



REPORT

GEOTECHNICAL EXPLORATION AND RECOMMENDATIONS REPORT

Proposed Residential and Commercial Development,
8150 Sunset Blvd., Los Angeles, California

Submitted To: AG SCH 8150
Sunset Boulevard Owner, L.P.
P.O. Box 10506
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Submitted By: Golder Associates Inc.
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Distribution: John Irwin, Townscape Partners, LLC
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May 18, 2015

123-92034





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123-92034

Mr. John Irwin
AG SCH 8150
Sunset Boulevard Owner, L.P.
P.O. Box 10506
Beverly Hills, CA 90213

**RE: GEOTECHNICAL EXPLORATION AND RECOMMENDATIONS REPORT
PROPOSED RESIDENTIAL AND COMMERCIAL DEVELOPMENT, 8150 SUNSET BLVD,
LOS ANGELES, CALIFORNIA**

Dear Mr. Irwin:

Golder Associates Inc. (Golder) presents this report containing the results of our geotechnical study for the proposed residential and commercial development to be located at 8150 Sunset Blvd., in the City of Los Angeles, California. This report has been prepared per our proposal dated January 30, 2013 and your authorization to proceed dated February 5, 2013.

Golder's opinion, based on the geotechnical analysis of field and laboratory results, is that the proposed development is feasible from a geotechnical standpoint. Our opinion is conditional upon incorporation of this report's recommendations into the design and construction of the proposed residential and commercial structures. Please refer to Section 7.0 and Appendix D for important information regarding the proper use and interpretation of this report.

Golder has reviewed the laboratory data provided by Hushmand Associates Inc. (HAI) and concurs with the results. Golder accepts responsibility for use of this laboratory data.

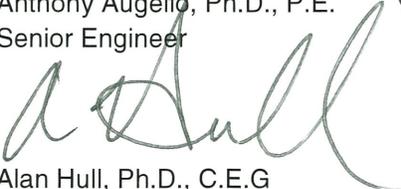
Golder appreciates the opportunity to be of service on this important project. If you have any questions, please contact any of the undersigned.

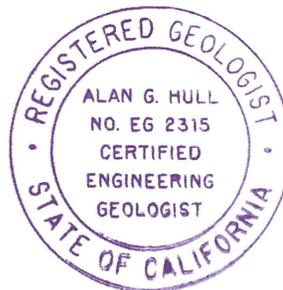
Sincerely,

GOLDER ASSOCIATES INC.


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1.0 INTRODUCTION

This report presents the results of the geotechnical study performed by Golder Associates Inc. (Golder) for the proposed development to be located at 8150 Sunset Blvd. in Los Angeles, California (the Site). The Site location is shown on Figure 1. This report presents a project description, information on our geotechnical field investigation, laboratory test results, and geotechnical design recommendations for the proposed development.

1.1 Site Description

1.1.1 Existing Site Conditions

The Site consists of Lot 1 of Tract No. 31173 in the City of Los Angeles, California and has an area of approximately 2.56 acres. It is bordered to the east by Crescent Heights Blvd., to the north by Sunset Blvd., to the west by Havenhurst Drive, and to the south by two apartment buildings. Havenhurst Drive and Crescent Heights Blvd. slope to the south with an elevation of approximately 405 feet at Sunset Boulevard to an elevation of approximately 385 feet at the southern end of the Site. The boundary that divides the City of Los Angeles and the City of West Hollywood is adjacent to the south east end of the property, and approximately 79 feet north of the south west end.

The Site is currently occupied by a commercial development which includes one two-story stucco building in the northwest corner, and a centrally-located two-story stucco building occupied by multiple retail spaces. The retail structures are at the elevation of Sunset Boulevard. There is an east-west oriented retaining wall under the centrally located two-story building with a height of approximately 20 feet constructed to achieve the grade change from Sunset Boulevard to the southern end of the Site. There is at-grade parking in most of the areas not occupied by buildings, and a parking garage and storage area located below the top floor of the centrally located two-story stucco building. The parking garage and storage area are below grade as compared to Sunset Blvd and at grade as compared to the south end of the Site. The storage area extends from the western half of the centrally located retail spaces towards Sunset Blvd, while the underground parking garage is located underneath the eastern section of the centrally located retail spaces.

1.2 Proposed Development

Based on information provided to Golder by Townscape on January 16, 2014, the project consists of demolishing the existing retail buildings and replacing them with a residential and commercial development.

The proposed development consists of a commercial and residential development with one building that has a 9-story portion and a 16-story portion of building. A separate 3-story building is also proposed. The lower two levels will consist of basement levels along Sunset Boulevard and partial basement to the south.

1.3 Objective and Scope

The objective of Golder's study was to provide geotechnical recommendations for the design of foundations, earthwork, retaining structures, and pavement for the proposed residential development. Golder's data review, field exploration, sampling, Site characterization, laboratory testing, and engineering design recommendations are provided in the following sections.

2.0 GEOTECHNICAL EXPLORATION

2.1 Utility Clearance and Data Review

Golder performed a visual reconnaissance of the Site on February 13, 2013 to mark out soil borehole locations to review available subsurface data at the proposed locations. Underground Service Alert of Southern California (Dig Alert) was notified by Golder of the proposed borehole locations as required by law. Golder did not contract the services of any utility location company during this phase of the project.

Appropriate clearances were obtained from The City of Los Angeles, Bureau of Street Lighting through DigAlert prior to the field investigation. Drilling permits were not required by the County of Los Angeles Department of Environmental Health because subsurface exploration depths were above the expected groundwater table.

Geological and geotechnical data available for the region and Site were gathered from the following sources:

- "Surface Fault Rupture Hazard Assessment," report prepared by Golder Associates, dated January 10, 2014
- "Earthquake Zones of Required Investigation, Hollywood Quadrangle," preliminary earthquake fault zones issued for review purposes by the State of California, California Geological Survey, dated January 8, 2014.
- Residential Options conceptual plans for 8150 Sunset Blvd, Los Angeles, California, prepared by Hart Howerton Ltd., dated November 7, 2012.
- "Alta/ACSM Land Title Survey, Townscape Partners, LLC, 8142-8148 Sunset Blvd.," prepared by PSOMAS, dated July 5, 2011.
- "Geologic and Seismic Technical Background Report, City of West Hollywood General Plan Update, West Hollywood, Los Angeles County, California," prepared by KFM Geoscience for the City of West Hollywood, dated March 15, 2010.
- "State of California Seismic Hazard Zones Map, Hollywood Quadrangle," prepared by the State of California Department of Conservation, Division of Mines and Geology, dated March 25, 1999.
- "Soils Engineering Investigation, Proposed Retail and Office Buildings, 8148 through 8150 Sunset Boulevard, Hollywood, California," report prepared by Robert Stone and Associates, dated February 20, 1986.
- "State of California Special Studies Zones Map, Hollywood Quadrangle," prepared by the State of California Department of Conservation, Division of Mines and Geology, dated July 1, 1986. "Report of Geotechnical Investigation, Proposed Sunset / Crescent Heights Hotel, Sunset and Crescent Heights Boulevards, Los Angeles California, for Laurel Avenue Associates," report prepared by Leroy Crandall and Associates, dated July 27, 1984

Based on our preliminary data review and observations, we understand that the geotechnical conditions at the Site include the following:

- The Site is not located within an area mapped as a Liquefaction Hazard Zone by the State of California.
- The Site is not located within an area mapped as a Landslide Hazard Zone by the State of California.
- The January 8, 2014 draft Aquist-Priolo Earthquake Fault Zoning Map released by the State of California (CGS 2014) indicates that the Site is located within the Hollywood fault earthquake fault zone, but the trace of the fault, as mapped by the State of California, is located more than 100 feet northwest of, but not within, the Site.
- A surface fault rupture hazard assessment undertaken by Golder (2014) at the Site showed general continuity of the subsurface stratigraphy, and lack of major discontinuities between geological units beneath the Site. Soils beneath the Site extend through the Holocene and latest Pleistocene Epochs. In addition, a review of relevant data that describe the location and activity of the Hollywood fault indicates that an active fault tectonic geomorphology is not present at the Site.
- The historic high groundwater level is at a depth of over 150 feet. During Golder's (2014) surface fault rupture hazards assessment, groundwater was not encountered to the depths explored of 97 feet at the northwest end, and 155 feet at the southern end of the Site. Groundwater was not encountered during the geotechnical investigations on reports reviewed for the Site and the property at 8000 Sunset Blvd, which advanced boreholes to a depth of 102 feet below ground surface (bgs). Perched or isolated zones of ground water could be present at the Site.

2.2 Geotechnical Investigation

The purpose of the geotechnical investigation was to evaluate the subsurface conditions within the proposed project Site in order to determine the engineering characteristics of the underlying soils. The geotechnical investigation consisted of drilling boreholes and advancing cone penetration tests.

2.2.1 Boreholes

The boreholes were drilled on February 23, 2013 and consisted of advancing three boreholes to a total depth of 61.5 feet, and one borehole to a total depth of 76.5 feet below the existing ground surface.

Boreholes were labeled B-101, B-102, B-103, and B-104 (Figure 2). Prior to drilling, the borehole locations were cleared of underground utilities through Underground Service Alert of Southern California, Dig Alert. We did not find groundwater during drilling activities; therefore, drilling permits were not required by the County of Los Angeles Department of Public Health.

The borings were advanced by Martini Drilling Corp. of Huntington Beach, California using a truck-mounted CME-75 hollow-stem auger drill rig. The drill rig was equipped with 5-foot long augers of 7.5-inch outside diameter (O.D.) and 3.5-inch inside diameter (I.D.), and a custom-made 4-claw bit. Samples were obtained using an unlined standard sampler consisting of a 2-inch O.D., and 1.4-inch I.D. split barrel shaft advanced into the soils at the bottom of the boring a total of 18-inches. The standard sampler is used for the Standard Penetration Test (SPT).

A modified California (MC) sampler was also used to obtain samples of the soils encountered. This sampler consisted of a three-inch O.D., 2.4-inch I.D. and 24-inch long split barrel driven a total of 18

inches into the soil at the bottom of the borehole. The sampler was lined with three 2.4-inch diameter brass rings located inside the split barrel shaft which were used to retain soil for laboratory tests as well as visual classification in the field. The borehole records indicate when the MC sampler was used.

Both samplers were driven into the soil using a 140-pound hammer free-falling a vertical distance of 30 inches. The number of hammer blows required to drive the sampler (standard or MC) in three six-inch segments, blow count, were recorded during sampling. The combined blow count for the final two six inch segments with the standard sampler is referred to as the SPT N-value. Sampling procedures employed in the field were generally consistent with those described in ASTM D1586.

Samples were collected at five-foot intervals. Soil collected inside the split barrel shaft was visually classified in the field, placed in sealed plastic bags and stored for future reference and laboratory testing. The boring logs are presented in Appendix A. The soils were described in general accordance with ASTM D2487 and internal Golder procedures. The boundaries between different soil and rock types shown on the logs are approximate because the actual transition between layers may be gradual. All boreholes were completely backfilled with soil cuttings; and asphalt pavement where boreholes were advanced was repaired with cold patch asphalt mix. Remaining soil cuttings were used as bedding soil in planters at the Site. Groundwater was not encountered during drilling to the depths explored.

2.2.2 Cone Penetration Test (CPT) Soundings

CPT soundings were advanced by Kehoe Testing and Engineering of Huntington Beach, California during Golder's site-specific surface fault hazard investigation (Golder 2014) on October 14, 2013 and November, 14, 15, and 18 2013. The CPT's were advanced using a four axle, 30-ton thrust capacity CPT rig. Data was collected in accordance with ASTM D5778 using a standard 15-square-centimeters electronic cone system. Tip resistance and sleeve friction data were recorded continuously at 2.5-centimeters intervals.

The first 5-feet of each CPT location were hand-augured to confirm the absence of utilities. A total of fourteen (14) CPT locations were advanced and labeled CPT-1 through CPT-14 (Figure 3). There were seven soundings in the lower parking lot (CPT-1 through CPT-7) and seven soundings within Havenhurst Drive (CPT-8 through CPT-14). Total depths of CPT soundings ranged from 143 to 185 feet below existing grades. The CPT data graphs are presented in Appendix B.

All CPT soundings were backfilled with bentonite pellets and the upper 6-inches were capped with cold-patch asphalt mix. For the CPT advanced in the city stree, this method of repairing the asphalt was acceptable to the City Inspector due to the limited size of the hole caused by the CPT.

2.3 Laboratory Testing

Representative samples retrieved during the field exploration program were evaluated and selected at Golder's Irvine office, and transported to a geotechnical laboratory for testing. The laboratory testing was performed by Hushmand Associates, Inc. (Hushmand) of La Habra, California for the purposes of:

- Substantiating visual field classifications; and
- Providing engineering parameters necessary for geotechnical design.

Laboratory testing consisted of grain size distribution (ASTM D1140 and D422/C 136), water content (D2216), unit weight (D2937), Modified Proctor (D1557), R-value (ASTM D2844), and chemical testing to evaluate the corrosivity of the soils underlying the Site. Results of laboratory testing are presented in Appendix C.

3.0 GEOLOGIC CONDITIONS

3.1 Regional Geologic Setting

The project Site is located along the northern boundary of the Hollywood basin, and approximately 500 feet away of the southwest end of the Hollywood Hills, which are part of the Santa Monica Mountains, and within the Los Angeles Coastal Plain Hydrologic Unit. The Santa Monica Mountains are located along the southern boundary of the Transverse Ranges Geomorphic Province that is dominated by east-west trending, north-over-south reverse faults. The Santa Monica-Hollywood- Raymond Fault Zone represents the northern structural boundary between the Santa Monica Mountains and the Los Angeles Basin to the south (KFM GeoScience, 2010).

Most of the land along the southern base of the Santa Monica Mountains is underlain by sedimentary rocks from the Paleogene Period from 66 to about 23 million years ago (CDC 1998). The mountains also comprise Cretaceous (145 to 66 million years ago) granodiorite and quartz diorite, which is exposed in the Santa Monica Mountains in the northern part of the map area. Locally, at the surface, the granitic rocks are weathered and erodible.

The Cretaceous granite is overlain unconformably by deep-marine clastic sedimentary rocks of the Cretaceous Tuna Canyon Formation, which consists of interbedded sandstone, siltstone, and pebble-cobble conglomerate. Overlying the Tuna Canyon Formation are the Paleogene (66 to 33 million years ago) non-marine clastic sedimentary rocks (Simi Conglomerate and Las Virgenes Sandstone) and fine-grained marine sandstones of the Santa Susana Formation (Colburn and Novak 1989).

The Paleogene rocks are overlain by alluvial units of varying ages, all within the Quaternary Period. These units consist of alluvial and fan deposits of sand, silt, and clay of the Pleistocene and Holocene Periods (less than 2.6 million years old) that have been deposited on the older alluvial plains by streams draining from the Santa Monica Mountains.

3.2 Site Geology and Generalized Subsurface Conditions

The Site is located on alluvial soils derived from the adjacent Santa Monica Mountain range. The alluvial soils are vertically and horizontally discontinuous as a result of periods of stream erosion and subsequent alluvial deposition. The alluvial soils preserve buried soils that represent a hiatus in alluvial deposition. The buried soils are typically reddish brown with higher clay content because of extended exposure at the ground surface. The alluvium and sequences buried soils are thickest along southern City boundary and gradually thin toward the north. The alluvial soils are typically coarser-grained (sandier) near the base of the hills and become finer-grained (silty and clayey) to the south (KMF GeoScience 2010).

Golder's geotechnical exploration confirmed that the area within the Site is underlain by alluvial soils to the depths explored (185 feet below ground surface). These deposits generally consist of a mixture of silt, sand, and/or gravel (Appendix A).

Two subsurface cross sections (A-A' and B-B') were cut through the proposed basement. Section A-A' was oriented north-south and Section B-B' was oriented east-west. The cross sections include the soil profiles from the borehole logs. The cross sections also show the limits of the basement excavation. Figure 4 shows the location of Cross Sections A-A' and B-B'. Figures 5A and 5B present the cross sections.

Artificial fill soils were not encountered in the borings drilled on Site. Grading has been performed in the past at the site and artificial fill is likely present on Site. Specifically, fill is expected to be encountered behind (to the north of) a retaining wall with an east-west orientation in the middle portion of the property, and a height of approximately 18 feet (see Section B-B'). The wall is located under existing site buildings. It is likely the artificial fill is reworked native soils from the southern part of the Site (south of the retaining wall). The proposed development is expected to have two basement levels in the south and three basement levels along Sunset Boulevard. The bottom of the basement level is at approximately Elevation 377.5 feet above mean sea level (amsl). This elevation is approximately 10 feet below ground surface in the southern area of the Site, and approximately 30 feet below ground surface in the northern area of the Site. Therefore, the artificial fill will be removed during construction.

3.3 Groundwater

The Site lies in the Hollywood Hydrologic subarea of the Coastal Plain of Los Angeles County. According to the groundwater level contour map prepared by the California Division of Mines and Geology (CDMG, 1998) and presented in the Seismic Hazard Zone Report for the Hollywood 7.5-minute Quadrangle, the historical high groundwater level at the Site is approximately 150 feet below ground surface. Reviews of previous exploration programs show that groundwater has not been encountered in the area at shallow depths; however, perched or isolated zones of groundwater may be present in the Site area. During our surface fault rupture hazard assessment (Golder 2014), groundwater was not encountered.

3.4 Potential Geological Hazards

3.4.1 Surface Faulting

Golder (2014) reported the results of a site specific surface fault rupture study to evaluate the presence of any active trace of the Hollywood fault across the Site. This study concluded that there were no active fault traces present at the Site. Accordingly, surface fault rupture is not expected at the Site

3.4.2 Landslides and Liquefaction

According to the CDMG (1998), landslides have not been mapped in or around the vicinity of the Site, and no evidence of landsliding has been observed in this area. However, because the Site is located at the base of the Santa Monica Mountains, under the right geological, geotechnical, and saturation conditions, landslides in the vicinity of the Site are possible.

