18	19.82	2.00	0.00	0.00	0.00	72.34	34.08	2.00	0.00	0.00	0.00
72.51	37.20	2.00	0.00	0.00	0.00	72.67	30.44	2.00	0.00	0.00	0.00
72.83	26.75	2.00	0.00	0.00	0.00	73.00	45.84	2.00	0.00	0.00	0.00
73.16	57.89	2.00	0.00	0.00	0.00	73.33	147.22	2.00	0.00	0.00	0.00
73.49	164.85	2.00	0.00	0.00	0.00	73.65	213.25	2.00	0.00	0.00	0.00
73.82	254.00	2.00	0.00	0.00	0.00	73.98	254.00	2.00	0.00	0.00	0.00
74.15	254.00	2.00	0.00	0.00	0.00	74.31	254.00	2.00	0.00	0.00	0.00

Total estimated settlement: 0.65

Abbreviations

$Q_{tn,cs}$: Equivalent dean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement