Appendix C:
Preliminary Geotechnical Exploration

Preliminary Geotechnical Exploration

Union Pacific Railroad Property
Fremont, California

Submitted to:
Mr. Chad Kiltz
Lennar Homes
6111 Bollinger Canyon Road, Suite 550
San Ramon, CA 94583

Prepared by:
ENGEO Incorporated

July 1, 2014

Project No:
11274.000.000

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Mr. Chad Kiltz
Lennar Homes
6111 Bollinger Canyon Road, Suite 550
San Ramon, CA 94583

Subject: Union Pacific Railroad Property
Fremont, California

PRELIMINARY GEOTECHNICAL EXPLORATION

Dear Mr. Kiltz:

ENGEO prepared this preliminary geotechnical report for the Union Pacific Railroad Property as outlined in our agreement dated June 9, 2014. We characterized the subsurface conditions at the site to provide the enclosed preliminary geotechnical recommendations for design.

Prior to performing final project design, a report providing design recommendations will be needed. This report should be prepared once project development layout and structural loading are developed.

If you have any questions or comments regarding this report, please call and we will be glad to discuss them with you.

Sincerely,

ENGEO Incorporated

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

We prepared this preliminary geotechnical report for evaluation of the Union Pacific Railroad (UPRR) Property site located in Fremont, California. We prepared this report as outlined in our agreement dated June 9, 2014. We were authorized to conduct the following scope of services:

- Subsurface field exploration
- Soil laboratory testing
- Data analysis and conclusions
- Report preparation

This report was prepared for the exclusive use of our client and their consultants for preliminary design and due diligence evaluation of this project. In the event that any changes are made in the character, design or layout of the development, we must be contacted to review the conclusions and recommendations contained in this report to determine whether modifications are necessary. This document may not be reproduced in whole or in part by any means whatsoever, nor may it be quoted or excerpted without our express written consent.

1.2 PROJECT LOCATION

Figure 1 displays a Site Vicinity Map. The project site is located just north of the Tesla Factory in Fremont, California. The site is identified by the Alameda County Assessor as Parcel Number 519-1747-10 and is located at 45500 Fremont Boulevard. The site is bound on the north by South Grimmer Boulevard, on the west by Fremont Boulevard, on the east by Lopes Court, and on the south by the existing Tesla Factory. The property comprises approximately 109 acres of land occupied by active agricultural fields, asphalt and concrete parking lots, existing structures, and existing railroad spurs.

1.3 PROJECT DESCRIPTION

Based on our discussion with you, we understand that site improvements will consist of a mix of single-family houses, multi-family buildings, commercial buildings, associated streets, underground utilities and landscaping. The layout of the buildings, and building loads, has not yet been determined. Grading for the site has also not been developed yet; however, based on the general topography of the site and the type of development, we anticipate that cuts and fills will generally be approximately 5 feet or less.

2.0 FINDINGS

2.1 FIELD EXPLORATION

Our field exploration included drilling two borings and advancing six Cone Penetration Tests (CPTs) at various locations on the site. We performed our field exploration on

June 12 and 13, 2014. The location of our explorations are approximate and were estimated by pacing from features within the project site; they should be considered accurate only to the degree implied by the method used.

2.1.1 Borings

We observed drilling of two borings at the locations shown on the Site Plan, Figure 2. An ENGEO representative supervised the drilling and logged the subsurface conditions at each location. We retained a truck-mounted Mobile B53 drill rig and crew to advance the borings using mud rotary methods. The borings were advanced to depths ranging from approximately 47 to 50 feet below existing grade. We permitted and backfilled the borings in accordance with the requirements of Alameda County Water District (ACWD).

We obtained bulk soil samples from drill cuttings and retrieved disturbed samples at various intervals in the borings using the modified California sampler, 3-inch outer diameter split-spoon sampler. The blow counts were obtained by dropping an automatic 140-pound hammer over a 30-inch free fall. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows required to drive the last 1 foot of penetration; the blow counts shown on the boring logs have not been converted using any correction factors. When sampler driving was difficult, penetration was recorded only as inches penetrated for 50 hammer blows.

We used our field logs combined with laboratory testing to develop the report logs in Appendix A. The logs depict subsurface conditions at the exploration locations for the date of exploration; however, subsurface conditions may vary with time.

2.1.2 Cone Penetration Tests

We retained a CPT rig to push the cone penetrometer to a maximum depth of approximately 50 feet below existing grade in general accordance with ASTM D-3441. Measurements collected during testing include the tip resistance to penetration of the cone (Qc), the resistance of the surface sleeve (Fs), and pore pressure (U) (Robertson 2009). Raw data of the CPT logs are presented in Appendix C.

2.2 SITE BACKGROUND

Based on historic photograph review, the project site is set in an area that was predominantly used for agricultural purposes until the 1960s. During the 1960s, portions of the site were paved and an auto manufacturing plant and associated buildings and rail lines were constructed. A portion of the site appears to have been used for staging and loading vehicles manufactured at the adjacent plant on to rail cars.

2.3 GEOLOGY AND SEISMICITY

2.3.1 Geology

The site is located southwest of the San Francisco Bay, split by the United States Geological Survey's (USGS) Niles and Milpitas Quadrangles and lies within the Coast Range geomorphic province. The Coast Ranges have experienced a complex geological history characterized by late Tertiary folding and faulting that has resulted in a series of northwest-trending mountain ranges and intervening valleys. The San Francisco Bay Valley and enclosing peripheral hills, in association with the two main fault structures (the San Andreas and Hayward-Rodgers Creek faults), comprise the main geological features of the local Bay Area. Diverse crustal movements within this tectonic framework are responsible for the morphology and seismicity of the area.

Depositional processes and environments operating in the San Francisco Bay Region reflect the influence of active tectonics and climatic fluctuation during the Quaternary (Helley and others, 1979). Northwest-trending valleys are generally aligned with major strike-slip faults and contain sediments deposited by streams on flood plains, levees, alluvial fans, and basins. Broad piedmont alluvial fans are deposited along the flanks of northwest-trending mountain ranges undergoing active tectonic uplift. Climatic influence on depositional systems is evidenced by late Pleistocene fans deposited by streams graded to lowered base levels (Atwater and others, 1977). Younger, Holocene, alluvial fans record deposition by streams responding to the marine transgression that culminated with the present sea-level high stand and formation of San Francisco Bay.

Based on a Regional Geologic Map, by Graymer and Helley (1997) the site is mapped as underlain by three different geologic formations. Holocene alluvial flood plain deposits (Qhfp) are mapped in the western portions of the site, Holocene basin deposits (Qhb) are mapped in the northern portions of the site, and Pleistocene alluvial fan deposits (Qpaf) are mapped in the southeast as depicted on Figure 3.

2.3.2 Seismicity

A portion of the site is located within the State of California Seismic Hazard Zone Niles and Milpitas Quadrangle and as shown on Figure 4. The area within this zone is mapped as being potentially liquefiable. The liquefiable zone is mapped in the western portions of the site that are mapped as being underlain by Holocene-aged deposits.

The Bay Area contains numerous active earthquake faults. The major active faults in the area include the Hayward fault which is approximately 1.9 miles east of the site. An active fault is defined by the State Mining and Geology Board as one that has had surface displacement within Holocene time (about the last 11,000 years) (Hart, 1997). Numerous small earthquakes occur every year in the San Francisco Bay Region, and larger earthquakes have been recorded and can be expected to occur in the future. Figure 5 shows the approximate locations of mapped active faults and significant historic earthquakes recorded within the San Francisco Bay Region. The following table lists several of the mapped active faults and proximity to the site.

TABLE 2.3.2-1
Summarized Nearest Active Faults

Fault Name	Approximate Distance from Project Site (miles)	Maximum Moment Magnitude (Ellsworth)
Hayward-Rodgers Creek	1.9	7.3
Calaveras	5.7	7
Monte Vista-Shannon	14.5	6.5
Mount Diablo Thrust	17.1	6.7
North San Andreas	17.2	7.8
Greenville Connected	19.2	7
Green Valley	27.6	7.1
Great Valley	28.1	7.1
San Gregorio	28.2	7.5
Zayante-Vergeles	28.5	7

The Working Group on California Earthquake Probabilities (WGCEP) (2008) evaluated the 30-year probability of a Moment Magnitude 6.7 or greater earthquake occurring on the known active fault systems in the Bay Area. The Uniform California Earthquake Rupture Forecast (UCERF) generated an overall probability of 63 percent for the Bay Area as whole and a probability of 31 percent for the Hayward-Rodgers Creek fault.

The site is not located within a currently designated Earthquake Fault Special Study Zone and no known surface expression of active faults is believed to exist within the site. Fault rupture through the site, therefore, is not anticipated.

2.4 SURFACE CONDITIONS

We observed the following site features during our reconnaissance.

- The northern portion of the site is occupied by an existing roadway, a farming structure, farming equipment, and tilled dirt associated with agricultural use. A roadway enters the property on the center of the northern boundary from South Grimmer Boulevard. Kato Road curves to the west and follows the property boundary south.

- A drainage swale extends from the northern boundary of the site to the stockpiled soil through the center of the existing field.

- Two soil stockpiles exist on the project site. One stockpile is located between the existing agricultural field and the existing parking lots spanning from east to west. The other remaining stockpile is located along the eastern boundary of the site between a railroad spur and the parking lot. We estimate the east to west running stockpile to measure 1,950 feet long by 125 feet wide and approximately 10 to 15 feet high with approximately

2:1 (horizontal:vertical) side slopes. The stockpile running along the eastern boundary of the property is approximately 825 feet long by 110 feet wide and approximately 10 to 15 feet high with 2:1 side slopes.

- The southern portion of the site contains an existing paved parking lot with light poles and barriers protecting each of the light poles. Based on surface evidence such as access covers and manhole lids, existing utilities are located below the parking lot. Structures remain on the site that appear to still be in use today; their use appears to be a security post and a distribution facility.

Please refer to the Site Plan, Figure 2, for more information on site features.

2.5 SUBSURFACE CONDITIONS

Our explorations at the site generally encountered fine-grained soil (clay and silt). Our borings generally encountered medium stiff to stiff clay with layers of silt. Boring 1-B6 encountered an approximately 5½-foot-thick layer of stiff, bluish, estuarine clay. The CPTs encountered similar soil as that encountered in the borings. As referenced in Section 2.3.1, the regional geologic mapping of the site indicates that a boundary between Holocene-aged and Pleistocene-aged soil exists within the site limits. In general, we did not encounter discernibly different conditions on either side of the boundary with the exception of the estuarine clay previously mentioned; this layer was not encountered in Boring 1-B4 on the other side of this mapped boundary. Because this clay was similar in engineering characteristics to the other clay deposits, the CPTs cannot confirm if it is present in other explorations at the site.

Consult the Site Plan and boring logs for specific subsurface conditions at each location. We include our exploration logs in Appendix A. The logs contain the soil type, color, consistency, and visual classification in general accordance with the Unified Soil Classification System. The logs graphically depict the subsurface conditions encountered at the time of the exploration.

2.6 GROUNDWATER CONDITIONS

We did not observe static or perched groundwater in any of our subsurface explorations due to the methods of exploration used. At projects in the near vicinity, we have measured and observed ground water to be between 5 and 16 feet below the existing ground surface. The groundwater is mapped as generally deepening towards the east. The Seismic Hazard Zone Report for the Milpitas 7.5-Minute Quadrangle, Alameda and Santa Clara Counties, California (CGS, 2001) depicts the historical high ground water as being 5 feet below existing grade on the west and approximately 15 feet below existing grade at the eastern end of the project site.

Fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors not in evidence at the time of our subsurface exploration.

2.7 LABORATORY TESTING

We performed laboratory tests on selected soil samples to determine their engineering properties. For this project, we performed moisture content, dry density, plasticity index, soil corrosion potential testing, and sieve analysis. The moisture content, dry density, plasticity index, and sieve analysis are recorded on the boring logs in Appendix A. All other laboratory data is included in Appendix B.

3.0 PRELIMINARY CONCLUSIONS

From a geotechnical engineering viewpoint, in our opinion, the proposed project is suitable for the construction referenced in Section 1.3, provided the preliminary geotechnical recommendations in this report are properly incorporated into the design plans and specifications.

The primary geotechnical concerns that could affect development on the site are liquefaction-induced settlement, existing fill, soft soil consolidation, flooding, and shallow groundwater. We summarize our conclusions below.

3.1 SEISMIC HAZARDS

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is ground rupture, also called surface faulting. The common secondary seismic hazards are associated with ground shaking. The following sections present a discussion of these hazards as they apply to the site. Based on topographic and lithologic data, the risk of regional subsidence or uplift, landslides, tsunamis or seiches is considered low to negligible at the site. A detailed discussion of other seismic hazards potentially affecting the project is presented below.

3.1.1 Ground Rupture

Since there are no known active faults crossing the property and the site is not located within an Earthquake Fault Special Study Zone, it is our opinion that ground rupture is unlikely at the subject property.

3.1.2 Ground Shaking

An earthquake of moderate to high magnitude generated within the San Francisco Bay Region could cause considerable ground shaking at the site, similar to that which has occurred in the past. To mitigate the shaking effects, all structures should be designed using sound engineering judgment and the current California Building Code (CBC) requirements, as a minimum. Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures

should be able to: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some nonstructural damage; and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake (SEAOC, 1996).

3.1.3 Liquefaction Susceptibility

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded sand below the groundwater table. Empirical evidence indicates that silts and low plasticity clays are also potentially liquefiable, though this phenomenon is commonly referred to as cyclic softening; for the purposes of this report, we will refer to cyclic softening as liquefaction. When seismic ground shaking occurs, the soil is subjected to cyclic shear stresses that can cause excess hydrostatic pressures to develop. If excess hydrostatic pressures exceed the effective confining stress from the overlying soil, the soil may undergo deformation. If the soil consolidates or vents to the surface during and following liquefaction, ground settlement and surface deformation may occur. In some cases, settlements over 3 percent of the thickness of the liquefiable layer have been measured. In fine-grained soil, however, laboratory and current theories indicate settlement will be much less than in a clean sand.

In performing our liquefaction analyses, we assumed a design groundwater level of 5 feet below existing ground surface for liquefaction analyses as discussed in Section 2.6. We used the Mapped MCE Geometric Mean peak ground acceleration of 0.71g for liquefaction analysis based on the 2013 California Building Code. We assumed a Moment Magnitude of 7.3 for our analyses based on the proximity of the Hayward fault to the site.

As previously referenced, we performed a significant amount of laboratory testing on samples recovered from the borings. Using methods presented by Seed et al. (2003) and Bray and Sancio (2006), we assessed the susceptibility of each sample to liquefy based on the soil's measured plasticity index, fines content, and moisture content. As indicated in the chart titled "UPRR Property Liquefaction Susceptibility of Fine Grained Soil" in Appendix D, only three of the nineteen soil samples from the two borings are potentially susceptible based on this screening procedure.

To analyze the liquefaction potential of the three soil layers that this screening indicated were susceptible to liquefaction, we used methods published by Youd, et al. (2001), Seed et al. (2003), and Idriss and Boulanger (2008), based on corrected blow counts. The analysis, summarized in Appendix D, indicates that all three layers are liquefiable.

Each of the two borings were drilled within 5 feet of a CPT. These "matched pairs" were used to allow us to correlate data collected from the borings to the results of the CPTs. The borings were compared directly with the I_c values, Appendix D, that allowed for us to establish bounds for I_c to treat soil appropriately during liquefaction assessment. In pairing the boring log and the I_c vs.

depth interpreted from the CPT results, we conclude that, for this site, soil with a calculated I_c greater than 2.6 is clay. Based on our screening, material with an I_c greater than 2.8 does not appear to be liquefiable.

We evaluated the liquefaction potential of the CPTs using the computer program CLiq Version 1.7.1.5.39 by Geologismiki Geotechnical Software. Our analysis was performed using methods published by: (1) Idriss and Boulanger (2008), (2) Idriss and Boulanger (2008) using their clay-like settlement analyses, and (3) Robertson (2009). For the analyses using the procedure by Idriss and Boulanger, we assumed an I_c cutoff of 2.8. For the analyses using the Idriss and Boulanger with clay-like behavior, we assumed an I_c cutoff of 2.6. Robertson 2009 inherently uses an I_c cutoff of 2.7 but still considers materials classified with an I_c of greater than 2.7 to be liquefiable based on the materials estimated undrained shear strength.

Our analyses indicate that limited, discontinuous layers of fine-grained soil within the alluvium are potentially liquefiable.

3.1.4 Liquefaction-Induced Settlement

As discussed by Fiegel, et al. (1998), seismically induced settlement of silt and clay can be estimated based on excess pore pressure generation and one-dimensional consolidation theory. Fiegel et al. suggest that the volumetric strain of a clay layer subject to cyclic softening can be estimated with a compression index that is 1.5 to 2 times the recompression ratio ($C_r/(1+e_0)$). We have estimated the compression ratio based on correlations by Lamb and Whitman (1969), an average moisture content of 20 percent, and the modified Cam clay model correlation, where the recompression ratio is approximately 20 percent of the compression ratio. This approach indicates that the recompression ratio for the clay within the alluvium considered likely to soften under cyclic load is approximately ½ percent.

In evaluating potential excess pore pressure generation, we reviewed Hyodo et al. (1988), where for low confining pressures (100kPa), and between 50 and 100 equivalent cycles of shaking, the excess pore pressure ratio is estimated between 0.3 and 0.4 for normally consolidated soil. Based on this approach, the settlement of the clay layers subject to cyclic softening can be estimated based on a volumetric strain of 0.2 to 0.4 percent. Using Figure 6 of Hyodo et al., volumetric strain could be estimated as high as 0.75 percent. Based on this combined information, we estimated potential liquefaction settlement of the potentially liquefiable clay layers using a cap of 0.75 percent for the volumetric strain of all clay deposits that our previous screening indicated would be subject to potential liquefaction.

The following table summarizes the results of our analyses:

TABLE 3.1.4-1

Estimated Total Settlement Due to Liquefaction (inches)			
Exploration Designation	**Idriss and Boulanger**	**Idriss and Boulanger with clay-like behavior**	**Robertson 2009**
1-CPT1	3.2	1.7	0.6
1-CPT2	1.7	0.6	0.5
1-CPT3	1.7	0.6	0.5
1-CPT4	2.1	0.5	0.3
1-CPT5	1.6	0.1	0.5
1-CPT6	2.3	0.9	0.6
1-B4	0.5		
1-B6	0.9		

The estimates range from as little as 0.1 inch of potential settlement to as much as 3.2 inches, with an average of approximately 1.1 inches. Variations in the alluvium could result in differential settlement of about half this amount over a horizontal distance of 30 feet.

3.1.5 Liquefaction-Induced Lateral Spreading

Based on our observations while onsite and review of historic aerial photography, there are no free faces near the project site. Therefore, the project site, based on our explorations, is not susceptible to liquefaction-induced lateral spreading.

3.2 EXISTING FILL

As previously indicated, we observed two soil stockpiles on the project site. The source of the stockpiles is unknown. This non-engineered soil should be processed to remove any unsuitable soil or debris and placed as compacted fill on the site, provided it is cleared from an environmental perspective for reuse.

3.3 FLOODING

Portions of the project site are mapped within Flood Zones A and AE by FEMA. The Civil Engineer should review pertinent information relating to possible flood levels for the subject site based on final pad elevations and provide appropriate design measures for development of the project, if necessary.

3.4 SOFT GROUND CONSOLIDATION

As described in Section 2, the site is underlain by an estuarine deposit consisting of a significant amount of soft to medium stiff clay mixed with medium dense silt. We performed consolidation

testing on one sample of the clay recovered. We also performed a moisture content test on the soil in this layer. Based on our consolidation testing and the correlation of compression ratio to natural water content published by Lamb and Whitman (1969), we estimate the compression ratio as 0.05. Based on the laboratory tests, we estimate that the clay within the estuarine deposit is normally consolidated to lightly over-consolidated.

Because of the relatively low compressibility and low natural water content of the estuarine clay, we estimate that the site will consolidate less than ½ inch per foot of fill placed. Approximately half of this settlement is anticipated to occur within the first six months after placement with approximately 90 percent of the settlement happening within the first 4 years after placement.

Once the building layouts and loading have been determined, the potential post-construction settlement due to compressible soil should be evaluated and mitigation, if any, determined.

3.5 CBC SEISMIC DESIGN PARAMETERS

The 2013 California Building Code (CBC) utilizes design criteria set forth in the 2010 ASCE 7 Standard. Based on the subsurface conditions encountered, we characterized the site as Site Class D in accordance with the 2013 CBC. We provide the 2013 CBC seismic design parameters in the table below, which include design spectral response acceleration parameters based on the mapped Risk-Targeted Maximum Considered Earthquake (MCE_R) spectral response acceleration parameters.

TABLE 3.5-1
2013 CBC Seismic Design Parameters

Parameter	Value
Site Class	D
Mapped MCE_R Spectral Response Acceleration at Short Periods, S_S (g)	2.047
Mapped MCE_R Spectral Response Acceleration at 1-second Period, S_1 (g)	0.836
Site Coefficient, F_A	0.9
Site Coefficient, F_V	2.4
MCE_R Spectral Response Acceleration at Short Periods, S_{MS} (g)	1.842
MCE_R Spectral Response Acceleration at 1-second Period, S_{M1} (g)	2.007
Design Spectral Response Acceleration at Short Periods, S_{DS} (g)	1.228
Design Spectral Response Acceleration at 1-second Period, S_{D1} (g)	1.338
Mapped MCE Geometric Mean Peak Ground Acceleration (g)	0.787
Site Coefficient, F_{PGA}	0.9
MCE Geometric Mean Peak Ground Acceleration, PGA_M (g)	0.71

3.6 SOIL CORROSION POTENTIAL

As part of this study, we obtained limited soil samples and submitted to a qualified analytical lab to screen for corrosion based on test of pH, resistivity, sulfate, and chloride. The results are included in Appendix B and summarized in the table below.

TABLE 3.6-1
Corrosivity Test Results

Sample Location	Depth	pH	Resistivity (ohms-cm)	Chloride (mg/kg)	Sulfate (mg/kg)
1-B4	3	8.49	1.23	1.6	1.7
1-B6	3	8.2	0.70	4.5	1.4

*As determined in general accordance with ASTM D4327

The 2013 CBC references the 2011 American Concrete Institute Manual, ACI 318-11, Chapter 4, Sections 4.2.1 for structural concrete requirements. In accordance with this criteria, the soil tested is categorized as S0 sulfate exposure class ”Not Applicable.” There is no requirement for cement type or water-cement ratio, however, a minimum concrete compressive strength of 2,500 psi is specified by the building code. It should be noted, however, that the structural engineering design requirements for concrete may result in more stringent concrete specifications. Additional sampling and testing should be considered at the design stage of the project.

3.7 BIORETENTION AREAS

If bioretention areas are implemented, we recommend that, when practical, they be planned a minimum of 5 feet away from structural site improvements, such as buildings, streets, retaining walls, and sidewalks/driveways. When this is not practical, bioretention areas located within 5 feet of structural site improvements can either:

1. Be constructed with structural side walls capable of withstanding the loads from the adjacent improvements, or

2. Incorporate filter material compacted to between 85 and 90 percent relative compaction (ASTM D1557, latest edition) and a waterproofing system designed to reduce the potential for moisture transmission into the subgrade soil beneath the adjacent improvement.

Site improvements located adjacent to bioretention areas that are underlain by base rock, sand, or other imported granular materials, should be designed with a deepened edge that extends to the bottom of the imported material underlying the improvement. Where adjacent site improvements include buildings greater than three stories, streets steeper than 3 percent, or design elements that will experience lateral loads (such as from impact or traffic patterns), additional design considerations may be required.

4.0 PRELIMINARY EARTHWORK RECOMMENDATIONS

For land planning and cost estimating purposes, the following compaction control requirements should be anticipated for general fill areas and utility backfill:

Test Procedures:	ASTM D-1557.
Required Moisture Content:	Not less than 3 percentage points above optimum moisture content.
Minimum Relative Compaction:	Not less than 90 percent.

Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material. Additional compaction requirements may be required that will be developed during the design geotechnical report.

If bioretention areas are implemented, we recommend that, when practical, they be planned a minimum of 5 feet away from structural site improvements, such as buildings, streets, retaining walls, and sidewalks/driveways. When this is not practical, bioretention areas located within 5 feet of structural site improvements can either:

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Site improvements located adjacent to bioretention areas that are underlain by base rock, sand, or other imported granular materials, should be designed with a deepened edge that extends to the bottom of the imported material underlying the improvement. Where adjacent site improvements include buildings greater than three stories, streets steeper than 3 percent, or design elements that will experience lateral loads (such as from impact or traffic patterns), additional design considerations may be required.

5.0 PRELIMINARY FOUNDATION RECOMMENDATIONS

Because the site is potentially susceptible to settlement from a combination of consolidation and liquefaction, building foundations will need to be stiff enough to reduce the effects of settlement on the structure. On a preliminary basis, single-family and multi-family structures that are three stories or shorter, can likely be supported on either post-tensioned slabs or conventionally reinforced structural mats. Shallow foundations will need to be stiff enough to undergo up to 2 inches of differential settlement over a distance of approximately 30 feet due to the combined effects of consolidation and liquefaction.

Exterior flatwork includes items such as concrete sidewalks, steps, and outdoor courtyards exposed to foot traffic only. Provide a minimum concrete flatwork thickness of 4 inches. The City of Fremont standard details require 4 inches of concrete over 3 inches of aggregate base. Construct control and construction joints in accordance with current Portland Cement Association Guidelines.

6.0 PRELIMINARY PAVEMENT DESIGN

Based on the materials encountered during exploration, we consider an R-value of 10 to be applicable for roadway design. Using estimated traffic indices for various pavement loading requirements, we developed the following preliminary pavement sections using Topic 633 of the Caltrans Highway Design Manual (including the asphalt factor of safety), presented in Table 6.0-1 below.

TABLE 6.0-1
Recommended Asphalt Concrete Pavement Sections

Traffic Index	Section	
	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
3	2.0	5.0
4	2.5	7.0
5	3.0	9.0
6	3.5	11.5
7	4.0	14.5

The civil engineer should determine the appropriate traffic indices based on the estimated traffic loads and frequencies. ENGEO should be retained to collect a sample representative of the pavement subgrade for R-Value testing before a final pavement design is implemented.

7.0 DESIGN GEOTECHNICAL EXPLORATION

Once the conceptual development layout has been determined and building types have been selected, further exploration will be necessary to verify that the geotechnical conditions are relatively consistent across the site and to develop design recommendations for site development.

8.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report presents preliminary geotechnical recommendations for design of the improvements discussed in Section 1.3. If changes occur in the nature or design of the project, we should be allowed to review this report and provide additional recommendations, if any. It is the responsibility of the owner to transmit the information and recommendations of this report to the appropriate organizations or people involved in design of the project, including but not limited to developers, owners, buyers, architects, engineers, and designers. The conclusions and

recommendations contained in this report are solely preliminary professional opinions and should be supplemented with a design-level Geotechnical Study.

We strived to perform our professional services in accordance with generally accepted geotechnical engineering principles and practices currently employed in the area; no warranty is expressed or implied. There are risks of earth movement and property damages inherent in building on or with earth materials. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our services.

This preliminary report is based upon field or other conditions discovered at the time of report preparation. We developed this report with limited subsurface exploration data. We assumed that our subsurface exploration data is representative of the actual subsurface conditions across the site. Considering possible underground variability of soil, rock, stockpiled material, and groundwater, additional costs may be required to complete the project. We recommend that the owner establish a contingency fund to cover such costs. If unexpected conditions are encountered, notify ENGEO immediately to review these conditions and provide additional and/or modified recommendations, as necessary.

Our services did not include excavation sloping or shoring, soil volume change factors or a geohazard exploration. In addition, our geotechnical exploration did not include work to determine the existence of possible hazardous materials. If any hazardous materials are encountered during construction, then notify the proper regulatory officials immediately.

This document must not be subject to unauthorized reuse, that is, reusing without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time.
Actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to ENGEO's documents. Therefore, ENGEO must be engaged to prepare the necessary clarifications, adjustments, modifications or other changes before construction activities commence or further activity proceeds. If ENGEO's scope of services does not include on-site construction observation, or if other persons or entities are retained to provide such services, ENGEO cannot be held responsible for any or all claims arising from or resulting from the performance of such services by other persons or entities, and from any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

We determined the lines designating the interface between layers on the exploration logs using visual observations. The transition between the materials may be abrupt or gradual. The exploration logs contain information concerning samples recovered, indications of the presence of various materials such as clay, sand, silt, rock, existing fill, etc., and observations of groundwater encountered. The field logs also contain our interpretation of the subsurface conditions between sample locations. Therefore, the logs contain both factual and interpretative information. Our preliminary recommendations are based on the contents of the final logs, which represent our interpretation of the field logs.

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FIGURES

Figure 1 - Vicinity Map
Figure 2 - Site Plan
Figure 3 - Regional Geologic Map
Figure 4 – Seismic Hazard Zones Map
Figure 5 – Regional Faulting and Seismicity

F I G U R E S

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N

0 FEET 2000

0 METERS 1000

BASE MAP SOURCE: GOOGLE EARTH PRO

ENGEO Expect Excellence

VICINITY MAP UNION PACIFIC RAILROAD PROPERTY FREMONT, CALIFORNIA	PROJECT NO.: 11274.000.000		FIGURE NO.
	SCALE: AS SHOWN		1
	DRAWN BY: LL	CHECKED BY: JF	

G:\Drafting\DRAFTING2_Dwg_10000 to 12999\11274\000\GEX\11274000000-GEX-1-VICMAP-0614.dwg Plot Date: 7-02-14 llee

ORIGINAL FIGURE PRINTED IN COLOR

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N

0 FEET 500
0 METERS 250

EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

1-CPT6 CONE PENETRATION LOCATION

1-B6 BORING LOCATION

BASE MAP SOURCE: GOOGLE EARTH PRO

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SITE PLAN
UNION PACIFIC RAILROAD PROPERTY
FREMONT, CALIFORNIA

PROJECT NO.: 11274.000.000		FIGURE NO. 2
SCALE: AS SHOWN		
DRAWN BY: LL	CHECKED BY: JF	

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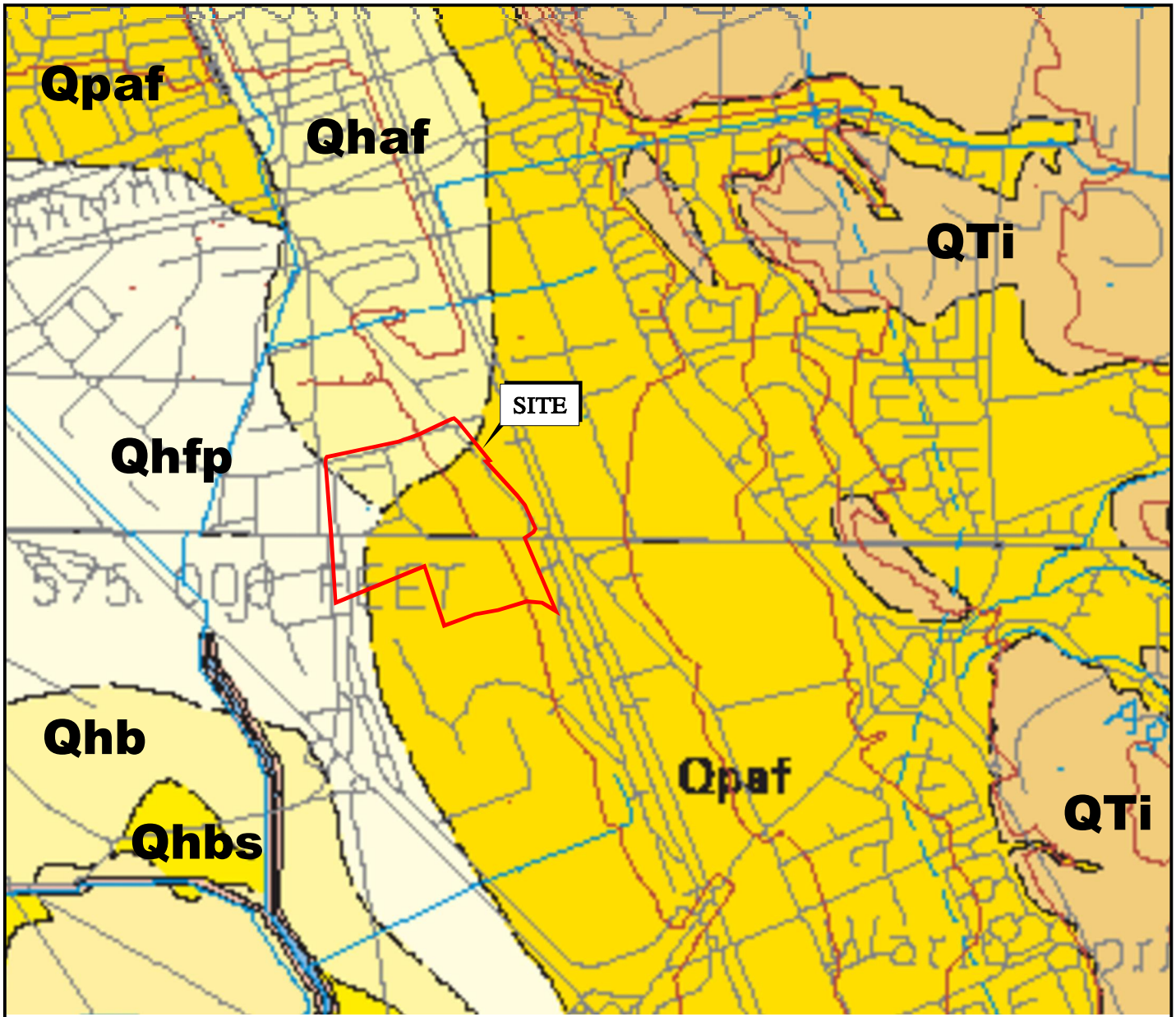

EXPLANATION

Qhaf	ALLUVIAL FAN DEPOSITS (HOLOCENE)
Qhb	BASIN DEPOSITS (HOLOCENE)
Qhbs	SALT AFFECTED BASIN DEPOSITS (HOLOCENE)
Qhfp	FLOODPLAIN DEPOSITS (HOLOCENE)
Qpaf	ALLUVIAL FAN DEPOSITS (PLESTOCENE)
QTi	IRVINGTON GRAVELS (PLEISTOCENE AND/OR PLIOCENE)

N

0 FEET 2000

0 METERS 1000

BASE MAP SOURCE: HELLEY & GRAYMER, 1997

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REGIONAL GEOLOGIC MAP

UNION PACIFIC RAILROAD PROPERTY

FREMONT, CALIFORNIA

PROJECT NO.: 11274.000.000		FIGURE NO.
SCALE: AS SHOWN		3
DRAWN BY: LL	CHECKED BY: JF	

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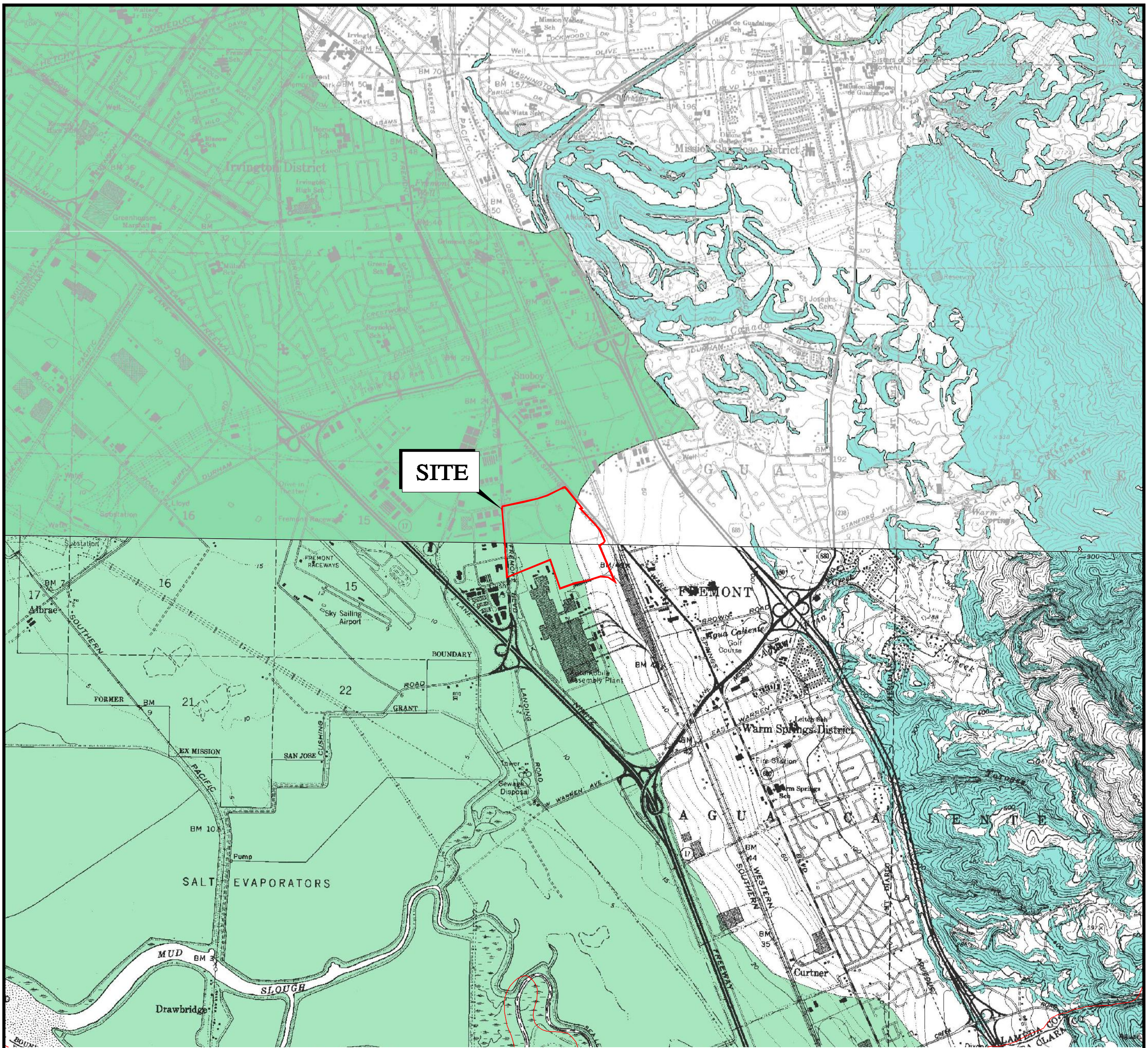

EXPLANATION

LIQUEFACTION

AREAS WHERE HISTORIC OCCURRENCE OF LIQUEFACTION, OR LOCAL GEOLOGICAL, GEOTECHNICAL AND GROUNDWATER CONDITIONS INDICATE A POTENTIAL FOR PERMANENT GROUND DISPLACEMENTS SUCH THAT MITIGATION AS DEFINED IN PUBLIC RESOURCES CODE SECTION 2693(c) WOULD BE REQUIRED

EARTHQUAKE-INDUCED LANDSLIDES

AREAS WHERE PREVIOUS OCCURRENCE OF LANDSLIDE MOVEMENT, OR LOCAL TOPOGRAPHIC, GEOLOGICAL, GEOTECHNICAL AND SUBSURFACE WATER CONDITIONS INDICATE A POTENTIAL FOR PERMANENT GROUND DISPLACEMENTS SUCH THAT MITIGATION AS DEFINED IN PUBLIC RESOURCES CODE SECTION 2693(c) WOULD BE REQUIRED

N

0 FEET 4000
0 METERS 2000

BASE MAP SOURCE: STATE OF CALIFORNIA SEISMIC HAZARD ZONES MAP, 2004

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SEISMIC HAZARD ZONES MAP UNION PACIFIC RAILROAD PROPERTY FREMONT, CALIFORNIA	PROJECT NO.: 11274.000.000		FIGURE NO. 4
	SCALE: AS SHOWN		
	DRAWN BY: LL	CHECKED BY: JF	

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ORIGINAL FIGURE PRINTED IN COLOR

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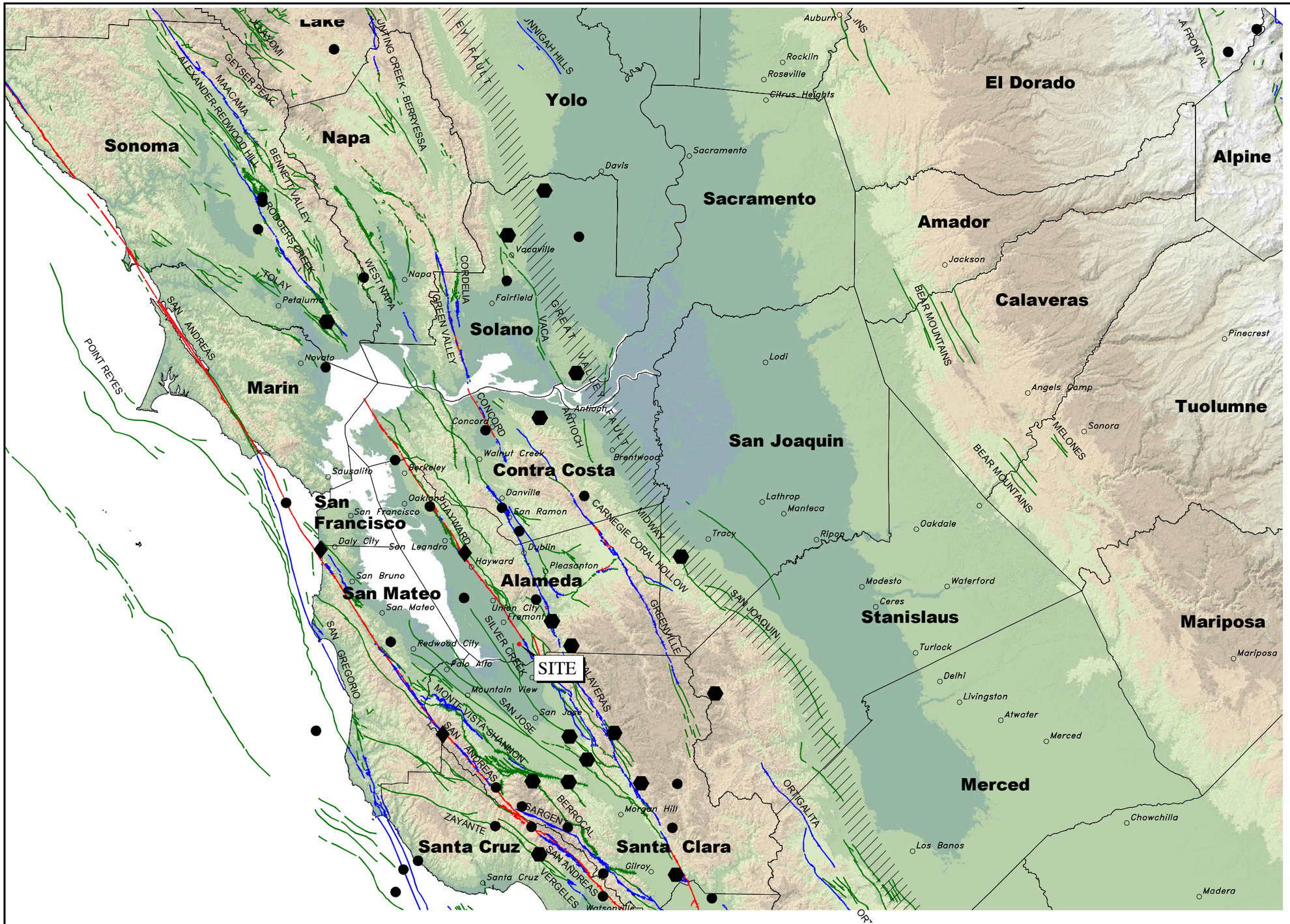

BASE MAP SOURCE:
COLOR HILLSHADE IMAGE BASED ON THE NATIONAL ELEVATION DATASET (NED) AT 30 METER RESOLUTION
U.S.G.S. QUATERNARY FAULT DATABASE, NOVEMBER, 2010
U.S.G.S. HISTORIC EARTHQUAKE DATABASE (1800–2000)

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REGIONAL FAULTING AND SEISMICITY
UNION PACIFIC RAILROAD PROPERTY
FREMONT, CALIFORNIA

PROJECT NO.: 11274.000.000		FIGURE NO. 5
SCALE: AS SHOWN		
DRAWN BY: LL	CHECKED BY: JF	

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ORIGINAL FIGURE PRINTED IN COLOR

APPENDIX A

Key to Boring Logs
Exploration Logs

APPENDIX A

KEY TO BORING LOGS

MAJOR TYPES			DESCRIPTION
COARSE-GRAINED SOILS MORE THAN HALF OF MAT'L LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LESS THAN 5% FINES	GW - Well graded gravels or gravel-sand mixtures GP - Poorly graded gravels or gravel-sand mixtures
		GRAVELS WITH OVER 12 % FINES	GM - Silty gravels, gravel-sand and silt mixtures GC - Clayey gravels, gravel-sand and clay mixtures
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 5% FINES	SW - Well graded sands, or gravelly sand mixtures SP - Poorly graded sands or gravelly sand mixtures
		SANDS WITH OVER 12 % FINES	SM - Silty sand, sand-silt mixtures SC - Clayey sand, sand-clay mixtures
FINE-GRAINED SOILS MORE THAN HALF OF MAT'L SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50 % OR LESS		ML - Inorganic silt with low to medium plasticity CL - Inorganic clay with low to medium plasticity OL - Low plasticity organic silts and clays
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50 %		MH - Elastic silt with high plasticity CH - Fat clay with high plasticity OH - Highly plastic organic silts and clays
	HIGHLY ORGANIC SOILS		PT - Peat and other highly organic soils

For fine-grained soils with 15 to 29% retained on the #200 sieve, the words "with sand" or "with gravel" (whichever is predominant) are added to the group name.

For fine-grained soil with >30% retained on the #200 sieve, the words "sandy" or "gravelly" (whichever is predominant) are added to the group name.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE SIZE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4 "		3"	12"
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS AND GRAVELS	BLOWS/FOOT (S.P.T.)
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

CONSISTENCY

SILTS AND CLAYS	STRENGTH*
VERY SOFT	0-1/4
SOFT	1/4-1/2
MEDIUM STIFF	1/2-1
STIFF	1-2
VERY STIFF	2-4
HARD	OVER 4

SAMPLER SYMBOLS

- Modified California (3" O.D.) sampler
- California (2.5" O.D.) sampler
- S.P.T. - Split spoon sampler
- Shelby Tube
- Continuous Core
- Bag Samples
- Grab Samples
- NR No Recovery

MOISTURE CONDITION

DRY	Dusty, dry to touch
MOIST	Damp but no visible water
WET	Visible freewater

LINE TYPES

- Solid - Layer Break
- Dashed - Gradational or approximate layer break

GROUND-WATER SYMBOLS

- Groundwater level during drilling
- Stabilized groundwater level

(S.P.T.) Number of blows of 140 lb. hammer falling 30" to drive a 2-inch O.D. (1-3/8 inch I.D.) sampler

* Unconfined compressive strength in tons/sq. ft., asterisk on log means determined by pocket penetrometer

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LOG OF BORING 1-B4

ENGEO INCORPORATED

Geotechnical Exploration
UPRR Property
Fremont, CA
11274.000.000

DATE DRILLED: 6/13/2014
HOLE DEPTH: Approx. 47½ ft.
HOLE DIAMETER: 6.0 in.
SURF ELEV (NAVD88): Approx. 33 ft.

LOGGED / REVIEWED BY: T. Hall / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: Mud Rotary
HAMMER TYPE: Automatic Trip Hammer

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			Asphalt												
			Aggregate Base												
	1		Lean Clay (CL), reddish brown, grab sample												
5			Lean Clay (CL), reddish brown, stiff, moist, with trace gravels			21	37	15	22	67	15.6		3000* 1950*		PP TV
	2														
10	3		containing more fine grained sand			12	26	13	13	56	17.3	108.9	1000* 1525*		PP TV
	4														
15			containing more clay			24	29	14	15	73	19.8	106.2	2000* 1325*		PP TV
	5														
20	6														

LOG OF BORING 1-B4

ENGEO INCORPORATED

Geotechnical Exploration
UPRR Property
Fremont, CA
11274.000.000

DATE DRILLED: 6/13/2014
HOLE DEPTH: Approx. 47½ ft.
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DRILLING METHOD: Mud Rotary
HAMMER TYPE: Automatic Trip Hammer

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			Lean Clay (CL), brown, stiff, moist												
						26	25	13	12	63	18.2		1500* 925*		PP TV
	7														
25			containing more clay												
						18	27	15	12	82	20.5		2000* 1125*		PP TV
	8														
	9														
30															
						24	30	13	17	62	16.6		2500* 1230*		PP TV
	10														
35															
						26	33	15	18	77	20.6		2500* 1850*		PP TV
	11														
	12														
40															

LOG OF BORING 1-B4

ENGEO INCORPORATED

Geotechnical Exploration
UPRR Property
Fremont, CA
11274.000.000

DATE DRILLED: 6/13/2014
HOLE DEPTH: Approx. 47½ ft.
HOLE DIAMETER: 6.0 in.
SURF ELEV (NAVD88): Approx. 33 ft.

LOGGED / REVIEWED BY: T. Hall / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: Mud Rotary
HAMMER TYPE: Automatic Trip Hammer

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			Lean Clay (CL), brown, stiff, moist												
	13		Sandy Silty Clay (CL-ML), brown, hard, moist, well graded sand			35	22	16	6	60	17	108.8	2000* 725*		PP TV
45	14		Lean Clay (CL), brown, hard, moist, with some sand and trace gravel			45	33	14	19	61	15		>4500*		PP
			Boring terminated at approximately 47 1/2 feet below existing grade.												

LOG OF BORING 1-B6

ENGEO INCORPORATED

Geotechnical Exploration
UPRR Property
Fremont, CA
11274.000.000

DATE DRILLED: 6/13/2014
HOLE DEPTH: Approx. 49½ ft.
HOLE DIAMETER: 6.0 in.
SURF ELEV (NAVD88): Approx. 26 ft.

LOGGED / REVIEWED BY: T. Hall / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: Mud Rotary
HAMMER TYPE: Automatic Trip Hammer

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			Asphalt												
			Aggregate Base												
	1		Lean Clay (CL), dark brown, dessicated												
5			stiff and moist			23	49	16	33	73	17.2	111.4	4000* 4500*		PP TV
	2														
10	3		Lean Clay (CL), brown, stiff, moist, with fine grained sand			26	32	17	15	81	19.5	104.8	4000*		PP
	4														
15			Lean Clay (CL), bluish gray, stiff, moist			21	37	17	20				2000* 1230*		PP TV
	5														
20	6														

LOG OF BORING 1-B6

ENGEO INCORPORATED

Geotechnical Exploration
UPRR Property
Fremont, CA
11274.000.000

DATE DRILLED: 6/13/2014
HOLE DEPTH: Approx. 49½ ft.
HOLE DIAMETER: 6.0 in.
SURF ELEV (NAVD88): Approx. 26 ft.

LOGGED / REVIEWED BY: T. Hall / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: Mud Rotary
HAMMER TYPE: Automatic Trip Hammer

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			Lean Clay (CL), light brown, soft, moist, with some horizontal sand lenses												
						3	26	13	13	66	22.8	103.3	1025* 750*		TV PP
	7														
25			light brown and gray												
						34	27	13	14	74	19		3500*		PP
	8														
	9														
30						17	25	13	12		18.7		500*		PP
	10														
35						25	30	14	16	69	18.8		2500*		PP
	11														
	12														
40															

LOG OF BORING 1-B6

ENGEO INCORPORATED

Geotechnical Exploration
UPRR Property
Fremont, CA
11274.000.000

DATE DRILLED: 6/13/2014
HOLE DEPTH: Approx. 49½ ft.
HOLE DIAMETER: 6.0 in.
SURF ELEV (NAVD88): Approx. 26 ft.

LOGGED / REVIEWED BY: T. Hall / JAF
DRILLING CONTRACTOR: Pitcher Drilling
DRILLING METHOD: Mud Rotary
HAMMER TYPE: Automatic Trip Hammer

Depth in Feet	Depth in Meters	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Shear Strength (psf) *field approximation	Unconfined Strength (tsf) *field approximation	Strength Test Type
			Lean Clay (CL), brown, stiff, moist			38	40	17	23	77	19.9		2500* 1230*		PP TV
	13														
45			Sandy Silty Clay (CL-ML), brown, medium stiff, moist, fine grained sand			15	21	6	15	59	18.2		1500* 205*		PP TV
	14														
			Lean Clay (CL), brown, very stiff, moist			46	30	17	13	63	15.7		3750*		PP
	15														
			Boring terminated at approximately 49 1/2 feet below existing grade.												

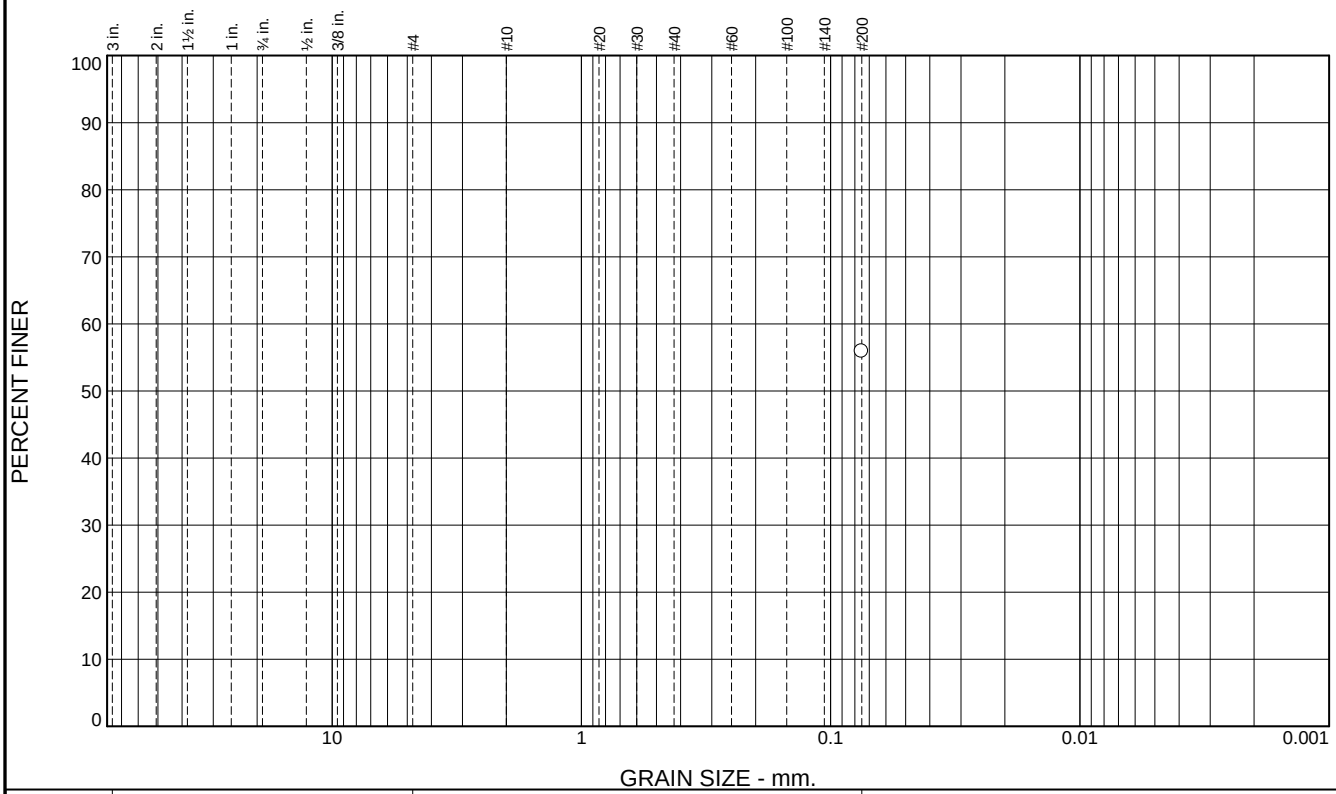
APPENDIX B

LABORATORY TEST DATA

Liquid and Plastic Limits Test Report
Consolidation Test Report
Particle Size Distribution Report
Analytical Results of Soil Corrosion (3 pages)

APPENDIX B

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						55.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	55.9		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 10.5 **Depth:** 10.5

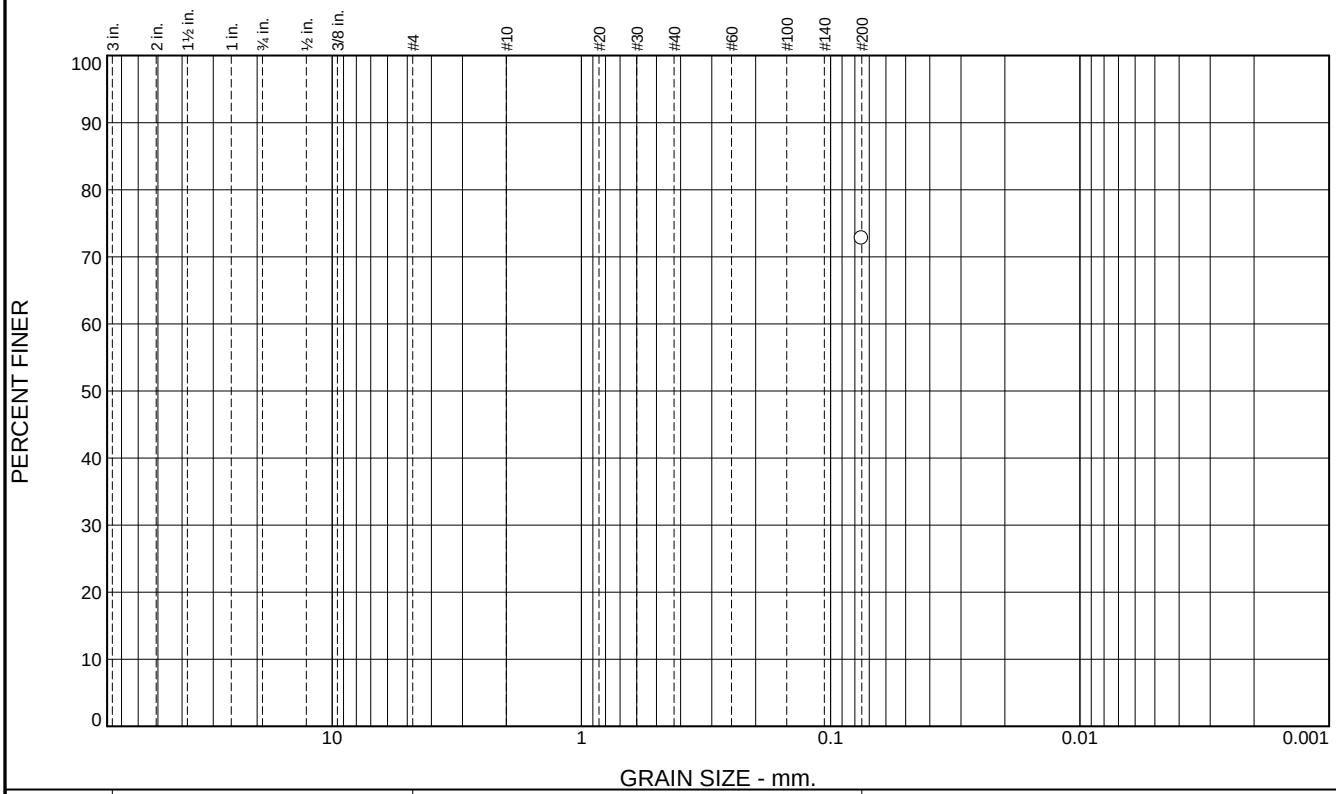
Date: 4-23-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						72.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	72.8		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 15.5 **Depth:** 15.5

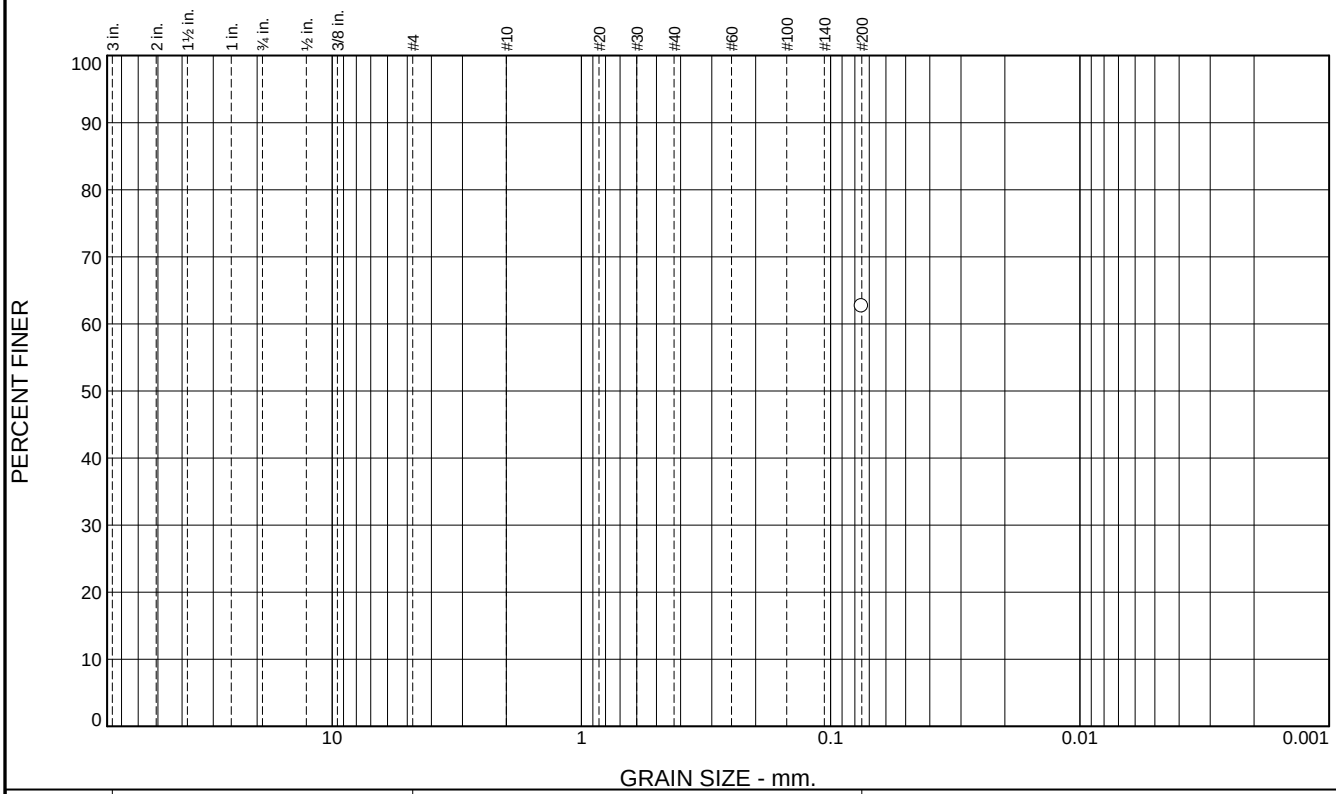
Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						62.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	62.6		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 20.5 **Depth:** 20.5

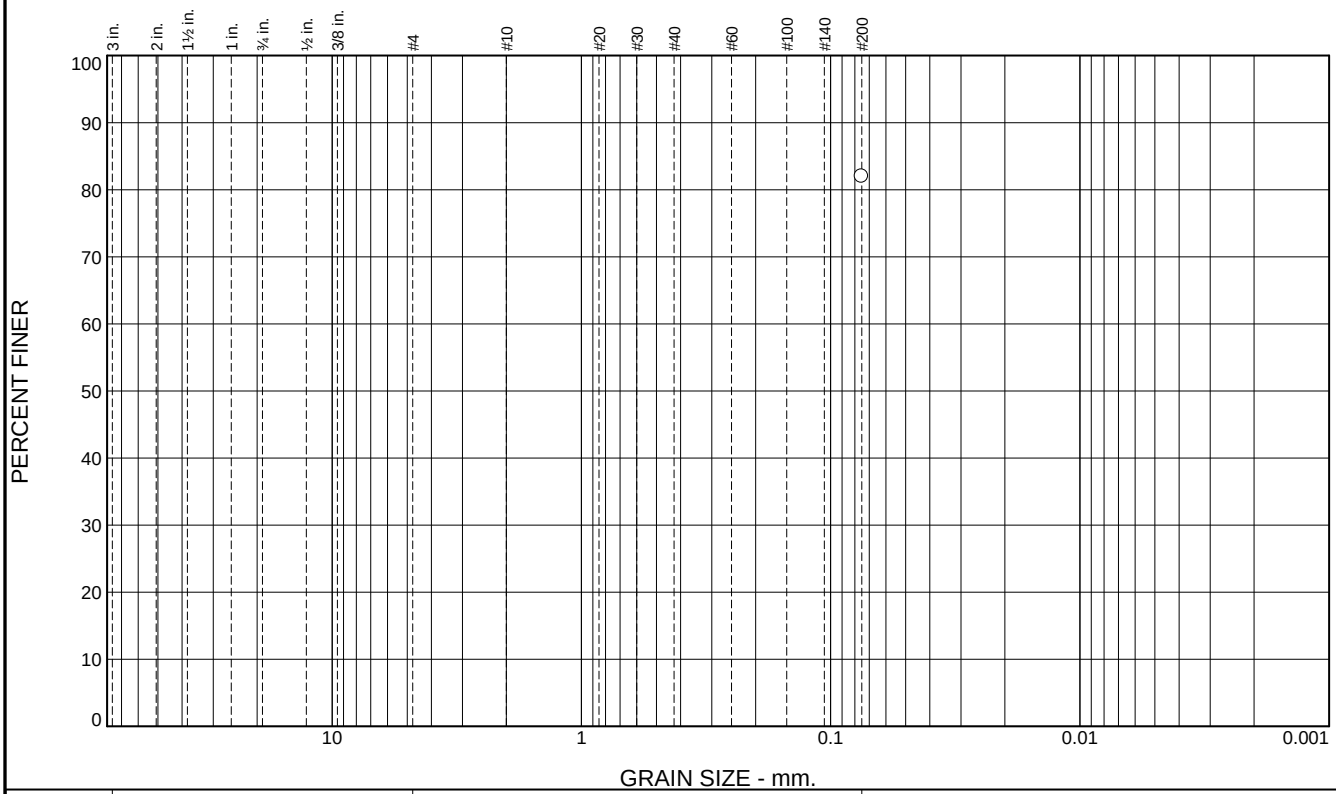
Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						82.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	82.0		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 25.5 **Depth:** 25.5

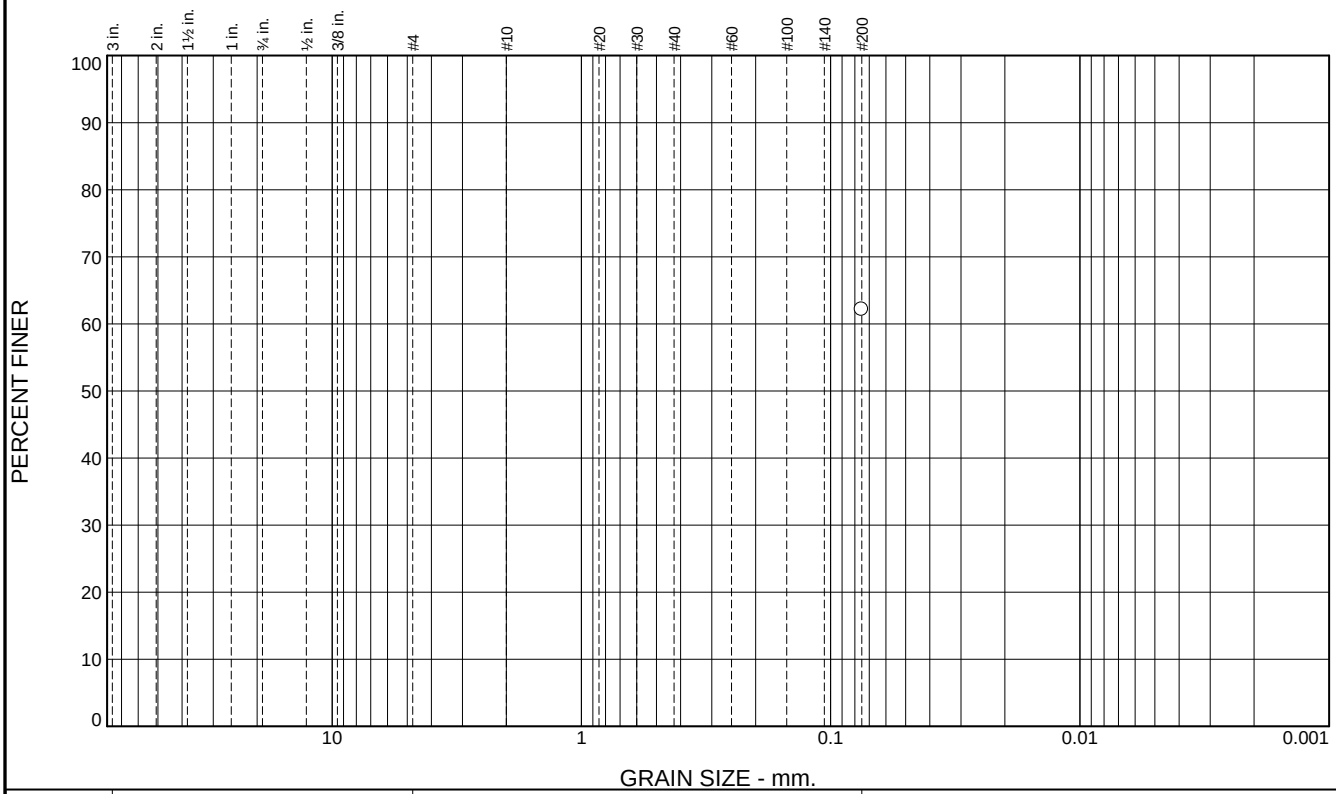
Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						62.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	62.2		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 30.5 **Depth:** 30.5

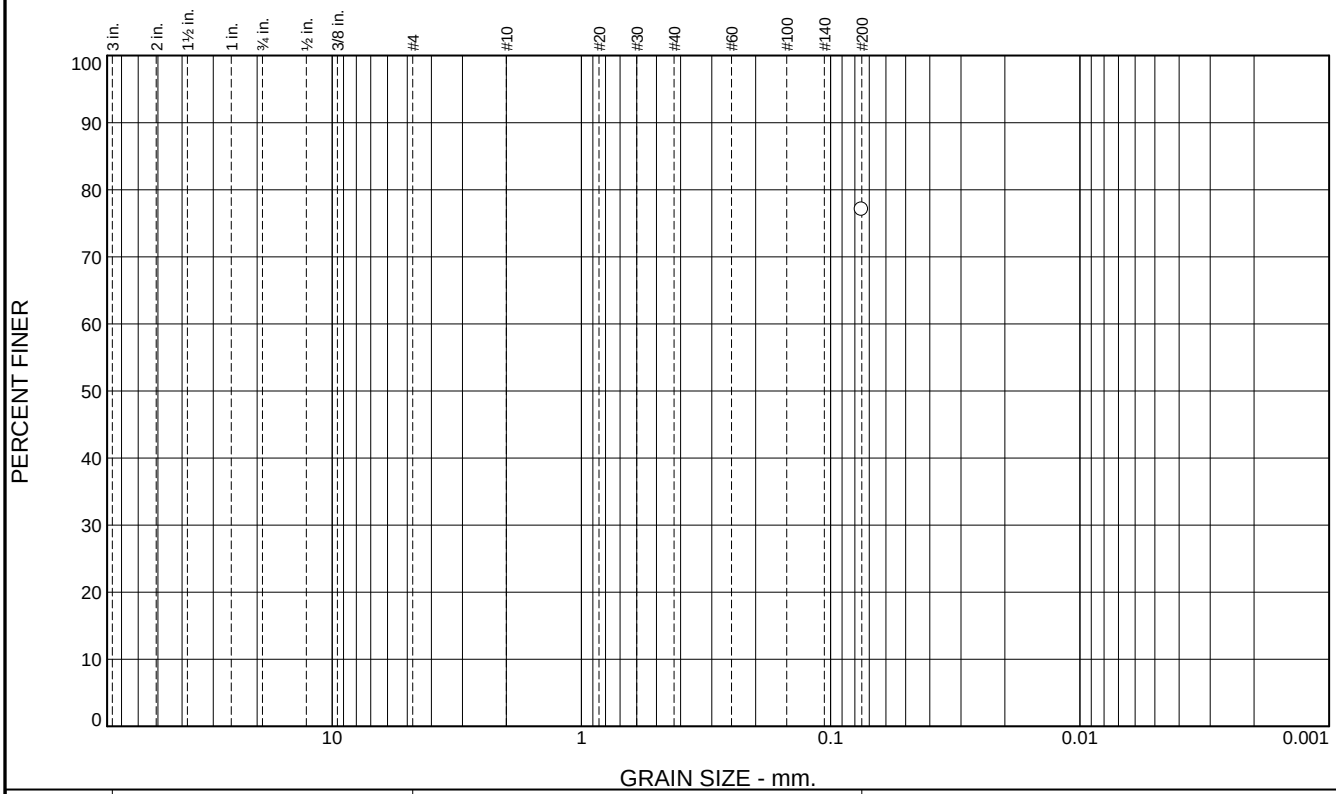
Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						77.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	77.0		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 35.5 **Depth:** 35.5

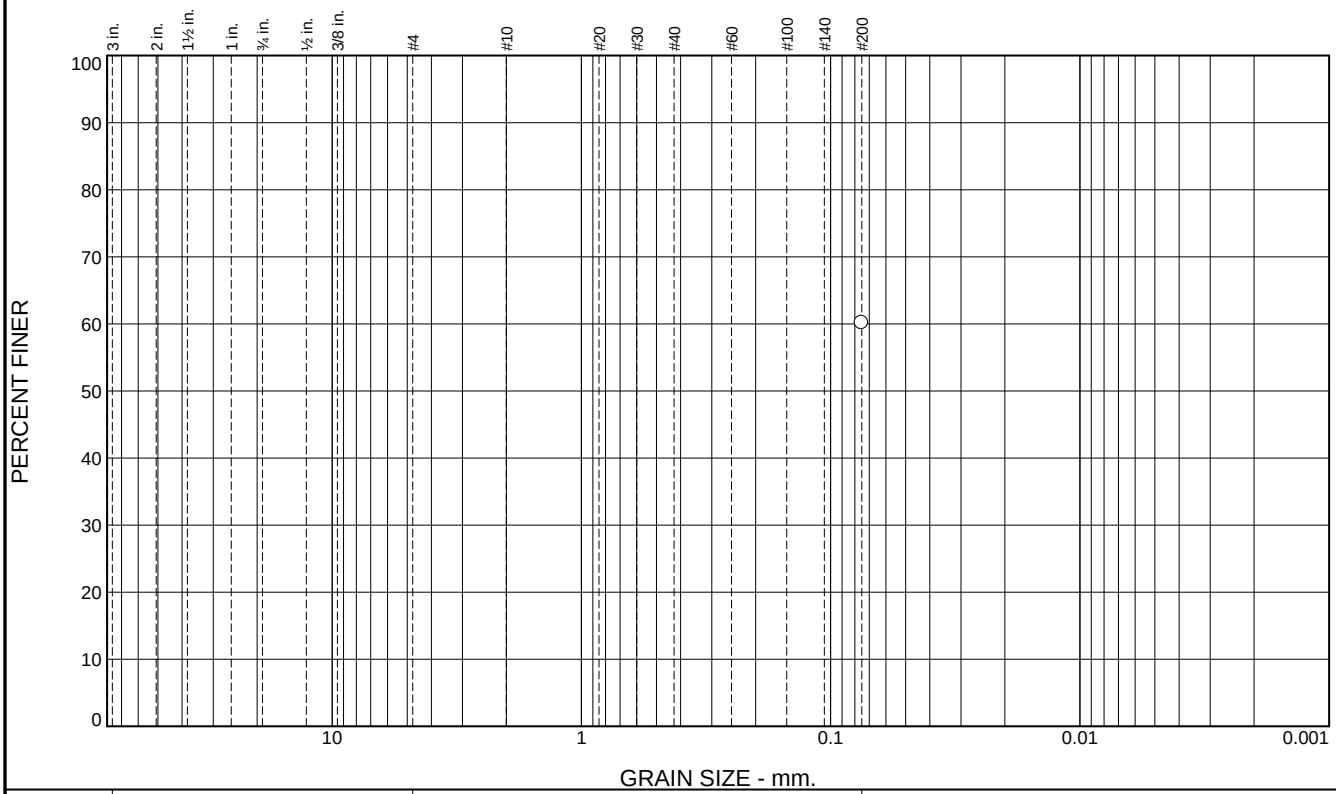
Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						60.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	60.1		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 42.5 **Depth:** 42.5

Date: 6-24-14

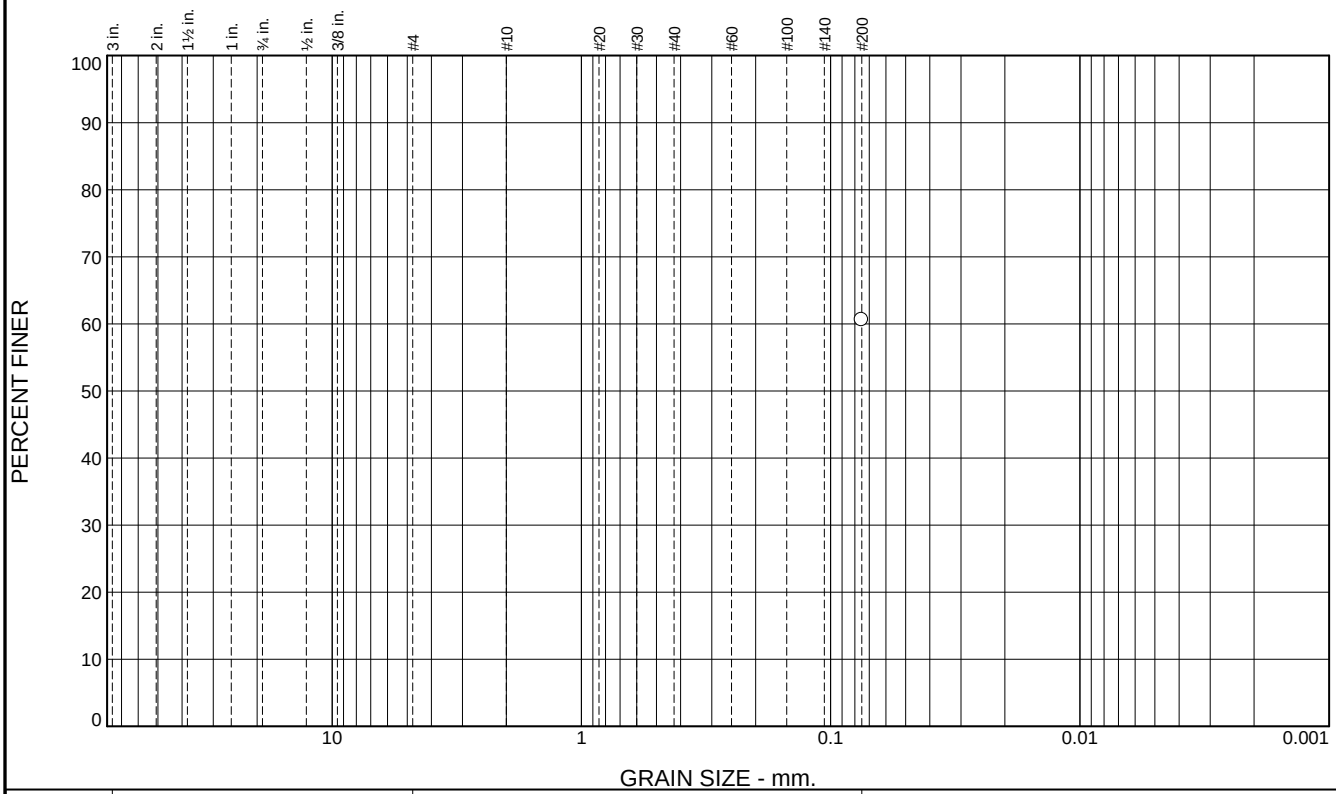
ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA

Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						60.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	60.6		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 47.5 **Depth:** 47.5

Date: 6-24-14

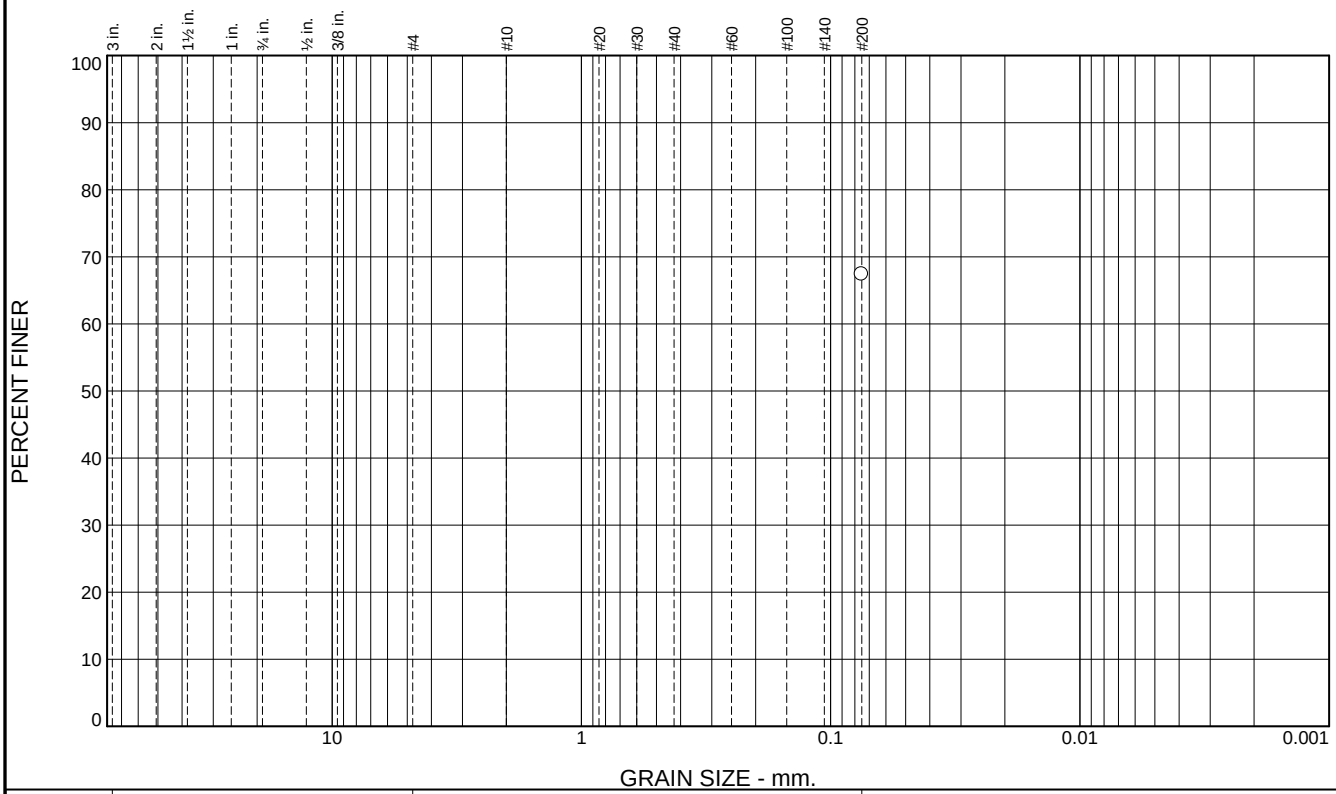
ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA

Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						67.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	67.4		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B4 @ 5.5 **Depth:** 5.5

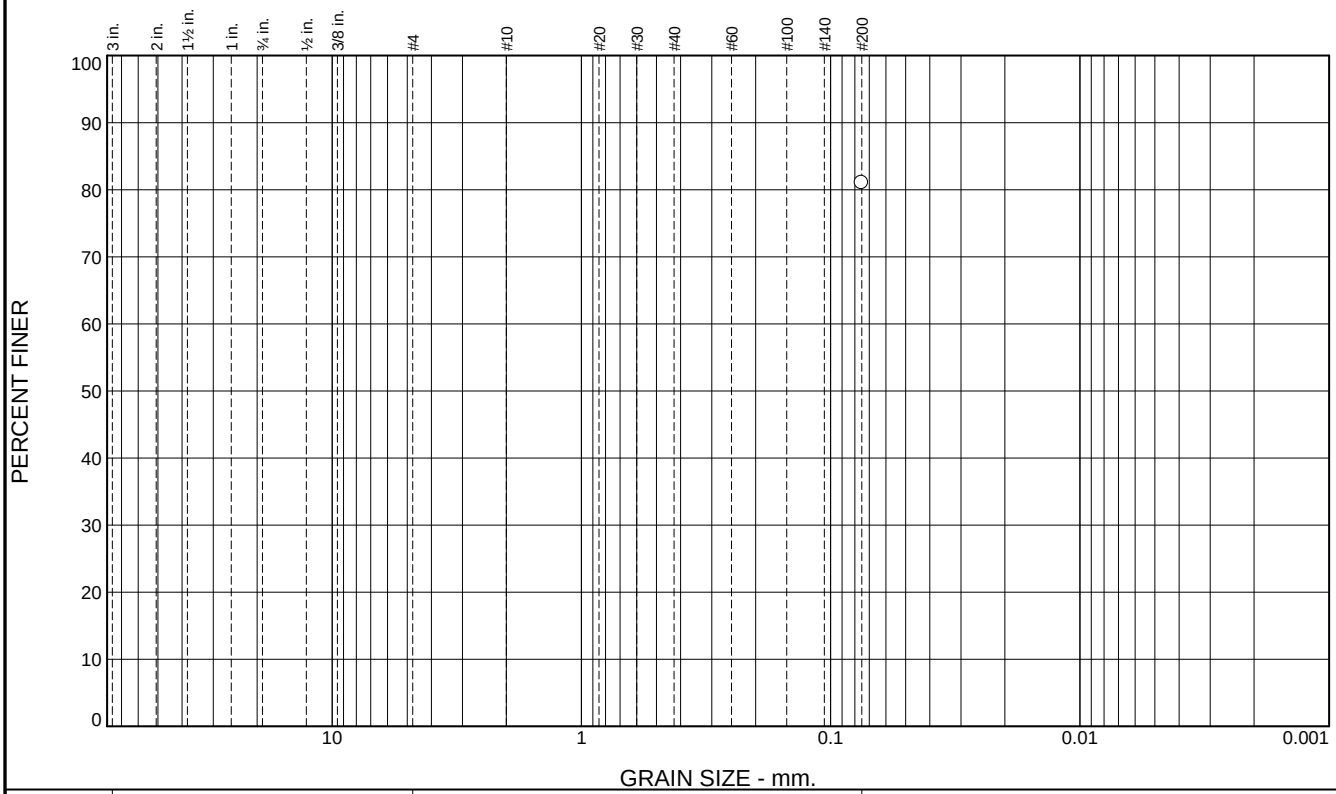
Date: 6-23-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						81.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	81.0		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 10.5 **Depth:** 10.5

Date: 6-24-14

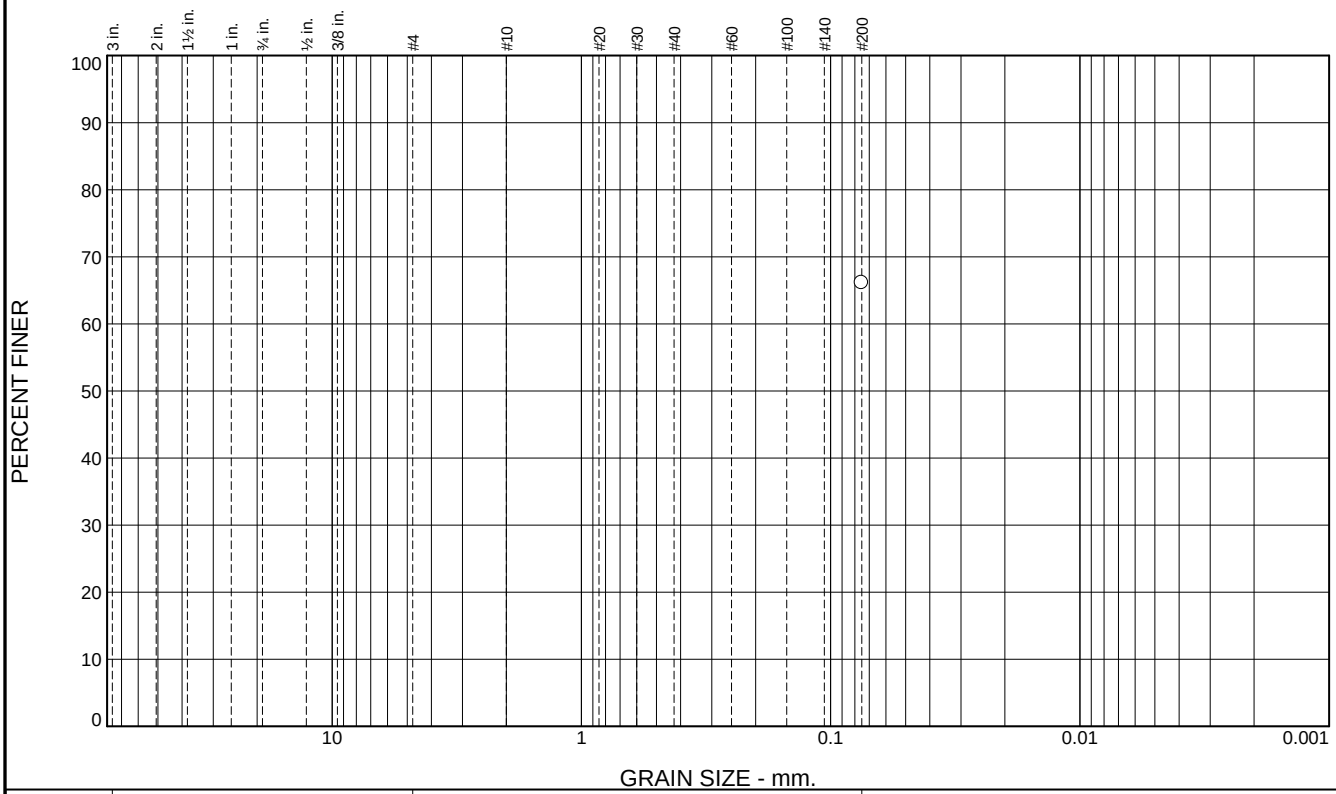
ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA

Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						66.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	66.1		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 21.5 **Depth:** 21.5

Date: 6-24-14

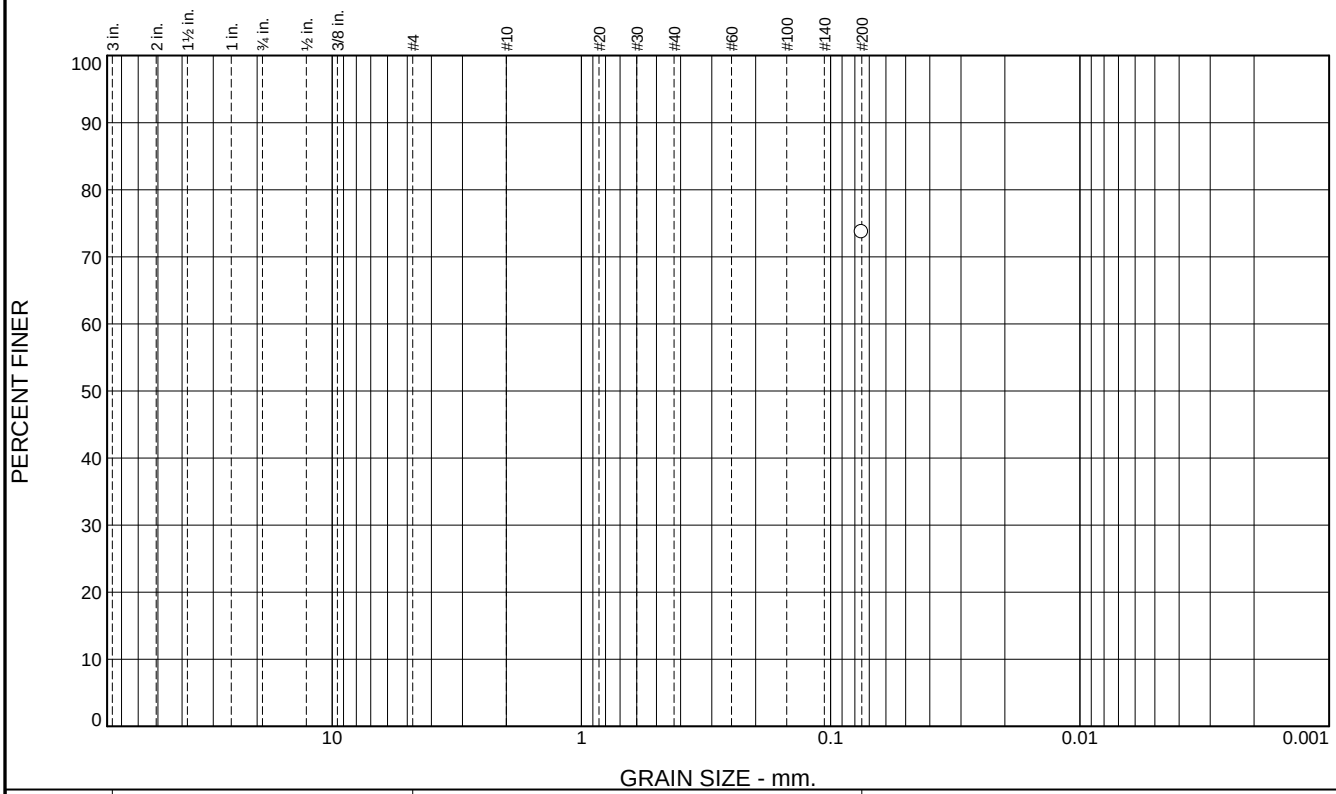
ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA

Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						73.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	73.7		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 25.5 **Depth:** 25.5

Date: 6-24-14

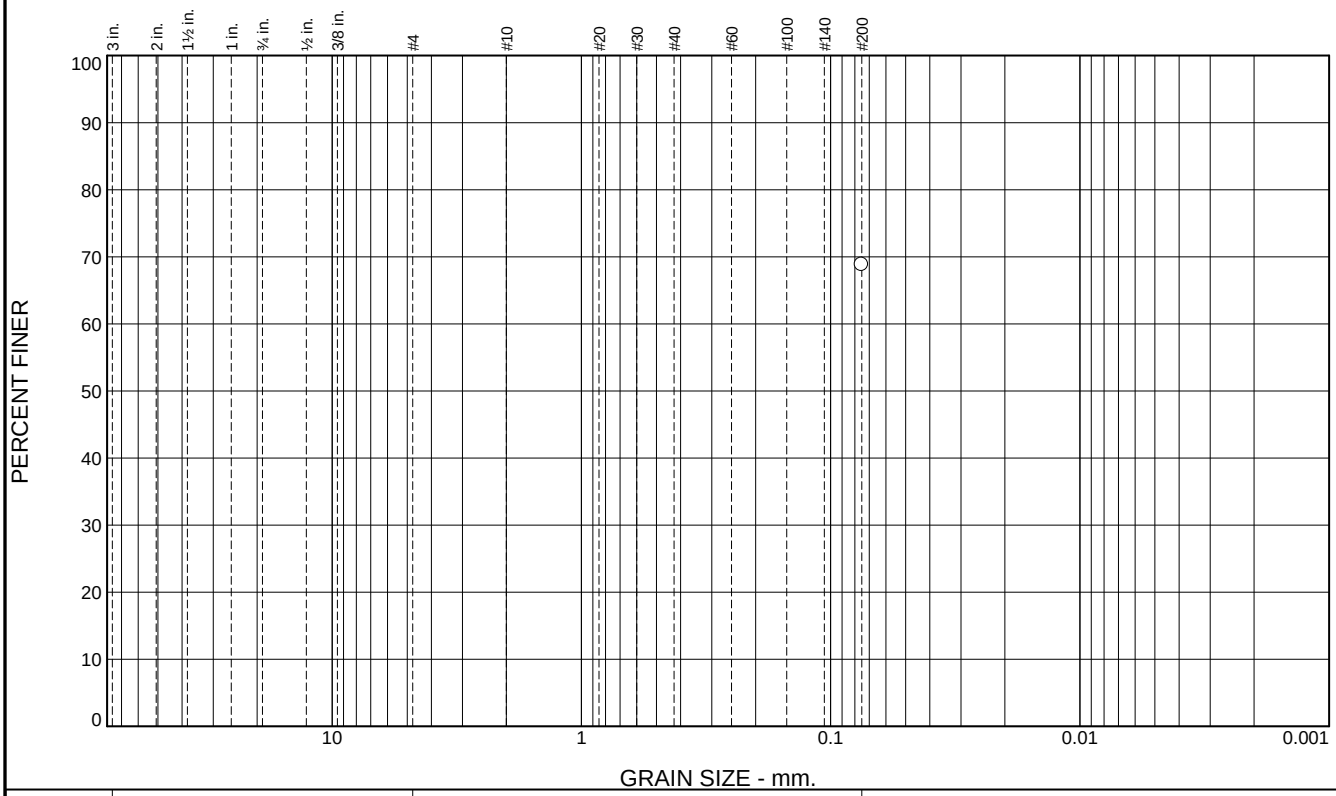
ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA

Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						68.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	68.8		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 35.5 **Depth:** 35.5

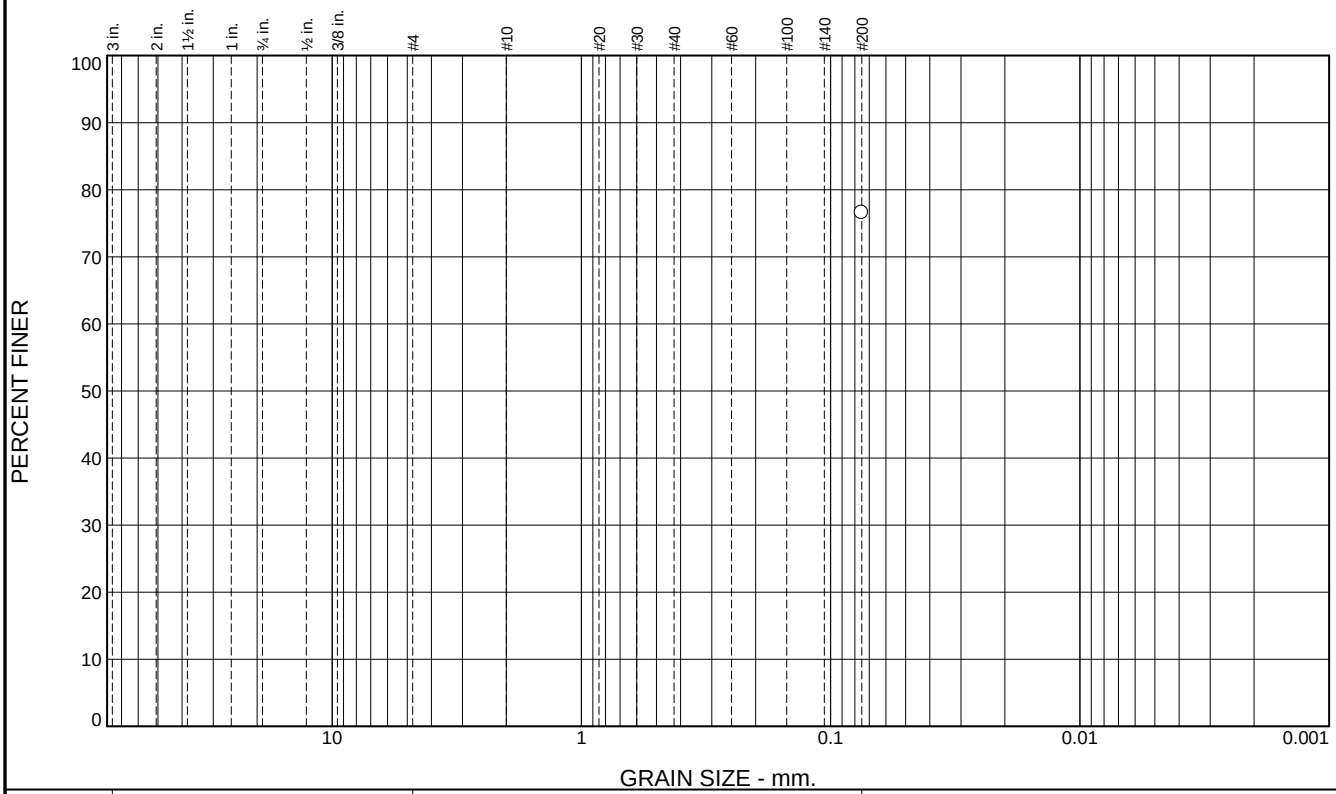
Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						76.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	76.6		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 40.5 **Depth:** 40.5

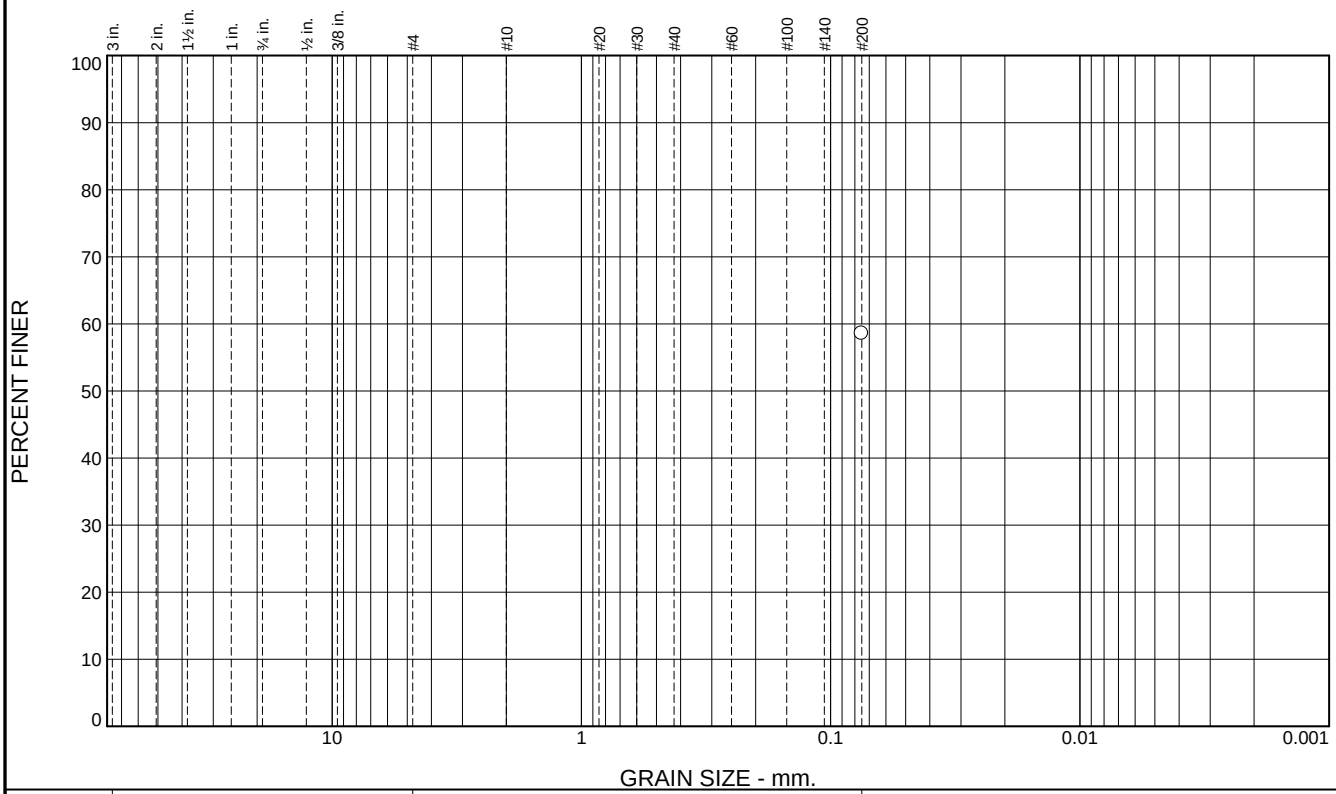
Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						58.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	58.6		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 45.5 **Depth:** 45.5

Date: 6-24-14

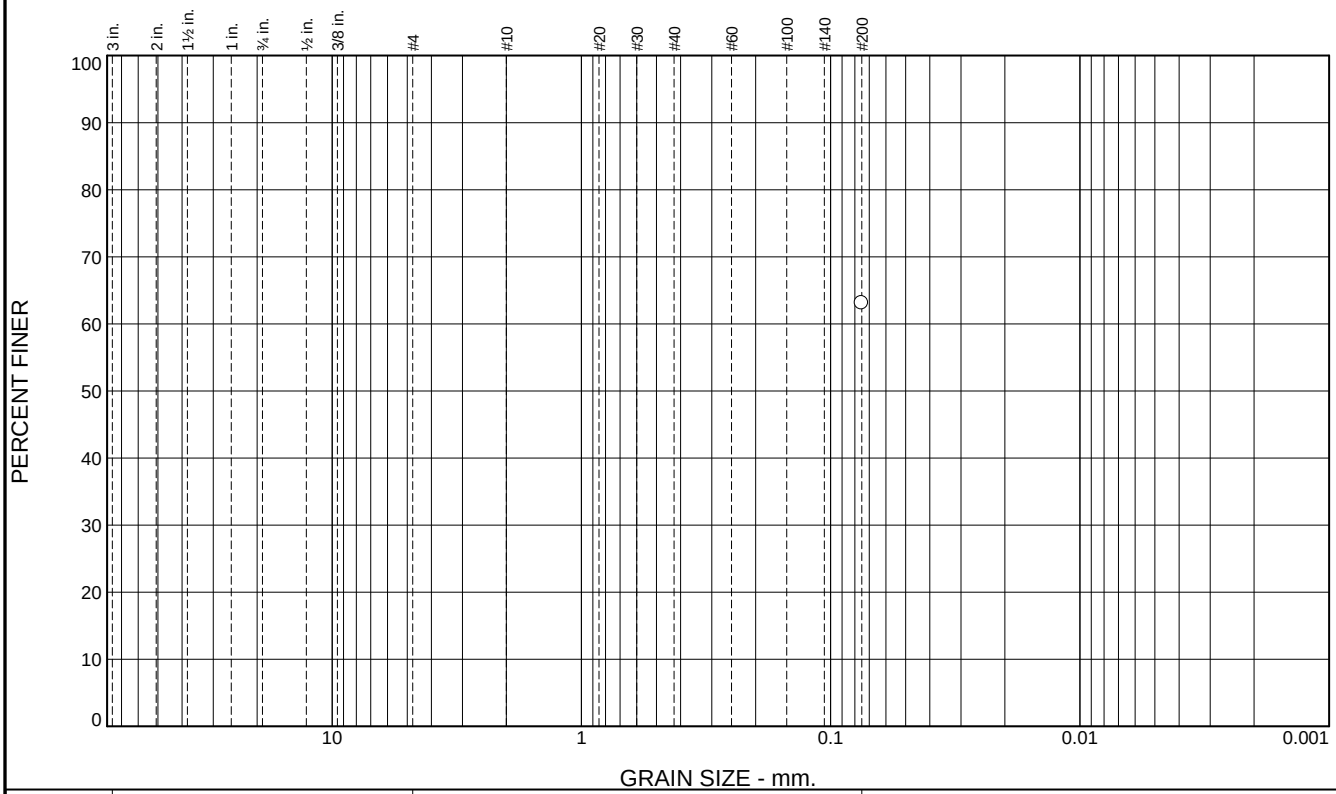
ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA

Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						63.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63.1		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 49 **Depth:** 49

Date: 6-24-14

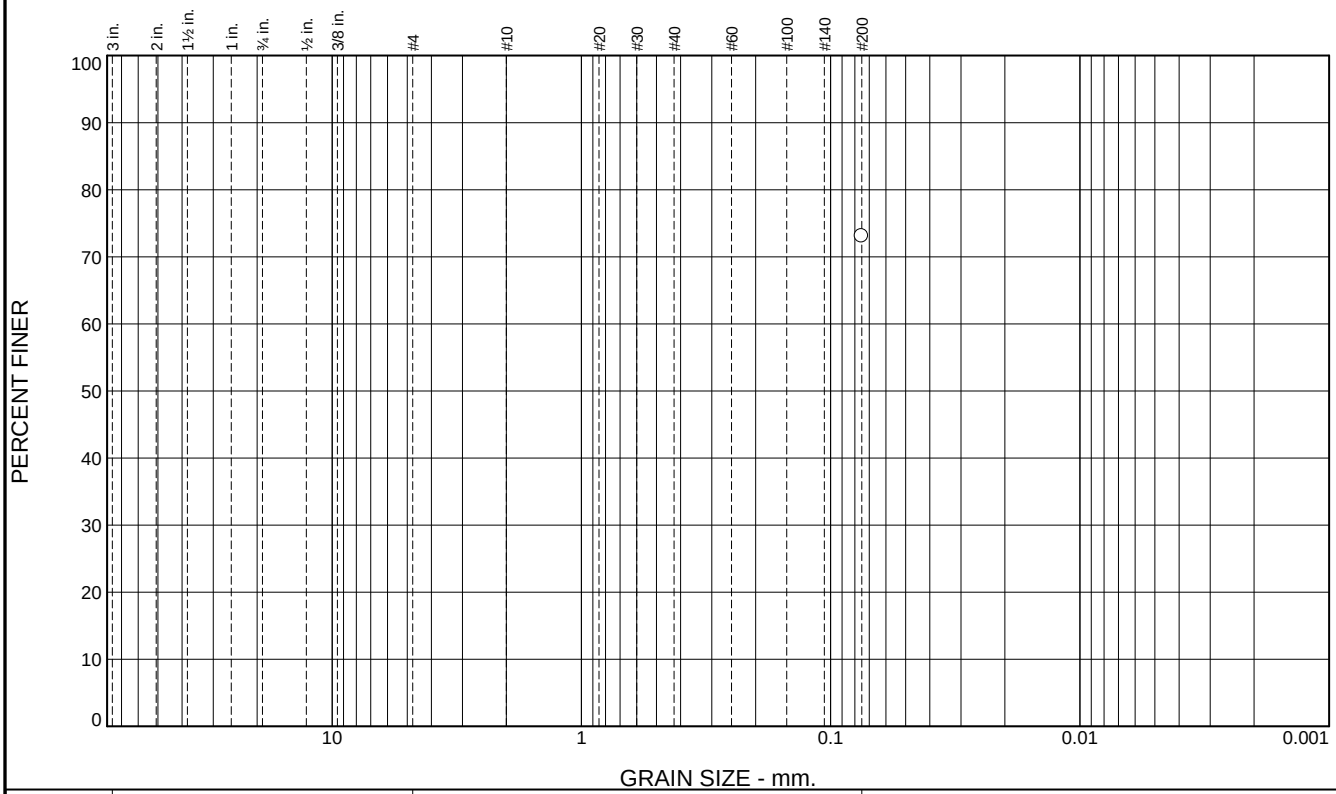
ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA

Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						73.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	73.1		

* (no specification provided)

Soil Description

See Exploratory Boring Log

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 1-B6 @ 5.5 **Depth:** 5.5

Date: 6-24-14

ENGEO INCORPORATED

Client: Lennar Homes
Project: UPRR Property - Fremont, CA
Project No: 11274.000.000 Ph 001 **Figure**

Tested By: KEL **Checked By:** RWS

MOISTURE CONTENT DETERMINATION (ASTM D 2216)

SAMPLE NO:	1-B4 @ 5.5	1-B4 @ 20.5	1-B4 @ 25.5
MOISTURE	15.3%	18.2%	20.5%

SAMPLE NO:	1-B4 @ 30.5	1-B4 @ 35.5	1-B4 @ 47.5
MOISTURE	16.6%	20.6%	15.0%

SAMPLE NO:	1-B6 @ 25.5	1-B6 @ 30.5	1-B6 @ 35.5
MOISTURE	19.0%	18.7%	18.8%

SAMPLE NO:	1-B6 @ 40.5	1-B6 @ 45.5	1-B6 @ 49
MOISTURE	19.9%	18.2%	15.7%

SAMPLE NO:			
MOISTURE			

SAMPLE NO:			
MOISTURE			

PROJECT NAME: UPRR Property - Fremont, CA
PROJECT NO: 11274.000.000
PHASE NO: 001

DATE SAMPLED: 6/16/2014
DATE TESTED: 6/20/2014
REVIEWED BY: RWS

ENGEO INCORPORATED

Laboratory Address: 11563 E. Palm Avenue, Manteca, CA 95337 (209) 835-0610

MOISTURE and DENSITY DETERMINATION (ASTM D 7263)

SAMPLE NO.	1-B4 @ 10.5	1-B4 @ 15.5	1-B4 @ 42.5
DEPTH (FT.)	10.5	15.5	42.5
WATER CONTENT (%)	17.3	19.8	19.7
DRY DENSITY (PCF)	108.9	106.2	108.8

SAMPLE NO.	1-B6 @ 5.5	1-B6 @ 10.5	1-B6 @ 21.5
DEPTH (FT.)	5.5	10.5	21.5
WATER CONTENT (%)	17.2	19.5	22.8
DRY DENSITY (PCF)	111.4	104.8	103.3

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

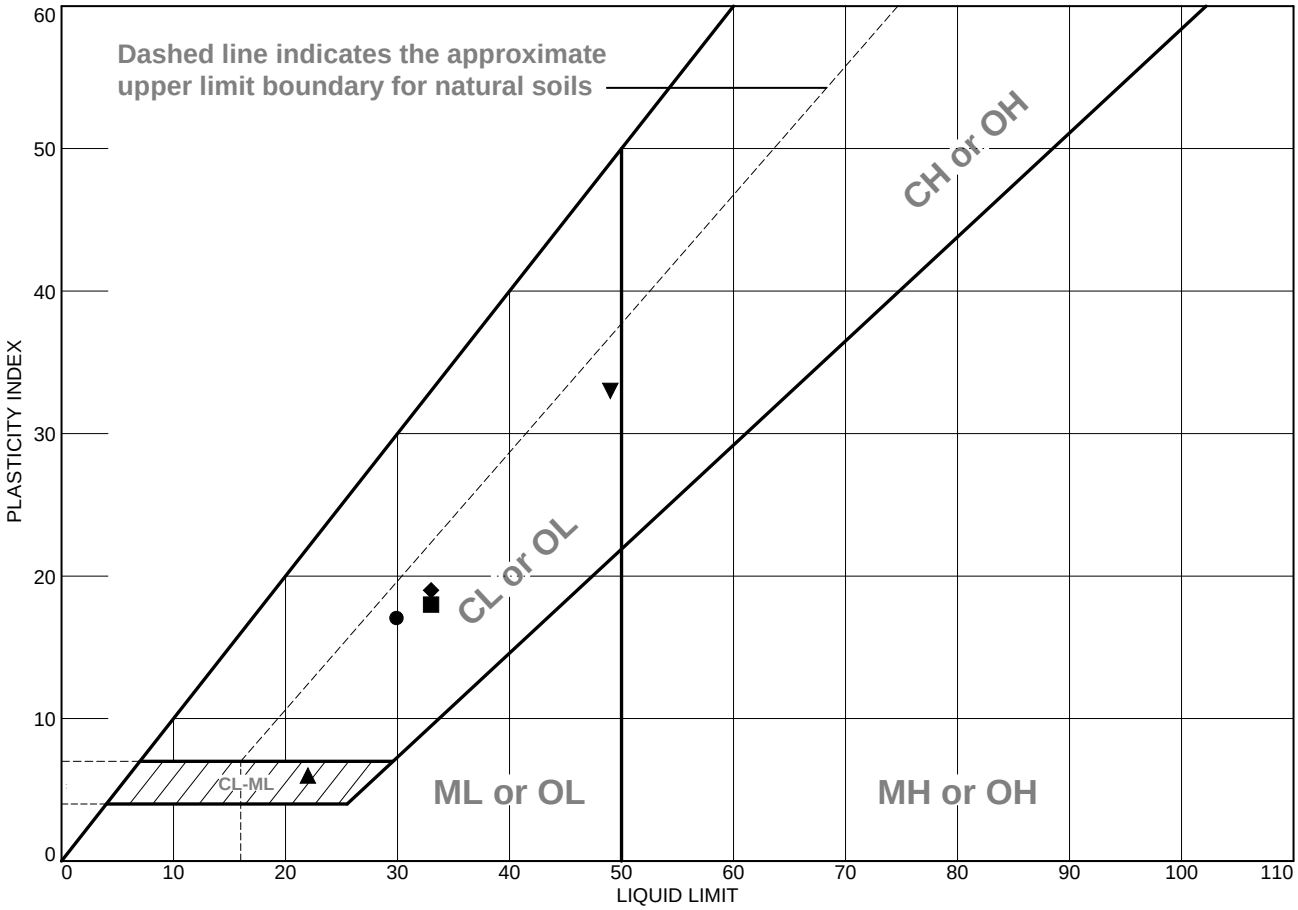
PROJECT NAME: UPRR Property - Fremont, CA
PROJECT NO: 11274.000.000
PHASE NO: 001

DATE SAMPLED: 6/16/2014
DATE TESTED: 6/20/2014
REVIEWED BY: RWS

ENGEO INCORPORATED

Laboratory Address: 11563 E. Palm Avenue, Manteca, CA 95337 (209) 835-0610

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Log	30	13	17			CL
■	See Exploratory Boring Log	33	15	18			CL
▲	See Exploratory Boring Log	22	16	6			ML
◆	See Exploratory Boring Log	33	14	19			CL
▼	See Exploratory Boring Log	49	16	33			CL

Project No. 11274.000.000 **Client:** Lennar Homes

Project: UPRR Property - Fremont, CA

●**Depth:** 31 **Sample Number:** 1-B4 @ 31
■**Depth:** 36 **Sample Number:** 1-B4 @ 36
▲**Depth:** 43 **Sample Number:** 1-B4 @ 43
◆**Depth:** 48 **Sample Number:** 1-B4 @ 48
▼**Depth:** 6 **Sample Number:** 1-B6 @ 6

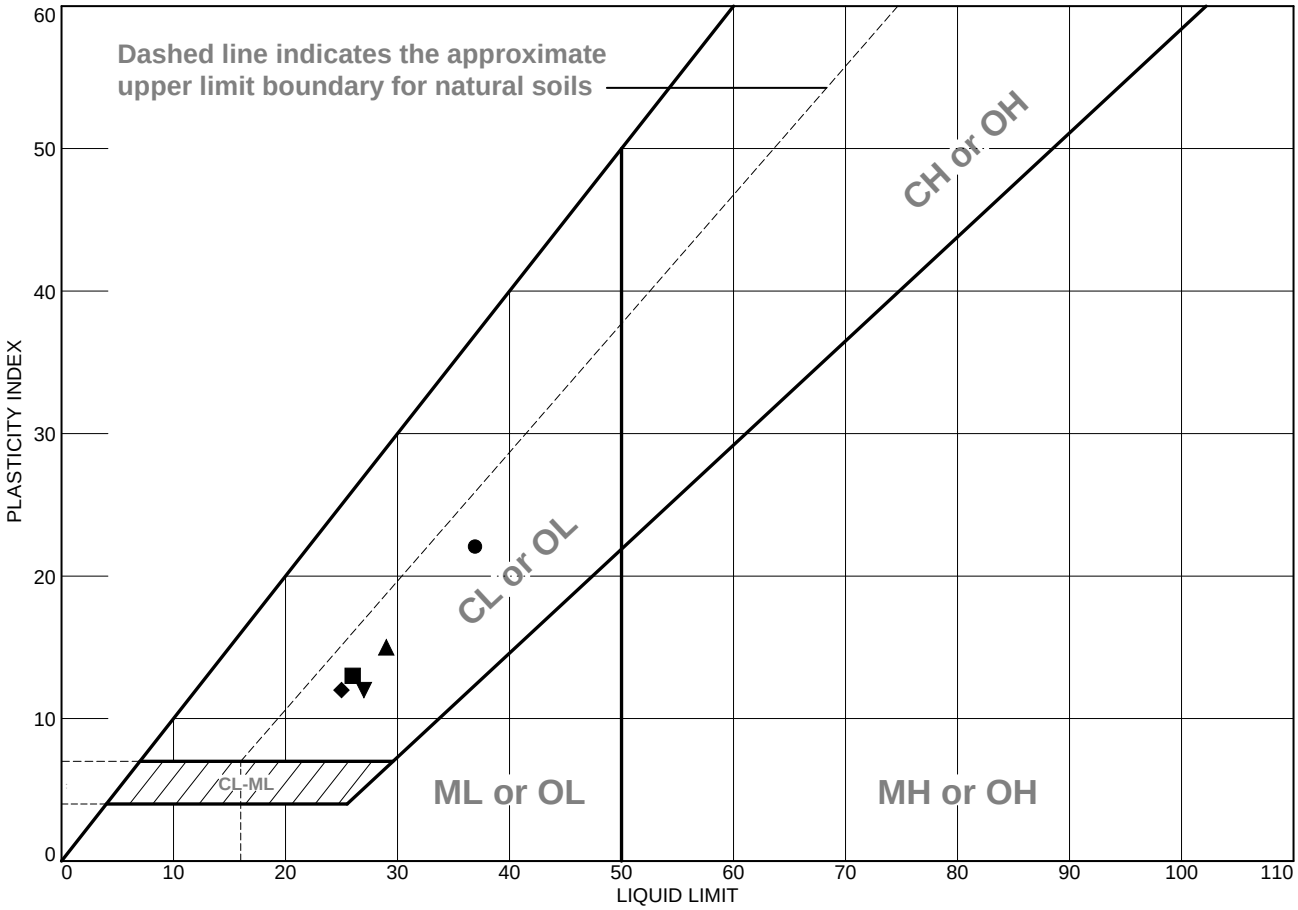
ENGEO INCORPORATED

Remarks:

Figure

Tested By: ○ KEL □ RWS △ KEL ◇ KEL ▽ KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Log	37	15	22			CL
■	See Exploratory Boring Log	26	13	13			CL
▲	See Exploratory Boring Log	29	14	15			CL
◆	See Exploratory Boring Log	25	13	12			CL
▼	See Exploratory Boring Log	27	15	12			CL

Project No. 11274.000.000 **Client:** Lennar Homes

Project: UPRR Property - Fremont, CA

●**Depth:** 6 **Sample Number:** 1-B4 @ 6
■**Depth:** 11 **Sample Number:** 1-B4 @ 11
▲**Depth:** 16 **Sample Number:** 1-B4 @ 16
◆**Depth:** 21 **Sample Number:** 1-B4 @ 21
▼**Depth:** 26 **Sample Number:** 1-B4 @ 26

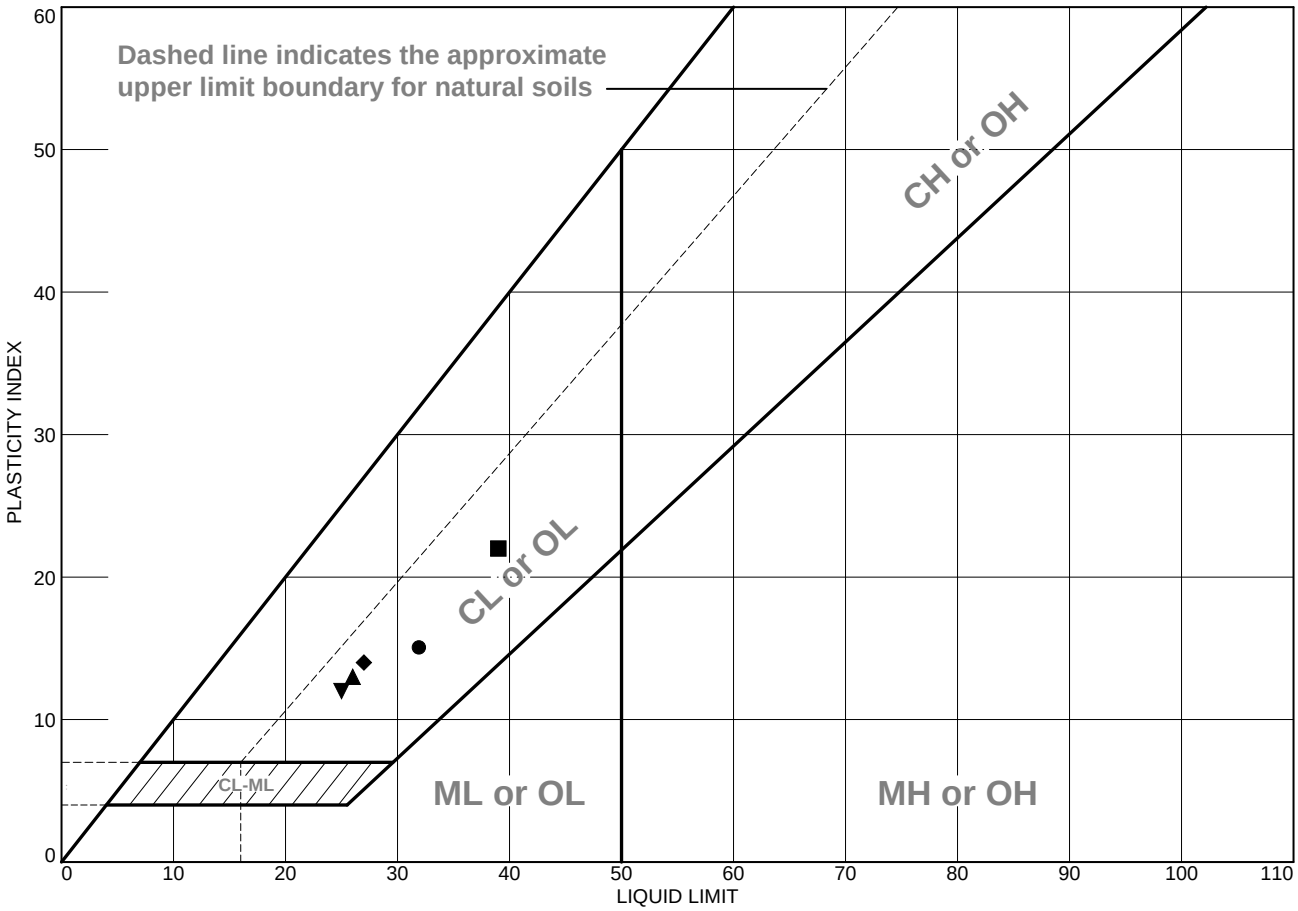
Remarks:

ENGEO INCORPORATED

Figure

Tested By: ○ KEL □ KEL △ RWS ◇ RWS ▽ RWS **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Log	32	17	15			CL
■	See Exploratory Boring Log	39	17	22			CL
▲	See Exploratory Boring Log	26	13	13			CL
◆	See Exploratory Boring Log	27	13	14			CL
▼	See Exploratory Boring Log	25	13	12			CL

Project No. 11274.000.000 **Client:** Lennar Homes

Project: UPRR Property - Fremont, CA

●**Depth:** 11 **Sample Number:** 1-B6 @ 11
■**Depth:** 16 **Sample Number:** 1-B6 @ 16
▲**Depth:** 22 **Sample Number:** 1-B6 @ 22
◆**Depth:** 26 **Sample Number:** 1-B6 @ 26
▼**Depth:** 31 **Sample Number:** 1-B6 @ 31

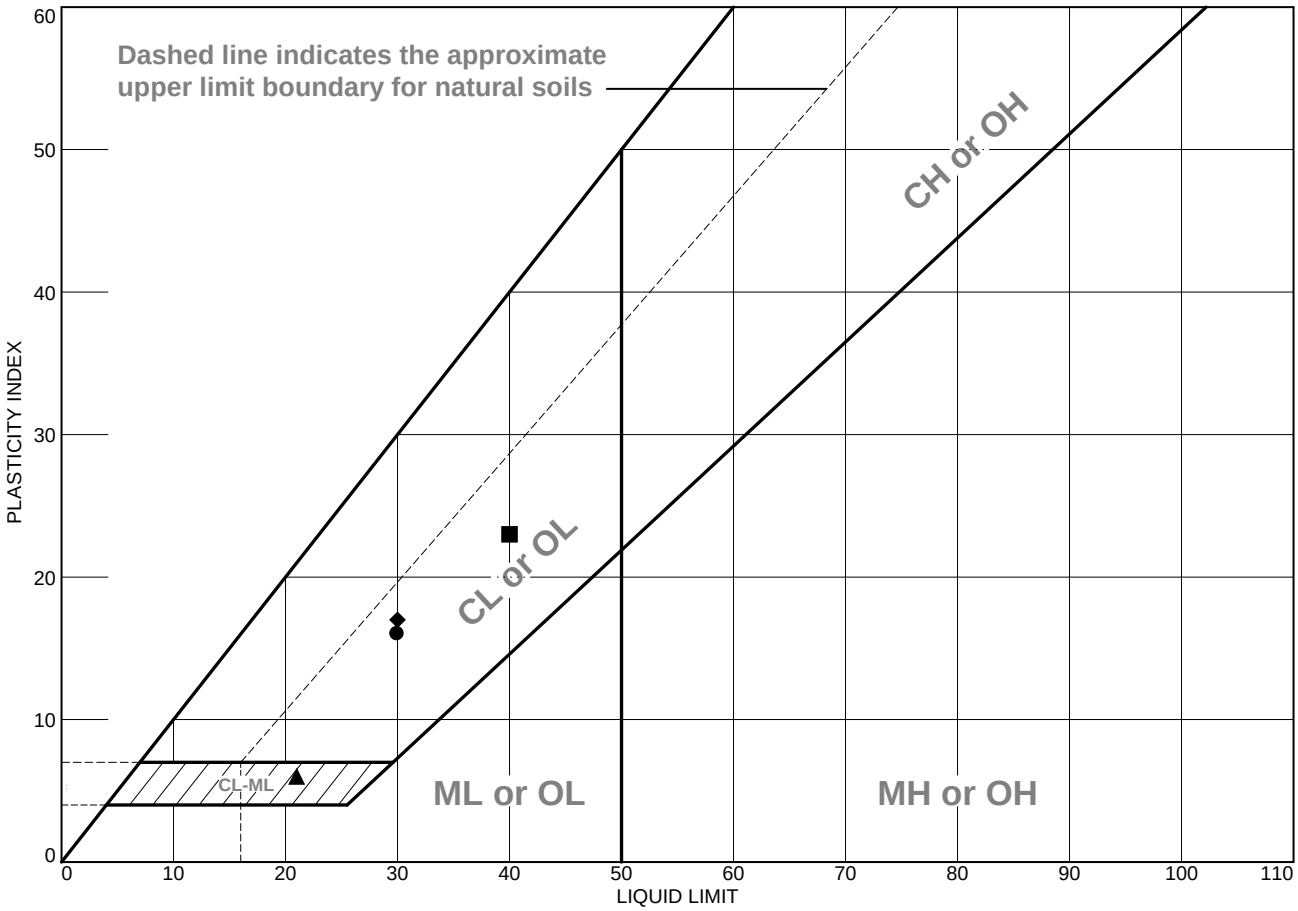
ENGEO INCORPORATED

Remarks:

Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Log	30	14	16			CL
■	See Exploratory Boring Log	40	17	23			CL
▲	See Exploratory Boring Log	21	15	6			ML
◆	See Exploratory Boring Log	30	13	17			CL

Project No. 11274.000.000 **Client:** Lennar Homes

Project: UPRR Property - Fremont, CA

●**Depth:** 36 **Sample Number:** 1-B6 @ 36

■**Depth:** 41 **Sample Number:** 1-B6 @ 41

▲**Depth:** 46 **Sample Number:** 1-B6 @ 46

◆**Depth:** 49.5 **Sample Number:** 1-B6 @ 49.5

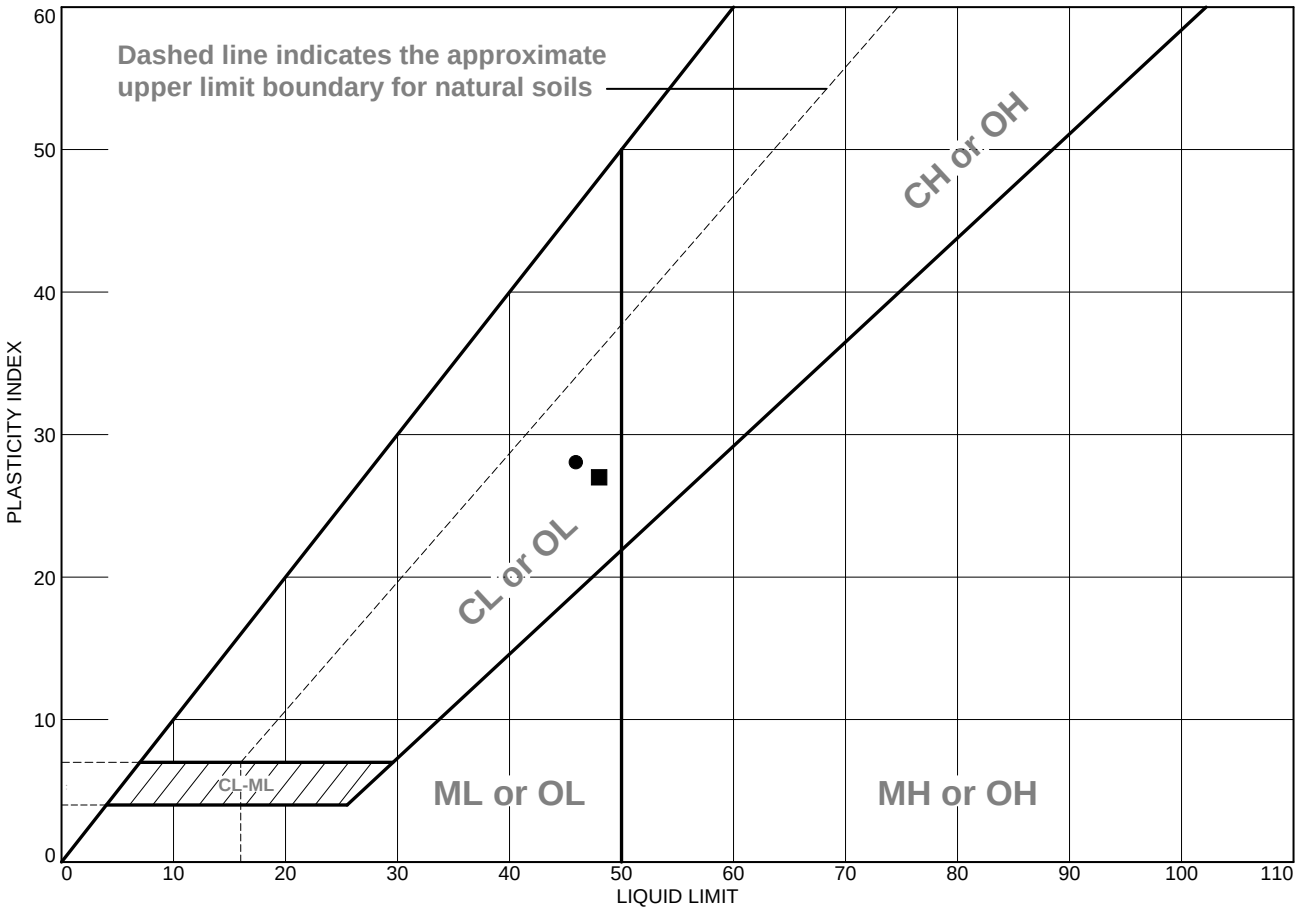
ENGEO INCORPORATED

Remarks:

Figure

Tested By: ○ KEL □ KEL △ KLE ◇ KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Log	46	18	28			CL
■	See Exploratory Boring Log	48	21	27			CL

Project No. 11274.000.000 **Client:** Lennar Homes

Project: UPRR Property - Fremont, CA

●**Sample Number:** CPT-1

■**Sample Number:** CPT-2

Remarks:

ENGEO INCORPORATED

Figure

Tested By: KEL **Checked By:** RWS

Sunland Analytical
11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 06/26/2014
Date Submitted 06/23/2014

To: Taylor Hall
Engeo, Inc.
2010 Crow Canyon PL. Ste #250
San Ramon, CA 94583

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 11274.PH01-UPRR PROP Site ID : 1-B4 @ 3 F.
Thank you for your business.

* For future reference to this analysis please use SUN # 67264-139422.

EVALUATION FOR SOIL CORROSION

Soil pH	8.49		
Resistivity as rec	49.41	ohm-cm (x1000)	
Resistivity at Sat.	1.23	ohm-cm (x1000)	
Chloride	1.6 ppm	00.00016	%
Sulfate	1.7 ppm	00.00017	%
Redox Potential	No Test		
Sulfides	No Test		

METHODS
pH ASTM G-51 (@ sat) Resistivity ASTM G57 Mod.(Sm.Cell)
Sulfate ASTM D516 Mod.,Chloride ASTM D512 Mod.
Redox Potential ASTM G-200, Sulfides AWWA C105/A25.5

Sunland Analytical
11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 06/26/2014
Date Submitted 06/23/2014

To: Taylor Hall
Engeo,Inc.
2010 Crow Canyon PL. Ste #250
San Ramon, CA 94583

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 11274.PH01-UPRR PROP Site ID : 1-B6 @ 3 FT.
Thank you for your business.

* For future reference to this analysis please use SUN # 67264-139423.

EVALUATION FOR SOIL CORROSION

Soil pH	8.20		
Resistivity as rec	72.07	ohm-cm (x1000)	
Resistivity at Sat.	0.70	ohm-cm (x1000)	
Chloride	4.5 ppm	00.00045	%
Sulfate	1.4 ppm	00.00014	%
Redox Potential	No Test		
Sulfides	No Test		

METHODS
pH ASTM G-51 (@ sat) Resistivity ASTM G57 Mod.(Sm.Cell)
Sulfate ASTM D516 Mod.,Chloride ASTM D512 Mod.
Redox Potential ASTM G-200, Sulfides AWWA C105/A25.5

SUNLAND ANALYTICAL LAB
11419 Sunrise Gold Cr., Ste.10
Rancho Cordova, CA 95742
(916)852-8557

INVOICE
=======

Inv.No. 87264

Engeo,Inc.
2010 Crow Canyon PL. Ste #250
San Ramon, CA 94583

Date 06/27/2014
Terms: NET 30, 30+ 15%
Customer P.O.#
Requestor: Hall

ATTENTION ACCOUNTS PAYABLE

* Please indicate Invo.# on remittance

SUN NOS.	SAMPLE LOCATION	ANALYSIS	PRICE
139422	11274.PH01-UPRR PROP 1-B4 @ 4 FT	CTP.1	122.00
139423	11274.PH01-UPRR PROP 1-B6 @ 3 FT	CTP.1	122.00
	********* Total *********		244.00

APPENDIX C

Cone Penetration Raw Data

APPENDIX C

UPRR Property

Project ID: Cornerstone Earthp
Data File: SDF (455).c
CPT Date: 6/12/2014 7:52:23 AM
GW During Test: 10 ft

Project: Sounding P2 ID: 1-CPT1
Data File: 14 0.676
CPT Date: DD
GW During Test: G1281

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	qt PS tsf	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Mat Typ Zon	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N 60%	SPT R-N1 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	OCR - -	Fin Ic %	Ic SBT Indx	Nk - -	Vol Strn %	Cycl SStn %
0.33	47.7	76.6	118.5	47.7	0.8	-0.1	1.7	5	silty SAND to sandy SILT	120	4	12	19	58	48	-	-	17	2.15	16	N/A	N/A
0.49	81.6	130.9	165.9	81.6	1.3	-0.2	1.6	6	clean SAND to silty SAND	125	5	16	26	76	48	-	-	12	1.97	16	N/A	N/A
0.66	85.4	136.9	185.4	85.4	1.8	-0.3	2.1	5	silty SAND to sandy SILT	120	4	21	34	77	48	-	-	14	2.04	16	N/A	N/A
0.82	84.5	135.5	208.3	84.5	2.4	-0.2	2.8	5	silty SAND to sandy SILT	120	4	21	34	77	48	-	-	17	2.14	16	N/A	N/A
0.98	75.1	120.4	240.5	75.1	3.2	-0.3	4.3	9	very stiff fine SOIL	120	2	38	60	73	48	-	-	23	2.31	30	N/A	N/A
1.15	77.9	125	305	77.9	4.7	-0.3	6.1	9	very stiff fine SOIL	120	2	39	63	74	48	-	-	28	2.43	30	N/A	N/A
1.31	80.9	129.8	320.6	80.9	5.2	0.1	6.4	9	very stiff fine SOIL	120	2	40	65	76	48	-	-	28	2.44	30	N/A	N/A
1.48	71	113.8	324.1	71	5.1	0.5	7.2	9	very stiff fine SOIL	120	2	35	57	71	48	-	-	31	2.52	30	N/A	N/A
1.64	74.7	119.8	333.5	74.7	5.4	0.4	7.3	9	very stiff fine SOIL	120	2	37	60	73	48	-	-	31	2.5	30	N/A	N/A
1.8	82.2	131.8	374.9	82.2	6.5	-0.3	8	9	very stiff fine SOIL	120	2	41	66	76	48	-	-	31	2.51	30	N/A	N/A
1.97	89.5	143.6	400.4	89.5	7.3	-0.7	8.2	9	very stiff fine SOIL	120	2	45	72	79	48	-	-	31	2.5	30	N/A	N/A
2.13	94.6	151.8	403	94.6	7.4	-1.9	7.9	9	very stiff fine SOIL	120	2	47	76	81	48	-	-	30	2.48	30	N/A	N/A
2.3	121.6	195.1	382.8	121.6	7	-1.6	5.7	9	very stiff fine SOIL	120	2	61	98	89	48	-	-	23	2.3	30	N/A	N/A
2.46	145.9	234	357	145.9	6	-1.2	4.1	8	stiff SAND to clayy SAND	115	1	100	100	-	-	9.7	9.9	17	2.14	16	N/A	N/A
2.62	152.1	244	339.1	152.1	5.2	-1	3.4	8	stiff SAND to clayy SAND	115	1	100	100	-	-	10.1	9.9	15	2.06	16	N/A	N/A
2.79	154.6	247.9	305.3	154.6	3.9	-0.2	2.5	6	clean SAND to silty SAND	125	5	31	50	95	48	-	-	11	1.94	16	N/A	N/A
2.95	155.9	250.1	285.4	155.9	3	-0.1	1.9	6	clean SAND to silty SAND	125	5	31	50	95	48	-	-	9	1.85	16	N/A	N/A
3.12	166.9	267.7	286.7	166.9	2.5	-0.2	1.5	6	clean SAND to silty SAND	125	5	33	54	95	48	-	-	7	1.75	16	N/A	N/A
3.28	151.2	242.5	267.5	151.2	2.4	-0.4	1.6	6	clean SAND to silty SAND	125	5	30	48	95	48	-	-	8	1.8	16	N/A	N/A
3.45	123.5	198	242.6	123.5	2.6	-0.5	2.1	6	clean SAND to silty SAND	125	5	25	40	90	48	-	-	11	1.94	16	N/A	N/A
3.61	100.7	161.5	223.9	100.7	2.6	-0.3	2.6	5	silty SAND to sandy SILT	120	4	25	40	83	48	-	-	15	2.06	16	N/A	N/A
3.77	86.2	138.2	220.4	86.2	2.7	-0.5	3.1	5	silty SAND to sandy SILT	120	4	22	35	78	47	-	-	18	2.17	16	N/A	N/A
3.94	95.6	153.3	249.3	95.6	3.3	-0.8	3.5	8	stiff SAND to clayy SAND	115	1	96	100	-	-	6.3	9.9	18	2.18	16	N/A	N/A
4.1	161.2	258.4	317	161.1	4.1	-0.4	2.5	8	stiff SAND to clayy SAND	115	1	100	100	-	-	10.7	9.9	11	1.94	16	N/A	N/A
4.27	189.8	304.4	358.9	189.8	4.7	-0.2	2.5	8	stiff SAND to clayy SAND	115	1	100	100	-	-	12.6	9.9	10	1.89	16	N/A	N/A
4.43	202.5	324.8	377.5	202.5	4.9	0.4	2.4	8	stiff SAND to clayy SAND	115	1	100	100	-	-	13.4	9.9	10	1.87	16	N/A	N/A
4.59	221	354.4	391.9	221	4.7	0.3	2.1	6	clean SAND to silty SAND	125	5	44	71	95	48	-	-	8	1.8	16	N/A	N/A
4.76	200.1	320.9	368.4	200.1	4.6	1.4	2.3	6	clean SAND to silty SAND	125	5	40	64	95	48	-	-	9	1.85	16	N/A	N/A
4.92	249	399.4	427.2	249	4.9	0.2	2	6	clean SAND to silty SAND	125	5	50	80	95	48	-	-	7	1.75	16	N/A	N/A
5.09	266.4	427.3	445.1	266.5	4.9	2.4	1.8	6	clean SAND to silty SAND	125	5	53	85	95	48	-	-	6	1.71	16	N/A	N/A
5.25	221.8	355.7	387	221.9	4.4	3.2	2	6	clean SAND to silty SAND	125	5	44	71	95	48	-	-	8	1.77	16	N/A	N/A
5.41	160.9	258.1	307	160.9	3.7	1	2.3	6	clean SAND to silty SAND	125	5	32	52	95	48	-	-	10	1.9	16	N/A	N/A
5.58	80.8	129.6	240.7	80.8	3.2	-1.5	4	8	stiff SAND to clayy SAND	115	1	81	100	-	-	5.3	9.9	21	2.27	16	N/A	N/A
5.74	60.4	96.8	203.8	60.4	2.4	0	3.9	4	clayy SILT to silty CLAY	115	2	30	48	-	-	4.2	9.9	24	2.35	15	N/A	N/A
5.91	30.5	48.9	-	30.5	2	0.4	6.8	3	silty CLAY to CLAY	115	1.5	20	33	-	-	2.1	9.9	41	2.72	15	N/A	N/A
6.07	24.6	39.4	-	24.6	1.2	0.7	5.1	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	40	2.69	15	N/A	N/A
6.23	25.4	40.7	-	25.4	1.1	0.6	4.5	4	clayy SILT to silty CLAY	115	2	13	20	-	-	1.8	9.9	38	2.64	15	N/A	N/A
6.4	23	37	-	23.1	1.2	0.6	5.2	3	silty CLAY to CLAY	115	1.5	15	25	-	-	1.6	9.9	41	2.72	15	N/A	N/A
6.56	21	33.6	-	21	1.1	0.2	5.2	3	silty CLAY to CLAY	115	1.5	14	22	-	-	1.5	9.9	43	2.75	15	N/A	N/A
6.73	18.5	29.6	-	18.5	0.9	-0.3	5	3	silty CLAY to CLAY	115	1.5	12	20	-	-	1.3	9.9	45	2.78	15	N/A	N/A
6.89	17.3	27.7	-	17.2	0.9	-0.6	5.4	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	9.9	47	2.82	15	N/A	N/A
7.05	18.3	29.3	-	18.3	1	-0.9	5.3	3	silty CLAY to CLAY	115	1.5	12	20	-	-	1.3	9.9	46	2.8	15	N/A	N/A
7.22	17.2	27.6	-	17.2	1	-0.8	5.7	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.2	9.9	48	2.84	15	N/A	N/A
7.38	16.8	26.9	-	16.8	0.9	-0.9	5.6	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.2	9.9	48	2.84	15	N/A	N/A
7.55	17.6	28.3	-	17.6	0.9	-0.9	5	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	46	2.8	15	N/A	N/A
7.71	20.7	33.2	-	20.7	0.9	-0.8	4.3	4	clayy SILT to silty CLAY	115	2	10	17	-	-	1.4	9.9	40	2.7	15	N/A	N/A
7.87	20.6	33.1	-	20.6	0.8	-0.7	4.1	4	clayy SILT to silty CLAY	115	2	10	17	-	-	1.4	9.9	40	2.68	15	N/A	N/A
8.04	19.3	30.9	-	19.3	0.8	-0.6	4	4	clayy SILT to silty CLAY	115	2	10	15	-	-	1.3	9.9	40	2.7	15	N/A	N/A
8.2	21.3	34.1	-	21.3	0.7	-0.5	3.3	4	clayy SILT to silty CLAY	115	2	11	17	-	-	1.5	9.9	36	2.61	15	N/A	N/A
8.37	19.5	31.3	-	19.5	0.6	-0.5	3.1	4	clayy SILT to silty CLAY	115	2	10	16	-	-	1.3	9.9	36	2.62	15	N/A	N/A
8.53	17.8	28.6	-	17.8	0.6	-0.1	3.4	4	clayy SILT to silty CLAY	115	2	9	14	-	-	1.2	9.9	39	2.68	15	N/A	N/A
8.69	14.6	23.5	-	14.6	0.5	0	3.8	4	clayy SILT to silty CLAY	115	2	7	12	-	-	1	9	45	2.77	15	N/A	N/A
8.86	13.8	22.1	-	13.8	0.5	-0.1	3.8	3	silty CLAY to CLAY	115	1.5	9	15	-	-	0.9	8.3	46	2.8	15	N/A	N/A
9.02	12.9	20.7	-	12.9	0.5	-0.1	3.8	3	silty CLAY to CLAY	115	1.5	9	14	-	-	0.9	7.6	47	2.82	15	N/A	N/A
9.19	11.7	18.7	-	11.7	0.5	1.3	4.8	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	6.8	53	2.92	15	N/A	N/A
9.35	13.8	22.2	-	13.9	0.6	1.4	4.4	3	silty CLAY to CLAY	115	1.5	9	15	-	-	0.9	7.9	48	2.84	15	N/A	N/A
9.51	14.4	23.2	-	14.5	0.6	1.6	4.5	3	silty CLAY to CLAY	115	1.5	10	15	-	-	1	8.1	48	2.83	15	N/A	N/A
9.68	23.9	34.6	109.3	23.9	0.7	1.4	2.9	4	clayy SILT to silty CLAY	115	2	12	17	-	-	1.6	9.9	34	2.57	15	N/A	N/A
9.84	17.1	27.4	-	17.1	0.6	1.2	3.4	4	clayy SILT to silty CLAY	115	2	9	14	-	-	1.2	9.4	40	2.7	15	N/A	N/A
10.01	11.8	18.9	-	11.8	0.3	1.3	2.9	4	clayy SILT to silty CLAY	115	2	6	9	-	-	0.8	6.3	45	2.78	15	-	-
10.17	8.1	13	-	8.1	0.3	1.4	3.6	3	silty CLAY to CLAY	115	1.5	5	9	-	-	0.5	4.2	57	2.98	15	-	-
10.34	8.2	13.1	-	8.2	0.2	1.5	3.1	3	silty CLAY to CLAY	115	1.5	5	9	-	-	0.5	4.2	54	2.94	15	-	-
10.5	10.9	17.5	-	10.9	0.3	1.7	2.7	4	clayy SILT to silty CLAY	115	2	5	9	-	-	0.7	5.7	46	2.8	15	-	-
10.66	13.9	22.2	-	13.9	0.4	2	2.7	4	clayy SILT to silty CLAY	115	2	7	11	-	-	0.9	7.2	41	2.71	15	-	-
10.83	15.5	24.8	-	15.5	0.5	2.2	3.1	4	clayy SILT to silty CLAY	115	2	8	12	-	-	1.1	8.1	41	2.7	15	-	-
10.99	15.5	24.9	-	15.6	0.5	2.5	3.5	4	clayy SILT to silty CLAY	115	2	8	12	-	-	1.1	8	42	2.73	15	-	-
11.16	14.3	22.9	-	14.3	0.5	2.6	3.6	4	clayy SILT to silty CLAY	115	2	7	11	-	-	1	7.3	45	2.78	15	-	-
11.32	15	24.1	-	15.1	0.5	2.9	3.5	4	clayy SILT to silty CLAY	115	2	8	12	-	-	1	7.6	43	2.75	15	-	-
11.48	15.1	24.2	-	15.2	0.5	3.6	3.5	4	clayy SILT to silty CLAY	115	2	8	12	-	-	1	7.6	43	2.75	15	-	-

11.65	13.8	22	-	13.9	0.5	3.8	4	3	silty CLAY to CLAY	115	1.5	9	15	-	-	0.9	6.9	47	2.82	15	-	-		
11.81	14.7	23.2	-	14.8	0.6	4	4.2	3	silty CLAY to CLAY	115	1.5	10	15	-	-	1	7.3	47	2.82	15	-	-		
11.98	20.3	31.9	-	20.4	0.8	4.4	4	4	clayy SILT to silty CLAY	115	2	10	16	-	-	1.4	9.9	40	2.69	15	-	-		
12.14	21.8	33.9	-	21.8	1	4.7	4.7	3	silty CLAY to CLAY	115	1.5	15	23	-	-	1.5	9.9	42	2.72	15	-	-		
12.3	29.4	39.1	-	29.5	1.1	5.1	3.8	4	clayy SILT to silty CLAY	115	2	15	20	-	-	2	9.9	36	2.61	15	-	-		
12.47	33.2	44.1	-	33.3	1.5	3.6	4.6	4	clayy SILT to silty CLAY	115	2	17	22	-	-	2.3	9.9	37	2.63	15	-	-		
12.63	42.8	51.4	164.6	42.9	1.9	5	4.6	4	clayy SILT to silty CLAY	115	2	21	26	-	-	3	9.9	34	2.58	15	0	0		
12.8	72	86.1	174.8	72.1	2.4	5.5	3.3	5	silty SAND to sandy SILT	120	4	18	22	62	41	-	-	23	2.32	16	0	0		
12.96	90.6	108	204.5	90.7	3.2	4.5	3.6	5	silty SAND to sandy SILT	120	4	23	27	70	42	-	-	22	2.28	16	0	0		
13.12	95.6	113.5	225.7	95.6	3.8	3	4	9	very stiff fine SOIL	120	2	48	57	71	42	-	-	23	2.31	30	0	0		
13.29	154.4	182.6	241.9	154.4	3.8	1.7	2.5	5	silty SAND to sandy SILT	120	4	39	46	87	45	-	-	13	2.02	16	0	0		
13.45	236.5	278.9	308	236.5	4.2	-0.3	1.8	6	clean SAND to silty SAND	125	5	47	56	95	47	-	-	8	1.8	16	0	0		
13.62	162.5	190.8	274	162.4	5.1	-2.1	3.1	8	stiff SAND to clayy SAND	115	1	100	100	-	-	10.7	9.9	15	2.09	16	0	0		
13.78	86.7	101.5	248.1	86.6	4.5	-2.3	5.2	9	very stiff fine SOIL	120	2	43	51	67	42	-	-	28	2.43	30	0	0		
13.94	42.2	61	-	42.2	2.4	-3.8	5.9	4	clayy SILT to silty CLAY	115	2	21	30	-	-	2.9	9.9	36	2.61	15	-	-		
14.11	25.7	36.9	-	25.7	1.7	-3	6.7	3	silty CLAY to CLAY	115	1.5	17	25	-	-	1.8	9.9	46	2.8	15	-	-		
14.27	20.8	29.6	-	20.7	1.2	-2.7	6.1	3	silty CLAY to CLAY	115	1.5	14	20	-	-	1.4	9.4	49	2.84	15	-	-		
14.44	17.9	25.4	-	17.9	1	-2.7	6	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	8	51	2.89	15	-	-		
14.6	17.3	24.3	-	17.2	0.9	-2.7	5.4	3	silty CLAY to CLAY	115	1.5	12	16	-	-	1.2	7.6	50	2.87	15	-	-		
14.76	16.6	23.3	-	16.6	1	-2.7	6.2	3	silty CLAY to CLAY	115	1.5	11	16	-	-	1.1	7.3	54	2.93	15	-	-		
14.93	25.4	35.3	-	25.3	0.9	-2.8	3.5	4	clayy SILT to silty CLAY	115	2	13	18	-	-	1.7	9.9	36	2.62	15	-	-		
15.09	23.1	31.9	-	23	0.8	-2.7	3.7	4	clayy SILT to silty CLAY	115	2	12	16	-	-	1.6	9.9	39	2.67	15	-	-		
15.26	21	28.9	-	21	0.7	-2.7	3.7	4	clayy SILT to silty CLAY	115	2	11	14	-	-	1.4	9.1	41	2.7	15	-	-		
15.42	20.9	28.6	-	20.9	0.8	-2.6	3.8	4	clayy SILT to silty CLAY	115	2	10	14	-	-	1.4	9	41	2.71	15	-	-		
15.58	22.2	30.2	-	22.2	0.8	-2.6	3.6	4	clayy SILT to silty CLAY	115	2	11	15	-	-	1.5	9.6	39	2.68	15	-	-		
15.75	27	36.5	-	27	1.2	-2.6	4.5	4	clayy SILT to silty CLAY	115	2	14	18	-	-	1.9	9.9	40	2.69	15	-	-		
15.91	29.2	39.3	-	29.2	1.5	-2.6	5.2	3	silty CLAY to CLAY	115	1.5	19	26	-	-	2	9.9	41	2.7	15	-	-		
16.08	28.3	37.8	-	28.3	1.5	-2.5	5.5	3	silty CLAY to CLAY	115	1.5	19	25	-	-	1.9	9.9	42	2.73	15	-	-		
16.24	28.9	38.4	-	28.9	1.3	-2.3	4.6	4	clayy SILT to silty CLAY	115	2	14	19	-	-	2	9.9	39	2.68	15	-	-		
16.4	30.1	39.7	-	30	1.2	-2.1	4.2	4	clayy SILT to silty CLAY	115	2	15	20	-	-	2.1	9.9	37	2.64	15	-	-		
16.57	31.9	41.9	-	31.9	1.2	-2	4	4	clayy SILT to silty CLAY	115	2	16	21	-	-	2.2	9.9	36	2.6	15	-	-		
16.73	33.8	44.1	-	33.7	1.4	-1.9	4.4	4	clayy SILT to silty CLAY	115	2	17	22	-	-	2.3	9.9	36	2.62	15	-	-		
16.9	35.2	45.7	-	35.1	1.7	-1.8	5	4	clayy SILT to silty CLAY	115	2	18	23	-	-	2.4	9.9	38	2.65	15	-	-		
17.06	34.4	44.5	-	34.4	2	-1.8	6	3	silty CLAY to CLAY	115	1.5	23	30	-	-	2.4	9.9	41	2.71	15	-	-		
17.23	32.7	42	-	32.7	2.3	-1.7	7.1	3	silty CLAY to CLAY	115	1.5	22	28	-	-	2.3	9.9	45	2.78	15	-	-		
17.39	32.2	41.1	-	32.1	2.3	-1.6	7.4	3	silty CLAY to CLAY	115	1.5	21	27	-	-	2.2	9.9	46	2.81	15	-	-		
17.55	32.5	41.2	-	32.5	2.5	-1.5	8	3	silty CLAY to CLAY	115	1.5	22	27	-	-	2.2	9.9	48	2.83	15	-	-		
17.72	33.7	42.6	-	33.7	2.7	-1.4	8.4	3	silty CLAY to CLAY	115	1.5	22	28	-	-	2.3	9.9	48	2.83	15	-	-		
17.88	37.6	47.3	-	37.6	2.8	-1.3	7.6	3	silty CLAY to CLAY	115	1.5	25	32	-	-	2.6	9.9	44	2.77	15	-	-		
18.05	41.3	51.6	-	41.3	2.6	-1.2	6.4	3	silty CLAY to CLAY	115	1.5	28	34	-	-	2.9	9.9	40	2.69	15	-	-		
18.21	31.4	39	-	31.3	2.1	-1.1	6.8	3	silty CLAY to CLAY	115	1.5	21	26	-	-	2.2	9.9	46	2.79	15	-	-		
18.37	26.3	32.6	-	26.3	1.4	-0.9	5.5	3	silty CLAY to CLAY	115	1.5	18	22	-	-	1.8	9.9	45	2.78	15	-	-		
18.54	26.4	32.4	-	26.4	1.5	-0.7	5.8	3	silty CLAY to CLAY	115	1.5	18	22	-	-	1.8	9.9	46	2.8	15	-	-		
18.7	37.1	45.4	-	37.1	1.9	-0.5	5.3	3	silty CLAY to CLAY	115	1.5	25	30	-	-	2.6	9.9	39	2.67	15	-	-		
18.87	38.2	46.5	-	38.2	2.3	-0.4	6.3	3	silty CLAY to CLAY	115	1.5	25	31	-	-	2.6	9.9	41	2.71	15	-	-		
19.03	42.5	51.4	-	42.4	2.4	-0.4	5.8	3	silty CLAY to CLAY	115	1.5	28	34	-	-	2.9	9.9	38	2.66	15	-	-		
19.19	46.6	56.1	-	46.6	2.4	-0.4	5.3	4	clayy SILT to silty CLAY	115	2	23	28	-	-	3.2	9.9	36	2.61	15	-	-		
19.36	29.1	34.8	-	29.1	2.2	-0.8	7.9	3	silty CLAY to CLAY	115	1.5	19	23	-	-	2	9.9	51	2.88	15	-	-		
19.52	42.1	50.2	-	42.1	2.4	-0.6	5.8	3	silty CLAY to CLAY	115	1.5	28	33	-	-	2.9	9.9	39	2.67	15	-	-		
19.69	56.1	59.4	194.3	56.1	3	-1.2	5.4	4	clayy SILT to silty CLAY	115	2	28	30	-	-	3.9	9.9	35	2.59	15	0	0		
19.85	83.1	87.7	203.2	83.1	3.5	-1.5	4.2	4	clayy SILT to silty CLAY	115	2	42	44	-	-	5.8	9.9	26	2.4	15	0	0		
20.01	68.4	72	223	68.4	3.9	-1.9	5.8	9	very stiff fine SOIL	120	2	34	36	56	39	-	-	33	2.56	30	0	0		
20.18	88	92.4	234.7	88	4.5	-1.9	5.2	9	very stiff fine SOIL	120	2	44	46	64	41	-	-	29	2.45	30	0	0		
20.34	62.4	72.4	-	62.3	4	-1.8	6.6	9	very stiff fine SOIL	120	2	31	36	56	39	-	-	35	2.6	30	-	-		
20.51	52.2	60.2	-	52.2	3.3	-1.3	6.5	3	silty CLAY to CLAY	115	1.5	35	40	-	-	3.6	9.9	38	2.65	15	-	-		
20.67	58.2	66.9	-	58.2	3.6	-1.3	6.4	9	very stiff fine SOIL	120	2	29	33	54	38	-	-	36	2.61	30	-	-		
20.83	52.5	60	-	52.5	3.3	-1.8	6.4	3	silty CLAY to CLAY	115	1.5	35	40	-	-	3.6	9.9	38	2.65	15	-	-		
21	32.6	37.1	-	32.6	2.2	-1.9	6.9	3	silty CLAY to CLAY	115	1.5	22	25	-	-	2.2	9.9	47	2.81	15	-	-		
21.16	20.6	23.3	-	20.6	1.2	-1.8	6.4	3	silty CLAY to CLAY	115	1.5	14	16	-	-	1.4	7.2	54	2.94	15	-	-		
21.33	12.2	13.7	-	12.2	0.8	-1.6	7	3	silty CLAY to CLAY	115	1.5	8	9	-	-	0.8	4.1	69	3.15	15	-	-		
21.49	10.4	11.6	-	10.4	0.6	-1.3	6.3	3	silty CLAY to CLAY	115	1.5	7	8	-	-	0.7	3.4	72	3.18	15	-	-		
21.65	11.1	12.4	-	11.1	0.6	-1.2	6.3	3	silty CLAY to CLAY	115	1.5	7	8	-	-	0.7	3.6	70	3.16	15	-	-		
21.82	13.7	15.2	-	13.7	0.8	-1.2	6.6	3	silty CLAY to CLAY	115	1.5	9	10	-	-	0.9	4.6	65	3.09	15	-	-		
21.98	15.2	16.7	-	15.1	1	-1.2	7.1	3	silty CLAY to CLAY	115	1.5	10	11	-	-	1	5.1	64	3.09	15	-	-		
22.15	16.5	18.1	-	16.4	1	-1.3	6.8	3	silty CLAY to CLAY	115	1.5	11	12	-	-	1.1	5.5	61	3.04	15	-	-		
22.31	15.9	17.4	-	15.9	1.1	-1.3	7.6	3	silty CLAY to CLAY	115	1.5	11	12	-	-	1.1	5.3	65	3.09	15	-	-		
22.47	15.2	16.5	-	15.1	1	-1.3	7	3	silty CLAY to CLAY	115	1.5	10	11	-	-	1	5	64	3.09	15	-	-		
22.64	13	14.1	-	13	0.8	-1.3	7.2	3	silty CLAY to CLAY	115	1.5	9	9	-	-	0.9	4.2	69	3.15	15	-	-		
22.8	13.1	14.1	-	13	0.7	-1.2	6.2	3	silty CLAY to CLAY	115	1.5	9	9	-	-	0.9	4.2	66	3.11	15	-	-		
22.97	11.5	12.3	-	11.5	0.6	-1.2	6.3	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.7	3.6	70	3.16	15	-	-		
23.13	11.1	11.9	-	11.1	0.6	-1.1	6.1	3	silty CLAY to CLAY	115	1.5	7	8	-	-	0.7	3.4	70	3.17	15	-	-		
23.3	12	12.7	-	12	0.5	-1	4.7	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.8	3.7	63	3.07	15	-	-		
23.46	11.4	12.1	-	11.4	0.9	-0.9	8.5	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.7	3.5	77	3.25	15	-	-		
23.62	27.8	29.3	-	27.8	1.7	-0.6	6.3	3	silty CLAY to CLAY	115	1.5	19	20	-	-	1.9	9.2	49	2.86	15	-	-		
23.79	44.3	46.4	-	44.2	1.9	-1	4.4	4	clayy SILT to silty CLAY	115	2	22	23	-	-	3.1	9.9	36	2.61	15	-	-		
23.95	50.3	49.9	148.5	50.2	1.9	-1.3	3.9	4	clayy SILT to silty CLAY	115	2	25	25	-	-	3.5	9.9	32	2.54	15	0.48	2.2		
24.12	46.8	46.4	146.2	46.8	1.8	-1.5	4	4	clayy SILT to silty CLAY	115	2	23	23	-	-	3.2	9.9	34	2.57	15	0.56	2.7		
24.28	26.3	27.2	-	26.2	1.3	-2.1	5.2	3	silty CLAY to CLAY	115	1.5	18	18	-	-	1.8	8.5	48	2.83	15	-	-		
24.44	13.4	13.8	-	13.3	0.7	-2	5.6	3	silty CLAY to CLAY	115	1.5	9	9	-	-	0.9	4.1	65	3.09	15	-	-		
24.61	12.1	12.4	-	12	0.5	-1.4	5	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.8	3.6	65	3.1	15	-	-		
24.77	12.4	12.7	-	12.4	0.5	-1.1	4.9	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.8	3.7	64	3.08	15	-	-		