Liquefaction potential has been thought to be the greatest where the groundwater level is shallow and loose, fine sands occur within a depth of about 50 feet or less of the ground surface. The Site is not located within an area mapped as a liquefaction hazard zone by the California Geological Survey (CDMG, 1998).

4.0 GEOTECHNICAL DESIGN RECOMMENDATIONS

4.1 Geotechnical Feasibility

Based on the results of the field exploration, laboratory testing, and geotechnical analyses conducted, Golder believes that it is feasible from a geotechnical standpoint to proceed with the proposed development at the Site provided the recommendations presented in this report are incorporated into the project's design and construction.

4.2 Seismic Design Considerations

4.2.1 General

The Site is located in the seismically active region of Southern California. The Site is expected to be subjected to seismic hazards during its design life. Potential seismic hazards include strong ground shaking, ground surface rupture due to faulting, liquefaction and seismic settlement, and slope instability. The following sections discuss these potential seismic hazards with respect to the proposed development at the project Site.

4.2.2 Ground Shaking

The bases for the 2013 California Building Code (CBC) seismic design are 5%-damped spectral accelerations for 0.2 seconds (S_S) and 1 second (S_1) at a rock or very stiff soil site (Site Class B). These 5%-damped spectral accelerations are established for a risk-adjusted Maximum Considered Earthquake (MCE_R). Typically, the MCE_R spectral accelerations have a mean return period of 2,475 years (2% probability of being exceeded in 50 years). At some locations, the 2,475-year ground motions are capped by deterministic ground motions. The values for S_S and S_1 were determined using the US Seismic Design Maps application (<http://earthquake.usgs.gov/designmaps/us/application.php>) provided by the United States Geological Survey (USGS). Site coefficients (F_a and F_v) were used to scale the spectral accelerations as a function of Site Class to develop a Site-specific, 5%-damped acceleration response spectrum. Table 1 provides the recommended 2013 CBC seismic design parameters for the Site based on the results of Golder's geotechnical exploration and on Section 1613 of the 2013 CBC.

Table 1: 2013 California Building Code (CBC) Seismic Design Parameters

2013 CBC Seismic Design Parameter	Value
Site Class	D
5%-damped, 0.2-sec spectral acceleration (S_S)	2.51
5%-damped, 1-sec spectral acceleration (S_1)	0.91
Site Class D, 5%-damped, maximum considered earthquake geometric mean (MCE_M) peak ground acceleration	0.96
Site Coefficient, F_a	1.0
Site Coefficient, F_v	1.5
Site Coefficient, F_{pga}	1.0

4.2.3 Liquefaction Potential and Seismic Settlement

The 2013 CBC requires that liquefaction potential evaluations for soil Site Class D through F be developed based on either a site-specific study taking into account soil amplification effects, or using mapped peak ground accelerations (PGA) adjusted for site effects (F_{PGA}), PGA_M . The mapped PGA values represent maximum considered earthquake geometric mean (MCE_G) peak ground accelerations, rather than risk-targeted values. F_{PGA} and PGA values were determined using tools provided by USGS. Liquefaction potential at the Site was assessed based on procedures presented by Idriss and Boulanger (2009), and Youd et al. (2001). Results from this evaluation indicated that liquefaction is unlikely to occur at the Site.

Seismically-induced settlement at the Site was estimated using the procedure proposed by Tokimatsu and Seed (Tokimatsu and Seed 1984) using an historic ground water level depth at the Site of 150 feet for an M6.6 event with a PGA of 0.96g. The total seismic settlement is estimated to be less than one-half of an inch at the Site. A differential settlement equal to one-half of the total settlement should be expected.

4.2.4 Other Seismic Considerations

Tsunamis are very large waves in the ocean caused by seismic events, landslides, or volcanic eruptions. Seiches are waves in lakes, bays, or gulfs that result from seismic events, landslides, or atmospheric disturbances. The distance of the project Site from the ocean (approximately 9.5 miles) and other large bodies of water and its elevation of over 420 feet above mean sea level suggest that the probability of experiencing adverse effects from tsunamis and seismic seiches is negligible at the Site.

4.3 Foundation Design

4.3.1 General

Golder evaluated both shallow and deep foundation systems for the proposed development based on the information obtained from field and laboratory data. The results of this evaluation suggest that the proposed structures may be supported by shallow foundations (spread or strip footings, or mat foundations), or deep foundations (drilled shafts). The final selection of the foundation system in each specific portion of the project will be made by the structural engineer based on the specific design loads

The following sections present Golder's foundation recommendations for the various foundation systems evaluated.

4.3.2 Shallow Foundations

4.3.2.1 Allowable Bearing

As discussed in Section 4.3.1, the proposed development will be located entirely in native soil or engineered fill. Therefore, the following design criteria are recommended for the footings:

- Shallow spread footings should have a minimum dimension of 2 feet.
- Shallow continuous footings should have a minimum width of 1.5 feet.
- Locate the bottoms of all footings at least 2 feet below the lowest adjacent grade.
- Individual spread footings should bear on firm, undisturbed native soils or on a minimum of four (4) feet of engineered fill placed in accordance with the recommendations of Section 6.5.
- Design footings bearing on the engineered fill and undisturbed native soils using the maximum static allowable (factor of safety equal to 3.0 in bearing capacity calculations) bearing pressures shown in Tables 2 and 3. The recommended bearing values in Tables 2 and 3 are for equivalent gross loads and may be increased by one-third for wind, seismic, or other transient loading conditions.
- The allowable bearing pressures in Tables 2 and 3 are for a static settlement one inch or less. For the smaller footing, bearing capacity controls the allowable capacity. A differential settlement equal to one-half of the total settlement should be expected. Differential settlements should be reviewed once final building loads and foundation locations and geometry are complete.

Table 2: Maximum Static Allowable Bearing Pressures for Shallow Footing Foundations

Footing Width (feet)	Allowable Bearing Pressure ¹ (psf)
2	4,600
5	5,200
10	3,550
15	3,050
20	2,850

Notes:

¹Values can be linearly interpolated for intermediate footing widths

Table 3: Maximum Static Allowable Bearing Pressures Strip Footing Foundations

Footing Width (feet) ¹	Allowable Bearing Pressure ² (psf)
1.5	3,300
5	5,150
10	3,500
15	3,000

Notes:

¹Footings are 100 feet long

²Values can be linearly interpolated for intermediate footing widths

If larger bearing pressures are required, additional settlements should be expected. Alternatively, an engineering solution could be used to increase the bearing pressure.

For footing founded on compacted fill, the fill beneath the footings shall extend horizontally, beyond the edge of the footing, a distance equal to the depth of compacted fill below the bottom of the footing or a minimum of three feet, whichever is greater. If locations are encountered during

design/construction where this condition cannot be met, the geotechnical engineer shall be notified to perform a location-specific analyses to confirm that the recommended lateral resistance and vertical bearing capacities are applicable.

4.3.2.2 Lateral Resistance

Footings foundations located below grade may derive lateral load resistance from passive resistance along the vertical sides of the foundations, friction acting on the bases of the foundations, or a combination of the two. An allowable (factor of safety equal to 3.0) passive resistance of 180 psf per foot of depth up to a maximum of 2,000 psf may be used for design. An ultimate friction factor of 0.50 between the bases of the concrete foundations and the native alluvial deposits can be used for sliding resistance using the dead load forces. The structural engineer will need to include an appropriate safety factor to comply with building code requirements. The City of Los Angeles requires a minimum factor of safety of 1.5.

The passive resistance and friction factor are based on the native on-site soils. If other soils or borrow material are used, then these values will vary. Friction and passive earth pressure resistance may be combined without reduction provided the passive resistance does not exceed two-thirds of the allowable lateral bearing. Golder recommends that the upper 1 foot of soil cover be neglected in the passive resistance calculations

4.3.3 Deep Foundations

Cast-In-Drilled-Hole (CIDH) piles may be used for the proposed project. The design capacity curves presented herein were developed following the procedures outlined in LRFD for Drilled Shaft Design published by the Federal Highway Administration (FHWA 2010).

4.3.3.1 Axial Capacity

Unfactored axial compressive capacity of drilled piers is presented on Figure 6 for pile diameters of 18, 24, and 30 inches. Curves presented in Figure 6 were developed based on SPT data obtained during Golder's subsurface exploration performed on February 2013 (Appendix A), and CPT data obtained during Golder's surface fault rupture assessment on October 2013 (Appendix B). Figure 6 present the ultimate axial capacity of the piles. The structural engineer will need to include an appropriate safety factor to comply with building code requirements. In developing the design curves presented in Figure 6, the following assumptions were made:

- No permanent casings will be used.
- No drilling fluids will be used. If drilling fluids are used, a one-third reduction in axial and uplift pile capacities is necessary. This reduction of one-third assumes the shaft is excavated and concreted within one work shift (i.e., the holes are not left open overnight).
- All drilled piles are straight-sided and do not have enlarged or belled bases.
- End bearing has been ignored in the unfactored axial capacities. Only side friction has been considered.

The axial capacities presented for CIDH piles correspond to values for individual piles. The settlement of a pile group will be larger than that of an individual pile. Thus, the total axial capacity of a pile group will be less than the sum of the individual pile capacities based upon limiting pile cap deformation. Therefore, the individual pile capacities should be multiplied by a reduction factor when calculating the total axial capacity of the pile group. The following reduction factors, based on the spacing between individual piles in a group, should be applied for preliminary design. For final design, it may be appropriate to refine these factors to account for the number of piles in the pile group.

Table 4: Axial Load Capacity Reduction Factors for Pile Groups

S/D	Reduction Factor
2	0.65
3	0.8
4	0.9

4.3.3.2 Lateral Resistance

Lateral deflections, moments, and shear for piles can be estimated once load combinations at the pile head are known. Golder can provide these analyses at that time.

4.3.4 Slab-on-Grade Floors

Conventional concrete slab-on-grade floors may be used for the proposed development. It is recommended that the floor slab areas be over-excavated by 2 feet and that the slab-on-grade floors be placed on a minimum of 2 feet of engineered fill to provide a uniform subgrade bearing surface. The engineered fill should be compacted to a minimum of 95 percent of its maximum dry density at a water content within 3 percent of its optimum moisture content, as determined by ASTM D1557.

The modulus of subgrade reaction concept can be used in the design of slabs-on-grade. The modulus of subgrade reaction is not an intrinsic property of the soil/rock since it also depends on the dimensions and stiffness of the slab and the stress level. The modulus of subgrade reaction can be calculated as follows:

$$k = k_1 \left(\frac{B + 1}{2B} \right)^2$$

where:

k = static, vertical modulus of subgrade reaction for the loaded slab;

k₁ = static, vertical modulus of subgrade reaction for a 1-foot diameter loaded area;

B = effective diameter of the slab's reaction area (in feet), given by the following equation:

$$B = \frac{4h}{\pi} \left(\frac{E}{E_s} \right)^{0.33}$$

h = slab thickness (in feet);

E = elastic modulus of concrete slab; and

E_s = elastic modulus of subgrade soil.

It is anticipated that the native alluvium to be over-excavated from within the building footprint and the surrounding areas will be used as engineered fill under the slabs-on-grade. These soils consist mostly of silty sands. Therefore, Golder recommends that a k_1 of 240 kips per cubic foot (kcf) and a E_s of 250 kips per square foot (ksf) be used to evaluate the modulus of subgrade reaction for the slab-on-grade floors.

4.4 Discussion of Foundation Recommendations

The average SPT N-values below the base of the foundation is 15. The soils below the foundation are medium dense. The loose soils above the foundation elevation will be removed. There are numerous correlations available in the literature that has been successfully used to estimate the properties of granular soils since the 1960s. The methods used to calculate the bearing capacities are summarized below:

- Ultimate bearing capacity calculated using bearing capacity formula for soil with a friction angle of 32 degrees and cohesion of 0.
- Allowable bearing capacity calculated using Terzaghi's bearing capacity equation applying a factor-of-safety of 3 to the ultimate bearing capacity calculated.
- Allowable bearing capacity to limit total settlement to 1 inch calculated using method by Burland and Burbridge assuming an SPT blow count of 15 below the proposed foundation (bottom of basement at approximate Elevation 365 feet amsl).
- Ultimate pile capacities based on skin friction were calculated using the CPT and SPT data collected in the field. CPT-based capacities were calculated using the LCPC method (Bustamante and Gianeselli, 1982) while the SPT-based capacities were calculated using the FHWA design method (FHWA 2010).

4.5 Lateral Earth Pressures for Retaining Walls

Active earth pressures may be used for retaining walls that are free to rotate at least 0.1 percent of the wall height. The active earth pressures can be computed using an equivalent fluid weight of 32 pounds per cubic foot (pcf). Retaining walls restrained against rotation should be designed for the higher at-rest earth pressure conditions. For design purposes, the at-rest earth pressure exerted on retaining walls can be taken as that exerted by an equivalent fluid having a unit weight of 57pcf. These recommended values do not include compaction-, truck-, or building-induced wall pressures or water pressures (see below). Additional loads on retaining walls may be imposed by surcharges. Golder should be contacted when development plans are finalized for review of wall, backfill, and surcharge conditions on a case-by-case basis. It should be noted that the above lateral earth pressure recommendations assume that the retained fill will be granular soils obtained from processing the native soils at the Site.

Care must be taken during compaction operations not to overstress the retaining wall. Heavy construction equipment should be kept at least 3 feet away from the wall while the backfill soils are being placed. Hand-operated compaction equipment should be used to compact the backfill soils within the 3-foot-wide

zone adjacent to the walls. Soil at the toes of retaining walls should be in place and compacted prior to backfilling behind the walls.

Under earthquake loading, basement retaining walls will be subjected to an additional lateral force equal to $30H^2$ pounds per linear foot of wall, where H is the height of the wall in units of feet. This force should be applied at a point located 0.6H above the base of the wall and it acts in addition to the static lateral pressures discussed above.

The recommended lateral earth pressures provided herein assume that adequate drainage is provided behind the walls to prevent the buildup of hydrostatic pressures. Walls should be provided with backdrains to prevent the buildup of hydrostatic pressure behind the walls. Backdrains could consist of a 2-foot wide zone of Caltrans Class 2 permeable material located immediately behind the wall and extending to within 1 foot of the ground surface. A perforated pipe could be installed at the base of the backdrain and sloped to discharge to a suitable collection point. Alternatively, commercially available synthetic drainage layers could be used for drainage of the wall backfill. The synthetic manufacturer's recommendations should be followed in the installation of synthetic drainage layers or backdrains. Additionally, waterproofing of basement walls may be desirable to prevent moisture intrusion and water seepage through the walls due to perched water tables or lateral migration of subsurface water from the landscaped areas or adjacent properties or streets. However, waterproofing is not required if the owner is willing to accept water staining of the basement walls and minor seepage through the basement walls.

4.6 Soil Corrosivity

Golder performed laboratory testing to evaluate soil corrosivity at the Site, and reviewed the results of laboratory tests performed by HDR Schiff of Claremont, CA (Appendix C). Golder tested a sample retrieved from 11.5 to 15 feet bgs in boring B-101 for soil pH, sulfate content, chloride content, and electrical resistivity. The test results were as follows:

- Minimum Soil Resistivity – 18,330 ohm-cm
- Sulfate Content – 8.3 mg/kg
- Chloride Content – 2.7 mg/kg
- pH – 8.0

Based on Caltrans' corrosion guidelines (Caltrans 2012) and Golder's experience with the underlying materials in the vicinity of the project Site, the on-site soils at shallow depths are expected to be non-corrosive to buried metallic structures such as ductile iron pipes. If the proposed development includes buried metallic structures that will require protection, then Golder recommends that a specialist corrosion engineer be retained to evaluate the general corrosion potential with respect to construction materials at the Site.

The soils in the area are alluvial fans from the Santa Monica Mountains. In this area, the Santa Monica Mountains are composed of sedimentary rock of marine origin. Marine sediments often contain sulfates

and Type II cement provides a moderate amount of protection against sulfates. Because the soils at the Site have been repeatedly infiltrated by fresh water, some of the sulfates in the upper soils would have been leached out. Due to the horizontal and vertical variability of the on-site soils, this leaching would not occur evenly across the Site and there could be an accumulation of sulfates at depth. Thus, some of the on-site soils may be moderately corrosive to concrete, and Type II cement should be used at the project Site for concrete elements in contact with earth materials.

4.7 Pavements

4.7.1 General Pavement Recommendations

Laboratory testing on soil samples for pavement design (Appendix C) was performed a sample retrieved from 26.5 to 30 feet bgs in boring B-101, and from 21.5 to 25 feet bgs in boring B-104 by Labelle Marvin, Inc. (Labelle Marvin) of Santa Ana, California. Results from laboratory testing indicate the minimum R-value corresponding to the tested samples is 63. The flexible pavement recommendations provided below are based on this R-Value.

Subgrade drainage is an important factor that enhances pavement performance. Subgrade surfaces below the pavement structural sections should be sloped to direct runoff to suitable collection points and to prevent ponding. Concrete curbs separating pavement from landscape or exposed earth areas should extend at least 6 inches below subgrade surfaces to reduce the potential for the movement of moisture through the aggregate base-course layers.

The recommended pavement sections described in Sections 4.6.2 and 4.6.3 are preliminary. The actual soils present at subgrade elevation after grading may be different than those assumed for the preliminary design contained herein. Golder recommends that the subgrade soils be observed after grading is completed and that the actual subgrade materials be sampled and a tested. Final pavement design recommendations may be presented after the observation and R-value testing is reviewed.

4.7.2 Flexible Asphalt Pavements

By assuming the traffic index (TI) values shown below, a 20-year design life and based on the Caltrans Highway Design Manual (Caltrans, 2012), Golder has developed the following recommendations for preliminary flexible pavement design:

Table 5: Preliminary Flexible Pavement Design Sections

Traffic Index	Asphalt Concrete Thickness (inches)	Class II Aggregate Base Thickness (inches)
5.0	3.0	2.5
5.5	3.0	3.0
6.0	3.5	3.0
6.5	3.5	3.5
7.0	4.0	3.5

The asphalt concrete thickness can be divided into base and finish courses. The uppermost 6 inches of subgrade and the Class II aggregate base should be compacted to at least 95 percent of the maximum dry density. Pavement section thicknesses will increase for areas of heavy vehicular use and for areas where larger wheel loads are anticipated.

4.7.3 Rigid Concrete Pavements

Concrete pavements may be desirable in certain areas where heavy equipment may induce large pavement loads. A simplified rigid pavement analysis was performed in general accordance with Caltrans Highway Design Manual (Caltrans, 2012). The simplified analysis indicates that 9 inch thickness of Jointed Plain Concrete Pavement is sufficient for Traffic Indexes less than 9. The thickness corresponds to a 28-day concrete modulus of rupture of 625 pounds per square inch (psi) and a pavement design life of 20 years. The transverse joints in the pavement should be spaced 15 feet apart or less (Table 6).

Table 6: Rigid Pavement Structural Depth

TI	With Lateral Support (in)		Without Lateral Support (in)	
	JPCP ¹	AB ²	JPCP ¹	AB ²
< 9	8.5	6	9	6
9.5 to 10	9	7.5	10	12

Notes:

¹ JPCP Jointed plain concrete pavement

² AB Aggregate base

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Existence of Unsuitable Soils

Expansive or collapsible soils were not encountered during the field exploration. If these are encountered in the construction phase, then proper mitigation measures should be designed and implemented.

5.2 Site Preparation

Site preparation and earthwork operations should be performed in accordance with all applicable codes. In this report, all references to maximum dry density and optimum moisture content refer to those values obtained in accordance with ASTM D1557 ("Modified Proctor" compaction test).

Existing debris and obstructions should be removed from within the building footprint and all areas to be graded. Additionally, any existing underground structures such as abandoned pipelines should be completely removed from areas underlying the building footprint. After removal of these items, exposed deleterious, vegetative, inert, and oversized materials (materials greater than 8 inches in maximum dimension) should be stripped and isolated prior to removal of reusable soils. The soils exposed in excavation subgrades should be observed by a Golder representative to confirm that these soils have the desired engineering properties. Additional removals may be required as a result of observation and testing of the exposed subgrade soils.

Prior to placement of the first lift of engineered fill, the upper 8 inches of the exposed subgrade should be brought to within 3 percent of its optimum moisture content and compacted to a minimum of 90 percent (95 percent within the building footprint plus a horizontal distance equal to the depth of removal beyond the edge of the foundation) of its maximum dry density as determined by ASTM D1557 to provide a uniform bearing surface.

If the subsurface conditions exposed during grading operations vary from those described in this report, Golder should be notified immediately and a revision of the recommendations contained herein may be necessary.

5.3 Excavations

The borings performed at the Site were advanced using a track-mounted hollow stem auger drill rig. Drilling was completed with low effort through the existing native alluvium. Therefore, conventional earth moving equipment will be capable of performing a portion of the excavations required for the development. All surface water should be diverted away from excavations.

5.4 Engineered Fill

Golder anticipates that the majority of the existing on-site native soils may be reusable as engineered fill. Particles greater than 8 inches in maximum dimension should be removed or crushed and any vegetative,

expansive, and deleterious material and debris should also be removed. Engineered fill should be placed in lifts no greater than 10 inches thick (loose measurement) and should be compacted to:

- At least 95 percent of its ASTM D1557 maximum dry density in areas underlying slabs-on-grade or spread footings, and adjacent to any type of structures.
- At least 90 percent of its ASTM D1557 maximum dry density elsewhere.

Existing on-site soils used as engineered fill should be placed at a water content that is within 3 percent of their optimum moisture content, as evaluated from ASTM D1557.

No backfill shall be placed around concrete until all forms and shoring have been removed, and the concrete has cured sufficiently to withstand the loading incurred due to backfill.

Imported materials to be used as engineered fill, if required, should have the following characteristics:

- Uniformly-graded with no less than 70 percent passing the ¾-inch sieve and no greater than 30 percent of the particles passing the U.S. No. 200 sieve.
- Have no particles greater than 6 inches in maximum dimension.
- The percent passing the #40 sieve should have a plasticity index less than 15.
- Non-corrosive to buried concrete and metallic structures.

If the imported materials deviate from the above-listed properties, then special earthwork recommendations may be required.

5.5 Utility Trenches

Shallow, temporary utility trench excavations may be required for installation of new utility lines. If steep or vertical-sided excavations deeper than 4 feet are necessary, Golder recommends that the sidewalls be braced and shored in accordance with Cal/OSHA standards and all other applicable safety ordinances and codes to provide temporary trench stability during construction. The contractor should be responsible for the structural design and safety of the temporary shoring system and it is recommended that this design be submitted to Golder for review and approval.

Due to the potential for local trench wall instability, Golder recommends that temporary cut slopes needed to achieve the proposed subgrade elevations be constructed at inclinations no steeper than 2H:1V in the native or fill soils. Heavy construction loads, such as those resulting from material stockpiles or heavy machinery, should be set back from the top of an excavation a minimum distance equal to the depth of the excavation unless the excavation is specifically designed by a qualified professional to accommodate these additional surcharge loads. All surface water should be diverted away from excavations.

6.0 ADDITIONAL SERVICES

Golder should review the project's construction documents before they are finalized. This review is necessary to verify that the geotechnical recommendations contained in this report have been properly interpreted and implemented into the project's design. If Golder does not perform this review, then Golder can assume no responsibility for misinterpretation of the geotechnical recommendations provided herein.

The construction process is an integral design component with respect to the geotechnical aspects of a project. Geotechnical engineering is not an exact science because of the variability of natural processes. Only a very small portion of the soils that will affect the performance of the proposed project has been sampled, observed, and tested. Unanticipated or changed conditions can occur during grading and excavating (Appendix D). Proper geotechnical observation and testing during construction is necessary to allow the geotechnical engineer the opportunity to verify design assumptions. Therefore, Golder should be retained during Site grading and construction to observe compliance with the design concepts and geotechnical recommendations contained herein. Golder can recommend design changes if subsurface conditions or methods of construction differ from those assumed in this report.

7.0 LIMITATIONS

This report has been prepared for the proposed development at the 8150 Sunset Boulevard project in the City of Los Angeles, California. The findings, conclusions, and recommendations presented in this report were prepared in a manner consistent with the level of care and skill ordinarily exercised by other members of the geotechnical engineering profession currently practicing under similar conditions subject to the time limits and financial, physical, and other constraints applicable to the scope of work. No warranty, express or implied, is made Appendix D contain further information regarding the proper use and interpretation of this geotechnical report.

The Owner has the responsibility to see that all parties to the project, including the designer, contractor, subcontractors, etc., are made aware of this report in its entirety. This report contains information that may be useful in the preparation of contract specifications and contractor cost estimates. However, this report is not written as a specification document and may not contain sufficient information for this use without proper modification.

8.0 REFERENCES

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FIGURES

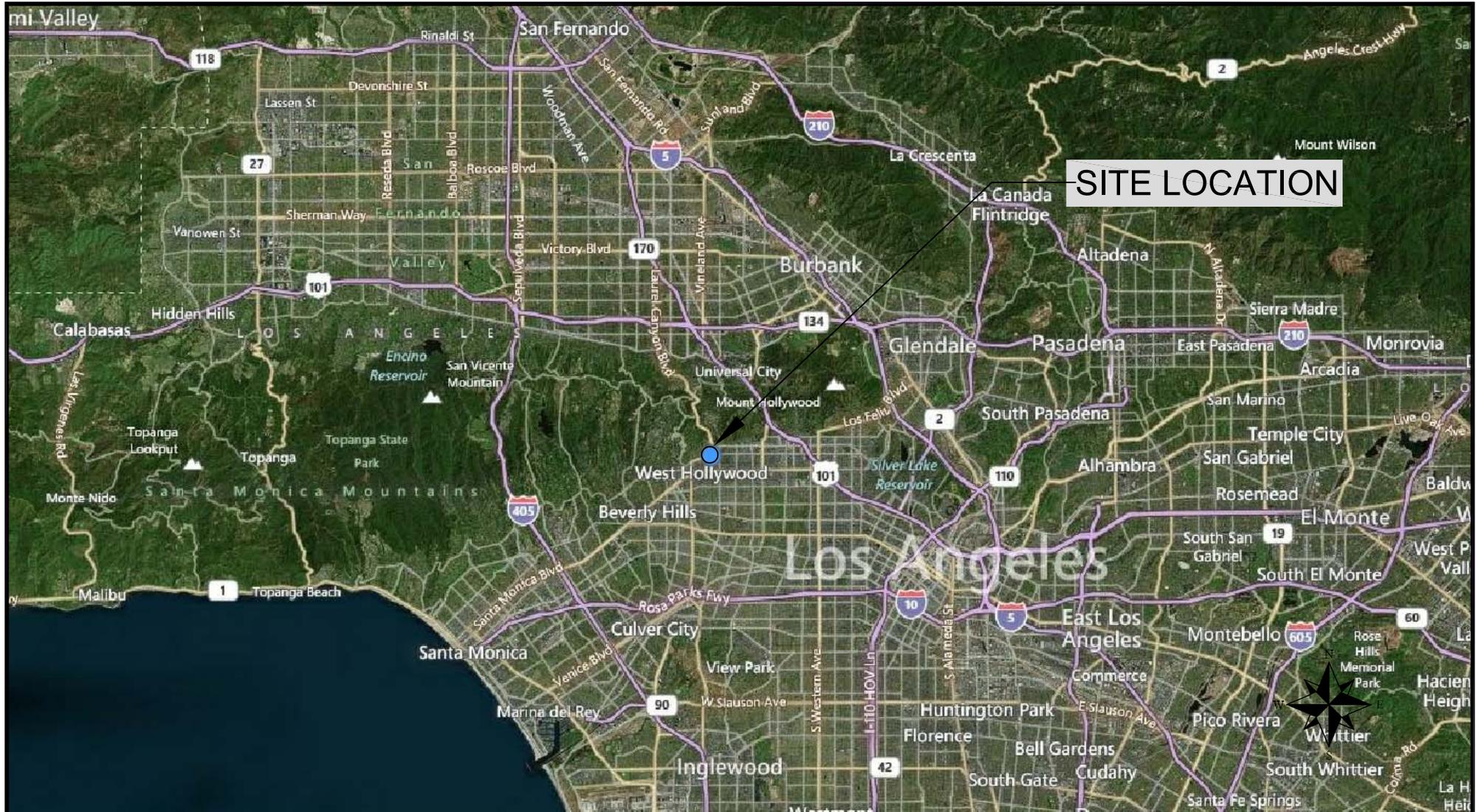


IMAGE SOURCE: GOOGLE EARTH

LEGEND

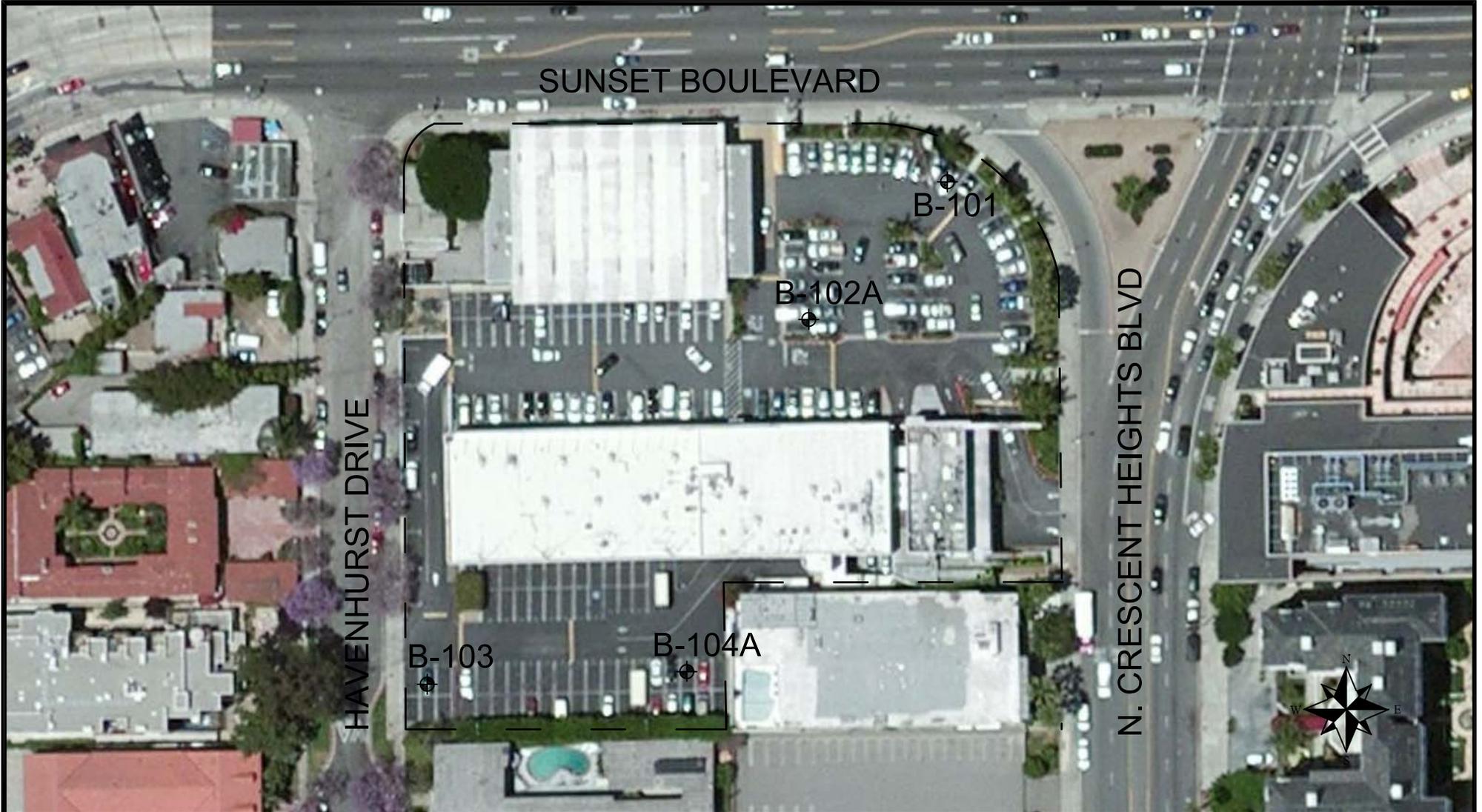
● PROJECT SITE

PROJECT
8150 SUNSET BOULEVARD
LOS ANGELES, CA 90046

TITLE
SITE LOCATION MAP



PROJECT No.	123-92034	FILE No.	FIGURE 1.DWG
DESIGN	LG 03/2014	SCALE	NTS REV. 2
CADD	LG 03/2014	FIG. 1	
CHECK	JB 03/2014		
REVIEW	AW 03/2014		



LEGEND

- ⊕ BOREHOLE
- - SITE BOUNDARY

IMAGE SOURCE: BING MAPS

PROJECT
8150 SUNSET BOULEVARD
LOS ANGELES, CA 90046

TITLE
BOREHOLE LOCATION MAP



PROJECT No.	123-92034	FILE No.	FIGURE 2.DWG
DESIGN	LG 03/2014	SCALE	NTS
CADD	LG 03/2014	REV.	2
CHECK	JB 03/2014		
REVIEW			

FIG. 2



SOURCE: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, Swisstopo, and the GIS User Community

LEGEND

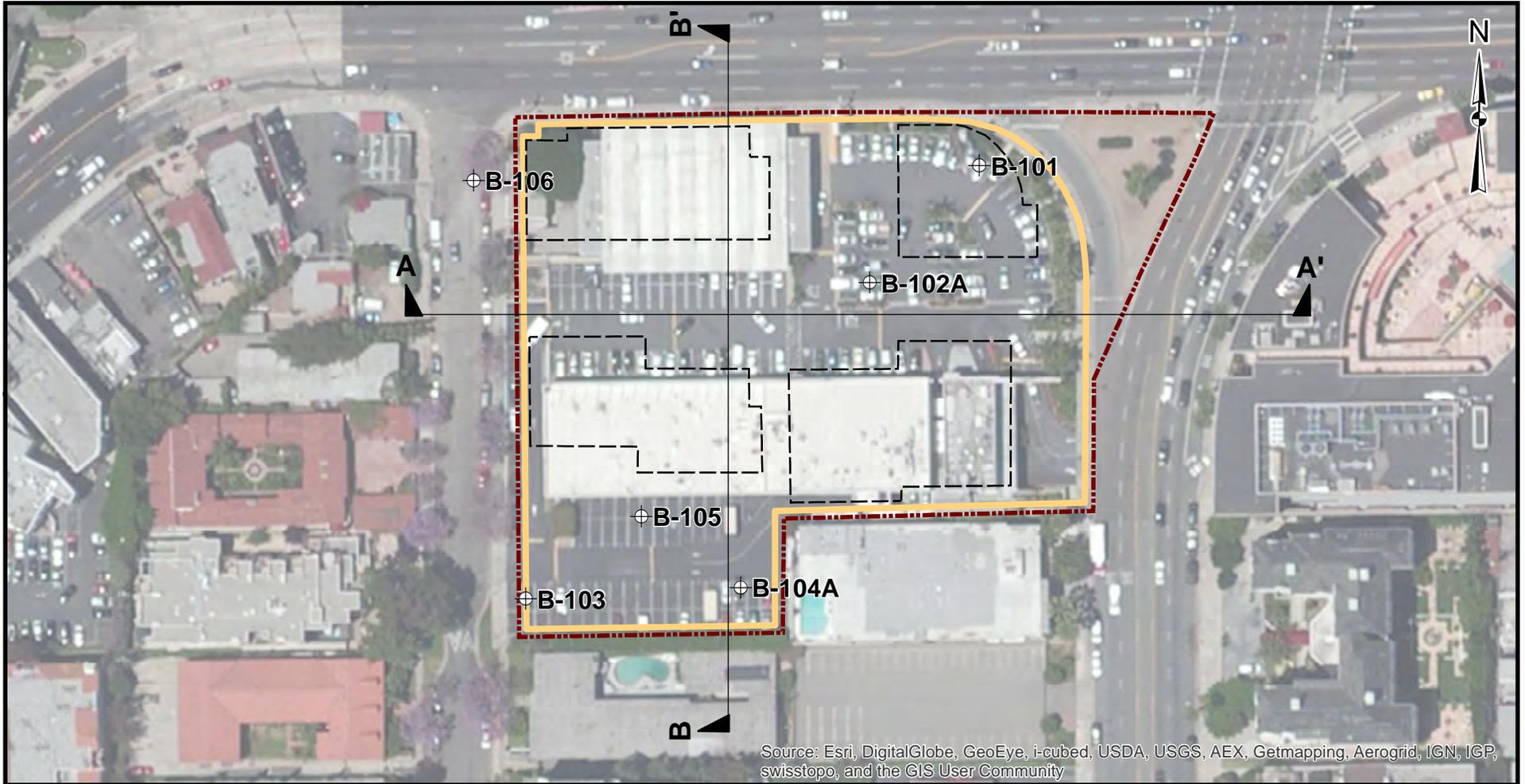
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- SITE BOUNDARY