24.94	12.4	12.7	-	12.4	0.5	-1	4.4	3 silty CLAY to CLAY	115	1.5	8	8	-	-	0.8	3.7	62	3.06	15	-	-	
25.1	11.6	11.8	-	11.6	0.4	-0.9	4	3 silty CLAY to CLAY	115	1.5	8	8	-	-	0.8	3.4	63	3.06	15	-	-	
25.26	15.3	15.5	-	15.3	0.5	-0.7	3.9	3 silty CLAY to CLAY	115	1.5	10	10	-	-	1	4.6	55	2.95	15	-	-	
25.43	22	22	-	22	1	-0.4	4.8	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.5	6.8	50	2.88	15	-	-	
25.59	28.8	28.8	-	28.8	1.2	-0.1	4.6	3 silty CLAY to CLAY	115	1.5	19	19	-	-	2	9	44	2.77	15	-	-	
25.76	32.6	32.4	-	32.6	2.1	0.1	6.6	3 silty CLAY to CLAY	115	1.5	22	22	-	-	2.2	9.9	49	2.84	15	-	-	
25.92	47.5	46.4	154	47.5	2	0.1	4.3	4 clayy SILT to silty CLAY	115	2	24	23	-	-	3.3	9.9	35	2.6	15	0.36	1.2	
26.08	27.5	27.2	-	27.5	1.4	-0.1	5.4	3 silty CLAY to CLAY	115	1.5	18	18	-	-	1.9	8.5	48	2.84	15	-	-	
26.25	21.8	21.5	-	21.8	0.9	0.4	4.3	3 silty CLAY to CLAY	115	1.5	15	14	-	-	1.5	6.6	49	2.86	15	-	-	
26.41	18.6	18.2	-	18.6	0.5	0.7	3	4 clayy SILT to silty CLAY	115	2	9	9	-	-	1.2	5.5	47	2.82	15	-	-	
26.58	17.8	17.4	-	17.9	0.5	1	2.9	4 clayy SILT to silty CLAY	115	2	9	9	-	-	1.2	5.2	48	2.83	15	-	-	
26.74	18.9	18.3	-	18.9	0.8	1.4	4.6	3 silty CLAY to CLAY	115	1.5	13	12	-	-	1.3	5.5	54	2.93	15	-	-	
26.9	27	26	-	27	1.6	1.7	6.1	3 silty CLAY to CLAY	115	1.5	18	17	-	-	1.8	8.1	51	2.89	15	-	-	
27.07	50.6	48.7	-	50.6	2.8	2.1	5.8	3 silty CLAY to CLAY	115	1.5	34	32	-	-	3.5	9.9	39	2.68	15	-	-	
27.23	65.8	62.6	203	65.9	3.6	2.5	5.5	4 clayy SILT to silty CLAY	115	2	33	31	-	-	4.6	9.9	35	2.59	15	0	0	
27.4	43.3	41.3	-	43.3	3	1.3	7.2	3 silty CLAY to CLAY	115	1.5	29	28	-	-	3	9.9	46	2.8	15	-	-	
27.56	35.6	33.8	-	35.6	2	1.5	5.9	3 silty CLAY to CLAY	115	1.5	24	23	-	-	2.4	9.9	46	2.79	15	-	-	
27.72	26.9	25.4	-	26.9	1.6	1.7	6.3	3 silty CLAY to CLAY	115	1.5	18	17	-	-	1.8	7.9	52	2.91	15	-	-	
27.89	24.9	23.5	-	25	1.5	1.9	6.6	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.7	7.3	55	2.95	15	-	-	
28.05	24.7	23.2	-	24.8	1.6	2	6.8	3 silty CLAY to CLAY	115	1.5	16	15	-	-	1.7	7.2	56	2.96	15	-	-	
28.22	25.1	23.4	-	25.1	1.7	2	7.3	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.7	7.2	57	2.98	15	-	-	
28.38	25.5	23.7	-	25.5	1.8	2	7.6	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.7	7.3	58	2.99	15	-	-	
28.54	24.8	23	-	24.9	1.8	2.2	7.8	3 silty CLAY to CLAY	115	1.5	17	15	-	-	1.7	7.1	59	3.01	15	-	-	
28.71	23.5	21.7	-	23.5	1.7	2.4	7.8	3 silty CLAY to CLAY	115	1.5	16	14	-	-	1.6	6.7	60	3.02	15	-	-	
28.87	37.5	34.5	-	37.5	1.7	2.5	4.9	3 silty CLAY to CLAY	115	1.5	25	23	-	-	2.6	9.9	42	2.73	15	-	-	
29.04	57.3	53.3	141.8	57.3	1.9	1.4	3.4	4 clayy SILT to silty CLAY	115	2	29	27	-	-	4	9.9	30	2.48	15	0.9	24	
29.2	50.4	46.8	140.3	50.4	1.8	0.7	3.6	4 clayy SILT to silty CLAY	115	2	25	23	-	-	3.5	9.9	33	2.54	15	0.98	43.1	
29.36	31.7	28.8	-	31.7	2.2	0.7	7.4	3 silty CLAY to CLAY	115	1.5	21	19	-	-	2.2	9	53	2.92	15	-	-	
29.53	53.2	48.2	-	53.2	2.9	1.4	5.6	3 silty CLAY to CLAY	115	1.5	35	32	-	-	3.7	9.9	39	2.67	15	-	-	
29.69	62.9	58	180.6	62.9	2.9	1	4.8	4 clayy SILT to silty CLAY	115	2	31	29	-	-	4.4	9.9	34	2.56	15	0	0	
29.86	44.3	39.8	-	44.3	3	1.2	7	3 silty CLAY to CLAY	115	1.5	30	27	-	-	3.1	9.9	46	2.8	15	-	-	
30.02	56.8	50.8	-	56.8	2.6	2	4.8	4 clayy SILT to silty CLAY	115	2	28	25	-	-	3.9	9.9	36	2.6	15	-	-	
30.19	54.2	48.4	-	54.3	3.7	2.4	7	3 silty CLAY to CLAY	115	1.5	36	32	-	-	3.8	9.9	43	2.74	15	-	-	
30.35	70.2	64.3	186	70.3	3.2	2.9	4.7	4 clayy SILT to silty CLAY	115	2	35	32	-	-	4.9	9.9	32	2.52	15	0	0	
30.51	61.4	54.3	-	61.4	4.5	2.8	7.5	3 silty CLAY to CLAY	115	1.5	41	36	-	-	4.3	9.9	42	2.73	15	-	-	
30.68	29.7	26.2	-	29.8	3.6	3	9.9	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2	8.1	61	3.04	15	-	-	
30.84	66.5	58.4	-	66.6	3.8	2.7	5.8	3 silty CLAY to CLAY	115	1.5	44	39	-	-	4.6	9.9	36	2.62	15	-	-	
31.01	54.3	47.5	-	54.3	3.2	1.1	6.1	3 silty CLAY to CLAY	115	1.5	36	32	-	-	3.8	9.9	41	2.7	15	-	-	
31.17	43.5	37.9	-	43.5	1.9	1.3	4.6	4 clayy SILT to silty CLAY	115	2	22	19	-	-	3	9.9	39	2.68	15	-	-	
31.33	33.7	29.3	-	33.8	1.3	2	4.2	3 silty CLAY to CLAY	115	1.5	22	20	-	-	2.3	9.1	43	2.74	15	-	-	
31.5	39.1	33.8	-	39.2	1.6	2.4	4.4	4 clayy SILT to silty CLAY	115	2	20	17	-	-	2.7	9.9	41	2.71	15	-	-	
31.66	38.1	32.8	-	38.1	2	2.5	5.5	3 silty CLAY to CLAY	115	1.5	25	22	-	-	2.6	9.9	45	2.78	15	-	-	
31.83	37.1	31.9	-	37.2	2	2.6	5.8	3 silty CLAY to CLAY	115	1.5	25	21	-	-	2.5	9.9	46	2.81	15	-	-	
31.99	34.1	29.2	-	34.1	1.9	2.5	5.9	3 silty CLAY to CLAY	115	1.5	23	19	-	-	2.3	9.1	49	2.84	15	-	-	
32.15	31.3	26.7	-	31.4	1.7	2.5	5.7	3 silty CLAY to CLAY	115	1.5	21	18	-	-	2.1	8.3	50	2.86	15	-	-	
32.32	30.3	25.8	-	30.4	1.6	2.5	5.5	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2.1	8	50	2.86	15	-	-	
32.48	30	25.3	-	30	1.5	2.5	5.4	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2	7.8	50	2.86	15	-	-	
32.65	29.9	25.2	-	30	1.5	2.6	5.2	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2	7.8	49	2.85	15	-	-	
32.81	30.8	25.9	-	30.9	1.5	2.7	5.1	3 silty CLAY to CLAY	115	1.5	21	17	-	-	2.1	8	48	2.84	15	-	-	
32.97	31.6	26.4	-	31.6	1.6	2.7	5.3	3 silty CLAY to CLAY	115	1.5	21	18	-	-	2.1	8.2	49	2.85	15	-	-	
33.14	32	26.7	-	32	1.6	2.8	5.5	3 silty CLAY to CLAY	115	1.5	21	18	-	-	2.2	8.3	49	2.85	15	-	-	
33.3	31.9	26.5	-	32	1.7	2.8	5.8	3 silty CLAY to CLAY	115	1.5	21	18	-	-	2.2	8.2	50	2.87	15	-	-	
33.47	29.5	24.4	-	29.5	1.5	2.8	5.6	3 silty CLAY to CLAY	115	1.5	20	16	-	-	2	7.5	51	2.89	15	-	-	
33.63	24.9	20.5	-	24.9	1.3	2.8	5.9	3 silty CLAY to CLAY	115	1.5	17	14	-	-	1.7	6.2	56	2.96	15	-	-	
33.79	19.4	16	-	19.5	1	2.8	6	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.7	62	3.06	15	-	-	
33.96	17.1	14	-	17.2	1	2.8	6.5	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1.1	4.1	67	3.13	15	-	-	
34.12	16	13.1	-	16.1	0.8	2.8	5.9	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1	3.8	67	3.13	15	-	-	
34.29	16.5	13.4	-	16.5	0.6	3	4.5	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1.1	3.9	61	3.04	15	-	-	
34.45	16.7	13.5	-	16.7	0.5	3.1	3.7	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1.1	3.9	58	2.99	15	-	-	
34.61	16.5	13.4	-	16.6	0.6	3.3	4.1	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1.1	3.9	60	3.02	15	-	-	
34.78	20.2	16.2	-	20.2	0.7	3.5	3.8	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.8	54	2.92	15	-	-	
34.94	25.5	20.5	-	25.6	0.9	3.7	3.7	3 silty CLAY to CLAY	115	1.5	17	14	-	-	1.7	6.2	48	2.83	15	-	-	
35.11	29.6	23.7	-	29.7	1.1	3.8	4.1	3 silty CLAY to CLAY	115	1.5	20	16	-	-	2	7.3	46	2.8	15	-	-	
35.27	34	27.1	-	34.1	1.4	3.9	4.3	3 silty CLAY to CLAY	115	1.5	23	18	-	-	2.3	8.4	44	2.77	15	-	-	
35.43	35.7	28.4	-	35.8	1.6	4.1	4.8	3 silty CLAY to CLAY	115	1.5	24	19	-	-	2.4	8.8	45	2.79	15	-	-	
35.6	36.8	29.1	-	36.9	1.8	4.1	5	3 silty CLAY to CLAY	115	1.5	25	19	-	-	2.5	9.1	46	2.8	15	-	-	
35.76	40.8	32.1	-	40.8	1.8	4.2	4.5	3 silty CLAY to CLAY	115	1.5	27	21	-	-	2.8	9.9	42	2.73	15	-	-	
35.93	39	30.7	-	39.1	1.7	4.6	4.5	3 silty CLAY to CLAY	115	1.5	26	20	-	-	2.7	9.6	43	2.74	15	-	-	
36.09	39.5	30.9	-	39.6	1.5	4.9	4.1	4 clayy SILT to silty CLAY	115	2	20	15	-	-	2.7	9.7	41	2.72	15	-	-	
36.26	38	29.7	-	38.1	1.6	5.1	4.6	3 silty CLAY to CLAY	115	1.5	25	20	-	-	2.6	9.3	44	2.76	15	-	-	
36.42	37.3	29	-	37.4	1.7	5.3	4.8	3 silty CLAY to CLAY	115	1.5	25	19	-	-	2.5	9	45	2.78	15	-	-	
36.58	36.6	28.4	-	36.7	1.7	5.4	4.9	3 silty CLAY to CLAY	115	1.5	24	19	-	-	2.5	8.8	46	2.8	15	-	-	
36.75	35.1	27.1	-	35.2	1.7	5.6	5.2	3 silty CLAY to CLAY	115	1.5	23	18	-	-	2.4	8.4	48	2.83	15	-	-	
36.91	35.3	27.2	-	35.5	1.7	5.7	5	3 silty CLAY to CLAY	115	1.5	24	18	-	-	2.4	8.4	47	2.82	15	-	-	
37.08	35.8	27.5	-	35.9	1.7	6.3	5.1	3 silty CLAY to CLAY	115	1.5	24	18	-	-	2.4	8.5	47	2.82	15	-	-	
37.24	36.3	27.8	-	36.4	1.6	6.4	4.6	3 silty CLAY to CLAY	115	1.5	24	19	-	-	2.5	8.6	45	2.79	15	-	-	
37.4	32.5	24.8	-	32.6	1.6	6.5	5.2	3 silty CLAY to CLAY	115	1.5	22	17	-	-	2.2	7.6	50	2.86	15	-	-	
37.57	29.2	22.2	-	29.3	1.3	6.6	4.9	3 silty CLAY to CLAY	115	1.5	19	15	-	-	2	6.8	51	2.88	15	-	-	
37.73	26.3	19.9	-	26.4	1.1	6.8	4.6	3 silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	6	52	2.9	15	-	-	
37.9	22.8	17.2	-	23	0.8	6.9	4	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5.1	53	2.92	15	-	-	
38.06	22.5	16.9	-	22.6	0.8	7.2	4.1	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5	54	2.93	15	-	-	

38.22	23.3	17.5	-	23.5	0.9	7.5	4.1	3 silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.2	53	2.92	15	-	-
38.39	24.2	18.1	-	24.3	0.8	7.7	3.9	3 silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.4	51	2.89	15	-	-
38.55	25.1	18.7	-	25.3	0.9	7.9	3.8	3 silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.6	50	2.87	15	-	-
38.72	27.8	20.6	-	27.9	1	8.3	3.8	3 silty CLAY to CLAY	115	1.5	19	14	-	-	1.9	6.3	48	2.84	15	-	-
38.88	33.2	24.6	-	33.3	1.3	8.4	4.3	3 silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.6	46	2.81	15	-	-
39.04	39.1	28.9	-	39.3	1.8	8.7	4.8	3 silty CLAY to CLAY	115	1.5	26	19	-	-	2.7	9	45	2.78	15	-	-
39.21	41.5	30.6	-	41.7	1.8	8.8	4.7	3 silty CLAY to CLAY	115	1.5	28	20	-	-	2.8	9.5	44	2.76	15	-	-
39.37	41.3	30.3	-	41.5	1.9	9.2	4.8	3 silty CLAY to CLAY	115	1.5	28	20	-	-	2.8	9.5	44	2.77	15	-	-
39.54	42.6	31.2	-	42.8	2	9.4	4.9	3 silty CLAY to CLAY	115	1.5	28	21	-	-	2.9	9.7	44	2.76	15	-	-
39.7	43.1	31.4	-	43.2	2	9.6	5	3 silty CLAY to CLAY	115	1.5	29	21	-	-	2.9	9.8	44	2.77	15	-	-
39.86	44.3	32.2	-	44.5	2	10.1	4.7	3 silty CLAY to CLAY	115	1.5	30	21	-	-	3	9.9	43	2.74	15	-	-
40.03	44.9	32.5	-	45.1	1.9	10.4	4.4	3 silty CLAY to CLAY	115	1.5	30	22	-	-	3.1	9.9	41	2.72	15	-	-
40.19	46.2	33.4	-	46.4	1.9	10.9	4.2	4 clayy SILT to silty CLAY	115	2	23	17	-	-	3.2	9.9	40	2.7	15	-	-
40.36	44.8	32.2	-	45	1.8	11	4.3	4 clayy SILT to silty CLAY	115	2	22	16	-	-	3.1	9.9	41	2.71	15	-	-
40.52	44.8	32.1	-	45	1.9	11.8	4.6	3 silty CLAY to CLAY	115	1.5	30	21	-	-	3.1	9.9	42	2.73	15	-	-
40.68	44.8	32.1	-	45	2	12	4.8	3 silty CLAY to CLAY	115	1.5	30	21	-	-	3.1	9.9	43	2.75	15	-	-
40.85	47.1	33.6	-	47.4	2.1	12.2	4.7	3 silty CLAY to CLAY	115	1.5	31	22	-	-	3.2	9.9	42	2.73	15	-	-
41.01	48.4	34.4	-	48.7	2.1	12.5	4.7	3 silty CLAY to CLAY	115	1.5	32	23	-	-	3.3	9.9	41	2.72	15	-	-
41.18	46.6	33	-	46.8	2	12.6	4.6	3 silty CLAY to CLAY	115	1.5	31	22	-	-	3.2	9.9	42	2.73	15	-	-
41.34	44.2	31.3	-	44.5	2.1	13	5	3 silty CLAY to CLAY	115	1.5	29	21	-	-	3	9.8	44	2.77	15	-	-
41.5	42.3	29.8	-	42.5	2.1	13.2	5.2	3 silty CLAY to CLAY	115	1.5	28	20	-	-	2.9	9.3	46	2.8	15	-	-
41.67	40.3	28.3	-	40.5	2	13.4	5.3	3 silty CLAY to CLAY	115	1.5	27	19	-	-	2.7	8.8	47	2.82	15	-	-
41.83	39.5	27.7	-	39.8	1.9	13.6	5.2	3 silty CLAY to CLAY	115	1.5	26	18	-	-	2.7	8.6	47	2.82	15	-	-
42	38.1	26.6	-	38.4	1.8	13.6	4.9	3 silty CLAY to CLAY	115	1.5	25	18	-	-	2.6	8.2	47	2.82	15	-	-
42.16	34	23.6	-	34.2	1.6	13.7	5.1	3 silty CLAY to CLAY	115	1.5	23	16	-	-	2.3	7.2	50	2.87	15	-	-
42.32	32.7	22.7	-	33	1.5	14	4.9	3 silty CLAY to CLAY	115	1.5	22	15	-	-	2.2	6.9	50	2.87	15	-	-
42.49	31.4	21.7	-	31.7	1.4	14.3	4.8	3 silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.6	51	2.89	15	-	-
42.65	30.5	21	-	30.8	1.4	14.3	4.9	3 silty CLAY to CLAY	115	1.5	20	14	-	-	2.1	6.4	52	2.9	15	-	-
42.82	28.7	19.7	-	29	1.2	14.5	4.8	3 silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	6	53	2.92	15	-	-
42.98	28	19.2	-	28.3	1	14.7	4.1	3 silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.8	51	2.89	15	-	-
43.15	27.4	18.7	-	27.7	1.2	15	4.8	3 silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.6	54	2.94	15	-	-
43.31	31.3	21.4	-	31.6	1.9	15.2	6.5	3 silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.5	57	2.98	15	-	-
43.47	35.7	24.3	-	36	2.2	15.5	6.6	3 silty CLAY to CLAY	115	1.5	24	16	-	-	2.4	7.4	55	2.94	15	-	-
43.64	43.6	29.6	-	43.9	2	15.2	4.8	3 silty CLAY to CLAY	115	1.5	29	20	-	-	3	9.2	45	2.78	15	-	-
43.8	29.7	20.1	-	30	1.5	15.6	5.6	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2	6.1	56	2.96	15	-	-
43.97	22.9	15.4	-	23.2	1.5	16.5	7.4	3 silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.5	68	3.13	15	-	-
44.13	28.5	19.1	-	28.8	1.6	16.7	6.2	3 silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.7	59	3	15	-	-
44.29	35.5	23.8	-	35.8	1.4	15.8	4.1	3 silty CLAY to CLAY	115	1.5	24	16	-	-	2.4	7.3	46	2.81	15	-	-
44.46	23.3	15.6	-	23.6	0.9	15.8	4.3	3 silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.6	57	2.98	15	-	-
44.62	16.9	11.3	-	17.3	0.6	16.7	4.4	3 silty CLAY to CLAY	115	1.5	11	8	-	-	1.1	3.2	66	3.11	15	-	-
44.79	17.5	11.6	-	17.8	0.6	18	3.7	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.1	3.3	62	3.05	15	-	-
44.95	17.7	11.7	-	18.1	0.5	18.5	3.4	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.1	3.3	60	3.02	15	-	-
45.11	17	11.2	-	17.4	0.5	19.2	3.7	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1.1	3.1	63	3.07	15	-	-
45.28	17.3	11.4	-	17.7	0.6	19.5	3.8	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.1	3.2	63	3.07	15	-	-
45.44	17.4	11.4	-	17.7	0.6	19.9	3.8	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.1	3.2	63	3.07	15	-	-
45.61	17.9	11.7	-	18.3	0.6	20.4	3.7	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.3	62	3.05	15	-	-
45.77	18.7	12.2	-	19.1	0.6	21	3.9	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.5	62	3.04	15	-	-
45.93	19.2	12.5	-	19.7	0.6	21.4	3.6	3 silty CLAY to CLAY	115	1.5	13	8	-	-	1.3	3.6	59	3.01	15	-	-
46.1	18.2	11.8	-	18.6	0.6	21.9	3.9	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.3	62	3.06	15	-	-
46.26	17.4	11.3	-	17.9	1	22.5	6.6	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.1	3.2	75	3.22	15	-	-
46.43	28.2	18.2	-	28.7	1.7	23.5	6.8	3 silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.4	62	3.05	15	-	-
46.59	40.3	25.9	-	40.8	2.4	27.1	6.4	3 silty CLAY to CLAY	115	1.5	27	17	-	-	2.7	8	52	2.91	15	-	-
46.75	57.1	36.7	-	57.6	2.2	28.4	4.1	4 clayy SILT to silty CLAY	115	2	29	18	-	-	3.9	9.9	38	2.66	15	-	-
46.92	37.5	24	-	37.9	1.7	20.2	4.9	3 silty CLAY to CLAY	115	1.5	25	16	-	-	2.5	7.4	49	2.86	15	-	-
47.08	22.6	14.4	-	23	1.2	21.6	5.8	3 silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.2	65	3.09	15	-	-
47.25	18.1	11.5	-	18.6	0.7	23.8	4.7	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.2	67	3.12	15	-	-
47.41	19.2	12.2	-	19.7	0.7	25.5	4	3 silty CLAY to CLAY	115	1.5	13	8	-	-	1.2	3.5	62	3.05	15	-	-
47.57	19.1	12.1	-	19.6	0.7	26	4.1	3 silty CLAY to CLAY	115	1.5	13	8	-	-	1.2	3.4	63	3.07	15	-	-
47.74	18.1	11.4	-	18.6	0.7	26.7	4.5	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.2	66	3.11	15	-	-
47.9	20.9	13.2	-	21.4	0.7	27.8	4.1	3 silty CLAY to CLAY	115	1.5	14	9	-	-	1.4	3.8	60	3.03	15	-	-
48.07	23.4	14.7	-	24	0.9	28.8	4.4	3 silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.3	59	3.01	15	-	-
48.23	24.9	15.6	-	25.4	0.9	29.4	4	3 silty CLAY to CLAY	115	1.5	17	10	-	-	1.6	4.6	56	2.96	15	-	-
48.39	24.7	15.4	-	25.3	0.9	30.5	4.2	3 silty CLAY to CLAY	115	1.5	16	10	-	-	1.6	4.5	57	2.97	15	-	-
48.56	25.2	15.7	-	25.8	1	31.3	4.3	3 silty CLAY to CLAY	115	1.5	17	10	-	-	1.7	4.6	57	2.97	15	-	-
48.72	23.5	14.6	-	24.1	1	31.5	4.7	3 silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.2	60	3.03	15	-	-
48.89	19.3	12	-	19.9	0.8	31.5	4.8	3 silty CLAY to CLAY	115	1.5	13	8	-	-	1.2	3.4	66	3.11	15	-	-
49.05	15.2	9.4	-	15.8	0.7	31.4	5.5	3 silty CLAY to CLAY	115	1.5	10	6	-	-	1	2.5	77	3.25	15	-	-
49.22	13.1	8.1	-	13.7	0.5	31.5	4.9	3 silty CLAY to CLAY	115	1.5	9	5	-	-	0.8	2.1	79	3.28	15	-	-
49.38	13	8	-	13.7	0.4	32.1	3.6	3 silty CLAY to CLAY	115	1.5	9	5	-	-	0.8	2.1	74	3.21	15	-	-
49.54	13	8	-	13.7	0.5	33	5	3 silty CLAY to CLAY	115	1.5	9	5	-	-	0.8	2.1	81	3.29	15	-	-
49.71	16.6	10.2	-	17.3	0.6	33.9	4.7	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1.1	2.8	71	3.17	15	-	-
49.87	17.4	10.6	-	18.1	0.6	34.8	4.3	3 silty CLAY to CLAY	115	1.5	12	7	-	-	1.1	2.9	68	3.13	15	-	-
50.04	14.7	8.9	-	15.4	0.6	35.3	4.9	3 silty CLAY to CLAY	115	1.5	10	6	-	-	0.9	2.4	76	3.24	15	-	-
50.2	14.3	8.7	-	15	0.5	37.8	4.4	3 silty CLAY to CLAY	115	1.5	10	6	-	-	0.9	2.3	75	3.22	15	-	-

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Middle Earth Geo Testing

UPRR Property

Project ID: Corne rstone Earth Grou p
Data Fi le: SDF (457).c pt
CPT Dat e: 6/12/ 2014 1 0:41:02 7:00 AM
GW Duri ng Tes t: 10 ft

Sound ing ID: C 1-CPT2
Pr ojec t No: P2 14 0.676
Con e/Ri g: DD G1281

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	qt PS tsf	Slv Stss tsf	pore prss (psi)	Frct Rato %	Mat Typ Zon	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N 60%	SPT R-N1 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	OCR - -	Fin Ic %	Ic SBT Indx	Nk - -	Vol Strn %	Cycl SStn %
. .	.	*	.	*	.	.	.	*	*	.	.	.	*	*	*	.	.	*	*	*	*	*
0.33	75.7	121.4	144.6	75.7	0.9	0	1.2	6	clean SAND to silty SAND	125	5	15	24	73	48	-	-	10	1.9	16	N/A	N/A
0.49	106.1	170.2	206.6	106.1	1.9	0.1	1.8	6	clean SAND to silty SAND	125	5	21	34	85	48	-	-	11	1.93	16	N/A	N/A
0.66	102.6	164.5	227.9	102.6	2.7	0.3	2.6	5	silty SAND to sandy SILT	120	4	26	41	83	48	-	-	15	2.06	16	N/A	N/A
0.82	94.2	151.1	238.2	94.2	3.1	0.4	3.3	5	silty SAND to sandy SILT	120	4	24	38	81	48	-	-	18	2.16	16	N/A	N/A
0.98	89.6	143.7	212.9	89.6	2.5	0.6	2.7	5	silty SAND to sandy SILT	120	4	22	36	79	48	-	-	16	2.11	16	N/A	N/A
1.15	78.3	125.5	200.2	78.3	2.3	1	2.9	5	silty SAND to sandy SILT	120	4	20	31	75	48	-	-	18	2.17	16	N/A	N/A
1.31	86.1	138	225.9	86.1	2.8	1.1	3.3	5	silty SAND to sandy SILT	120	4	22	35	78	48	-	-	19	2.19	16	N/A	N/A
1.48	83.5	134	232.5	83.6	3	1.4	3.6	8	stiff SAND to clayy SAND	115	1	84	100	-	-	5.5	9.9	20	2.23	16	N/A	N/A
1.64	74.5	119.5	230.1	74.5	3	1.5	4	8	stiff SAND to clayy SAND	115	1	75	100	-	-	4.9	9.9	22	2.29	16	N/A	N/A
1.8	70.7	113.4	222.5	70.7	2.8	1.5	4	8	stiff SAND to clayy SAND	115	1	71	100	-	-	4.7	9.9	23	2.3	16	N/A	N/A
1.97	74.7	119.7	283.2	74.7	4.2	1.6	5.6	9	very stiff fine SOIL	120	2	37	60	73	48	-	-	27	2.41	30	N/A	N/A
2.13	81.5	130.7	314.6	81.5	5	1.8	6.1	9	very stiff fine SOIL	120	2	41	65	76	48	-	-	27	2.42	30	N/A	N/A
2.3	70.8	113.6	310.5	70.9	4.8	0.6	6.8	9	very stiff fine SOIL	120	2	35	57	71	48	-	-	30	2.49	30	N/A	N/A
2.46	64.3	103.1	299.3	64.3	4.5	-0.5	7	9	very stiff fine SOIL	120	2	32	52	68	48	-	-	32	2.53	30	N/A	N/A
2.62	58	92.9	-	57.9	4.6	-1.2	8	9	very stiff fine SOIL	120	2	29	46	65	47	-	-	35	2.6	30	N/A	N/A
2.79	55.3	88.7	-	55.3	5.1	-1.4	9.2	9	very stiff fine SOIL	120	2	28	44	63	46	-	-	38	2.66	30	N/A	N/A
2.95	55.3	88.7	-	55.3	5.4	-1.4	9.9	9	very stiff fine SOIL	120	2	28	44	63	46	-	-	40	2.69	30	N/A	N/A
3.12	52.1	83.5	-	52	5.3	-1.5	9.9	9	very stiff fine SOIL	120	2	26	42	61	46	-	-	41	2.7	30	N/A	N/A
3.28	47	75.3	-	46.9	5.3	-1.8	9.9	9	very stiff fine SOIL	120	2	23	38	58	45	-	-	42	2.73	30	N/A	N/A
3.45	44	70.5	-	43.9	5.1	-2	9.9	9	very stiff fine SOIL	120	2	22	35	55	44	-	-	43	2.75	30	N/A	N/A
3.61	43.2	69.3	-	43.1	4.9	-1.9	9.9	9	very stiff fine SOIL	120	2	22	35	55	44	-	-	43	2.75	30	N/A	N/A
3.77	39.8	63.8	-	39.7	4.4	-1.8	9.9	9	very stiff fine SOIL	120	2	20	32	52	43	-	-	44	2.77	30	N/A	N/A
3.94	37.7	60.5	-	37.7	3.9	-1.8	9.9	9	very stiff fine SOIL	120	2	19	30	50	43	-	-	45	2.79	30	N/A	N/A
4.1	34.4	55.1	-	34.3	3.2	-1.6	9.5	3	silty CLAY to CLAY	115	1.5	23	37	-	-	2.4	9.9	46	2.8	15	N/A	N/A
4.27	31.6	50.6	-	31.5	2.9	-1.7	9.3	3	silty CLAY to CLAY	115	1.5	21	34	-	-	2.2	9.9	47	2.81	15	N/A	N/A
4.43	29.4	47.1	-	29.3	2.5	-1.8	8.4	3	silty CLAY to CLAY	115	1.5	20	31	-	-	2.1	9.9	46	2.8	15	N/A	N/A
4.59	27.7	44.4	-	27.7	2.2	-1.9	8.1	3	silty CLAY to CLAY	115	1.5	18	30	-	-	1.9	9.9	46	2.8	15	N/A	N/A
4.76	25.7	41.2	-	25.6	2.1	-1.9	8.1	3	silty CLAY to CLAY	115	1.5	17	27	-	-	1.8	9.9	48	2.83	15	N/A	N/A
4.92	25.6	41	-	25.5	1.5	-1.9	6	3	silty CLAY to CLAY	115	1.5	17	27	-	-	1.8	9.9	42	2.73	15	N/A	N/A
5.09	29.6	47.5	-	29.6	1.9	-2	6.5	3	silty CLAY to CLAY	115	1.5	20	32	-	-	2.1	9.9	41	2.72	15	N/A	N/A
5.25	24.6	39.5	-	24.6	2	-2.8	8	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	48	2.84	15	N/A	N/A
5.41	28.4	45.6	-	28.4	2.1	-2.5	7.6	3	silty CLAY to CLAY	115	1.5	19	30	-	-	2	9.9	45	2.78	15	N/A	N/A
5.58	41.5	66.6	214	41.5	2.4	-2.3	5.8	4	clayy SILT to silty CLAY	115	2	21	33	-	-	2.9	9.9	34	2.58	15	N/A	N/A
5.74	54.5	87.4	227	54.5	2.8	-2.4	5.1	9	very stiff fine SOIL	120	2	27	44	63	43	-	-	29	2.46	30	N/A	N/A
5.91	40.8	65.4	-	40.7	2.8	-2.4	6.9	9	very stiff fine SOIL	120	2	20	33	53	41	-	-	38	2.64	30	N/A	N/A
6.07	37.7	60.4	-	37.6	2.6	-2.3	7	3	silty CLAY to CLAY	115	1.5	25	40	-	-	2.6	9.9	39	2.67	15	N/A	N/A
6.23	29.8	47.8	-	29.7	2.2	-2.2	7.6	3	silty CLAY to CLAY	115	1.5	20	32	-	-	2.1	9.9	44	2.76	15	N/A	N/A
6.4	26.9	43.2	-	26.9	2	-2.1	7.6	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	46	2.79	15	N/A	N/A
6.56	27.4	43.9	-	27.3	1.7	-2	6.4	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	42	2.73	15	N/A	N/A
6.73	23.2	37.2	-	23.2	1.6	-1.9	7.2	3	silty CLAY to CLAY	115	1.5	15	25	-	-	1.6	9.9	47	2.82	15	N/A	N/A
6.89	21.6	34.6	-	21.5	1.4	-1.9	6.6	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	47	2.81	15	N/A	N/A
7.05	20.8	33.4	-	20.8	1.2	-1.9	6.1	3	silty CLAY to CLAY	115	1.5	14	22	-	-	1.4	9.9	46	2.8	15	N/A	N/A
7.22	19.1	30.6	-	19.1	1.1	-1.9	5.6	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.9	46	2.8	15	N/A	N/A
7.38	17.8	28.6	-	17.8	1	-1.9	5.6	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	47	2.82	15	N/A	N/A
7.55	15.8	25.3	-	15.7	1	-1.9	6.2	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	9.9	52	2.9	15	N/A	N/A
7.71	14.5	23.2	-	14.4	0.9	-1.9	6.1	3	silty CLAY to CLAY	115	1.5	10	15	-	-	1	9.9	53	2.92	15	N/A	N/A
7.87	13.6	21.8	-	13.5	0.8	-2	5.9	3	silty CLAY to CLAY	115	1.5	9	15	-	-	0.9	9.3	54	2.93	15	N/A	N/A
8.04	11.9	19.1	-	11.9	0.6	-2	5.5	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	8	55	2.95	15	N/A	N/A
8.2	9.5	15.3	-	9.5	0.5	-2	5.9	3	silty CLAY to CLAY	115	1.5	6	10	-	-	0.6	6.2	62	3.05	15	N/A	N/A
8.37	7.5	12.1	-	7.5	0.5	-2	6.5	3	silty CLAY to CLAY	115	1.5	5	8	-	-	0.5	4.7	70	3.16	15	N/A	N/A
8.53	6.1	9.8	-	6	0.3	-2	5.4	3	silty CLAY to CLAY	115	1.5	4	7	-	-	0.4	3.7	72	3.18	15	N/A	N/A
8.69	5.2	8.3	-	5.1	0.3	-2	6.4	3	silty CLAY to CLAY	115	1.5	3	6	-	-	0.3	3	80	3.29	15	N/A	N/A
8.86	4.7	7.6	-	4.7	0.3	-1.9	7.2	3	silty CLAY to CLAY	115	1.5	3	5	-	-	0.3	2.7	86	3.36	15	N/A	N/A
9.02	6.7	10.7	-	6.6	0.3	-1.8	5.1	3	silty CLAY to CLAY	115	1.5	4	7	-	-	0.4	3.8	68	3.14	15	N/A	N/A
9.19	5.3	8.5	-	5.2	0.3	-1.8	6.7	3	silty CLAY to CLAY	115	1.5	4	6	-	-	0.3	2.9	81	3.3	15	N/A	N/A
9.35	4.2	6.7	-	4.1	0.2	-1.8	6.9	3	silty CLAY to CLAY	115	1.5	3	4	-	-	0.3	2.2	90	3.4	15	N/A	N/A
9.51	3.5	5.6	-	3.5	0.2	-1.7	7.6	2	Organic SOILS - Peats	100	1	3	6	-	-	0.3	1.7	95	3.5	10	N/A	N/A
9.68	3	4.9	-	3	0.2	-1.7	7.1	2	Organic SOILS - Peats	100	1	3	5	-	-	0.3	1.4	95	3.54	10	N/A	N/A
9.84	2.4	3.9	-	2.4	0.1	-1.6	6.9	2	Organic SOILS - Peats	100	1	2	4	-	-	0.2	1.1	95	3.63	10	N/A	N/A
10.01	2.2	3.6	-	2.2	0.1	-1.6	6.2	2	Organic SOILS - Peats	100	1	2	4	-	-	0.2	0.9	95	3.65	10	-	-
10.17	2.5	4.1	-	2.5	0.1	-1.6	6.4	2	Organic SOILS - Peats	100	1	3	4	-	-	0.2	1.1	95	3.6	10	-	-
10.34	3.6	5.8	-	3.6	0.2	-1.5	6.2	3	silty CLAY to CLAY	115	1.5	2	4	-	-	0.2	1.7	93	3.43	15	-	-
10.5	6	9.6	-	6	0.3	-1.5	4.9	3	silty CLAY to CLAY	115	1.5	4	6	-	-	0.4	3	71	3.17	15	-	-
10.66	8.7	13.9	-	8.7	0.2	-1.5	2.8	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	4.5	51	2.88	15	-	-
10.83	8.3	13.3	-	8.3	0.4	-1.4	4.8	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.5	4.3	62	3.05	15	-	-
10.99	9.6	15.3	-	9.5	0.4	-1.4	4.7	3	silty CLAY to CLAY	115	1.5	6	10	-	-	0.6	4.9	58	2.99	15	-	-
11.16	10.8	17.4	-	10.8	0.5	-1.3	5	3	silty CLAY to CLAY	115	1.5	7	12	-	-	0.7	5.6	56	2.96	15	-	-
11.32	9.1	14.6	-	9.1	0.3	-1.2	3.9	3	silty CLAY to CLAY	115	1.5	6	10	-	-	0.6	4.6	56	2.96	15	-	-
11.48	5.6	9	-	5.6	0.3	-1.2	6	3	silty CLAY to CLAY	115	1.5	4	6	-	-	0.4	2.7	77	3.25	15	-	-
11.65	5.7	9.2	-	5.7	0.3	-1.1	5.1	3	silty CLAY to CLAY	115	1.5	4	6	-	-	0.4	2.7	73	3.2	15	-	-
11.81	5	8	-	5	0.2	-1.1	4.6	3	silty CLAY to CLAY	115	1.5	3	5	-	-	0.3	2.3	75	3.23	15	-	-

11.98	4.9	7.8	-	4.8	0.2	-1	5.4	3	silty CLAY to CLAY	115	1.5	3	5	-	-	0.3	2.2	80	3.29	15	-	-		
12.14	4.4	6.9	-	4.4	0.2	-0.8	6.8	3	silty CLAY to CLAY	115	1.5	3	5	-	-	0.3	1.9	89	3.4	15	-	-		
12.3	6.8	10.7	-	6.8	0.3	-0.7	4.6	3	silty CLAY to CLAY	115	1.5	5	7	-	-	0.4	3.2	67	3.12	15	-	-		
12.47	7.9	12.4	-	7.9	0.3	-0.6	4.4	3	silty CLAY to CLAY	115	1.5	5	8	-	-	0.5	3.7	62	3.06	15	-	-		
12.63	8.4	13	-	8.4	0.3	-0.6	4.5	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.5	3.9	61	3.04	15	-	-		
12.8	8.8	13.6	-	8.8	0.4	-0.6	4.7	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	4.1	61	3.03	15	-	-		
12.96	8.8	13.4	-	8.8	0.4	-0.6	5.5	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	4.1	64	3.08	15	-	-		
13.12	8.7	13.3	-	8.7	0.4	-0.6	5.6	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	4	65	3.09	15	-	-		
13.29	8.8	13.4	-	8.8	0.4	-0.6	5.1	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	4	63	3.06	15	-	-		
13.45	8.4	12.6	-	8.4	0.4	-0.6	4.7	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.5	3.8	63	3.07	15	-	-		
13.62	8.5	12.6	-	8.4	0.4	-0.5	4.6	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.6	3.8	63	3.06	15	-	-		
13.78	8.6	12.7	-	8.6	0.4	-0.4	4.5	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.6	3.8	62	3.05	15	-	-		
13.94	8.3	12.3	-	8.3	0.3	-0.4	4.4	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.5	3.7	63	3.06	15	-	-		
14.11	8.5	12.4	-	8.5	0.3	-0.4	4.3	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.6	3.7	62	3.05	15	-	-		
14.27	10.2	14.8	-	10.2	0.4	-0.4	4	3	silty CLAY to CLAY	115	1.5	7	10	-	-	0.7	4.5	56	2.96	15	-	-		
14.44	12.7	18.3	-	12.6	0.4	-0.3	3.6	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	5.6	49	2.86	15	-	-		
14.6	13.5	19.4	-	13.5	0.4	-0.3	3.5	3	silty CLAY to CLAY	115	1.5	9	13	-	-	0.9	6	48	2.83	15	-	-		
14.76	13.1	18.6	-	13	0.4	-0.2	3.1	4	clayy SILT to silty CLAY	115	2	7	9	-	-	0.9	5.8	47	2.81	15	-	-		
14.93	12.4	17.6	-	12.4	0.4	-0.2	3.2	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	5.4	48	2.84	15	-	-		
15.09	10.8	15.2	-	10.8	0.4	-0.1	3.6	3	silty CLAY to CLAY	115	1.5	7	10	-	-	0.7	4.6	54	2.93	15	-	-		
15.26	10.4	14.5	-	10.4	0.2	-0.1	2.4	4	clayy SILT to silty CLAY	115	2	5	7	-	-	0.7	4.4	49	2.84	15	-	-		
15.42	10	13.9	-	10	0.2	0	2.4	4	clayy SILT to silty CLAY	115	2	5	7	-	-	0.7	4.2	49	2.86	15	-	-		
15.58	9.6	13.3	-	9.6	0.2	0.2	2.7	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	4	52	2.91	15	-	-		
15.75	8.7	12	-	8.7	0.2	0.3	2.4	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.6	3.6	53	2.92	15	-	-		
15.91	9.3	12.7	-	9.3	0.2	0.3	2.7	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.6	3.8	53	2.92	15	-	-		
16.08	10.9	14.8	-	10.9	0.2	0.4	2.3	4	clayy SILT to silty CLAY	115	2	5	7	-	-	0.7	4.5	47	2.83	15	-	-		
16.24	11.4	15.5	-	11.4	0.3	0.5	2.6	4	clayy SILT to silty CLAY	115	2	6	8	-	-	0.8	4.7	48	2.84	15	-	-		
16.4	11	14.9	-	11.1	0.3	0.5	2.6	4	clayy SILT to silty CLAY	115	2	6	7	-	-	0.7	4.5	49	2.86	15	-	-		
16.57	10.1	13.5	-	10.1	0.2	0.5	2.4	4	clayy SILT to silty CLAY	115	2	5	7	-	-	0.7	4	50	2.87	15	-	-		
16.73	9.4	12.5	-	9.4	0.2	0.6	2.7	3	silty CLAY to CLAY	115	1.5	6	8	-	-	0.6	3.7	54	2.94	15	-	-		
16.9	10.8	14.3	-	10.8	0.3	0.6	2.9	3	silty CLAY to CLAY	115	1.5	7	10	-	-	0.7	4.3	52	2.89	15	-	-		
17.06	13.7	18	-	13.7	0.3	0.7	2.4	4	clayy SILT to silty CLAY	115	2	7	9	-	-	0.9	5.5	44	2.76	15	-	-		
17.23	14.6	19.1	-	14.7	0.3	0.7	2.3	4	clayy SILT to silty CLAY	115	2	7	10	-	-	1	5.9	42	2.72	15	-	-		
17.39	14.4	18.8	-	14.5	0.9	0.8	6.6	3	silty CLAY to CLAY	115	1.5	10	13	-	-	1	5.8	60	3.02	15	-	-		
17.55	34.8	45	-	34.8	1.8	0.8	5.3	3	silty CLAY to CLAY	115	1.5	23	30	-	-	2.4	9.9	39	2.67	15	-	-		
17.72	48.8	53.8	159.7	48.8	2	0.7	4.2	4	clayy SILT to silty CLAY	115	2	24	27	-	-	3.4	9.9	32	2.54	15	0.18	0.4		
17.88	46.9	51.5	153	46.9	1.8	0.8	4	4	clayy SILT to silty CLAY	115	2	23	26	-	-	3.3	9.9	32	2.54	15	0.25	0.8		
18.05	63.8	69.9	151	63.8	1.9	0.7	3.1	5	silty SAND to sandy SILT	120	4	16	17	55	39 -	-	25	2.36	16	0.29	1.4			
18.21	41.4	48	154.9	41.4	1.7	0.7	4.3	4	clayy SILT to silty CLAY	115	2	21	24	-	-	2.9	9.9	35	2.58	15	0.23	0.6		
18.37	21.1	26.5	-	21.1	1	0.6	5.2	3	silty CLAY to CLAY	115	1.5	14	18	-	-	1.4	8.3	48	2.83	15	-	-		
18.54	14.8	18.5	-	14.8	0.7	0.9	5.4	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.7	57	2.97	15	-	-		
18.7	14.9	18.6	-	15	0.7	1	5.3	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.7	56	2.96	15	-	-		
18.87	19.1	23.6	-	19.1	0.8	1.1	4.6	3	silty CLAY to CLAY	115	1.5	13	16	-	-	1.3	7.3	48	2.84	15	-	-		
19.03	17.7	21.8	-	17.7	1	1	5.9	3	silty CLAY to CLAY	115	1.5	12	15	-	-	1.2	6.7	54	2.94	15	-	-		
19.19	17.2	21.1	-	17.2	0.8	1	4.7	3	silty CLAY to CLAY	115	1.5	11	14	-	-	1.2	6.5	51	2.88	15	-	-		
19.36	13.5	16.5	-	13.6	0.6	1	5.2	3	silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	5	58	3	15	-	-		
19.52	13.4	16.2	-	13.4	0.6	1.1	4.5	3	silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	4.9	56	2.97	15	-	-		
19.69	15	18.1	-	15	0.5	1.1	3.9	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.5	51	2.89	15	-	-		
19.85	15.8	19	-	15.8	0.5	1.2	3.7	3	silty CLAY to CLAY	115	1.5	11	13	-	-	1.1	5.8	49	2.85	15	-	-		
20.01	15.2	18.2	-	15.3	0.6	1.2	4.3	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.5	53	2.91	15	-	-		
20.18	14	16.6	-	14	0.6	1.1	4.8	3	silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	5	57	2.97	15	-	-		
20.34	12	14.2	-	12	0.5	1.1	4.2	3	silty CLAY to CLAY	115	1.5	8	9	-	-	0.8	4.2	58	2.99	15	-	-		
20.51	9.8	11.5	-	9.8	0.4	1.1	4.6	3	silty CLAY to CLAY	115	1.5	7	8	-	-	0.6	3.3	66	3.11	15	-	-		
20.67	10	11.7	-	10	0.4	1.2	4.3	3	silty CLAY to CLAY	115	1.5	7	8	-	-	0.6	3.4	64	3.08	15	-	-		
20.83	11.9	13.9	-	12	0.5	1.2	4.4	3	silty CLAY to CLAY	115	1.5	8	9	-	-	0.8	4.1	60	3.02	15	-	-		
21	13.7	15.8	-	13.7	0.5	1.2	4.2	3	silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	4.8	56	2.96	15	-	-		
21.16	14.6	16.8	-	14.6	0.6	1.2	4.4	3	silty CLAY to CLAY	115	1.5	10	11	-	-	1	5.1	55	2.95	15	-	-		
21.33	14.8	16.9	-	14.8	0.6	1.2	4.5	3	silty CLAY to CLAY	115	1.5	10	11	-	-	1	5.1	55	2.95	15	-	-		
21.49	16.8	19.1	-	16.8	0.7	1.3	4.4	3	silty CLAY to CLAY	115	1.5	11	13	-	-	1.1	5.8	52	2.9	15	-	-		
21.65	17.6	20	-	17.6	0.7	1.3	4.3	3	silty CLAY to CLAY	115	1.5	12	13	-	-	1.2	6.1	51	2.88	15	-	-		
21.82	16.7	18.9	-	16.7	0.6	1.3	4.2	3	silty CLAY to CLAY	115	1.5	11	13	-	-	1.1	5.8	51	2.89	15	-	-		
21.98	15.7	17.7	-	15.8	0.6	1.3	3.9	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.4	52	2.89	15	-	-		
22.15	16.6	18.6	-	16.7	0.5	1.5	3.5	3	silty CLAY to CLAY	115	1.5	11	12	-	-	1.1	5.7	49	2.84	15	-	-		
22.31	17.2	19.2	-	17.3	0.6	1.5	3.7	3	silty CLAY to CLAY	115	1.5	11	13	-	-	1.2	5.9	49	2.85	15	-	-		
22.47	20.3	22.5	-	20.4	0.7	1.6	3.5	4	clayy SILT to silty CLAY	115	2	10	11	-	-	1.4	7	45	2.78	15	-	-		
22.64	29.9	31.5	-	29.9	0.8	1.5	2.8	4	clayy SILT to silty CLAY	115	2	15	16	-	-	2	9.9	35	2.6	15	-	-		
22.8	23.2	25.5	-	23.2	0.9	1.7	4.2	3	silty CLAY to CLAY	115	1.5	15	17	-	-	1.6	7.9	45	2.79	15	-	-		
22.97	23.9	26.1	-	24	0.9	1.8	4	4	clayy SILT to silty CLAY	115	2	12	13	-	-	1.6	8.1	44	2.76	15	-	-		
23.13	22.4	24.3	-	22.4	0.8	1.9	4	3	silty CLAY to CLAY	115	1.5	15	16	-	-	1.5	7.6	45	2.79	15	-	-		
23.3	22.9	24.7	-	22.9	1.1	1.9	5.1	3	silty CLAY to CLAY	115	1.5	15	16	-	-	1.6	7.7	49	2.85	15	-	-		
23.46	22.1	23.8	-	22.1	0.9	2	4.3	3	silty CLAY to CLAY	115	1.5	15	16	-	-	1.5	7.4	47	2.81	15	-	-		
23.62	19.6	21	-	19.6	0.8	2	4.5	3	silty CLAY to CLAY	115	1.5	13	14	-	-	1.3	6.4	50	2.87	15	-	-		
23.79	18.1	19.3	-	18.1	0.7	2.1	4.2	3	silty CLAY to CLAY	115	1.5	12	13	-	-	1.2	5.9	51	2.89	15	-	-		
23.95	15.1	16	-	15.1	0.6	2.1	4.1	3	silty CLAY to CLAY	115	1.5	10	11	-	-	1	4.8	55	2.95	15	-	-		
24.12	14	14.8	-	14	0.5	2.1	3.8	3	silty CLAY to CLAY	115	1.5	9	10	-	-	0.9	4.4	56	2.96	15	-	-		
24.28	14.4	15.1	-	14.4	0.5	2.2	4	3	silty CLAY to CLAY	115	1.5	10	10	-	-	0.9	4.5	56	2.96	15	-	-		
24.44	19.5	20.5	-	19.6	0.7	2.2	4.1	3	silty CLAY to CLAY	115	1.5	13	14	-	-	1.3	6.3	49	2.85	15	-	-		
24.61	21.8	22.8	-	21.9	0.9	2.2	4.6	3	silty CLAY to CLAY	115	1.5	15	15	-	-	1.5	7	49	2.85	15	-	-		
24.77	26.6	27.6	-	26.6	0.8	2.2	3.3	4	clayy SILT to silty CLAY	115	2	13	14	-	-	1.8	8.6	40	2.69	15	-	-		
24.94	17.2	17.8	-	17.3	0.5	2.2	3.4	3	silty CLAY to CLAY	115	1.5	11	12	-	-	1.1	5.4	49	2.85	15	-	-		
25.1	15.5	16	-	15.6	0.4	2.3	2.8	3	silty CLAY to CLAY	115	1.5	10	11	-	-	1	4.8	49	2.85	15	-	-		
25.26	16.4	16.8	-	16.5	0.4	2.5	2.9	3	silty CLAY to CLAY	115	1.5	11	11	-	-	1.1	5.1	48	2.84	15	-	-		
25.43	18.7	19	-	18.7	0.5	2.5	3.2	4	clayy SILT to silty CLAY	115	2	9	10	-	-	1.3	5.8	47	2.81	15	-	-		

25.59	21.4	21.7	-	21.5	0.7	2.6	3.3	4	clayy SILT to silty CLAY	115	2	11	11	-	-	1.4	6.7	45	2.78	15	-	-		
25.76	23.5	23.7	-	23.5	0.9	2.6	4.2	3	silty CLAY to CLAY	115	1.5	16	16	-	-	1.6	7.3	47	2.81	15	-	-		
25.92	26.7	26.9	-	26.8	0.9	2.7	3.7	4	clayy SILT to silty CLAY	115	2	13	13	-	-	1.8	8.4	42	2.73	15	-	-		
26.08	24.4	24.4	-	24.4	0.8	2.7	3.6	4	clayy SILT to silty CLAY	115	2	12	12	-	-	1.7	7.6	44	2.76	15	-	-		
26.25	24.6	24.5	-	24.6	0.8	2.8	3.4	4	clayy SILT to silty CLAY	115	2	12	12	-	-	1.7	7.6	43	2.74	15	-	-		
26.41	27.4	27.2	-	27.5	1.3	2.9	4.8	3	silty CLAY to CLAY	115	1.5	18	18	-	-	1.9	8.5	46	2.81	15	-	-		
26.58	45.2	44.7	-	45.3	2.2	3	5.1	3	silty CLAY to CLAY	115	1.5	30	30	-	-	3.1	9.9	39	2.66	15	-	-		
26.74	60.7	59.7	-	60.7	3.5	3	6	3	silty CLAY to CLAY	115	1.5	40	40	-	-	4.2	9.9	37	2.63	15	-	-		
26.9	83.1	80	244.8	83.2	5	3.1	6.2	9	very stiff fine SOIL	120	2	42	40	60	39 -	-		33	2.55	30	0	0		
27.07	89.6	85.9	272.9	89.6	6.1	3.3	6.9	9	very stiff fine SOIL	120	2	45	43	62	40 -	-		34	2.57	30	0	0		
27.23	108.4	103.8	286	108.5	6.8	3.3	6.4	9	very stiff fine SOIL	120	2	54	52	68	41 -	-		31	2.5	30	0	0		
27.4	95.3	91	268.3	95.3	6	3.4	6.4	9	very stiff fine SOIL	120	2	48	45	64	40 -	-		32	2.53	30	0	0		
27.56	65	62.6	-	65	4.3	3.8	6.8	3	silty CLAY to CLAY	115	1.5	43	42	-	-	4.5	9.9	38	2.65	15	-	-		
27.72	48.9	46.9	-	49	3	4.2	6.3	3	silty CLAY to CLAY	115	1.5	33	31	-	-	3.4	9.9	41	2.71	15	-	-		
27.89	57	54.4	-	57	3.1	4.3	5.5	4	clayy SILT to silty CLAY	115	2	28	27	-	-	4	9.9	37	2.63	15	-	-		
28.05	56.6	53.9	-	56.7	3.2	4.1	5.8	3	silty CLAY to CLAY	115	1.5	38	36	-	-	3.9	9.9	38	2.64	15	-	-		
28.22	52	49.3	-	52.1	2.9	4	5.8	3	silty CLAY to CLAY	115	1.5	35	33	-	-	3.6	9.9	39	2.67	15	-	-		
28.38	36.8	34.7	-	36.9	2	3.8	5.6	3	silty CLAY to CLAY	115	1.5	25	23	-	-	2.5	9.9	44	2.77	15	-	-		
28.54	35.8	33.7	-	35.9	1.7	3.9	5	3	silty CLAY to CLAY	115	1.5	24	22	-	-	2.5	9.9	43	2.75	15	-	-		
28.71	44	41.2	-	44.1	1.7	3.7	4.1	4	clayy SILT to silty CLAY	115	2	22	21	-	-	3	9.9	36	2.62	15	-	-		
28.87	30.6	28.5	-	30.7	1.5	3.7	5.2	3	silty CLAY to CLAY	115	1.5	20	19	-	-	2.1	8.9	47	2.81	15	-	-		
29.04	27.9	25.9	-	27.9	1.6	3.8	6.2	3	silty CLAY to CLAY	115	1.5	19	17	-	-	1.9	8	52	2.9	15	-	-		
29.2	36.5	33.8	-	36.6	2.4	3.6	6.8	3	silty CLAY to CLAY	115	1.5	24	23	-	-	2.5	9.9	48	2.84	15	-	-		
29.36	37.8	34.8	-	37.9	2.9	3.4	8.1	3	silty CLAY to CLAY	115	1.5	25	23	-	-	2.6	9.9	51	2.88	15	-	-		
29.53	33.9	31.1	-	33.9	2.4	3.5	7.6	3	silty CLAY to CLAY	115	1.5	23	21	-	-	2.3	9.7	52	2.9	15	-	-		
29.69	30.7	28	-	30.7	2.1	3.7	7.3	3	silty CLAY to CLAY	115	1.5	20	19	-	-	2.1	8.7	53	2.92	15	-	-		
29.86	26.6	24.2	-	26.6	1.8	3.7	7.4	3	silty CLAY to CLAY	115	1.5	18	16	-	-	1.8	7.5	57	2.97	15	-	-		
30.02	21.9	19.8	-	21.9	1.3	3.8	6.4	3	silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	6	58	3	15	-	-		
30.19	20	18	-	20	0.9	3.8	5	3	silty CLAY to CLAY	115	1.5	13	12	-	-	1.3	5.4	56	2.96	15	-	-		
30.35	21.1	18.9	-	21.1	0.9	3.9	4.5	3	silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	5.7	53	2.91	15	-	-		
30.51	21.5	19.3	-	21.6	0.9	3.9	4.6	3	silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	5.8	53	2.91	15	-	-		
30.68	23.4	20.9	-	23.5	1.1	3.9	5.1	3	silty CLAY to CLAY	115	1.5	16	14	-	-	1.6	6.4	53	2.91	15	-	-		
30.84	25.6	22.8	-	25.7	1.2	3.8	4.9	3	silty CLAY to CLAY	115	1.5	17	15	-	-	1.7	7	50	2.87	15	-	-		
31.01	26.8	23.8	-	26.9	1.3	3.9	5	3	silty CLAY to CLAY	115	1.5	18	16	-	-	1.8	7.3	50	2.86	15	-	-		
31.17	27	23.8	-	27.1	1.2	3.9	4.6	3	silty CLAY to CLAY	115	1.5	18	16	-	-	1.8	7.3	48	2.84	15	-	-		
31.33	24.8	21.8	-	24.9	1	3.9	4.4	3	silty CLAY to CLAY	115	1.5	17	15	-	-	1.7	6.7	49	2.86	15	-	-		
31.5	22.8	20	-	22.9	1.1	3.9	5.2	3	silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	6.1	54	2.93	15	-	-		
31.66	26.5	23.1	-	26.6	1.4	3.9	5.7	3	silty CLAY to CLAY	115	1.5	18	15	-	-	1.8	7.1	53	2.91	15	-	-		
31.83	22.6	19.6	-	22.7	1.3	3.9	6.4	3	silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	6	58	3	15	-	-		
31.99	22.6	19.6	-	22.7	1.2	4	5.7	3	silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	5.9	56	2.97	15	-	-		
32.15	19.4	16.7	-	19.5	1.1	4.2	6.2	3	silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	5	62	3.05	15	-	-		
32.32	18.1	15.5	-	18.1	1.2	4.2	7.3	3	silty CLAY to CLAY	115	1.5	12	10	-	-	1.2	4.6	67	3.12	15	-	-		
32.48	22.4	19.2	-	22.5	1.4	4.3	6.6	3	silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	5.8	60	3.02	15	-	-		
32.65	28.6	24.4	-	28.7	0.9	4.2	3.5	4	clayy SILT to silty CLAY	115	2	14	12	-	-	1.9	7.5	43	2.75	15	-	-		
32.81	23.8	20.2	-	23.9	0.8	4.3	3.8	3	silty CLAY to CLAY	115	1.5	16	13	-	-	1.6	6.1	48	2.84	15	-	-		
32.97	24.2	20.5	-	24.3	1	4.4	4.4	3	silty CLAY to CLAY	115	1.5	16	14	-	-	1.6	6.2	51	2.88	15	-	-		
33.14	30.4	25.6	-	30.5	1.3	4.6	4.6	3	silty CLAY to CLAY	115	1.5	20	17	-	-	2.1	7.9	47	2.81	15	-	-		
33.3	38.4	32.3	-	38.5	2.3	4.7	6.3	3	silty CLAY to CLAY	115	1.5	26	22	-	-	2.6	9.9	48	2.83	15	-	-		
33.47	41.6	34.9	-	41.7	3	4.6	7.4	3	silty CLAY to CLAY	115	1.5	28	23	-	-	2.9	9.9	49	2.86	15	-	-		
33.63	38.8	32.4	-	38.9	2.8	4.6	7.5	3	silty CLAY to CLAY	115	1.5	26	22	-	-	2.7	9.9	51	2.88	15	-	-		
33.79	34.7	28.8	-	34.8	2.3	4.6	7.1	3	silty CLAY to CLAY	115	1.5	23	19	-	-	2.4	9	52	2.9	15	-	-		
33.96	34.5	28.6	-	34.6	2.2	4.7	6.9	3	silty CLAY to CLAY	115	1.5	23	19	-	-	2.4	8.9	52	2.9	15	-	-		
34.12	35.1	29	-	35.2	2.3	4.8	6.9	3	silty CLAY to CLAY	115	1.5	23	19	-	-	2.4	9	52	2.89	15	-	-		
34.29	35.6	29.3	-	35.7	2.2	4.9	6.5	3	silty CLAY to CLAY	115	1.5	24	20	-	-	2.4	9.1	50	2.87	15	-	-		
34.45	34.5	28.3	-	34.6	2.2	4.9	6.8	3	silty CLAY to CLAY	115	1.5	23	19	-	-	2.4	8.8	52	2.9	15	-	-		
34.61	34.1	27.9	-	34.2	2.2	4.9	6.7	3	silty CLAY to CLAY	115	1.5	23	19	-	-	2.3	8.7	52	2.9	15	-	-		
34.78	32.3	26.3	-	32.4	2.1	4.9	7.1	3	silty CLAY to CLAY	115	1.5	22	18	-	-	2.2	8.1	54	2.93	15	-	-		
34.94	31.2	25.3	-	31.3	2	4.9	6.9	3	silty CLAY to CLAY	115	1.5	21	17	-	-	2.1	7.8	54	2.94	15	-	-		
35.11	31.2	25.2	-	31.2	1.9	4.7	6.5	3	silty CLAY to CLAY	115	1.5	21	17	-	-	2.1	7.8	53	2.92	15	-	-		
35.27	31	25	-	31.1	1.8	4.7	6.3	3	silty CLAY to CLAY	115	1.5	21	17	-	-	2.1	7.7	53	2.92	15	-	-		
35.43	31	24.9	-	31.1	1.7	4.8	6	3	silty CLAY to CLAY	115	1.5	21	17	-	-	2.1	7.7	52	2.9	15	-	-		
35.6	31.2	25	-	31.3	1.7	4.8	5.8	3	silty CLAY to CLAY	115	1.5	21	17	-	-	2.1	7.7	51	2.89	15	-	-		
35.76	30.8	24.6	-	30.9	1.6	4.8	5.6	3	silty CLAY to CLAY	115	1.5	21	16	-	-	2.1	7.6	51	2.89	15	-	-		
35.93	29.8	23.6	-	29.8	1.5	4.9	5.5	3	silty CLAY to CLAY	115	1.5	20	16	-	-	2	7.3	52	2.9	15	-	-		
36.09	30	23.7	-	30.1	1.6	4.9	5.6	3	silty CLAY to CLAY	115	1.5	20	16	-	-	2	7.3	52	2.9	15	-	-		
36.26	34.4	27.2	-	34.5	1.5	4.9	4.6	3	silty CLAY to CLAY	115	1.5	23	18	-	-	2.3	8.4	45	2.79	15	-	-		
36.42	33.2	26.1	-	33.3	1.4	5	4.6	3	silty CLAY to CLAY	115	1.5	22	17	-	-	2.3	8.1	46	2.81	15	-	-		
36.58	32.4	25.4	-	32.5	1.6	5	5.2	3	silty CLAY to CLAY	115	1.5	22	17	-	-	2.2	7.8	49	2.85	15	-	-		
36.75	38.6	30.2	-	38.7	1.7	5.1	4.5	3	silty CLAY to CLAY	115	1.5	26	20	-	-	2.6	9.4	43	2.75	15	-	-		
36.91	37.8	29.4	-	37.9	1.8	5.1	5.1	3	silty CLAY to CLAY	115	1.5	25	20	-	-	2.6	9.2	46	2.8	15	-	-		
37.08	36.8	28.6	-	36.9	1.9	5.2	5.4	3	silty CLAY to CLAY	115	1.5	25	19	-	-	2.5	8.9	47	2.82	15	-	-		
37.24	34.9	27	-	35	1.8	5.1	5.4	3	silty CLAY to CLAY	115	1.5	23	18	-	-	2.4	8.4	49	2.84	15	-	-		
37.4	30.1	23.2	-	30.2	1.4	5.2	5.1	3	silty CLAY to CLAY	115	1.5	20	15	-	-	2	7.1	51	2.88	15	-	-		
37.57	28.5	21.9	-	28.6	1.1	5.3	4.3	3	silty CLAY to CLAY	115	1.5	19	15	-	-	1.9	6.7	49	2.85	15	-	-		
37.73	28.9	22.1	-	29	1.2	5.3	4.5	3	silty CLAY to CLAY	115	1.5	19	15	-	-	1.9	6.7	49	2.86	15	-	-		
37.9	29.8	22.8	-	29.9	1.4	5.4	5	3	silty CLAY to CLAY	115	1.5	20	15	-	-	2	7	51	2.88	15	-	-		
38.06	32.5	24.7	-	32.6	1.6	5.4	5.4	3	silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.6	50	2.87	15	-	-		
38.22	32.1	24.3	-	32.2	1.6	5.4	5.5	3	silty CLAY to CLAY	115	1.5	21	16	-	-	2.2	7.5	51	2.89	15	-	-		
38.39	32.8	24.8	-	32.9	1.6	5.5	5.3	3	silty CLAY to CLAY	115	1.5	22	17	-	-	2.2	7.6	50	2.86	15	-	-		
38.55	33	24.8	-	33.1	1.5	5.5	5	3	silty CLAY to CLAY	115	1.5	22	17	-	-	2.2	7.6	49	2.85	15	-	-		
38.72	33.3	25	-	33.4	1.6	5.6	5.3	3	silty CLAY to CLAY	115	1.5	22	17	-	-	2.3	7.7	50	2.86	15	-	-		
38.88	35.2	26.4	-	35.4	1.7	5.7	5.3	3	silty CLAY to CLAY	115	1.5	23	18	-	-	2.4	8.2	49	2.85	15	-	-		
39.04	39.2	29.2	-	39.3	1.9	5.7	5.1	3	silty CLAY to CLAY	115	1.5	26	19	-	-	2.7	9.1	46	2.8	15	-	-		

39.21	39.3	29.2	-	39.4	1.9	5.8	5.2	3	silty CLAY to CLAY	115	1.5	26	19	-	-	2.7	9.1	46	2.8	15	-	-
39.37	40.4	30	-	40.5	1.8	5.9	4.8	3	silty CLAY to CLAY	115	1.5	27	20	-	-	2.8	9.3	45	2.78	15	-	-
39.54	39.4	29.1	-	39.6	1.8	5.9	4.8	3	silty CLAY to CLAY	115	1.5	26	19	-	-	2.7	9.1	45	2.78	15	-	-
39.7	36.9	27.2	-	37.1	1.7	6	4.8	3	silty CLAY to CLAY	115	1.5	25	18	-	-	2.5	8.4	46	2.8	15	-	-
39.86	36.5	26.8	-	36.6	1.7	6	4.9	3	silty CLAY to CLAY	115	1.5	24	18	-	-	2.5	8.3	47	2.82	15	-	-
40.03	39.8	29.2	-	40	1.6	6	4.3	3	silty CLAY to CLAY	115	1.5	27	19	-	-	2.7	9.1	43	2.75	15	-	-
40.19	37.8	27.5	-	37.9	1.6	6	4.4	3	silty CLAY to CLAY	115	1.5	25	18	-	-	2.6	8.5	45	2.78	15	-	-
40.36	35.7	26	-	35.8	1.4	6.1	4.3	3	silty CLAY to CLAY	115	1.5	24	17	-	-	2.4	8	45	2.79	15	-	-
40.52	33.9	24.6	-	34	1.7	6.1	5.4	3	silty CLAY to CLAY	115	1.5	23	16	-	-	2.3	7.5	50	2.88	15	-	-
40.68	32.8	23.7	-	32.9	1.8	6.1	5.8	3	silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.3	53	2.91	15	-	-
40.85	34.4	24.8	-	34.6	1.8	6.1	5.5	3	silty CLAY to CLAY	115	1.5	23	17	-	-	2.3	7.6	51	2.88	15	-	-
41.01	30	21.5	-	30.1	1.6	6.2	5.8	3	silty CLAY to CLAY	115	1.5	20	14	-	-	2	6.5	55	2.94	15	-	-
41.18	28.4	20.3	-	28.5	1.6	6.2	6	3	silty CLAY to CLAY	115	1.5	19	14	-	-	1.9	6.1	57	2.97	15	-	-
41.34	26.2	18.7	-	26.3	1.4	6.2	5.9	3	silty CLAY to CLAY	115	1.5	17	12	-	-	1.8	5.6	58	3	15	-	-
41.5	22.9	16.3	-	23	1.3	6.3	6.2	3	silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	4.8	63	3.06	15	-	-
41.67	20.4	14.4	-	20.5	1.3	6.3	7.3	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.3	4.2	69	3.15	15	-	-
41.83	21.1	14.9	-	21.2	1.2	6.3	6.6	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.4	66	3.11	15	-	-
42	20.8	14.6	-	20.9	1.1	6.4	5.8	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.3	64	3.08	15	-	-
42.16	24.7	17.4	-	24.9	1.1	6.5	5.1	3	silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.2	57	2.98	15	-	-
42.32	27.3	19.1	-	27.4	1.3	6.5	5.4	3	silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	56	2.96	15	-	-
42.49	27.3	19	-	27.4	1.4	6.5	5.7	3	silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	57	2.98	15	-	-
42.65	27.3	19	-	27.4	1.3	6.6	5.2	3	silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	56	2.96	15	-	-
42.82	27.4	19.1	-	27.6	1.2	6.6	4.9	3	silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	54	2.94	15	-	-
42.98	28.5	19.7	-	28.6	1.2	6.7	4.5	3	silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.9	52	2.9	15	-	-
43.15	28.5	19.6	-	28.6	1.3	6.8	5.1	3	silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.9	54	2.94	15	-	-
43.31	25	17.2	-	25.1	1.3	6.8	5.6	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.7	5.1	59	3.01	15	-	-
43.47	21.2	14.5	-	21.3	1	6.8	5.6	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.2	64	3.07	15	-	-
43.64	16.6	11.3	-	16.7	0.9	6.8	6.4	3	silty CLAY to CLAY	115	1.5	11	8	-	-	1.1	3.2	74	3.21	15	-	-
43.8	13.6	9.3	-	13.7	0.7	6.8	6.8	3	silty CLAY to CLAY	115	1.5	9	6	-	-	0.9	2.5	82	3.31	15	-	-
43.97	14	9.5	-	14.2	0.7	6.9	6	3	silty CLAY to CLAY	115	1.5	9	6	-	-	0.9	2.6	78	3.26	15	-	-
44.13	16	10.9	-	16.2	0.8	6.9	5.7	3	silty CLAY to CLAY	115	1.5	11	7	-	-	1	3	72	3.19	15	-	-
44.29	20.2	13.7	-	20.3	0.9	7	5.4	3	silty CLAY to CLAY	115	1.5	13	9	-	-	1.3	3.9	65	3.09	15	-	-
44.46	22.3	15	-	22.4	1.1	7	5.4	3	silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.4	62	3.05	15	-	-
44.62	23	15.5	-	23.1	1.1	7	5.5	3	silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.5	62	3.05	15	-	-
44.79	26.2	17.6	-	26.4	1.2	7.1	5.2	3	silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.2	57	2.98	15	-	-
44.95	29.7	19.9	-	29.9	1.3	7.4	4.9	3	silty CLAY to CLAY	115	1.5	20	13	-	-	2	6	53	2.92	15	-	-
45.11	30.9	20.6	-	31.1	1.4	7.5	5	3	silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.2	53	2.91	15	-	-
45.28	29.7	19.8	-	29.9	1.4	7.5	5.2	3	silty CLAY to CLAY	115	1.5	20	13	-	-	2	6	55	2.94	15	-	-
45.44	29.3	19.4	-	29.5	1.3	7.6	5	3	silty CLAY to CLAY	115	1.5	20	13	-	-	2	5.8	54	2.93	15	-	-
45.61	29.6	19.6	-	29.8	1.3	7.7	4.7	3	silty CLAY to CLAY	115	1.5	20	13	-	-	2	5.9	53	2.92	15	-	-
45.77	29.1	19.2	-	29.3	1.2	7.7	4.5	3	silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.8	53	2.91	15	-	-
45.93	28.3	18.6	-	28.4	1.1	7.8	4.4	3	silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.6	53	2.92	15	-	-
46.1	29.2	19.2	-	29.4	1.2	7.9	4.5	3	silty CLAY to CLAY	115	1.5	19	13	-	-	2	5.7	53	2.91	15	-	-
46.26	31.6	20.6	-	31.7	1.3	7.9	4.4	3	silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.2	51	2.88	15	-	-
46.43	33.9	22.1	-	34.1	1.3	7.9	4.3	3	silty CLAY to CLAY	115	1.5	23	15	-	-	2.3	6.7	49	2.85	15	-	-
46.59	36.1	23.5	-	36.3	1.3	8	4	3	silty CLAY to CLAY	115	1.5	24	16	-	-	2.4	7.2	46	2.8	15	-	-
46.75	36.4	23.6	-	36.5	1.4	8.1	4.1	3	silty CLAY to CLAY	115	1.5	24	16	-	-	2.5	7.2	46	2.81	15	-	-
46.92	35.6	23	-	35.8	1.3	8.2	4.1	3	silty CLAY to CLAY	115	1.5	24	15	-	-	2.4	7	47	2.82	15	-	-
47.08	35	22.5	-	35.1	1.5	8.3	4.6	3	silty CLAY to CLAY	115	1.5	23	15	-	-	2.4	6.9	50	2.86	15	-	-
47.25	31.7	20.4	-	31.9	1.4	8.2	4.9	3	silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.1	53	2.91	15	-	-
47.41	24.9	15.9	-	25	1.2	8.2	5.4	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.6	4.7	61	3.03	15	-	-
47.57	21.6	13.8	-	21.8	1.3	8.1	6.8	3	silty CLAY to CLAY	115	1.5	14	9	-	-	1.4	4	69	3.15	15	-	-
47.74	21.2	13.5	-	21.4	1.4	8.3	7.4	3	silty CLAY to CLAY	115	1.5	14	9	-	-	1.4	3.9	72	3.18	15	-	-
47.9	23.5	14.9	-	23.7	1.1	8.8	5.4	3	silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.4	62	3.06	15	-	-
48.07	20	12.6	-	20.1	1	8.9	5.7	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.3	3.6	68	3.13	15	-	-
48.23	19.8	12.5	-	20	1	9	5.8	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.3	3.6	69	3.14	15	-	-
48.39	21.1	13.3	-	21.2	0.8	9.1	4.2	3	silty CLAY to CLAY	115	1.5	14	9	-	-	1.4	3.8	61	3.03	15	-	-
48.56	20	12.6	-	20.2	0.8	9.1	4.5	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.3	3.6	64	3.07	15	-	-
48.72	18.4	11.5	-	18.6	0.8	9.2	5.1	3	silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.2	69	3.14	15	-	-
48.89	18.7	11.7	-	18.9	0.8	9.3	5	3	silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.3	68	3.13	15	-	-
49.05	18.9	11.8	-	19.1	0.7	9.4	4.2	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.2	3.3	64	3.08	15	-	-
49.22	17.6	11	-	17.8	0.8	9.5	5.1	3	silty CLAY to CLAY	115	1.5	12	7	-	-	1.1	3	70	3.16	15	-	-
49.38	18.3	11.4	-	18.5	0.6	9.6	4.1	3	silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.2	65	3.09	15	-	-
49.54	19.9	12.3	-	20.1	0.7	9.7	4.3	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.3	3.5	63	3.07	15	-	-
49.71	21.8	13.4	-	22	1.3	9.8	7.1	3	silty CLAY to CLAY	115	1.5	15	9	-	-	1.4	3.8	71	3.17	15	-	-
49.87	33.9	20.9	-	34.1	1.5	9.9	5	3	silty CLAY to CLAY	115	1.5	23	14	-	-	2.3	6.3	53	2.91	15	-	-
50.04	40.5	24.8	-	40.7	1.4	9.8	3.8	4	clayy SILT to silty CLAY	115	2	20	12	-	-	2.7	7.6	44	2.77	15	-	-
50.2	31.6	19.3	-	31.8	1.5	9.9	5.4	3	silty CLAY to CLAY	115	1.5	21	13	-	-	2.1	5.8	56	2.96	15	-	-

* Indicates the parameter was calculated using the normalized point stresses.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Middle Earth Geo Testing

UPRR Property

Project ID: Cornerstone Earth Group
Data File: SDF (456).cpt
CPT Date: 6/12/2014 9:07:49 AM
GW During Test: 10 ft