PROJECT
8150 SUNSET BOULEVARD
LOS ANGELES, CA 90046

TITLE
CPT LOCATION MAP



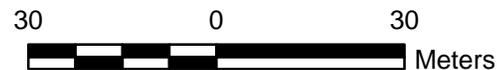
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DESIGN	KK 03/2014	SCALE	NTS REV. 2
CADD	CV 03/2014	FIG. 3	
CHECK	JB 03/2014		
REVIEW			



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

LEGEND

- SITE BOUNDARY
- ⊕ BOREHOLE
- APPROXIMATE LIMITS OF BASEMENT EXCAVATION FOR PROPOSED DEVELOPMENT
- APPROXIMATE LOCATION OF PROPOSED BUILDINGS

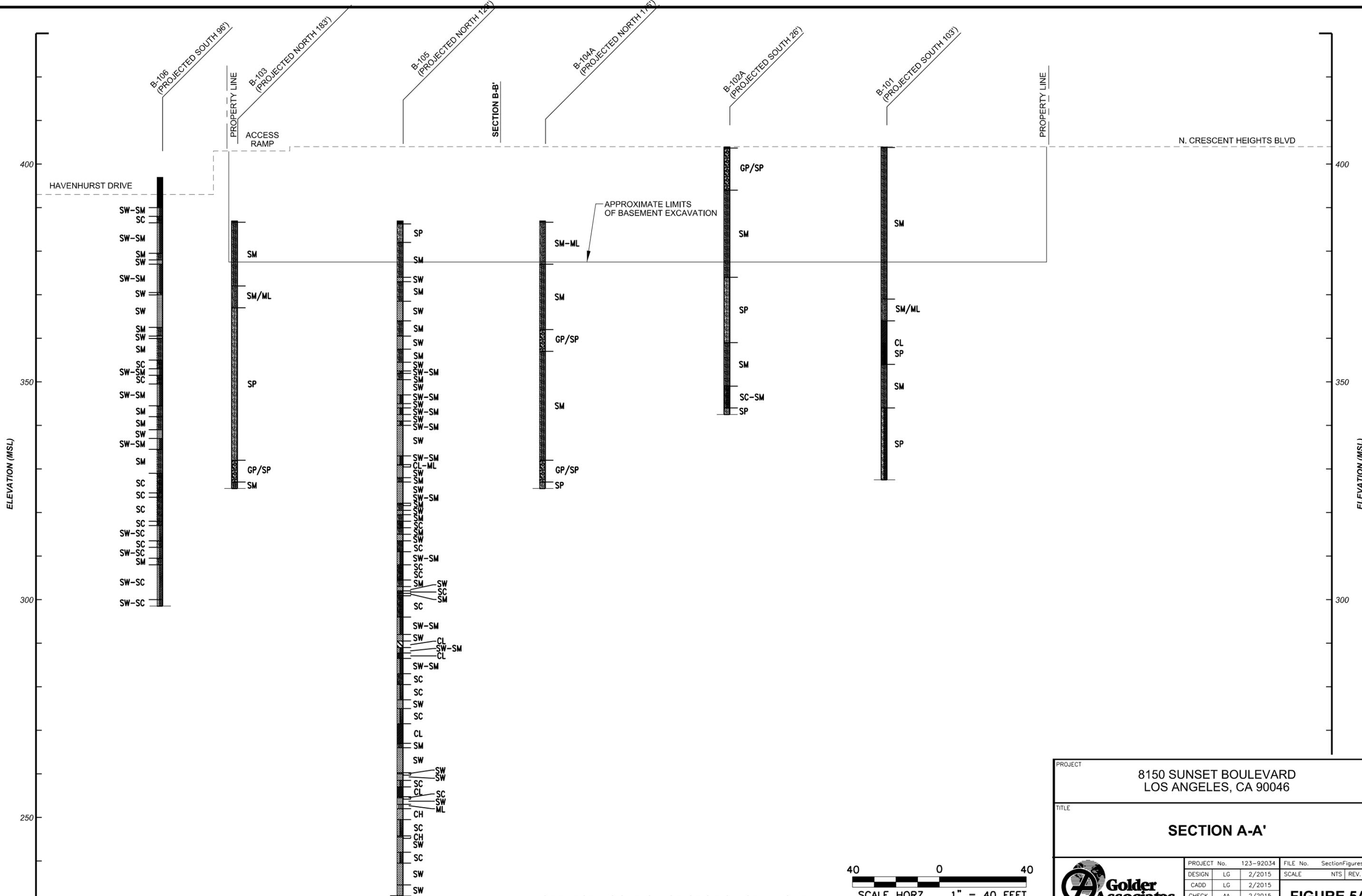


REFERENCES

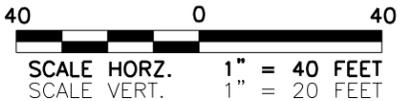
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2. Imagery provided by ESRI online mapping service.

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TITLE		BOREHOLE AND CROSS SECTION LOCATIONS	
PROJECT NO. 123-92034.02		FILE No. Boring Location figure.mxd	
DESIGN	DL	12/18/2013	SCALE: AS SHOWN
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CHECK	DL	12/20/2013	FIGURE 4
REVIEW	JB	12/20/2013	



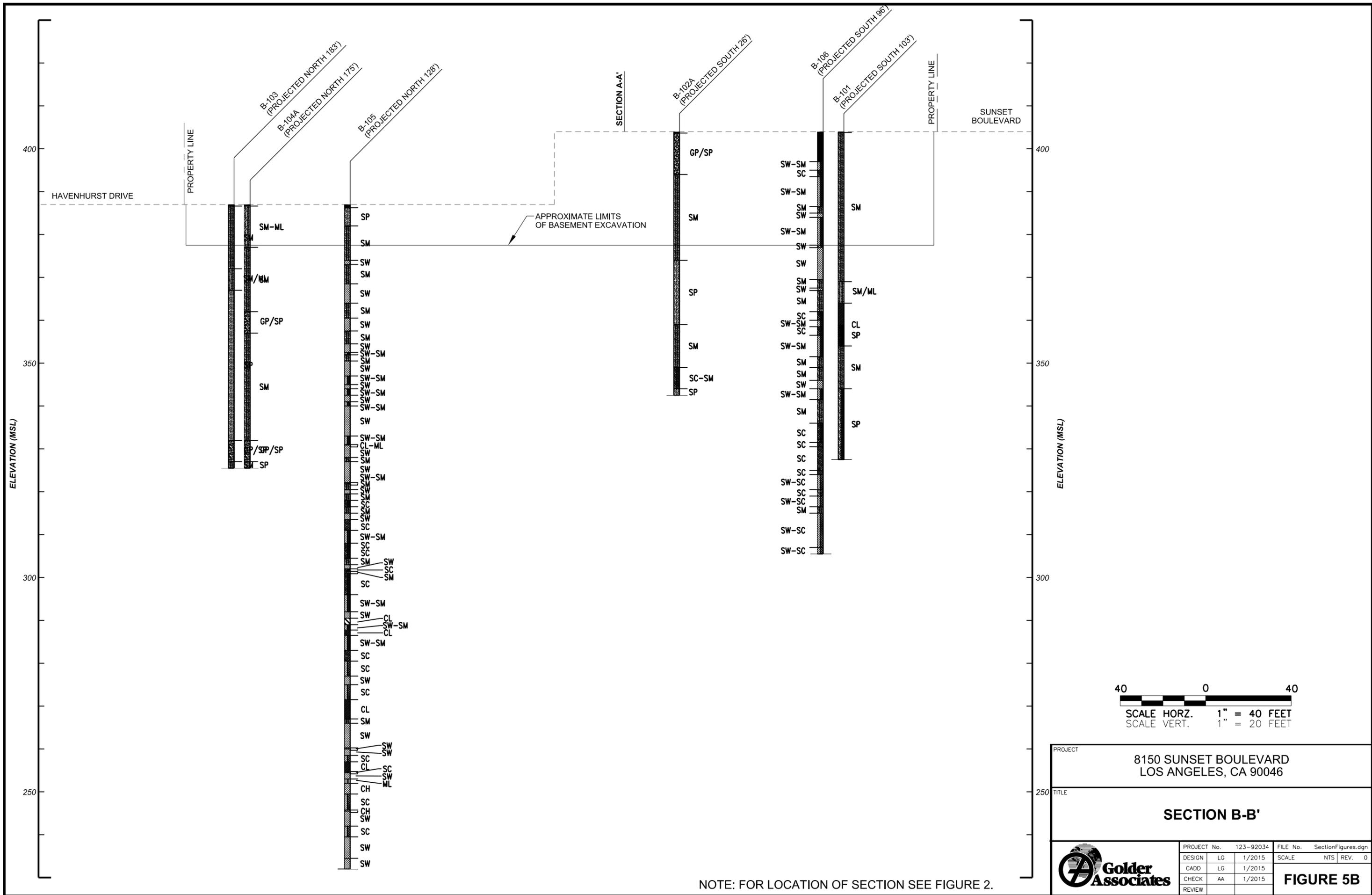


NOTE: FOR LOCATION OF SECTION SEE FIGURE 2.



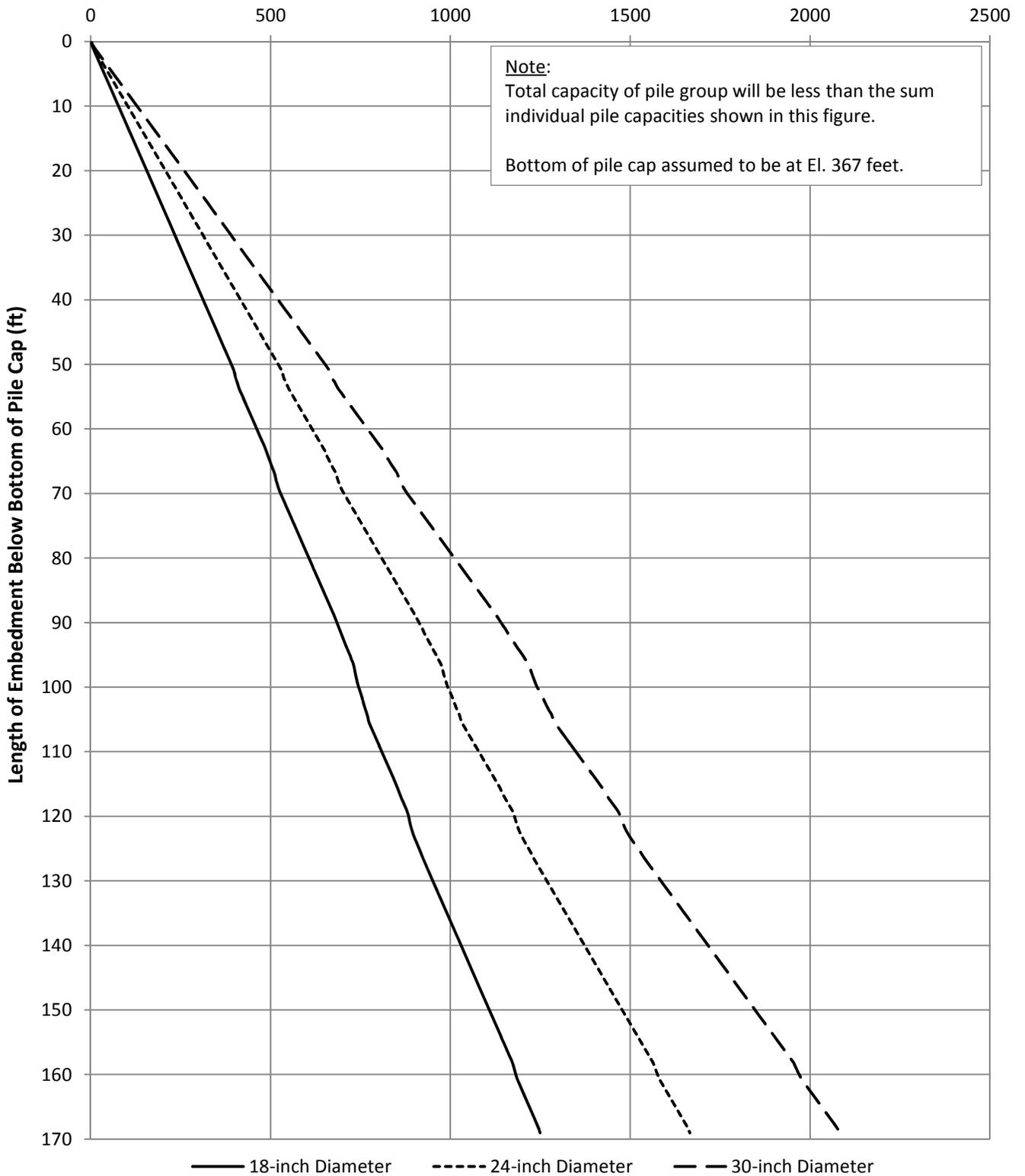
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PROJECT No.	123-92034	FILE No.	SectionFigures.dgn
DESIGN	LG 2/2015	SCALE	NTS REV. 0
CADD	LG 2/2015	FIGURE 5A	
CHECK	AA 2/2015		
REVIEW			





NOTE: FOR LOCATION OF SECTION SEE FIGURE 2.

Axial Compressive Capacity of a Single Drilled Pile (kips)



Note:
 Total capacity of pile group will be less than the sum individual pile capacities shown in this figure.
 Bottom of pile cap assumed to be at El. 367 feet.

PROJECT
 8150 SUNSET BOULEVARD
 LOS ANGELES, CA 90046

TITLE
UNFACTORED AXIAL CIDH PILE CAPACITY

PROJECT No.		123-92034	FILE No.	
DESIGN	CV	3/25/2014	SCALE	AS SHOWN
DRAWN	CV	3/25/2014	REV.	2
CHECK	JB	3/25/2014	FIG. 6	
REVIEW	AW	3/25/2014		



**APPENDIX A
BOREHOLE REPORTS**



REPORT OF BOREHOLE: B-101

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 1 OF 4
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling				Material Description					
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			0						SM	2.5-inch asphalt pavement.			
										SILTY SAND, coarse grained, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; moist; loose to compact.			
			5		S-1		1 3 4						
			10		S-2		2 4 7			Increased fines content.			
					Bulk 1								
			15		S-3		3 6			Mostly coarse grained sand, traces of fine gravel.			
			20		S-4		4 6 7						
			25										

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 8-INCH HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-101

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 2 OF 4
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			25		S-5		4 5 7		SM	SILTY SAND, coarse grained, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; moist; loose to compact. <i>(continued)</i>			
					Bulk 2								
			30		MC-1		5 11 14						
			35	35.0	S-7		3 5 5		SM ML	SILTY SAND/SANDY SILT, fine grained sand, traces of coarse grained sand, subangular to subrounded; non-plastic; brown; non-cohesive; moist; loose to compact.			
			40	40.0	MC-2		4 8 15		CL	SILTY CLAY, traces of coarse grained sand, subangular to subrounded; red-brown; low to medium plasticity; cohesive; moist; stiff.			
			45		S-8		9 9 8		SP	SAND WITH SILT, coarse grained, poorly graded, subangular to subrounded; traces of pebbles (< 5mm.); non plastic; light brown; non-cohesive; moist; compact.			
			50										

8-INCH HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-101

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 3 OF 4
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			50	50.0	S-9		3 6 4		SM	SILTY SAND, fine grained sand, subangular to subrounded; low plasticity; brown; cohesive; moist; loose to compact.			
			55		S-10		4 6 9						
			60	60.0	S-11		4 8 10		SP	SAND WITH SILT, coarse grained sand, subangular to subrounded, non-plastic, brown; non-cohesive; moist; compact.			
			65		S-12		7 10 12						
			70		S-13		6 11 11						
			75										

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 8-INCH HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-101

CLIENT: AG-SCH 8150 Sunset Boulevard	DRIVE WEIGHT: 140 lbs.	SHEET: 4 OF 4
PROJECT: Townscape Sunset	DROP DISTANCE: 30 in.	DRILLER: Martini Drilling Corp.
LOCATION: Los Angeles, CA	N: E	DRILL RIG: CME-75
PROJECT NO.: 123-92034	ELEVATION: DATUM:	LOGGED: C. Valenzuela DATE: 2/23/13
	INCLINATION: -90°	CHECKED: J. Bueno DATE: 2/23/13
	BOREHOLE DIAMETER: 8 inches	

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			75		S-14		7 8 9		SP	SAND WITH SILT, coarse grained sand, subangular to subrounded, non-plastic, brown; non-cohesive; moist; compact. <i>(continued)</i>			
				76.5						Bottom of borehole at 76.5 feet. No groundwater observed during drilling. Borehole backfilled with soil cuttings. Asphalt pavement repaired with cold asphalt mix.			

GEO TECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13



REPORT OF BOREHOLE: B-102

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 1 OF 3
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			0							4-inch asphalt pavement			
			0.3							SANDY GRAVEL, coarse grained sand, fine gravel, subangular to subrounded; light brown; moist; loose.			
			5		S-1		3 3 3						
			10	10.0	S-2		5 5 7		SM	SILTY SAND, fine to coarse grained sand, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; moist; loose to compact.			
			15		S-3		1 2 3			Increased moisture content, mostly fine grained sand.			
			20		S-4		2 3 3						
			25										

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-102

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 2 OF 3
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			25		S-5		4 5 4		SM	SILTY SAND, fine to coarse grained sand, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; moist; loose to compact. <i>(continued)</i> Decreased fines content.			
			30	30.0	MC-1		7 10 13		SP	SAND, fine to coarse, poorly graded, subangular to subrounded; brown; moist; loose to compact. Middle third of sample collected.			
					Bulk 1								
			35		S-6		3 4 6			Increased fines content.			
			40		S-7		4 8 8						
			45	45.0	S-8		3 6 6		SM	SILTY SAND, fine grained, poorly graded, subangular to subrounded; non-plastic; brown; low cohesion; moist; compact.			
			50										

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-102

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 3 OF 3
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
HOLLOW STEM AUGER			50		S-9		4 6 7		SM	SILTY SAND, fine grained, poorly graded, subangular to subrounded; non-plastic; brown; low cohesion; moist; compact. <i>(continued)</i> Increased coarse grained sand content, traces of gravel, pebbles, and fragments of rock.			
			55	55.0	S-10		2 5 7		SC SM	SILTY CLAYEY SAND, fine grained sand, subangular to subrounded; low plasticity; red-brown; low cohesion; moist; compact.			
			60	60.0	S-11		6 9 9		SP	SAND, coarse to fine grained (mostly coarse grained), poorly graded, subangular to subrounded; brown; moist; compact.			
			61.5								Bottom of borehole at 61.5 feet. No groundwater observed during drilling. Borehole backfilled with soil cuttings. Asphalt pavement repaired with cold asphalt mix.		

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-103

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 1 OF 3
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			0							4.5-inch asphalt pavement.			
			0.4						SM	SILTY SAND, fine to coarse grained sand (mostly medium to coarse grained), poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; moist; loose.			
			5		S-1		2 2 4						
			10		S-2		2 3 3						
			15	15.0	S-3		2 3 3		SM ML	SILTY SAND/SANDY SILT, fine grained sand, subangular to subrounded; non-plastic; brown; low to non-cohesive; moist; loose.			
			20	20.0	MC-1		6 9 11		SP	SAND, coarse grained, poorly graded, subangular to subrounded, traces of fine grained sand, non-plastic; brown; low cohesion; moist; loose to compact.			
			25										

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-103

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 2 OF 3
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			25		S-4		3 4 6		SP	SAND, coarse grained, poorly graded, subangular to subrounded, traces of fine grained sand, non-plastic; brown; low cohesion; moist; loose to compact. <i>(continued)</i>			
					Bulk 1								
			30		S-5		4 8 7			Decreased fine sand, and moisture content.			
			35		S-6		3 6 6			Increased fines content, and fine sand.			
			40		S-7		4 4 5						
			45		S-8		9 8 8						
			50										

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-103

CLIENT: AG-SCH 8150 Sunset Boulevard	DRIVE WEIGHT: 140 lbs.	SHEET: 3 OF 3
PROJECT: Townscape Sunset	DROP DISTANCE: 30 in.	DRILLER: Martini Drilling Corp.
LOCATION: Los Angeles, CA	N: E	DRILL RIG: CME-75
PROJECT NO.: 123-92034	ELEVATION: DATUM:	LOGGED: C. Valenzuela DATE: 2/23/13
	INCLINATION: -90°	CHECKED: J. Bueno DATE: 2/23/13
	BOREHOLE DIAMETER: 8 inches	

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
HOLLOW STEM AUGER			50		S-9		3 7 8		SP	SAND, coarse grained, poorly graded, subangular to subrounded, traces of fine grained sand, non-plastic; brown; low cohesion; moist; loose to compact. <i>(continued)</i>			
			55	55.0	S-10		9 9 10			SANDY GRAVEL, coarse grained sand, fine gravel, poorly graded, subangular to subrounded; light brown; moist; compact.			
			60	60.0	S-11		4 7 10		SM	SILTY SAND, coarse grained sand, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; moist, compact.			
			61.5								Bottom of borehole at 61.5 feet. No groundwater observed during drilling. Borehole backfilled with soil cuttings. Asphalt pavement repaired with cold asphalt mix.		

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13



REPORT OF BOREHOLE: B-104

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 1 OF 3
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			0							4.5-inch asphalt pavement.			
			0.4						SM ML	SILTY SAND/ SANDY SILT, fine grained sand, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; moist; loose.			
			5		S-1		3 3 3						
			10	10.0	S-2		1 2 2		SM	SILTY SAND, fine to coarse grained sand; poorly graded; subangular to subrounded; low plasticity; red-brown; low cohesion; very loose to compact.			
			15		S-3		2 3 3			Increased coarse grained sand.			
			20		S-4		4 6 5			Decreased moisture content.			
			25		Bulk 1								

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-104

CLIENT: AG-SCH 8150 Sunset Boulevard	DRIVE WEIGHT: 140 lbs.	SHEET: 2 OF 3
PROJECT: Townscape Sunset	DROP DISTANCE: 30 in.	DRILLER: Martini Drilling Corp.
LOCATION: Los Angeles, CA	N: E:	DRILL RIG: CME-75
PROJECT NO.: 123-92034	ELEVATION: DATUM:	LOGGED: C. Valenzuela DATE: 2/23/13
	INCLINATION: -90°	CHECKED: J. Bueno DATE: 2/23/13
	BOREHOLE DIAMETER: 8 inches	

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
			25	25.0	MC-1		8 10 11		GP SP	SANDY GRAVEL, coarse grained sand; poorly graded; subangular to subrounded; tan to light brown; dry ; very loose to compact.			
			30	30.0	S-5		5 6 7		SM	SILTY SAND, fine grained sand, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; compact.			
			35		S-6		4 7 7						
			40		S-7		4 6 6			Increased coarser grained sand.			
			45		S-8		3 5 6			Decreased moisture content.			
			50										

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13
 HOLLOW STEM AUGER

Report of borehole must be read in conjunction with accompanying notes and abbreviations



REPORT OF BOREHOLE: B-104

CLIENT: AG-SCH 8150 Sunset Boulevard	DRIVE WEIGHT: 140 lbs.	SHEET: 3 OF 3
PROJECT: Townscape Sunset	DROP DISTANCE: 30 in.	DRILLER: Martini Drilling Corp.
LOCATION: Los Angeles, CA	N: E	DRILL RIG: CME-75
PROJECT NO.: 123-92034	ELEVATION: DATUM:	LOGGED: C. Valenzuela DATE: 2/23/13
	INCLINATION: -90°	CHECKED: J. Bueno DATE: 2/23/13
	BOREHOLE DIAMETER: 8 inches	

Drilling				Sampling			Material Description						
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING
HOLLOW STEM AUGER			50		S-9		5 8 8		SM	SILTY SAND, fine grained sand, poorly graded, subangular to subrounded; non-plastic; brown; non-cohesive; compact. <i>(continued)</i>			
			55	55.0	S-10		5 8 8		GP SP	SANDY GRAVEL, coarse sand, fine gravel, poorly graded, subangular to subrounded; tan to light brown; compact.			
			60	60.0	S-11		6 10 11		SP	SAND, traces of silt, coarse grained sand, poorly graded, subangular to subrounded; brown, compact.			
			61.5								Bottom of borehole at 61.5 feet. No groundwater observed during drilling. Borehole backfilled with soil cuttings. Asphalt pavement repaired with cold asphalt mix.		

GEOTECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13



REPORT OF BOREHOLE: KEY

CLIENT: AG-SCH 8150 Sunset Boulevard
 PROJECT: Townscape Sunset
 LOCATION: Los Angeles, CA
 PROJECT NO.: 123-92034

DRIVE WEIGHT: 140 lbs.
 DROP DISTANCE: 30 in.
 N: E
 ELEVATION: DATUM:
 INCLINATION: -90°
 BOREHOLE DIAMETER: 8 inches

SHEET: 1 OF 1
 DRILLER: Martini Drilling Corp.
 DRILL RIG: CME-75
 LOGGED: C. Valenzuela DATE: 2/23/13
 CHECKED: J. Bueno DATE: 2/23/13

Drilling				Sampling			Material Description																																	
METHOD	DRILL DATE/TIME	WATER	DEPTH feet	LAYER ELEVATION	SAMPLE OR FIELD TEST	SAMPLE TYPE	BLOWS PER 6 INCHES	GRAPHIC LOG	USCS	(SYMBOL) SOIL NAME, particle size, gradation, shape, minor components; color, contamination; behaviour, moisture, density/consistency	MOISTURE	DRY DENSITY (pcf)	ADDITIONAL LAB TESTING																											
			0						GP	Graphic Log: Standard symbols for soil and rock types USCS: Unified Soil Classification System per ASTM D2487 MATERIAL DESCRIPTION FOR SOIL: Soil Classifications are based on the Unified Soil Classification System per ASTM D2487 and include density, particle size, color, moisture and minor components. Standard Penetration Test (SPT) Blows Per 6 Inches/Penetration : Number of hammer blows required to drive sampler 6 inches Modified California Sample (MC)																														
					S-1		7 8 9																																	
					MC-1		8 10 11																																	
				11.0					SP	Inferred material contact (dashed line) - actual material contact may be gradual																														
										RELATIVE DENSITY OR CONSISTENCY: <table border="0"> <tr> <td>Blows</td> <td>Coarse-Grained Soil</td> <td>Blows</td> <td>Fine-Grained Soil</td> </tr> <tr> <td>0-4</td> <td>Very Loose</td> <td>0-2</td> <td>Very soft</td> </tr> <tr> <td>5-10</td> <td>Loose</td> <td>3-4</td> <td>Soft</td> </tr> <tr> <td>11-30</td> <td>Compact</td> <td>5-8</td> <td>Firm</td> </tr> <tr> <td>31-50</td> <td>Dense</td> <td>9-15</td> <td>Stiff</td> </tr> <tr> <td>>50</td> <td>Very Dense</td> <td>16-30</td> <td>Very stiff</td> </tr> <tr> <td></td> <td></td> <td>>30</td> <td>Hard</td> </tr> </table>	Blows	Coarse-Grained Soil	Blows	Fine-Grained Soil	0-4	Very Loose	0-2	Very soft	5-10	Loose	3-4	Soft	11-30	Compact	5-8	Firm	31-50	Dense	9-15	Stiff	>50	Very Dense	16-30	Very stiff			>30	Hard		
Blows	Coarse-Grained Soil	Blows	Fine-Grained Soil																																					
0-4	Very Loose	0-2	Very soft																																					
5-10	Loose	3-4	Soft																																					
11-30	Compact	5-8	Firm																																					
31-50	Dense	9-15	Stiff																																					
>50	Very Dense	16-30	Very stiff																																					
		>30	Hard																																					
										DESCRIPTIVE TERMINOLOGY DENOTING PROPORTIONS: Descriptive Terms: Range of Proportions: Trace 0-5% Little 5-12% Some 12-30% And 30-50%																														
				22.5						Bottom of borehole (solid line)																														

GEO TECH WITH MATERIAL GRAPHICS AND USCS TOWNSCAPE SUNSET.GPJ GINT STD US LAB.GDT 5/23/13

Hollow Stem Auger

APPENDIX B
CONE PENETRATION TEST (CPT) REPORTS

SUMMARY
OF
CONE PENETRATION TEST DATA

Project:

**8150 Hollywood
8150 W. Sunset Blvd.
Los Angeles, CA
October 14, 2013**

Prepared for:

**Ms. Eva Gladish
Golder Associates Inc.
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Office (714) 508-4400 / Fax (714) 508-4401**

Prepared by:



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- 1. INTRODUCTION**
- 2. SUMMARY OF FIELD WORK**
- 3. FIELD EQUIPMENT & PROCEDURES**
- 4. CONE PENETRATION TEST DATA & INTERPRETATION**

APPENDIX

- CPT Plots
- CPT Classification/Soil Behavior Chart
- Interpretation Output (CPeT-IT)
- CPeT-IT Calculation Formulas

SUMMARY OF CONE PENETRATION TEST DATA

1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the 8150 Hollywood project located at 8150 W. Sunset Blvd. in Los Angeles, California. The work was performed by Kehoe Testing & Engineering (KTE) on October 14, 2013. The scope of work was performed as directed by Golder Associates Inc. personnel.

2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at three locations to determine the soil lithology. Groundwater measurements and hole collapse depths provided in **TABLE 2.1** are for information only. The readings indicate the apparent depth to which the hole is open and the apparent water level (if encountered) in the CPT probe hole at the time of measurement upon completion of the CPT. KTE does not warranty the accuracy of the measurements and the reported water levels may not represent the true or stabilized groundwater levels.

LOCATION	DEPTH OF CPT (ft)	COMMENTS/NOTES:
CPT-1	176	Refusal, hole open to 125 ft (dry)
CPT-2	143	Refusal, hole open to 125 ft (dry)
CPT-3	151	Refusal, hole open to 125 ft (dry)

TABLE 2.1 - Summary of CPT Soundings

3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone used during the program was a 15 cm² cone and recorded the following parameters at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed

The above parameters were recorded and viewed in real time using a laptop computer. Data is stored at the KTE office for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load

offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. These plots were generated using the CPeT-IT program. Penetration depths are referenced to ground surface. The soil classification on the CPT plots is derived from the attached CPT Classification Chart (Robertson) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (q_c), sleeve friction (f_s), and penetration pore pressure (u). The friction ratio (R_f), which is sleeve friction divided by cone resistance, is a calculated parameter that is used along with cone resistance to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

Tables of basic CPT output from the interpretation program CPeT-IT are provided for CPT data averaged over one foot intervals in the Appendix. Spreadsheet files of the averaged basic CPT output and averaged estimated geotechnical parameters are also included for use in further geotechnical analysis. We recommend a geotechnical engineer review the assumed input parameters and the calculated output from the CPeT-IT program. A summary of the equations used for the tabulated parameters is provided in the Appendix.

It should be noted that it is not always possible to clearly identify a soil type based on q_c , f_s and u . In these situations, experience, judgement and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

KEHOE TESTING & ENGINEERING



Richard W. Koester, Jr.
General Manager

APPENDIX



Kehoe Testing and Engineering

714-901-7270

rich@kehoetesting.com

www.kehoetesting.com

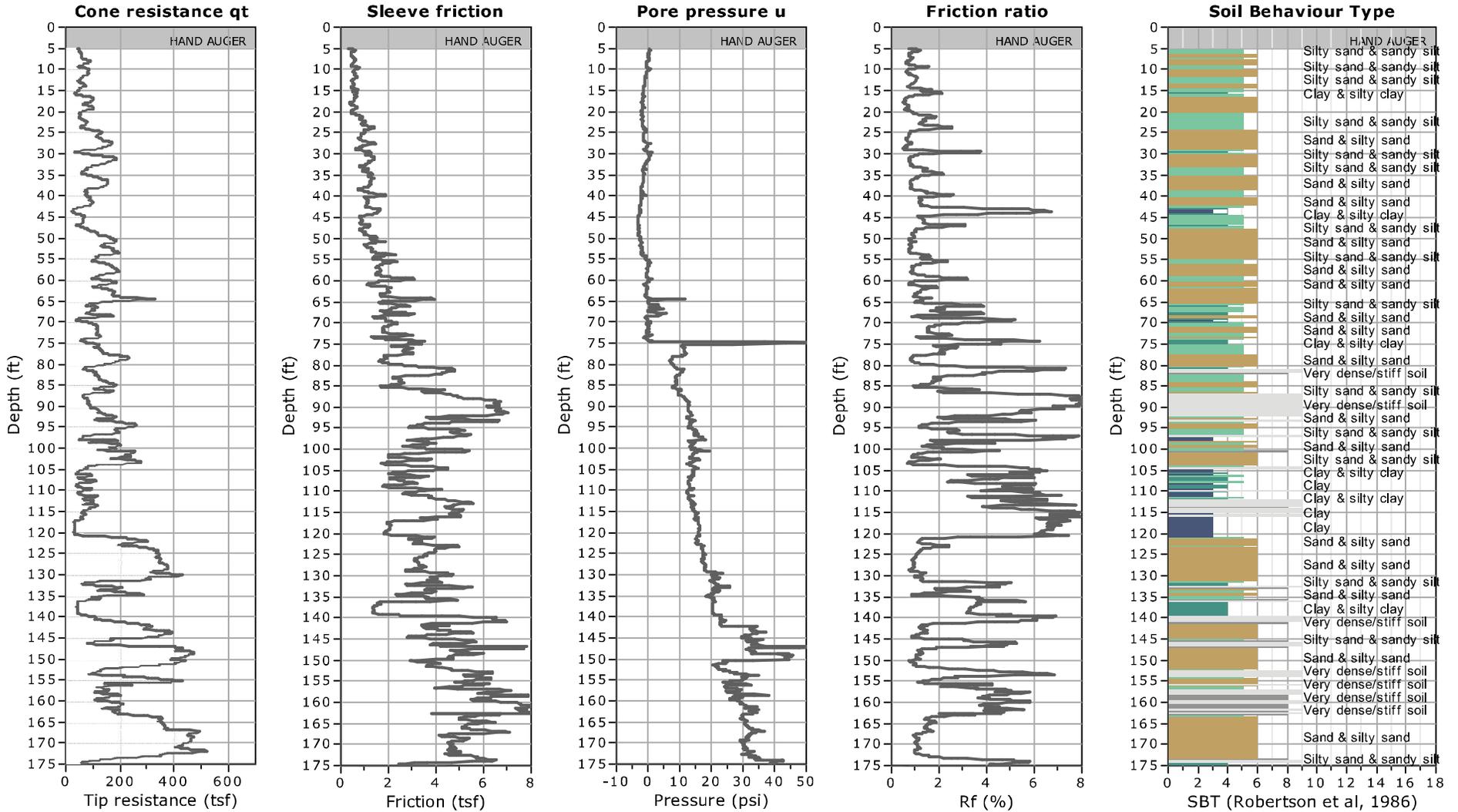
Project: Golder Associates/8150 Hollywood