Project: Sound ing P2
ID: C 14 1-CPT3
File: 0.676
Date: DD G1281

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	qt PS tsf	Slv Stss tsf	pore prss (psi)	Frct Rato %	Mat Typ Zon	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N 60%	SPT R-N1 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	OCR - -	Fin Ic %	Ic SBT Indx	Nk - -	Vol Strn %	Cycl SStn %
0.33	32.6	52.2	84.8	32.6	0.4	0.3	1.2	5	silty SAND to sandy SILT	120	4	8	13	46	48	-	-	18	2.18	16	N/A	N/A
0.49	34.9	56	108.7	34.9	0.7	0.5	2	5	silty SAND to sandy SILT	120	4	9	14	48	48	-	-	22	2.3	16	N/A	N/A
0.66	41.2	66.1	126.2	41.2	1	0.9	2.3	5	silty SAND to sandy SILT	120	4	10	17	53	48	-	-	22	2.29	16	N/A	N/A
0.82	66.5	106.7	157.7	66.5	1.4	1.5	2.1	5	silty SAND to sandy SILT	120	4	17	27	69	48	-	-	16	2.11	16	N/A	N/A
0.98	89.2	143.1	190.4	89.2	1.9	1.4	2.1	5	silty SAND to sandy SILT	120	4	22	36	79	48	-	-	14	2.02	16	N/A	N/A
1.15	102.2	164	214.9	102.3	2.3	1.8	2.2	5	silty SAND to sandy SILT	120	4	26	41	83	48	-	-	13	2.01	16	N/A	N/A
1.31	107.2	171.9	241.7	107.2	3	2	2.8	5	silty SAND to sandy SILT	120	4	27	43	85	48	-	-	15	2.07	16	N/A	N/A
1.48	95.8	153.6	249.7	95.8	3.4	2.1	3.5	8	stiff SAND to clayy SAND	115	1	96	100	-	-	6.3	9.9	18	2.18	16	N/A	N/A
1.64	82.7	132.6	243.4	82.7	3.3	2.3	4	8	stiff SAND to clayy SAND	115	1	83	100	-	-	5.5	9.9	21	2.26	16	N/A	N/A
1.8	62.5	100.3	200	62.6	2.3	2.3	3.7	5	silty SAND to sandy SILT	120	4	16	25	67	48	-	-	23	2.31	16	N/A	N/A
1.97	51.7	82.9	218.7	51.7	2.6	2.5	5.1	9	very stiff fine SOIL	120	2	26	41	61	48	-	-	30	2.47	30	N/A	N/A
2.13	47.3	75.8	247	47.3	3.1	1.4	6.6	9	very stiff fine SOIL	120	2	24	38	58	47	-	-	35	2.59	30	N/A	N/A
2.3	44.4	71.2	-	44.4	3.4	1.2	7.8	9	very stiff fine SOIL	120	2	22	36	56	46	-	-	38	2.66	30	N/A	N/A
2.46	43	68.9	-	43	3.9	1	9.1	9	very stiff fine SOIL	120	2	21	34	55	46	-	-	42	2.72	30	N/A	N/A
2.62	42	67.3	-	42	4.2	1.4	9.9	9	very stiff fine SOIL	120	2	21	34	54	45	-	-	44	2.76	30	N/A	N/A
2.79	43.4	69.6	-	43.4	4.3	1.7	9.9	9	very stiff fine SOIL	120	2	22	35	55	45	-	-	43	2.75	30	N/A	N/A
2.95	43	68.9	-	43	4.3	1.7	10	9	very stiff fine SOIL	120	2	21	34	55	45	-	-	44	2.76	30	N/A	N/A
3.12	41.8	67.1	-	41.9	4	1.4	9.7	9	very stiff fine SOIL	120	2	21	34	54	45	-	-	43	2.75	30	N/A	N/A
3.28	41.5	66.6	-	41.6	3.8	2.1	9.3	9	very stiff fine SOIL	120	2	21	33	54	44	-	-	43	2.74	30	N/A	N/A
3.45	41.9	67.1	-	41.9	3.6	1.5	8.6	9	very stiff fine SOIL	120	2	21	34	54	44	-	-	41	2.71	30	N/A	N/A
3.61	44.7	71.6	-	44.7	3.7	1.4	8.2	9	very stiff fine SOIL	120	2	22	36	56	44	-	-	39	2.68	30	N/A	N/A
3.77	43.8	70.2	-	43.8	3.6	1.3	8.3	9	very stiff fine SOIL	120	2	22	35	55	44	-	-	40	2.69	30	N/A	N/A
3.94	41.2	66.1	-	41.2	3.5	1.3	8.6	9	very stiff fine SOIL	120	2	21	33	53	43	-	-	41	2.72	30	N/A	N/A
4.1	40.9	65.6	-	40.9	3.3	1.2	8.1	9	very stiff fine SOIL	120	2	20	33	53	43	-	-	40	2.7	30	N/A	N/A
4.27	37.7	60.4	-	37.7	2.8	1.6	7.6	9	very stiff fine SOIL	120	2	19	30	50	43	-	-	40	2.7	30	N/A	N/A
4.43	36.6	58.7	-	36.6	2.9	1.2	7.8	3	silty CLAY to CLAY	115	1.5	24	39	-	-	2.6	9.9	41	2.72	15	N/A	N/A
4.59	35.3	56.6	-	35.3	2.7	1.2	7.6	3	silty CLAY to CLAY	115	1.5	24	38	-	-	2.5	9.9	41	2.71	15	N/A	N/A
4.76	34.8	55.9	-	34.9	2.4	1.8	6.9	3	silty CLAY to CLAY	115	1.5	23	37	-	-	2.4	9.9	40	2.69	15	N/A	N/A
4.92	32.5	52.2	-	32.6	2.4	1.8	7.4	3	silty CLAY to CLAY	115	1.5	22	35	-	-	2.3	9.9	42	2.73	15	N/A	N/A
5.09	37.6	60.4	-	37.7	2.7	1.8	7.2	3	silty CLAY to CLAY	115	1.5	25	40	-	-	2.6	9.9	39	2.68	15	N/A	N/A
5.25	44.5	71.3	-	44.5	3.2	1.8	7.3	9	very stiff fine SOIL	120	2	22	36	56	42	-	-	37	2.64	30	N/A	N/A
5.41	49	78.6	-	49	3.9	1.7	8	9	very stiff fine SOIL	120	2	25	39	59	43	-	-	38	2.64	30	N/A	N/A
5.58	46.8	75	-	46.8	4.1	1.7	8.7	9	very stiff fine SOIL	120	2	23	38	58	42	-	-	40	2.69	30	N/A	N/A
5.74	41.2	66.1	-	41.3	3.7	2	8.9	9	very stiff fine SOIL	120	2	21	33	53	42	-	-	42	2.73	30	N/A	N/A
5.91	35.5	56.9	-	35.5	3.1	2.2	8.8	3	silty CLAY to CLAY	115	1.5	24	38	-	-	2.5	9.9	44	2.76	15	N/A	N/A
6.07	31.5	50.5	-	31.5	2.7	2.2	8.8	3	silty CLAY to CLAY	115	1.5	21	34	-	-	2.2	9.9	46	2.8	15	N/A	N/A
6.23	28.7	46.1	-	28.8	2.5	2.3	8.7	3	silty CLAY to CLAY	115	1.5	19	31	-	-	2	9.9	47	2.82	15	N/A	N/A
6.4	26.9	43.1	-	26.9	2.2	2.6	8.3	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	47	2.82	15	N/A	N/A
6.56	24.7	39.6	-	24.7	1.9	2.7	8	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	48	2.84	15	N/A	N/A
6.73	22.3	35.7	-	22.3	1.8	2.7	8	3	silty CLAY to CLAY	115	1.5	15	24	-	-	1.5	9.9	50	2.87	15	N/A	N/A
6.89	20.3	32.6	-	20.4	1.6	3	8.1	3	silty CLAY to CLAY	115	1.5	14	22	-	-	1.4	9.9	52	2.9	15	N/A	N/A
7.05	19.1	30.6	-	19.1	1.5	3	8.2	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.9	53	2.92	15	N/A	N/A
7.22	17.9	28.7	-	18	1.4	3.1	8.1	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	54	2.94	15	N/A	N/A
7.38	16.6	26.6	-	16.7	1.4	3.2	8.4	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.1	9.9	56	2.97	15	N/A	N/A
7.55	16.5	26.4	-	16.5	1.3	3.2	8.1	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.1	9.9	56	2.96	15	N/A	N/A
7.71	15.7	25.2	-	15.8	1.2	3.7	8.1	3	silty CLAY to CLAY	115	1.5	10	17	-	-	1.1	9.9	57	2.98	15	N/A	N/A
7.87	15.3	24.5	-	15.4	1.2	3.8	7.8	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	9.9	57	2.97	15	N/A	N/A
8.04	14.8	23.7	-	14.9	1.1	3.9	7.6	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	9.9	57	2.98	15	N/A	N/A
8.2	14.1	22.5	-	14.1	1	3.8	7.6	3	silty CLAY to CLAY	115	1.5	9	15	-	-	1	9.3	58	2.99	15	N/A	N/A
8.37	13.4	21.5	-	13.5	0.8	4	6.4	3	silty CLAY to CLAY	115	1.5	9	14	-	-	0.9	8.7	56	2.96	15	N/A	N/A
8.53	11.3	18.2	-	11.4	0.9	4	7.9	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	7.1	64	3.08	15	N/A	N/A
8.69	9.8	15.7	-	9.9	0.8	4.2	8.1	3	silty CLAY to CLAY	115	1.5	7	10	-	-	0.7	6	68	3.13	15	N/A	N/A
8.86	11.3	18.1	-	11.4	0.6	4.6	5.1	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	6.8	55	2.95	15	N/A	N/A
9.02	11.6	18.5	-	11.7	0.7	4.8	5.9	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	6.9	57	2.98	15	N/A	N/A
9.19	14.8	23.7	-	14.9	0.9	5	6.4	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	8.7	54	2.93	15	N/A	N/A
9.35	20.7	33.2	-	20.8	1.1	5.4	5.6	3	silty CLAY to CLAY	115	1.5	14	22	-	-	1.4	9.9	45	2.78	15	N/A	N/A
9.51	16.8	26.9	-	16.9	1.1	5.4	6.9	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.1	9.6	53	2.91	15	N/A	N/A
9.68	13.1	21	-	13.2	0.7	5.5	5.3	3	silty CLAY to CLAY	115	1.5	9	14	-	-	0.9	7.3	53	2.91	15	N/A	N/A
9.84	11.2	17.9	-	11.3	0.5	5.5	5.1	3	silty CLAY to CLAY	115	1.5	7	12	-	-	0.7	6.1	55	2.95	15	N/A	N/A
10.01	10.8	17.3	-	10.9	0.5	5.6	4.5	3	silty CLAY to CLAY	115	1.5	7	12	-	-	0.7	5.8	54	2.94	15	-	-
10.17	11.3	18	-	11.4	0.4	5.7	4	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	6	51	2.88	15	-	-
10.34	11.1	17.8	-	11.2	0.4	5.8	3.8	3	silty CLAY to CLAY	115	1.5	7	12	-	-	0.7	5.9	51	2.88	15	-	-
10.5	9.9	15.9	-	10	0.4	5.8	4.3	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	5.2	55	2.95	15	-	-
10.66	10.7	17.1	-	10.8	0.5	5.9	5.1	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	5.5	57	2.97	15	-	-
10.83	12.3	19.7	-	12.4	0.7	6.1	6.2	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	6.4	57	2.98	15	-	-
10.99	27.1	37.7	-	27.2	1	6.3	3.8	4	clayy SILT to silty CLAY	115	2	14	19	-	-	1.9	9.9	36	2.62	15	-	-
11.16	39.1	48.6	113.2	39.2	0.9	5.7	2.4	5	silty SAND to sandy SILT	120	4	10	12	43	38	-	-	27	2.4	16	1.71	40.7
11.32	25.3	40.6	-	25.4	1	5.1	4.2	4	clayy SILT to silty CLAY	115	2	13	20	-	-	1.7	9.9	37	2.62	15	-	-
11.48	25.4	40.8	-	25.5	1.2	5.2	4.7	4	clayy SILT to silty CLAY	115	2	13	20	-	-	1.8	9.9	39	2.66	15	-	-

11.65	16.9	27	-	17	0.8	4.8	4.9	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.1	8.5	46	2.81	15	-	-		
11.81	12.2	19.3	-	12.3	0.8	4.8	7.2	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	6	61	3.03	15	-	-		
11.98	24.9	33.6	-	24.9	0.8	3.4	3.5	4	clayy SILT to silty CLAY	115	2	12	17	-	-	1.7	9.9	37	2.63	15	-	-		
12.14	25.8	34.7	113.2	25.8	0.8	1.9	3.1	4	clayy SILT to silty CLAY	115	2	13	17	-	-	1.8	9.9	35	2.59	15	1.83	51.2		
12.3	36.3	43.9	105.2	36.3	0.8	1.9	2.3	5	silty SAND to sandy SILT	120	4	9	11	40	37 -	-	27	2.42	16	2.24	51.2			
12.47	26.7	32.2	103.2	26.7	0.7	1.7	2.8	4	clayy SILT to silty CLAY	115	2	13	16	-	-	1.8	9.9	34	2.58	15	2.28	51.2		
12.63	11	16.8	-	11	0.5	1.8	5.2	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	5.2	58	2.99	15	-	-		
12.8	9.1	13.9	-	9.2	0.4	2.2	4.4	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	4.2	59	3.01	15	-	-		
12.96	15.7	23.8	-	15.8	0.5	2.5	3.1	4	clayy SILT to silty CLAY	115	2	8	12	-	-	1.1	7.5	42	2.72	15	-	-		
13.12	17.8	26.8	-	17.9	0.7	2.8	4	4	clayy SILT to silty CLAY	115	2	9	13	-	-	1.2	8.5	43	2.75	15	-	-		
13.29	18.7	27.9	-	18.7	0.8	2.8	4.5	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.3	8.8	44	2.77	15	-	-		
13.45	18.5	27.5	-	18.6	0.8	2.9	4.5	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.3	8.7	45	2.78	15	-	-		
13.62	18.5	27.4	-	18.6	0.8	3	4.3	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.3	8.6	44	2.76	15	-	-		
13.78	18.2	26.7	-	18.3	0.8	3.1	4.3	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	8.4	45	2.78	15	-	-		
13.94	18	26.2	-	18.1	0.7	3.1	4.2	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	8.3	45	2.78	15	-	-		
14.11	17.9	26	-	18	0.8	3.2	4.6	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	8.2	46	2.81	15	-	-		
14.27	18.3	26.3	-	18.4	0.8	3.3	4.7	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	8.3	46	2.81	15	-	-		
14.44	18.7	26.7	-	18.7	0.8	3.3	4.7	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.3	8.4	46	2.8	15	-	-		
14.6	18	25.7	-	18.1	0.9	3.3	5.1	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	8.1	48	2.84	15	-	-		
14.76	17.7	25	-	17.8	0.8	3.4	4.6	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	7.9	47	2.81	15	-	-		
14.93	17.5	24.6	-	17.6	0.9	3.4	5.3	3	silty CLAY to CLAY	115	1.5	12	16	-	-	1.2	7.7	50	2.87	15	-	-		
15.09	15.6	21.7	-	15.6	0.8	3.6	5.6	3	silty CLAY to CLAY	115	1.5	10	14	-	-	1.1	6.8	53	2.92	15	-	-		
15.26	16.4	22.7	-	16.4	0.8	3.7	5	3	silty CLAY to CLAY	115	1.5	11	15	-	-	1.1	7.1	50	2.87	15	-	-		
15.42	16.9	23.4	-	17	0.7	3.8	4.5	3	silty CLAY to CLAY	115	1.5	11	16	-	-	1.1	7.3	48	2.83	15	-	-		
15.58	17.6	24.1	-	17.6	0.8	4	4.8	3	silty CLAY to CLAY	115	1.5	12	16	-	-	1.2	7.5	49	2.84	15	-	-		
15.75	19	25.9	-	19.1	0.9	4	4.8	3	silty CLAY to CLAY	115	1.5	13	17	-	-	1.3	8.1	47	2.82	15	-	-		
15.91	20.4	27.6	-	20.5	0.9	4.2	4.8	3	silty CLAY to CLAY	115	1.5	14	18	-	-	1.4	8.7	46	2.79	15	-	-		
16.08	19.2	25.8	-	19.3	0.9	4.2	5	3	silty CLAY to CLAY	115	1.5	13	17	-	-	1.3	8.1	48	2.83	15	-	-		
16.24	16.5	22.1	-	16.6	0.8	4.3	5	3	silty CLAY to CLAY	115	1.5	11	15	-	-	1.1	6.9	51	2.88	15	-	-		
16.4	10.9	14.5	-	11	0.7	4.2	7.2	3	silty CLAY to CLAY	115	1.5	7	10	-	-	0.7	4.4	68	3.13	15	-	-		
16.57	7.7	10.2	-	7.8	0.5	4.1	8.1	3	silty CLAY to CLAY	115	1.5	5	7	-	-	0.5	2.9	81	3.3	15	-	-		
16.73	6.7	8.8	-	6.8	0.4	4.2	6.7	3	silty CLAY to CLAY	115	1.5	4	6	-	-	0.4	2.5	81	3.3	15	-	-		
16.9	6.9	9	-	7	0.3	4.3	5.8	3	silty CLAY to CLAY	115	1.5	5	6	-	-	0.4	2.6	77	3.25	15	-	-		
17.06	8.4	11	-	8.5	0.4	4.4	5.1	3	silty CLAY to CLAY	115	1.5	6	7	-	-	0.5	3.2	69	3.15	15	-	-		
17.23	10.6	13.7	-	10.7	0.5	4.5	5.2	3	silty CLAY to CLAY	115	1.5	7	9	-	-	0.7	4.1	63	3.07	15	-	-		
17.39	12.4	15.9	-	12.5	0.6	4.6	5	3	silty CLAY to CLAY	115	1.5	8	11	-	-	0.8	4.8	58	3	15	-	-		
17.55	11.9	15.3	-	12	0.5	4.7	4.4	3	silty CLAY to CLAY	115	1.5	8	10	-	-	0.8	4.6	57	2.98	15	-	-		
17.72	10.4	13.2	-	10.5	0.5	4.8	5.1	3	silty CLAY to CLAY	115	1.5	7	9	-	-	0.7	3.9	64	3.08	15	-	-		
17.88	12.2	15.5	-	12.3	0.5	4.8	4.7	3	silty CLAY to CLAY	115	1.5	8	10	-	-	0.8	4.7	58	2.99	15	-	-		
18.05	11.2	14.2	-	11.3	0.5	4.8	5.2	3	silty CLAY to CLAY	115	1.5	7	9	-	-	0.7	4.2	62	3.05	15	-	-		
18.21	13.4	16.7	-	13.5	0.7	4.9	5.4	3	silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	5.1	59	3	15	-	-		
18.37	19	23.7	-	19.1	0.8	4.9	4.5	3	silty CLAY to CLAY	115	1.5	13	16	-	-	1.3	7.4	48	2.83	15	-	-		
18.54	25.8	32	-	25.9	1	5.5	4.2	4	clayy SILT to silty CLAY	115	2	13	16	-	-	1.8	9.9	41	2.71	15	-	-		
18.7	28.8	35.6	-	29	1.2	5.5	4.4	4	clayy SILT to silty CLAY	115	2	14	18	-	-	2	9.9	40	2.69	15	-	-		
18.87	29.6	36.3	-	29.7	1.3	5.7	4.5	4	clayy SILT to silty CLAY	115	2	15	18	-	-	2	9.9	40	2.69	15	-	-		
19.03	30	36.6	-	30.1	1.4	5.9	4.8	3	silty CLAY to CLAY	115	1.5	20	24	-	-	2.1	9.9	41	2.71	15	-	-		
19.19	30	36.4	-	30.1	1.4	6.1	4.9	3	silty CLAY to CLAY	115	1.5	20	24	-	-	2.1	9.9	41	2.71	15	-	-		
19.36	29.2	35.2	-	29.3	1.3	6.2	4.8	3	silty CLAY to CLAY	115	1.5	19	23	-	-	2	9.9	41	2.71	15	-	-		
19.52	29.1	34.9	-	29.2	1.3	6.3	4.6	3	silty CLAY to CLAY	115	1.5	19	23	-	-	2	9.9	41	2.71	15	-	-		
19.69	26.3	31.5	-	26.5	1.3	6.3	5.1	3	silty CLAY to CLAY	115	1.5	18	21	-	-	1.8	9.9	44	2.77	15	-	-		
19.85	21.1	25.1	-	21.3	1	6.4	4.8	3	silty CLAY to CLAY	115	1.5	14	17	-	-	1.4	7.8	48	2.83	15	-	-		
20.01	21.4	25.3	-	21.5	0.8	6.5	4.1	3	silty CLAY to CLAY	115	1.5	14	17	-	-	1.5	7.9	45	2.78	15	-	-		
20.18	25.8	30.3	-	25.9	1	6.7	4.2	4	clayy SILT to silty CLAY	115	2	13	15	-	-	1.8	9.6	42	2.73	15	-	-		
20.34	29.7	34.7	-	29.8	1.1	7	3.9	4	clayy SILT to silty CLAY	115	2	15	17	-	-	2	9.9	38	2.66	15	-	-		
20.51	31.4	36.6	-	31.6	1.3	7.2	4.4	4	clayy SILT to silty CLAY	115	2	16	18	-	-	2.2	9.9	39	2.68	15	-	-		
20.67	31.5	36.5	-	31.7	1.4	7.3	4.5	4	clayy SILT to silty CLAY	115	2	16	18	-	-	2.2	9.9	40	2.69	15	-	-		
20.83	33.1	38.2	-	33.3	1.6	7.6	5	3	silty CLAY to CLAY	115	1.5	22	25	-	-	2.3	9.9	41	2.7	15	-	-		
21	30.6	35.1	-	30.7	1.7	7.5	5.7	3	silty CLAY to CLAY	115	1.5	20	23	-	-	2.1	9.9	44	2.77	15	-	-		
21.16	29.5	33.7	-	29.7	1.5	7.7	5.4	3	silty CLAY to CLAY	115	1.5	20	22	-	-	2	9.9	44	2.77	15	-	-		
21.33	34.3	39	-	34.5	2.1	7.9	6.4	3	silty CLAY to CLAY	115	1.5	23	26	-	-	2.4	9.9	45	2.77	15	-	-		
21.49	58.9	63.1	208.4	59.1	3.3	8.2	5.8	4	clayy SILT to silty CLAY	115	2	29	32	-	-	4.1	9.9	35	2.6	15	0	0		
21.65	67.2	75.6	-	67.4	4.7	8.6	7.1	9	very stiff fine SOIL	120	2	34	38	58	39 -	-	36	2.61	30	-	-			
21.82	61.3	68.6	-	61.4	4.5	8.7	7.5	9	very stiff fine SOIL	120	2	31	34	55	38 -	-	39	2.66	30	-	-			
21.98	44.6	49.7	-	44.8	3.4	8.5	7.9	3	silty CLAY to CLAY	115	1.5	30	33	-	-	3.1	9.9	44	2.77	15	-	-		
22.15	35.6	39.4	-	35.7	2.3	8.6	6.7	3	silty CLAY to CLAY	115	1.5	24	26	-	-	2.5	9.9	45	2.78	15	-	-		
22.31	30.7	33.8	-	30.9	1.7	9	5.9	3	silty CLAY to CLAY	115	1.5	20	23	-	-	2.1	9.9	45	2.79	15	-	-		
22.47	24.8	27.2	-	25	1.5	9.1	6.2	3	silty CLAY to CLAY	115	1.5	17	18	-	-	1.7	8.5	51	2.88	15	-	-		
22.64	23.1	25.2	-	23.3	1.2	9.2	5.7	3	silty CLAY to CLAY	115	1.5	15	17	-	-	1.6	7.9	51	2.88	15	-	-		
22.8	22.8	24.8	-	23	1.2	9.2	5.5	3	silty CLAY to CLAY	115	1.5	15	17	-	-	1.5	7.7	51	2.88	15	-	-		
22.97	19.3	20.9	-	19.5	1.2	9.1	6.4	3	silty CLAY to CLAY	115	1.5	13	14	-	-	1.3	6.4	57	2.98	15	-	-		
23.13	15.3	16.5	-	15.5	0.9	8.5	6.4	3	silty CLAY to CLAY	115	1.5	10	11	-	-	1	5	62	3.06	15	-	-		
23.3	13.3	14.3	-	13.5	0.6	8.3	5	3	silty CLAY to CLAY	115	1.5	9	10	-	-	0.9	4.2	61	3.04	15	-	-		
23.46	11.4	12.2	-	11.6	0.8	8.3	7.5	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.7	3.5	74	3.22	15	-	-		
23.62	18.1	19.2	-	18.2	0.9	8.6	5.2	3	silty CLAY to CLAY	115	1.5	12	13	-	-	1.2	5.8	55	2.95	15	-	-		
23.79	24.8	26.2	-	25	1.4	8.9	6	3	silty CLAY to CLAY	115	1.5	17	17	-	-	1.7	8.2	51	2.88	15	-	-		
23.95	38	40	-	38.1	2.4	9.2	6.7	3	silty CLAY to CLAY	115	1.5	25	27	-	-	2.6	9.9	45	2.78	15	-	-		
24.12	46.2	48.4	-	46.4	2.7	9.5	6.1	3	silty CLAY to CLAY	115	1.5	31	32	-	-	3.2	9.9	40	2.69	15	-	-		
24.28	43.1	45	-	43.3	2.6	9.5	6.2	3	silty CLAY to CLAY	115	1.5	29	30	-	-	3	9.9	42	2.72	15	-	-		
24.44	39.5	41	-	39.6	2.3	9.8	6.2	3	silty CLAY to CLAY	115	1.5	26	27	-	-	2.7	9.9	43	2.75	15	-	-		
24.61	41.9	43.3	-	42.1	2.5	10	6.1	3	silty CLAY to CLAY	115	1.5	28	29	-	-	2.9	9.9	42	2.73	15	-	-		
24.77	41.3	42.5	-	41.4	2.3	9.5	5.8	3	silty CLAY to CLAY	115	1.5	28	28	-	-	2.8	9.9	42	2.72	15	-	-		

24.94	40	41	-	40.3	2.4	11.7	6.3	3 silty CLAY to CLAY	115	1.5	27	27	-	2.8	9.9	43	2.76	15	-	-	
25.1	40.7	41.5	-	40.9	2.5	11.9	6.5	3 silty CLAY to CLAY	115	1.5	27	28	-	2.8	9.9	44	2.76	15	-	-	
25.26	36.9	37.5	-	37.1	2.3	12	6.4	3 silty CLAY to CLAY	115	1.5	25	25	-	2.5	9.9	45	2.79	15	-	-	
25.43	29.5	29.9	-	29.8	1.9	12.1	6.7	3 silty CLAY to CLAY	115	1.5	20	20	-	2	9.4	50	2.87	15	-	-	
25.59	24.4	24.6	-	24.6	1.7	12	7.3	3 silty CLAY to CLAY	115	1.5	16	16	-	1.7	7.6	56	2.96	15	-	-	
25.76	20.9	21	-	21.2	1.3	12.1	6.9	3 silty CLAY to CLAY	115	1.5	14	14	-	1.4	6.4	58	3	15	-	-	
25.92	18	18	-	18.2	1.2	11.9	7.5	3 silty CLAY to CLAY	115	1.5	12	12	-	1.2	5.4	64	3.08	15	-	-	
26.08	15.9	15.8	-	16.2	1.1	12	7.3	3 silty CLAY to CLAY	115	1.5	11	11	-	1.1	4.7	66	3.11	15	-	-	
26.25	16.3	16.1	-	16.5	0.9	12.1	6	3 silty CLAY to CLAY	115	1.5	11	11	-	1.1	4.8	62	3.05	15	-	-	
26.41	16.3	16.1	-	16.6	0.9	12.3	6.2	3 silty CLAY to CLAY	115	1.5	11	11	-	1.1	4.8	63	3.06	15	-	-	
26.58	16.9	16.6	-	17.1	0.8	12.5	5.4	3 silty CLAY to CLAY	115	1.5	11	11	-	1.1	5	59	3.01	15	-	-	
26.74	18.6	18.1	-	18.8	0.9	12.7	5.1	3 silty CLAY to CLAY	115	1.5	12	12	-	1.2	5.5	56	2.96	15	-	-	
26.9	19.4	18.9	-	19.7	1	12.9	5.6	3 silty CLAY to CLAY	115	1.5	13	13	-	1.3	5.7	57	2.97	15	-	-	
27.07	21.8	21.1	-	22	1.1	13	5.2	3 silty CLAY to CLAY	115	1.5	15	14	-	1.5	6.5	53	2.92	15	-	-	
27.23	22.8	22	-	23	1	13.1	4.5	3 silty CLAY to CLAY	115	1.5	15	15	-	1.5	6.8	49	2.86	15	-	-	
27.4	20.5	19.7	-	20.8	0.8	13.2	4.1	3 silty CLAY to CLAY	115	1.5	14	13	-	1.4	6	50	2.87	15	-	-	
27.56	20.3	19.4	-	20.5	0.8	13.4	4.5	3 silty CLAY to CLAY	115	1.5	14	13	-	1.4	5.9	52	2.91	15	-	-	
27.72	22.8	21.7	-	23	0.9	13.7	4.2	3 silty CLAY to CLAY	115	1.5	15	14	-	1.5	6.7	48	2.84	15	-	-	
27.89	25	23.7	-	25.3	1.9	14	7.9	3 silty CLAY to CLAY	115	1.5	17	16	-	1.7	7.3	59	3	15	-	-	
28.05	27.9	26.3	-	28.1	2.4	14.3	9	3 silty CLAY to CLAY	115	1.5	19	18	-	1.9	8.2	59	3.01	15	-	-	
28.22	33	31.1	-	33.3	2.7	15.9	8.5	3 silty CLAY to CLAY	115	1.5	22	21	-	2.3	9.7	54	2.94	15	-	-	
28.38	36.8	34.5	-	37.1	2.1	16.1	6	3 silty CLAY to CLAY	115	1.5	25	23	-	2.5	9.9	46	2.79	15	-	-	
28.54	29	27.1	-	29.3	1.5	16.6	5.4	3 silty CLAY to CLAY	115	1.5	19	18	-	2	8.4	48	2.84	15	-	-	
28.71	27.7	25.7	-	28	1.2	16.9	4.6	3 silty CLAY to CLAY	115	1.5	18	17	-	1.9	8	46	2.81	15	-	-	
28.87	29.3	27.1	-	29.6	1.5	17.2	5.4	3 silty CLAY to CLAY	115	1.5	20	18	-	2	8.4	48	2.84	15	-	-	
29.04	42.7	39.4	-	43.1	2.2	17.7	5.4	3 silty CLAY to CLAY	115	1.5	28	26	-	2.9	9.9	42	2.72	15	-	-	
29.2	40.4	37.2	-	40.8	2.7	17.9	7	3 silty CLAY to CLAY	115	1.5	27	25	-	2.8	9.9	47	2.82	15	-	-	
29.36	36.4	33.3	-	36.7	2.7	18.1	7.8	3 silty CLAY to CLAY	115	1.5	24	22	-	2.5	9.9	51	2.89	15	-	-	
29.53	34.3	31.3	-	34.7	2.7	18	8.2	3 silty CLAY to CLAY	115	1.5	23	21	-	2.3	9.8	53	2.92	15	-	-	
29.69	30.1	27.3	-	30.4	2.1	18	7.4	3 silty CLAY to CLAY	115	1.5	20	18	-	2	8.5	54	2.94	15	-	-	
29.86	26.8	24.2	-	27.2	1.6	18.2	6.6	3 silty CLAY to CLAY	115	1.5	18	16	-	1.8	7.5	54	2.94	15	-	-	
30.02	23.8	21.4	-	24.1	1.4	18.2	6.2	3 silty CLAY to CLAY	115	1.5	16	14	-	1.6	6.6	56	2.96	15	-	-	
30.19	21.9	19.7	-	22.3	1.2	18.2	6	3 silty CLAY to CLAY	115	1.5	15	13	-	1.5	6	57	2.98	15	-	-	
30.35	21.1	18.9	-	21.5	1.2	18.3	6.3	3 silty CLAY to CLAY	115	1.5	14	13	-	1.4	5.7	59	3.01	15	-	-	
30.51	19.7	17.6	-	20.1	1.1	18.1	6.2	3 silty CLAY to CLAY	115	1.5	13	12	-	1.3	5.3	61	3.03	15	-	-	
30.68	17.4	15.4	-	17.7	0.9	18.1	6	3 silty CLAY to CLAY	115	1.5	12	10	-	1.1	4.6	63	3.07	15	-	-	
30.84	15.3	13.5	-	15.7	0.6	18	4.6	3 silty CLAY to CLAY	115	1.5	10	9	-	1	3.9	62	3.05	15	-	-	
31.01	13	11.5	-	13.4	0.6	18.1	5.1	3 silty CLAY to CLAY	115	1.5	9	8	-	0.8	3.3	68	3.14	15	-	-	
31.17	12.6	11	-	12.9	0.5	18.2	4.9	3 silty CLAY to CLAY	115	1.5	8	7	-	0.8	3.1	69	3.14	15	-	-	
31.33	10.7	9.3	-	11	0.4	18.3	4.9	3 silty CLAY to CLAY	115	1.5	7	6	-	0.7	2.6	74	3.21	15	-	-	
31.5	9.7	8.5	-	10.1	0.3	18.5	4.4	3 silty CLAY to CLAY	115	1.5	6	6	-	0.6	2.3	75	3.23	15	-	-	
31.66	10.2	8.9	-	10.6	0.3	18.7	3.6	3 silty CLAY to CLAY	115	1.5	7	6	-	0.6	2.4	70	3.16	15	-	-	
31.83	10.9	9.4	-	11.3	0.4	19	4.5	3 silty CLAY to CLAY	115	1.5	7	6	-	0.7	2.6	72	3.19	15	-	-	
31.99	15.2	13.1	-	15.6	0.6	19.4	4.5	3 silty CLAY to CLAY	115	1.5	10	9	-	1	3.8	62	3.05	15	-	-	
32.15	19.8	17	-	20.2	1	19.8	5.4	3 silty CLAY to CLAY	115	1.5	13	11	-	1.3	5.1	59	3	15	-	-	
32.32	21.7	18.6	-	22.1	1.1	20	5.7	3 silty CLAY to CLAY	115	1.5	14	12	-	1.5	5.6	58	2.99	15	-	-	
32.48	21.8	18.6	-	22.2	1.2	20.1	5.9	3 silty CLAY to CLAY	115	1.5	15	12	-	1.5	5.6	58	2.99	15	-	-	
32.65	20.7	17.5	-	21.1	1.1	20.1	6	3 silty CLAY to CLAY	115	1.5	14	12	-	1.4	5.3	60	3.02	15	-	-	
32.81	19.9	16.8	-	20.3	1.1	20.2	6.4	3 silty CLAY to CLAY	115	1.5	13	11	-	1.3	5	62	3.05	15	-	-	
32.97	20.7	17.4	-	21.1	1.2	20.3	6.3	3 silty CLAY to CLAY	115	1.5	14	12	-	1.4	5.2	61	3.04	15	-	-	
33.14	22.4	18.8	-	22.8	1.2	20.5	5.8	3 silty CLAY to CLAY	115	1.5	15	13	-	1.5	5.7	58	2.99	15	-	-	
33.3	23.3	19.5	-	23.7	1.3	20.7	6	3 silty CLAY to CLAY	115	1.5	16	13	-	1.6	5.9	58	2.99	15	-	-	
33.47	24.7	20.6	-	25.1	1.4	20.8	6.2	3 silty CLAY to CLAY	115	1.5	16	14	-	1.7	6.3	57	2.97	15	-	-	
33.63	24.2	20.1	-	24.6	1.4	20.8	6.5	3 silty CLAY to CLAY	115	1.5	16	13	-	1.6	6.1	58	3	15	-	-	
33.79	23.3	19.3	-	23.7	1.2	20.8	5.6	3 silty CLAY to CLAY	115	1.5	16	13	-	1.6	5.8	56	2.97	15	-	-	
33.96	22.6	18.6	-	23	1.1	21.1	5.3	3 silty CLAY to CLAY	115	1.5	15	12	-	1.5	5.6	56	2.97	15	-	-	
34.12	23.4	19.2	-	23.8	1	21.4	4.7	3 silty CLAY to CLAY	115	1.5	16	13	-	1.6	5.8	53	2.92	15	-	-	
34.29	25.4	20.8	-	25.8	1.1	21.8	4.8	3 silty CLAY to CLAY	115	1.5	17	14	-	1.7	6.3	52	2.9	15	-	-	
34.45	29.1	23.7	-	29.5	1.4	22.2	5.2	3 silty CLAY to CLAY	115	1.5	19	16	-	2	7.3	51	2.88	15	-	-	
34.61	33.4	27.1	-	33.8	1.8	22.4	5.7	3 silty CLAY to CLAY	115	1.5	22	18	-	2.3	8.4	49	2.86	15	-	-	
34.78	34	27.5	-	34.4	2	22.8	6.2	3 silty CLAY to CLAY	115	1.5	23	18	-	2.3	8.5	51	2.88	15	-	-	
34.94	33.2	26.8	-	33.7	1.8	22.9	5.8	3 silty CLAY to CLAY	115	1.5	22	18	-	2.3	8.3	50	2.87	15	-	-	
35.11	29.3	23.5	-	29.7	1.7	22.9	6.1	3 silty CLAY to CLAY	115	1.5	20	16	-	2	7.2	54	2.93	15	-	-	
35.27	27.1	21.7	-	27.6	1.3	23	5.4	3 silty CLAY to CLAY	115	1.5	18	14	-	1.8	6.6	53	2.92	15	-	-	
35.43	26.7	21.3	-	27.1	1.3	23.4	5.1	3 silty CLAY to CLAY	115	1.5	18	14	-	1.8	6.5	52	2.91	15	-	-	
35.6	26.3	20.9	-	26.8	1.2	23.7	4.9	3 silty CLAY to CLAY	115	1.5	18	14	-	1.8	6.4	52	2.9	15	-	-	
35.76	27.2	21.6	-	27.7	1.2	24.1	4.8	3 silty CLAY to CLAY	115	1.5	18	14	-	1.8	6.6	51	2.88	15	-	-	
35.93	27.1	21.5	-	27.6	1.4	24.2	5.7	3 silty CLAY to CLAY	115	1.5	18	14	-	1.8	6.5	54	2.94	15	-	-	
36.09	28.3	22.3	-	28.8	1.8	24.4	7	3 silty CLAY to CLAY	115	1.5	19	15	-	1.9	6.8	57	2.98	15	-	-	
36.26	36.8	28.9	-	37.2	1.7	23.6	4.8	3 silty CLAY to CLAY	115	1.5	25	19	-	2.5	9	45	2.78	15	-	-	
36.42	34.4	26.9	-	34.8	1.8	22.2	5.7	3 silty CLAY to CLAY	115	1.5	23	18	-	2.3	8.3	50	2.86	15	-	-	
36.58	39.9	31.1	-	40.3	2.1	19.1	5.6	3 silty CLAY to CLAY	115	1.5	27	21	-	2.7	9.7	46	2.8	15	-	-	
36.75	32.9	25.6	-	33.2	2.4	14.3	7.9	3 silty CLAY to CLAY	115	1.5	22	17	-	2.2	7.9	57	2.97	15	-	-	
36.91	55.3	42.9	-	55.6	3.6	14.4	6.8	3 silty CLAY to CLAY	115	1.5	37	29	-	3.8	9.9	44	2.77	15	-	-	
37.08	90.6	77.3	186.2	90.8	3.6	12.4	4	4 clayy SILT to silty CLAY	115	2	45	39	-	6.3	9.9	27	2.42	15	0	0	
37.24	58.2	44.8	-	58.4	3.6	12.9	6.3	3 silty CLAY to CLAY	115	1.5	39	30	-	4	9.9	42	2.73	15	-	-	
37.4	64.6	49.5	-	64.8	3.7	13.9	6	3 silty CLAY to CLAY	115	1.5	43	33	-	4.5	9.9	39	2.68	15	-	-	
37.57	59.8	50.8	156.6	60.1	2.4	14.3	4.1	4 clayy SILT to silty CLAY	115	2	30	25	-	4.1	9.9	33	2.56	15	0.4	1.8	
37.73	50.4	38.4	-	50.7	2.1	14.6	4.4	4 clayy SILT to silty CLAY	115	2	25	19	-	3.5	9.9	39	2.66	15	-	-	
37.9	43	32.7	-	43.3	2.3	16.3	5.7	3 silty CLAY to CLAY	115	1.5	29	22	-	2.9	9.9	46	2.8	15	-	-	
38.06	47.5	36	-	47.8	2.5	16.5	5.6	3 silty CLAY to CLAY	115	1.5	32	24	-	3.3	9.9	44	2.76	15	-	-	

38.22	40.1	30.3	-	40.5	2.6	16.6	6.8	3	silty CLAY to CLAY	115	1.5	27	20	-	-	2.7	9.4	50	2.87	15	-	-
38.39	37.4	28.1	-	37.7	2.2	16.8	6.2	3	silty CLAY to CLAY	115	1.5	25	19	-	-	2.5	8.7	50	2.87	15	-	-
38.55	36.6	27.4	-	36.9	1.9	17	5.7	3	silty CLAY to CLAY	115	1.5	24	18	-	-	2.5	8.5	49	2.85	15	-	-
38.72	34.5	25.8	-	34.8	1.8	17.2	5.7	3	silty CLAY to CLAY	115	1.5	23	17	-	-	2.3	8	50	2.88	15	-	-
38.88	33.2	24.7	-	33.5	1.9	17.3	6.1	3	silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.6	52	2.91	15	-	-
39.04	33.2	24.7	-	33.5	2.2	17.5	7.1	3	silty CLAY to CLAY	115	1.5	22	16	-	-	2.3	7.6	56	2.96	15	-	-
39.21	44.3	32.8	-	44.6	2.7	17.6	6.4	3	silty CLAY to CLAY	115	1.5	30	22	-	-	3	9.9	48	2.83	15	-	-
39.37	72	53.1	-	72.4	3.7	17.4	5.3	4	clayy SILT to silty CLAY	115	2	36	27	-	-	5	9.9	36	2.62	15	-	-
39.54	64.7	47.6	-	65	2.9	14.7	4.6	4	clayy SILT to silty CLAY	115	2	32	24	-	-	4.5	9.9	36	2.61	15	-	-
39.7	41.1	30.1	-	41.4	2	14.9	5.2	3	silty CLAY to CLAY	115	1.5	27	20	-	-	2.8	9.4	46	2.8	15	-	-
39.86	30.8	22.5	-	31.1	1.5	16	5.3	3	silty CLAY to CLAY	115	1.5	21	15	-	-	2.1	6.9	52	2.9	15	-	-
40.03	27.1	19.7	-	27.4	1.3	16.3	5.2	3	silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.9	55	2.94	15	-	-
40.19	23.9	17.3	-	24.2	1.1	16.5	5	3	silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.2	57	2.98	15	-	-
40.36	21	15.2	-	21.3	1	16.5	5.2	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.5	61	3.04	15	-	-
40.52	20.4	14.8	-	20.8	0.9	16.7	4.9	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.3	4.3	61	3.03	15	-	-
40.68	21.7	15.6	-	22	1.1	17	5.7	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.6	62	3.05	15	-	-
40.85	31.8	22.8	-	32.2	1.3	20.2	4.6	3	silty CLAY to CLAY	115	1.5	21	15	-	-	2.1	7	49	2.85	15	-	-
41.01	33.1	23.7	-	33.5	1.5	21	4.8	3	silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.3	49	2.86	15	-	-
41.18	38.1	27.2	-	38.6	1.7	21.7	4.8	3	silty CLAY to CLAY	115	1.5	25	18	-	-	2.6	8.4	46	2.81	15	-	-
41.34	42.6	30.3	-	43	1.7	22.2	4.2	4	clayy SILT to silty CLAY	115	2	21	15	-	-	2.9	9.4	42	2.73	15	-	-
41.5	38.7	27.4	-	39.2	1.6	22.9	4.4	3	silty CLAY to CLAY	115	1.5	26	18	-	-	2.6	8.5	45	2.78	15	-	-
41.67	37	26.1	-	37.5	1.6	23.4	4.6	3	silty CLAY to CLAY	115	1.5	25	17	-	-	2.5	8.1	46	2.81	15	-	-
41.83	36	25.4	-	36.5	1.6	23.7	4.7	3	silty CLAY to CLAY	115	1.5	24	17	-	-	2.4	7.8	47	2.82	15	-	-
42	35.1	24.6	-	35.6	1.5	24.2	4.5	3	silty CLAY to CLAY	115	1.5	23	16	-	-	2.4	7.6	47	2.82	15	-	-
42.16	35	24.5	-	35.5	1.4	24.5	4.2	3	silty CLAY to CLAY	115	1.5	23	16	-	-	2.4	7.5	46	2.8	15	-	-
42.32	36	25.1	-	36.5	1.5	24.8	4.6	3	silty CLAY to CLAY	115	1.5	24	17	-	-	2.4	7.7	47	2.82	15	-	-
42.49	36.5	25.4	-	37	1.7	24.9	4.9	3	silty CLAY to CLAY	115	1.5	24	17	-	-	2.5	7.8	48	2.84	15	-	-
42.65	37.5	26	-	38	1.8	25.2	5.1	3	silty CLAY to CLAY	115	1.5	25	17	-	-	2.5	8	48	2.84	15	-	-
42.82	39.6	27.4	-	40.1	2.1	25.6	5.6	3	silty CLAY to CLAY	115	1.5	26	18	-	-	2.7	8.5	49	2.85	15	-	-
42.98	40.8	28.1	-	41.3	1.9	25.8	5.1	3	silty CLAY to CLAY	115	1.5	27	19	-	-	2.8	8.7	47	2.81	15	-	-
43.15	40.5	27.9	-	41	1.8	26.4	4.7	3	silty CLAY to CLAY	115	1.5	27	19	-	-	2.8	8.6	46	2.79	15	-	-
43.31	39.4	27	-	40	1.6	26.7	4.4	3	silty CLAY to CLAY	115	1.5	26	18	-	-	2.7	8.4	45	2.78	15	-	-
43.47	35.1	24	-	35.6	1.5	26.8	4.7	3	silty CLAY to CLAY	115	1.5	23	16	-	-	2.4	7.4	49	2.85	15	-	-
43.64	31.3	21.3	-	31.8	1.5	26.9	5.1	3	silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.5	52	2.91	15	-	-
43.8	27.8	18.9	-	28.3	1.4	27	5.4	3	silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.7	56	2.97	15	-	-
43.97	25.4	17.2	-	25.9	1.1	27.1	5	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.7	5.1	57	2.98	15	-	-
44.13	24.4	16.5	-	24.9	1.2	27.3	5.3	3	silty CLAY to CLAY	115	1.5	16	11	-	-	1.6	4.9	59	3.01	15	-	-
44.29	26.2	17.6	-	26.7	1.2	27.3	5.2	3	silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.3	57	2.98	15	-	-
44.46	25.8	17.3	-	26.3	1.3	27.3	5.6	3	silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.1	59	3.01	15	-	-
44.62	25.2	16.8	-	25.7	1.2	27.6	5.4	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.7	5	59	3.01	15	-	-
44.79	19	12.7	-	19.5	1.2	27.2	7.4	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.2	3.6	73	3.21	15	-	-
44.95	18	11.9	-	18.5	1.2	26.7	7.7	3	silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.4	76	3.24	15	-	-
45.11	20.5	13.6	-	21	1.2	26.6	6.6	3	silty CLAY to CLAY	115	1.5	14	9	-	-	1.3	3.9	69	3.14	15	-	-
45.28	27.3	18.1	-	27.8	0.9	26.4	3.6	3	silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.4	50	2.87	15	-	-
45.44	19.3	12.7	-	19.8	0.8	25.8	4.9	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.3	3.6	65	3.09	15	-	-
45.61	16.8	11.1	-	17.4	0.7	26.8	5.1	3	silty CLAY to CLAY	115	1.5	11	7	-	-	1.1	3.1	70	3.16	15	-	-
45.77	16.3	10.7	-	16.8	0.7	27.2	5.4	3	silty CLAY to CLAY	115	1.5	11	7	-	-	1	3	72	3.19	15	-	-
45.93	15.3	10	-	15.8	0.7	27.6	5.5	3	silty CLAY to CLAY	115	1.5	10	7	-	-	1	2.7	74	3.22	15	-	-
46.1	15.5	10.1	-	16.1	0.7	27.8	5.6	3	silty CLAY to CLAY	115	1.5	10	7	-	-	1	2.8	74	3.22	15	-	-
46.26	13.8	9	-	14.4	1	27.5	8.9	3	silty CLAY to CLAY	115	1.5	9	6	-	-	0.9	2.4	89	3.39	15	-	-
46.43	10.9	7.1	-	11.4	0.9	26.6	9.9	2	Organic SOILS - Peats	100	1	11	7	-	-	1	1.8	95	3.53	10	-	-
46.59	14.6	9.4	-	15.1	0.7	26.5	6.3	3	silty CLAY to CLAY	115	1.5	10	6	-	-	0.9	2.5	79	3.28	15	-	-
46.75	18.1	11.7	-	18.6	0.7	26.7	4.4	3	silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.3	65	3.09	15	-	-
46.92	24.6	15.9	-	25.2	0.8	27.7	3.5	3	silty CLAY to CLAY	115	1.5	16	11	-	-	1.6	4.7	53	2.92	15	-	-
47.08	28	18	-	28.6	1	28.6	3.9	3	silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.4	52	2.89	15	-	-
47.25	25.9	16.6	-	26.5	1.1	29.2	4.8	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.7	4.9	57	2.98	15	-	-
47.41	21.9	14	-	22.4	1	29.1	5.4	3	silty CLAY to CLAY	115	1.5	15	9	-	-	1.4	4	64	3.08	15	-	-
47.57	18	11.5	-	18.6	0.8	29.1	5	3	silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.2	68	3.14	15	-	-
47.74	14.8	9.4	-	15.4	0.6	29.2	4.7	3	silty CLAY to CLAY	115	1.5	10	6	-	-	0.9	2.5	73	3.2	15	-	-
47.9	13.6	8.6	-	14.2	0.5	29.9	4.5	3	silty CLAY to CLAY	115	1.5	9	6	-	-	0.9	2.3	76	3.23	15	-	-
48.07	14.8	9.3	-	15.4	0.5	30.5	4.3	3	silty CLAY to CLAY	115	1.5	10	6	-	-	0.9	2.5	72	3.19	15	-	-
48.23	14.5	9.1	-	15.1	0.4	30.7	3.5	3	silty CLAY to CLAY	115	1.5	10	6	-	-	0.9	2.4	69	3.14	15	-	-
48.39	12.5	7.8	-	13.1	0.4	31.2	4.3	3	silty CLAY to CLAY	115	1.5	8	5	-	-	0.8	2	78	3.26	15	-	-
48.56	12	7.5	-	12.7	0.4	31.8	4.4	3	silty CLAY to CLAY	115	1.5	8	5	-	-	0.7	1.9	80	3.28	15	-	-
48.72	11.9	7.4	-	12.5	0.4	32.2	4.6	3	silty CLAY to CLAY	115	1.5	8	5	-	-	0.7	1.9	81	3.31	15	-	-
48.89	12.6	7.8	-	13.2	0.5	32.9	4.7	3	silty CLAY to CLAY	115	1.5	8	5	-	-	0.8	2	80	3.29	15	-	-
49.05	16.7	10.4	-	17.4	0.6	34	4.4	3	silty CLAY to CLAY	115	1.5	11	7	-	-	1.1	2.8	69	3.15	15	-	-
49.22	26.3	16.3	-	27	0.9	35.3	3.8	3	silty CLAY to CLAY	115	1.5	18	11	-	-	1.7	4.8	54	2.93	15	-	-
49.38	31.6	19.5	-	32.3	1.1	36.6	3.9	3	silty CLAY to CLAY	115	1.5	21	13	-	-	2.1	5.9	50	2.87	15	-	-
49.54	28.1	17.3	-	28.8	1.4	37.1	5.7	3	silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.1	59	3.01	15	-	-
49.71	26.3	16.2	-	27	1.5	33.9	6.6	3	silty CLAY to CLAY	115	1.5	18	11	-	-	1.7	4.8	64	3.08	15	-	-
49.87	22.2	13.6	-	22.9	1.2	33.5	6.1	3	silty CLAY to CLAY	115	1.5	15	9	-	-	1.5	3.9	67	3.12	15	-	-
50.04	20.1	12.3	-	20.8	0.6	34.3	3.4	3	silty CLAY to CLAY	115	1.5	13	8	-	-	1.3	3.5	59	3.01	15	-	-
50.2	16	9.7	-	16.6	0.5	34.7	3.9	3	silty CLAY to CLAY	115	1.5	11	6	-	-	1	2.6	69	3.14	15	-	-

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

UPRR Property

Project ID: Corne rstone Earth Grou p
Data Fi le: SDF (458).c pt   Sound ing ID: C 1-CPT4
CPT Dat e: 6/12/ 2014 1 1:58:00 7:00 AM   Pr ojec t No: P2 14 0.676
GW Duri ng Tes t: 10 ft   Con e/Ri g: DD G1281

. Depth ft	. qc PS tsf	* qc1n PS -	. q1ncs PS -	* qt PS tsf	. Slv Stss tsf	. pore prss (psi)	. Frct Rato %	* Mat Typ Zon	* Material Behavior Description	. Unit Wght pcf	. Qc to N	. SPT R-N 60%	* SPT R-N1 60%	* Rel Den %	* Ftn Ang deg	. Und Shr tsf	. OCR - -	* Fin Ic %	* Ic SBT Indx	* Nk - -	* Vol Strn %	* Cycl SStn %
0.33	1.1	0	-	1.1	0	0	0.1	1	sensitive fine SOIL	115	2	1	1	-	-	0.1	9.9	95	3.48	15	N/A	N/A
0.49	1.1	0	-	1.1	0	0	0.1	1	sensitive fine SOIL	115	2	1	1	-	-	0.1	9.9	95	3.48	15	N/A	N/A
0.66	1.1	0	-	1.1	0	0	0.1	1	sensitive fine SOIL	115	2	1	1	-	-	0.1	9.3	95	3.48	15	N/A	N/A
0.82	1.1	0.6	-	1.1	0.5	0	9.9	2	Organic SOILS - Peats	100	1	1	1	-	-	0.1	7.6	95	4.35	10	N/A	N/A
0.98	66.4	106.5	158.9	66.4	1.4	0	2.2	5	silty SAND to sandy SILT	120	4	17	27	69	48	-	-	16	2.12	16	N/A	N/A
1.15	40.5	65	189.7	40.5	2	0.4	4.9	4	clayy SILT to silty CLAY	115	2	20	32	-	-	2.9	9.9	32	2.53	15	N/A	N/A
1.31	21.2	33.9	-	21.2	4.1	0.9	9.9	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	55	2.95	15	N/A	N/A
1.48	118.2	189.6	324	118.2	5.3	1.7	4.5	9	very stiff fine SOIL	120	2	59	95	88	48	-	-	20	2.22	30	N/A	N/A
1.64	93.9	150.6	308.4	93.9	4.9	2	5.2	9	very stiff fine SOIL	120	2	47	75	81	48	-	-	24	2.33	30	N/A	N/A
1.8	50.5	80.9	231.8	50.5	2.9	1.8	5.7	9	very stiff fine SOIL	120	2	25	40	60	48	-	-	32	2.52	30	N/A	N/A
1.97	32.3	51.8	-	32.3	2.1	1.8	6.4	3	silty CLAY to CLAY	115	1.5	22	35	-	-	2.3	9.9	39	2.68	15	N/A	N/A
2.13	21.1	33.8	-	21.1	1.7	1.2	8.3	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	52	2.89	15	N/A	N/A
2.3	14.9	23.8	-	14.9	1.5	1	9.9	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	9.9	62	3.05	15	N/A	N/A
2.46	11.2	18	-	11.3	1.1	0.8	9.9	3	silty CLAY to CLAY	115	1.5	7	12	-	-	0.8	9.9	68	3.14	15	N/A	N/A
2.62	11.7	18.8	-	11.7	1	1.1	8.5	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	9.9	64	3.08	15	N/A	N/A
2.79	13.6	21.7	-	13.6	1.1	1.2	7.9	3	silty CLAY to CLAY	115	1.5	9	14	-	-	0.9	9.9	59	3.01	15	N/A	N/A
2.95	14.5	23.3	-	14.5	1.2	1.1	8.7	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	9.9	60	3.02	15	N/A	N/A
3.12	14.4	23.2	-	14.5	1.2	0.9	8.1	3	silty CLAY to CLAY	115	1.5	10	15	-	-	1	9.9	58	3	15	N/A	N/A
3.28	14.6	23.4	-	14.6	1	1	7.3	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	9.9	56	2.96	15	N/A	N/A
3.45	16.1	25.8	-	16.1	1.1	0.9	6.7	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	9.9	52	2.91	15	N/A	N/A
3.61	18.5	29.6	-	18.5	1.3	0.8	7.3	3	silty CLAY to CLAY	115	1.5	12	20	-	-	1.3	9.9	52	2.89	15	N/A	N/A
3.77	21.3	34.2	-	21.3	1.6	0.8	7.5	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	49	2.86	15	N/A	N/A
3.94	24.1	38.7	-	24.1	1.6	0.6	6.5	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	45	2.78	15	N/A	N/A
4.1	26.7	42.7	-	26.7	1.9	0.7	7.3	3	silty CLAY to CLAY	115	1.5	18	28	-	-	1.9	9.9	45	2.78	15	N/A	N/A
4.27	27	43.4	-	27.1	2.2	0.5	8.4	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	47	2.82	15	N/A	N/A
4.43	34.1	54.7	-	34.1	2.6	0.5	7.6	3	silty CLAY to CLAY	115	1.5	23	36	-	-	2.4	9.9	42	2.73	15	N/A	N/A
4.59	35.7	57.3	-	35.8	2.9	0.6	8.1	3	silty CLAY to CLAY	115	1.5	24	38	-	-	2.5	9.9	42	2.73	15	N/A	N/A
4.76	39.2	62.8	-	39.2	3	0.8	7.7	9	very stiff fine SOIL	120	2	20	31	52	42	-	-	40	2.69	30	N/A	N/A
4.92	39.9	64	-	39.9	2.9	0.8	7.4	9	very stiff fine SOIL	120	2	20	32	52	42	-	-	39	2.67	30	N/A	N/A
5.09	37	59.3	-	37	2.9	0.9	8	3	silty CLAY to CLAY	115	1.5	25	40	-	-	2.6	9.9	42	2.72	15	N/A	N/A
5.25	33.1	53.1	-	33.2	2.7	0.7	8.3	3	silty CLAY to CLAY	115	1.5	22	35	-	-	2.3	9.9	44	2.76	15	N/A	N/A
5.41	31	49.7	-	31	2.4	0.9	7.7	3	silty CLAY to CLAY	115	1.5	21	33	-	-	2.2	9.9	43	2.76	15	N/A	N/A
5.58	31.4	50.4	-	31.4	2.3	1	7.2	3	silty CLAY to CLAY	115	1.5	21	34	-	-	2.2	9.9	42	2.73	15	N/A	N/A
5.74	31.1	49.9	-	31.1	2.4	1.2	7.7	3	silty CLAY to CLAY	115	1.5	21	33	-	-	2.2	9.9	43	2.76	15	N/A	N/A
5.91	32.5	52.2	-	32.6	2.4	1.3	7.6	3	silty CLAY to CLAY	115	1.5	22	35	-	-	2.3	9.9	42	2.74	15	N/A	N/A
6.07	30	48.1	-	30	2.3	1.4	7.7	3	silty CLAY to CLAY	115	1.5	20	32	-	-	2.1	9.9	44	2.77	15	N/A	N/A
6.23	25	40.1	-	25	2.1	1.4	8.6	3	silty CLAY to CLAY	115	1.5	17	27	-	-	1.7	9.9	49	2.86	15	N/A	N/A
6.4	21.3	34.1	-	21.3	1.8	1.4	8.8	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	53	2.91	15	N/A	N/A
6.56	23.1	37	-	23.1	1.8	1.4	7.8	3	silty CLAY to CLAY	115	1.5	15	25	-	-	1.6	9.9	49	2.85	15	N/A	N/A
6.73	27.4	44	-	27.4	1.8	1.4	6.5	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	43	2.74	15	N/A	N/A
6.89	27.6	44.3	-	27.7	1.7	1.9	6.4	3	silty CLAY to CLAY	115	1.5	18	30	-	-	1.9	9.9	42	2.73	15	N/A	N/A
7.05	25	40.1	-	25	1.6	2	6.5	3	silty CLAY to CLAY	115	1.5	17	27	-	-	1.7	9.9	44	2.77	15	N/A	N/A
7.22	25.2	40.4	-	25.2	1.6	2	6.4	3	silty CLAY to CLAY	115	1.5	17	27	-	-	1.7	9.9	44	2.76	15	N/A	N/A
7.38	28.4	45.6	-	28.5	1.6	2	5.6	3	silty CLAY to CLAY	115	1.5	19	30	-	-	2	9.9	39	2.68	15	N/A	N/A
7.55	21.6	34.6	-	21.6	1.3	2	6.1	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	45	2.79	15	N/A	N/A
7.71	16.9	27.1	-	16.9	0.9	2.2	5.6	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.2	9.9	48	2.84	15	N/A	N/A
7.87	14.2	22.8	-	14.2	0.7	2.3	5.2	3	silty CLAY to CLAY	115	1.5	9	15	-	-	1	9.9	50	2.88	15	N/A	N/A
8.04	11.8	18.9	-	11.9	0.6	2.3	5.5	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	8.1	55	2.95	15	N/A	N/A
8.2	11.3	18.2	-	11.4	0.6	2.4	5.3	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	7.6	56	2.96	15	N/A	N/A
8.37	11.5	18.5	-	11.6	0.4	2.4	3.4	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	7.6	48	2.83	15	N/A	N/A
8.53	10.3	16.5	-	10.3	0.5	2.5	4.8	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	6.6	56	2.97	15	N/A	N/A
8.69	12.3	19.7	-	12.3	0.5	2.6	3.8	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	7.8	48	2.84	15	N/A	N/A
8.86	11.4	18.3	-	11.5	0.4	2.8	3.8	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	7	50	2.87	15	N/A	N/A
9.02	11.4	18.3	-	11.5	0.3	2.9	2.9	4	clayy SILT to silty CLAY	115	2	6	9	-	-	0.8	6.9	46	2.79	15	N/A	N/A
9.19	12	19.3	-	12.1	0.3	3	2.8	4	clayy SILT to silty CLAY	115	2	6	10	-	-	0.8	7.2	44	2.76	15	N/A	N/A
9.35	13.6	21.8	-	13.7	0.4	3	3.1	4	clayy SILT to silty CLAY	115	2	7	11	-	-	0.9	8	43	2.74	15	N/A	N/A
9.51	14.6	23.4	-	14.6	0.5	3.1	3.9	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	8.4	45	2.79	15	N/A	N/A
9.68	14.9	24	-	15	0.5	3.2	3.4	4	clayy SILT to silty CLAY	115	2	7	12	-	-	1	8.5	42	2.74	15	N/A	N/A
9.84	14.3	22.9	-	14.3	0.4	3.2	3.2	4	clayy SILT to silty CLAY	115	2	7	11	-	-	1	8	43	2.74	15	N/A	N/A
10.01	14	22.5	-	14.1	0.3	3.3	2.4	4	clayy SILT to silty CLAY	115	2	7	11	-	-	1	7.8	39	2.67	15	-	-
10.17	14.8	23.7	-	14.9	0.3	3.4	2.5	4	clayy SILT to silty CLAY	115	2	7	12	-	-	1	8.1	38	2.66	15	-	-
10.34	17.1	27.4	-	17.2	0.6	3.5	3.7	4	clayy SILT to silty CLAY	115	2	9	14	-	-	1.2	9.4	41	2.72	15	-	-
10.5	24.7	39.7	-	24.8	1.3	3.6	5.2	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	41	2.7	15	-	-
10.66	32.3	45.9	-	32.3	1.4	3.5	4.5	4	clayy SILT to silty CLAY	115	2	16	23	-	-	2.2	9.9	36	2.61	15	-	-
10.83	24.7	39.5	-	24.7	1.1	3.5	4.7	4	clayy SILT to silty CLAY	115	2	12	20	-	-	1.7	9.9	39	2.67	15	-	-
10.99	19.5	31.2	-	19.5	0.9	3.7	4.6	3	silty CLAY to CLAY	115	1.5	13	21	-	-	1.3	9.9	43	2.74	15	-	-
11.16	20.1	32.3	-	20.2	0.8	3.8	4	4	clayy SILT to silty CLAY	115	2	10	16	-	-	1.4	9.9	40	2.69	15	-	-
11.32	20.4	32.7	-	20.5	0.8	4	4.2	4	clayy SILT to silty CLAY	115	2	10	16	-	-	1.4	9.9	40	2.7	15	-	-
11.48	23.4	37.6	-	23.5	0.9	4.1	3.8	4	clayy SILT to silty CLAY	115	2	12	19	-	-	1.6	9.9	37	2.63	15	-	-
11.65	25.9	41.6	-	26	1.3	4.1	5.3	3	silty CLAY to CLAY	115	1.5	17	28	-	-	1.8	9.9	40	2.69	15	-	-
11.81	28.1	45.1	-	28.2	1.8	4.2	6.4	3	silty CLAY to CLAY	115	1.5	19	30	-	-	1.9	9.9	42	2.73	15	-	-

11.98	30.2	48.4	-	30.3	1.9	4.3	6.5	3 silty CLAY to CLAY	115	1.5	20	32	-	-	2.1	9.9	41	2.71	15	-	-
12.14	28.4	45.3	-	28.5	1.7	4.4	6	3 silty CLAY to CLAY	115	1.5	19	30	-	-	2	9.9	41	2.71	15	-	-
12.3	25.2	39.9	-	25.3	1.3	4.4	5.3	3 silty CLAY to CLAY	115	1.5	17	27	-	-	1.7	9.9	41	2.71	15	-	-
12.47	22.2	34.9	-	22.3	1.1	4.5	5.2	3 silty CLAY to CLAY	115	1.5	15	23	-	-	1.5	9.9	43	2.74	15	-	-
12.63	20.9	32.7	-	21	1.1	4.6	5.4	3 silty CLAY to CLAY	115	1.5	14	22	-	-	1.4	9.9	44	2.77	15	-	-
12.8	20.9	32.4	-	21	1.1	4.6	5.4	3 silty CLAY to CLAY	115	1.5	14	22	-	-	1.4	9.9	45	2.78	15	-	-
12.96	20.5	31.6	-	20.6	1	4.7	5.2	3 silty CLAY to CLAY	115	1.5	14	21	-	-	1.4	9.9	45	2.78	15	-	-
13.12	18.8	28.7	-	18.9	0.8	4.7	4.5	3 silty CLAY to CLAY	115	1.5	13	19	-	-	1.3	9.1	44	2.76	15	-	-
13.29	17.7	26.9	-	17.8	0.7	4.7	4.4	3 silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	8.5	45	2.78	15	-	-
13.45	17	25.7	-	17.1	0.7	4.7	4.2	3 silty CLAY to CLAY	115	1.5	11	17	-	-	1.2	8.1	45	2.78	15	-	-
13.62	16.3	24.4	-	16.4	0.6	4.8	4	3 silty CLAY to CLAY	115	1.5	11	16	-	-	1.1	7.7	45	2.78	15	-	-
13.78	17.9	26.7	-	18	0.7	4.8	4.1	3 silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	8.4	44	2.76	15	-	-
13.94	22.8	33.8	-	22.9	1	4.9	4.3	4 clayy SILT to silty CLAY	115	2	11	17	-	-	1.6	9.9	40	2.7	15	-	-
14.11	25.8	37.9	-	25.9	1.2	4.9	4.7	3 silty CLAY to CLAY	115	1.5	17	25	-	-	1.8	9.9	40	2.69	15	-	-
14.27	27.1	39.7	-	27.2	1.3	4.9	5.1	3 silty CLAY to CLAY	115	1.5	18	26	-	-	1.9	9.9	40	2.69	15	-	-
14.44	25.7	37.4	-	25.8	1.4	5	5.4	3 silty CLAY to CLAY	115	1.5	17	25	-	-	1.8	9.9	42	2.73	15	-	-
14.6	23.7	34.3	-	23.8	1.2	5	5.2	3 silty CLAY to CLAY	115	1.5	16	23	-	-	1.6	9.9	43	2.75	15	-	-
14.76	20	28.7	-	20.1	0.9	5.1	4.7	3 silty CLAY to CLAY	115	1.5	13	19	-	-	1.4	9.1	45	2.77	15	-	-
14.93	17.7	25.3	-	17.8	0.7	5.1	4	3 silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	7.9	44	2.77	15	-	-
15.09	18.4	26.1	-	18.5	0.8	5.2	4.4	3 silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	8.2	45	2.79	15	-	-
15.26	19.9	28.1	-	20	0.8	5.4	4.2	3 silty CLAY to CLAY	115	1.5	13	19	-	-	1.4	8.9	43	2.75	15	-	-
15.42	20.4	28.6	-	20.5	0.9	5.5	4.7	3 silty CLAY to CLAY	115	1.5	14	19	-	-	1.4	9	45	2.78	15	-	-
15.58	22.7	31.6	-	22.8	0.9	5.5	4.2	4 clayy SILT to silty CLAY	115	2	11	16	-	-	1.6	9.9	41	2.71	15	-	-
15.75	23.1	32	-	23.2	1	5.6	4.3	4 clayy SILT to silty CLAY	115	2	12	16	-	-	1.6	9.9	41	2.71	15	-	-
15.91	23.2	31.9	-	23.3	0.9	5.7	4.2	4 clayy SILT to silty CLAY	115	2	12	16	-	-	1.6	9.9	41	2.7	15	-	-
16.08	22.4	30.7	-	22.5	1	5.7	4.6	3 silty CLAY to CLAY	115	1.5	15	20	-	-	1.5	9.7	43	2.75	15	-	-
16.24	21.3	28.9	-	21.4	1	5.8	4.7	3 silty CLAY to CLAY	115	1.5	14	19	-	-	1.5	9.1	44	2.77	15	-	-
16.4	19.3	26.1	-	19.4	0.8	5.9	4.2	3 silty CLAY to CLAY	115	1.5	13	17	-	-	1.3	8.2	45	2.77	15	-	-
16.57	16.5	22.2	-	16.6	0.6	5.9	3.7	3 silty CLAY to CLAY	115	1.5	11	15	-	-	1.1	6.9	46	2.8	15	-	-
16.73	14.2	19	-	14.3	0.6	6	4.3	3 silty CLAY to CLAY	115	1.5	9	13	-	-	0.9	5.8	52	2.89	15	-	-
16.9	12.9	17.2	-	13.1	0.5	6	4.3	3 silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	5.2	54	2.93	15	-	-
17.06	12.9	17	-	13	0.5	6.1	4.2	3 silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	5.2	54	2.93	15	-	-
17.23	13.2	17.4	-	13.3	0.5	6.1	4.4	3 silty CLAY to CLAY	115	1.5	9	12	-	-	0.9	5.3	54	2.93	15	-	-
17.39	13.3	17.4	-	13.4	0.6	6.1	5.1	3 silty CLAY to CLAY	115	1.5	9	12	-	-	0.9	5.3	57	2.97	15	-	-
17.55	13	16.9	-	13.1	0.6	6.2	4.8	3 silty CLAY to CLAY	115	1.5	9	11	-	-	0.9	5.1	56	2.97	15	-	-
17.72	12.2	15.8	-	12.3	0.4	6.2	3.9	3 silty CLAY to CLAY	115	1.5	8	11	-	-	0.8	4.8	54	2.94	15	-	-
17.88	10.9	13.9	-	11	0.4	6.2	4	3 silty CLAY to CLAY	115	1.5	7	9	-	-	0.7	4.2	57	2.99	15	-	-
18.05	10.4	13.2	-	10.5	0.4	6.2	4.7	3 silty CLAY to CLAY	115	1.5	7	9	-	-	0.7	3.9	62	3.05	15	-	-
18.21	11.1	14.2	-	11.3	0.6	6.3	5.7	3 silty CLAY to CLAY	115	1.5	7	9	-	-	0.7	4.2	64	3.08	15	-	-
18.37	17.1	21.5	-	17.2	0.5	7	3	4 clayy SILT to silty CLAY	115	2	9	11	-	-	1.1	6.7	43	2.75	15	-	-
18.54	17.4	21.9	-	17.6	0.6	7.1	3.4	4 clayy SILT to silty CLAY	115	2	9	11	-	-	1.2	6.8	45	2.78	15	-	-
18.7	19.5	24.3	-	19.6	0.5	7.2	2.9	4 clayy SILT to silty CLAY	115	2	10	12	-	-	1.3	7.6	40	2.69	15	-	-
18.87	20.3	25.2	-	20.4	0.5	7.4	2.8	4 clayy SILT to silty CLAY	115	2	10	13	-	-	1.4	7.9	39	2.67	15	-	-
19.03	21.6	26.7	-	21.7	0.6	7.6	3.1	4 clayy SILT to silty CLAY	115	2	11	13	-	-	1.5	8.4	40	2.68	15	-	-
19.19	25.5	31.4	-	25.7	0.9	7.7	3.7	4 clayy SILT to silty CLAY	115	2	13	16	-	-	1.7	9.9	39	2.68	15	-	-
19.36	27.5	33.6	-	27.6	1.1	7.8	4	4 clayy SILT to silty CLAY	115	2	14	17	-	-	1.9	9.9	39	2.68	15	-	-
19.52	27.9	34	-	28.1	1.1	7.9	4.2	4 clayy SILT to silty CLAY	115	2	14	17	-	-	1.9	9.9	40	2.69	15	-	-
19.69	29.2	35.3	-	29.3	1.3	8.1	4.6	3 silty CLAY to CLAY	115	1.5	19	24	-	-	2	9.9	40	2.7	15	-	-
19.85	31.6	38.1	-	31.8	1.3	8.2	4.1	4 clayy SILT to silty CLAY	115	2	16	19	-	-	2.2	9.9	38	2.64	15	-	-
20.01	33.1	39.7	-	33.3	1.3	8.3	4.2	4 clayy SILT to silty CLAY	115	2	17	20	-	-	2.3	9.9	37	2.64	15	-	-
20.18	35	41.7	-	35.1	1.4	8.4	4	4 clayy SILT to silty CLAY	115	2	17	21	-	-	2.4	9.9	36	2.61	15	-	-
20.34	34.4	40.8	-	34.6	1.5	8.6	4.4	4 clayy SILT to silty CLAY	115	2	17	20	-	-	2.4	9.9	38	2.64	15	-	-
20.51	33.8	39.9	-	34	1.4	8.7	4.2	4 clayy SILT to silty CLAY	115	2	17	20	-	-	2.3	9.9	37	2.63	15	-	-
20.67	31.3	36.8	-	31.5	1.2	8.8	4.1	4 clayy SILT to silty CLAY	115	2	16	18	-	-	2.2	9.9	38	2.66	15	-	-
20.83	31.9	37.2	-	32	1.2	9	3.9	4 clayy SILT to silty CLAY	115	2	16	19	-	-	2.2	9.9	37	2.64	15	-	-
21	34.2	39.7	-	34.3	1.4	9.1	4.2	4 clayy SILT to silty CLAY	115	2	17	20	-	-	2.4	9.9	37	2.64	15	-	-
21.16	34.6	40	-	34.8	1.8	9.2	5.5	3 silty CLAY to CLAY	115	1.5	23	27	-	-	2.4	9.9	41	2.72	15	-	-
21.33	35.8	41.2	-	36	2.2	9.3	6.3	3 silty CLAY to CLAY	115	1.5	24	27	-	-	2.5	9.9	43	2.75	15	-	-
21.49	32.7	37.4	-	32.8	2.4	9.4	7.7	3 silty CLAY to CLAY	115	1.5	22	25	-	-	2.2	9.9	49	2.84	15	-	-
21.65	35.3	40.3	-	35.5	2.4	9.4	6.9	3 silty CLAY to CLAY	115	1.5	24	27	-	-	2.4	9.9	45	2.79	15	-	-
21.82	34.8	39.4	-	35	2.2	9.5	6.7	3 silty CLAY to CLAY	115	1.5	23	26	-	-	2.4	9.9	45	2.78	15	-	-
21.98	35.6	40.1	-	35.8	2.3	9.6	6.7	3 silty CLAY to CLAY	115	1.5	24	27	-	-	2.5	9.9	45	2.78	15	-	-
22.15	37.3	41.8	-	37.5	2.3	9.7	6.3	3 silty CLAY to CLAY	115	1.5	25	28	-	-	2.6	9.9	43	2.75	15	-	-
22.31	36.7	41	-	36.9	2.3	9.7	6.5	3 silty CLAY to CLAY	115	1.5	24	27	-	-	2.5	9.9	44	2.76	15	-	-
22.47	33.5	37.3	-	33.7	2.1	9.8	6.6	3 silty CLAY to CLAY	115	1.5	22	25	-	-	2.3	9.9	46	2.8	15	-	-
22.64	29.8	32.9	-	30	2	9.8	6.9	3 silty CLAY to CLAY	115	1.5	20	22	-	-	2	9.9	49	2.85	15	-	-
22.8	27.2	29.9	-	27.3	1.8	9.8	7	3 silty CLAY to CLAY	115	1.5	18	20	-	-	1.9	9.4	51	2.89	15	-	-
22.97	25	27.5	-	25.2	1.6	9.8	6.7	3 silty CLAY to CLAY	115	1.5	17	18	-	-	1.7	8.6	52	2.9	15	-	-
23.13	21.8	23.7	-	21.9	1.4	9.7	6.7	3 silty CLAY to CLAY	115	1.5	15	16	-	-	1.5	7.4	55	2.95	15	-	-
23.3	20.3	22.1	-	20.5	1.1	9.8	5.8	3 silty CLAY to CLAY	115	1.5	14	15	-	-	1.4	6.8	54	2.93	15	-	-
23.46	18.5	20	-	18.7	0.9	9.8	5.5	3 silty CLAY to CLAY	115	1.5	12	13	-	-	1.2	6.1	55	2.95	15	-	-
23.62	17.4	18.7	-	17.6	0.9	9.9	5.7	3 silty CLAY to CLAY	115	1.5	12	12	-	-	1.2	5.7	57	2.98	15	-	-
23.79	18.4	19.7	-	18.6	0.8	9.9	4.8	3 silty CLAY to CLAY	115	1.5	12	13	-	-	1.2	6	53	2.92	15	-	-
23.95	18.8	20	-	19	0.9	9.9	5.4	3 silty CLAY to CLAY	115	1.5	13	13	-	-	1.3	6.1	55	2.94	15	-	-
24.12	21.1	22.3	-	21.3	1	10	5.2	3 silty CLAY to CLAY	115	1.5	14	15	-	-	1.4	6.9	51	2.89	15	-	-
24.28	23.9	25.3	-	24.1	1.2	10	5.3	3 silty CLAY to CLAY	115	1.5	16	17	-	-	1.6	7.9	49	2.86	15	-	-
24.44	28.4	29.9	-	28.6	1.4	10.2	5.2	3 silty CLAY to CLAY	115	1.5	19	20	-	-	1.9	9.4	46	2.79	15	-	-
24.61	26.8	28.1	-	27	1.6	10.2	6.2	3 silty CLAY to CLAY	115	1.5	18	19	-	-	1.8	8.8	50	2.87	15	-	-
24.77	27.7	28.9	-	27.9	1.3	10.2	5.1	3 silty CLAY to CLAY	115	1.5	18	19	-	-	1.9	9	46	2.8	15	-	-
24.94	24.9	25.9	-	25.1	1	10.3	4.4	3 silty CLAY to CLAY	115	1.5	17	17	-	-	1.7	8	46	2.8	15	-	-
25.1	22.9	23.7	-	23.1	0.8	10.3	3.7	4 clayy SILT to silty CLAY	115	2	11	12	-	-	1.6	7.3	45	2.78	15	-	-
25.26	19.9	20.4	-	20.1	0.7	10.6	4	3 silty CLAY to CLAY	115	1.5	13	14	-	-	1.3	6.3	49	2.85	15	-	-
25.43	20.8	21.3	-	21	0.7	10.7	3.7	3 silty CLAY to CLAY	115	1.5	14	14	-	-	1.4	6.5	47	2.81	15	-	-