Location: 8150 W. Sunset Blvd. Los Angeles, CA

CPT: CPT-1

Total depth: 175.75 ft, Date: 10/14/2013

Cone Type: Vertek





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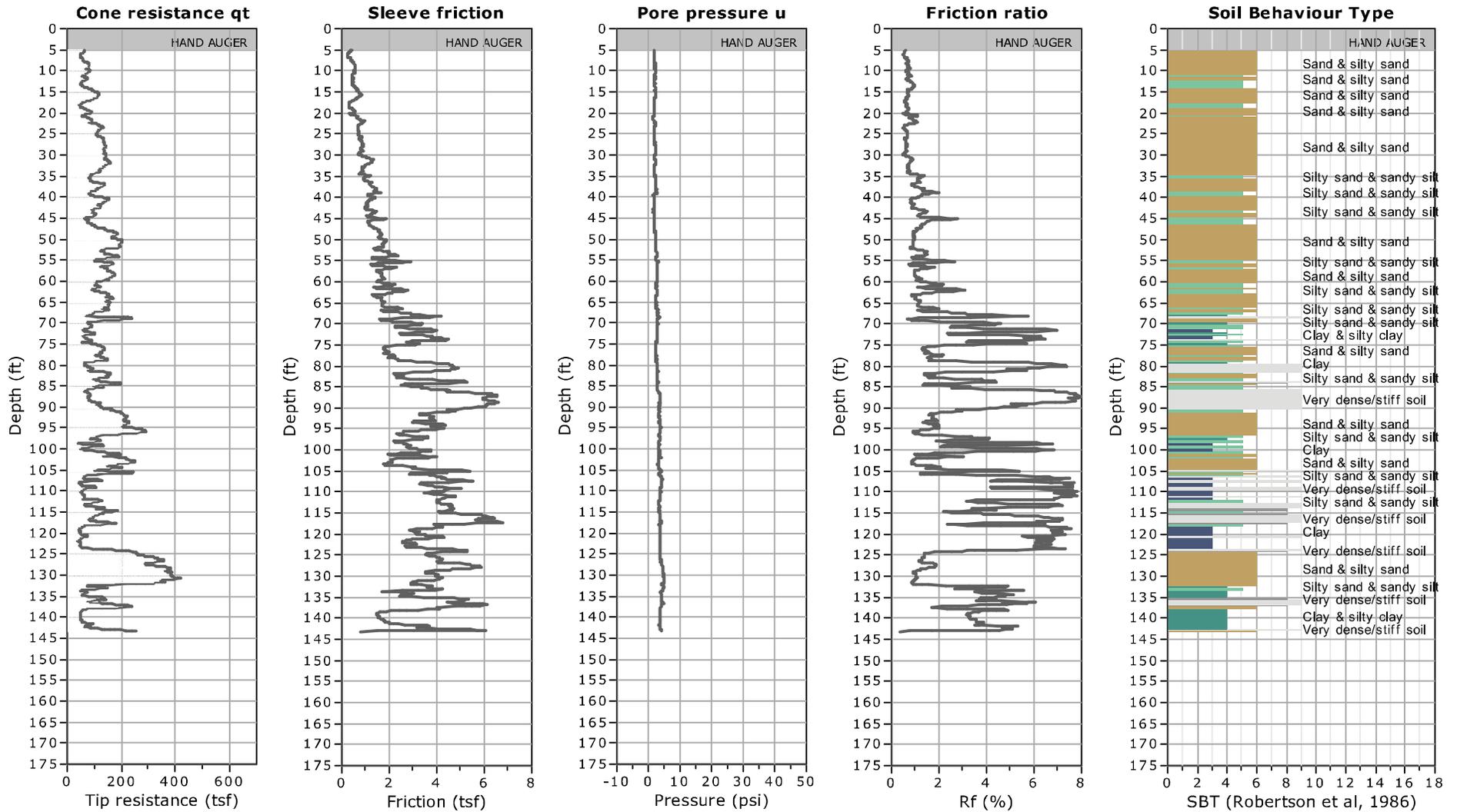
Project: Golder Associates/8150 Hollywood

Location: 8150 W. Sunset Blvd. Los Angeles, CA

CPT: CPT-2

Total depth: 143.33 ft, Date: 10/14/2013

Cone Type: Vertek





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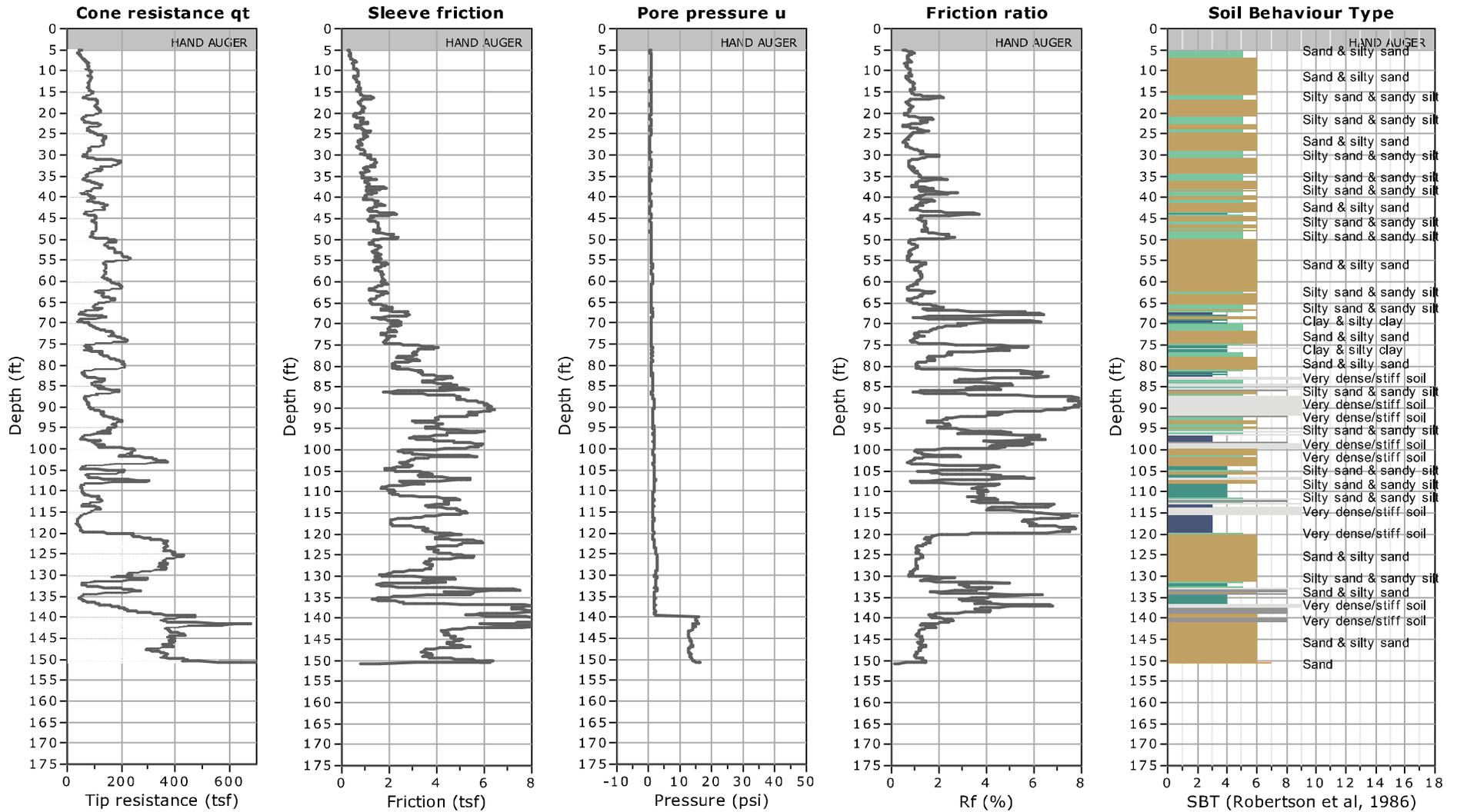
Project: Golder Associates/8150 Hollywood

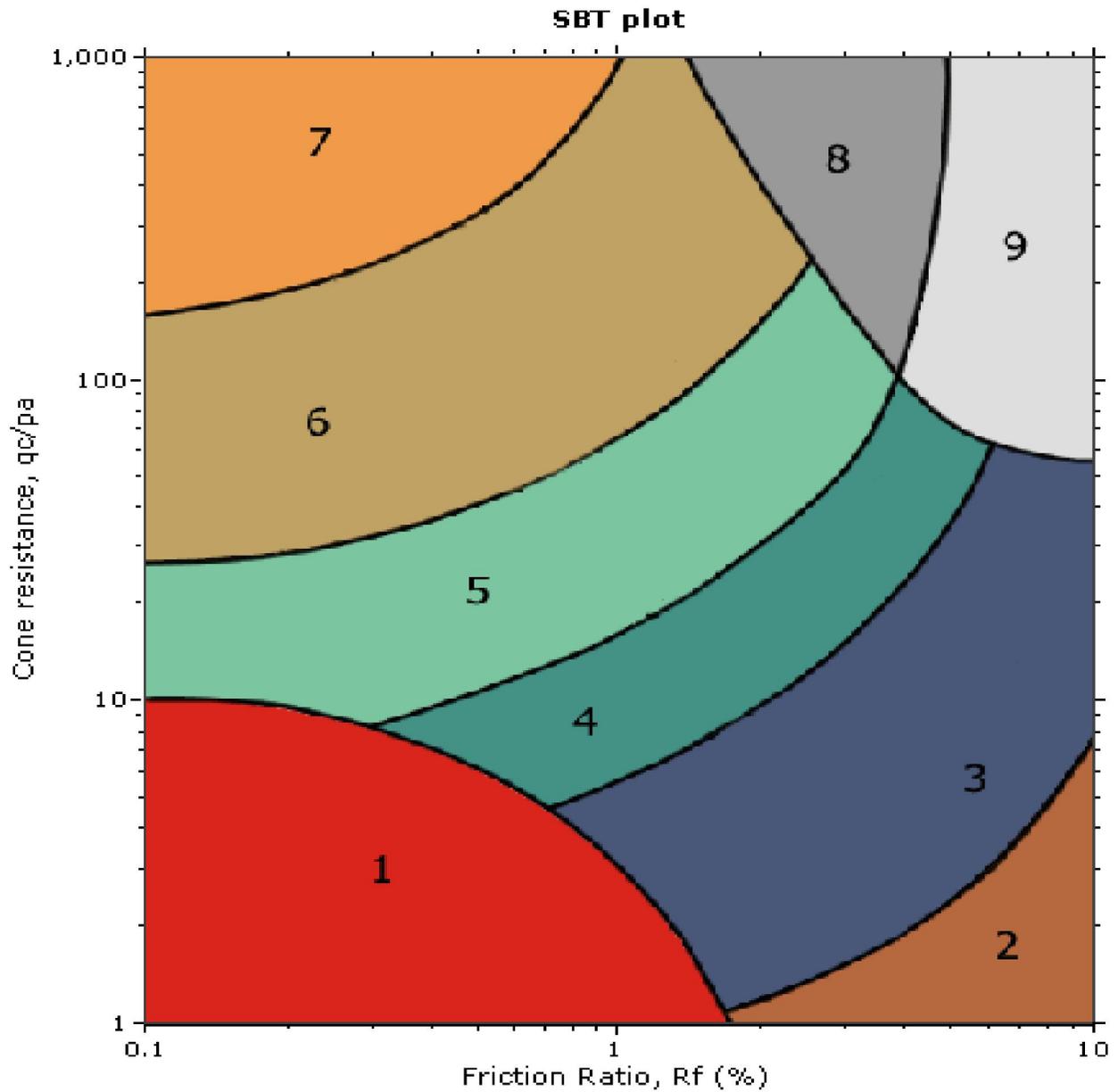
Location: 8150 W. Sunset Blvd. Los Angeles, CA