25.59	21.2	21.6	-	21.4	0.8	10.8	3.9	3 silty CLAY to CLAY	115	1.5	14	14	-	-	1.4	6.6	47	2.82	15	-	-
25.76	21.7	22	-	21.9	0.8	10.9	4	3 silty CLAY to CLAY	115	1.5	14	15	-	-	1.5	6.8	47	2.83	15	-	-
25.92	22.5	22.8	-	22.7	1	11	4.5	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.5	7	49	2.85	15	-	-
26.08	23.5	23.7	-	23.8	1.2	11.1	5.3	3 silty CLAY to CLAY	115	1.5	16	16	-	-	1.6	7.3	51	2.88	15	-	-
26.25	24.2	24.3	-	24.5	1.1	11.1	5	3 silty CLAY to CLAY	115	1.5	16	16	-	-	1.6	7.5	49	2.86	15	-	-
26.41	23.1	23	-	23.3	1.1	11.1	5.3	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.6	7.1	51	2.89	15	-	-
26.58	23.3	23.1	-	23.5	1.2	11.2	5.4	3 silty CLAY to CLAY	115	1.5	16	15	-	-	1.6	7.1	52	2.89	15	-	-
26.74	22	21.8	-	22.2	1.1	11.3	5.5	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.5	6.7	53	2.92	15	-	-
26.9	20.2	19.9	-	20.5	0.9	11.4	4.9	3 silty CLAY to CLAY	115	1.5	13	13	-	-	1.4	6.1	53	2.92	15	-	-
27.07	17.8	17.4	-	18	0.8	11.4	4.9	3 silty CLAY to CLAY	115	1.5	12	12	-	-	1.2	5.2	56	2.97	15	-	-
27.23	16.7	16.3	-	16.9	0.8	11.5	5.4	3 silty CLAY to CLAY	115	1.5	11	11	-	-	1.1	4.9	59	3.01	15	-	-
27.4	17.7	17.2	-	18	0.7	11.6	4.5	3 silty CLAY to CLAY	115	1.5	12	11	-	-	1.2	5.2	55	2.95	15	-	-
27.56	16.6	16	-	16.8	0.6	11.6	4.2	3 silty CLAY to CLAY	115	1.5	11	11	-	-	1.1	4.8	55	2.95	15	-	-
27.72	13.9	13.4	-	14.2	0.5	11.7	3.9	3 silty CLAY to CLAY	115	1.5	9	9	-	-	0.9	3.9	59	3	15	-	-
27.89	11.8	11.4	-	12.1	0.6	11.8	6.3	3 silty CLAY to CLAY	115	1.5	8	8	-	-	0.8	3.2	73	3.19	15	-	-
28.05	13.3	12.7	-	13.5	0.8	11.9	7	3 silty CLAY to CLAY	115	1.5	9	8	-	-	0.9	3.7	72	3.18	15	-	-
28.22	22.5	21.4	-	22.7	1.3	12.2	6	3 silty CLAY to CLAY	115	1.5	15	14	-	-	1.5	6.5	55	2.95	15	-	-
28.38	27	25.6	-	27.2	1.6	12.3	6.4	3 silty CLAY to CLAY	115	1.5	18	17	-	-	1.8	7.9	53	2.91	15	-	-
28.54	25.8	24.3	-	26	1.3	12.3	5.3	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.7	7.5	50	2.87	15	-	-
28.71	21.9	20.6	-	22.2	1.3	12.6	6.3	3 silty CLAY to CLAY	115	1.5	15	14	-	-	1.5	6.3	57	2.98	15	-	-
28.87	29.6	27.7	-	29.9	1.7	12.8	6.2	3 silty CLAY to CLAY	115	1.5	20	18	-	-	2	8.6	50	2.87	15	-	-
29.04	42.9	40	-	43.1	1.7	12.7	4.1	4 clayy SILT to silty CLAY	115	2	21	20	-	-	3	9.9	37	2.63	15	-	-
29.2	31.1	28.9	-	31.3	1.6	12.9	5.4	3 silty CLAY to CLAY	115	1.5	21	19	-	-	2.1	9	47	2.82	15	-	-
29.36	29.8	27.6	-	30.1	1.5	13.2	5.4	3 silty CLAY to CLAY	115	1.5	20	18	-	-	2	8.6	48	2.84	15	-	-
29.53	27.8	25.7	-	28.1	1.5	13.3	5.6	3 silty CLAY to CLAY	115	1.5	19	17	-	-	1.9	7.9	50	2.87	15	-	-
29.69	26.1	24	-	26.4	1.5	13.4	6	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.8	7.4	53	2.91	15	-	-
29.86	25.7	23.5	-	25.9	1.5	13.5	6.1	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.7	7.2	54	2.93	15	-	-
30.02	24.7	22.5	-	24.9	1.4	13.6	6.1	3 silty CLAY to CLAY	115	1.5	16	15	-	-	1.7	6.9	55	2.94	15	-	-
30.19	23.1	20.9	-	23.4	1.2	13.7	5.8	3 silty CLAY to CLAY	115	1.5	15	14	-	-	1.6	6.4	55	2.95	15	-	-
30.35	21.9	19.8	-	22.2	0.9	13.7	4.6	3 silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	6	52	2.9	15	-	-
30.51	20.9	18.8	-	21.2	0.9	13.8	4.6	3 silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	5.7	53	2.92	15	-	-
30.68	18.8	16.9	-	19.1	0.7	13.9	4.2	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	5	54	2.94	15	-	-
30.84	21.5	19.2	-	21.8	0.8	14.1	4.2	3 silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	5.8	51	2.89	15	-	-
31.01	24.9	22.1	-	25.2	1.1	14.2	4.7	3 silty CLAY to CLAY	115	1.5	17	15	-	-	1.7	6.8	50	2.87	15	-	-
31.17	31.4	27.8	-	31.7	1.6	14.3	5.2	3 silty CLAY to CLAY	115	1.5	21	19	-	-	2.1	8.7	47	2.82	15	-	-
31.33	27.7	24.5	-	28	1.8	14.4	7.1	3 silty CLAY to CLAY	115	1.5	18	16	-	-	1.9	7.5	56	2.96	15	-	-
31.5	33	29	-	33.3	1.9	14.5	6.2	3 silty CLAY to CLAY	115	1.5	22	19	-	-	2.3	9.1	49	2.86	15	-	-
31.66	33.4	29.3	-	33.7	1.9	14.7	6.2	3 silty CLAY to CLAY	115	1.5	22	20	-	-	2.3	9.1	49	2.85	15	-	-
31.83	33.9	29.6	-	34.2	1.9	14.8	6	3 silty CLAY to CLAY	115	1.5	23	20	-	-	2.3	9.2	48	2.84	15	-	-
31.99	34.3	29.8	-	34.6	2	15	6.1	3 silty CLAY to CLAY	115	1.5	23	20	-	-	2.3	9.3	49	2.85	15	-	-
32.15	33	28.6	-	33.3	1.9	15.1	6.1	3 silty CLAY to CLAY	115	1.5	22	19	-	-	2.2	8.9	49	2.86	15	-	-
32.32	30.3	26.2	-	30.6	1.6	15.2	5.8	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2.1	8.1	50	2.87	15	-	-
32.48	30.5	26.2	-	30.8	1.6	15.3	5.8	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2.1	8.1	50	2.87	15	-	-
32.65	31.3	26.8	-	31.6	1.6	15.3	5.4	3 silty CLAY to CLAY	115	1.5	21	18	-	-	2.1	8.3	49	2.85	15	-	-
32.81	30.2	25.7	-	30.5	1.5	15.5	5.5	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2	8	50	2.86	15	-	-
32.97	30	25.5	-	30.3	1.3	15.6	4.7	3 silty CLAY to CLAY	115	1.5	20	17	-	-	2	7.9	47	2.82	15	-	-
33.14	28.7	24.3	-	29	1.3	15.8	4.9	3 silty CLAY to CLAY	115	1.5	19	16	-	-	1.9	7.5	49	2.85	15	-	-
33.3	29.2	24.6	-	29.5	1.3	15.9	4.8	3 silty CLAY to CLAY	115	1.5	19	16	-	-	2	7.6	48	2.84	15	-	-
33.47	32.2	27.1	-	32.6	1.4	16.1	4.7	3 silty CLAY to CLAY	115	1.5	21	18	-	-	2.2	8.4	46	2.8	15	-	-
33.63	39.7	33.3	-	40	1.7	16.2	4.5	3 silty CLAY to CLAY	115	1.5	26	22	-	-	2.7	9.9	41	2.72	15	-	-
33.79	31.8	26.5	-	32.1	2	16	6.7	3 silty CLAY to CLAY	115	1.5	21	18	-	-	2.2	8.2	53	2.91	15	-	-
33.96	36.2	30.2	-	36.5	2	16.1	5.7	3 silty CLAY to CLAY	115	1.5	24	20	-	-	2.5	9.4	47	2.82	15	-	-
34.12	38.5	31.9	-	38.8	2.1	15.5	5.6	3 silty CLAY to CLAY	115	1.5	26	21	-	-	2.6	9.9	46	2.8	15	-	-
34.29	30.9	25.5	-	31.2	1.3	13.7	4.6	3 silty CLAY to CLAY	115	1.5	21	17	-	-	2.1	7.9	47	2.81	15	-	-
34.45	22	18.1	-	22.2	1.6	13.9	8.2	3 silty CLAY to CLAY	115	1.5	15	12	-	-	1.5	5.4	66	3.1	15	-	-
34.61	37	30.4	-	37.3	1.8	14.3	5	3 silty CLAY to CLAY	115	1.5	25	20	-	-	2.5	9.5	45	2.78	15	-	-
34.78	23.2	18.9	-	23.4	1.2	13.9	5.5	3 silty CLAY to CLAY	115	1.5	15	13	-	-	1.6	5.7	56	2.97	15	-	-
34.94	23.2	18.9	-	23.5	0.9	14.3	4.5	3 silty CLAY to CLAY	115	1.5	15	13	-	-	1.6	5.7	53	2.91	15	-	-
35.11	24.8	20.1	-	25	0.9	14.5	4.1	3 silty CLAY to CLAY	115	1.5	17	13	-	-	1.7	6.1	50	2.87	15	-	-
35.27	24.4	19.7	-	24.7	1	14.8	4.6	3 silty CLAY to CLAY	115	1.5	16	13	-	-	1.6	6	52	2.9	15	-	-
35.43	23.7	19.1	-	24	1.1	14.8	5.1	3 silty CLAY to CLAY	115	1.5	16	13	-	-	1.6	5.8	55	2.95	15	-	-
35.6	20.7	16.6	-	21	1	14.9	5.4	3 silty CLAY to CLAY	115	1.5	14	11	-	-	1.4	4.9	59	3.01	15	-	-
35.76	17.8	14.3	-	18.1	0.8	15	5.2	3 silty CLAY to CLAY	115	1.5	12	10	-	-	1.2	4.2	63	3.06	15	-	-
35.93	16.3	13	-	16.6	0.7	15.1	5	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1.1	3.8	64	3.08	15	-	-
36.09	14.8	11.7	-	15.1	0.6	15.1	4.6	3 silty CLAY to CLAY	115	1.5	10	8	-	-	1	3.3	66	3.1	15	-	-
36.26	13.6	10.8	-	13.9	0.5	15.2	4.6	3 silty CLAY to CLAY	115	1.5	9	7	-	-	0.9	3	68	3.14	15	-	-
36.42	12.9	10.2	-	13.2	0.5	15.2	4.2	3 silty CLAY to CLAY	115	1.5	9	7	-	-	0.8	2.8	68	3.13	15	-	-
36.58	12.3	9.6	-	12.6	0.4	15.3	4.1	3 silty CLAY to CLAY	115	1.5	8	6	-	-	0.8	2.6	70	3.16	15	-	-
36.75	12.4	9.8	-	12.7	0.4	15.4	4	3 silty CLAY to CLAY	115	1.5	8	7	-	-	0.8	2.7	69	3.14	15	-	-
36.91	11.6	9.1	-	11.9	0.4	15.5	3.9	3 silty CLAY to CLAY	115	1.5	8	6	-	-	0.7	2.4	71	3.17	15	-	-
37.08	11.6	9	-	11.9	0.4	15.6	3.7	3 silty CLAY to CLAY	115	1.5	8	6	-	-	0.7	2.4	70	3.16	15	-	-
37.24	14.4	11.2	-	14.7	0.5	15.8	4.2	3 silty CLAY to CLAY	115	1.5	10	7	-	-	0.9	3.1	66	3.1	15	-	-
37.4	23.1	17.9	-	23.5	0.9	16	4.4	3 silty CLAY to CLAY	115	1.5	15	12	-	-	1.5	5.4	54	2.93	15	-	-
37.57	27.7	21.4	-	28	1.5	16.2	5.7	3 silty CLAY to CLAY	115	1.5	18	14	-	-	1.9	6.5	55	2.94	15	-	-
37.73	30.6	23.5	-	30.9	1.6	16.3	5.8	3 silty CLAY to CLAY	115	1.5	20	16	-	-	2.1	7.2	53	2.91	15	-	-
37.9	29	22.2	-	29.3	1.6	16.4	6	3 silty CLAY to CLAY	115	1.5	19	15	-	-	2	6.8	55	2.94	15	-	-
38.06	26.8	20.5	-	27.1	1.4	16.7	5.8	3 silty CLAY to CLAY	115	1.5	18	14	-	-	1.8	6.2	56	2.96	15	-	-
38.22	24	18.3	-	24.3	1.3	16.8	5.7	3 silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.5	58	3	15	-	-
38.39	22.2	16.9	-	22.5	1.1	16.9	5.3	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5	59	3	15	-	-
38.55	22.8	17.2	-	23.1	0.9	17.1	4.5	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5.1	55	2.95	15	-	-
38.72	21.3	16.1	-	21.6	0.8	17.2	4.2	3 silty CLAY to CLAY	115	1.5	14	11	-	-	1.4	4.7	56	2.96	15	-	-
38.88	20.4	15.3	-	20.7	0.8	17.4	4.4	3 silty CLAY to CLAY	115	1.5	14	10	-	-	1.3	4.5	58	2.99	15	-	-
39.04	20.7	15.5	-	21.1	0.9	17.6	4.6	3 silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.6	58	3	15	-	-

39.21	19.7	14.7	-	20.1	0.8	17.7	4.8	3	silty CLAY to CLAY	115	1.5	13	10	-	-	1.3	4.3	60	3.02	15	-	-
39.37	19.9	14.8	-	20.2	0.9	17.8	4.9	3	silty CLAY to CLAY	115	1.5	13	10	-	-	1.3	4.3	61	3.03	15	-	-
39.54	21.2	15.7	-	21.6	1	17.9	5.2	3	silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.6	60	3.02	15	-	-
39.7	23	17	-	23.4	1.2	18	5.7	3	silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5.1	60	3.02	15	-	-
39.86	24.4	17.9	-	24.7	1.2	18.1	5.6	3	silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.4	58	2.99	15	-	-
40.03	25.9	19	-	26.2	1.3	18.2	5.4	3	silty CLAY to CLAY	115	1.5	17	13	-	-	1.7	5.7	56	2.97	15	-	-
40.19	29	21.2	-	29.3	1.3	18.4	4.9	3	silty CLAY to CLAY	115	1.5	19	14	-	-	2	6.4	52	2.9	15	-	-
40.36	31.9	23.3	-	32.3	1.5	18.6	5.2	3	silty CLAY to CLAY	115	1.5	21	16	-	-	2.2	7.1	51	2.88	15	-	-
40.52	30.9	22.5	-	31.2	1.8	18.5	6.3	3	silty CLAY to CLAY	115	1.5	21	15	-	-	2.1	6.9	55	2.95	15	-	-
40.68	34.1	24.8	-	34.5	1.7	18.6	5.4	3	silty CLAY to CLAY	115	1.5	23	17	-	-	2.3	7.6	50	2.87	15	-	-
40.85	30.8	22.3	-	31.2	1.9	18.6	6.6	3	silty CLAY to CLAY	115	1.5	21	15	-	-	2.1	6.8	56	2.97	15	-	-
41.01	34.6	24.9	-	35	2.2	19	6.9	3	silty CLAY to CLAY	115	1.5	23	17	-	-	2.3	7.7	55	2.94	15	-	-
41.18	49.3	35.5	-	49.7	2.2	18.4	4.8	3	silty CLAY to CLAY	115	1.5	33	24	-	-	3.4	9.9	41	2.72	15	-	-
41.34	29.2	20.9	-	29.5	1.9	16.8	6.9	3	silty CLAY to CLAY	115	1.5	19	14	-	-	2	6.3	59	3	15	-	-
41.5	25.4	18.2	-	25.8	1.5	17.2	6.3	3	silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.4	60	3.03	15	-	-
41.67	27.2	19.4	-	27.6	1	17.4	4.1	3	silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.8	51	2.88	15	-	-
41.83	26.6	18.9	-	26.9	1	17.8	4.3	3	silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	52	2.91	15	-	-
42	23.9	16.9	-	24.3	1.4	18.1	6.5	3	silty CLAY to CLAY	115	1.5	16	11	-	-	1.6	5	63	3.06	15	-	-
42.16	35.4	24.9	-	35.7	1.7	18.4	5	3	silty CLAY to CLAY	115	1.5	24	17	-	-	2.4	7.7	49	2.85	15	-	-
42.32	38.2	26.9	-	38.5	1.8	18.5	4.9	3	silty CLAY to CLAY	115	1.5	25	18	-	-	2.6	8.3	47	2.82	15	-	-
42.49	42.2	29.6	-	42.6	1.6	18.4	4.1	4	clayy SILT to silty CLAY	115	2	21	15	-	-	2.9	9.2	42	2.73	15	-	-
42.65	26.4	18.5	-	26.7	1.1	17.1	4.5	3	silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.5	53	2.92	15	-	-
42.82	23.2	16.2	-	23.6	0.9	17.7	4.2	3	silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	4.8	56	2.96	15	-	-
42.98	35.9	24.9	-	36.2	1.5	18.3	4.5	3	silty CLAY to CLAY	115	1.5	24	17	-	-	2.4	7.7	47	2.82	15	-	-
43.15	38.6	26.7	-	38.9	1.9	18.9	5.3	3	silty CLAY to CLAY	115	1.5	26	18	-	-	2.6	8.3	48	2.84	15	-	-
43.31	36.3	25.1	-	36.7	1.8	19.3	5.2	3	silty CLAY to CLAY	115	1.5	24	17	-	-	2.5	7.7	49	2.86	15	-	-
43.47	35.5	24.4	-	35.9	1.5	19.6	4.5	3	silty CLAY to CLAY	115	1.5	24	16	-	-	2.4	7.5	48	2.83	15	-	-
43.64	33.1	22.7	-	33.5	1.3	19.8	4.3	3	silty CLAY to CLAY	115	1.5	22	15	-	-	2.2	6.9	48	2.84	15	-	-
43.8	34.8	23.8	-	35.2	1.4	20.1	4.5	3	silty CLAY to CLAY	115	1.5	23	16	-	-	2.4	7.3	48	2.83	15	-	-
43.97	39	26.6	-	39.4	1.6	20.2	4.3	3	silty CLAY to CLAY	115	1.5	26	18	-	-	2.7	8.2	45	2.78	15	-	-
44.13	34.9	23.8	-	35.3	1.9	20.3	5.7	3	silty CLAY to CLAY	115	1.5	23	16	-	-	2.4	7.3	52	2.9	15	-	-
44.29	30.7	20.8	-	31.1	1.6	20.3	5.6	3	silty CLAY to CLAY	115	1.5	20	14	-	-	2.1	6.3	55	2.94	15	-	-
44.46	25.2	17	-	25.6	1.2	20.5	5.5	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.7	5.1	59	3.01	15	-	-
44.62	23.1	15.6	-	23.5	0.9	21.4	4.3	3	silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.6	57	2.98	15	-	-
44.79	20.9	14.1	-	21.4	0.7	21.6	3.8	3	silty CLAY to CLAY	115	1.5	14	9	-	-	1.4	4.1	57	2.98	15	-	-
44.95	22.4	15	-	22.8	0.6	22	3.1	3	silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.4	52	2.9	15	-	-
45.11	22.6	15.1	-	23	0.7	22.4	3.6	3	silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.4	54	2.94	15	-	-
45.28	25.2	16.8	-	25.7	0.7	22.7	3.1	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.7	5	50	2.86	15	-	-
45.44	27.8	18.5	-	28.2	0.9	23	3.4	3	silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.5	49	2.85	15	-	-
45.61	29.8	19.8	-	30.3	1	23.3	3.8	3	silty CLAY to CLAY	115	1.5	20	13	-	-	2	6	49	2.85	15	-	-
45.77	30.9	20.5	-	31.4	1.2	23.6	4.2	3	silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.2	50	2.87	15	-	-
45.93	32.7	21.5	-	33.1	1.3	23.9	4.4	3	silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.5	50	2.86	15	-	-
46.1	32.9	21.7	-	33.4	1.5	24	5.1	3	silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.6	52	2.9	15	-	-
46.26	35	23	-	35.5	1.8	24.3	5.4	3	silty CLAY to CLAY	115	1.5	23	15	-	-	2.4	7	52	2.9	15	-	-
46.43	36.9	24.2	-	37.4	1.9	24.4	5.6	3	silty CLAY to CLAY	115	1.5	25	16	-	-	2.5	7.4	52	2.89	15	-	-
46.59	34.9	22.7	-	35.4	1.8	24.6	5.5	3	silty CLAY to CLAY	115	1.5	23	15	-	-	2.4	6.9	53	2.91	15	-	-
46.75	32	20.8	-	32.4	1.8	24.7	6	3	silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.3	56	2.97	15	-	-
46.92	28.7	18.6	-	29.2	1.3	24.8	5.1	3	silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.6	56	2.96	15	-	-
47.08	25.7	16.6	-	26.2	1.1	25	4.8	3	silty CLAY to CLAY	115	1.5	17	11	-	-	1.7	4.9	57	2.98	15	-	-
47.25	23.4	15.1	-	23.9	1	25.2	4.7	3	silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.4	59	3.01	15	-	-
47.41	23.4	15	-	23.9	0.9	25.4	4.4	3	silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.4	58	2.99	15	-	-
47.57	23.3	14.9	-	23.8	1	25.6	4.7	3	silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.4	59	3.01	15	-	-
47.74	26.3	16.8	-	26.9	0.9	26.3	3.9	3	silty CLAY to CLAY	115	1.5	18	11	-	-	1.8	5	53	2.92	15	-	-
47.9	27.3	17.4	-	27.8	0.8	26.5	3.2	3	silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.2	49	2.85	15	-	-
48.07	28.3	18	-	28.8	0.8	26.9	3.1	3	silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.4	48	2.83	15	-	-
48.23	33	21	-	33.6	0.8	27.3	2.7	4	clayy SILT to silty CLAY	115	2	17	10	-	-	2.2	6.3	43	2.74	15	-	-
48.39	35.1	22.2	-	35.7	1.1	27.8	3.4	4	clayy SILT to silty CLAY	115	2	18	11	-	-	2.4	6.8	45	2.78	15	-	-
48.56	36.7	23.1	-	37.2	1.3	28.3	3.7	3	silty CLAY to CLAY	115	1.5	24	15	-	-	2.5	7.1	45	2.79	15	-	-
48.72	37.5	23.6	-	38	1.4	28.6	3.9	3	silty CLAY to CLAY	115	1.5	25	16	-	-	2.5	7.2	46	2.8	15	-	-
48.89	36.5	22.9	-	37.1	1.5	28.9	4.4	3	silty CLAY to CLAY	115	1.5	24	15	-	-	2.5	7	48	2.84	15	-	-
49.05	37.6	23.5	-	38.2	1.6	29.2	4.6	3	silty CLAY to CLAY	115	1.5	25	16	-	-	2.5	7.2	49	2.84	15	-	-
49.22	38.6	24.1	-	39.2	1.8	29.5	5	3	silty CLAY to CLAY	115	1.5	26	16	-	-	2.6	7.4	50	2.86	15	-	-
49.38	39.5	24.6	-	40.1	1.9	29.8	5.1	3	silty CLAY to CLAY	115	1.5	26	16	-	-	2.7	7.5	50	2.86	15	-	-
49.54	38.7	24	-	39.3	1.8	30	5	3	silty CLAY to CLAY	115	1.5	26	16	-	-	2.6	7.3	50	2.86	15	-	-
49.71	37.7	23.3	-	38.3	1.8	30.2	5.3	3	silty CLAY to CLAY	115	1.5	25	16	-	-	2.6	7.1	51	2.89	15	-	-
49.87	37.1	22.9	-	37.7	1.9	30.3	5.6	3	silty CLAY to CLAY	115	1.5	25	15	-	-	2.5	7	53	2.91	15	-	-
50.04	34.7	21.4	-	35.3	1.8	30.3	5.6	3	silty CLAY to CLAY	115	1.5	23	14	-	-	2.3	6.5	54	2.94	15	-	-
50.2	30.1	18.5	-	30.7	1.9	30.4	7	3	silty CLAY to CLAY	115	1.5	20	12	-	-	2	5.5	62	3.05	15	-	-

* Indicates the parameter was calculated using the normalized point stresses.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Middle Earth Geo Testing

UPRR Property

Project ID: Cornerstone Earthp
Data File: SDF (459).c
CPT Date: 6/12/2014 1:07:53 PM
GW During Test: 10 ft

Project: Sounding ID: C 1-CPT5
CPT No: P2 14 0.676
Con e/Rig: DD G1281

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	qt PS tsf	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Mat Typ Zon	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N 60%	SPT R-N1 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	OCR - -	Fin Ic %	Ic SBT Indx	Nk - -	Vol Strn %	Cycl SStn %
0.33	1.1	-0.1	-	1.1	0	0.1	0.1	1	sensitive fine SOIL	115	2	1	1	-	-	0.1	9.9	95	3.48	15	N/A	N/A
0.49	1.1	0	-	1.1	0.4	0.1	0.1	1	sensitive fine SOIL	115	2	1	1	-	-	0.1	9.9	95	3.48	15	N/A	N/A
0.66	118.2	189.6	198.8	118.2	1.2	-0.3	1	6	clean SAND to silty SAND	125	5	24	38	88	48	-	-	6	1.72	16	N/A	N/A
0.82	187.7	301	301	187.7	1.4	-0.4	0.7	6	clean SAND to silty SAND	125	5	38	60	95	48	-	-	5	1.48	16	N/A	N/A
0.98	154.8	248.2	248.2	154.7	1.3	-0.5	0.8	6	clean SAND to silty SAND	125	5	31	50	95	48	-	-	5	1.57	16	N/A	N/A
1.15	119.1	191	191	119.1	0.8	-0.1	0.7	6	clean SAND to silty SAND	125	5	24	38	88	48	-	-	5	1.6	16	N/A	N/A
1.31	88.1	141.3	148.5	88.1	0.7	0	0.8	6	clean SAND to silty SAND	125	5	18	28	78	48	-	-	7	1.72	16	N/A	N/A
1.48	40.6	65.2	134	40.7	1.1	0.3	2.6	5	silty SAND to sandy SILT	120	4	10	16	53	48	-	-	24	2.33	16	N/A	N/A
1.64	21.1	33.8	-	21.1	1	0.2	4.6	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	41	2.71	15	N/A	N/A
1.8	14.1	22.6	-	14.1	0.9	0.4	6.3	3	silty CLAY to CLAY	115	1.5	9	15	-	-	1	9.9	54	2.92	15	N/A	N/A
1.97	12.2	19.5	-	12.2	0.8	0.4	6.8	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.9	9.9	58	3	15	N/A	N/A
2.13	15.2	24.3	-	15.2	0.9	0.5	5.8	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1.1	9.9	51	2.88	15	N/A	N/A
2.3	16.2	26.1	-	16.3	1	0.5	6	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	9.9	50	2.87	15	N/A	N/A
2.46	17.1	27.4	-	17.1	1	0.6	5.8	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.2	9.9	49	2.84	15	N/A	N/A
2.62	18.3	29.3	-	18.3	1	0.6	5.5	3	silty CLAY to CLAY	115	1.5	12	20	-	-	1.3	9.9	46	2.81	15	N/A	N/A
2.79	18.6	29.8	-	18.6	1	0.5	5.2	3	silty CLAY to CLAY	115	1.5	12	20	-	-	1.3	9.9	45	2.78	15	N/A	N/A
2.95	18	28.9	-	18	0.9	0.5	5.2	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.3	9.9	46	2.79	15	N/A	N/A
3.12	18.3	29.4	-	18.3	0.9	0.5	5.2	3	silty CLAY to CLAY	115	1.5	12	20	-	-	1.3	9.9	45	2.79	15	N/A	N/A
3.28	17.4	27.9	-	17.4	0.9	0.4	5.2	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	46	2.8	15	N/A	N/A
3.45	16	25.6	-	16	0.9	0.3	5.5	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	9.9	49	2.85	15	N/A	N/A
3.61	17.1	27.5	-	17.2	0.8	0.2	4.9	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.2	9.9	46	2.79	15	N/A	N/A
3.77	17.5	28.1	-	17.5	0.9	0.2	5	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	45	2.79	15	N/A	N/A
3.94	19.1	30.6	-	19.1	0.9	-0.4	4.6	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.9	42	2.74	15	N/A	N/A
4.1	18.9	30.3	-	18.9	0.8	-0.5	4.5	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.9	43	2.74	15	N/A	N/A
4.27	21.9	35.1	-	21.9	1	-0.5	4.5	4	clayy SILT to silty CLAY	115	2	11	18	-	-	1.5	9.9	40	2.69	15	N/A	N/A
4.43	22.5	36.1	-	22.5	1	-0.6	4.7	3	silty CLAY to CLAY	115	1.5	15	24	-	-	1.6	9.9	40	2.69	15	N/A	N/A
4.59	23.1	37	-	23.1	1.1	-0.6	5	3	silty CLAY to CLAY	115	1.5	15	25	-	-	1.6	9.9	41	2.71	15	N/A	N/A
4.76	25	40.1	-	25	1.3	-0.7	5.2	3	silty CLAY to CLAY	115	1.5	17	27	-	-	1.7	9.9	40	2.69	15	N/A	N/A
4.92	22.9	36.8	-	22.9	1.3	-1	5.7	3	silty CLAY to CLAY	115	1.5	15	25	-	-	1.6	9.9	43	2.75	15	N/A	N/A
5.09	21.6	34.7	-	21.6	1.1	-0.9	5.2	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	42	2.74	15	N/A	N/A
5.25	21.2	33.9	-	21.1	1.1	-0.8	5.2	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	43	2.74	15	N/A	N/A
5.41	21.5	34.5	-	21.5	1.2	-0.8	5.5	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	44	2.76	15	N/A	N/A
5.58	19.7	31.5	-	19.6	1.2	-0.8	6.1	3	silty CLAY to CLAY	115	1.5	13	21	-	-	1.4	9.9	47	2.82	15	N/A	N/A
5.74	18	28.9	-	18	1	-0.7	5.8	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	48	2.83	15	N/A	N/A
5.91	17.4	27.9	-	17.4	1	-0.7	5.6	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	48	2.83	15	N/A	N/A
6.07	16.5	26.5	-	16.5	0.9	-0.7	5.7	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.1	9.9	49	2.85	15	N/A	N/A
6.23	15.5	24.9	-	15.5	0.9	-0.6	5.8	3	silty CLAY to CLAY	115	1.5	10	17	-	-	1.1	9.9	51	2.88	15	N/A	N/A
6.4	14.2	22.8	-	14.2	0.8	-0.6	5.6	3	silty CLAY to CLAY	115	1.5	9	15	-	-	1	9.9	52	2.89	15	N/A	N/A
6.56	13.6	21.8	-	13.6	0.7	-0.6	5.3	3	silty CLAY to CLAY	115	1.5	9	15	-	-	0.9	9.9	52	2.89	15	N/A	N/A
6.73	13.6	21.7	-	13.5	0.6	-0.6	4.9	3	silty CLAY to CLAY	115	1.5	9	14	-	-	0.9	9.9	50	2.87	15	N/A	N/A
6.89	12.2	19.6	-	12.2	0.6	-0.5	4.7	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	9.7	52	2.9	15	N/A	N/A
7.05	10.5	16.9	-	10.5	0.5	-0.5	4.8	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	8.1	56	2.96	15	N/A	N/A
7.22	9.7	15.5	-	9.6	0.5	-0.5	4.9	3	silty CLAY to CLAY	115	1.5	6	10	-	-	0.7	7.3	58	2.99	15	N/A	N/A
7.38	8.7	14	-	8.7	0.4	-0.5	5	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	6.4	61	3.03	15	N/A	N/A
7.55	8.3	13.3	-	8.3	0.4	-0.5	5.2	3	silty CLAY to CLAY	115	1.5	6	9	-	-	0.6	5.9	63	3.06	15	N/A	N/A
7.71	9.6	15.5	-	9.6	0.5	-0.4	5.4	3	silty CLAY to CLAY	115	1.5	6	10	-	-	0.6	6.8	60	3.02	15	N/A	N/A
7.87	14.4	23.1	-	14.4	0.5	-0.4	3.5	4	clayy SILT to silty CLAY	115	2	7	12	-	-	1	9.9	44	2.76	15	N/A	N/A
8.04	21.3	34.2	-	21.3	0.8	-0.4	3.9	4	clayy SILT to silty CLAY	115	2	11	17	-	-	1.5	9.9	38	2.66	15	N/A	N/A
8.2	22.8	36.5	-	22.7	0.9	-0.2	4.3	4	clayy SILT to silty CLAY	115	2	11	18	-	-	1.6	9.9	39	2.66	15	N/A	N/A
8.37	18.9	30.2	-	18.9	0.9	-0.2	5.1	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.9	45	2.78	15	N/A	N/A
8.53	19.9	31.9	-	19.9	0.9	-0.1	4.5	3	silty CLAY to CLAY	115	1.5	13	21	-	-	1.4	9.9	42	2.72	15	N/A	N/A
8.69	19	30.4	-	19	0.7	0	3.6	4	clayy SILT to silty CLAY	115	2	9	15	-	-	1.3	9.9	39	2.67	15	N/A	N/A
8.86	12.9	20.8	-	12.9	0.4	0.1	3.5	4	clayy SILT to silty CLAY	115	2	6	10	-	-	0.9	8	46	2.8	15	N/A	N/A
9.02	11.1	17.9	-	11.2	0.3	0.2	3.2	3	silty CLAY to CLAY	115	1.5	7	12	-	-	0.8	6.7	47	2.82	15	N/A	N/A
9.19	10.2	16.4	-	10.2	0.3	0.2	3.4	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	6	51	2.88	15	N/A	N/A
9.35	12.7	20.3	-	12.7	0.4	0.3	3.3	4	clayy SILT to silty CLAY	115	2	6	10	-	-	0.9	7.4	45	2.79	15	N/A	N/A
9.51	14.7	23.6	-	14.7	0.6	0.3	4.2	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	8.5	46	2.8	15	N/A	N/A
9.68	16.6	26.6	-	16.6	0.8	0.4	5	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.1	9.4	47	2.81	15	N/A	N/A
9.84	16.3	26.1	-	16.3	0.8	0.4	5	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	9.1	47	2.82	15	N/A	N/A
10.01	12.2	19.5	-	12.2	0.6	0.5	5.1	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	6.7	53	2.92	15	-	-
10.17	15.2	24.4	-	15.2	0.7	-1.4	4.9	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	8.3	48	2.84	15	-	-
10.34	19.7	31.6	-	19.6	1.4	-3.5	7.2	3	silty CLAY to CLAY	115	1.5	13	21	-	-	1.3	9.9	50	2.87	15	-	-
10.5	63	79.8	132.8	62.9	1.3	-3.7	2.1	5	silty SAND to sandy SILT	120	4	16	20	60	41	-	-	19	2.2	16	0.42	2
10.66	93.8	118.4	144.9	93.8	1.2	-3.9	1.3	6	clean SAND to silty SAND	125	5	19	24	73	43	-	-	11	1.94	16	0.2	1.4
10.83	63.1	79.2	134.9	63	1.4	-4	2.2	5	silty SAND to sandy SILT	120	4	16	20	59	41	-	-	19	2.21	16	0.38	1.9
10.99	32.9	46.1	149.8	32.8	1.4	-5.6	4.2	4	clayy SILT to silty CLAY	115	2	16	23	-	-	2.3	9.9	35	2.59	15	0.17	0.2
11.16	16	25.6	-	15.9	0.8	-5.5	5.1	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	8.3	48	2.83	15	-	-
11.32	9.4	15.2	-	9.3	0.5	-5.3	5.3	3	silty CLAY to CLAY	115	1.5	6	10	-	-	0.6	4.7	60	3.03	15	-	-
11.48	11	17.6	-	10.9	0.4	-5.2	4.3	3	silty CLAY to CLAY	115	1.5	7	12	-	-	0.7	5.5	53	2.92	15	-	-

11.65	12.7	20.3 -	12.6	0.6	-5.2	5.2	3 silty CLAY to CLAY	115	1.5	8	14 -	-	0.9	6.4	53	2.92	15 -	-
11.81	15.5	24.9 -	15.4	0.7	-5.2	4.8	3 silty CLAY to CLAY	115	1.5	10	17 -	-	1.1	7.8	48	2.83	15 -	-
11.98	16.2	25.8 -	16.1	0.8	-5.2	4.9	3 silty CLAY to CLAY	115	1.5	11	17 -	-	1.1	8.2	47	2.82	15 -	-
12.14	14.4	22.7 -	14.3	0.7	-5.1	4.9	3 silty CLAY to CLAY	115	1.5	10	15 -	-	1	7.1	50	2.86	15 -	-
12.3	13.6	21.4 -	13.5	0.6	-5.1	4.8	3 silty CLAY to CLAY	115	1.5	9	14 -	-	0.9	6.7	51	2.88	15 -	-
12.47	14.9	23.2 -	14.8	0.6	-5.1	4.5	3 silty CLAY to CLAY	115	1.5	10	15 -	-	1	7.3	48	2.83	15 -	-
12.63	16	24.8 -	15.9	0.8	-5.1	5.4	3 silty CLAY to CLAY	115	1.5	11	17 -	-	1.1	7.8	50	2.86	15 -	-
12.8	18.3	28.2 -	18.2	1	-5.1	5.8	3 silty CLAY to CLAY	115	1.5	12	19 -	-	1.2	8.9	49	2.84	15 -	-
12.96	21.3	32.5 -	21.2	1.2	-5.1	5.8	3 silty CLAY to CLAY	115	1.5	14	22 -	-	1.5	9.9	46	2.8	15 -	-
13.12	21.6	32.8 -	21.5	1.2	-5.1	6	3 silty CLAY to CLAY	115	1.5	14	22 -	-	1.5	9.9	46	2.81	15 -	-
13.29	21.2	32 -	21.1	1.2	-5.1	5.8	3 silty CLAY to CLAY	115	1.5	14	21 -	-	1.5	9.9	46	2.8	15 -	-
13.45	21	31.5 -	20.9	1.2	-5	6	3 silty CLAY to CLAY	115	1.5	14	21 -	-	1.4	9.9	47	2.82	15 -	-
13.62	19.8	29.5 -	19.7	1.1	-5	5.9	3 silty CLAY to CLAY	115	1.5	13	20 -	-	1.4	9.3	48	2.84	15 -	-
13.78	17.8	26.3 -	17.7	1	-4.9	5.8	3 silty CLAY to CLAY	115	1.5	12	18 -	-	1.2	8.3	50	2.86	15 -	-
13.94	18.1	26.6 -	18	1	-4.9	5.9	3 silty CLAY to CLAY	115	1.5	12	18 -	-	1.2	8.4	50	2.87	15 -	-
14.11	18.2	26.6 -	18.1	1	-4.9	5.7	3 silty CLAY to CLAY	115	1.5	12	18 -	-	1.2	8.4	49	2.86	15 -	-
14.27	16.8	24.4 -	16.7	0.9	-4.8	5.7	3 silty CLAY to CLAY	115	1.5	11	16 -	-	1.1	7.7	51	2.89	15 -	-
14.44	16.4	23.6 -	16.3	0.9	-4.8	6	3 silty CLAY to CLAY	115	1.5	11	16 -	-	1.1	7.4	53	2.91	15 -	-
14.6	19.6	28.1 -	19.5	0.9	-4.8	4.8	3 silty CLAY to CLAY	115	1.5	13	19 -	-	1.3	8.9	45	2.79	15 -	-
14.76	24	34.3 -	23.9	1.1	-4.8	4.9	3 silty CLAY to CLAY	115	1.5	16	23 -	-	1.6	9.9	42	2.73	15 -	-
14.93	25.5	36.1 -	25.4	1.2	-4.7	5	3 silty CLAY to CLAY	115	1.5	17	24 -	-	1.7	9.9	41	2.72	15 -	-
15.09	24.7	34.8 -	24.6	1.3	-4.7	5.5	3 silty CLAY to CLAY	115	1.5	16	23 -	-	1.7	9.9	44	2.76	15 -	-
15.26	22.9	32 -	22.8	1.2	-4.7	5.6	3 silty CLAY to CLAY	115	1.5	15	21 -	-	1.6	9.9	45	2.79	15 -	-
15.42	24.8	34.5 -	24.7	1.4	-4.6	6	3 silty CLAY to CLAY	115	1.5	17	23 -	-	1.7	9.9	45	2.79	15 -	-
15.58	23.8	32.9 -	23.7	1.5	-4.6	6.6	3 silty CLAY to CLAY	115	1.5	16	22 -	-	1.6	9.9	48	2.83	15 -	-
15.75	20.1	27.6 -	20	1.4	-4.6	7.1	3 silty CLAY to CLAY	115	1.5	13	18 -	-	1.4	8.7	53	2.91	15 -	-
15.91	19.9	27.1 -	19.8	1.2	-4.5	6.3	3 silty CLAY to CLAY	115	1.5	13	18 -	-	1.4	8.5	51	2.88	15 -	-
16.08	20.6	28 -	20.5	1.2	-4.5	6.3	3 silty CLAY to CLAY	115	1.5	14	19 -	-	1.4	8.8	50	2.87	15 -	-
16.24	20.6	27.9 -	20.5	1.2	-4.5	6	3 silty CLAY to CLAY	115	1.5	14	19 -	-	1.4	8.8	49	2.86	15 -	-
16.4	22.7	30.4 -	22.6	1.3	-4.5	6	3 silty CLAY to CLAY	115	1.5	15	20 -	-	1.5	9.6	48	2.83	15 -	-
16.57	24.1	32.1 -	24	1.2	-4.5	5	3 silty CLAY to CLAY	115	1.5	16	21 -	-	1.6	9.9	44	2.76	15 -	-
16.73	20.2	26.8 -	20.1	1	-4.5	5.3	3 silty CLAY to CLAY	115	1.5	13	18 -	-	1.4	8.4	48	2.83	15 -	-
16.9	18.5	24.4 -	18.4	0.8	-4.4	4.6	3 silty CLAY to CLAY	115	1.5	12	16 -	-	1.3	7.6	48	2.83	15 -	-
17.06	17.8	23.4 -	17.7	0.6	-4.4	3.8	3 silty CLAY to CLAY	115	1.5	12	16 -	-	1.2	7.3	45	2.79	15 -	-
17.23	16.1	21 -	16	0.6	-4.4	3.7	3 silty CLAY to CLAY	115	1.5	11	14 -	-	1.1	6.5	47	2.82	15 -	-
17.39	15.4	20 -	15.3	0.4	-4.4	2.9	4 clayy SILT to silty CLAY	115	2	8	10 -	-	1	6.2	44	2.77	15 -	-
17.55	16.1	20.8 -	16	0.4	-4.3	2.4	4 clayy SILT to silty CLAY	115	2	8	10 -	-	1.1	6.4	41	2.7	15 -	-
17.72	18.2	23.3 -	18.1	0.5	-4.3	2.9	4 clayy SILT to silty CLAY	115	2	9	12 -	-	1.2	7.3	41	2.71	15 -	-
17.88	21.8	27.9 -	21.8	0.8	-4.3	3.8	4 clayy SILT to silty CLAY	115	2	11	14 -	-	1.5	8.8	42	2.72	15 -	-
18.05	27.2	34.5 -	27.1	1.3	-4.1	4.9	3 silty CLAY to CLAY	115	1.5	18	23 -	-	1.9	9.9	42	2.73	15 -	-
18.21	31.6	39.9 -	31.5	1.6	-4.1	5.1	3 silty CLAY to CLAY	115	1.5	21	27 -	-	2.2	9.9	40	2.69	15 -	-
18.37	29.3	36.8 -	29.3	1.8	-4.1	6.3	3 silty CLAY to CLAY	115	1.5	20	25 -	-	2	9.9	45	2.79	15 -	-
18.54	27.2	33.9 -	27.1	1.5	-4	5.7	3 silty CLAY to CLAY	115	1.5	18	23 -	-	1.9	9.9	45	2.78	15 -	-
18.7	23.3	29 -	23.2	1.3	-3.9	6.1	3 silty CLAY to CLAY	115	1.5	16	19 -	-	1.6	9.1	49	2.85	15 -	-
18.87	22.7	28.1 -	22.7	1.2	-3.9	5.7	3 silty CLAY to CLAY	115	1.5	15	19 -	-	1.6	8.8	48	2.84	15 -	-
19.03	22.5	27.6 -	22.4	1.2	-3.8	5.5	3 silty CLAY to CLAY	115	1.5	15	18 -	-	1.5	8.7	48	2.84	15 -	-
19.19	23.6	28.9 -	23.6	1.2	-3.8	5.3	3 silty CLAY to CLAY	115	1.5	16	19 -	-	1.6	9.1	47	2.81	15 -	-
19.36	25.1	30.5 -	25	1.2	-3.8	5.2	3 silty CLAY to CLAY	115	1.5	17	20 -	-	1.7	9.6	45	2.79	15 -	-
19.52	25.8	31.2 -	25.7	1.3	-3.7	5.4	3 silty CLAY to CLAY	115	1.5	17	21 -	-	1.8	9.8	46	2.79	15 -	-
19.69	27.9	33.6 -	27.8	1.3	-3.8	4.9	3 silty CLAY to CLAY	115	1.5	19	22 -	-	1.9	9.9	43	2.74	15 -	-
19.85	26.9	32.2 -	26.8	1.2	-3.7	4.8	3 silty CLAY to CLAY	115	1.5	18	21 -	-	1.8	9.9	43	2.75	15 -	-
20.01	25.3	30.1 -	25.2	1.1	-3.7	4.5	3 silty CLAY to CLAY	115	1.5	17	20 -	-	1.7	9.5	43	2.75	15 -	-
20.18	23.3	27.6 -	23.2	0.9	-3.7	3.9	4 clayy SILT to silty CLAY	115	2	12	14 -	-	1.6	8.6	42	2.74	15 -	-
20.34	21.8	25.7 -	21.7	0.8	-3.6	3.8	4 clayy SILT to silty CLAY	115	2	11	13 -	-	1.5	8	43	2.75	15 -	-
20.51	20.4	24 -	20.4	0.7	-3.6	3.9	3 silty CLAY to CLAY	115	1.5	14	16 -	-	1.4	7.4	45	2.78	15 -	-
20.67	21.1	24.7 -	21.1	0.7	-3.6	3.7	4 clayy SILT to silty CLAY	115	2	11	12 -	-	1.4	7.7	44	2.76	15 -	-
20.83	21	24.4 -	21	0.8	-3.6	3.9	4 clayy SILT to silty CLAY	115	2	11	12 -	-	1.4	7.6	45	2.78	15 -	-
21	22.8	26.4 -	22.7	0.8	-3.6	3.7	4 clayy SILT to silty CLAY	115	2	11	13 -	-	1.6	8.2	42	2.74	15 -	-
21.16	23.7	27.3 -	23.7	0.9	-3.6	4.2	3 silty CLAY to CLAY	115	1.5	16	18 -	-	1.6	8.5	44	2.76	15 -	-
21.33	27.4	31.4 -	27.4	1.2	-3.5	4.6	3 silty CLAY to CLAY	115	1.5	18	21 -	-	1.9	9.9	43	2.74	15 -	-
21.49	29.9	34.1 -	29.9	1.5	-3.5	5.1	3 silty CLAY to CLAY	115	1.5	20	23 -	-	2.1	9.9	43	2.75	15 -	-
21.65	32.4	36.7 -	32.3	1.6	-3.5	5.2	3 silty CLAY to CLAY	115	1.5	22	24 -	-	2.2	9.9	42	2.73	15 -	-
21.82	31.6	35.7 -	31.6	1.9	-3.5	6.1	3 silty CLAY to CLAY	115	1.5	21	24 -	-	2.2	9.9	45	2.79	15 -	-
21.98	30.4	34.1 -	30.4	1.9	-3.5	6.5	3 silty CLAY to CLAY	115	1.5	20	23 -	-	2.1	9.9	47	2.82	15 -	-
22.15	28	31.2 -	27.9	1.5	-3.4	5.8	3 silty CLAY to CLAY	115	1.5	19	21 -	-	1.9	9.8	47	2.81	15 -	-
22.31	26.4	29.4 -	26.4	1.4	-3.4	5.5	3 silty CLAY to CLAY	115	1.5	18	20 -	-	1.8	9.2	47	2.82	15 -	-
22.47	24.8	27.5 -	24.8	1.3	-3.3	5.4	3 silty CLAY to CLAY	115	1.5	17	18 -	-	1.7	8.6	48	2.84	15 -	-
22.64	26.1	28.7 -	26	1.3	-3.3	5.2	3 silty CLAY to CLAY	115	1.5	17	19 -	-	1.8	9	46	2.81	15 -	-
22.8	28	30.6 -	27.9	1.3	-3.2	5	3 silty CLAY to CLAY	115	1.5	19	20 -	-	1.9	9.6	44	2.77	15 -	-
22.97	27.1	29.5 -	27	1.4	-3.2	5.4	3 silty CLAY to CLAY	115	1.5	18	20 -	-	1.8	9.3	46	2.81	15 -	-
23.13	25.8	28 -	25.7	1.4	-3.2	5.6	3 silty CLAY to CLAY	115	1.5	17	19 -	-	1.8	8.7	48	2.84	15 -	-
23.3	22.5	24.3 -	22.5	1.2	-3.2	5.7	3 silty CLAY to CLAY	115	1.5	15	16 -	-	1.5	7.5	52	2.89	15 -	-
23.46	22.1	23.8 -	22.1	1.2	-3.2	5.5	3 silty CLAY to CLAY	115	1.5	15	16 -	-	1.5	7.4	51	2.89	15 -	-
23.62	20.8	22.3 -	20.7	1.2	-3.2	6.1	3 silty CLAY to CLAY	115	1.5	14	15 -	-	1.4	6.9	55	2.94	15 -	-
23.79	20.4	21.7 -	20.3	1.2	-3.2	6.2	3 silty CLAY to CLAY	115	1.5	14	14 -	-	1.4	6.7	55	2.95	15 -	-
23.95	18.9	20 -	18.8	1.1	-3.2	6.2	3 silty CLAY to CLAY	115	1.5	13	13 -	-	1.3	6.1	57	2.98	15 -	-
24.12	18.2	19.2 -	18.1	1	-3.2	6.2	3 silty CLAY to CLAY	115	1.5	12	13 -	-	1.2	5.8	58	3	15 -	-
24.28	18	18.9 -	17.9	0.9	-3.2	5.4	3 silty CLAY to CLAY	115	1.5	12	13 -	-	1.2	5.7	56	2.97	15 -	-
24.44	17.2	17.9 -	17.1	0.9	-3.2	5.5	3 silty CLAY to CLAY	115	1.5	11	12 -	-	1.1	5.4	58	2.99	15 -	-
24.61	14.8	15.4 -	14.8	0.8	-3.2	6	3 silty CLAY to CLAY	115	1.5	10	10 -	-	1	4.6	63	3.07	15 -	-
24.77	11.2	11.7 -	11.2	0.7	-3.2	6.9	3 silty CLAY to CLAY	115	1.5	7	8 -	-	0.7	3.4	74	3.21	15 -	-

24.94	9.4	9.7	-	9.4	0.5	-3.2	6.5	3	silty CLAY to CLAY	115	1.5	6	6	-	-	0.6	2.7	78	3.27	15	-	-		
25.1	10.4	10.7	-	10.4	0.6	-3.1	6.7	3	silty CLAY to CLAY	115	1.5	7	7	-	-	0.7	3.1	76	3.23	15	-	-		
25.26	10.7	11	-	10.6	0.7	-3.1	7	3	silty CLAY to CLAY	115	1.5	7	7	-	-	0.7	3.1	76	3.24	15	-	-		
25.43	10.6	10.8	-	10.6	0.6	-3.1	6.8	3	silty CLAY to CLAY	115	1.5	7	7	-	-	0.7	3.1	76	3.24	15	-	-		
25.59	13.9	14.1	-	13.9	0.5	-3.1	3.7	3	silty CLAY to CLAY	115	1.5	9	9	-	-	0.9	4.2	56	2.97	15	-	-		
25.76	11.7	11.8	-	11.6	0.4	-3.1	4.4	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.8	3.4	64	3.08	15	-	-		
25.92	15.6	15.7	-	15.6	0.5	-3	3.3	3	silty CLAY to CLAY	115	1.5	10	10	-	-	1	4.7	52	2.9	15	-	-		
26.08	17.2	17.2	-	17.2	0.6	-3	3.8	3	silty CLAY to CLAY	115	1.5	11	11	-	-	1.1	5.2	52	2.9	15	-	-		
26.25	17.7	17.6	-	17.6	0.7	-2.9	4.6	3	silty CLAY to CLAY	115	1.5	12	12	-	-	1.2	5.3	55	2.95	15	-	-		
26.41	20.3	20.1	-	20.2	0.9	-2.9	5	3	silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	6.1	53	2.92	15	-	-		
26.58	21.6	21.3	-	21.5	1.1	-2.9	5.3	3	silty CLAY to CLAY	115	1.5	14	14	-	-	1.5	6.5	53	2.91	15	-	-		
26.74	22.7	22.3	-	22.6	1.1	-2.9	5.3	3	silty CLAY to CLAY	115	1.5	15	15	-	-	1.5	6.9	52	2.9	15	-	-		
26.9	21.1	20.6	-	21	1	-2.8	5.1	3	silty CLAY to CLAY	115	1.5	14	14	-	-	1.4	6.3	53	2.92	15	-	-		
27.07	17.6	17.1	-	17.5	0.7	-2.8	4.7	3	silty CLAY to CLAY	115	1.5	12	11	-	-	1.2	5.2	56	2.96	15	-	-		
27.23	16.1	15.6	-	16	0.5	-2.7	3.2	3	silty CLAY to CLAY	115	1.5	11	10	-	-	1.1	4.6	52	2.89	15	-	-		
27.4	17	16.4	-	16.9	0.6	-2.6	3.7	3	silty CLAY to CLAY	115	1.5	11	11	-	-	1.1	4.9	53	2.91	15	-	-		
27.56	20.5	19.8	-	20.5	0.8	-2.6	4.4	3	silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	6	51	2.89	15	-	-		
27.72	28.6	27.4	-	28.5	1	-2.6	3.8	4	clayy SILT to silty CLAY	115	2	14	14	-	-	1.9	8.5	42	2.74	15	-	-		
27.89	38.3	36.6	-	38.2	1.7	-2.6	4.6	3	silty CLAY to CLAY	115	1.5	26	24	-	-	2.6	9.9	40	2.69	15	-	-		
28.05	38.6	36.7	-	38.5	2.2	-2.6	6.1	3	silty CLAY to CLAY	115	1.5	26	24	-	-	2.7	9.9	45	2.78	15	-	-		
28.22	39.8	37.7	-	39.7	2.3	-2.5	6.1	3	silty CLAY to CLAY	115	1.5	27	25	-	-	2.7	9.9	44	2.77	15	-	-		
28.38	42.3	39.9	-	42.3	2.2	-2.4	5.4	3	silty CLAY to CLAY	115	1.5	28	27	-	-	2.9	9.9	41	2.71	15	-	-		
28.54	40.8	38.4	-	40.8	2.1	-2.3	5.5	3	silty CLAY to CLAY	115	1.5	27	26	-	-	2.8	9.9	42	2.73	15	-	-		
28.71	40.7	38.1	-	40.6	2.3	-2.2	5.9	3	silty CLAY to CLAY	115	1.5	27	25	-	-	2.8	9.9	44	2.76	15	-	-		
28.87	41.1	38.3	-	41.1	2.4	-2.2	6.1	3	silty CLAY to CLAY	115	1.5	27	26	-	-	2.8	9.9	44	2.77	15	-	-		
29.04	35.9	33.4	-	35.9	2.2	-2.1	6.4	3	silty CLAY to CLAY	115	1.5	24	22	-	-	2.5	9.9	47	2.82	15	-	-		
29.2	32.5	30.1	-	32.5	1.7	-2	5.6	3	silty CLAY to CLAY	115	1.5	22	20	-	-	2.2	9.4	47	2.81	15	-	-		
29.36	29.5	27.2	-	29.5	1.6	-2	5.6	3	silty CLAY to CLAY	115	1.5	20	18	-	-	2	8.5	49	2.85	15	-	-		
29.53	27.8	25.5	-	27.7	1.4	-2	5.4	3	silty CLAY to CLAY	115	1.5	19	17	-	-	1.9	7.9	49	2.86	15	-	-		
29.69	23.9	21.8	-	23.9	1.2	-2	5.3	3	silty CLAY to CLAY	115	1.5	16	15	-	-	1.6	6.7	52	2.91	15	-	-		
29.86	24.2	22	-	24.1	1.1	-2	4.9	3	silty CLAY to CLAY	115	1.5	16	15	-	-	1.6	6.7	51	2.88	15	-	-		
30.02	27	24.5	-	27	1.2	-2	4.7	3	silty CLAY to CLAY	115	1.5	18	16	-	-	1.8	7.6	48	2.83	15	-	-		
30.19	29.1	26.3	-	29.1	1.4	-2.1	5	3	silty CLAY to CLAY	115	1.5	19	18	-	-	2	8.2	48	2.83	15	-	-		
30.35	28.3	25.4	-	28.2	1.4	-2.1	5.3	3	silty CLAY to CLAY	115	1.5	19	17	-	-	1.9	7.9	49	2.86	15	-	-		
30.51	25.9	23.2	-	25.8	1.3	-2.2	5.5	3	silty CLAY to CLAY	115	1.5	17	15	-	-	1.7	7.1	52	2.9	15	-	-		
30.68	24.7	22.1	-	24.7	1.2	-2.2	5.2	3	silty CLAY to CLAY	115	1.5	16	15	-	-	1.7	6.8	52	2.9	15	-	-		
30.84	21.1	18.8	-	21.1	0.9	-2.2	4.6	3	silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	5.7	53	2.92	15	-	-		
31.01	16.8	14.9	-	16.7	0.7	-2.2	4.9	3	silty CLAY to CLAY	115	1.5	11	10	-	-	1.1	4.4	60	3.03	15	-	-		
31.17	14	12.4	-	14	0.6	-2.2	4.9	3	silty CLAY to CLAY	115	1.5	9	8	-	-	0.9	3.6	65	3.1	15	-	-		
31.33	12.1	10.6	-	12	0.5	-2.2	5	3	silty CLAY to CLAY	115	1.5	8	7	-	-	0.8	3	70	3.16	15	-	-		
31.5	11.9	10.4	-	11.8	0.5	-2.1	4.8	3	silty CLAY to CLAY	115	1.5	8	7	-	-	0.8	2.9	70	3.16	15	-	-		
31.66	11.9	10.4	-	11.8	0.5	-2.1	5	3	silty CLAY to CLAY	115	1.5	8	7	-	-	0.8	2.9	71	3.17	15	-	-		
31.83	12.7	11	-	12.6	0.6	-2.1	5.3	3	silty CLAY to CLAY	115	1.5	8	7	-	-	0.8	3.1	70	3.16	15	-	-		
31.99	14.1	12.2	-	14.1	0.5	-2.1	4.1	3	silty CLAY to CLAY	115	1.5	9	8	-	-	0.9	3.5	62	3.06	15	-	-		
32.15	12.8	11.1	-	12.8	0.4	-2.1	3.4	3	silty CLAY to CLAY	115	1.5	9	7	-	-	0.8	3.1	62	3.04	15	-	-		
32.32	11	9.4	-	10.9	0.4	-2.1	4	3	silty CLAY to CLAY	115	1.5	7	6	-	-	0.7	2.6	69	3.15	15	-	-		
32.48	12.1	10.4	-	12.1	0.4	-2	3.8	3	silty CLAY to CLAY	115	1.5	8	7	-	-	0.8	2.9	65	3.1	15	-	-		
32.65	13.2	11.2	-	13.1	0.4	-2	4	3	silty CLAY to CLAY	115	1.5	9	7	-	-	0.8	3.2	64	3.08	15	-	-		
32.81	14	11.9	-	13.9	0.5	-1.9	4.3	3	silty CLAY to CLAY	115	1.5	9	8	-	-	0.9	3.4	64	3.08	15	-	-		
32.97	14.7	12.5	-	14.7	0.5	-1.9	3.8	3	silty CLAY to CLAY	115	1.5	10	8	-	-	1	3.6	60	3.03	15	-	-		
33.14	14.6	12.3	-	14.6	0.5	-1.8	3.9	3	silty CLAY to CLAY	115	1.5	10	8	-	-	0.9	3.5	61	3.04	15	-	-		
33.3	15.9	13.3	-	15.8	0.6	-1.8	4.5	3	silty CLAY to CLAY	115	1.5	11	9	-	-	1	3.9	62	3.05	15	-	-		
33.47	17.8	14.9	-	17.8	0.6	-1.8	4	3	silty CLAY to CLAY	115	1.5	12	10	-	-	1.2	4.4	57	2.97	15	-	-		
33.63	18	15	-	18	0.7	-1.7	4.3	3	silty CLAY to CLAY	115	1.5	12	10	-	-	1.2	4.4	57	2.98	15	-	-		
33.79	18.6	15.5	-	18.6	0.6	-1.7	3.8	3	silty CLAY to CLAY	115	1.5	12	10	-	-	1.2	4.6	55	2.94	15	-	-		
33.96	18.7	15.5	-	18.6	0.7	-1.6	4	3	silty CLAY to CLAY	115	1.5	12	10	-	-	1.2	4.6	56	2.96	15	-	-		
34.12	18.3	15.1	-	18.2	0.8	-1.5	4.9	3	silty CLAY to CLAY	115	1.5	12	10	-	-	1.2	4.4	60	3.02	15	-	-		
34.29	23.5	19.4	-	23.5	0.8	-1.3	3.9	3	silty CLAY to CLAY	115	1.5	16	13	-	-	1.6	5.9	50	2.87	15	-	-		
34.45	26.6	21.8	-	26.6	1.1	-1.2	4.4	3	silty CLAY to CLAY	115	1.5	18	15	-	-	1.8	6.7	49	2.85	15	-	-		
34.61	34.2	27.9	-	34.2	1.1	-1.2	3.5	4	clayy SILT to silty CLAY	115	2	17	14	-	-	2.3	8.7	41	2.7	15	-	-		
34.78	31.8	25.9	-	31.8	1	-1.1	3.4	4	clayy SILT to silty CLAY	115	2	16	13	-	-	2.2	8	42	2.72	15	-	-		
34.94	30.1	24.4	-	30.1	0.9	-1	3.3	4	clayy SILT to silty CLAY	115	2	15	12	-	-	2	7.5	42	2.74	15	-	-		
35.11	32.9	26.6	-	32.9	1.7	-0.9	5.4	3	silty CLAY to CLAY	115	1.5	22	18	-	-	2.2	8.3	49	2.85	15	-	-		
35.27	45.1	36.3	-	45.1	2.4	-0.8	5.6	3	silty CLAY to CLAY	115	1.5	30	24	-	-	3.1	9.9	43	2.76	15	-	-		
35.43	60.1	48.2	-	60.1	3.5	-0.7	5.9	3	silty CLAY to CLAY	115	1.5	40	32	-	-	4.2	9.9	40	2.69	15	-	-		
35.6	76	66	193.8	75.9	3.6	-0.7	4.9	4	clayy SILT to silty CLAY	115	2	38	33	-	-	5.3	9.9	32	2.53	15	0	0		
35.76	90.4	78.4	168.3	90.4	3	-0.9	3.3	5	silty SAND to sandy SILT	120	4	23	20	59	39	-	-	25	2.36	16	0	0		
35.93	93.2	80.7	170.2	93.1	3	-0.9	3.3	5	silty SAND to sandy SILT	120	4	23	20	60	39	-	-	24	2.35	16	0	0		
36.09	93.6	80.8	195	93.5	3.9	-1	4.2	4	clayy SILT to silty CLAY	115	2	47	40	-	-	6.5	9.9	27	2.42	15	0	0		
36.26	67.4	53.2	-	67.4	4.1	-0.9	6.3	3	silty CLAY to CLAY	115	1.5	45	35	-	-	4.7	9.9	39	2.68	15	-	-		
36.42	50.6	39.8	-	50.6	3.2	-0.8	6.5	3	silty CLAY to CLAY	115	1.5	34	27	-	-	3.5	9.9	45	2.78	15	-	-		
36.58	36	28.2	-	36	2.9	-0.4	8.5	3	silty CLAY to CLAY	115	1.5	24	19	-	-	2.5	8.8	56	2.97	15	-	-		
36.75	87.6	75.2	218.9	87.6	4.6	-0.2	5.4	4	clayy SILT to silty CLAY	115	2	44	38	-	-	6.1	9.9	32	2.53	15	0	0		
36.91	100.8	86.4	250.4	100.8	5.9	-0.2	6	9	very stiff fine SOIL	120	2	50	43	62	39	-	-	32	2.52	30	0	0		
37.08	84.7	65.7	-	84.7	6.1	-0.2	7.4	9	very stiff fine SOIL	120	2	42	33	53	38	-	-	39	2.67	30	-	-		
37.24	67.2	51.9	-	67.2	4	-0.4	6.1	3	silty CLAY to CLAY	115	1.5	45	35	-	-	4.7	9.9	39	2.67	15	-	-		
37.4	42.8	32.9	-	42.8	2.6	-0.1	6.5	3	silty CLAY to CLAY	115	1.5	29	22	-	-	2.9	9.9	48	2.83	15	-	-		
37.57	34.3	26.4	-	34.3	1.8	0.1	5.7	3	silty CLAY to CLAY	115	1.5	23	18	-	-	2.3	8.1	50	2.87	15	-	-		
37.73	33.4	25.6	-	33.4	1.5	0.3	4.8	3	silty CLAY to CLAY	115	1.5	22	17	-	-	2.3	7.9	47	2.82	15	-	-		
37.9	29	22.1	-	29	1.3	0.4	4.7	3	silty CLAY to CLAY	115	1.5	19	15	-	-	2	6.8	50	2.87	15	-	-		
38.06	22.9	17.4	-	22.9	1.2	0.4	5.9	3	silty CLAY to CLAY	115	1.5	15	12	-	-	1.5	5.2	60	3.02	15	-	-		

38.22	21.2	16	-	21.2	1.1	0.3	5.8	3 silty CLAY to CLAY	115	1.5	14	11	-	-	1.4	4.7	62	3.05	15	-	-
38.39	21.8	16.5	-	21.8	1.2	0.3	5.9	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.4	4.9	62	3.04	15	-	-
38.55	22.4	16.8	-	22.4	1.1	0.3	5.2	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5	58	3	15	-	-
38.72	25.7	19.3	-	25.7	1.2	0.3	4.9	3 silty CLAY to CLAY	115	1.5	17	13	-	-	1.7	5.8	54	2.93	15	-	-
38.88	28.8	21.5	-	28.8	1.2	0.3	4.7	3 silty CLAY to CLAY	115	1.5	19	14	-	-	1.9	6.5	51	2.88	15	-	-
39.04	32.3	24.1	-	32.3	1.5	0.3	5	3 silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.4	49	2.86	15	-	-
39.21	38.5	28.6	-	38.5	1.9	0.4	5.3	3 silty CLAY to CLAY	115	1.5	26	19	-	-	2.6	8.9	47	2.82	15	-	-
39.37	39.1	28.9	-	39.1	2.3	0.4	6.1	3 silty CLAY to CLAY	115	1.5	26	19	-	-	2.7	9	49	2.86	15	-	-
39.54	35	25.8	-	35	2	0.4	6	3 silty CLAY to CLAY	115	1.5	23	17	-	-	2.4	8	51	2.89	15	-	-
39.7	33	24.3	-	33	1.6	0.5	5.2	3 silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.5	50	2.87	15	-	-
39.86	34	25	-	34	1.5	0.6	4.9	3 silty CLAY to CLAY	115	1.5	23	17	-	-	2.3	7.7	48	2.84	15	-	-
40.03	34.8	25.5	-	34.8	1.5	0.7	4.5	3 silty CLAY to CLAY	115	1.5	23	17	-	-	2.4	7.8	47	2.81	15	-	-
40.19	36.9	26.9	-	36.9	1.8	0.7	5.2	3 silty CLAY to CLAY	115	1.5	25	18	-	-	2.5	8.3	48	2.83	15	-	-
40.36	34	24.7	-	34	2.1	0.7	6.5	3 silty CLAY to CLAY	115	1.5	23	16	-	-	2.3	7.6	54	2.93	15	-	-
40.52	42.1	30.5	-	42.1	2.2	0.8	5.5	3 silty CLAY to CLAY	115	1.5	28	20	-	-	2.9	9.5	46	2.81	15	-	-
40.68	41.8	30.2	-	41.8	2.3	0.8	5.7	3 silty CLAY to CLAY	115	1.5	28	20	-	-	2.9	9.4	47	2.82	15	-	-
40.85	39.1	28.2	-	39.2	2.2	0.8	6	3 silty CLAY to CLAY	115	1.5	26	19	-	-	2.7	8.7	50	2.86	15	-	-
41.01	37.2	26.7	-	37.2	2	0.9	5.9	3 silty CLAY to CLAY	115	1.5	25	18	-	-	2.5	8.2	50	2.87	15	-	-
41.18	35.7	25.5	-	35.7	1.9	1	5.8	3 silty CLAY to CLAY	115	1.5	24	17	-	-	2.4	7.9	51	2.89	15	-	-
41.34	34.2	24.4	-	34.2	1.7	1	5.5	3 silty CLAY to CLAY	115	1.5	23	16	-	-	2.3	7.5	51	2.88	15	-	-
41.5	32.1	22.8	-	32.1	1.7	1.1	5.7	3 silty CLAY to CLAY	115	1.5	21	15	-	-	2.2	7	53	2.92	15	-	-
41.67	30.6	21.7	-	30.6	1.7	1.1	6.2	3 silty CLAY to CLAY	115	1.5	20	14	-	-	2.1	6.6	56	2.96	15	-	-
41.83	53.2	37.6	-	53.2	2.2	0.8	4.3	4 clayy SILT to silty CLAY	115	2	27	19	-	-	3.7	9.9	39	2.67	15	-	-
42	41.8	29.4	-	41.8	2.3	0.9	5.9	3 silty CLAY to CLAY	115	1.5	28	20	-	-	2.9	9.2	48	2.84	15	-	-
42.16	32.7	23	-	32.7	2	1	6.6	3 silty CLAY to CLAY	115	1.5	22	15	-	-	2.2	7	56	2.96	15	-	-
42.32	27.3	19.1	-	27.3	1.2	1	4.8	3 silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	54	2.93	15	-	-
42.49	28.9	20.2	-	28.9	0.8	1.1	3.1	4 clayy SILT to silty CLAY	115	2	14	10	-	-	1.9	6.1	45	2.79	15	-	-
42.65	27.1	18.9	-	27.1	0.9	1.1	3.7	3 silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	50	2.86	15	-	-
42.82	26.6	18.5	-	26.6	1	1.2	4	3 silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.5	51	2.89	15	-	-
42.98	26.9	18.6	-	27	1.1	1.1	4.3	3 silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.6	53	2.91	15	-	-
43.15	25.5	17.6	-	25.5	0.9	1.2	3.9	3 silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.2	52	2.9	15	-	-
43.31	26.4	18.2	-	26.4	0.9	1.2	3.7	3 silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.4	50	2.87	15	-	-
43.47	28.5	19.5	-	28.5	0.9	1.3	3.4	3 silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.9	48	2.83	15	-	-
43.64	29.7	20.3	-	29.7	1.1	1.3	4.2	3 silty CLAY to CLAY	115	1.5	20	14	-	-	2	6.1	50	2.87	15	-	-
43.8	32.5	22.2	-	32.5	1.3	1.5	4.4	3 silty CLAY to CLAY	115	1.5	22	15	-	-	2.2	6.7	49	2.85	15	-	-
43.97	32.6	22.2	-	32.7	1.3	1.6	4.2	3 silty CLAY to CLAY	115	1.5	22	15	-	-	2.2	6.7	48	2.84	15	-	-
44.13	28.2	19.1	-	28.3	1.2	1.8	4.8	3 silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.7	54	2.93	15	-	-
44.29	29.5	19.9	-	29.5	1.2	1.9	4.6	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2	6	52	2.9	15	-	-
44.46	30	20.2	-	30	1.5	1.9	5.6	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2	6.1	55	2.95	15	-	-
44.62	29.3	19.7	-	29.3	1.4	2	5.3	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2	5.9	55	2.95	15	-	-
44.79	28.9	19.3	-	28.9	1.4	2	5.2	3 silty CLAY to CLAY	115	1.5	19	13	-	-	1.9	5.8	55	2.95	15	-	-
44.95	27	18	-	27	1.3	2.1	5.3	3 silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.4	57	2.98	15	-	-
45.11	30.1	20	-	30.1	1.3	2.2	4.8	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2	6	53	2.92	15	-	-
45.28	26.2	17.4	-	26.2	1.3	2.2	5.6	3 silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.2	59	3.01	15	-	-
45.44	26.7	17.7	-	26.8	1.2	2.3	5.2	3 silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.3	57	2.98	15	-	-
45.61	23.5	15.5	-	23.5	1.1	2.3	5.4	3 silty CLAY to CLAY	115	1.5	16	10	-	-	1.6	4.5	61	3.04	15	-	-
45.77	23	15.2	-	23.1	1.1	2.3	5.4	3 silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.4	62	3.05	15	-	-
45.93	23.2	15.2	-	23.2	0.9	2.4	4.3	3 silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.4	57	2.98	15	-	-
46.1	22.1	14.5	-	22.2	1	2.4	5.2	3 silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.2	62	3.06	15	-	-
46.26	20.8	13.6	-	20.9	0.9	2.5	5.2	3 silty CLAY to CLAY	115	1.5	14	9	-	-	1.4	3.9	64	3.08	15	-	-
46.43	21.5	14	-	21.5	0.8	2.6	4.3	3 silty CLAY to CLAY	115	1.5	14	9	-	-	1.4	4	60	3.02	15	-	-
46.59	20.5	13.3	-	20.5	0.7	2.7	4	3 silty CLAY to CLAY	115	1.5	14	9	-	-	1.3	3.8	60	3.02	15	-	-
46.75	18.4	11.9	-	18.5	0.7	2.7	4.4	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.4	65	3.09	15	-	-
46.92	20.4	13.2	-	20.4	0.7	2.7	4.2	3 silty CLAY to CLAY	115	1.5	14	9	-	-	1.3	3.8	61	3.04	15	-	-
47.08	22.3	14.4	-	22.4	1.2	2.8	6.1	3 silty CLAY to CLAY	115	1.5	15	10	-	-	1.5	4.2	66	3.11	15	-	-
47.25	32	20.6	-	32.1	1.4	3.2	4.8	3 silty CLAY to CLAY	115	1.5	21	14	-	-	2.2	6.2	52	2.91	15	-	-
47.41	29	18.6	-	29.1	1.3	3.3	5.1	3 silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.6	56	2.96	15	-	-
47.57	22.2	14.2	-	22.3	1.1	3.4	5.6	3 silty CLAY to CLAY	115	1.5	15	9	-	-	1.5	4.1	64	3.08	15	-	-
47.74	18.2	11.6	-	18.3	0.8	3.6	5.2	3 silty CLAY to CLAY	115	1.5	12	8	-	-	1.2	3.2	69	3.14	15	-	-
47.9	17.2	10.9	-	17.3	0.7	3.7	4.5	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1.1	3	68	3.13	15	-	-
48.07	15.2	9.6	-	15.3	0.6	3.8	4.4	3 silty CLAY to CLAY	115	1.5	10	6	-	-	1	2.6	71	3.18	15	-	-
48.23	13.6	8.6	-	13.6	0.5	3.8	4.8	3 silty CLAY to CLAY	115	1.5	9	6	-	-	0.8	2.2	77	3.25	15	-	-
48.39	14.7	9.3	-	14.8	0.5	3.9	4.6	3 silty CLAY to CLAY	115	1.5	10	6	-	-	0.9	2.5	73	3.2	15	-	-
48.56	16	10	-	16.1	0.6	3.9	4.6	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1	2.7	71	3.17	15	-	-
48.72	17.3	10.8	-	17.4	0.6	3.9	4.4	3 silty CLAY to CLAY	115	1.5	12	7	-	-	1.1	3	67	3.13	15	-	-
48.89	17.3	10.8	-	17.4	0.7	3.9	4.6	3 silty CLAY to CLAY	115	1.5	12	7	-	-	1.1	3	68	3.14	15	-	-
49.05	17.3	10.8	-	17.4	0.7	4	4.7	3 silty CLAY to CLAY	115	1.5	12	7	-	-	1.1	3	69	3.15	15	-	-
49.22	16.8	10.4	-	16.9	0.7	4	5	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1.1	2.9	71	3.18	15	-	-
49.38	16.4	10.2	-	16.5	0.7	4.1	5.1	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1	2.8	73	3.19	15	-	-
49.54	17.2	10.6	-	17.2	0.6	4.1	4.4	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1.1	2.9	68	3.14	15	-	-
49.71	16.4	10.1	-	16.4	0.6	4.2	4.1	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1	2.7	69	3.14	15	-	-
49.87	16	9.9	-	16.1	0.5	4.3	4	3 silty CLAY to CLAY	115	1.5	11	7	-	-	1	2.7	69	3.14	15	-	-

UPRR Property

Project ID: Cornerstone Earthpt Group
Data File: SDF (460).c
CPT Date: 6/12/2014 2:15:16 PM
GW During Test: 10 ft

Project: Sounding P2 ID: 1-CPT6
Cone No: 14 0.676
Cone/Rig: DDG1281

Depth ft	qc PS tsf	qc1n PS -	q1ncs PS -	qt PS tsf	Slv Stss tsf	pore prss (psi)	Frct Ratio %	Mat Typ Zon	Material Behavior Description	Unit Wght pcf	Qc to N	SPT R-N 60%	SPT R-N1 60%	Rel Den %	Ftn Ang deg	Und Shr tsf	OCR - -	Fin Ic %	Ic SBT Indx	Nk - -	Vol Strn %	Cycl SStn %
0.33	1.1	0.2	-	1.1	0	0	1.9	3	silty CLAY to CLAY	115	1.5	1	0	-	-	0.1	9.9	95	4.63	15	N/A	N/A
0.49	1.1	0.2	-	1.1	0	0	0.2	1	sensitive fine SOIL	115	2	1	0	-	-	0.1	9.9	95	4.32	15	N/A	N/A
0.66	1.1	0.2	-	1.1	0.4	0	9.9	2	Organic SOILS - Peats	100	1	1	0	-	-	0.1	9.6	95	4.89	10	N/A	N/A
0.82	4.3	6.9	-	4.3	0.8	0	9.9	2	Organic SOILS - Peats	100	1	4	7	-	-	0.4	9.9	94	3.44	10	N/A	N/A
0.98	104.9	168.3	185	104.9	1.2	-0.3	1.2	6	clean SAND to silty SAND	125	5	21	34	84	48	-	-	8	1.79	16	N/A	N/A
1.15	84	134.7	160.8	84	1.1	-0.3	1.4	6	clean SAND to silty SAND	125	5	17	27	77	48	-	-	11	1.9	16	N/A	N/A
1.31	37.2	59.7	121.4	37.2	0.9	-0.2	2.4	5	silty SAND to sandy SILT	120	4	9	15	50	48	-	-	23	2.33	16	N/A	N/A
1.48	16.5	26.4	-	16.5	0.8	0	5.1	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.2	9.9	47	2.81	15	N/A	N/A
1.64	7.6	12.2	-	7.6	0.8	0.5	9.9	3	silty CLAY to CLAY	115	1.5	5	8	-	-	0.5	9.9	78	3.26	15	N/A	N/A
1.8	7	11.2	-	7	0.6	0.5	8.6	3	silty CLAY to CLAY	115	1.5	5	7	-	-	0.5	9.9	77	3.25	15	N/A	N/A
1.97	13.4	21.5	-	13.4	0.8	0.5	5.8	3	silty CLAY to CLAY	115	1.5	9	14	-	-	0.9	9.9	53	2.92	15	N/A	N/A
2.13	12.3	19.7	-	12.3	1	0.6	8.1	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.9	9.9	62	3.05	15	N/A	N/A
2.3	17	27.2	-	17	0.9	0.6	5.4	3	silty CLAY to CLAY	115	1.5	11	18	-	-	1.2	9.9	47	2.82	15	N/A	N/A
2.46	14.7	23.6	-	14.6	0.9	-2.3	6	3	silty CLAY to CLAY	115	1.5	10	16	-	-	1	9.9	52	2.9	15	N/A	N/A
2.62	12.1	19.3	-	12	0.9	-2.3	7.1	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.8	9.9	60	3.02	15	N/A	N/A
2.79	9.8	15.8	-	9.8	0.8	-2.3	7.8	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	9.9	66	3.11	15	N/A	N/A
2.95	10.1	16.2	-	10.1	0.7	-2	6.8	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	9.9	63	3.06	15	N/A	N/A
3.12	11.4	18.3	-	11.4	0.8	-2	6.9	3	silty CLAY to CLAY	115	1.5	8	12	-	-	0.8	9.9	60	3.02	15	N/A	N/A
3.28	15.8	25.4	-	15.8	0.9	-1.4	5.6	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	9.9	49	2.86	15	N/A	N/A
3.45	10.6	17.1	-	10.6	0.9	-1	8.2	3	silty CLAY to CLAY	115	1.5	7	11	-	-	0.7	9.9	65	3.1	15	N/A	N/A
3.61	12.6	20.2	-	12.6	0.9	-0.6	7.1	3	silty CLAY to CLAY	115	1.5	8	13	-	-	0.9	9.9	59	3	15	N/A	N/A
3.77	19.1	30.6	-	19.1	1.1	-0.6	6	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.9	47	2.82	15	N/A	N/A
3.94	21.4	34.4	-	21.4	1.4	-0.7	6.4	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	46	2.8	15	N/A	N/A
4.1	20.6	33.1	-	20.6	1.2	-0.8	6	3	silty CLAY to CLAY	115	1.5	14	22	-	-	1.4	9.9	46	2.79	15	N/A	N/A
4.27	19.2	30.8	-	19.2	1.3	-0.9	7.1	3	silty CLAY to CLAY	115	1.5	13	21	-	-	1.3	9.9	50	2.87	15	N/A	N/A
4.43	23	36.9	-	23	1.5	-0.9	6.8	3	silty CLAY to CLAY	115	1.5	15	25	-	-	1.6	9.9	46	2.8	15	N/A	N/A
4.59	21.5	34.5	-	21.5	1.6	-1	7.7	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	50	2.86	15	N/A	N/A
4.76	20.2	32.3	-	20.1	1.4	-1.1	7.1	3	silty CLAY to CLAY	115	1.5	13	22	-	-	1.4	9.9	49	2.86	15	N/A	N/A
4.92	18.4	29.4	-	18.3	1.3	-1.1	7.3	3	silty CLAY to CLAY	115	1.5	12	20	-	-	1.3	9.9	51	2.89	15	N/A	N/A
5.09	21.3	34.2	-	21.3	1.4	-1.2	6.9	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	48	2.83	15	N/A	N/A
5.25	24	38.4	-	23.9	1.5	-1.2	6.3	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	44	2.77	15	N/A	N/A
5.41	24.2	38.8	-	24.2	1.4	-1.4	5.9	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	43	2.74	15	N/A	N/A
5.58	28.7	46.1	-	28.7	1.4	-1.4	5	4	clayy SILT to silty CLAY	115	2	14	23	-	-	2	9.9	37	2.64	15	N/A	N/A
5.74	33.1	53	169.3	33	1.5	-1.4	4.7	4	clayy SILT to silty CLAY	115	2	17	27	-	-	2.3	9.9	34	2.58	15	N/A	N/A
5.91	30.4	48.7	-	30.3	1.7	-1.3	5.8	3	silty CLAY to CLAY	115	1.5	20	32	-	-	2.1	9.9	39	2.67	15	N/A	N/A
6.07	30.2	48.4	-	30.1	1.7	-1.4	5.6	3	silty CLAY to CLAY	115	1.5	20	32	-	-	2.1	9.9	38	2.66	15	N/A	N/A
6.23	27.3	43.8	-	27.3	1.5	-1.3	5.5	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	40	2.69	15	N/A	N/A
6.4	27.2	43.5	-	27.1	1.4	-1.3	5.2	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	39	2.67	15	N/A	N/A
6.56	27.6	44.2	-	27.6	1.7	-1.3	6.1	3	silty CLAY to CLAY	115	1.5	18	29	-	-	1.9	9.9	41	2.72	15	N/A	N/A
6.73	24.2	38.8	-	24.2	1.7	-1.3	7	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	46	2.8	15	N/A	N/A
6.89	24.1	38.6	-	24	1.6	-1.3	6.6	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	45	2.78	15	N/A	N/A
7.05	31.4	50.3	-	31.3	1.7	-1.4	5.5	3	silty CLAY to CLAY	115	1.5	21	34	-	-	2.2	9.9	38	2.65	15	N/A	N/A
7.22	31.2	50	-	31.2	1.9	-1.4	6.1	3	silty CLAY to CLAY	115	1.5	21	33	-	-	2.2	9.9	39	2.68	15	N/A	N/A
7.38	28.6	45.9	-	28.6	1.8	-1.4	6.3	3	silty CLAY to CLAY	115	1.5	19	31	-	-	2	9.9	41	2.72	15	N/A	N/A
7.55	25.1	40.2	-	25.1	1.6	-1.4	6.7	3	silty CLAY to CLAY	115	1.5	17	27	-	-	1.7	9.9	44	2.77	15	N/A	N/A
7.71	23.8	38.1	-	23.7	1.4	-1.4	6.2	3	silty CLAY to CLAY	115	1.5	16	25	-	-	1.6	9.9	44	2.77	15	N/A	N/A
7.87	24.1	38.6	-	24	1.5	-1.4	6.2	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	44	2.76	15	N/A	N/A
8.04	22.5	36.2	-	22.5	1.5	-1.5	6.7	3	silty CLAY to CLAY	115	1.5	15	24	-	-	1.6	9.9	46	2.81	15	N/A	N/A
8.2	21.1	33.9	-	21.1	1.4	-1.6	6.9	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	48	2.84	15	N/A	N/A
8.37	22.1	35.4	-	22.1	1.3	-1.4	6.1	3	silty CLAY to CLAY	115	1.5	15	24	-	-	1.5	9.9	45	2.78	15	N/A	N/A
8.53	22.4	35.9	-	22.4	1.3	-1.5	6.1	3	silty CLAY to CLAY	115	1.5	15	24	-	-	1.5	9.9	45	2.78	15	N/A	N/A
8.69	21.8	35	-	21.8	1.2	-1.4	5.8	3	silty CLAY to CLAY	115	1.5	15	23	-	-	1.5	9.9	44	2.77	15	N/A	N/A
8.86	20.7	33.2	-	20.7	1.1	-1.2	5.5	3	silty CLAY to CLAY	115	1.5	14	22	-	-	1.4	9.9	44	2.77	15	N/A	N/A
9.02	19.6	31.4	-	19.5	0.9	-1.2	5	3	silty CLAY to CLAY	115	1.5	13	21	-	-	1.3	9.9	44	2.76	15	N/A	N/A
9.19	19.1	30.6	-	19.1	0.8	-1.1	4.5	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.9	43	2.74	15	N/A	N/A
9.35	18.7	29.9	-	18.6	0.7	-1	4.1	4	clayy SILT to silty CLAY	115	2	9	15	-	-	1.3	9.9	42	2.72	15	N/A	N/A
9.51	17.6	28.3	-	17.6	0.7	-1	4	4	clayy SILT to silty CLAY	115	2	9	14	-	-	1.2	9.9	42	2.73	15	N/A	N/A
9.68	18	28.8	-	18	0.7	-1	4.3	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.9	43	2.74	15	N/A	N/A
9.84	22.4	36	-	22.4	0.9	-1	4.1	4	clayy SILT to silty CLAY	115	2	11	18	-	-	1.5	9.9	38	2.66	15	N/A	N/A
10.01	30.8	44.8	-	30.8	1.3	-1	4.3	4	clayy SILT to silty CLAY	115	2	15	22	-	-	2.1	9.9	36	2.61	15	-	-
10.17	37.7	54.6	178.7	37.6	1.9	-1.1	5	4	clayy SILT to silty CLAY	115	2	19	27	-	-	2.6	9.9	35	2.59	15	0	0
10.34	42.6	61.4	-	42.6	2.4	-1.1	5.8	4	clayy SILT to silty CLAY	115	2	21	31	-	-	3	9.9	35	2.6	15	-	-
10.5	46.9	67.3	222.6	46.9	2.8	-1	6.1	9	very stiff fine SOIL	120	2	23	34	54	39	-	-	35	2.6	30	0	0
10.66	46.1	74	-	46.1	3	-1	6.7	9	very stiff fine SOIL	120	2	23	37	57	39	-	-	35	2.6	30	-	-
10.83	45.6	64.7	-	45.6	2.9	-0.9	6.3	9	very stiff fine SOIL	120	2	23	32	53	39	-	-	36	2.62	30	-	-
10.99	38	60.9	-	38	2.5	-0.8	6.6	3	silty CLAY to CLAY	115	1.5	25	41	-	-	2.6	9.9	38	2.65	15	-	-
11.16	32.7	52.4	-	32.7	2	-0.6	6.2	3	silty CLAY to CLAY	115	1.5	22	35	-	-	2.3	9.9	39	2.67	15	-	-
11.32	25.9	41.5	-	25.8	1.6	-0.5	6.4	3	silty CLAY to CLAY	115	1.5	17	28	-	-	1.8	9.9	43	2.75	15	-	-
11.48	22.4	35.9	-	22.4	1.4	-0.5	6.4	3	silty CLAY to CLAY	115	1.5	15	24	-	-	1.5	9.9	46	2.8	15	-	-

11.65	24.1	38.7	-	24.1	1.3	-0.4	5.5	3	silty CLAY to CLAY	115	1.5	16	26	-	-	1.7	9.9	42	2.73	15	-	-		
11.81	21.7	34.8	-	21.7	1.4	-0.4	6.5	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	47	2.81	15	-	-		
11.98	21.7	34.9	-	21.7	1.2	-0.5	5.7	3	silty CLAY to CLAY	115	1.5	14	23	-	-	1.5	9.9	44	2.77	15	-	-		
12.14	17.9	28.6	-	17.9	1	-0.5	6.1	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.1	49	2.85	15	-	-		
12.3	16.4	26	-	16.4	0.9	-0.4	5.7	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	8.2	50	2.87	15	-	-		
12.47	17.7	27.8	-	17.6	0.9	-0.4	5.5	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	8.8	48	2.83	15	-	-		
12.63	18.3	28.6	-	18.3	1	-0.3	5.9	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.2	9.1	49	2.84	15	-	-		
12.8	18.7	29	-	18.7	1.1	-0.3	6.1	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.3	9.2	49	2.85	15	-	-		
12.96	19.1	29.5	-	19.1	1.1	-0.3	5.9	3	silty CLAY to CLAY	115	1.5	13	20	-	-	1.3	9.3	48	2.84	15	-	-		
13.12	18.7	28.7	-	18.7	1	-0.3	5.8	3	silty CLAY to CLAY	115	1.5	12	19	-	-	1.3	9.1	48	2.84	15	-	-		
13.29	17.7	26.9	-	17.7	1	-0.3	5.9	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	8.5	50	2.86	15	-	-		
13.45	17.5	26.4	-	17.5	1	-0.3	5.9	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	8.3	50	2.87	15	-	-		
13.62	17.2	25.8	-	17.2	1	-0.3	5.9	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.2	8.1	51	2.88	15	-	-		
13.78	16.8	25.1	-	16.8	0.9	-0.3	5.8	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.1	7.9	51	2.88	15	-	-		
13.94	16.4	24.3	-	16.4	0.9	-0.3	5.7	3	silty CLAY to CLAY	115	1.5	11	16	-	-	1.1	7.6	51	2.89	15	-	-		
14.11	16.6	24.5	-	16.6	0.8	-0.3	5.4	3	silty CLAY to CLAY	115	1.5	11	16	-	-	1.1	7.7	50	2.87	15	-	-		
14.27	17.2	25.2	-	17.2	0.8	-0.3	5.1	3	silty CLAY to CLAY	115	1.5	11	17	-	-	1.2	7.9	49	2.85	15	-	-		
14.44	18.3	26.6	-	18.3	0.9	-0.3	5	3	silty CLAY to CLAY	115	1.5	12	18	-	-	1.2	8.4	47	2.82	15	-	-		
14.6	19	27.4	-	19	0.9	-0.2	5.1	3	silty CLAY to CLAY	115	1.5	13	18	-	-	1.3	8.6	47	2.81	15	-	-		
14.76	20.1	28.9	-	20.1	0.9	-0.2	4.8	3	silty CLAY to CLAY	115	1.5	13	19	-	-	1.4	9.1	45	2.78	15	-	-		
14.93	20.7	29.5	-	20.7	1	-0.2	4.8	3	silty CLAY to CLAY	115	1.5	14	20	-	-	1.4	9.3	45	2.78	15	-	-		
15.09	19.4	27.5	-	19.4	0.9	-0.2	4.7	3	silty CLAY to CLAY	115	1.5	13	18	-	-	1.3	8.7	45	2.79	15	-	-		
15.26	18.5	26	-	18.5	0.9	0	5	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.3	8.2	48	2.83	15	-	-		
15.42	17.7	24.8	-	17.7	0.9	0	5.4	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.2	7.8	50	2.86	15	-	-		
15.58	18.5	25.7	-	18.5	1	0	5.9	3	silty CLAY to CLAY	115	1.5	12	17	-	-	1.3	8.1	51	2.88	15	-	-		
15.75	21.3	29.5	-	21.3	1.1	0	5.2	3	silty CLAY to CLAY	115	1.5	14	20	-	-	1.5	9.3	46	2.8	15	-	-		
15.91	22.5	30.9	-	22.5	1.1	0	4.9	3	silty CLAY to CLAY	115	1.5	15	21	-	-	1.5	9.8	44	2.76	15	-	-		
16.08	23.9	32.7	-	23.9	1.1	0.1	4.9	3	silty CLAY to CLAY	115	1.5	16	22	-	-	1.6	9.9	43	2.75	15	-	-		
16.24	23.5	31.9	-	23.5	1.1	0.1	5	3	silty CLAY to CLAY	115	1.5	16	21	-	-	1.6	9.9	44	2.76	15	-	-		
16.4	26.1	35.3	-	26.1	1.4	0.1	5.5	3	silty CLAY to CLAY	115	1.5	17	24	-	-	1.8	9.9	44	2.76	15	-	-		
16.57	30.4	40.9	-	30.4	1.6	0.1	5.4	3	silty CLAY to CLAY	115	1.5	20	27	-	-	2.1	9.9	41	2.71	15	-	-		
16.73	30.4	40.6	-	30.4	1.7	0.2	5.6	3	silty CLAY to CLAY	115	1.5	20	27	-	-	2.1	9.9	42	2.72	15	-	-		
16.9	30.7	40.9	-	30.7	1.6	0.2	5.5	3	silty CLAY to CLAY	115	1.5	20	27	-	-	2.1	9.9	41	2.71	15	-	-		
17.06	29.5	39	-	29.5	1.6	0.3	5.7	3	silty CLAY to CLAY	115	1.5	20	26	-	-	2	9.9	42	2.74	15	-	-		
17.23	29.5	38.8	-	29.5	1.4	0.3	4.8	3	silty CLAY to CLAY	115	1.5	20	26	-	-	2	9.9	40	2.69	15	-	-		
17.39	23.5	30.7	-	23.5	1.2	0.5	5.2	3	silty CLAY to CLAY	115	1.5	16	20	-	-	1.6	9.7	45	2.78	15	-	-		
17.55	15.7	20.4	-	15.7	0.9	0.2	5.9	3	silty CLAY to CLAY	115	1.5	10	14	-	-	1.1	6.3	56	2.96	15	-	-		
17.72	14.4	18.6	-	14.4	0.7	-0.2	5.3	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.7	56	2.96	15	-	-		
17.88	12.3	15.8	-	12.3	0.6	-0.5	5.3	3	silty CLAY to CLAY	115	1.5	8	11	-	-	0.8	4.8	60	3.02	15	-	-		
18.05	11	14	-	11	0.4	-0.3	4.5	3	silty CLAY to CLAY	115	1.5	7	9	-	-	0.7	4.2	60	3.02	15	-	-		
18.21	8.6	10.9	-	8.6	0.3	-0.2	3.7	3	silty CLAY to CLAY	115	1.5	6	7	-	-	0.5	3.1	63	3.06	15	-	-		
18.37	7.3	9.3	-	7.3	0.3	-0.1	4.6	3	silty CLAY to CLAY	115	1.5	5	6	-	-	0.5	2.6	72	3.18	15	-	-		
18.54	8.3	10.5	-	8.3	0.3	-0.2	4.1	3	silty CLAY to CLAY	115	1.5	6	7	-	-	0.5	3	66	3.11	15	-	-		
18.7	7.8	9.7	-	7.8	0.3	-0.1	4	3	silty CLAY to CLAY	115	1.5	5	6	-	-	0.5	2.8	68	3.13	15	-	-		
18.87	6.5	8.1	-	6.5	0.2	-0.1	4.3	3	silty CLAY to CLAY	115	1.5	4	5	-	-	0.4	2.2	75	3.22	15	-	-		
19.03	6.5	8.1	-	6.5	0.2	-0.1	4.5	3	silty CLAY to CLAY	115	1.5	4	5	-	-	0.4	2.2	76	3.24	15	-	-		
19.19	6.5	8	-	6.5	0.2	-0.1	4.6	3	silty CLAY to CLAY	115	1.5	4	5	-	-	0.4	2.2	77	3.25	15	-	-		
19.36	6.9	8.5	-	6.9	0.2	0	4.1	3	silty CLAY to CLAY	115	1.5	5	6	-	-	0.4	2.3	73	3.2	15	-	-		
19.52	7.4	9.1	-	7.4	0.3	0	5.5	3	silty CLAY to CLAY	115	1.5	5	6	-	-	0.5	2.5	77	3.24	15	-	-		
19.69	11.6	14.1	-	11.6	0.5	0	4.7	3	silty CLAY to CLAY	115	1.5	8	9	-	-	0.8	4.2	61	3.03	15	-	-		
19.85	15	18	-	15	0.5	0.1	3.9	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.5	51	2.89	15	-	-		
20.01	15	17.9	-	15	0.8	0.1	5.6	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.5	58	2.99	15	-	-		
20.18	16.9	20.2	-	16.9	1.8	0.2	9.9	3	silty CLAY to CLAY	115	1.5	11	13	-	-	1.1	6.2	67	3.12	15	-	-		
20.34	34.9	41.4	-	34.9	2	0.2	5.9	3	silty CLAY to CLAY	115	1.5	23	28	-	-	2.4	9.9	42	2.73	15	-	-		
20.51	22.1	26	-	22.1	2.2	0.4	9.9	3	silty CLAY to CLAY	115	1.5	15	17	-	-	1.5	8.1	61	3.04	15	-	-		
20.67	36.1	42.4	-	36.1	1.6	0.3	4.5	4	clayy SILT to silty CLAY	115	2	18	21	-	-	2.5	9.9	37	2.64	15	-	-		
20.83	32.1	37.5	-	32.1	1.4	0.1	4.5	4	clayy SILT to silty CLAY	115	2	16	19	-	-	2.2	9.9	39	2.68	15	-	-		
21	34.1	35.7	114.4	34.1	1	-0.5	3.1	4	clayy SILT to silty CLAY	115	2	17	18	-	-	2.3	9.9	34	2.58	15	2.07	51.2		
21.16	36.3	38	98	36.3	0.8	-1.5	2.2	5	silty SAND to sandy SILT	120	4	9	9	35	36 -	-	29	2.46	16	2.38	51.2			
21.33	16.7	19.2	-	16.6	0.4	-2.6	2.7	4	clayy SILT to silty CLAY	115	2	8	10	-	-	1.1	5.9	44	2.77	15	-	-		
21.49	9.4	10.8	-	9.3	0.2	-2.5	3	3	silty CLAY to CLAY	115	1.5	6	7	-	-	0.6	3.1	60	3.02	15	-	-		
21.65	8	9.2	-	8	0.2	-2.5	2.3	3	silty CLAY to CLAY	115	1.5	5	6	-	-	0.5	2.6	61	3.03	15	-	-		
21.82	8.2	9.3	-	8.1	0.2	-2.4	2.6	3	silty CLAY to CLAY	115	1.5	5	6	-	-	0.5	2.6	62	3.05	15	-	-		
21.98	9.9	11.2	-	9.8	0.2	-2.4	2.6	3	silty CLAY to CLAY	115	1.5	7	7	-	-	0.6	3.2	57	2.98	15	-	-		
22.15	11.5	12.9	-	11.4	0.3	-2.3	2.9	3	silty CLAY to CLAY	115	1.5	8	9	-	-	0.7	3.8	55	2.94	15	-	-		
22.31	13.2	14.7	-	13.1	0.4	-2.3	3.6	3	silty CLAY to CLAY	115	1.5	9	10	-	-	0.9	4.4	55	2.95	15	-	-		
22.47	15.5	17.3	-	15.5	0.5	-2.3	3.7	3	silty CLAY to CLAY	115	1.5	10	12	-	-	1	5.2	51	2.89	15	-	-		
22.64	16.4	18.1	-	16.3	0.6	-2.3	4.3	3	silty CLAY to CLAY	115	1.5	11	12	-	-	1.1	5.5	53	2.91	15	-	-		
22.8	17.4	19.1	-	17.3	0.7	-2.3	4.2	3	silty CLAY to CLAY	115	1.5	12	13	-	-	1.2	5.8	51	2.88	15	-	-		
22.97	16.5	18.1	-	16.4	0.7	-2.2	4.3	3	silty CLAY to CLAY	115	1.5	11	12	-	-	1.1	5.5	53	2.92	15	-	-		
23.13	13.4	14.7	-	13.4	0.6	-2.2	5.1	3	silty CLAY to CLAY	115	1.5	9	10	-	-	0.9	4.4	61	3.04	15	-	-		
23.3	11.3	12.3	-	11.3	0.7	-2.2	6.9	3	silty CLAY to CLAY	115	1.5	8	8	-	-	0.7	3.6	72	3.19	15	-	-		
23.46	22	23.8	-	21.9	0.5	-2.2	2.6	4	clayy SILT to silty CLAY	115	2	11	12	-	-	1.5	7.4	40	2.68	15	-	-		
23.62	24.5	24.7	71.4	24.4	0.3	-2.2	1.5	5	silty SAND to sandy SILT	120	4	6	6	21	33 -	-	32	2.52	16	3.08	51.2			
23.79	15.7	16.8	-	15.7	0.3	-2.1	2.1	4	clayy SILT to silty CLAY	115	2	8	8	-	-	1	5.1	43	2.76	15	-	-		
23.95	10.9	11.6	-	10.8	0.4	-2	3.9	3	silty CLAY to CLAY	115	1.5	7	8	-	-	0.7	3.3	62	3.06	15	-	-		
24.12	13.9	14.7	-	13.8	0.6	-1.9	5.2	3	silty CLAY to CLAY	115	1.5	9	10	-	-	0.9	4.4	61	3.04	15	-	-		
24.28	25.4	26.8	-	25.4	1.1	-1.9	4.4	3	silty CLAY to CLAY	115	1.5	17	18	-	-	1.7	8.4	45	2.78	15	-	-		
24.44	28.6	30	-	28.5	1.3	-1.9	4.9	3	silty CLAY to CLAY	115	1.5	19	20	-	-	2	9.4	45	2.77	15	-	-		
24.61	29.4	30.8	-	29.4	1.5	-1.9	5.4	3	silty CLAY to CLAY	115	1.5	20	21	-	-	2	9.7	46	2.8	15	-	-		
24.77	32.6	33.9	-	32.5	1.5	-1.9	4.9	3	silty CLAY to CLAY	115	1.5	22	23	-	-	2.2	9.9	42	2.74	15	-	-		

24.94	31.7	32.9	-	31.7	1.3	-1.8	4.4	3 silty CLAY to CLAY	115	1.5	21	22	-	-	2.2	9.9	41	2.71	15	-	-		
25.1	30.3	31.3	-	30.3	1.5	-1.7	5	3 silty CLAY to CLAY	115	1.5	20	21	-	-	2.1	9.8	44	2.77	15	-	-		
25.26	29.9	30.7	-	29.9	1.5	-1.6	5.1	3 silty CLAY to CLAY	115	1.5	20	20	-	-	2	9.6	45	2.78	15	-	-		
25.43	30.6	31.4	-	30.6	1.4	-1.6	4.8	3 silty CLAY to CLAY	115	1.5	20	21	-	-	2.1	9.9	44	2.76	15	-	-		
25.59	30.5	31.1	-	30.5	1.5	-1.5	5.1	3 silty CLAY to CLAY	115	1.5	20	21	-	-	2.1	9.8	45	2.78	15	-	-		
25.76	34.7	35.1	-	34.6	1.7	-1.5	5.1	3 silty CLAY to CLAY	115	1.5	23	23	-	-	2.4	9.9	42	2.74	15	-	-		
25.92	37.8	38.1	-	37.7	1.4	-1.4	3.8	4 clayy SILT to silty CLAY	115	2	19	19	-	-	2.6	9.9	36	2.62	15	-	-		
26.08	29.3	29.5	-	29.3	1.2	-1.3	4.2	3 silty CLAY to CLAY	115	1.5	20	20	-	-	2	9.2	42	2.74	15	-	-		
26.25	23.9	24	-	23.9	0.9	-1.3	4.1	3 silty CLAY to CLAY	115	1.5	16	16	-	-	1.6	7.4	46	2.8	15	-	-		
26.41	22.9	22.8	-	22.9	1	-1.2	4.9	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.5	7	50	2.87	15	-	-		
26.58	27.2	27	-	27.2	1.2	-1.2	4.8	3 silty CLAY to CLAY	115	1.5	18	18	-	-	1.9	8.4	46	2.81	15	-	-		
26.74	30.5	30.1	-	30.4	1.5	-1.2	5.1	3 silty CLAY to CLAY	115	1.5	20	20	-	-	2.1	9.4	45	2.79	15	-	-		
26.9	27.8	27.3	-	27.7	1.4	-1.2	5.2	3 silty CLAY to CLAY	115	1.5	19	18	-	-	1.9	8.5	47	2.82	15	-	-		
27.07	22.1	21.6	-	22.1	1	-1.2	4.9	3 silty CLAY to CLAY	115	1.5	15	14	-	-	1.5	6.6	51	2.89	15	-	-		
27.23	20.3	19.8	-	20.3	0.9	-1.2	4.7	3 silty CLAY to CLAY	115	1.5	14	13	-	-	1.4	6	52	2.91	15	-	-		
27.4	20	19.4	-	19.9	0.9	-1.1	4.7	3 silty CLAY to CLAY	115	1.5	13	13	-	-	1.3	5.9	53	2.92	15	-	-		
27.56	22.9	22.2	-	22.9	1	-1.1	4.5	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.5	6.8	49	2.86	15	-	-		
27.72	24.5	23.6	-	24.5	1.1	-1.2	4.9	3 silty CLAY to CLAY	115	1.5	16	16	-	-	1.7	7.3	50	2.86	15	-	-		
27.89	26.4	25.3	-	26.4	1.3	-1.2	5.1	3 silty CLAY to CLAY	115	1.5	18	17	-	-	1.8	7.8	49	2.85	15	-	-		
28.05	25.9	24.8	-	25.9	1.4	-1.2	5.7	3 silty CLAY to CLAY	115	1.5	17	17	-	-	1.8	7.7	51	2.89	15	-	-		
28.22	23.2	22.1	-	23.2	1.2	-1.2	5.6	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.6	6.8	53	2.92	15	-	-		
28.38	23.1	21.9	-	23.1	1	-1.2	4.9	3 silty CLAY to CLAY	115	1.5	15	15	-	-	1.6	6.7	51	2.88	15	-	-		
28.54	26.7	25.2	-	26.6	1.1	-1.1	4.2	3 silty CLAY to CLAY	115	1.5	18	17	-	-	1.8	7.8	46	2.79	15	-	-		
28.71	26.1	24.5	-	26.1	1.3	-1.1	5.3	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.8	7.6	50	2.87	15	-	-		
28.87	34.2	32	-	34.2	1.6	-1.1	5	3 silty CLAY to CLAY	115	1.5	23	21	-	-	2.3	9.9	44	2.76	15	-	-		
29.04	33.7	31.4	-	33.7	1.9	-1.1	5.8	3 silty CLAY to CLAY	115	1.5	22	21	-	-	2.3	9.8	47	2.81	15	-	-		
29.2	30.4	28.2	-	30.3	1.6	-1	5.7	3 silty CLAY to CLAY	115	1.5	20	19	-	-	2.1	8.8	49	2.84	15	-	-		
29.36	25.2	23.3	-	25.1	1.2	-0.9	4.9	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.7	7.2	50	2.87	15	-	-		
29.53	19.1	17.6	-	19.1	0.6	-0.9	3.3	3 silty CLAY to CLAY	115	1.5	13	12	-	-	1.3	5.3	49	2.86	15	-	-		
29.69	18.1	16.6	-	18.1	0.4	-0.8	2.6	4 clayy SILT to silty CLAY	115	2	9	8	-	-	1.2	5	47	2.82	15	-	-		
29.86	17.7	16.1	-	17.6	0.6	-0.7	3.8	3 silty CLAY to CLAY	115	1.5	12	11	-	-	1.2	4.8	54	2.92	15	-	-		
30.02	24.3	22.2	-	24.3	0.9	-0.7	4	3 silty CLAY to CLAY	115	1.5	16	15	-	-	1.6	6.8	47	2.82	15	-	-		
30.19	25	22.7	-	25	1.1	-0.7	4.7	3 silty CLAY to CLAY	115	1.5	17	15	-	-	1.7	7	50	2.86	15	-	-		
30.35	25.9	23.4	-	25.9	1.2	-0.7	4.8	3 silty CLAY to CLAY	115	1.5	17	16	-	-	1.8	7.2	49	2.86	15	-	-		
30.51	18.7	16.9	-	18.7	1	-0.7	6.1	3 silty CLAY to CLAY	115	1.5	12	11	-	-	1.2	5	61	3.04	15	-	-		
30.68	13.6	12.2	-	13.6	0.7	-0.7	6.3	3 silty CLAY to CLAY	115	1.5	9	8	-	-	0.9	3.5	71	3.17	15	-	-		
30.84	10.8	9.6	-	10.8	0.4	-0.7	4.6	3 silty CLAY to CLAY	115	1.5	7	6	-	-	0.7	2.7	71	3.18	15	-	-		
31.01	6.9	6.1	-	6.9	0.5	-0.6	8.9	2 Organic SOILS - Peats	100	1	7	6	-	-	0.6	1.5	95	3.55	10	-	-		
31.17	8.2	7.3	-	8.2	0.6	-0.6	9.4	2 Organic SOILS - Peats	100	1	8	7	-	-	0.7	1.9	95	3.49	10	-	-		
31.33	18	15.9	-	18	0.8	-0.6	5	3 silty CLAY to CLAY	115	1.5	12	11	-	-	1.2	4.7	59	3.01	15	-	-		
31.5	22.7	20	-	22.7	1.1	-0.7	5.1	3 silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	6.1	54	2.93	15	-	-		
31.66	35	30.8	-	35	1.1	-0.7	3.3	4 clayy SILT to silty CLAY	115	2	18	15	-	-	2.4	9.6	38	2.66	15	-	-		
31.83	44	40	123.9	44	1.4	-0.8	3.3	4 clayy SILT to silty CLAY	115	2	22	20	-	-	3	9.9	34	2.56	15	1.87	51.2		
31.99	53.4	48.4	114.9	53.4	1.3	-0.7	2.5	5 silty SAND to sandy SILT	120	4	13	12	43	36 -	-	27	2.41	16	2.08	46			
32.15	33	28.7	-	33	1.9	-0.7	6.2	3 silty CLAY to CLAY	115	1.5	22	19	-	-	2.3	8.9	50	2.86	15	-	-		
32.32	41	35.4	-	41	1.9	-0.5	4.8	3 silty CLAY to CLAY	115	1.5	27	24	-	-	2.8	9.9	41	2.72	15	-	-		
32.48	35.5	30.6	-	35.5	1.5	-0.4	4.4	3 silty CLAY to CLAY	115	1.5	24	20	-	-	2.4	9.6	43	2.74	15	-	-		
32.65	26.8	23	-	26.8	1.1	-0.2	4.4	3 silty CLAY to CLAY	115	1.5	18	15	-	-	1.8	7.1	48	2.84	15	-	-		
32.81	22.2	19	-	22.2	0.9	-0.1	4.5	3 silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	5.7	53	2.91	15	-	-		
32.97	22.7	19.3	-	22.7	0.9	0	4.3	3 silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	5.8	52	2.9	15	-	-		
33.14	23.6	20.1	-	23.6	1.1	0	5.1	3 silty CLAY to CLAY	115	1.5	16	13	-	-	1.6	6.1	54	2.93	15	-	-		
33.3	27.7	23.4	-	27.7	1.4	0.1	5.4	3 silty CLAY to CLAY	115	1.5	18	16	-	-	1.9	7.2	51	2.89	15	-	-		
33.47	27.6	23.3	-	27.6	1.7	0	6.5	3 silty CLAY to CLAY	115	1.5	18	16	-	-	1.9	7.1	55	2.95	15	-	-		
33.63	28.7	24.1	-	28.7	1.4	0	5.2	3 silty CLAY to CLAY	115	1.5	19	16	-	-	1.9	7.4	50	2.87	15	-	-		
33.79	25	20.9	-	25	1.1	0	4.8	3 silty CLAY to CLAY	115	1.5	17	14	-	-	1.7	6.4	52	2.9	15	-	-		
33.96	19.4	16.2	-	19.4	0.8	0.1	4.5	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.8	57	2.97	15	-	-		
34.12	19	15.8	-	19	0.7	0.1	4.1	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.7	56	2.96	15	-	-		
34.29	19.7	16.3	-	19.7	0.8	0.2	4.4	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.8	56	2.97	15	-	-		
34.45	19.9	16.4	-	19.9	1	0.2	5.8	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.9	61	3.04	15	-	-		
34.61	23	18.9	-	23.1	1.2	0.2	5.5	3 silty CLAY to CLAY	115	1.5	15	13	-	-	1.5	5.7	57	2.97	15	-	-		
34.78	22.8	18.6	-	22.8	1	0.2	4.8	3 silty CLAY to CLAY	115	1.5	15	12	-	-	1.5	5.6	54	2.94	15	-	-		
34.94	20.1	16.4	-	20.1	1.2	0.2	6.6	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.9	63	3.07	15	-	-		
35.11	25.4	20.7	-	25.4	1.4	0.3	5.9	3 silty CLAY to CLAY	115	1.5	17	14	-	-	1.7	6.3	56	2.96	15	-	-		
35.27	26.8	21.7	-	26.8	1.4	0.3	5.7	3 silty CLAY to CLAY	115	1.5	18	14	-	-	1.8	6.6	54	2.93	15	-	-		
35.43	20.1	16.3	-	20.2	1.2	0.4	6.8	3 silty CLAY to CLAY	115	1.5	13	11	-	-	1.3	4.8	65	3.09	15	-	-		
35.6	17.1	13.8	-	17.2	0.9	0.5	5.9	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1.1	4	66	3.11	15	-	-		
35.76	16	12.8	-	16	0.7	0.6	4.9	3 silty CLAY to CLAY	115	1.5	11	9	-	-	1	3.7	65	3.09	15	-	-		
35.93	14.5	11.6	-	14.5	0.7	0.6	6	3 silty CLAY to CLAY	115	1.5	10	8	-	-	0.9	3.3	71	3.18	15	-	-		
36.09	11.7	9.4	-	11.8	0.8	0.7	7.8	3 silty CLAY to CLAY	115	1.5	8	6	-	-	0.7	2.5	84	3.34	15	-	-		
36.26	9.6	7.6	-	9.6	0.6	0.6	7.5	3 silty CLAY to CLAY	115	1.5	6	5	-	-	0.6	2	91	3.41	15	-	-		
36.42	9.3	7.3	-	9.3	0.4	0.7	5.7	3 silty CLAY to CLAY	115	1.5	6	5	-	-	0.6	1.9	86	3.36	15	-	-		
36.58	10.8	8.5	-	10.8	0.4	0.7	4.2	3 silty CLAY to CLAY	115	1.5	7	6	-	-	0.7	2.3	74	3.21	15	-	-		
36.75	13.2	10.4	-	13.2	0.5	0.7	4.6	3 silty CLAY to CLAY	115	1.5	9	7	-	-	0.8	2.9	70	3.16	15	-	-		
36.91	20.1	15.7	-	20.1	0.9	0.7	5.2	3 silty CLAY to CLAY	115	1.5	13	10	-	-	1.3	4.6	60	3.02	15	-	-		
37.08	32.9	25.7	-	33	1.7	0.7	5.6	3 silty CLAY to CLAY	115	1.5	22	17	-	-	2.2	7.9	50	2.87	15	-	-		
37.24	34.7	27	-	34.7	1.6	0.7	5	3 silty CLAY to CLAY	115	1.5	23	18	-	-	2.4	8.3	47	2.82	15	-	-		
37.4	30.7	23.8	-	30.7	1.4	0.8	4.8	3 silty CLAY to CLAY	115	1.5	20	16	-	-	2.1	7.3	49	2.85	15	-	-		
37.57	29.4	22.7	-	29.4	1.2	0.9	4.4	3 silty CLAY to CLAY	115	1.5	20	15	-	-	2	6.9	48	2.84	15	-	-		
37.73	26.2	20.2	-	26.2	1.3	1	5.2	3 silty CLAY to CLAY	115	1.5	17	13	-	-	1.8	6.1	54	2.94	15	-	-		
37.9	23.4	18	-	23.5	1.1	1.1	5.3	3 silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.4	57	2.98	15	-	-		
38.06	22.7	17.3	-	22.7	0.8	1.1	3.9	3 silty CLAY to CLAY	115	1.5	15	12	-	-	1.5	5.2	53	2.91	15	-	-		

38.22	23.9	18.3	-	24	0.8	1.2	3.9	3 silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.5	51	2.89	15	-	-
38.39	19.3	14.7	-	19.4	0.8	1.2	4.9	3 silty CLAY to CLAY	115	1.5	13	10	-	-	1.3	4.3	61	3.03	15	-	-
38.55	24.2	18.3	-	24.2	0.9	1.2	4	3 silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.5	52	2.9	15	-	-
38.72	24.2	18.3	-	24.2	0.9	1.2	4.1	3 silty CLAY to CLAY	115	1.5	16	12	-	-	1.6	5.5	52	2.9	15	-	-
38.88	22.7	17.1	-	22.7	0.9	1.3	4.6	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5.1	56	2.96	15	-	-
39.04	22.6	17	-	22.7	1	1.3	4.9	3 silty CLAY to CLAY	115	1.5	15	11	-	-	1.5	5	57	2.98	15	-	-
39.21	20.6	15.4	-	20.6	0.9	1.3	4.7	3 silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.5	59	3	15	-	-
39.37	17.7	13.2	-	17.7	0.7	1.4	4.2	3 silty CLAY to CLAY	115	1.5	12	9	-	-	1.2	3.8	61	3.04	15	-	-
39.54	16.4	12.2	-	16.5	0.6	1.4	4.1	3 silty CLAY to CLAY	115	1.5	11	8	-	-	1.1	3.5	62	3.06	15	-	-
39.7	17.5	12.9	-	17.5	0.7	1.4	4.8	3 silty CLAY to CLAY	115	1.5	12	9	-	-	1.1	3.7	64	3.07	15	-	-
39.86	21.4	15.8	-	21.4	0.9	1.5	4.8	3 silty CLAY to CLAY	115	1.5	14	11	-	-	1.4	4.6	59	3	15	-	-
40.03	26.9	19.8	-	26.9	1.3	1.5	5.4	3 silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	6	55	2.95	15	-	-
40.19	30	22	-	30.1	1.7	1.5	6	3 silty CLAY to CLAY	115	1.5	20	15	-	-	2	6.7	55	2.95	15	-	-
40.36	33.2	24.3	-	33.3	1.7	1.5	5.5	3 silty CLAY to CLAY	115	1.5	22	16	-	-	2.3	7.5	51	2.88	15	-	-
40.52	34.9	25.4	-	34.9	1.7	1.5	5.3	3 silty CLAY to CLAY	115	1.5	23	17	-	-	2.4	7.8	49	2.86	15	-	-
40.68	35.1	25.5	-	35.1	1.7	1.6	5.2	3 silty CLAY to CLAY	115	1.5	23	17	-	-	2.4	7.9	49	2.85	15	-	-
40.85	32.5	23.5	-	32.5	1.5	1.6	5	3 silty CLAY to CLAY	115	1.5	22	16	-	-	2.2	7.2	50	2.87	15	-	-
41.01	31.9	23.1	-	32	1.3	1.7	4.2	3 silty CLAY to CLAY	115	1.5	21	15	-	-	2.2	7	48	2.83	15	-	-
41.18	33.6	24.1	-	33.6	1.2	1.8	4	3 silty CLAY to CLAY	115	1.5	22	16	-	-	2.3	7.4	46	2.79	15	-	-
41.34	35	25.1	-	35	1.4	1.8	4.2	3 silty CLAY to CLAY	115	1.5	23	17	-	-	2.4	7.7	46	2.8	15	-	-
41.5	36.3	25.9	-	36.3	1.6	1.9	4.8	3 silty CLAY to CLAY	115	1.5	24	17	-	-	2.5	8	47	2.82	15	-	-
41.67	37.9	27	-	38	1.8	1.9	5	3 silty CLAY to CLAY	115	1.5	25	18	-	-	2.6	8.4	47	2.82	15	-	-
41.83	40.3	28.7	-	40.4	2	1.9	5.2	3 silty CLAY to CLAY	115	1.5	27	19	-	-	2.8	8.9	47	2.81	15	-	-
42	36.2	25.7	-	36.3	2.1	1.9	6.3	3 silty CLAY to CLAY	115	1.5	24	17	-	-	2.5	7.9	52	2.91	15	-	-
42.16	32	22.6	-	32	2	2	6.6	3 silty CLAY to CLAY	115	1.5	21	15	-	-	2.2	6.9	56	2.97	15	-	-
42.32	36.1	25.5	-	36.2	1.7	2	5	3 silty CLAY to CLAY	115	1.5	24	17	-	-	2.5	7.8	48	2.84	15	-	-
42.49	45.2	31.8	-	45.3	1.8	2.2	4.3	3 silty CLAY to CLAY	115	1.5	30	21	-	-	3.1	9.9	42	2.72	15	-	-
42.65	56.7	39.7	-	56.8	2.7	2.3	4.9	3 silty CLAY to CLAY	115	1.5	38	26	-	-	3.9	9.9	40	2.69	15	-	-
42.82	73.5	51.3	-	73.6	3.6	2.3	5.1	4 clayy SILT to silty CLAY	115	2	37	26	-	-	5.1	9.9	36	2.62	15	-	-
42.98	65.1	45.3	-	65.2	4	2.3	6.4	3 silty CLAY to CLAY	115	1.5	43	30	-	-	4.5	9.9	42	2.73	15	-	-
43.15	41.5	28.8	-	41.5	3	2.3	7.7	3 silty CLAY to CLAY	115	1.5	28	19	-	-	2.8	8.9	54	2.93	15	-	-
43.31	27.3	18.9	-	27.4	1.6	2.3	6.5	3 silty CLAY to CLAY	115	1.5	18	13	-	-	1.8	5.7	60	3.02	15	-	-
43.47	19.1	13.2	-	19.2	1	2.5	6.2	3 silty CLAY to CLAY	115	1.5	13	9	-	-	1.2	3.8	69	3.14	15	-	-
43.64	15.1	10.4	-	15.2	0.8	2.5	6	3 silty CLAY to CLAY	115	1.5	10	7	-	-	1	2.9	75	3.22	15	-	-
43.8	14.3	9.8	-	14.3	0.7	2.4	5.8	3 silty CLAY to CLAY	115	1.5	10	7	-	-	0.9	2.7	76	3.24	15	-	-
43.97	14.2	9.7	-	14.2	0.7	2.4	5.8	3 silty CLAY to CLAY	115	1.5	9	6	-	-	0.9	2.6	77	3.25	15	-	-
44.13	15.5	10.6	-	15.6	0.8	2.3	6	3 silty CLAY to CLAY	115	1.5	10	7	-	-	1	2.9	74	3.22	15	-	-
44.29	20.1	13.7	-	20.2	1.1	2.2	6.2	3 silty CLAY to CLAY	115	1.5	13	9	-	-	1.3	3.9	67	3.12	15	-	-
44.46	20	13.5	-	20	1.3	2.2	7.4	3 silty CLAY to CLAY	115	1.5	13	9	-	-	1.3	3.9	71	3.18	15	-	-
44.62	21.6	14.6	-	21.6	1.4	2.3	7.2	3 silty CLAY to CLAY	115	1.5	14	10	-	-	1.4	4.2	69	3.15	15	-	-
44.79	33.8	22.8	-	33.8	1.4	2.1	4.5	3 silty CLAY to CLAY	115	1.5	23	15	-	-	2.3	6.9	49	2.85	15	-	-
44.95	25.7	17.3	-	25.8	1.1	2.2	4.8	3 silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.1	56	2.97	15	-	-
45.11	20.6	13.8	-	20.6	0.8	2.4	4.4	3 silty CLAY to CLAY	115	1.5	14	9	-	-	1.3	4	60	3.03	15	-	-
45.28	24.2	16.2	-	24.3	0.6	2.5	2.9	3 silty CLAY to CLAY	115	1.5	16	11	-	-	1.6	4.8	50	2.86	15	-	-
45.44	25.6	17	-	25.6	0.6	2.6	2.5	4 clayy SILT to silty CLAY	115	2	13	9	-	-	1.7	5	46	2.8	15	-	-
45.61	26.2	17.4	-	26.3	0.7	2.7	3	3 silty CLAY to CLAY	115	1.5	17	12	-	-	1.7	5.2	48	2.84	15	-	-
45.77	27.2	18	-	27.2	0.9	2.8	3.6	3 silty CLAY to CLAY	115	1.5	18	12	-	-	1.8	5.4	50	2.87	15	-	-
45.93	33.1	21.9	-	33.2	0.9	2.8	3	4 clayy SILT to silty CLAY	115	2	17	11	-	-	2.2	6.6	43	2.76	15	-	-
46.1	33.9	22.3	-	34	1.1	2.9	3.5	4 clayy SILT to silty CLAY	115	2	17	11	-	-	2.3	6.8	45	2.79	15	-	-
46.26	34.7	22.8	-	34.8	1.2	2.9	3.8	3 silty CLAY to CLAY	115	1.5	23	15	-	-	2.3	6.9	46	2.8	15	-	-
46.43	32.5	21.3	-	32.6	1.4	3	4.8	3 silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.5	51	2.89	15	-	-
46.59	34	22.2	-	34	1.6	3.1	5.2	3 silty CLAY to CLAY	115	1.5	23	15	-	-	2.3	6.7	52	2.9	15	-	-
46.75	34	22.2	-	34.1	1.7	3.1	5.5	3 silty CLAY to CLAY	115	1.5	23	15	-	-	2.3	6.7	53	2.92	15	-	-
46.92	31.3	20.3	-	31.4	1.5	3.2	5.2	3 silty CLAY to CLAY	115	1.5	21	14	-	-	2.1	6.1	54	2.93	15	-	-
47.08	29.4	19	-	29.5	1.2	3.3	4.7	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2	5.7	54	2.92	15	-	-
47.25	30.2	19.5	-	30.3	1.2	3.4	4.4	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2	5.9	52	2.9	15	-	-
47.41	30.6	19.7	-	30.6	1.3	3.4	4.6	3 silty CLAY to CLAY	115	1.5	20	13	-	-	2.1	5.9	52	2.91	15	-	-
47.57	32.4	20.8	-	32.5	1.5	3.4	5.2	3 silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.3	53	2.92	15	-	-
47.74	37.6	24	-	37.6	1.8	3.4	5	3 silty CLAY to CLAY	115	1.5	25	16	-	-	2.5	7.4	50	2.86	15	-	-
47.9	36.4	23.2	-	36.5	1.8	3.4	5.4	3 silty CLAY to CLAY	115	1.5	24	15	-	-	2.5	7.1	52	2.9	15	-	-
48.07	33.3	21.2	-	33.4	1.7	3.5	5.4	3 silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.4	54	2.93	15	-	-
48.23	33.2	21.1	-	33.3	1.4	3.6	4.7	3 silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.4	52	2.89	15	-	-
48.39	32.8	20.8	-	32.9	1.4	3.6	4.8	3 silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.3	52	2.9	15	-	-
48.56	35.3	22.3	-	35.4	1.3	3.6	4.1	3 silty CLAY to CLAY	115	1.5	24	15	-	-	2.4	6.8	48	2.83	15	-	-
48.72	33.4	21	-	33.5	1.3	3.7	4.2	3 silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.4	50	2.86	15	-	-
48.89	32.3	20.3	-	32.3	1.2	3.8	4	3 silty CLAY to CLAY	115	1.5	22	14	-	-	2.2	6.1	49	2.86	15	-	-
49.05	31.8	19.9	-	31.9	1.1	3.8	3.8	3 silty CLAY to CLAY	115	1.5	21	13	-	-	2.1	6	49	2.85	15	-	-
49.22	31.3	19.5	-	31.4	1.3	3.9	4.6	3 silty CLAY to CLAY	115	1.5	21	13	-	-	2.1	5.9	53	2.91	15	-	-
49.38	31	19.3	-	31.1	1.4	3.9	5.1	3 silty CLAY to CLAY	115	1.5	21	13	-	-	2.1	5.8	55	2.95	15	-	-
49.54	29.4	18.3	-	29.5	1.4	3.9	5.3	3 silty CLAY to CLAY	115	1.5	20	12	-	-	2	5.5	57	2.98	15	-	-
49.71	28.4	17.6	-	28.5	1.3	3.9	4.9	3 silty CLAY to CLAY	115	1.5	19	12	-	-	1.9	5.2	56	2.97	15	-	-
49.87	26.9	16.6	-	27	1.3	3.9	5.3	3 silty CLAY to CLAY	115	1.5	18	11	-	-	1.8	4.9	59	3.01	15	-	-
50.04	24.8	15.3	-	24.9	1.2	4	5.3	3 silty CLAY to CLAY	115	1.5	17	10	-	-	1.6	4.5	61	3.04	15	-	-
50.2	23.4	14.4	-	23.5	1.1	4	5.4	3 silty CLAY to CLAY	115	1.5	16	10	-	-	1.5	4.2	63	3.07	15	-	-

* Indicates the parameter was calculated using the normalized point stress.
The parameters listed above were determined using empirical correlations.
A Professional Engineer must determine their suitability for analysis and design.

Middle Earth Geo Testing

APPENDIX D

CLiq Output

APPENDIX D

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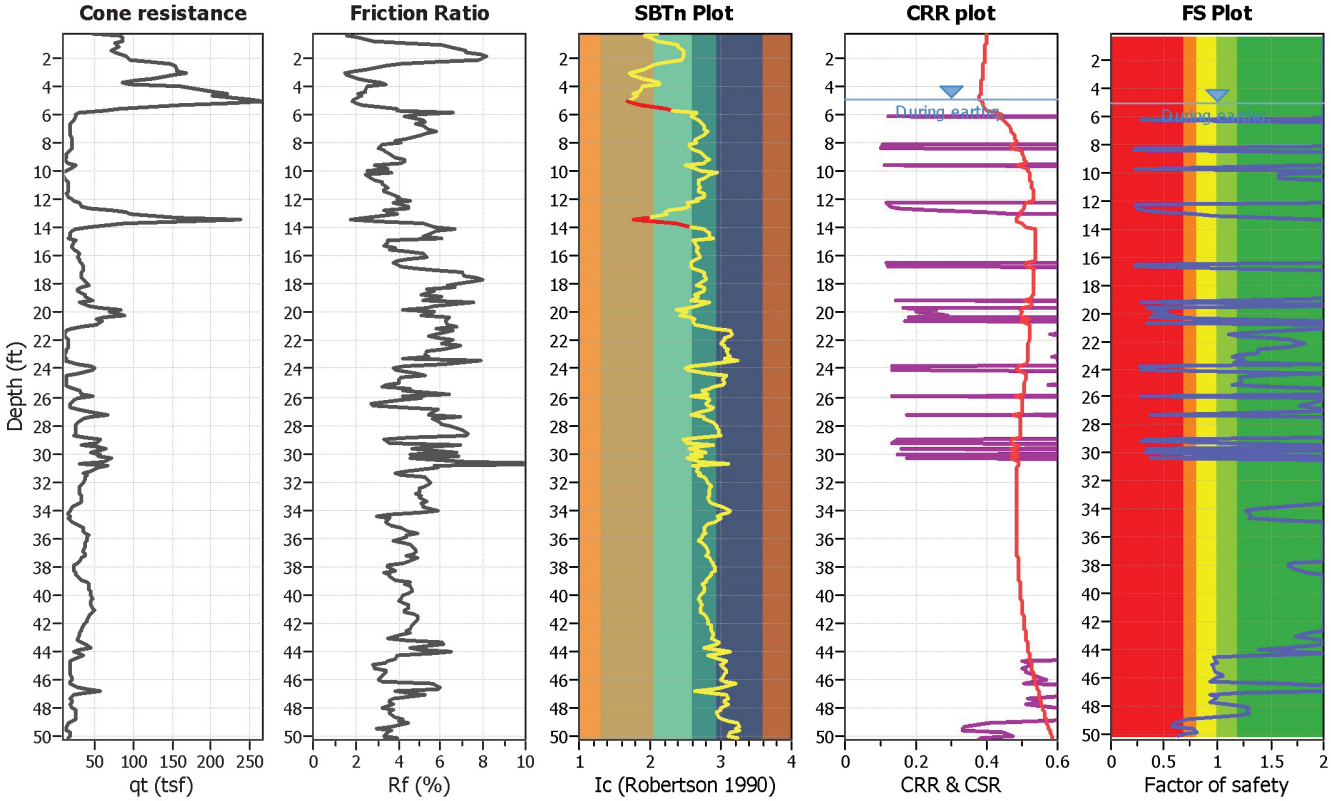
LIQUEFACTION ANALYSIS REPORT

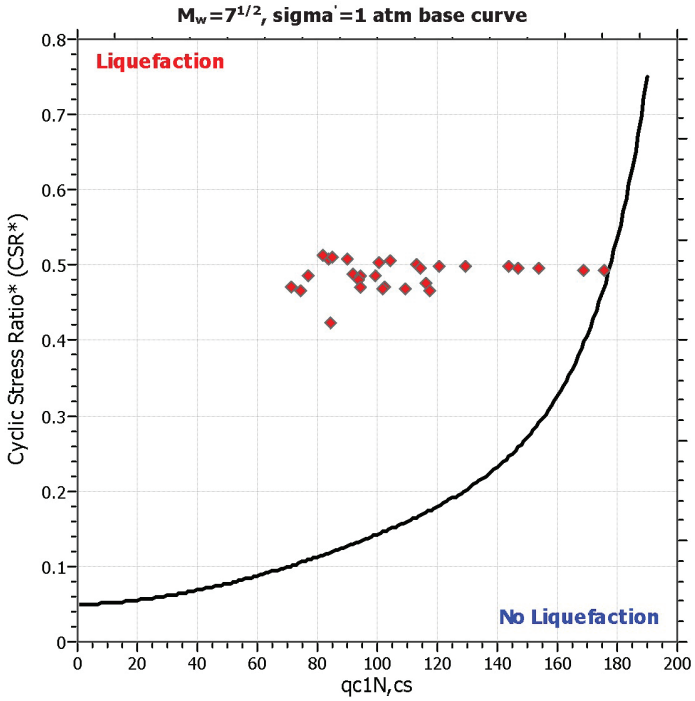
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

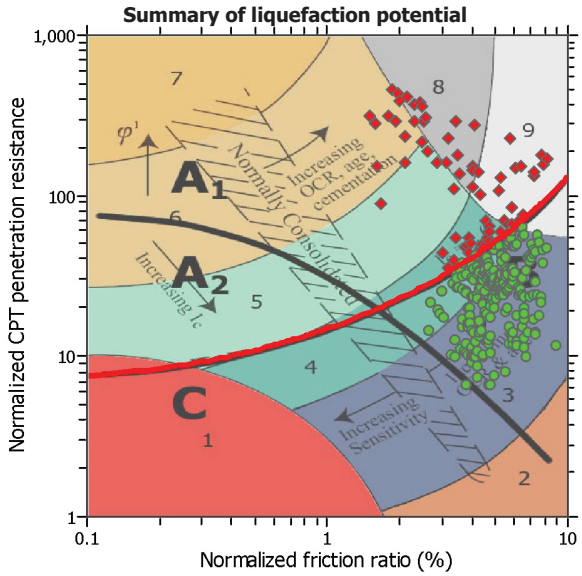
CPT file : 1-CPT1

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

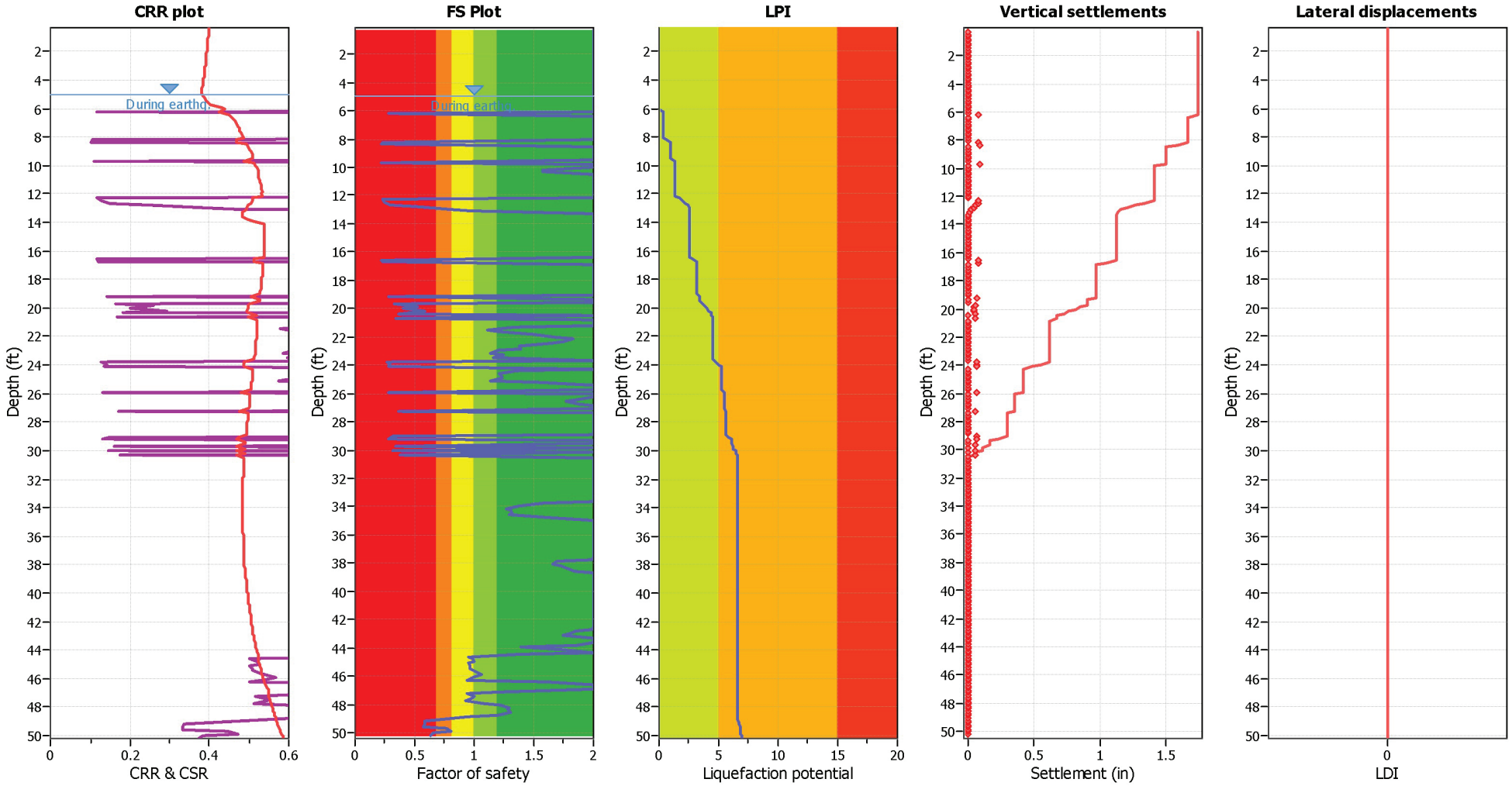






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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San Ramon, California 94583
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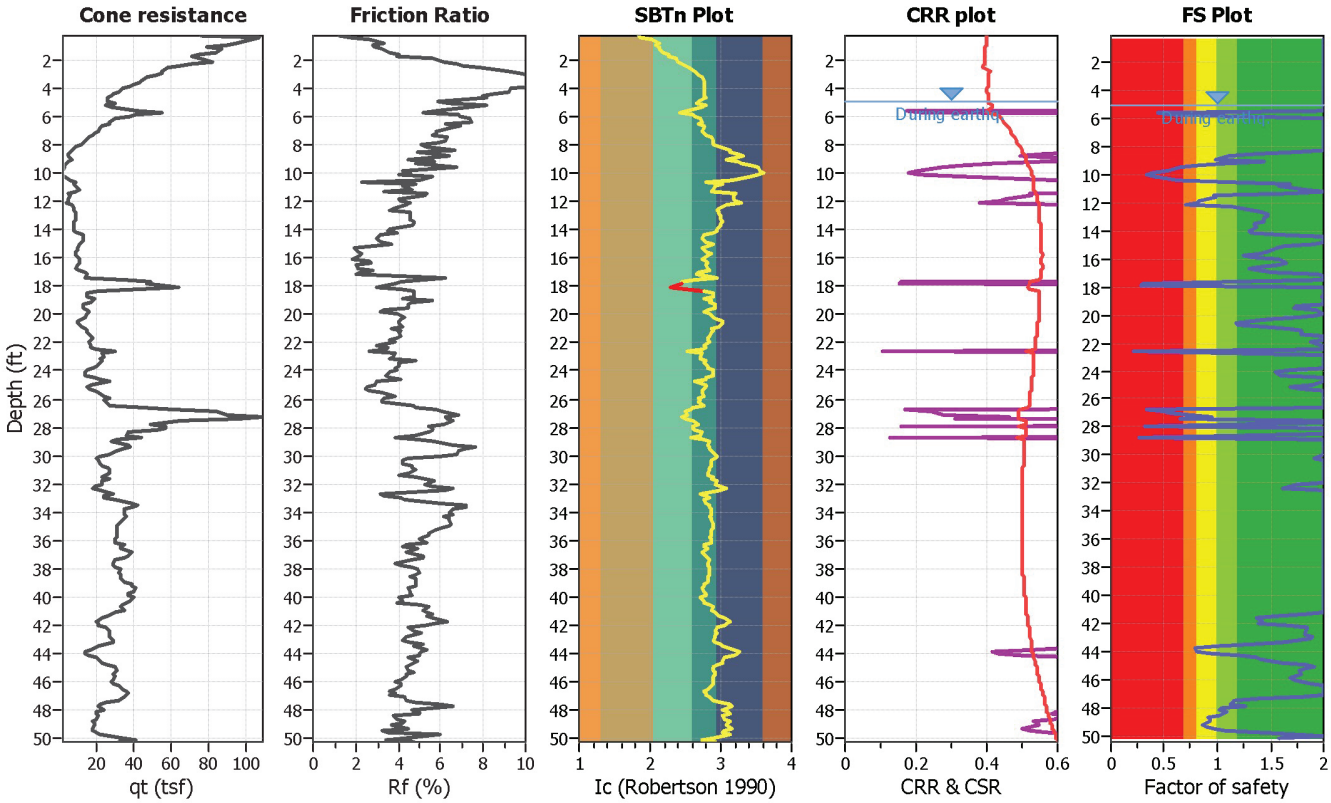
LIQUEFACTION ANALYSIS REPORT

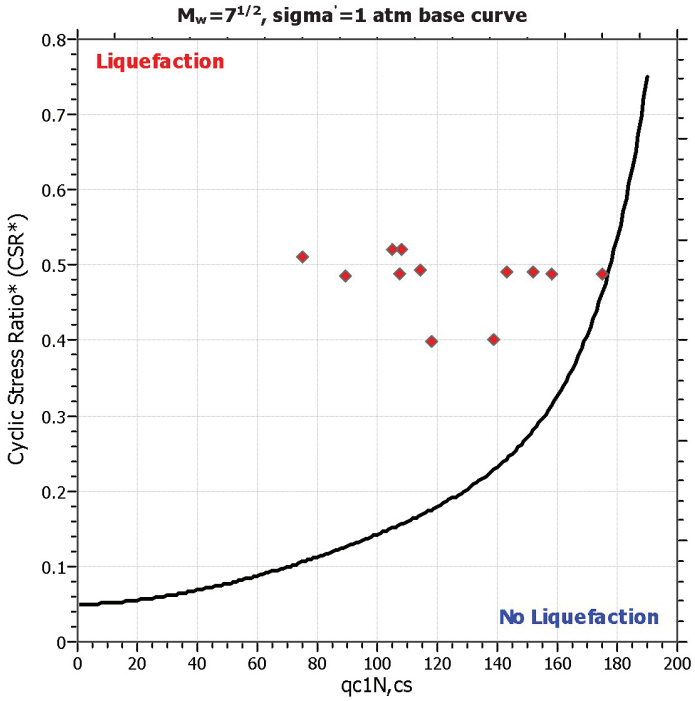
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

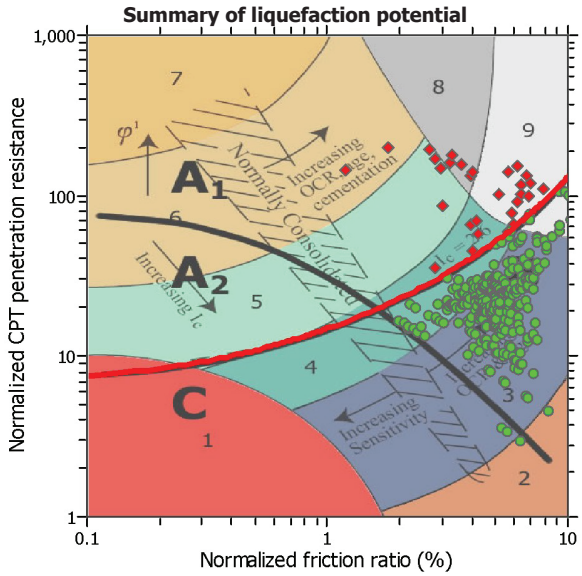
CPT file : 1-CPT2

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

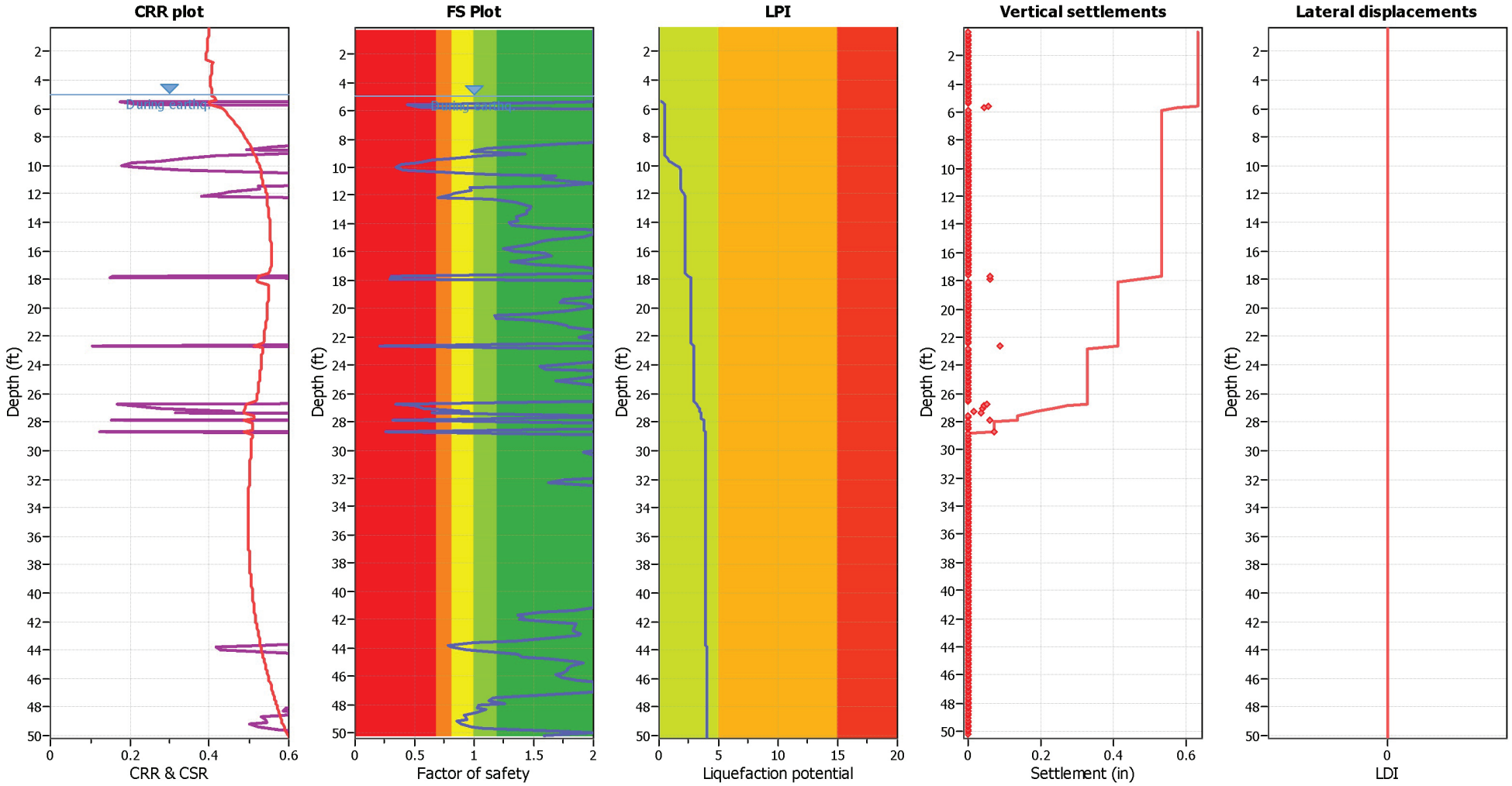






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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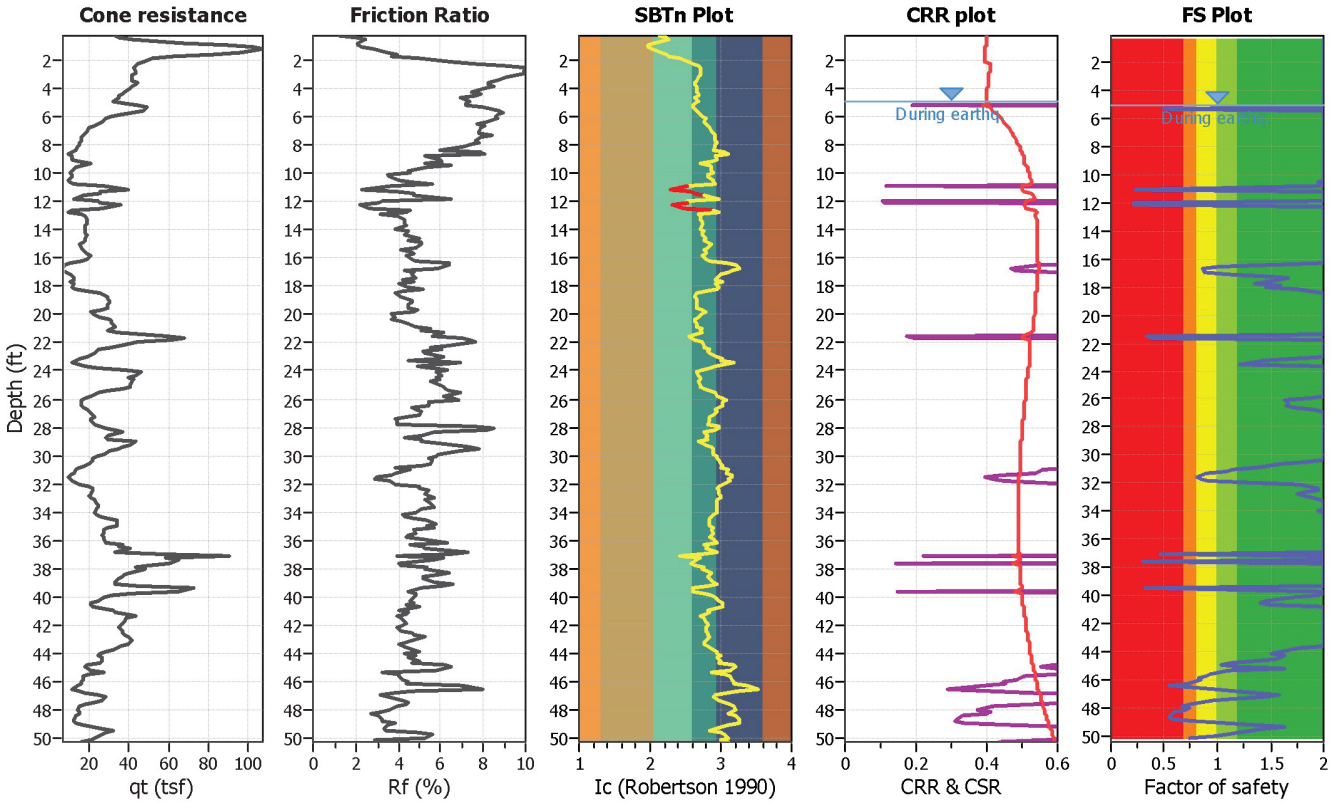
LIQUEFACTION ANALYSIS REPORT

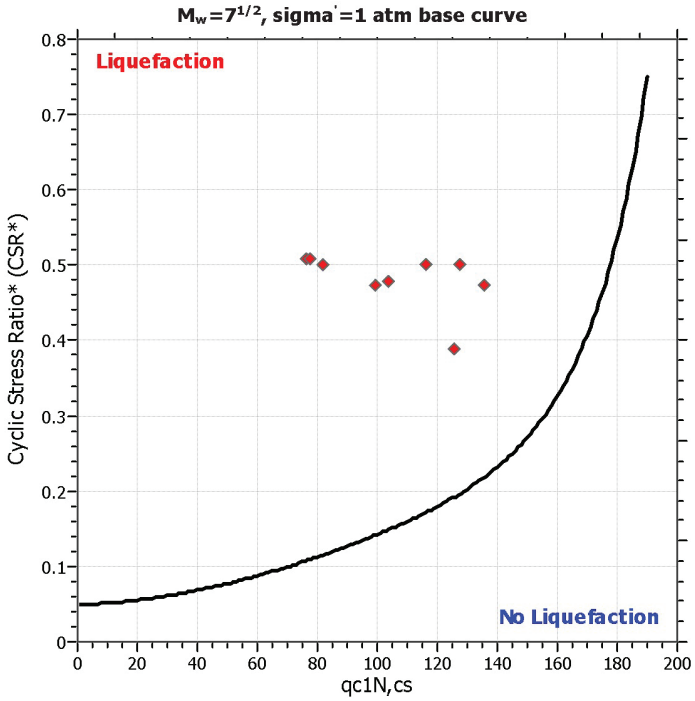
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

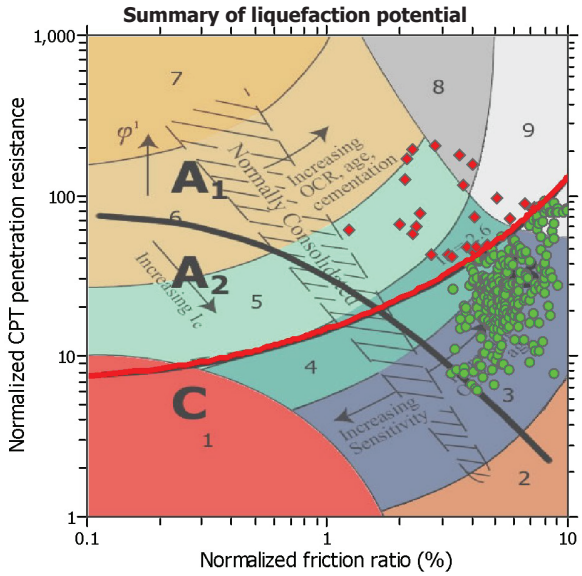
CPT file : 1-CPT3

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

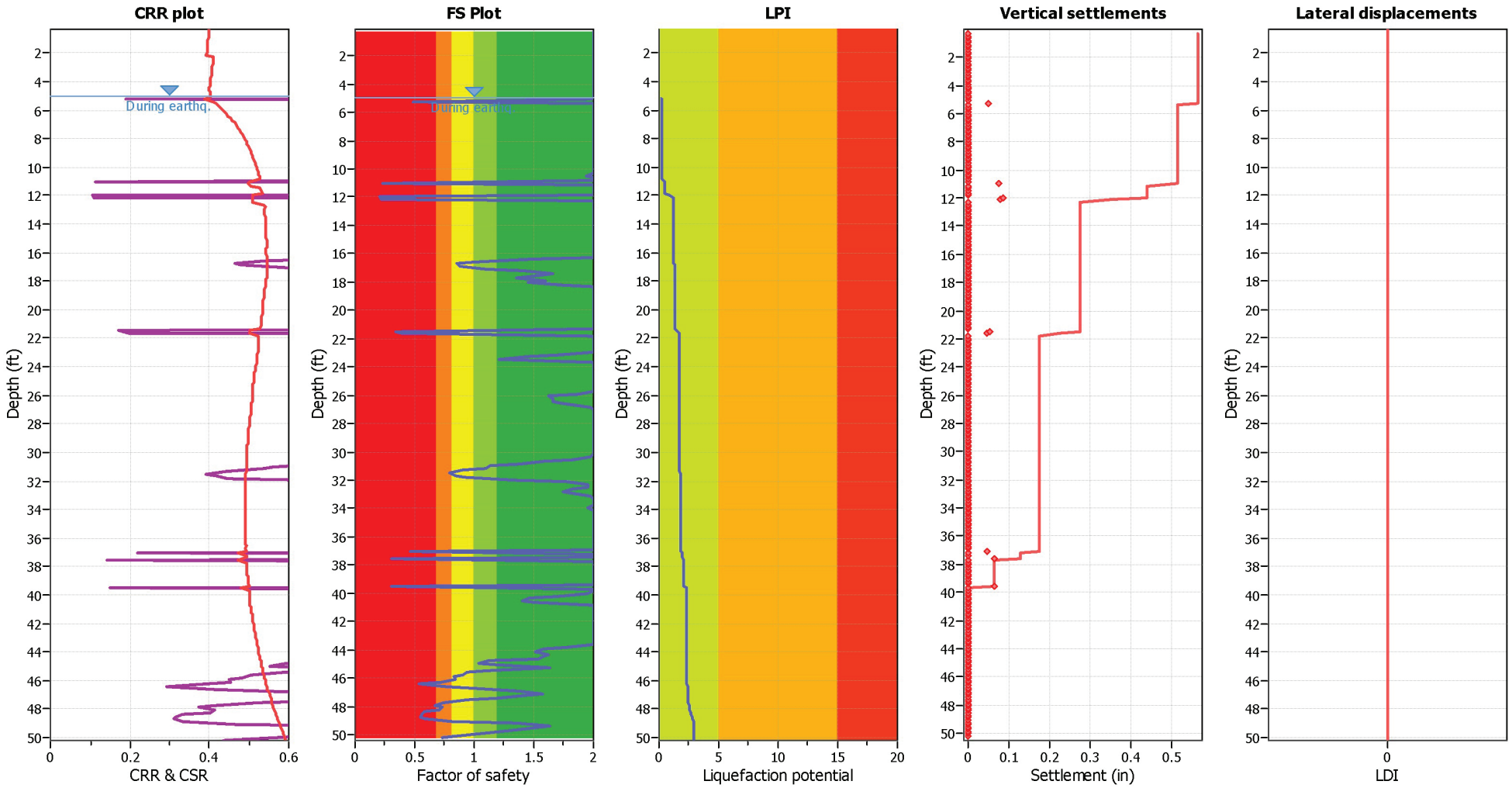






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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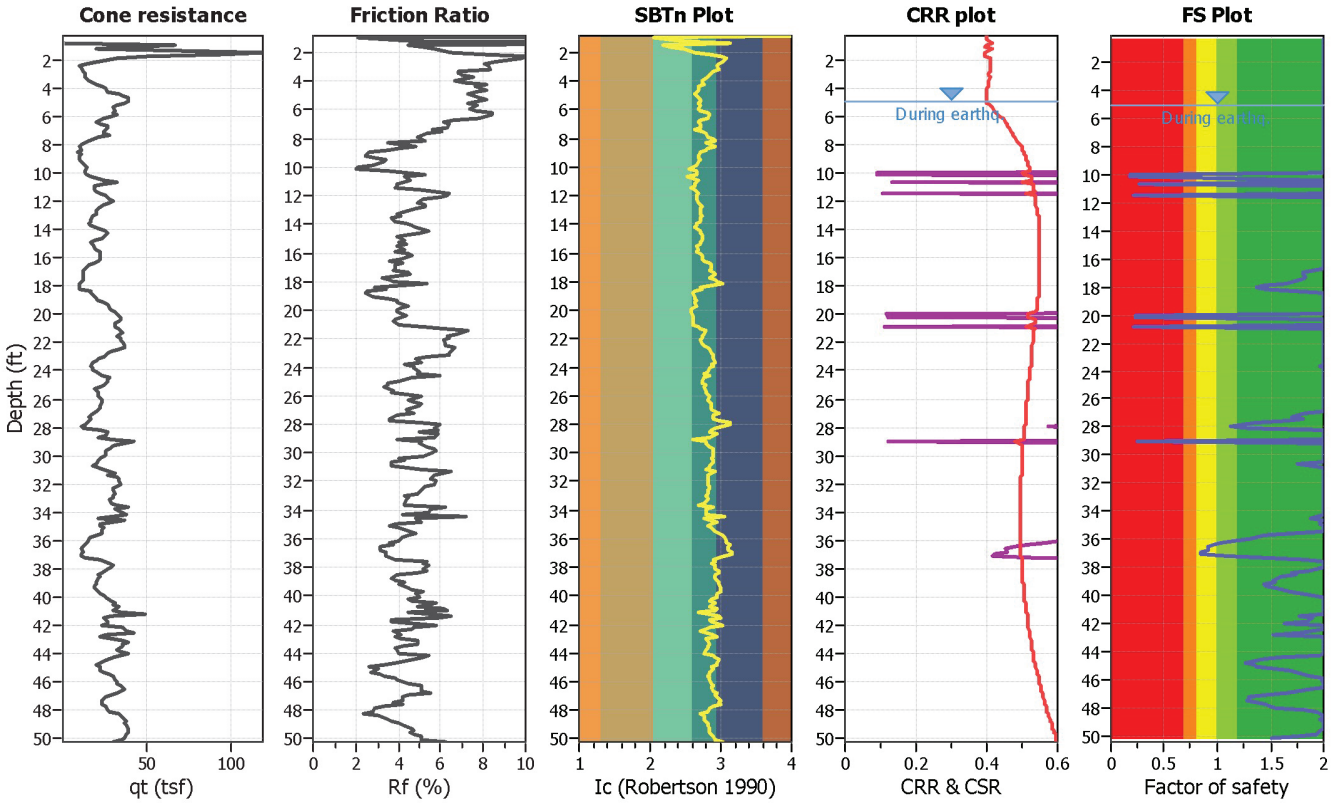
LIQUEFACTION ANALYSIS REPORT

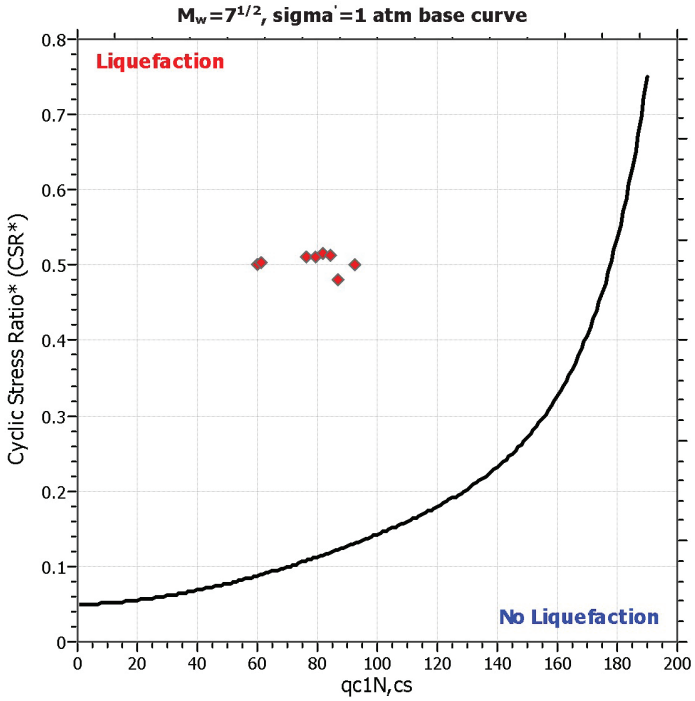
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