CPT: CPT-3

Total depth: 150.87 ft, Date: 10/14/2013

Cone Type: Vertek





SBT legend

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

Depth (ft)	CPT-1 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	184.6	1.88	1.46	1.02	184.618	1.0183	6	1.73675	127.6178	0.06381	0	0.0638	2892.3	1.0187	0.0006	6	0.4393	2	1.5389	348.8379
2	116.6	0.96	0.14	0.83	116.602	0.8233	6	1.82433	121.5793	0.1246	0	0.1246	934.82	0.8242	9E-05	6	0.4656	2	1.6004	220.1611
3	81	0.72	0.08	0.88	81.001	0.8889	6	1.97021	118.5858	0.18389	0	0.1839	439.48	0.8909	7E-05	6	0.5211	2	1.7385	152.7577
4	58.9	0.48	0.09	0.81	58.9011	0.8149	6	2.06228	114.8419	0.24131	0	0.2413	243.09	0.8183	0.0001	6	0.5551	2	1.8206	110.8768
5	41.7	0.27	0.24	0.64	41.7029	0.6474	5	2.1393	109.7898	0.29621	0	0.2962	139.79	0.6521	0.0004	6	0.5824	2	1.8854	78.2656
6	53.9	0.44	0.33	0.82	53.904	0.8163	5	2.09497	113.989	0.3532	0	0.3532	151.62	0.8217	0.0004	6	0.5811	1.892	1.872	95.75249
7	59.7	0.47	0.05	0.78	59.7006	0.7873	6	2.04918	114.7208	0.41056	0	0.4106	144.41	0.7927	6E-05	6	0.5773	1.7272	1.8588	96.78337
8	88.4	0.57	0.06	0.65	88.4007	0.6448	6	1.8591	117.0896	0.46911	0	0.4691	187.44	0.6482	5E-05	6	0.5238	1.5312	1.7113	127.2426
9	45.8	0.44	-0.43	0.96	45.7947	0.9608	5	2.19291	113.5914	0.5259	0	0.5259	86.078	0.972	-7E-04	6	0.6509	1.5762	2.0376	67.43545
10	85.8	0.61	0.22	0.71	85.8027	0.7109	6	1.89358	117.5131	0.58466	0	0.5847	145.76	0.7158	0.0002	6	0.5561	1.3908	1.7815	112.0157
11	82.3	0.62	-0.42	0.76	82.2949	0.7534	6	1.92281	117.5303	0.64342	0	0.6434	126.9	0.7593	-4E-04	6	0.5763	1.332	1.8267	102.7838
12	56.9	0.62	-0.9	1.08	56.889	1.0898	5	2.14635	116.6298	0.70174	0	0.7017	80.069	1.1035	-0.001	5	0.6674	1.3154	2.0586	69.84719
13	49.5	0.47	-1.09	0.96	49.4867	0.9498	5	2.16204	114.2631	0.75887	0	0.7589	64.211	0.9645	-0.002	5	0.6822	1.2545	2.0901	57.77307
14	68	0.46	-1.24	0.68	67.9848	0.6766	6	1.96618	114.8803	0.81631	0	0.8163	82.283	0.6848	-0.001	6	0.6182	1.174	1.9149	74.52206
15	45.2	0.6	-1.48	1.33	45.1819	1.328	5	2.27775	115.8279	0.87422	0	0.8742	50.682	1.3542	-0.002	5	0.7449	1.1528	2.2401	48.27355
16	46.6	0.56	-1.66	1.2	46.5797	1.2022	5	2.24176	115.3974	0.93192	0	0.9319	48.982	1.2268	-0.003	5	0.7403	1.0986	2.2209	47.3931
17	99.9	0.59	-1.68	0.59	99.8794	0.5907	6	1.79388	117.6397	0.99074	0	0.9907	99.813	0.5966	-0.001	6	0.5774	1.0387	1.7862	97.07596
18	64.3	0.35	-2.03	0.54	64.2752	0.5445	6	1.93861	112.7438	1.04712	0	1.0471	60.383	0.5536	-0.002	6	0.6408	1.0067	1.9458	60.157
19	98.1	0.69	-0.98	0.7	98.088	0.7035	6	1.8433	118.7412	1.10649	0	1.1065	87.648	0.7115	-7E-04	6	0.6109	0.9731	1.8598	89.18622
20	50.6	0.43	-2.21	0.86	50.573	0.8503	5	2.12785	113.6652	1.16332	0	1.1633	42.473	0.8703	-0.003	5	0.7307	0.9331	2.1672	43.57117
21	46.9	0.83	-1.94	1.76	46.8763	1.7706	5	2.34112	118.2921	1.22246	0	1.2225	37.346	1.818	-0.003	5	0.8213	0.8882	2.3976	38.32182
22	66.2	0.89	-1.87	1.34	66.1771	1.3449	5	2.14956	119.6438	1.28229	0	1.2823	50.609	1.3715	-0.002	5	0.7531	0.8653	2.2108	53.06816
23	72	0.88	-1.76	1.23	71.9785	1.2226	5	2.09519	119.7661	1.34217	0	1.3422	52.628	1.2458	-0.002	5	0.7392	0.8388	2.1668	55.99529
24	65.8	1.35	-1.48	2.05	65.7819	2.0522	5	2.27115	122.6777	1.40351	0	1.4035	45.87	2.097	-0.002	5	0.8154	0.7943	2.3592	48.32523
25	130.4	1.02	-1.03	0.79	130.387	0.7823	6	1.77258	122.2954	1.46466	0	1.4647	88.023	0.7912	-6E-04	6	0.6236	0.8165	1.8488	99.48069
26	114.2	0.82	-1.66	0.72	114.18	0.7182	6	1.79529	120.3747	1.52484	0	1.5248	73.88	0.7279	-0.001	6	0.6406	0.7913	1.8858	84.24871
27	149.2	0.98	-1.1	0.66	149.187	0.6569	6	1.67956	122.3312	1.58601	0	1.586	93.064	0.664	-5E-04	6	0.5994	0.7846	1.7701	109.4449
28	159.9	0.97	-0.16	0.6	159.898	0.6066	6	1.63455	122.4253	1.64722	0	1.6472	96.071	0.613	-7E-05	6	0.5876	0.771	1.7314	115.3107
29	88.4	0.62	-0.93	0.7	88.3886	0.7015	6	1.87964	117.7045	1.70607	0	1.7061	50.808	0.7153	-8E-04	6	0.6973	0.7167	2.0122	58.71195
30	73.1	1.12	0.43	1.53	73.1053	1.532	5	2.15257	121.5685	1.76686	0	1.7669	40.376	1.57	0.0004	5	0.8128	0.6592	2.3076	44.44446
31	184.8	1.41	0.47	0.76	184.806	0.763	6	1.65016	125.5153	1.82962	0	1.8296	100.01	0.7706	0.0002	6	0.6097	0.7161	1.7668	123.8369
32	151.5	1.19	-0.46	0.78	151.494	0.7855	6	1.72352	123.7893	1.89151	0	1.8915	79.092	0.7954	-2E-04	6	0.6477	0.6864	1.8588	97.0517
33	85.3	0.8	-1.24	0.94	85.2848	0.938	6	1.96632	119.4824	1.95125	0	1.9513	42.708	0.96	-0.001	5	0.7593	0.6283	2.1443	49.48565
34	65.4	0.85	-1.75	1.29	65.3786	1.3001	5	2.1445	119.2777	2.01089	0	2.0109	31.512	1.3414	-0.002	5	0.8411	0.5827	2.3516	34.89766
35	81.6	1.23	-1.38	1.51	81.5831	1.5077	5	2.11209	122.5216	2.07215	0	2.0722	38.371	1.547	-0.001	5	0.83	0.5724	2.3149	43.01531
36	134.5	1.27	-1.38	0.94	134.483	0.9444	6	1.81492	123.9748	2.13414	0	2.1341	62.015	0.9596	-8E-04	6	0.7103	0.6076	1.9926	75.99434
37	154.3	1.21	-1.57	0.79	154.281	0.7843	6	1.71705	123.9557	2.19612	0	2.1961	69.252	0.7956	-7E-04	6	0.6756	0.6106	1.8939	87.76063
38	124.5	0.97	-2.09	0.78	124.474	0.7793	6	1.78727	121.8145	2.25702	0	2.257	54.15	0.7937	-0.001	6	0.7143	0.5821	1.9877	67.23657
39	73.9	1.13	-1.63	1.53	73.8801	1.5295	5	2.14864	121.6593	2.31785	0	2.3179	30.874	1.5791	-0.002	5	0.8746	0.5037	2.4014	34.06537
40	80.4	1.64	-2	2.04	80.3755	2.0404	5	2.20596	124.5902	2.38015	0	2.3802	32.769	2.1027	-0.002	5	0.9019	0.4814	2.463	35.48277
41	89.7	1.14	-2.23	1.27	89.6727	1.2713	6	2.03248	122.1962	2.44125	0	2.4413	35.732	1.3069	-0.002	5	0.8375	0.4965	2.2886	40.93188
42	88.6	1.12	-2.22	1.26	88.5728	1.2645	6	2.03504	122.0366	2.50227	0	2.5023	34.397	1.3013	-0.002	5	0.8455	0.483	2.3019	39.28957
43	30.2	1.55	-2.98	5.15	30.1635	5.1387	3	2.79081	121.7868	2.56316	0	2.5632	10.768	5.6159	-0.008	3	1	0.4128	3.134	10.76811
44	29.2	1.44	-2.47	4.93	29.1698	4.9366	3	2.78935	121.1665	2.62374	0	2.6237	10.118	5.4245	-0.007	3	1	0.4033	3.1457	10.11762
45	65.5	0.77	-3.09	1.17	65.4622	1.1763	5	2.11728	118.5576	2.68302	0	2.683	23.399	1.2265	-0.004	5	0.908	0.4296	2.4436	25.4906
46	62.8	0.89	-3.28	1.42	62.7599	1.4181	5	2.18194	119.5145	2.74278	0	2.7428	21.882	1.4829	-0.004	5	0.9421	0.4077	2.524	23.12211
47	38.8	1.23	-3.07	3.17	38.7624	3.1732	4	2.56843	120.7066	2.80313	0	2.8031	12.828	3.4205	-0.006	3	1	0.3775	2.942	12.82826
48	78.1	0.77	-3.37	0.99	78.0588	0.9864	6	2.01015	118.9868	2.86262	0	2.8626	26.268	1.024	-0.003	5	0.8797	0.4166	2.3469	29.6085
49	114.4	0.93	-3.04	0.82	114.363	0.8132	6	1.82761	121.2997	2.92327	0	2.9233	38.121	0.8345	-0.002	5	0.801	0.4431	2.1323	46.66442
50	163.9	1.38	-2.7	0.84	163.867	0.8422	6	1.71768	125.0646	2.98581	0	2.9858	53.882	0.8578	-0.001	6	0.7514	0.4586	1.994	69.7347
51	176.6	1.48	-2.68	0.84	176.567	0.8382	6	1.69228	125.7586	3.04869	0	3.0487	56.916	0.8529	-0.001	6	0.7449	0.4547	1.9689	74.5575
52	131.9	1.1	-2.42	0.84	131.87	0.8342	6	1.78644	122.8755	3.11012	0	3.1101	41.4	0.8543	-0.001	5	0.7985	0.4228	2.1021	51.44896
53	172.5	1.25	-2.02	0.73	172.475	0.7247	6	1.65797	124.4656	3.17236	0	3.1724	53.368	0.7383	-9E-04	6	0.7445	0.4416	1.9523	70.65132
54	119.4	1.86	-2.31	1.56	119.372	1.5582	6	2.00129	126.476	3.23559	0	3.2356	35.893	1.6016	-0.001	5	0.8974	0.3668	2.347	40.25647
55	100.5	1.51	-0.81	1.5	100.49	1.5026	5	2.04413	124.5307	3.29786	0	3.2979	29.471	1.5536	-6E-04	5	0.9292	0.3477	2.4199	31.93977
56	136.3	2.01	-0.32	1.48	136.296	1.4747	6	1.94377	127.3669	3.36154	0	3.3615	39.546	1.512	-2E-04	5	0.882	0.3608	2.2909	45.32334
57	172.4	1.47	-0.01	0.85	172.4	0.8527	6	1.70495	125.6507	3.42437	0	3.4244	49.345	0.87	0	6	0.7865	0.3971		

66	71.3	2.82	3.03	3.95	71.3371	3.9531	4	2.44844	128.2654	3.99554	0	3.9955	16.854	4.1876	0.0032	3	1	0.2648	2.9026	16.85417
67	108.1	2.04	4.53	1.89	108.155	1.8862	5	2.0904	126.9112	4.059	0	4.059	25.646	1.9597	0.0031	4	1	0.2607	2.5562	25.64586
68	85.3	3.08	5.21	3.61	85.3638	3.6081	5	2.36696	129.3485	4.12367	0	4.1237	19.701	3.7912	0.0046	3	1	0.2566	2.8229	19.70092
69	61	1.72	-0.49	2.83	60.994	2.82	5	2.38982	124.2657	4.1858	0	4.1858	13.572	3.0277	-6E-04	3	1	0.2528	2.8909	13.57163
70	75.4	2.36	0.94	3.14	75.4115	3.1295	5	2.35751	127.0979	4.24935	0	4.2494	16.747	3.3164	0.001	3	1	0.249	2.8416	16.74659
71	113	1.89	0.06	1.67	113.001	1.6726	5	2.03988	126.4593	4.31258	0	4.3126	25.203	1.7389	4E-05	4	1	0.2454	2.5321	25.20257
72	115.3	1.83	-0.24	1.59	115.297	1.5872	6	2.01764	126.2723	4.37572	0	4.3757	25.349	1.6498	-2E-04	5	1	0.2418	2.5169	25.34929
73	118.2	3.01	1.54	2.55	118.219	2.5461	5	2.15989	129.9745	4.44071	0	4.4407	25.622	2.6455	0.001	4	1	0.2383	2.6358	25.62164
74	60	2.39	-0.07	3.99	59.9991	3.9834	4	2.50186	126.6327	4.50402	0	4.504	12.321	4.3067	-9E-05	3	1	0.2349	3.0165	12.32124
75	76.1	3.21	77.84	4.15	77.0528	4.166	4	2.44323	129.4012	4.56872	0	4.5687	15.865	4.4286	0.0773	3	1	0.2316	2.9383	15.86527
76	109	2.99	11.27	2.74	109.138	2.7397	5	2.2067	129.7307	4.63359	0	4.6336	22.554	2.8611	0.0078	4	1	0.2284	2.7003	22.55366
77	134.1	2.63	11.22	1.96	134.237	1.9592	5	2.03817	129.2969	4.69824	0	4.6982	27.572	2.0303	0.0062	4	1	0.2252	2.5402	27.57186
78	204.2	1.81	10.72	0.89	204.331	0.8858	6	1.66283	127.5876	4.76203	0	4.762	41.908	0.907	0.0039	5	0.8871	0.2633	2.1292	49.66821
79	188.8	1.63	6.8	0.87	188.883	0.863	6	1.67948	126.6294	4.82534	0	4.8253	38.144	0.8856	0.0027	5	0.9043	0.2536	2.1668	44.10678
80	141.2	2.62	7.46	1.86	141.291	1.8543	5	2.00553	129.3939	4.89004	0	4.89	27.894	1.9208	0.0039	4	1	0.2164	2.5217	27.89368
81	62.3	4.71	9.23	7.55	62.413	7.5465	9	2.69963	131.6927	4.95589	0	4.9559	11.594	8.1974	0.0116	3	1	0.2135	3.2156	11.5937
82	111	4.27	10.34	3.84	111.127	3.8425	8	2.31417	132.3821	5.02208	0	5.0221	21.128	4.0243	0.007	3	1	0.2107	2.8162	21.1276
83	118.7	2.17	8.75	1.83	118.807	1.8265	5	2.052	127.5923	5.08588	0	5.0859	22.36	1.9082	0.0055	4	1	0.2081	2.5978	22.36021
84	144.9	2.45	8.73	1.69	145.007	1.6896	6	1.96808	128.9664	5.15036	0	5.1504	27.155	1.7518	0.0045	5	1	0.2054	2.5075	27.15471
85	184.4	1.64	8.41	0.89	184.503	0.8889	6	1.69572	126.6169	5.21367	0	5.2137	34.388	0.9147	0.0034	5	0.9506	0.2196	2.2368	37.20693
86	117.3	4.38	10.12	3.73	117.424	3.7301	8	2.28916	132.7027	5.28002	0	5.28	21.239	3.9057	0.0065	3	1	0.2004	2.8061	21.23929
87	72.5	4.56	9.27	6.27	72.6135	6.2798	9	2.59624	131.8251	5.34593	0	5.3459	12.583	6.7789	0.0099	3	1	0.1979	3.1345	12.58294
88	69	5.46	11.7	7.89	69.1432	7.8967	9	2.68735	133.0236	5.41244	0	5.4124	11.775	8.5673	0.0132	3	1	0.1955	3.2234	11.77486
89	79.2	6.24	13.06	7.86	79.3599	7.8629	9	2.64943	134.3368	5.47961	0	5.4796	13.483	8.4461	0.0127	3	1	0.1931	3.1757	13.48275
90	89.7	6.41	12.85	7.14	89.8573	7.1335	9	2.58325	134.8365	5.54703	0	5.547	15.199	7.6029	0.011	3	1	0.1908	3.1064	15.19917
91	122.4	6.64	12.42	5.42	122.552	5.4181	9	2.40727	135.8513	5.61495	0	5.615	20.826	5.6783	0.0077	3	1	0.1884	2.9199	20.826
92	150.6	5.95	13.76	3.95	150.768	3.9465	8	2.243	135.5538	5.68273	0	5.6827	25.531	4.101	0.0068	4	1	0.1862	2.7596	25.53098
93	106.5	5.36	12.97	5.02	106.659	5.0254	9	2.41694	133.9456	5.7497	0	5.7497	17.55	5.3117	0.0093	3	1	0.184	2.956	17.5503
94	216.6	3.38	13.07	1.56	216.76	1.5593	6	1.82719	132.3014	5.81586	0	5.8159	36.271	1.6023	0.0045	5	1	0.1819	2.3832	36.27052
95	221.6	3.6	12.55	1.62	221.754	1.6234	6	1.83454	132.8184	5.88226	0	5.8823	36.699	1.6677	0.0042	5	1	0.1799	2.3896	36.69868
96	193.6	4.54	14.83	2.34	193.782	2.3428	5	1.99616	134.187	5.94936	0	5.9494	31.572	2.4171	0.0057	4	1	0.1779	2.5405	31.57184
97	63.4	4.96	15.61	7.79	63.5911	7.7998	9	2.70571	132.1167	6.01542	0	6.0154	9.5714	8.6148	0.0195	3	1	0.1759	3.2925	9.57135
98	171.4	2.89	16.81	1.68	171.606	1.6841	6	1.91822	130.5857	6.08071	0	6.0807	27.221	1.746	0.0073	5	1	0.174	2.5058	27.22134
99	194.9	3.05	14.34	1.56	195.076	1.5635	6	1.85744	131.2926	6.14636	0	6.1464	30.738	1.6144	0.0055	5	1	0.1722	2.4431	30.73841
100	184.2	4.3	14.33	2.33	184.375	2.3322	5	2.00774	133.6682	6.21319	0	6.2132	28.675	2.4135	0.0058	4	1	0.1703	2.5727	28.67484
101	247	2.79	14.91	1.13	247.183	1.1287	6	1.68309	131.2181	6.2788	0	6.2788	38.368	1.1581	0.0045	5	1	0.1685	2.2815	38.3678
102	217.7	2.35	13.48	1.08	217.865	1.0787	6	1.70495	129.6544	6.34363	0	6.3436	33.344	1.111	0.0046	5	1	0.1668	2.3222	33.34392
103	267	2.24	14.28	0.84	267.175	0.8384	6	1.56446	129.8012	6.40853	0	6.4085	40.691	0.859	0.0039	5	0.9837	0.17	2.1785	41.90524
104	100.3	3.26	13.16	3.24	100.461	3.245	5	2.28578	130.1613	6.47361	0	6.4736	14.519	3.4686	0.0101	3	1	0.1635	2.9026	14.51856
105	54.1	3.55	14.12	6.53	54.2728	6.541	3	2.69096	129.283	6.53825	0	6.5383	7.3008	7.437	0.0213	3	1	0.1618	3.3419	7.30082
106	41.5	2.37	14.14	5.7	41.6731	5.6871	3	2.72298	125.6822	6.60109	0	6.6011	5.3131	6.7575	0.029	3	1	0.1603	3.4256	5.31306
107	43	1.99	13.33	4.61	43.1632	4.6104	4	2.64687	124.4892	6.66333	0	6.6633	5.4777	5.4521	0.0263	3	1	0.1588	3.3599	5.47771
108	95.1	3.15	12.75	3.3	95.2561	3.3069	5	2.3071	129.7804	6.72822	0	6.7282	13.158	3.5582	0.0104	3	1	0.1573	2.9434	13.15768
109	39.1	1.91	13.25	4.86	39.2622	4.8647	4	2.69239	123.958	6.7902	0	6.7902	4.7822	5.882	0.0294	3	1	0.1558	3.427	4.78218
110	63.6	3.27	12.57	5.13	63.7539	5.1291	4	2.56539	129.0746	6.85474	0	6.8547	8.3007	5.747	0.0159	3	1	0.1544	3.2288	8.3007
111	54.8	3.69	12.85	6.72	54.9573	6.7143	3	2.69602	129.5966	6.91954	0	6.9195	6.9423	7.6815	0.0193	3	1	0.1529	3.3678	6.94233
112	64.6	4.36	13.22	6.73	64.7618	6.7324	9	2.65107	131.2178	6.98515	0	6.9852	8.2714	7.5463	0.0165	3	1	0.1515	3.3038	8.27136
113	78.8	5.04	13.23	6.38	78.9619	6.3828	9	2.57904	132.7618	7.05153	0	7.0515	10.198	7.0087	0.0133	3	1	0.1501	3.2134	10.19785
114	84.3	4.51	13.79	5.34	84.4688	5.3393	9	2.50016	132.1133	7.11759	0	7.1176	10.868	5.8306	0.0128	3	1	0.1487	3.1411	10.86762
115	59.9	4.74	14.67	7.88	60.0796	7.8895	3	2.72505	131.6462	7.18341	0	7.1834	7.3637	8.961	0.02	3	1	0.1473	3.3903	7.36366
116	61.1	4.47	14.94	7.3	61.2829	7.2941	3	2.69319	131.2654	7.24904	0	7.249	7.4539	8.2726	0.0199	3	1	0.146	3.3641	7.45393
117	36.7	2.76	15.39	7.48	36.8884	7.482	3	2.84618	126.4994	7.31229	0	7.3123	4.0447	9.3319	0.0375	2	1	0.1447	3.6046	4.04471
118	29.5	2.13	16.08	7.16	29.6968	7.1725	3	2.89761	124.0746	7.37433	0	7.3743	3.0271	9.542	0.0519	2	1	0.1435	3.7111	3.02705
119	29.5	2.03	16.18	6.83	29.698	6.8355	3	2.88266	123.7229	7.43619	0	7.4362	2.9937	9.1187	0.0523	2	1	0.1423	3.7034	2.99372
120	29.8	1.81	15.99	6.03	29.9957	6.0342	3	2.84124	122.9079	7.49764	0	7.4976	3.0007	8.0451	0.0512	2	1	0.1411	3.6708	3.00069
121	187.9	3.59	15.31	1.91	188.087	1.9087	6	1.93417	132.3964	7.56384	0	7.5638	23.867	1.9887	0.0061	4	1	0.1399	2.5852	23.86665
122	298.6	3.35	15.8	1.12	298.793	1.1212	6	1.62811	133.019	7.63035	0	7.6304	38.159	1.1506	0.0039	5	1	0.1387	2.2818	38.15854
123	209.5	5	16.8	2.38	209.706	2.3843	5	1.98174	135.0858	7.69789	0	7.6979	26.242	2.4752	0.006	4	1	0.1375	2.6097	26.24195
124	325	3.9	17.2	1.2	325.211	1.1992	6	1.62855	134.3379	7.76506	0</									