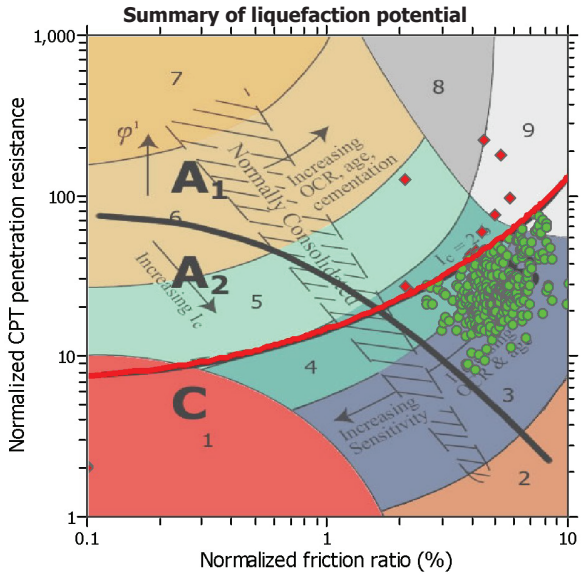
CPT file : 1-CPT4

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

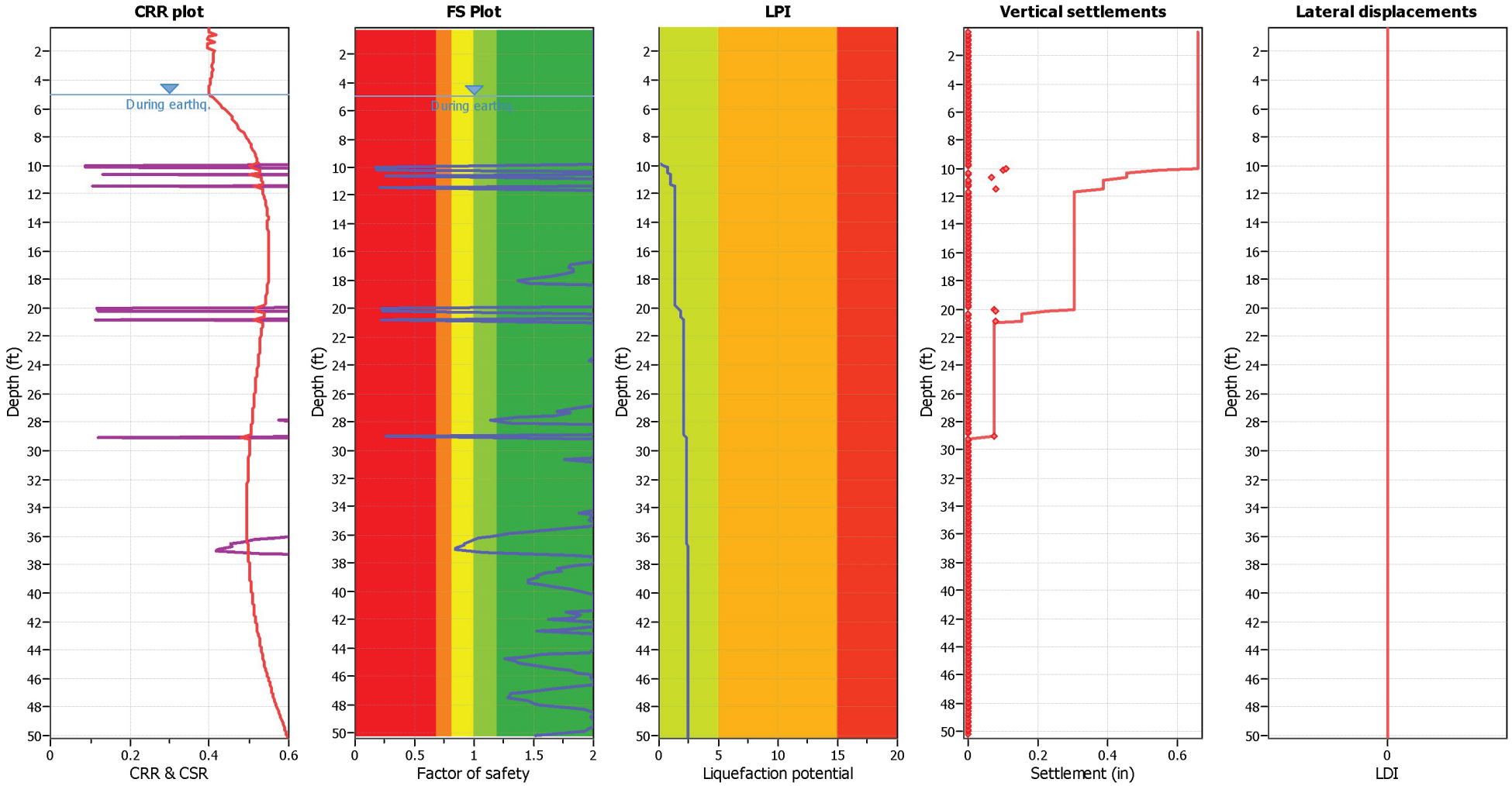






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

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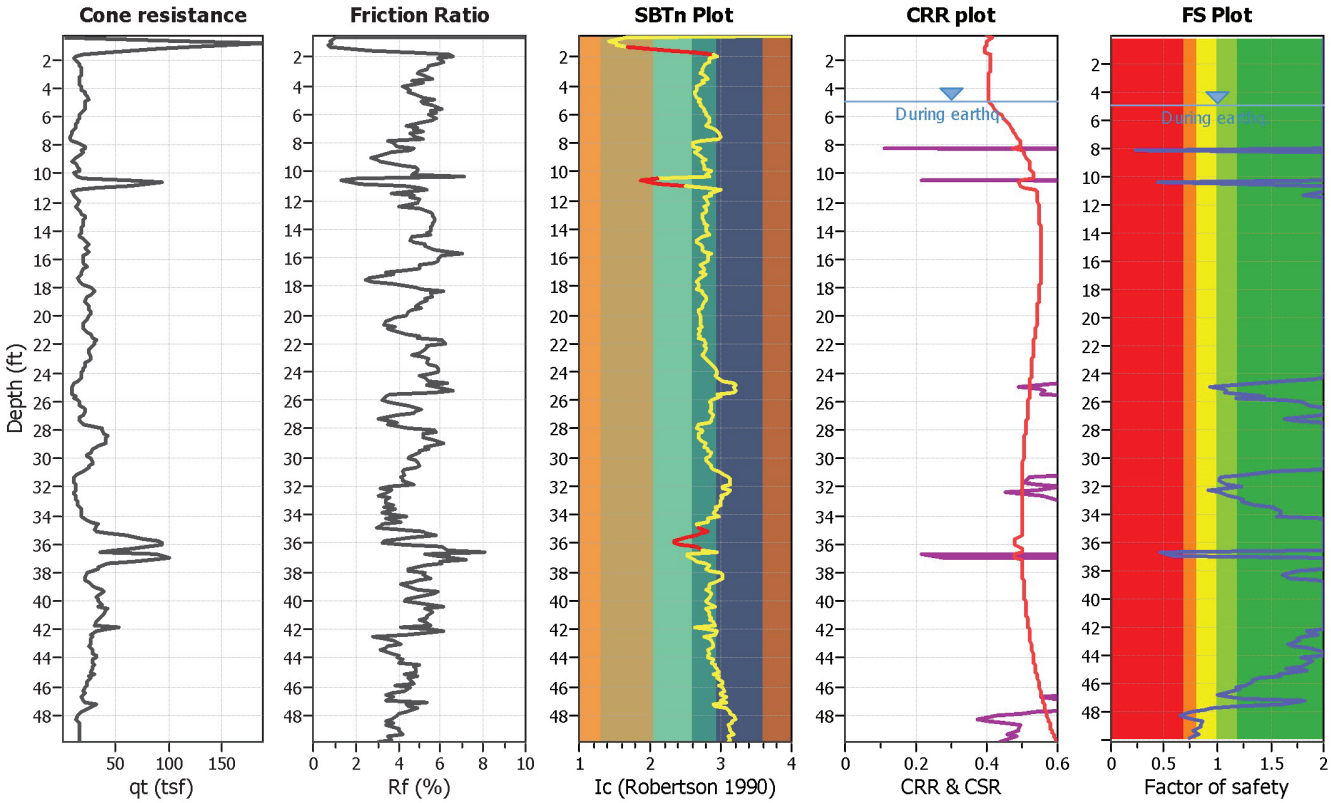
LIQUEFACTION ANALYSIS REPORT

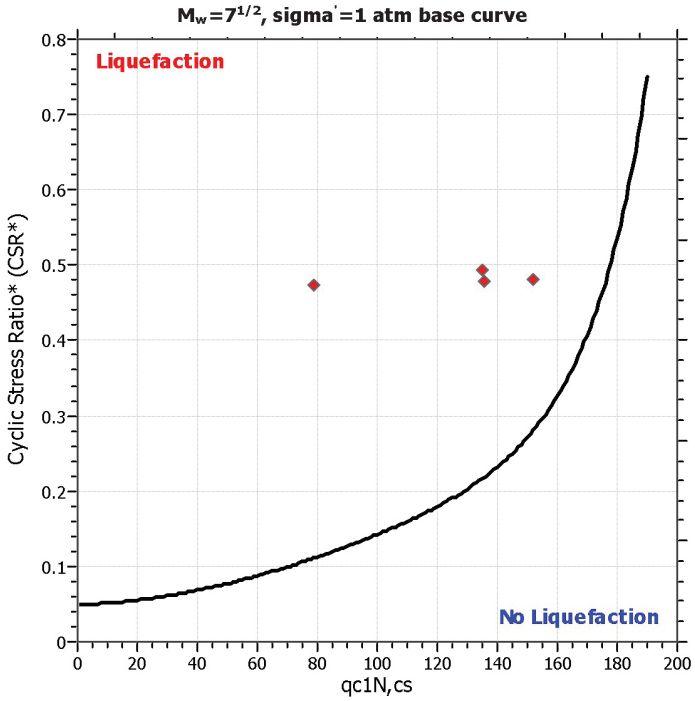
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

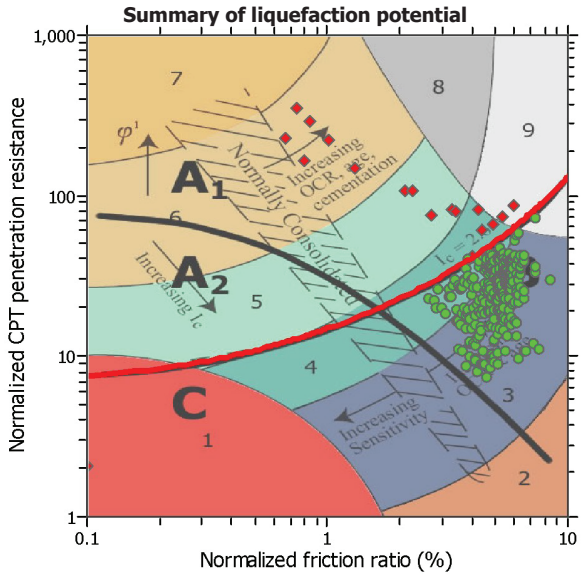
CPT file : 1-CPT5

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

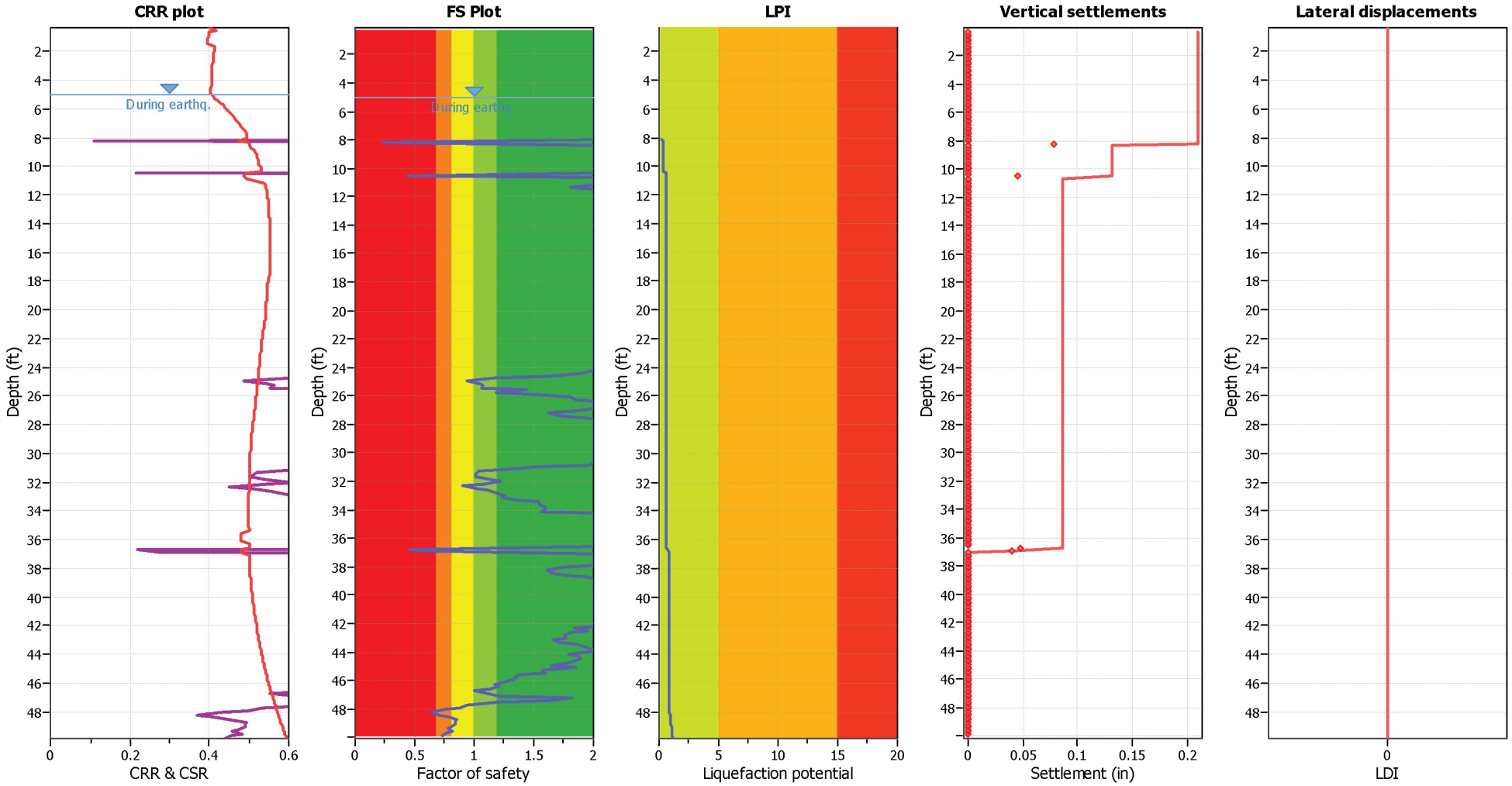






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

ENGEO Incorporated
2010 Crow Canyon Place, Suite 250
San Ramon, California 94583
www.engeo.com

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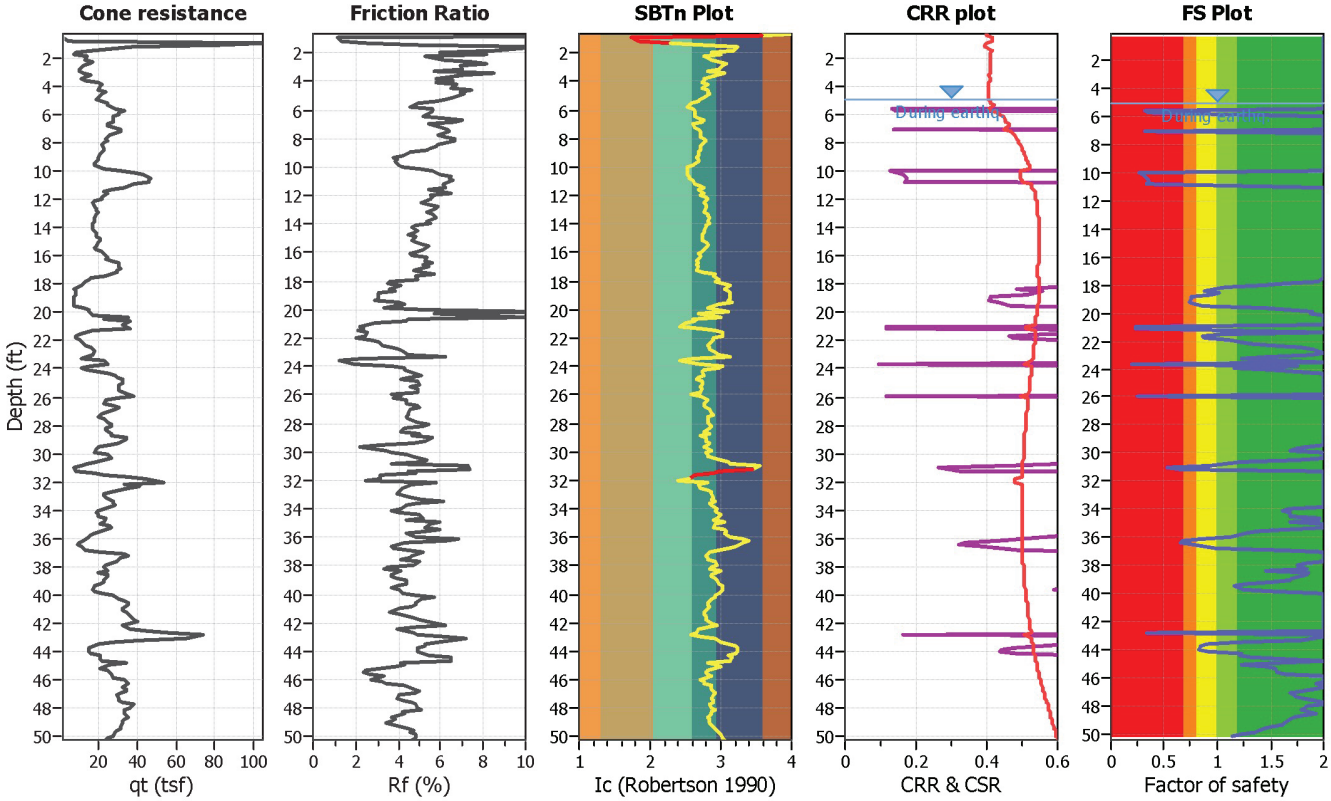
LIQUEFACTION ANALYSIS REPORT

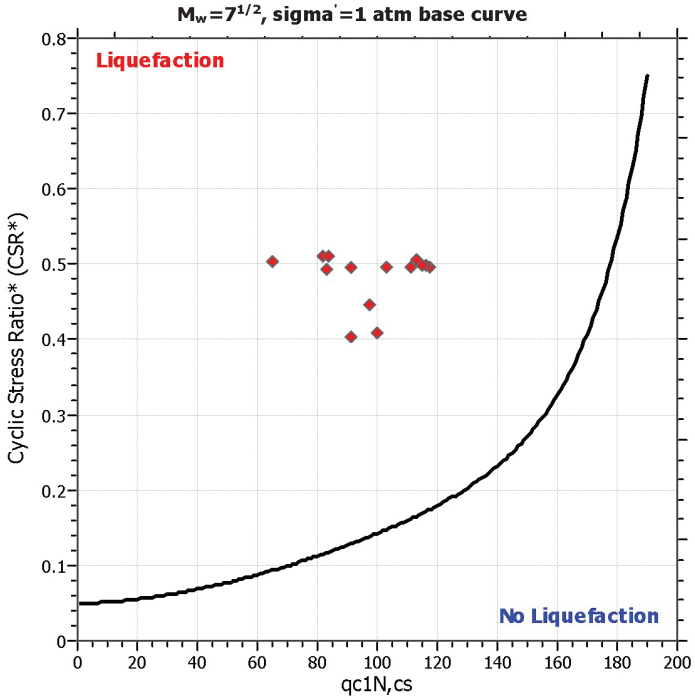
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

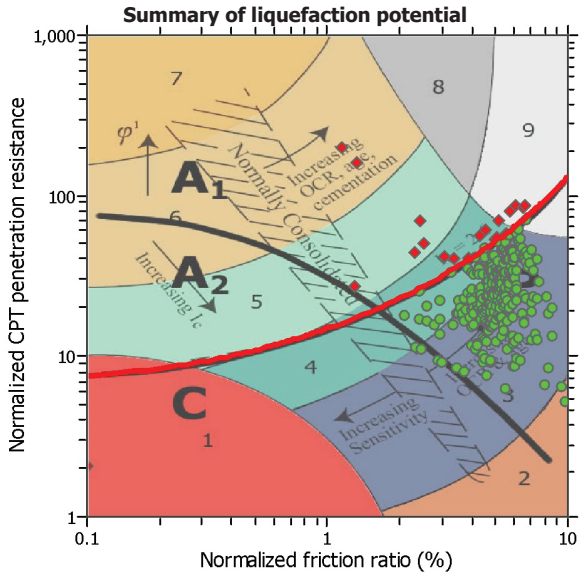
CPT file : 1-CPT6

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sand & Clay
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

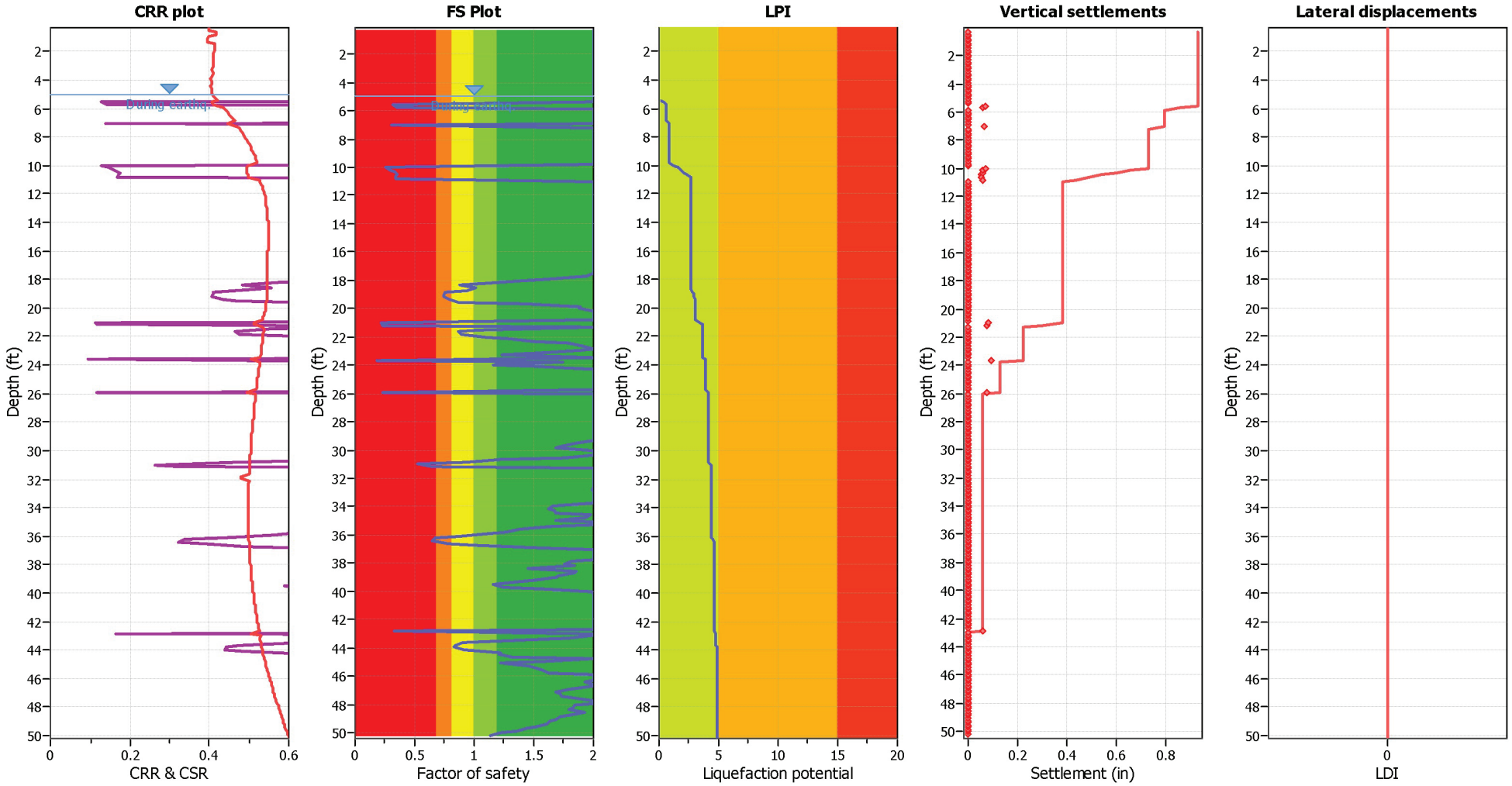






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sand & Clay
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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LPI color scheme

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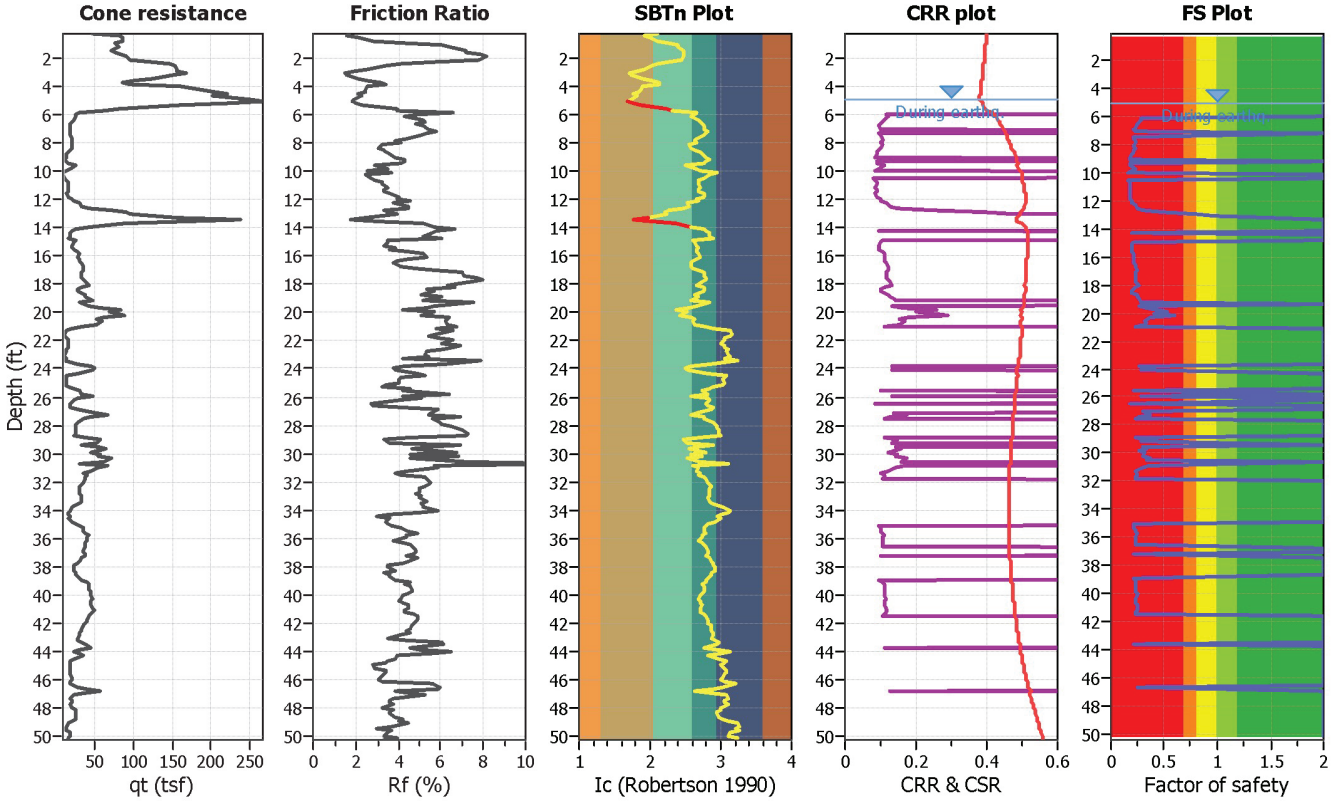
LIQUEFACTION ANALYSIS REPORT

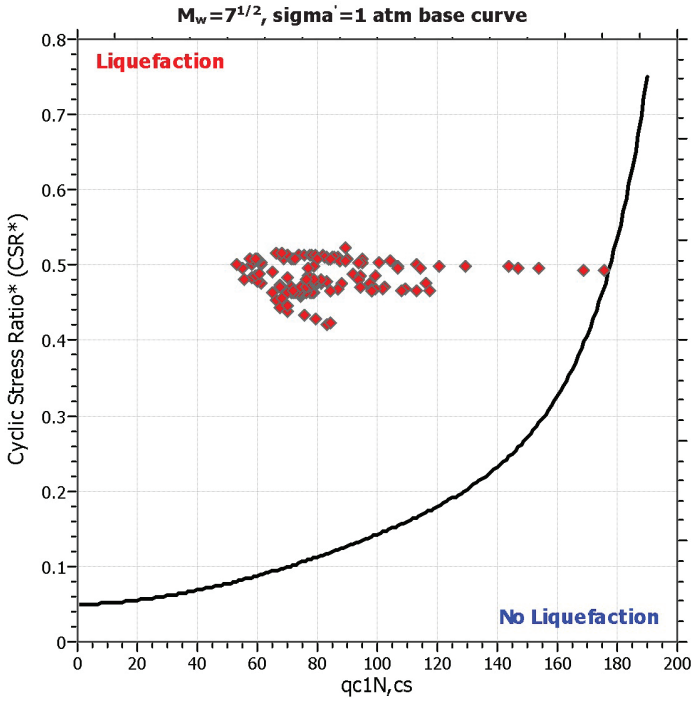
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

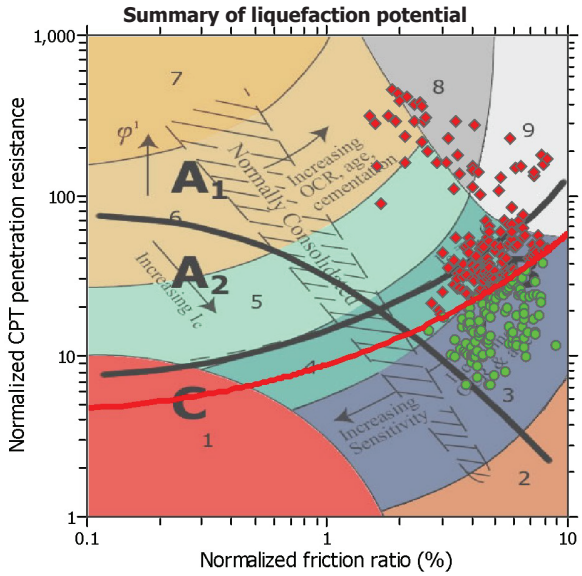
CPT file : 1-CPT1

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.80	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

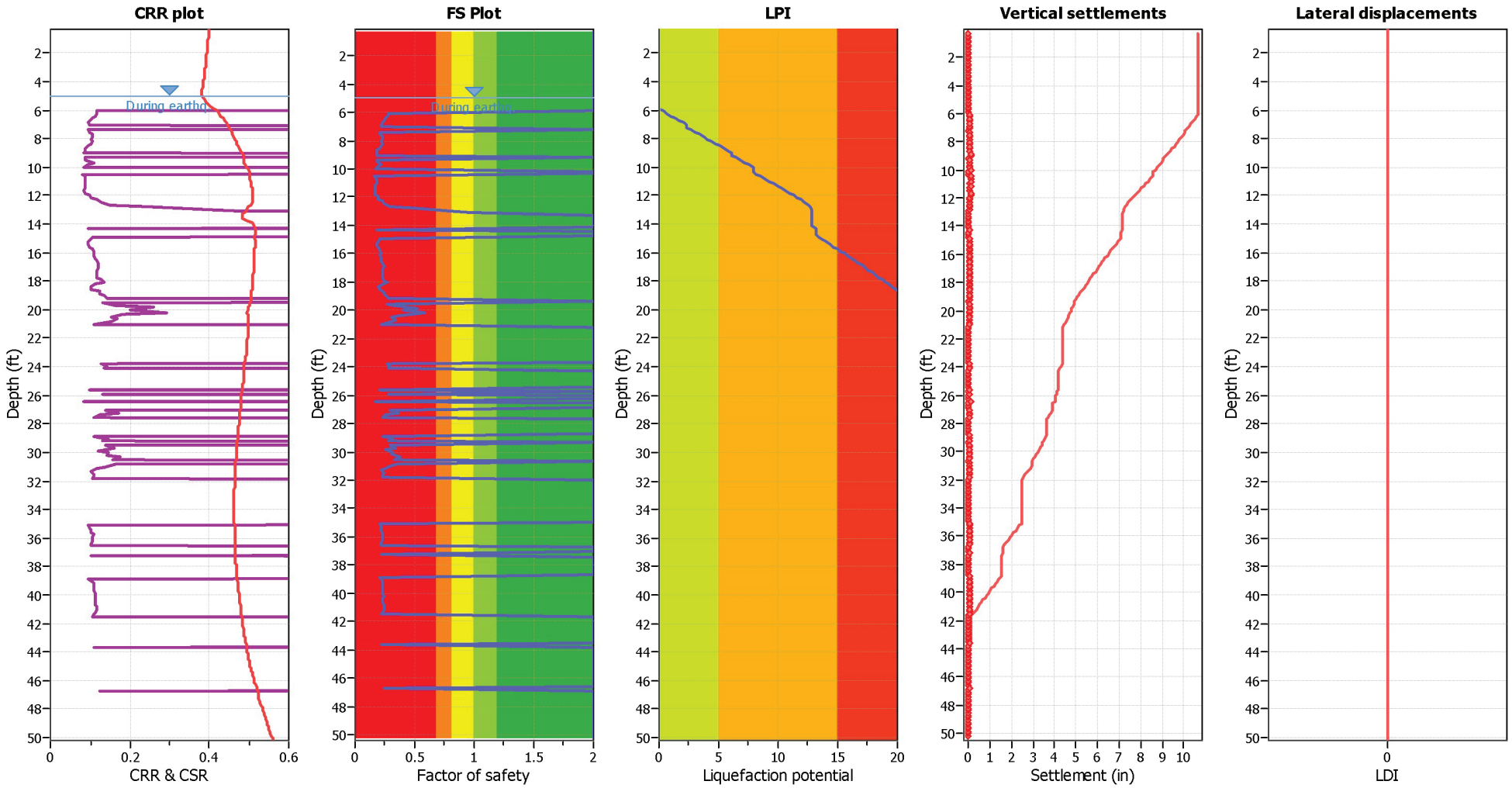






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.80	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

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LPI color scheme

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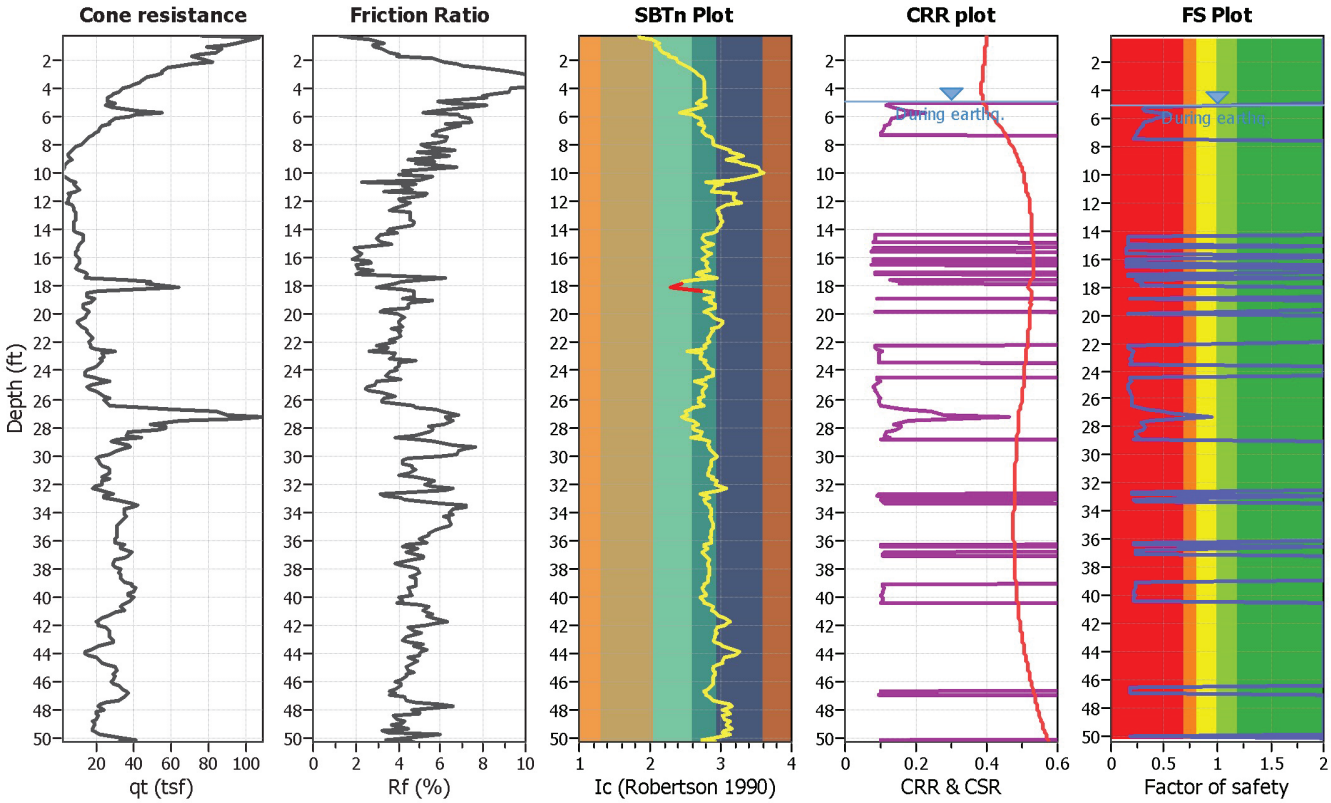
LIQUEFACTION ANALYSIS REPORT

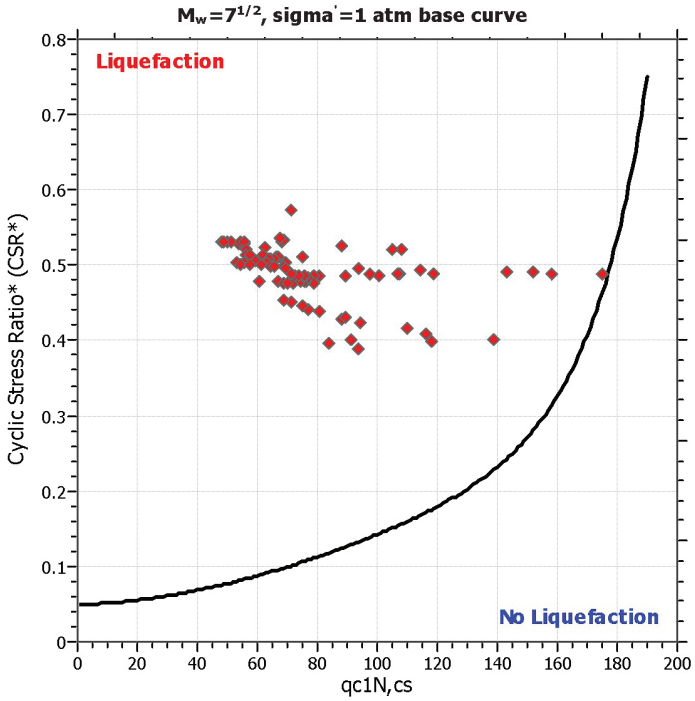
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

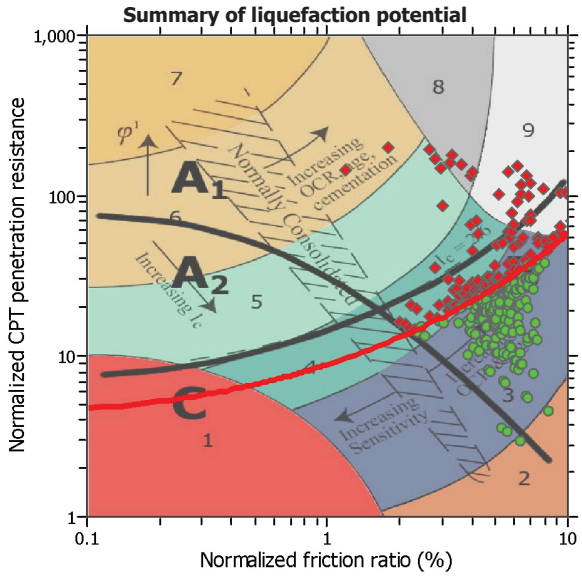
CPT file : 1-CPT2

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.80	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

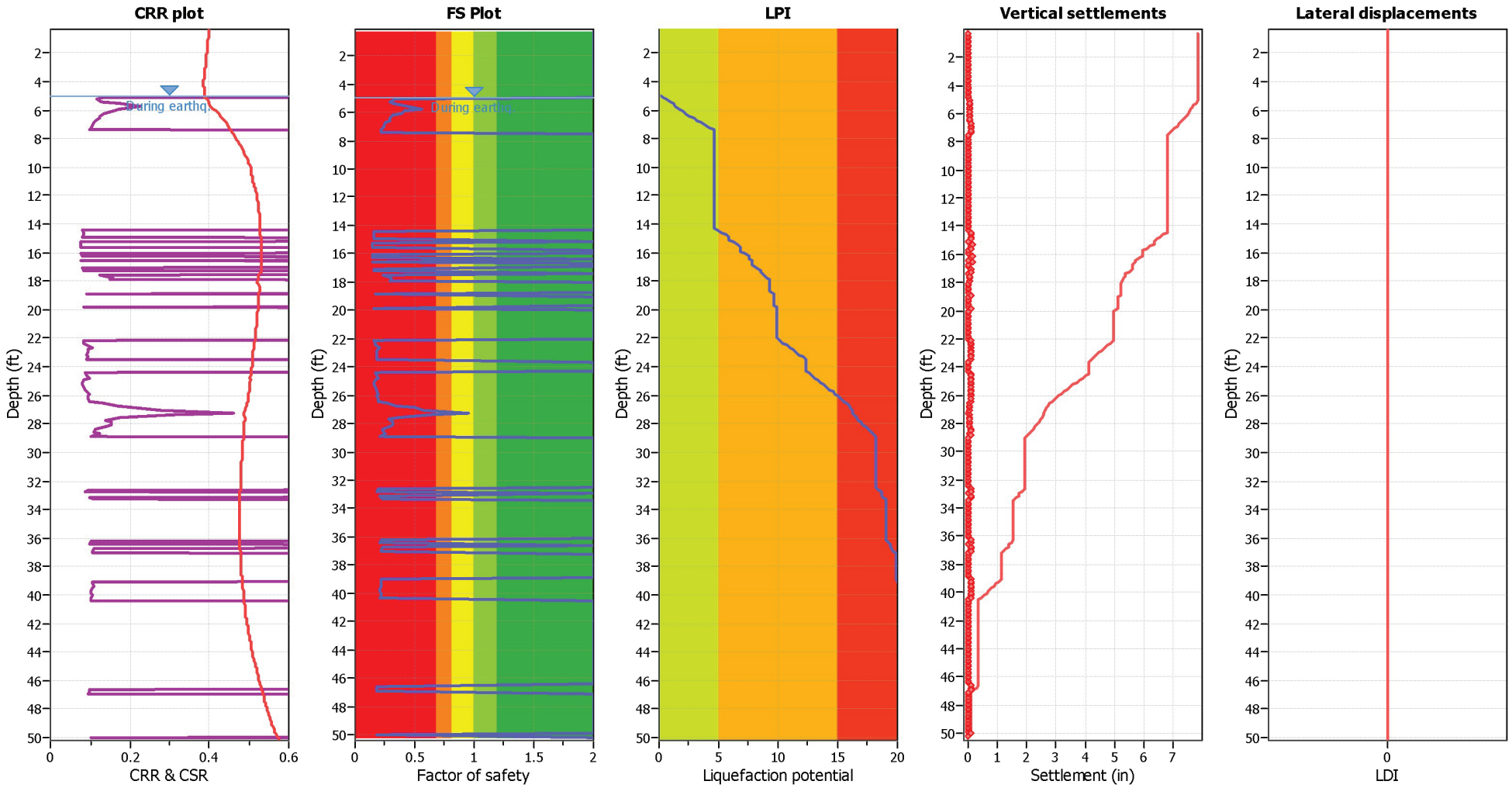






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.80	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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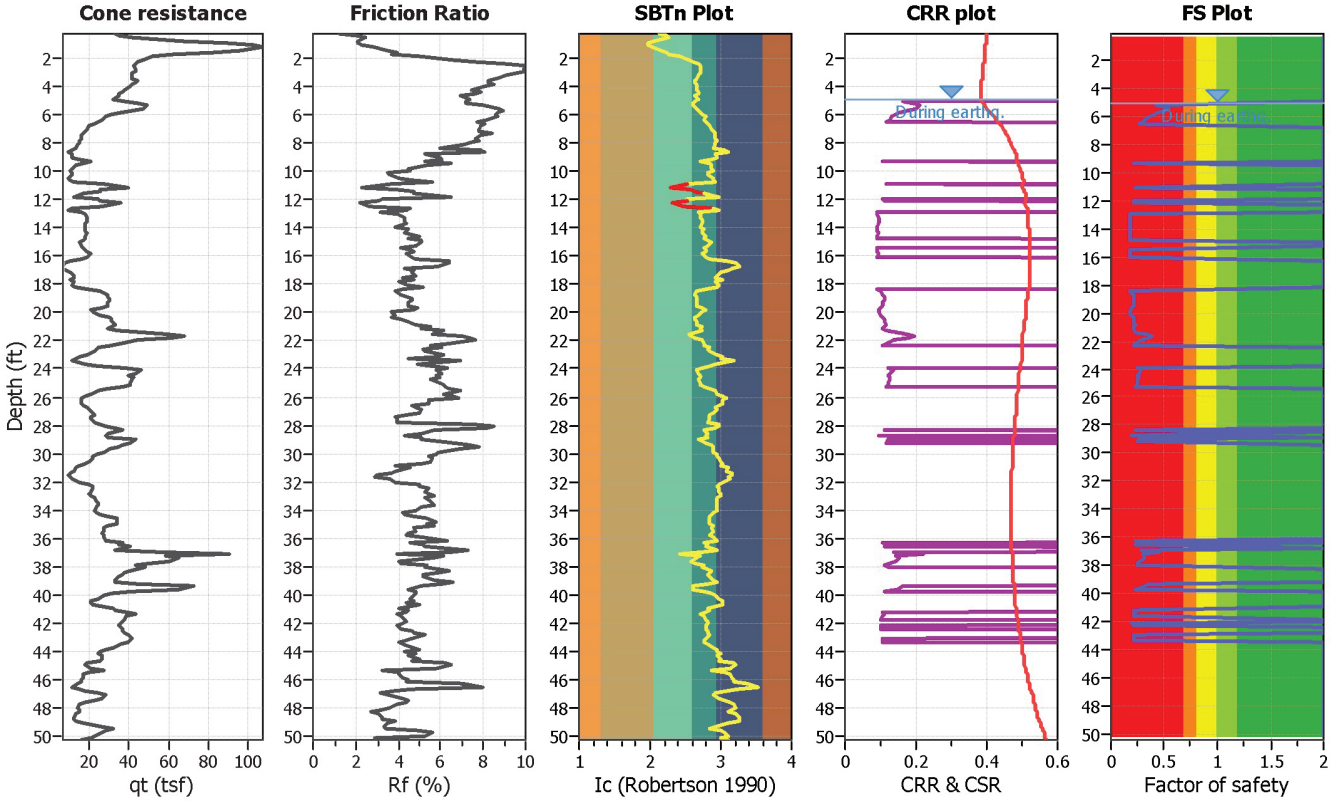
LIQUEFACTION ANALYSIS REPORT

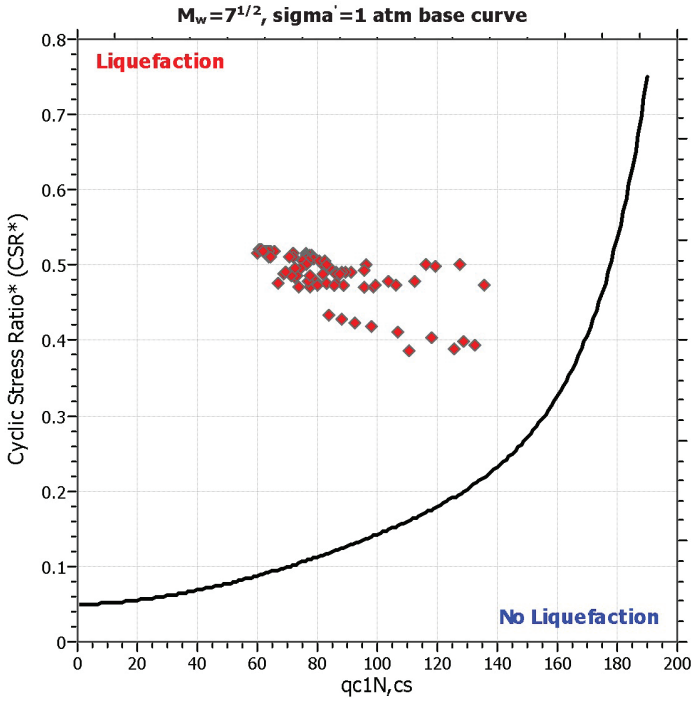
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

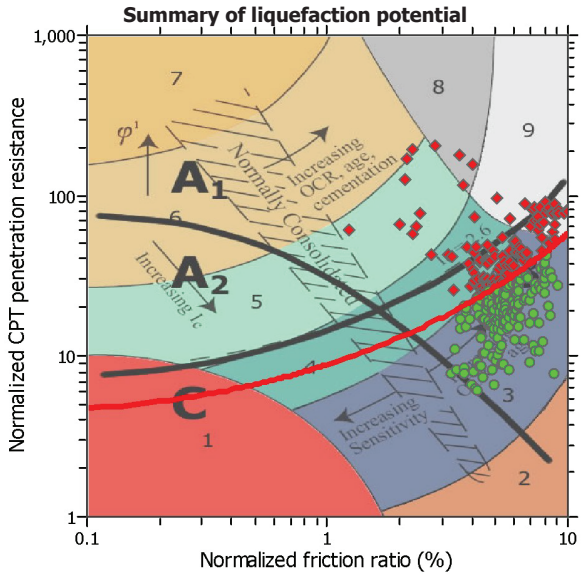
CPT file : 1-CPT3

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.80	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

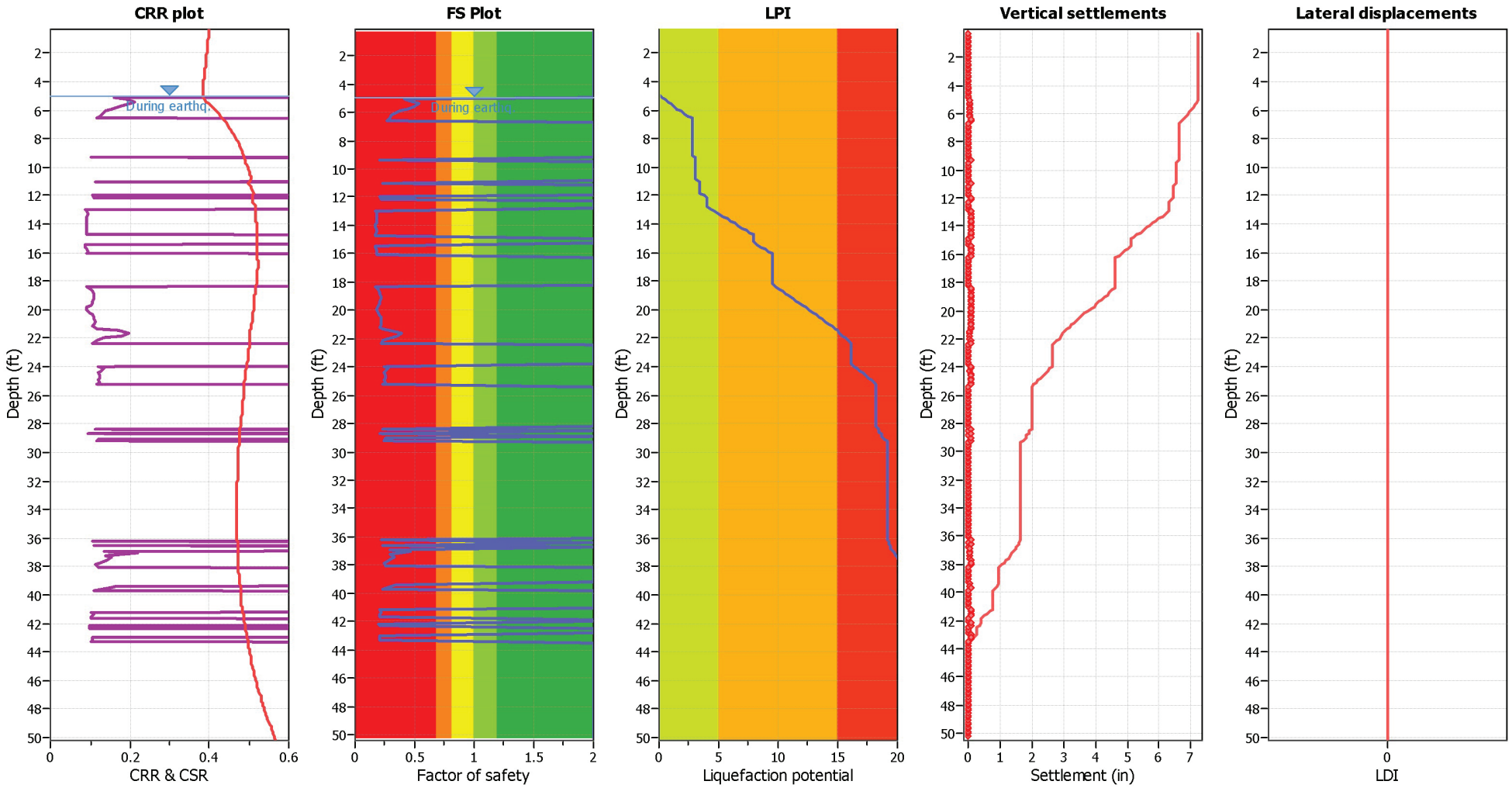






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.80	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

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LPI color scheme

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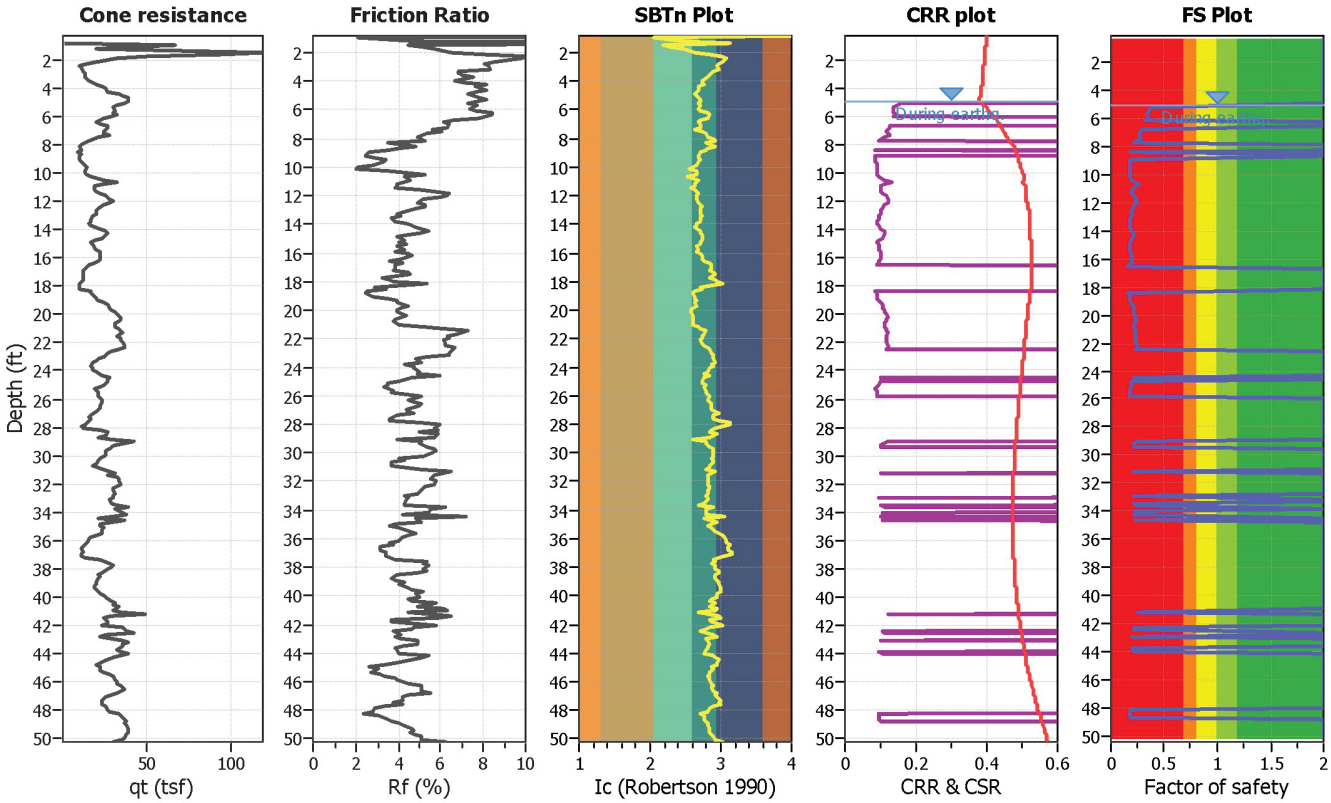
LIQUEFACTION ANALYSIS REPORT

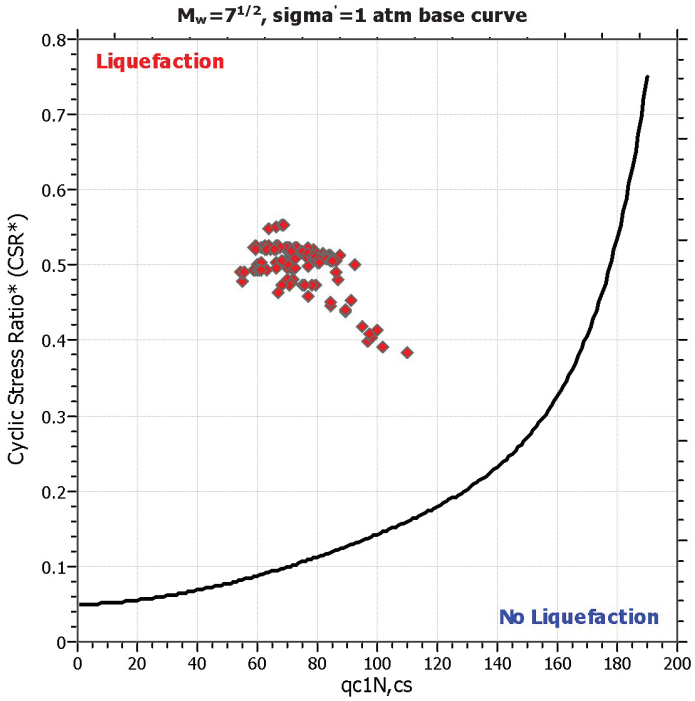
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

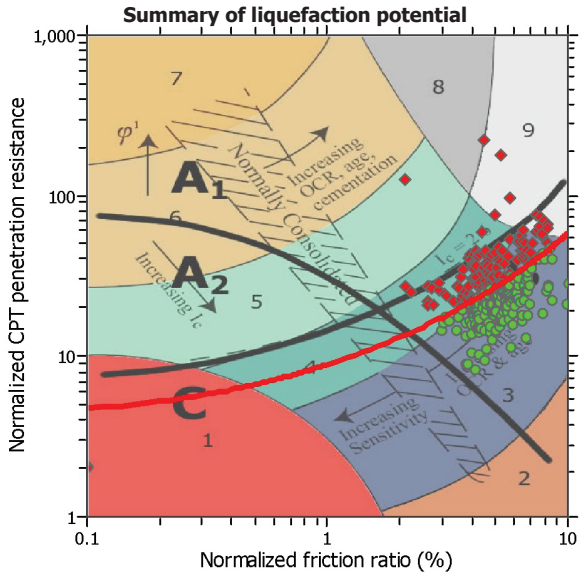
CPT file : 1-CPT4

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.80	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		







Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
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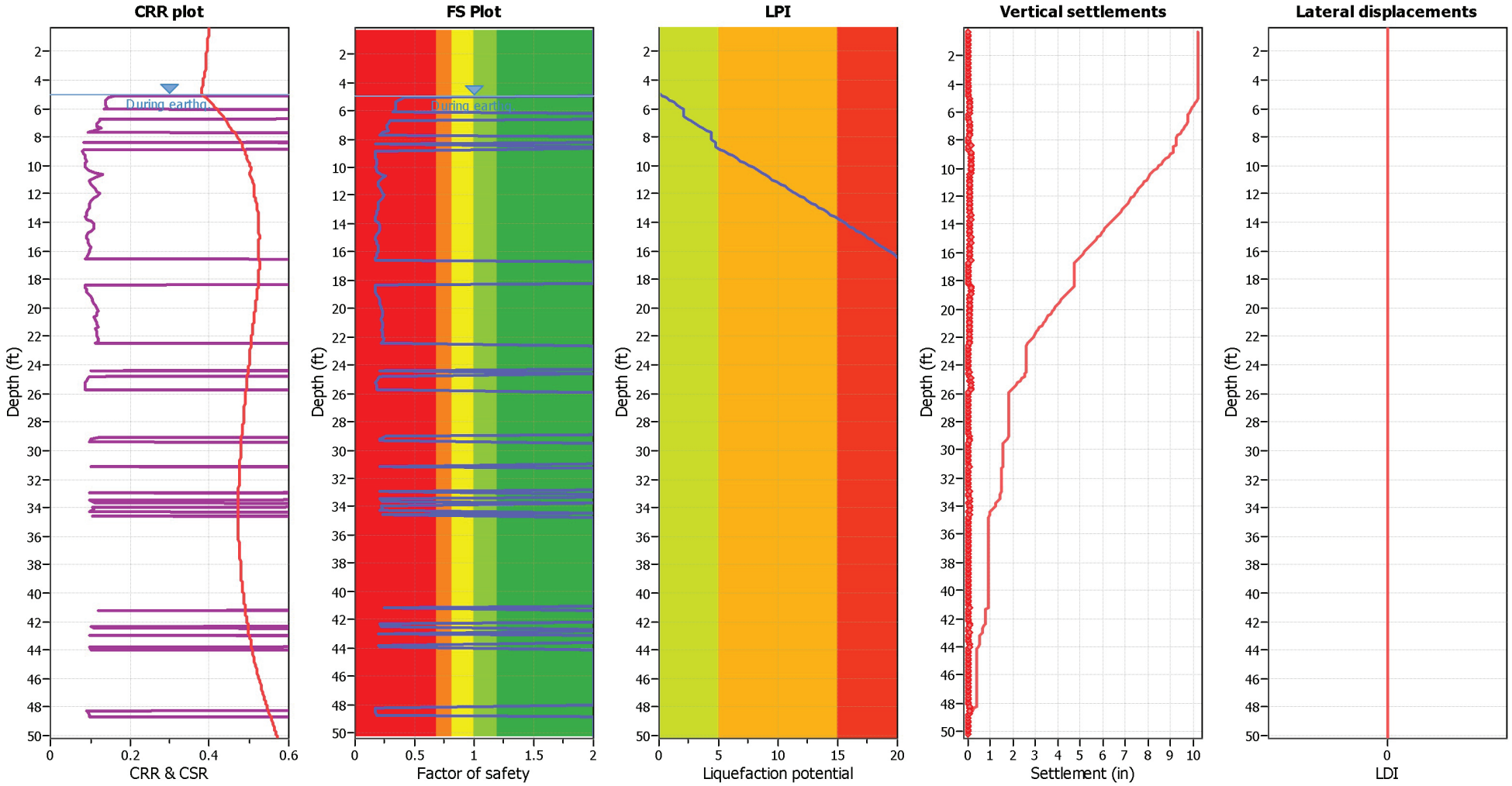
Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.80	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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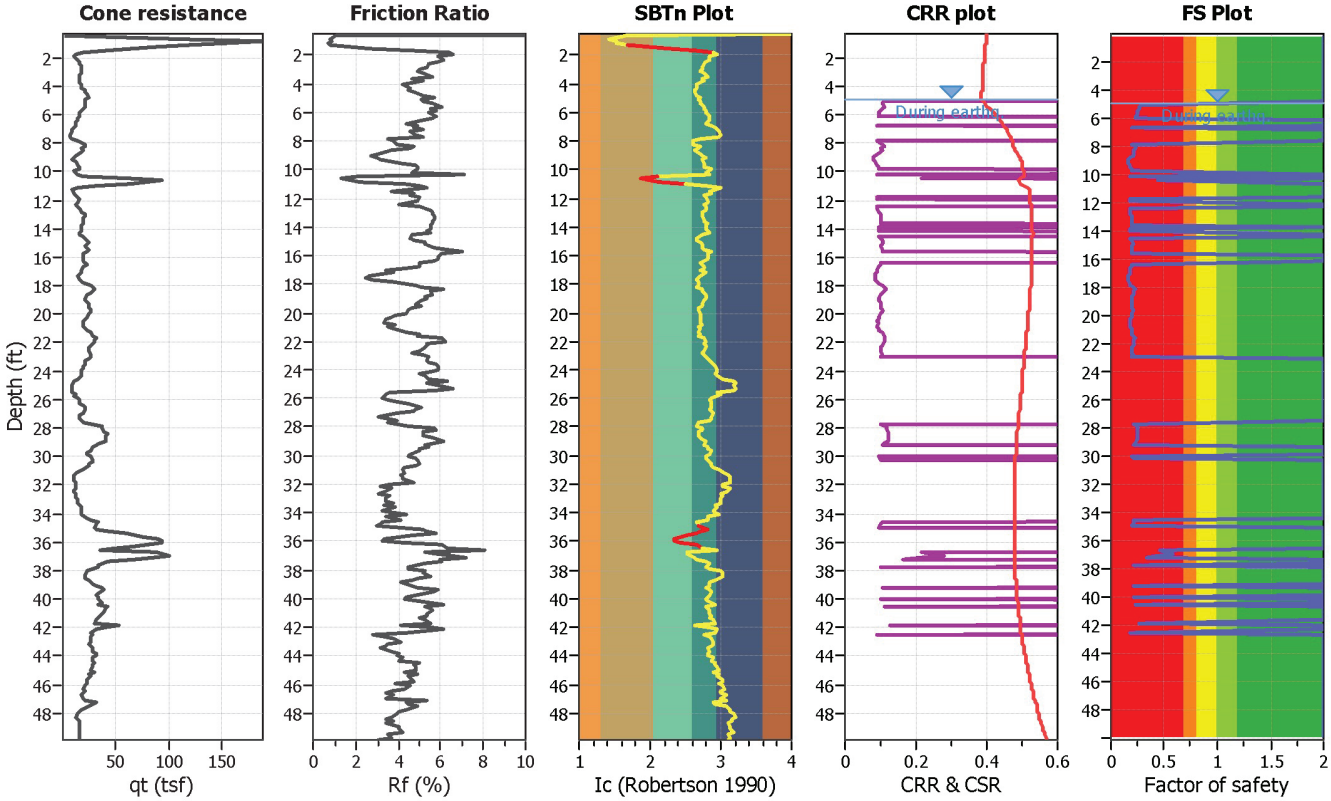
LIQUEFACTION ANALYSIS REPORT

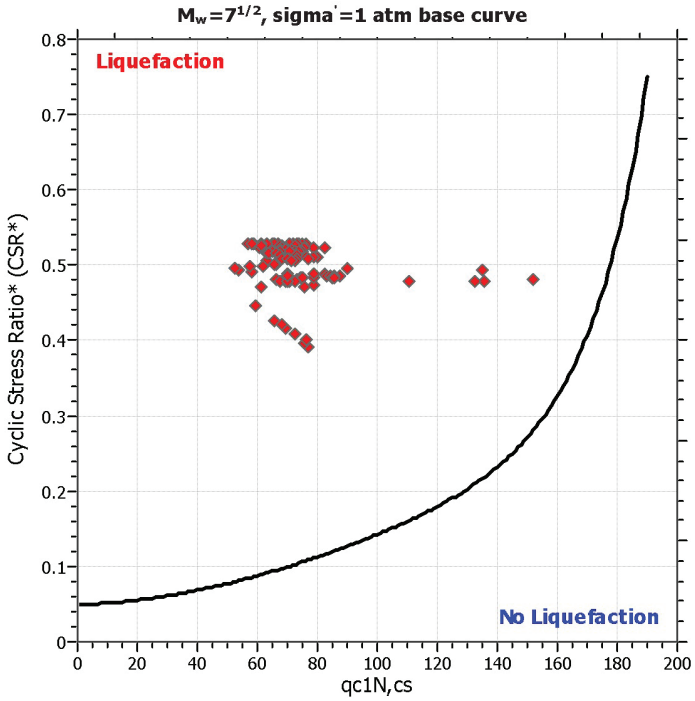
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

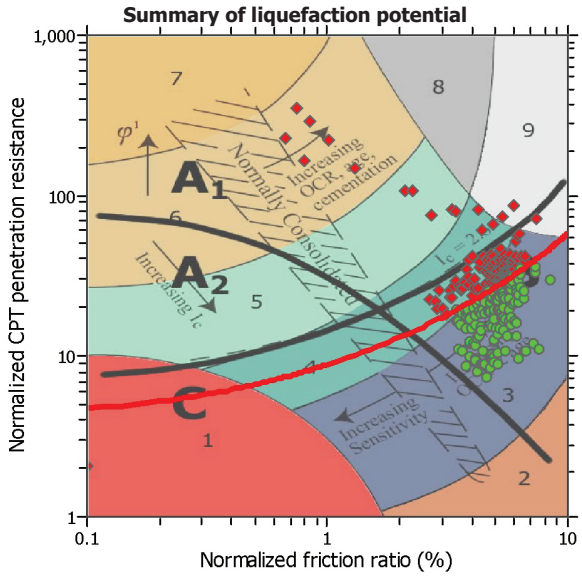
CPT file : 1-CPT5

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.80	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		







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Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
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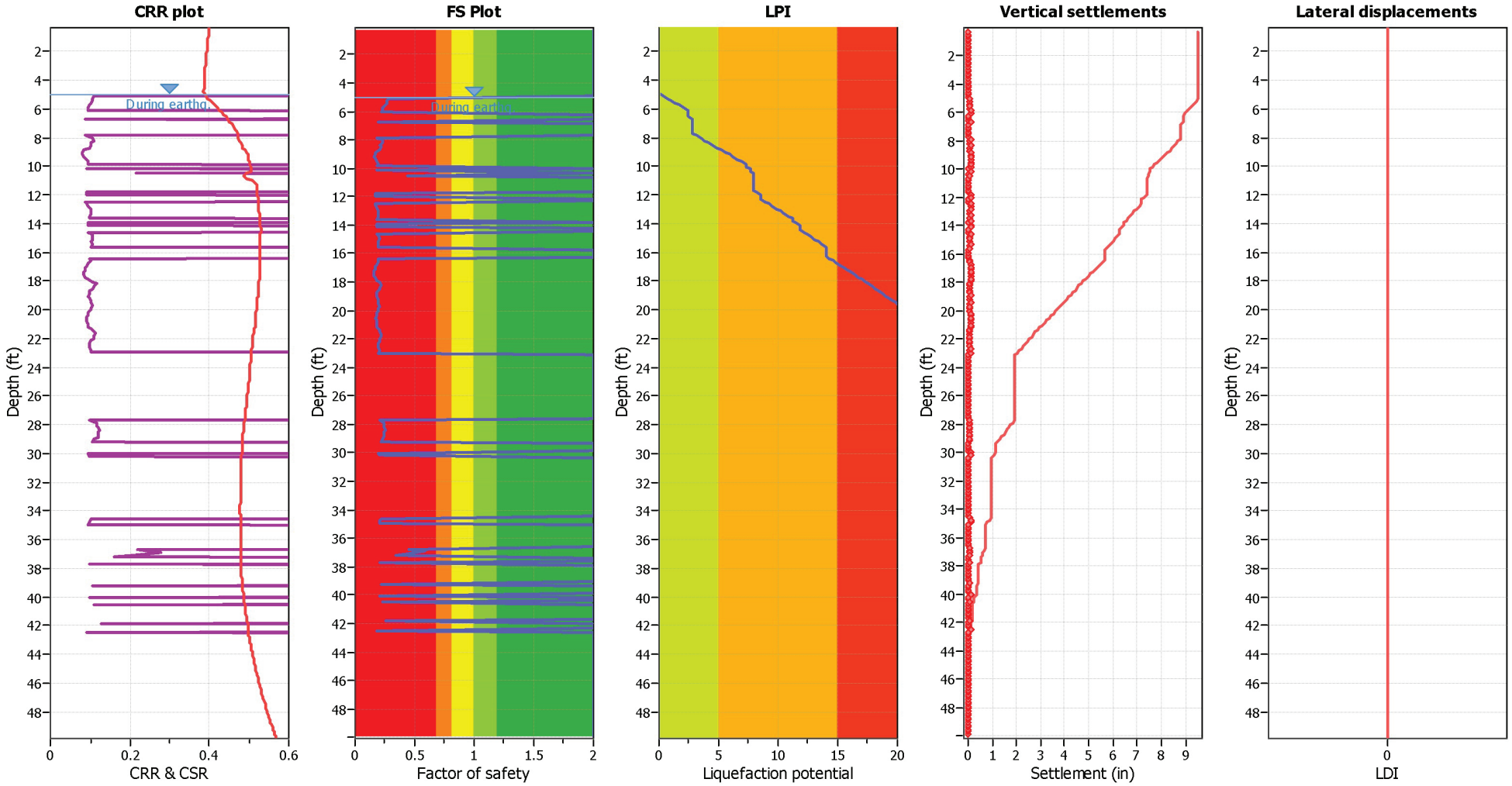
Liquefaction analysis overall plots



Input parameters and analysis data

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Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.80	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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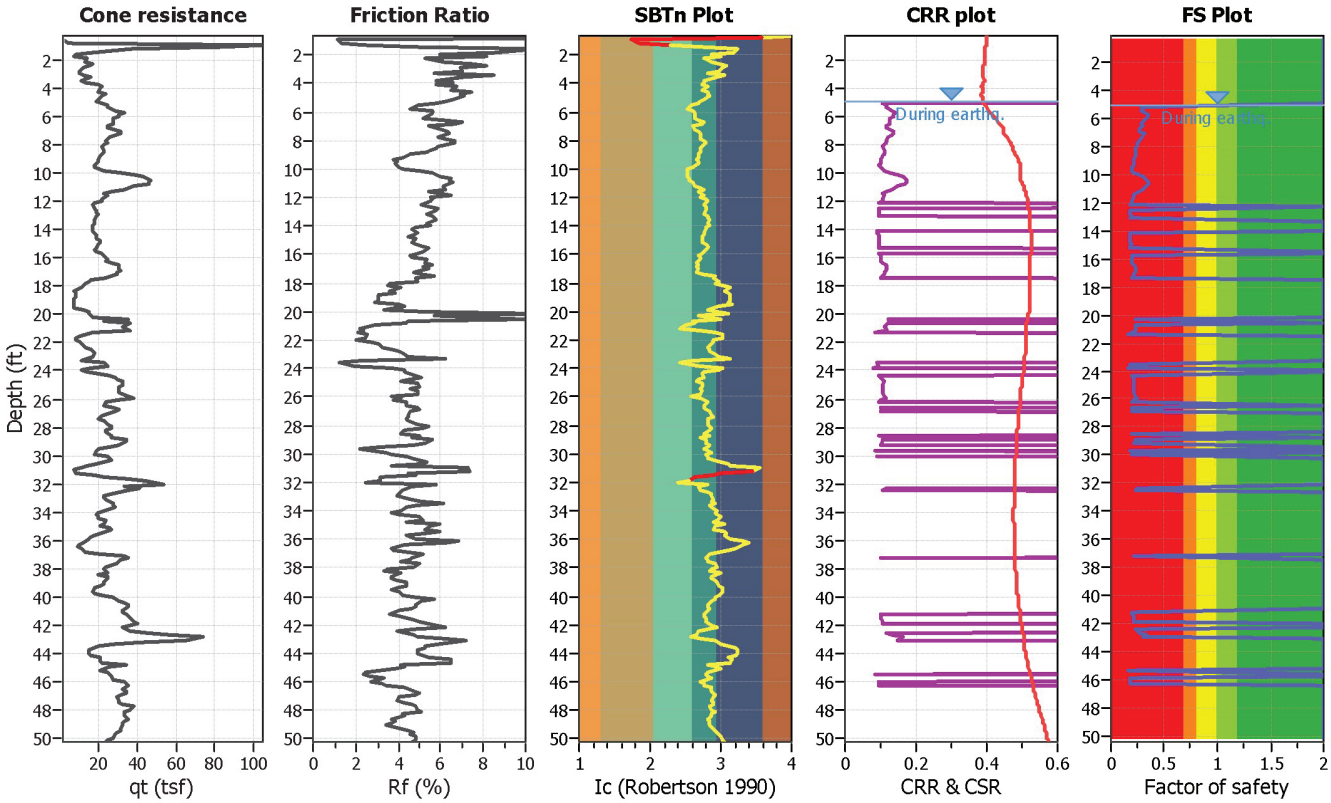
LIQUEFACTION ANALYSIS REPORT

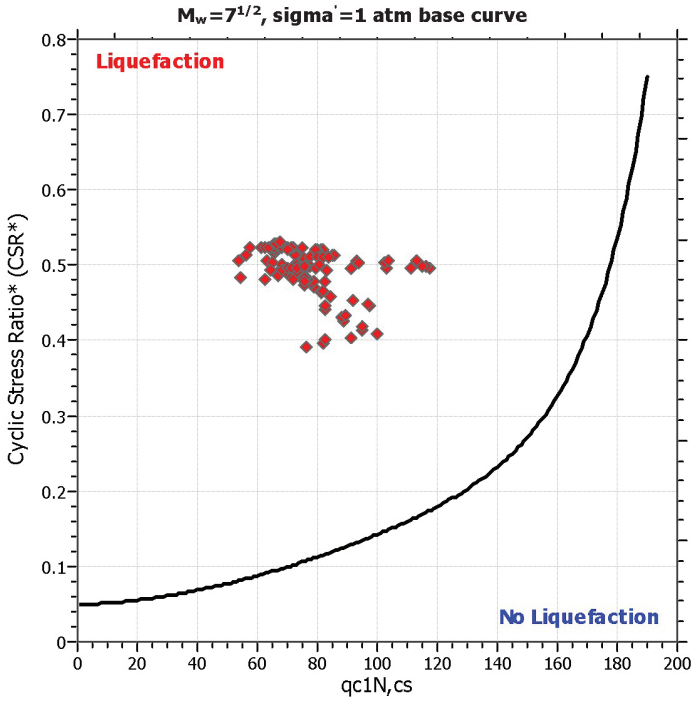
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

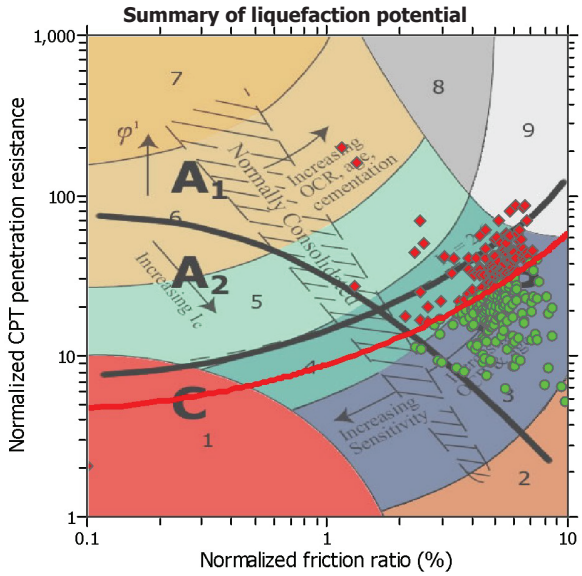
CPT file : 1-CPT6

Input parameters and analysis data

Analysis method:	I&B (2008)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	I&B (2008)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.80	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

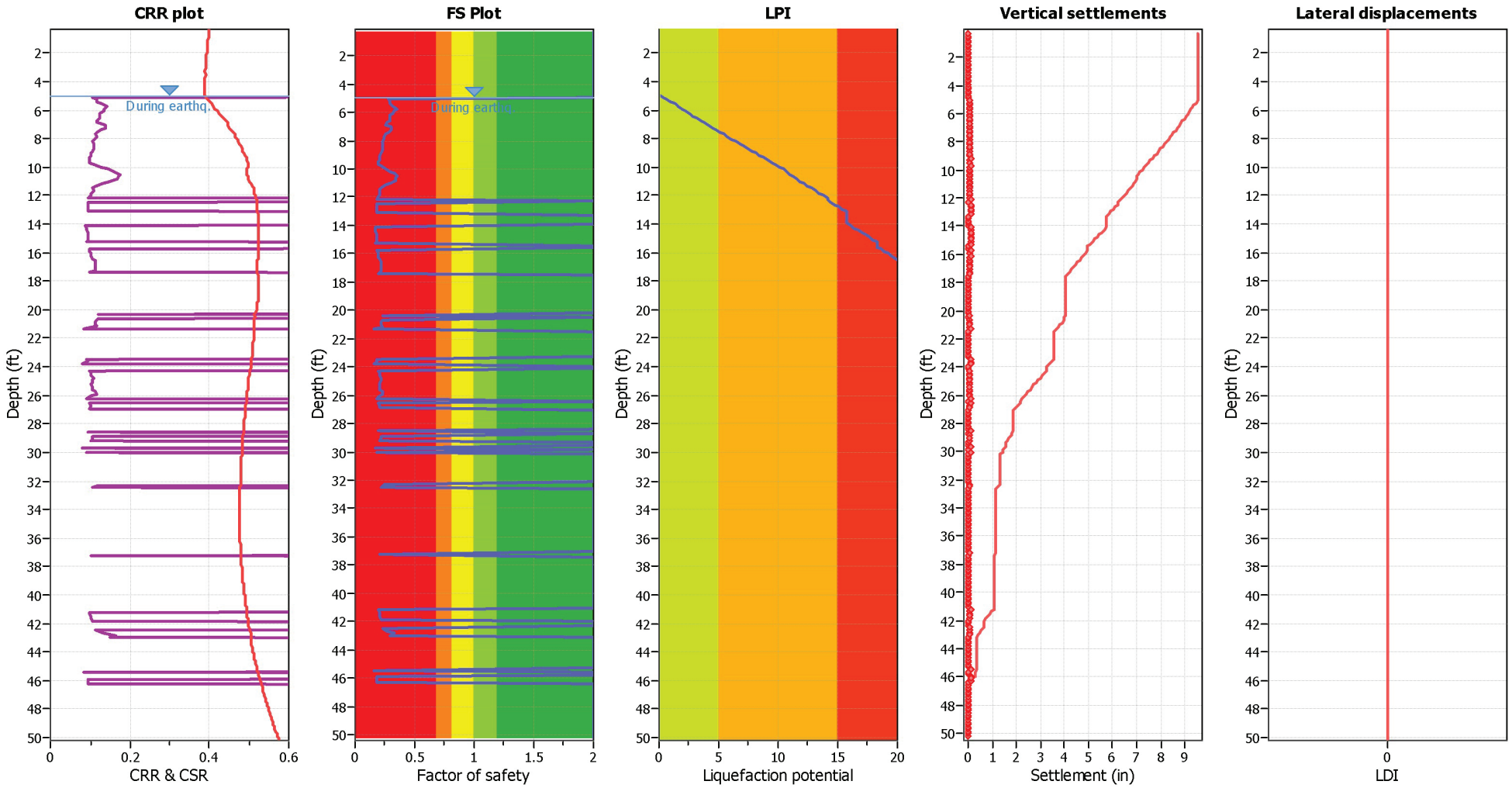






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	I&B (2008)	Depth to GWT (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	I&B (2008)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.80	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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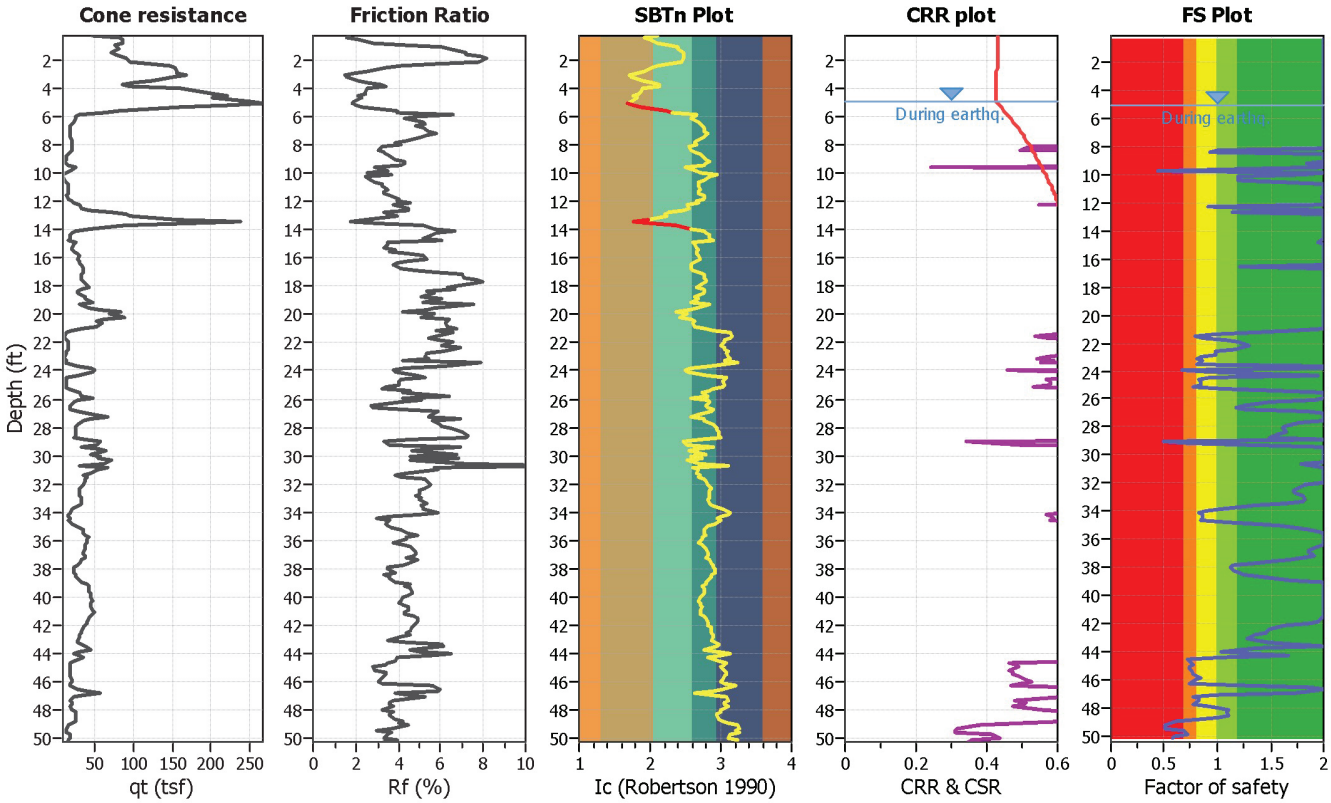
LIQUEFACTION ANALYSIS REPORT

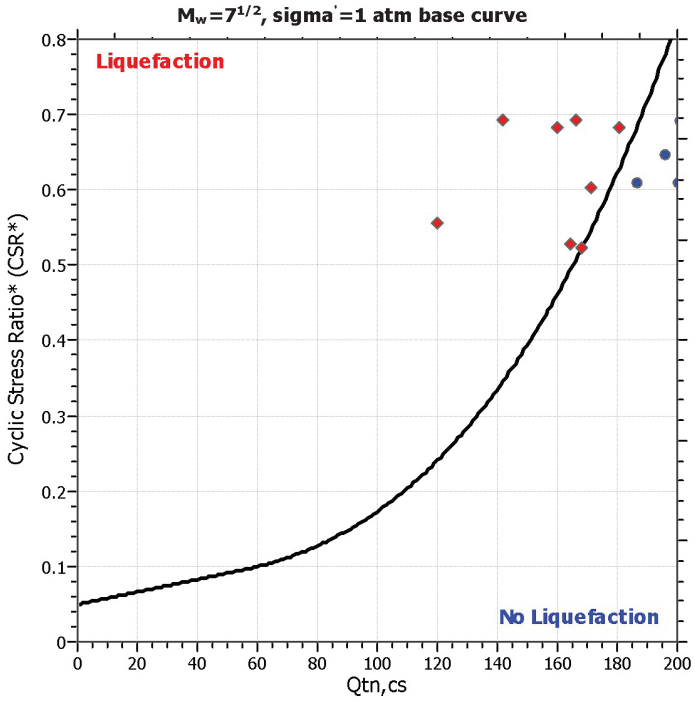
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

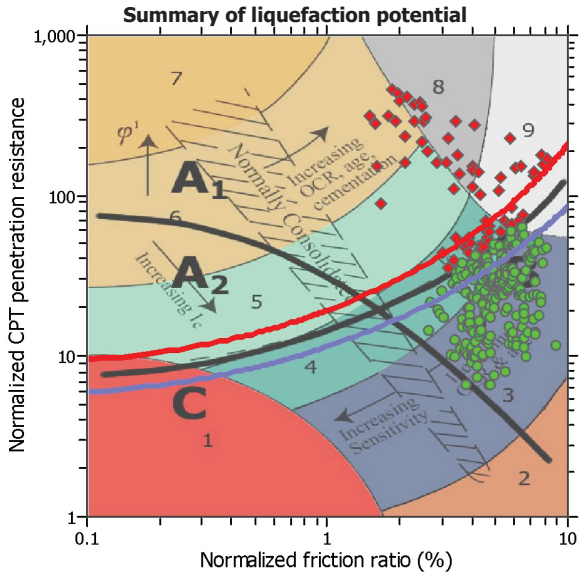
CPT file : 1-CPT1

Input parameters and analysis data

Analysis method:	Robertson (2009)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	All soils
Fines correction method:	Robertson (2009)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	No		

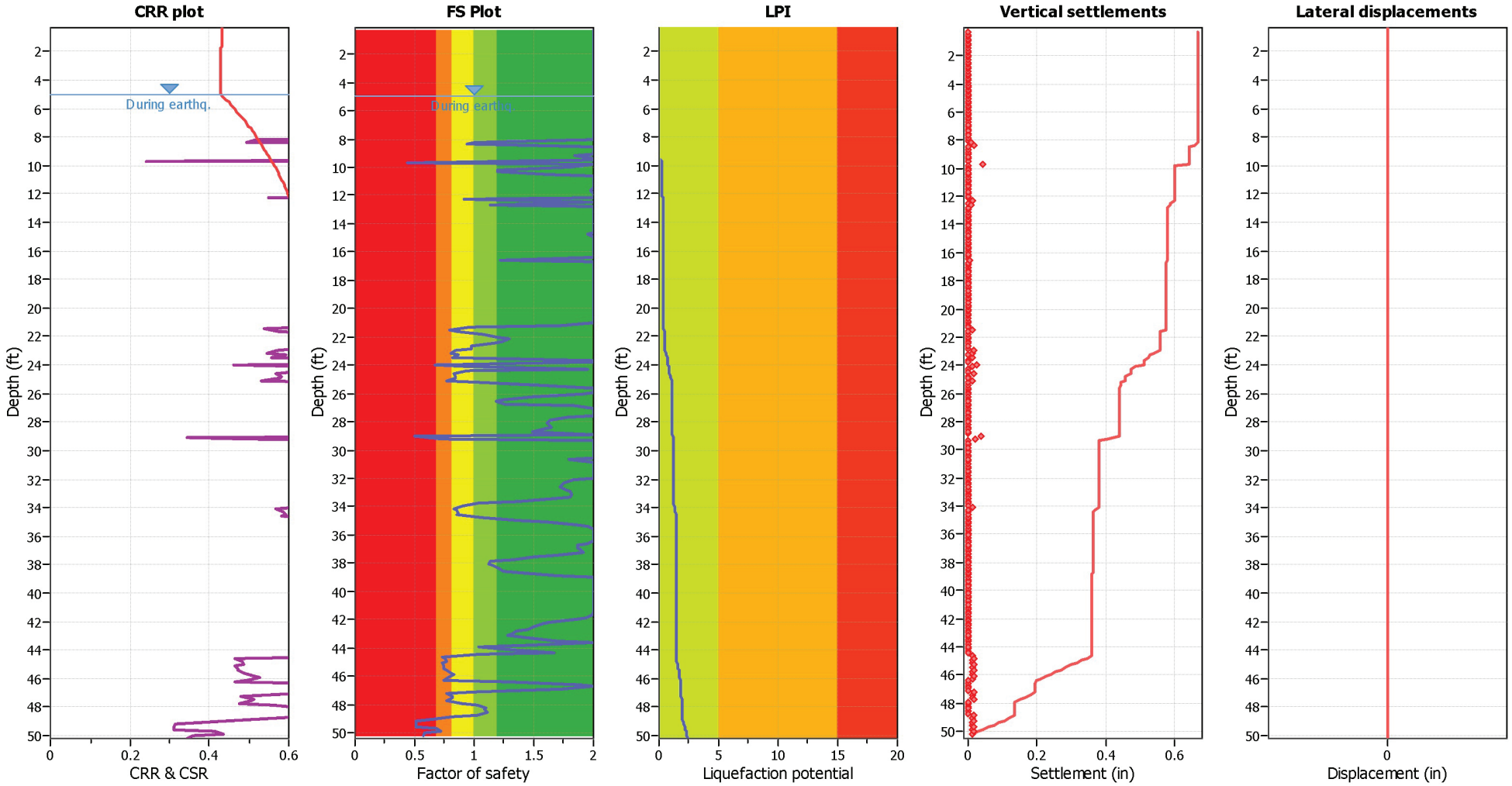






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	Robertson (2009)	Depth to water table (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	Robertson (2009)	Average results interval:	1	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:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	All soils
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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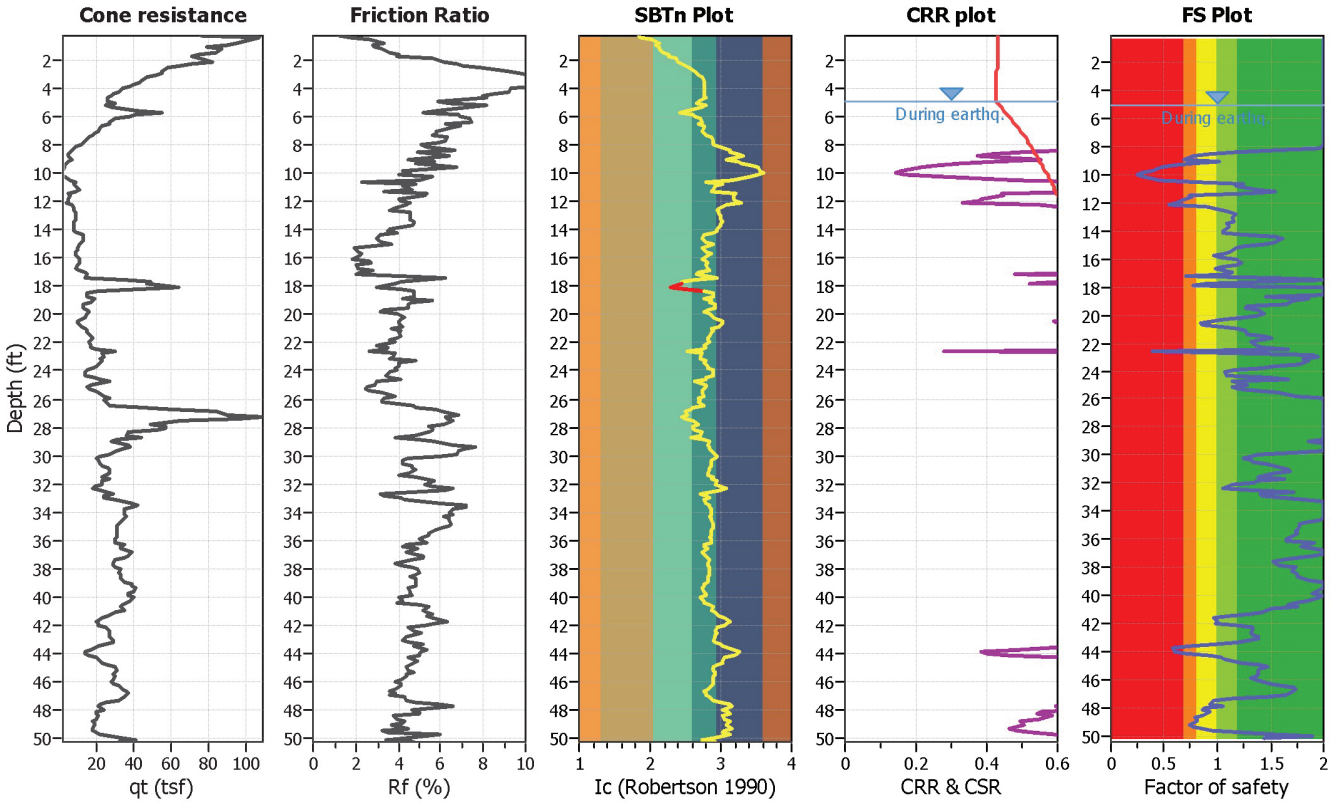
LIQUEFACTION ANALYSIS REPORT

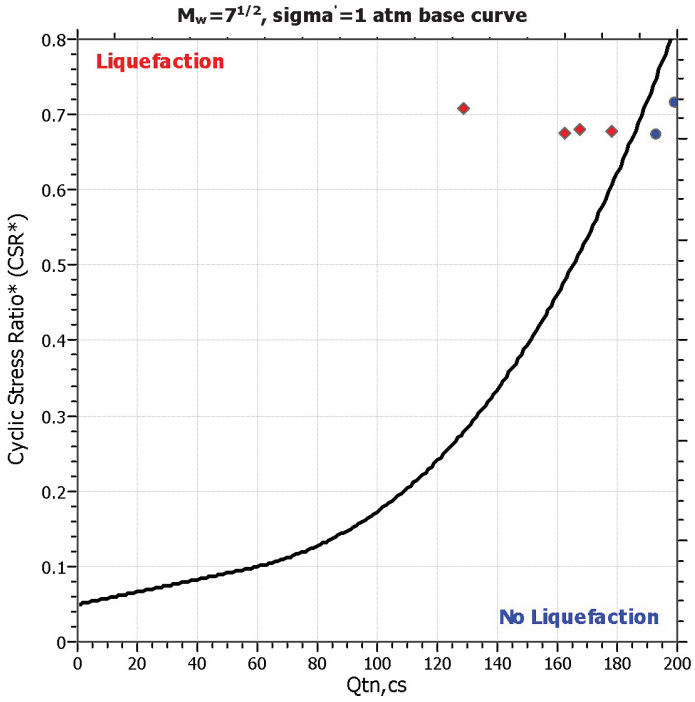
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

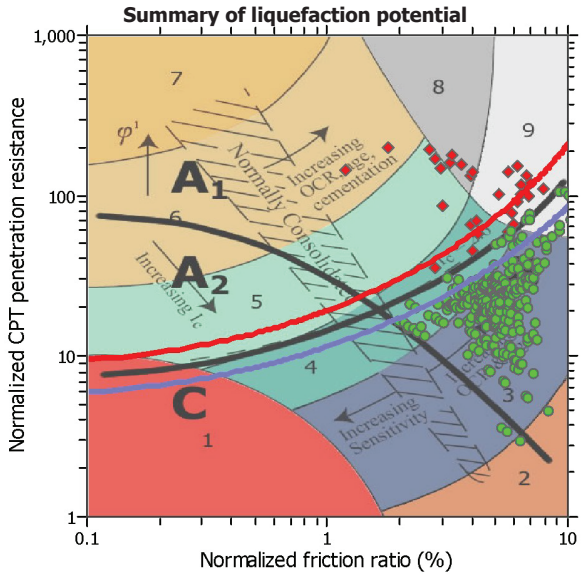
CPT file : 1-CPT2

Input parameters and analysis data

Analysis method:	Robertson (2009)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	All soils
Fines correction method:	Robertson (2009)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	No		

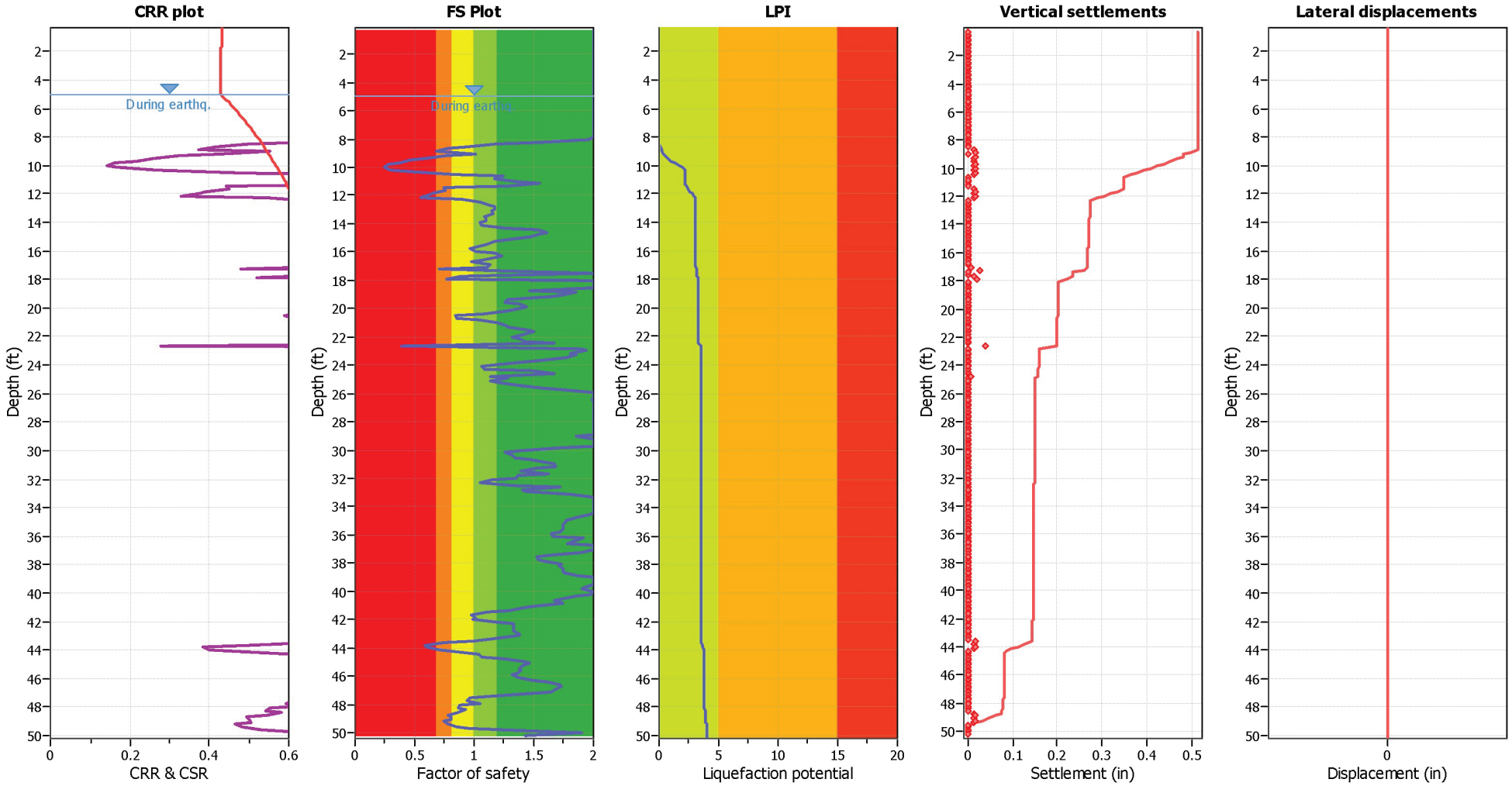






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	Robertson (2009)	Depth to water table (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	Robertson (2009)	Average results interval:	1	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:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	All soils
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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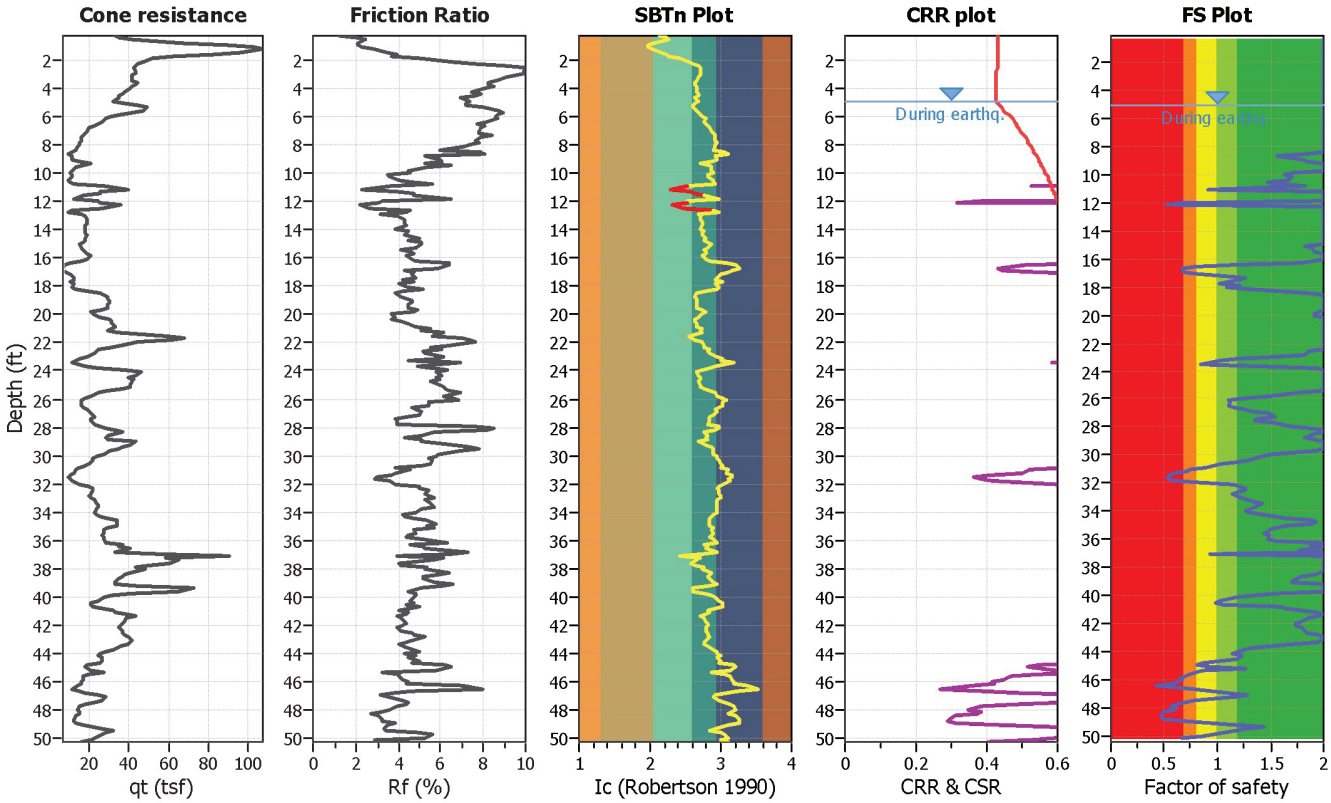
LIQUEFACTION ANALYSIS REPORT

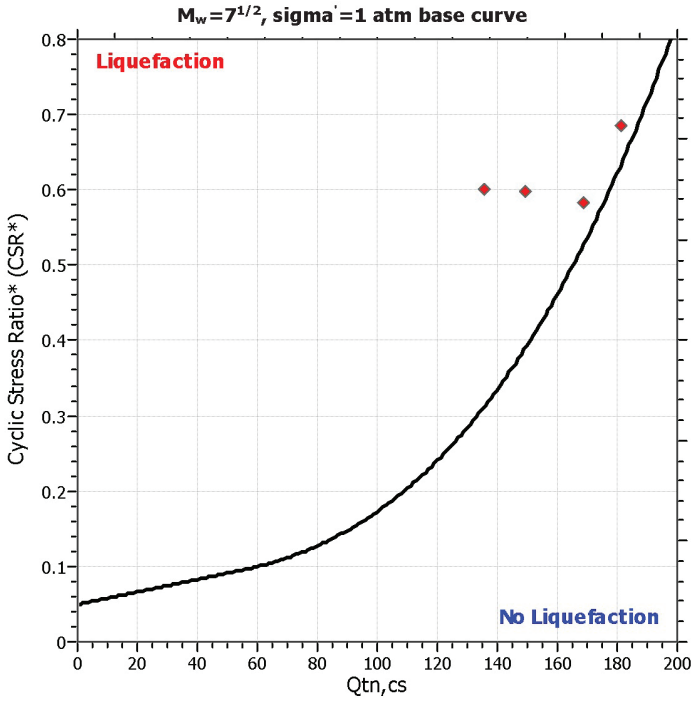
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

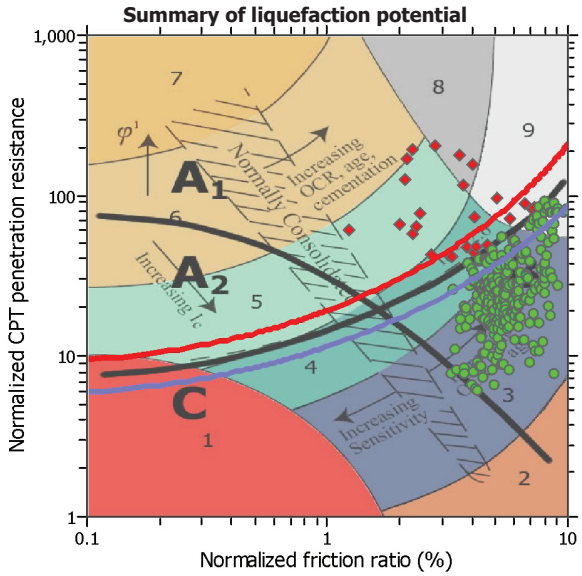
CPT file : 1-CPT3

Input parameters and analysis data

Analysis method:	Robertson (2009)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	All soils
Fines correction method:	Robertson (2009)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	No		

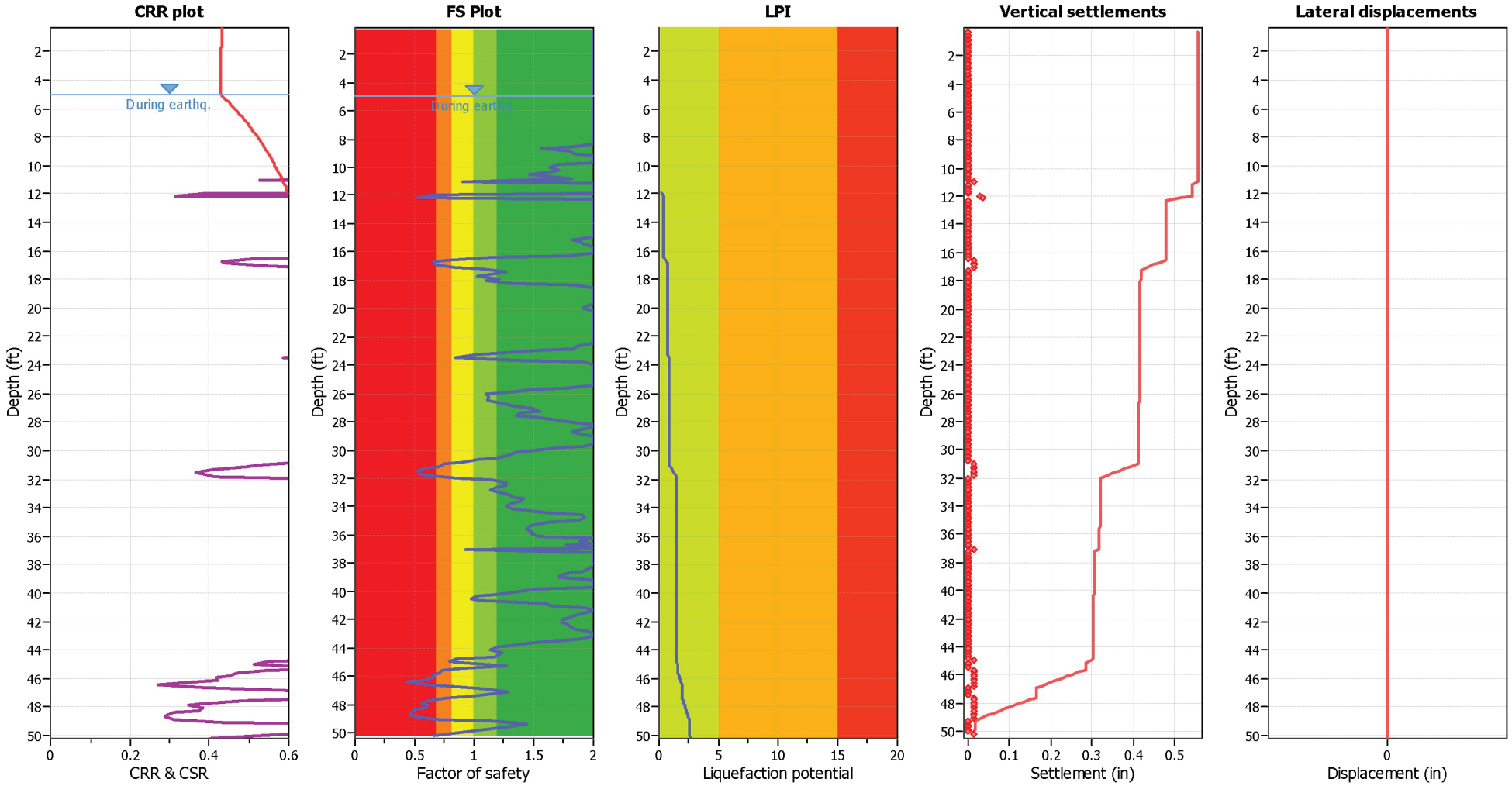






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	Robertson (2009)	Depth to water table (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	Robertson (2009)	Average results interval:	1	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:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	All soils
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

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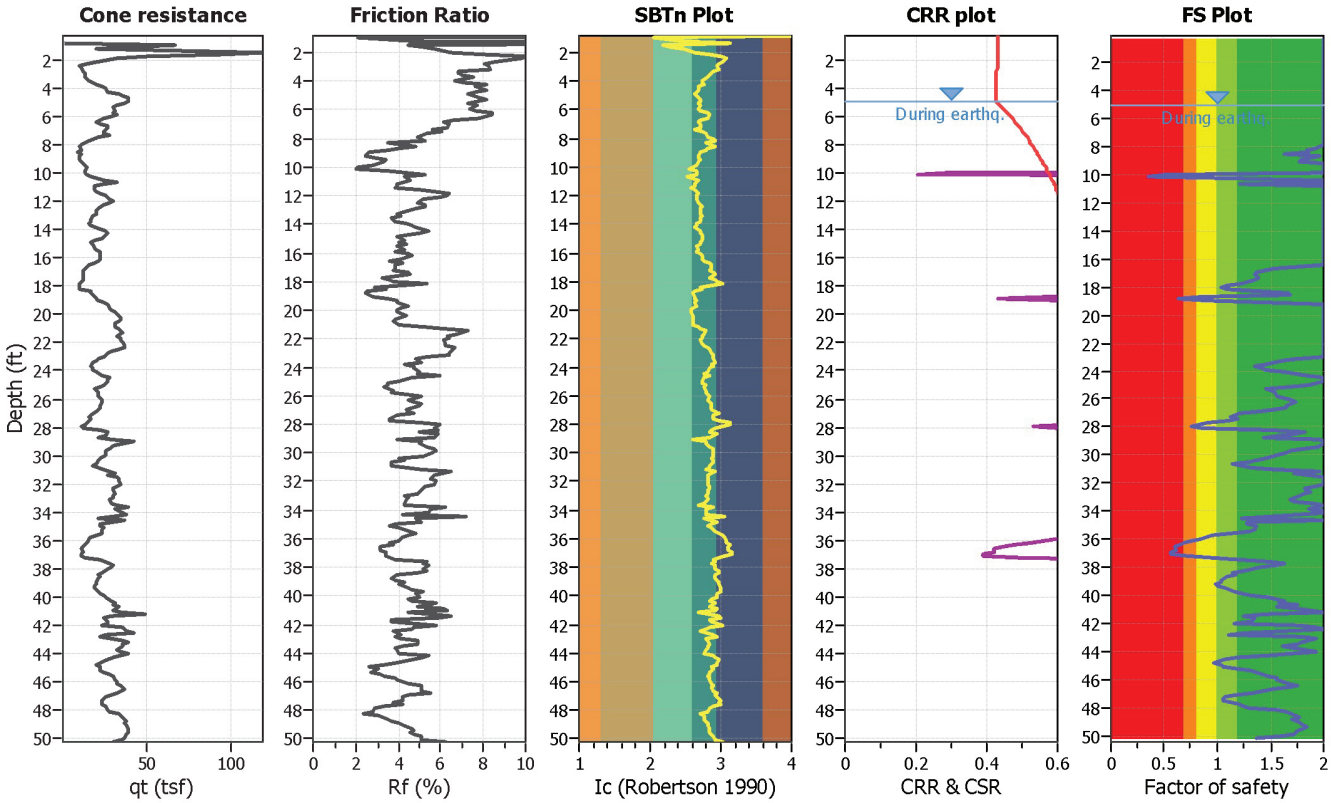
LIQUEFACTION ANALYSIS REPORT

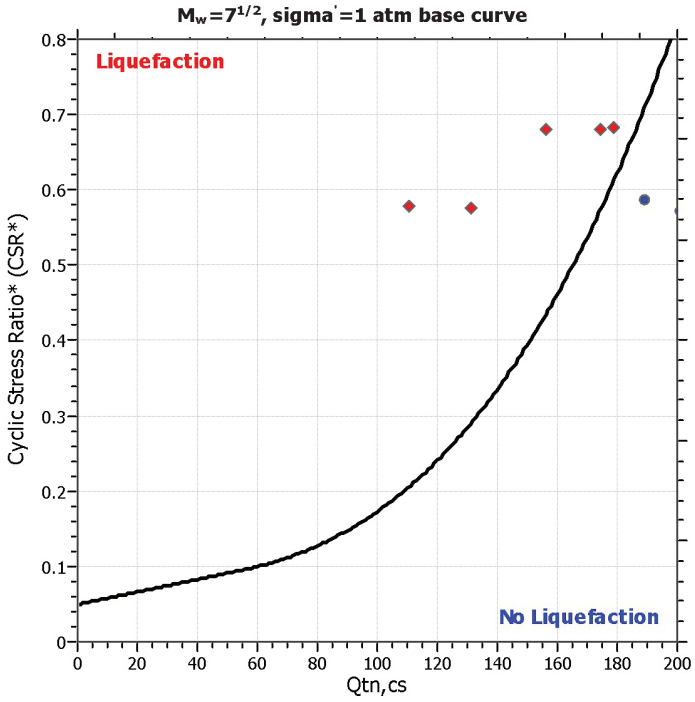
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

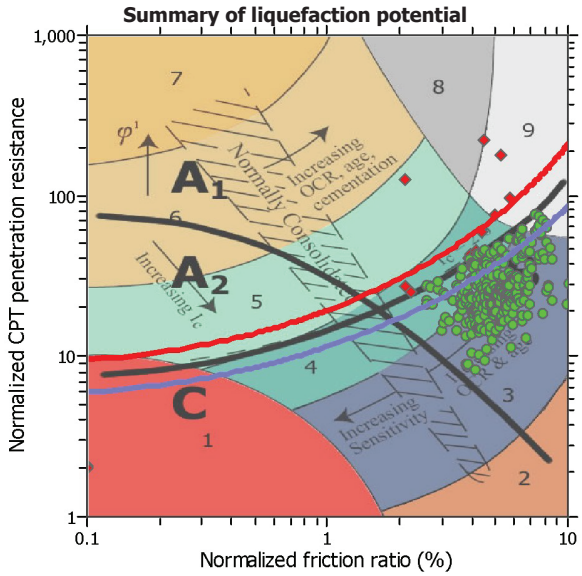
CPT file : 1-CPT4

Input parameters and analysis data

Analysis method:	Robertson (2009)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	All soils
Fines correction method:	Robertson (2009)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	No		

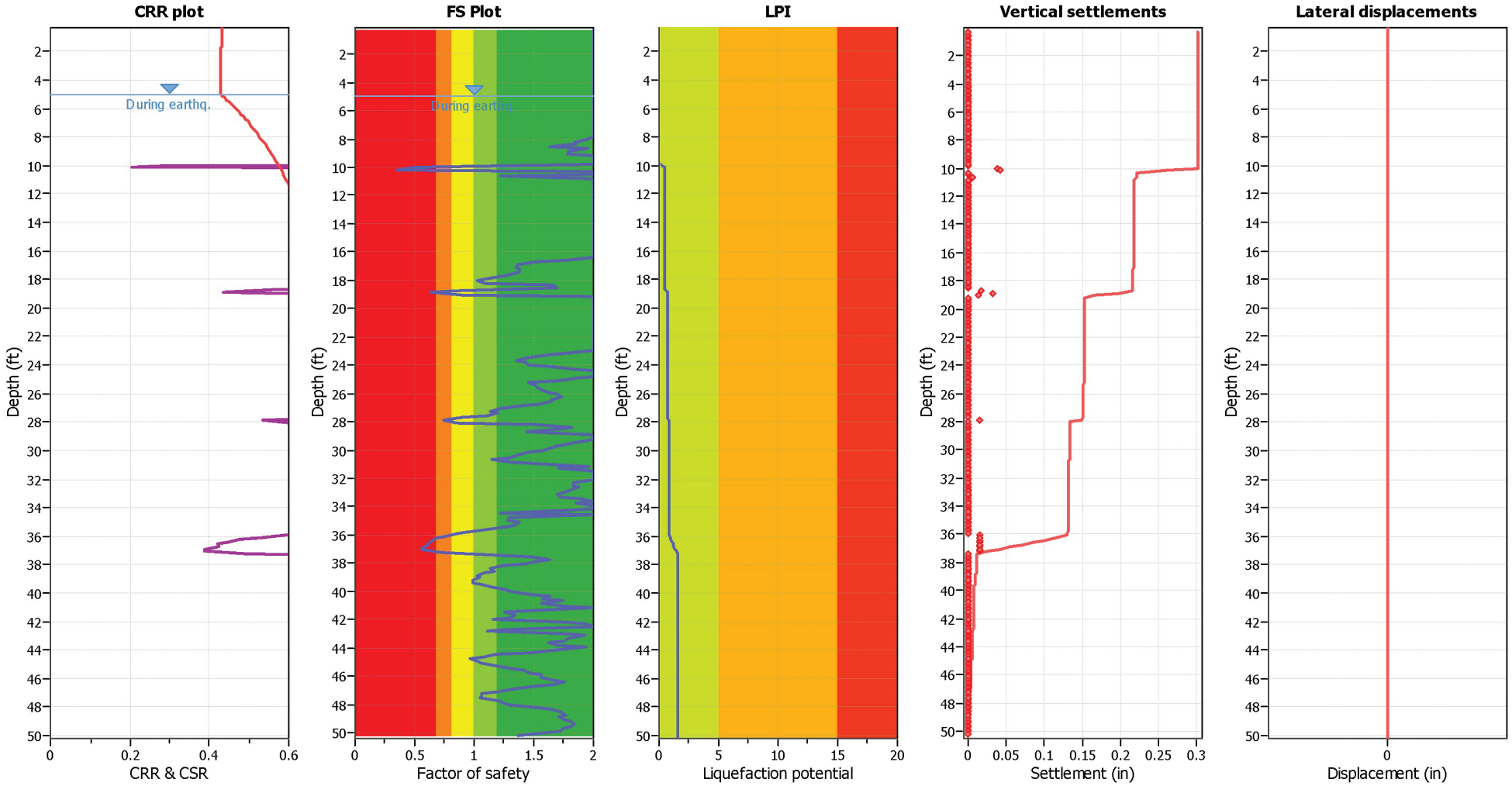






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	Robertson (2009)	Depth to water table (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	Robertson (2009)	Average results interval:	1	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:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	All soils
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
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LPI color scheme

- Very high risk
- High risk
- Low risk

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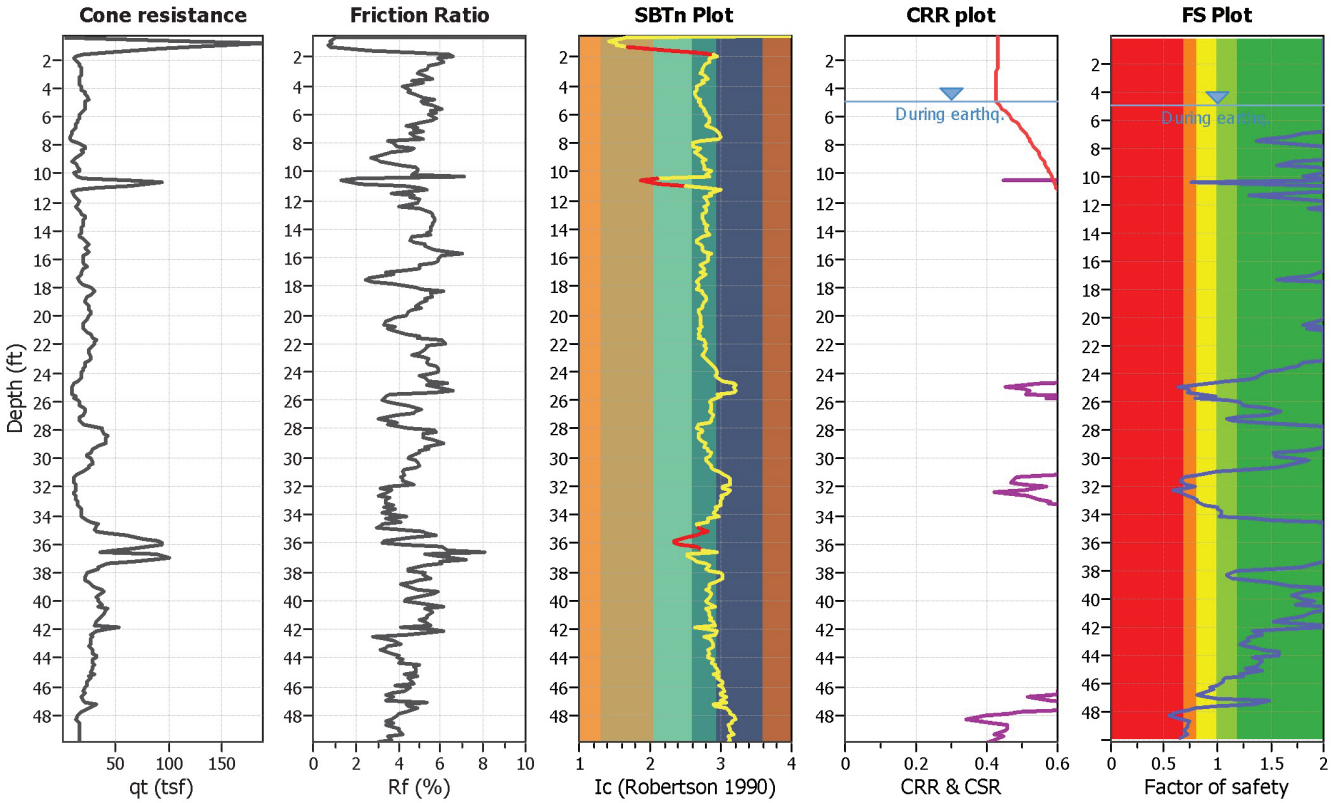
LIQUEFACTION ANALYSIS REPORT

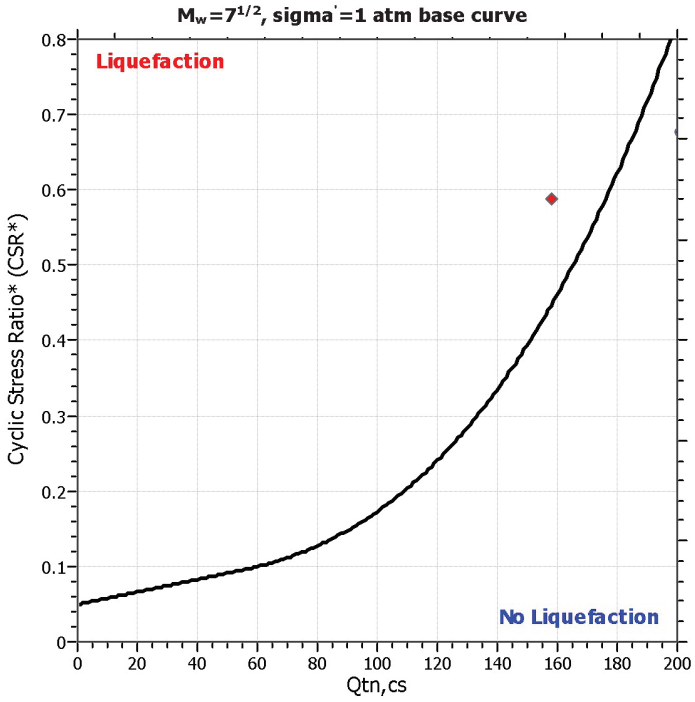
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

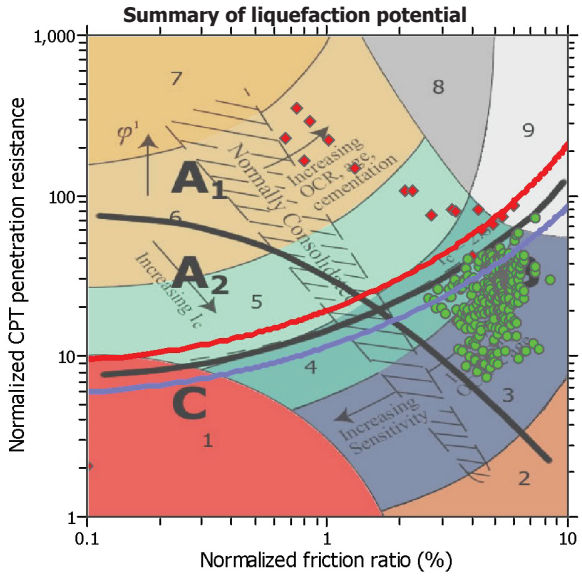
CPT file : 1-CPT5

Input parameters and analysis data

Analysis method:	Robertson (2009)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	All soils
Fines correction method:	Robertson (2009)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	No		

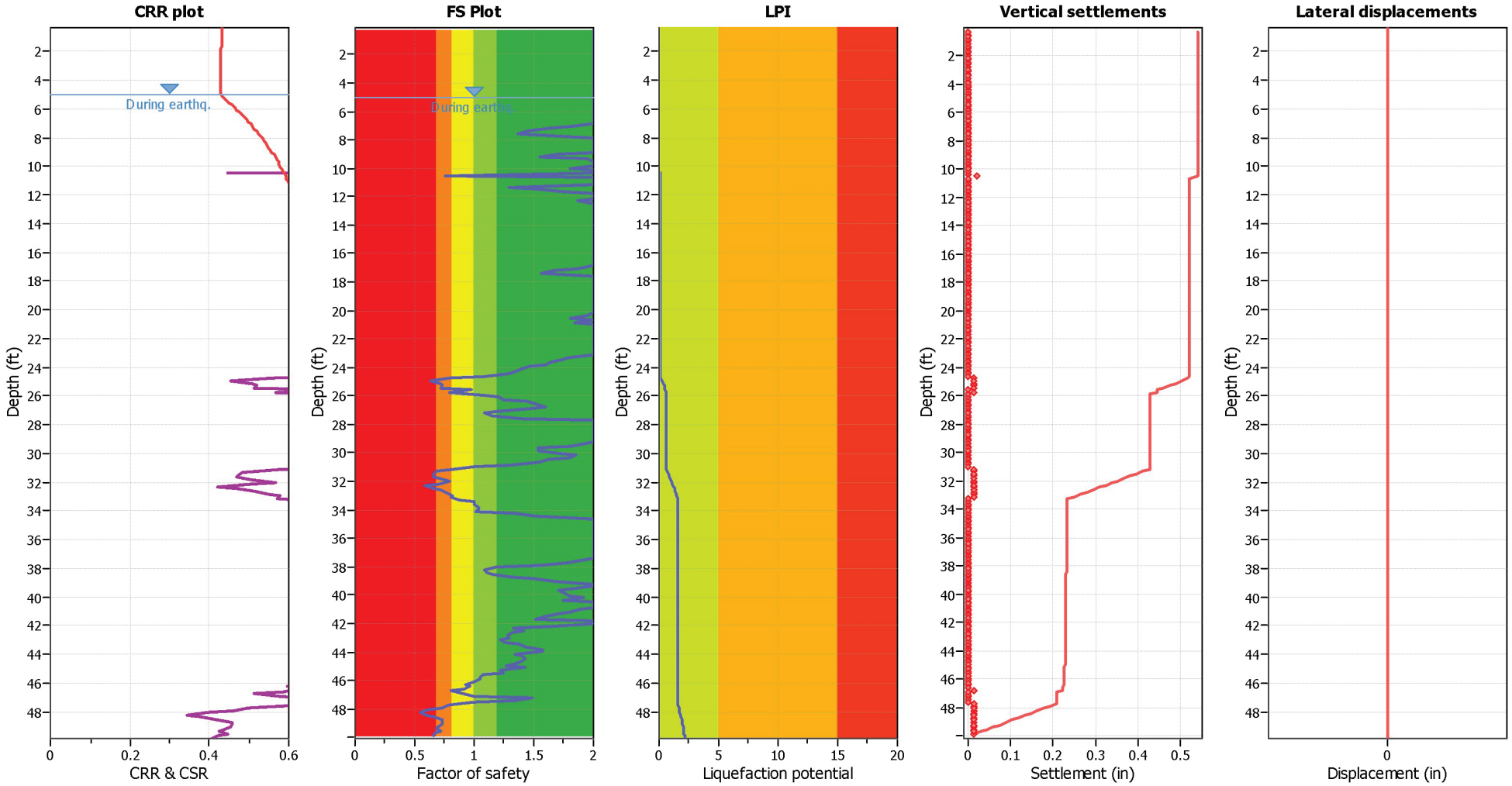






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	Robertson (2009)	Depth to water table (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	Robertson (2009)	Average results interval:	1	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:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	All soils
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

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- Liquefaction and no liq. are equally likely
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LPI color scheme

- Very high risk
- High risk
- Low risk

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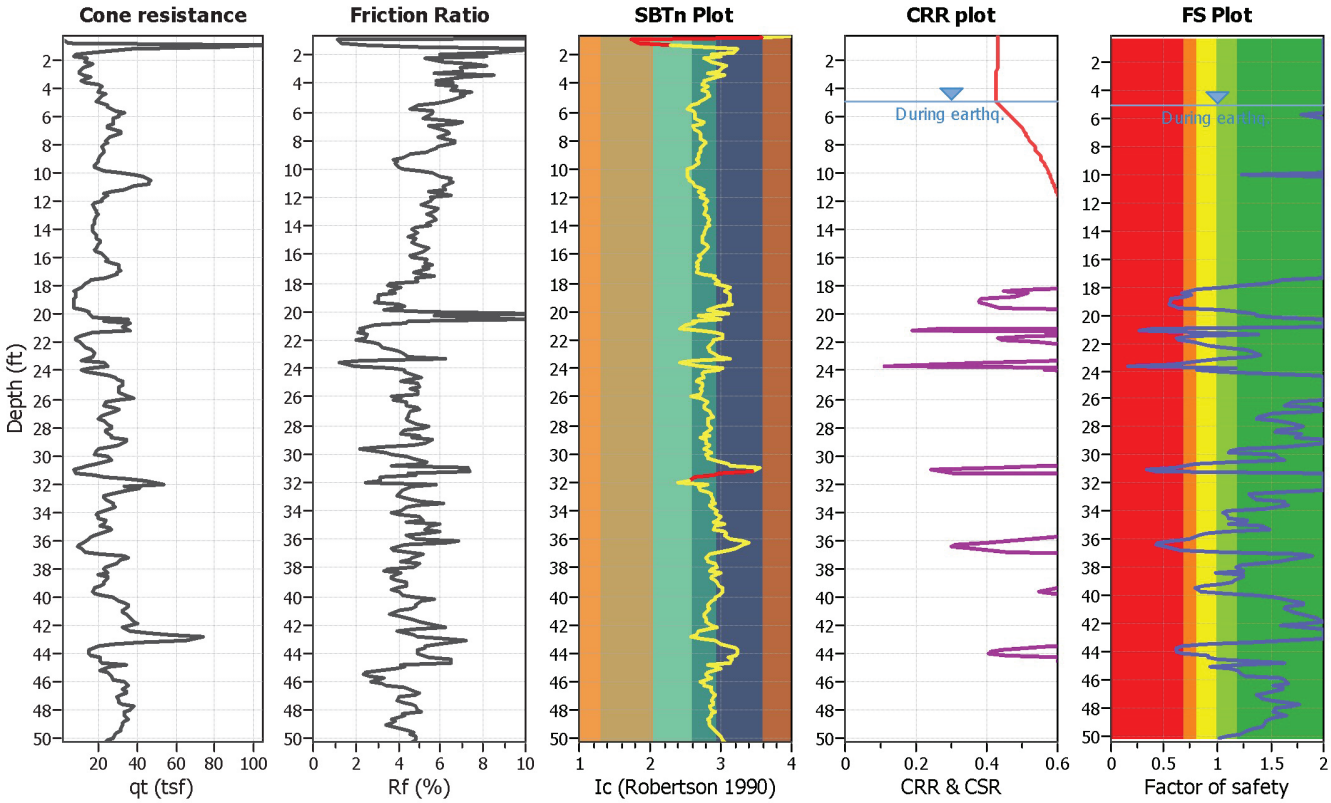
LIQUEFACTION ANALYSIS REPORT

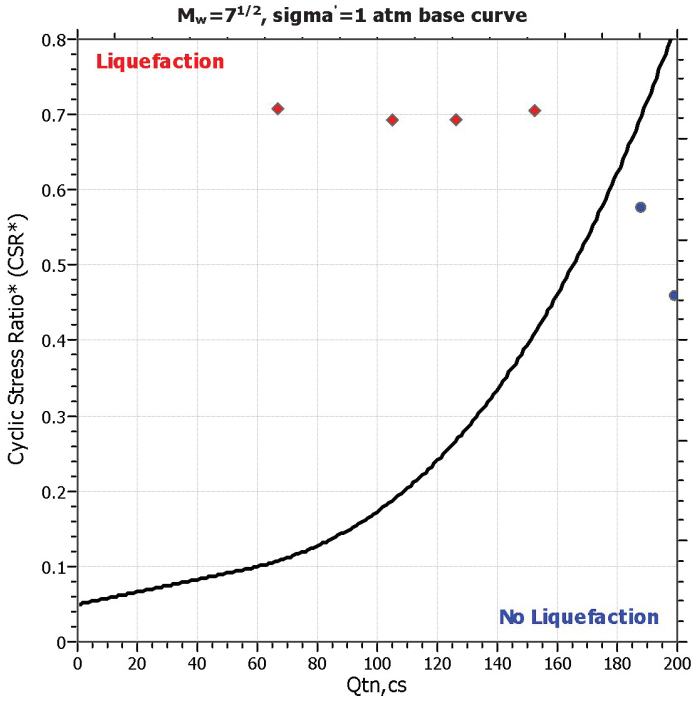
Project title : 11274.000.000 UPRR Property - North of Tesla **Location : Fremont, California**

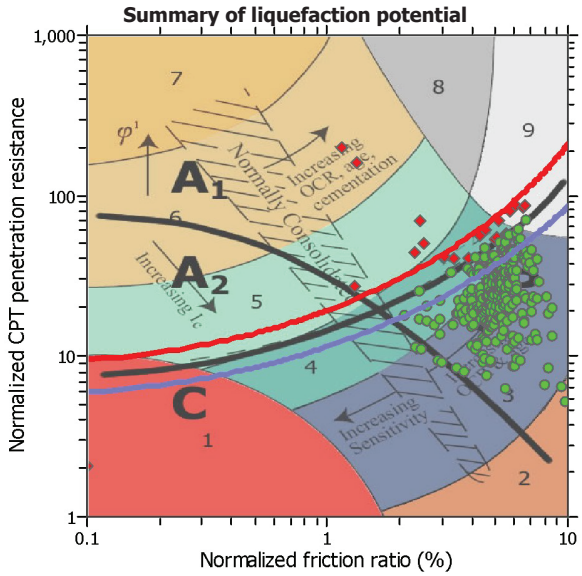
CPT file : 1-CPT6

Input parameters and analysis data

Analysis method:	Robertson (2009)	G.W.T. (in-situ):	5.00 ft	Use fill:	No	Clay like behavior applied:	All soils
Fines correction method:	Robertson (2009)	G.W.T. (earthq.):	5.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.71	Unit weight calculation:	Based on SBT	K_σ applied:	No		

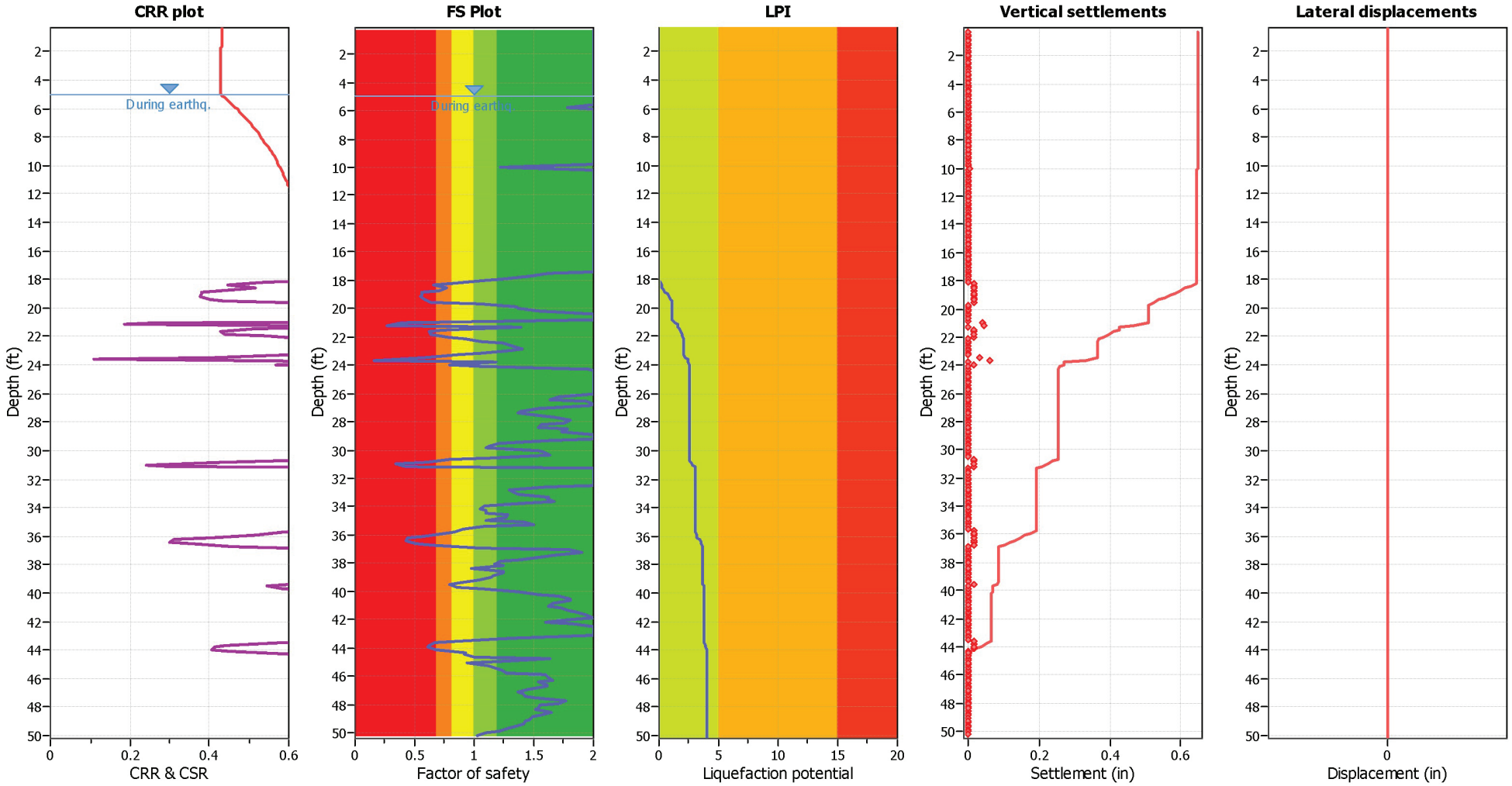






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	Robertson (2009)	Depth to water table (erthq.):	5.00 ft	Fill weight:	N/A
Fines correction method:	Robertson (2009)	Average results interval:	1	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:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	All soils
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	5.00 ft	Fill height:	N/A	Limit depth:	N/A

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

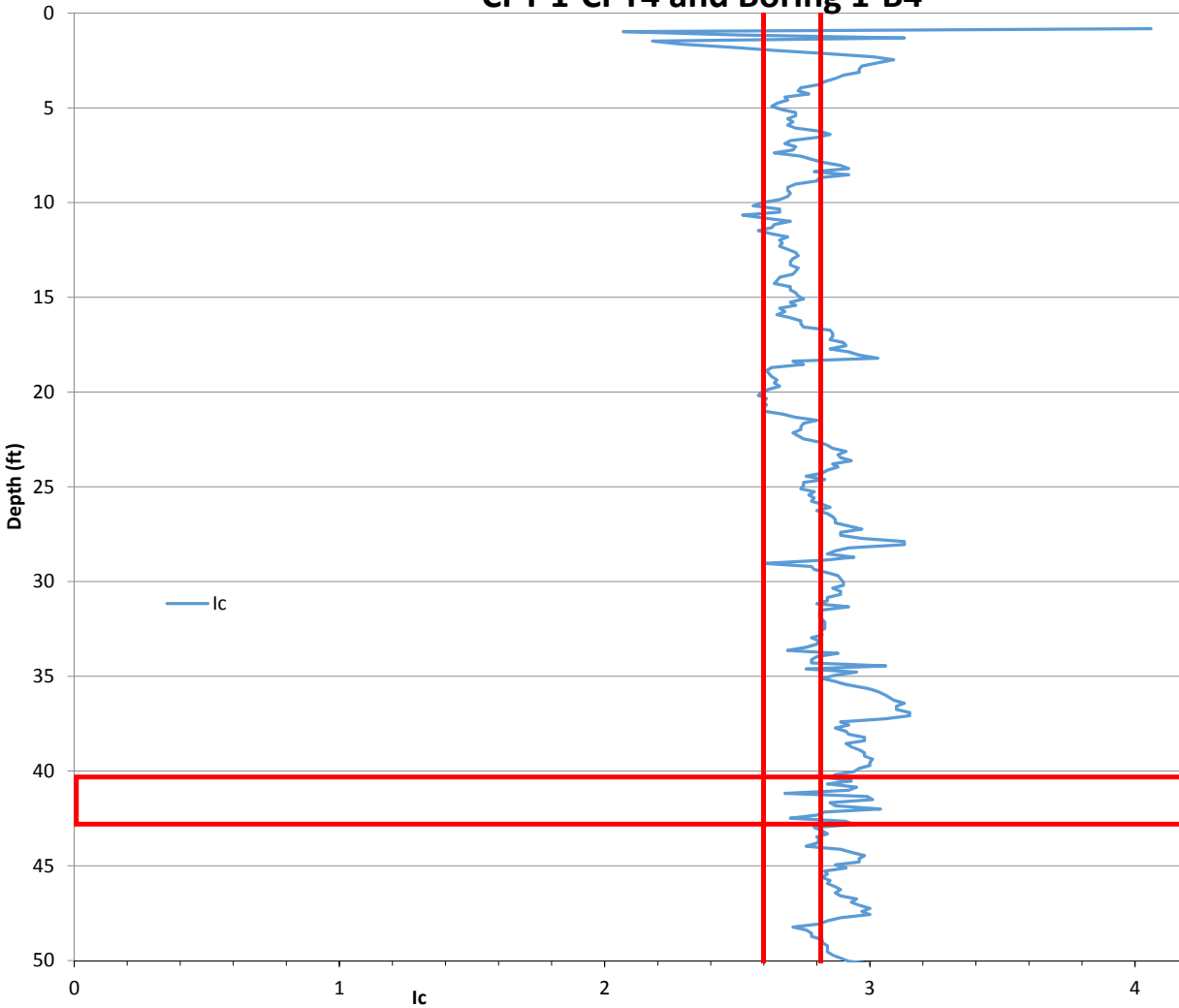
- Very high risk
- High risk
- Low risk

APPENDIX E

Liquefaction Settlement Analysis and Results

APPENDIX E

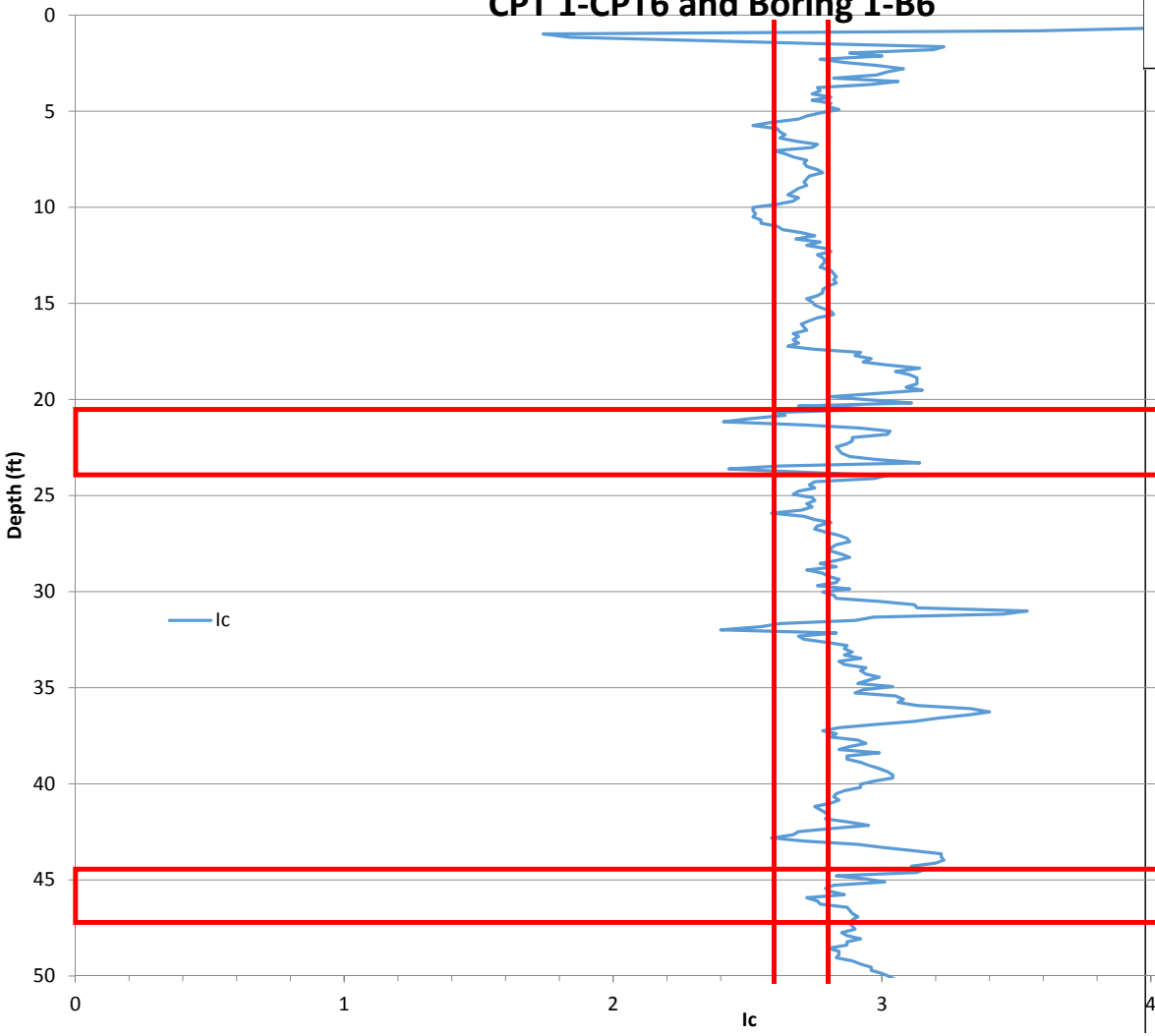
CPT 1-CPT4 and Boring 1-B4



Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) field approx
	25		Lean Clay (CL), reddish brown, stiff, moist, with trace gravels			21	37	15	22	67	15.6		
10	20		containing more fine grained sand			12	26	13	13	56	17.3	108.9	
	15		containing more clay			24	29	14	15	73	19.8	106.2	
20	10		Lean Clay (CL), brown, stiff, moist			26	25	13	12	63	18.2		
	5		containing more clay			18	27	15	12	82	20.5		
30	0					24	30	13	17	62	16.6		
	-5					26	33	15	18	77	20.6		
40	-10		Lean Clay (CL), brown, stiff, moist										
			Lean Silty Clay(ML-CL), brown, hard, moist, with well graded sand			35	22	16	6	60	17	108.8	
			Lean Clay (CL), brown, hard, moist, with some sand and trace gravel			45	33	14	19	61	15		
			Boring terminated at approximately 47.5 feet below existing grade.										

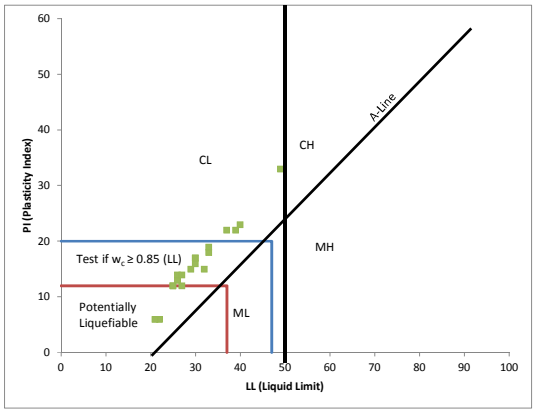
LOG - GEOTECHNICAL WELLEY LOGS B4 1-B6.GPJ ENGEO INC.GDT 6/27/14

CPT 1-CPT6 and Boring 1-B6

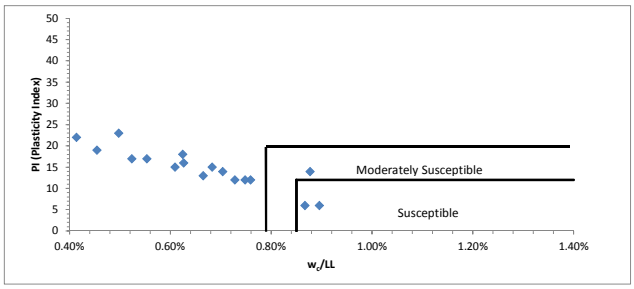


Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits: Liquid Limit	Atterberg Limits: Plastic Limit	Atterberg Limits: Plasticity Index	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
			Lean Clay (CL), dark brown, dessicated										
	20		stiff and moist			23	49	16	33	73	17.2	111.4	
10	15		Lean Clay (CL), brown, stiff, moist, with fine grained sand			26	32	17	15	81	19.5	104.8	
	10		Lean Clay (CL), blueish gray, stiff, moist			21	37	17	20				
20	5		Lean Clay (CL), light brown, soft, moist, with some horizontal sand lenses			3	26	13	13	66	22.8	103.3	
	0		light brown and gray			34	27	13	14	74	19		
30	-5					17	25	13	12		18.7		
	-10					25	30	14	16	69	18.8		
40	-15		Lean Clay (CL), brown, stiff, moist			38	40	17	23	77	19.9		
	-20		Lean Silty Clay(ML-CL), brown, medium stiff, moist, with fine sand			15	21	6	15	59	18.2		
			Lean Clay (CL), brown, very stiff, moist			46	30	17	13	63	15.7		
			Boring terminated at approximately 49.5 feet below existing grade.										

UPRR Property
Liquefaction Susceptibility of Fine Grained Soils



Seed (2003)



Bray and Sancio (2006)

Boring ID	Depth	PI	%Fines	LL	wc	wc/LL
1-B4	5.5	22	67.4	37	15.3%	0.41%
1-B4	10.5	13	55.9	26	17.3%	0.67%
1-B4	15.5	15	72.8	29	19.8%	0.68%
1-B4	20.5	12	62.6	25	18.2%	0.73%
1-B4	25.5	12	82	27	20.5%	0.76%
1-B4	30.5	17	62.2	30	16.6%	0.55%
1-B4	35.5	18	77	33	20.6%	0.62%
1-B4	42	6	60.1	22	19.7%	0.90%
1-B4	47	19	60.6	33	15.0%	0.45%
1-B6	5.5	33	73.1	49	17.2%	0.35%
1-B6	10.5	15	81	32	19.5%	0.61%
1-B6	15.5	22	73.6	39		0.00%
1-B6	20.5	14	66.1	26	22.8%	0.88%
1-B6	25.5	14	73.7	27	19.0%	0.70%
1-B6	30.5	12	71.3	25	18.7%	0.75%
1-B6	35.5	16	68.8	30	18.8%	0.63%
1-B6	40.5	23	76.6	40	19.9%	0.50%
1-B6	45.5	6	58.6	21	18.2%	0.87%
1-B6	47.5	17	63.1	30	15.7%	0.52%

		Susceptibility		
Boring ID	Depth	Bray and Sancio (2006)	Seed (2003)	Both
1-B4	5.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B4	10.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B4	15.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B4	20.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B4	25.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B4	30.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B4	35.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B4	42	Susceptible	Susceptible	**Susceptible**
1-B4	47	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	5.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	10.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	15.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	20.5	Moderately Susceptible	Susceptible	**Susceptible**
1-B6	25.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	30.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	35.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	40.5	Not Susceptible	Not Susceptible	**Not Susceptible**
1-B6	45.5	Susceptible	Susceptible	**Susceptible**
1-B6	47.5	Not Susceptible	Not Susceptible	**Not Susceptible**

Denotes that fines content was not determined in the lab and that the value represents the average of the upper and lower layer

Patterson Ranch Borings

Liquefaction Evaluation - I&B 2008

1-B4

Note, if sloping ground and non-zero statis shear stress exist, user may chose to change value of kalpha

Input

Yellow cells are calculated

Green cells require user input - reference respective papers for details
Corrdction factors on "Driving Force" and "Resisting Force" sheets require user input

Water Table depth at time of Exploration	Water Table depth at time of Liquefaction	amax/g	Mw	$V_{s*40'}$
5	5	0.79	7.3	600

* V_{S40} = Avg shear wave velocity in upper 40 feet expressed in ft/s

					At time of Exploration		At time of Liquefaction			Idriss&Boulanger (2008)					
Boring Designation	Depth [ft]	Soil Type	N_m [Blows/ft]	FC	Total Stress [psf]	Effective Stress [psf]	Total Stress [psf]	Effective Stress [psf]	Thickness (ft)	(N1)60cs	FSliq	εv max	εv max (used)	ΔH (in)	Predicted Settlement (in)
1-B4	43	ML	23	60.1	5160	2788.8	5160	2788.8	5	26	0.40	0.02	0.0075	60.00	0.45
													Predicted Total Settlement		0.45

N_m = Measured SPT Blow Count

ENGEO
Expect Excellence

Patterson Ranch Borings

Liquefaction Evaluation - I&B 2008

1-B6

Note, if sloping ground and non-zero statis shear stress exist, user may chose to change value of kalpha

Input

Yellow cells are calculated

Green cells require user input - reference respective papers for details
Corrdction factors on "Driving Force" and "Resisting Force" sheets require user input

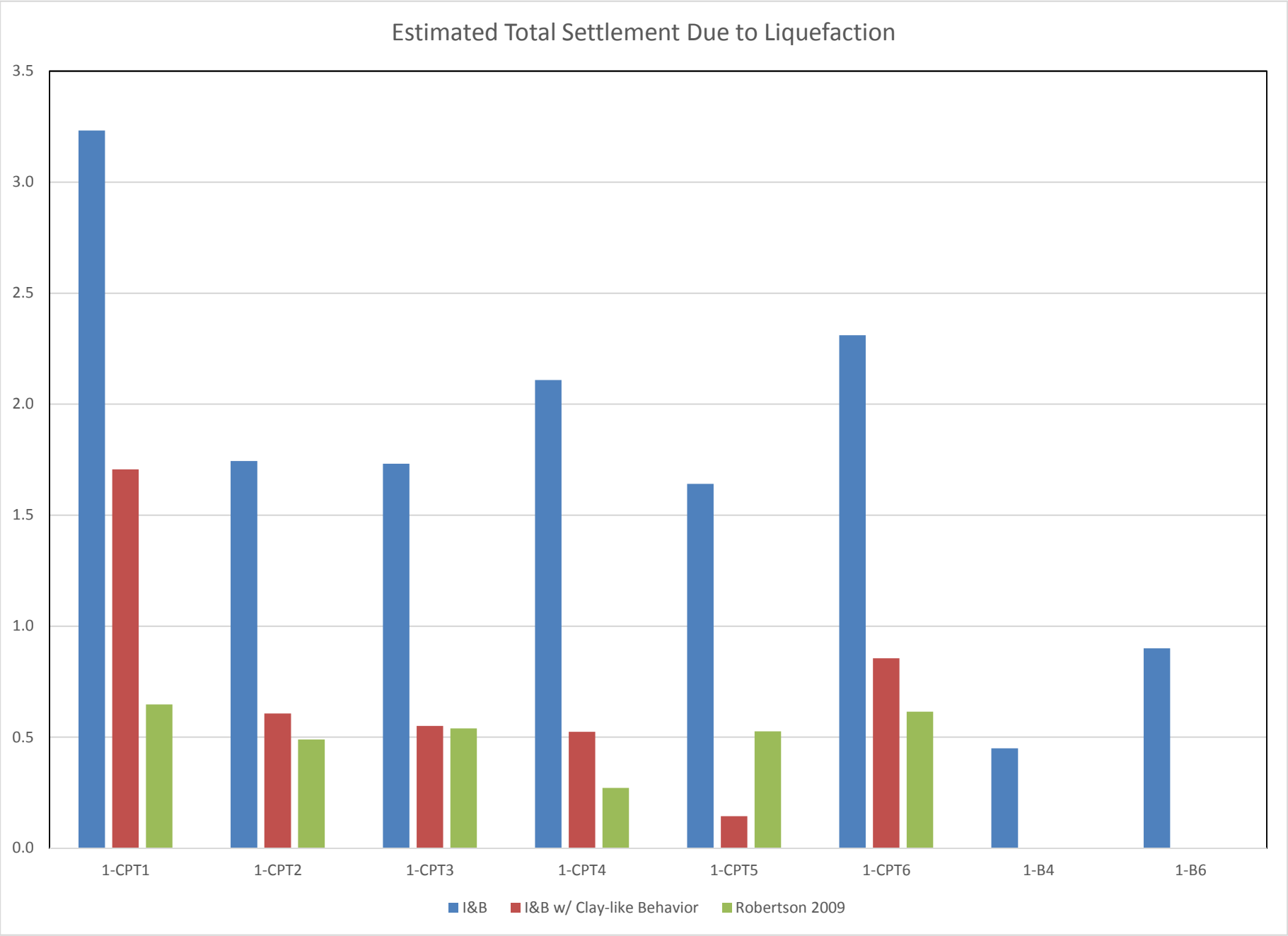
Water Table depth at time of Exploration	Water Table depth at time of Liquefaction	amax/g	Mw	$V_{s*40'}$
5	5	0.79	7.3	600

* V_{S40} = Avg shear wave velocity in upper 40 feet expressed in ft/s

					At time of Exploration		At time of Liquefaction			Idriss&Boulanger (2008)					
Boring Designation	Depth [ft]	Soil Type	N_m [Blows/ft]	FC	Total Stress [psf]	Effective Stress [psf]	Total Stress [psf]	Effective Stress [psf]	Thickness (ft)	(N1)60cs	FSliq	εv max	εv max (used)	ΔH (in)	Predicted Settlement (in)
1-B6	20.5	CL	2	66.1	2460	1492.8	2460	1492.8	5	8	0.14	0.055	0.0075	60.00	0.45
1-B6	45.5	CL-ML	10	58.6	5460	2932.8	5460	2932.8	5	14	0.19	0.04	0.0075	60.00	0.45
													Predicted Total Settlement		0.90

N_m = Measured SPT Blow Count

ENGEO
Expect Excellence


Estimated Total Settlement Due to Liquefaction
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1-CPT1
1-CPT2
1-CPT3
1-CPT4
1-CPT5
1-CPT6
1-B4
1-B6
I&B
I&B w/ Clay-like Behavior
Robertson 2009