133	200.4	4.48	24.38	2.23	200.698	2.2322	6	1.97022	134.1752	8.36349	0	8.3635	22.997	2.3293	0.0091	4	1	0.1265	2.639	22.99698
134	187.6	3.74	22.1	1.99	187.871	1.9907	6	1.9487	132.6931	8.42983	0	8.4298	21.286	2.0843	0.0089	4	1	0.1255	2.6374	21.28639
135	105.5	3.71	18.17	3.51	105.722	3.5092	5	2.29737	131.2319	8.49545	0	8.4955	11.445	3.8158	0.0135	3	1	0.1246	3.0101	11.44459
136	61.4	3.46	20.55	5.61	61.6515	5.6122	4	2.60444	129.406	8.56015	0	8.5602	6.2022	6.5171	0.0279	3	1	0.1236	3.3625	6.20215
137	42.5	1.52	20.44	3.55	42.7502	3.5555	4	2.57081	122.4944	8.6214	0	8.6214	3.9586	4.4537	0.0431	3	1	0.1227	3.4268	3.95861
138	41.5	1.39	20.46	3.32	41.7504	3.3293	4	2.55875	121.7825	8.68229	0	8.6823	3.8087	4.2034	0.0446	3	1	0.1219	3.4273	3.80869
139	41.6	1.44	20.56	3.43	41.8517	3.4407	4	2.56774	122.047	8.74331	0	8.7433	3.7867	4.3494	0.0447	3	1	0.121	3.4374	3.7867
140	107	6.51	23.26	6.06	107.285	6.068	9	2.48102	135.3821	8.811	0	8.811	11.176	6.6109	0.017	3	1	0.1201	3.1666	11.17622
141	164.2	6.01	24.49	3.65	164.5	3.6535	8	2.19369	135.8398	8.87892	0	8.8789	17.527	3.862	0.0113	3	1	0.1192	2.8672	17.52699
142	303.6	4.12	23.35	1.36	303.886	1.3558	6	1.68884	134.5741	8.94621	0	8.9462	32.968	1.3969	0.0057	5	1	0.1183	2.3819	32.9681
143	304	4.26	33.01	1.4	304.404	1.3995	6	1.69945	134.8227	9.01362	0	9.0136	32.772	1.4422	0.0081	5	1	0.1174	2.392	32.77156
144	374.3	3.85	33.38	1.03	374.709	1.0275	6	1.53792	134.5891	9.08092	0	9.0809	40.263	1.053	0.0066	5	1	0.1165	2.241	40.2633
145	196.2	4.11	29.71	2.09	196.564	2.0909	6	1.95323	133.4937	9.14766	0	9.1477	20.488	2.193	0.0114	4	1	0.1157	2.6638	20.48785
146	87.8	4.11	32.83	4.66	88.2018	4.6598	9	2.44243	131.5392	9.21343	0	9.2134	8.5732	5.2033	0.0299	3	1	0.1148	3.1914	8.57318
147	360.2	7.35	43.68	2.04	360.735	2.0375	6	1.79353	137.28	9.28207	0	9.2821	37.864	2.0913	0.009	5	1	0.114	2.4396	37.86359
148	410.8	5.11	32.42	1.24	411.197	1.2427	6	1.58203	136.8873	9.35052	0	9.3505	42.976	1.2716	0.0058	5	1	0.1132	2.2644	42.97584
149	445.3	4.68	42.78	1.05	445.824	1.0497	6	1.50164	136.4414	9.41874	0	9.4187	46.334	1.0724	0.0071	5	1	0.1123	2.195	46.33369
150	387.9	2.4	43.79	0.62	388.436	0.6179	6	1.35695	131.2188	9.48435	0	9.4844	39.955	0.6333	0.0083	5	1	0.1116	2.1295	39.95548
151	392.3	3.77	23.71	0.96	392.59	0.9603	6	1.50228	134.5491	9.55162	0	9.5516	40.102	0.9842	0.0045	5	1	0.1108	2.2264	40.10194
152	189.6	4.64	22.25	2.44	189.872	2.4438	5	2.0161	134.2967	9.61877	0	9.6188	18.74	2.5742	0.0089	4	1	0.11	2.7362	18.73977
153	113.5	6.36	25.74	5.59	113.815	5.588	9	2.43699	135.3556	9.68645	0	9.6865	10.75	6.1078	0.0178	3	1	0.1092	3.1576	10.74993
154	215.5	5.8	31.35	2.69	215.884	2.6866	5	2.01648	136.2426	9.75457	0	9.7546	21.132	2.8138	0.011	4	1	0.1085	2.7181	21.13155
155	386.3	5.25	28.97	1.36	386.655	1.3578	6	1.62886	136.935	9.82304	0	9.823	38.362	1.3932	0.0055	5	1	0.1077	2.3276	38.36202
156	213.6	5.27	28.37	2.46	213.947	2.4632	5	1.98805	135.5194	9.8908	0	9.8908	20.631	2.5826	0.01	4	1	0.107	2.7037	20.63094
157	134.6	6.25	26.92	4.63	134.93	4.6321	9	2.32761	135.643	9.95862	0	9.9586	12.549	5.0012	0.0155	3	1	0.1063	3.0506	12.54902
158	112.1	5.92	26.33	5.27	112.422	5.2659	9	2.4194	134.801	10.02602	0	10.026	10.213	5.7815	0.0185	3	1	0.1055	3.1598	10.21305
159	148.2	6.09	29.45	4.1	148.56	4.0993	8	2.26013	135.688	10.09386	0	10.094	13.718	4.3982	0.0153	3	1	0.1048	2.9855	13.7179
160	127.1	7.21	28.46	5.65	127.448	5.6572	9	2.41268	136.5494	10.16214	0	10.162	11.541	6.1474	0.0175	3	1	0.1041	3.1356	11.54149
161	183.3	8.29	30.34	4.51	183.671	4.5135	9	2.2423	137.28	10.23078	0	10.231	16.953	4.7797	0.0126	3	1	0.1034	2.9375	16.95283
162	181.2	7.85	34.59	4.32	181.623	4.3221	8	2.22929	137.28	10.29942	0	10.299	16.634	4.582	0.0145	3	1	0.1027	2.932	16.63434
163	190.1	6.28	32.86	3.3	190.502	3.2966	8	2.12042	136.5193	10.36768	0	10.368	17.375	3.4863	0.0131	3	1	0.1021	2.8424	17.37463
164	351.9	4.88	29.8	1.39	352.265	1.3853	6	1.65888	136.1731	10.43576	0	10.436	32.756	1.4276	0.0063	5	1	0.1014	2.3897	32.75553
165	350.8	5.73	30.83	1.63	351.177	1.6317	6	1.71844	137.28	10.5044	0	10.504	32.431	1.682	0.0065	5	1	0.1007	2.4348	32.43144
166	364.7	5.03	30.94	1.38	365.079	1.3778	6	1.64811	136.4817	10.57264	0	10.573	33.531	1.4189	0.0063	5	1	0.1001	2.3798	33.5305
167	471.4	6.94	35.48	1.47	471.834	1.4709	6	1.61213	137.28	10.64128	0	10.641	43.34	1.5048	0.0055	5	1	0.0994	2.3051	43.33998
168	449.9	4.08	31.61	0.91	450.287	0.9061	6	1.44675	135.4618	10.70901	0	10.709	41.047	0.9282	0.0052	5	1	0.0988	2.2041	41.04746
169	461.6	5.19	31.37	1.12	461.984	1.1234	6	1.51757	137.28	10.77765	0	10.778	41.865	1.1503	0.005	5	1	0.0982	2.2486	41.86498
170	431.5	4.63	29.61	1.07	431.862	1.0721	6	1.517	136.2852	10.8458	0	10.846	38.818	1.0997	0.0051	5	1	0.0976	2.2647	38.81841
171	408.5	4.55	30.61	1.11	408.875	1.1128	6	1.54383	136.0242	10.91381	0	10.914	36.464	1.1433	0.0055	5	1	0.097	2.2967	36.46397
172	497.9	4.83	33.16	0.97	498.306	0.9693	6	1.44596	136.9436	10.98228	0	10.982	44.374	0.9911	0.0049	5	1	0.0964	2.1913	44.37362
173	319.2	5.63	33.03	1.76	319.604	1.7616	6	1.76884	136.9818	11.05077	0	11.051	27.921	1.8246	0.0077	4	1	0.0958	2.5081	27.92144
174	118.5	6.22	42.27	5.22	119.017	5.2261	9	2.40206	135.3018	11.11842	0	11.118	9.7045	5.7647	0.0282	3	1	0.0952	3.1763	9.70452
175	66	3.18	37.95	4.79	66.4645	4.7845	4	2.53076	128.9719	11.18291	0	11.183	4.9434	5.7524	0.0494	3	1	0.0946	3.4097	4.9434

Depth (ft)	CPT-2 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	124.9	1.23	1.79	0.99	124.922	0.9846	6	1.85098	123.5608	0.06178	0	0.0618	2021	0.9851	0.001	6	0.4762	2	1.6359	236.0064
2	70.2	0.59	2.05	0.83	70.2251	0.8402	6	2.00639	116.7806	0.12017	0	0.1202	583.38	0.8416	0.0021	5	0.5295	2	1.7685	132.51
3	31.7	0.32	1.7	1.02	31.7208	1.0088	5	2.33891	110.3657	0.17535	0	0.1754	179.9	1.0144	0.0039	5	0.6552	2	2.0917	59.62615
4	50.3	0.36	1.84	0.71	50.3225	0.7154	5	2.09013	112.353	0.23153	0	0.2315	216.35	0.7187	0.0026	6	0.5625	2	1.8413	94.6803
5	64.2	0.4	1.91	0.62	64.2234	0.6228	6	1.96834	113.7189	0.28839	0	0.2884	221.7	0.6256	0.0022	6	0.5215	1.9697	1.7255	119.0147
6	47	0.24	1.8	0.5	47.022	0.5104	6	2.04488	109.2208	0.343	0	0.343	136.09	0.5142	0.0028	6	0.556	1.8707	1.8111	82.52464
7	54.4	0.35	1.8	0.65	54.422	0.6431	6	2.0373	112.3379	0.39917	0	0.3992	135.34	0.6479	0.0024	6	0.5687	1.7409	1.8379	88.88559
8	72.1	0.48	1.99	0.66	72.1244	0.6655	6	1.94066	115.3359	0.45684	0	0.4568	156.88	0.6698	0.002	6	0.5489	1.5857	1.7789	107.4051
9	78.5	0.53	2.09	0.67	78.5256	0.6749	6	1.91296	116.2683	0.51497	0	0.515	151.49	0.6794	0.0019	6	0.5504	1.4864	1.7755	109.5889
10	83.5	0.5	2.17	0.6	83.5266	0.5986	6	1.86218	115.9926	0.57297	0	0.573	144.78	0.6028	0.0019	6	0.5421	1.3945	1.7461	109.3225
11	54.8	0.39	1.99	0.72	54.8244	0.7114	6	2.05703	113.1477	0.62954	0	0.6295	86.086	0.7196	0.0026	6	0.621	1.3805	1.9458	70.70654
12	74	0.46	1.99	0.62	74.0244	0.6214	6	1.91522	115.0879	0.68709	0	0.6871	106.74	0.6272	0.002	6	0.5794	1.2843	1.8296	89.01223
13	48.1	0.44	1.99	0.91	48.1244	0.9143	5	2.16308	113.7124	0.74394	0	0.7439	63.688	0.9287	0.003	5	0.6799	1.2706	2.0861	56.89738
14	66.2	0.61	2.09	0.92	66.2256	0.9211	6	2.05017	116.8815	0.80238	0	0.8024	81.536	0.9324	0.0023	6	0.6478	1.1963	1.9946	73.96678
15	105	0.73	2.09	0.7	105.026	0.6951	6	1.81613	119.3202	0.86204	0	0.862	120.83	0.7008	0.0014	6	0.569	1.1237	1.7803	110.619
16	111.1	0.79	2.09	0.71	111.126	0.7109	6	1.8021	120.0359	0.92206	0	0.9221	119.52	0.7169	0.0014	6	0.5718	1.0819	1.7798	112.6792
17	78.7	0.46	1.99	0.58	78.7244	0.5843	6	1.87841	115.2381	0.97968	0	0.9797	79.357	0.5917	0.0018	6	0.6083	1.048	1.8686	76.99908
18	43.3	0.3	1.61	0.69	43.3197	0.6925	5	2.13918	110.6535	1.03501	0	1.035	40.855	0.7095	0.0027	5	0.7171	1.016	2.1476	40.60023
19	61.7	0.43	1.71	0.7	61.7209	0.6967	6	2.00848	114.1511	1.09208	0	1.0921	55.517	0.7092	0.002	6	0.6739	0.9789	2.027	56.09188
20	83.1	0.5	1.88	0.6	83.123	0.6015	6	1.86508	115.9808	1.15007	0	1.1501	71.276	0.61	0.0017	6	0.6255	0.9492	1.8926	73.5363
21	73.6	0.6	1.52	0.82	73.6186	0.815	6	1.98203	117.0187	1.20858	0	1.2086	59.913	0.8286	0.0015	6	0.6785	0.9137	2.0243	62.53016
22	90.4	0.83	1.79	0.92	90.4219	0.9179	6	1.94043	119.8944	1.26853	0	1.2685	70.281	0.931	0.0015	6	0.6687	0.8858	1.991	74.63338
23	117	0.64	2.12	0.55	117.026	0.5469	6	1.71807	118.6214	1.32784	0	1.3278	87.133	0.5532	0.0013	6	0.5884	0.8749	1.7734	95.66854
24	113.3	0.68	1.9	0.6	113.323	0.6001	6	1.75231	118.9865	1.38733	0	1.3873	80.684	0.6075	0.0012	6	0.6086	0.848	1.819	89.70859
25	105.4	0.68	1.9	0.64	105.423	0.645	6	1.796	118.8103	1.44674	0	1.4467	71.87	0.654	0.0013	6	0.6329	0.8204	1.8754	80.61499
26	130.2	0.68	1.99	0.52	130.224	0.5222	6	1.66837	119.3256	1.5064	0	1.5064	85.447	0.5283	0.0011	6	0.5883	0.8124	1.7507	98.8245
27	135.5	0.84	2.05	0.62	135.525	0.6198	6	1.69738	120.969	1.56688	0	1.5669	85.493	0.6271	0.0011	6	0.6055	0.7884	1.7883	99.81705
28	144.2	0.9	2.24	0.62	144.227	0.624	6	1.67754	121.6257	1.6277	0	1.6277	87.608	0.6311	0.0011	6	0.6035	0.7711	1.7756	103.9226
29	133.9	0.87	2.28	0.65	133.928	0.6496	6	1.71373	121.1969	1.6883	0	1.6883	78.327	0.6579	0.0012	6	0.6249	0.7468	1.8242	93.33193
30	141.3	0.76	2.21	0.54	141.327	0.5378	6	1.64644	120.339	1.74847	0	1.7485	79.829	0.5445	0.0011	6	0.6045	0.7381	1.7632	97.36928
31	140.3	1.26	1.99	0.9	140.324	0.8979	6	1.78661	124.0207	1.81048	0	1.8105	76.507	0.9097	0.001	6	0.665	0.6997	1.9142	91.58994
32	156	1.14	2.18	0.73	156.027	0.7306	6	1.69348	123.5471	1.87225	0	1.8723	82.336	0.7395	0.001	6	0.6337	0.6966	1.8243	101.4802
33	124.8	0.87	1.98	0.7	124.824	0.697	6	1.75656	121.0252	1.93276	0	1.9328	63.583	0.7079	0.0012	6	0.6685	0.6685	1.9082	77.6385
34	119.5	0.82	1.99	0.69	119.524	0.6861	6	1.76748	120.4863	1.99301	0	1.993	58.972	0.6977	0.0012	6	0.68	0.6502	1.9308	72.21699
35	83.4	1.15	2.01	1.38	83.4246	1.3785	5	2.07919	122.084	2.05405	0	2.0541	39.615	1.4133	0.0018	5	0.8148	0.5825	2.2772	44.79354
36	85.7	0.92	2.09	1.08	85.7256	1.0732	6	2.00056	120.5176	2.11431	0	2.1143	39.546	1.1003	0.0018	5	0.7906	0.5785	2.2062	45.71297
37	139.8	1.19	2.12	0.85	139.826	0.8511	6	1.77258	123.5938	2.1761	0	2.1761	63.255	0.8645	0.0011	6	0.6973	0.6048	1.9535	78.68159
38	102	1.45	2.19	1.42	102.027	1.4212	6	2.02283	124.271	2.23824	0	2.2382	44.584	1.4531	0.0016	5	0.8081	0.5458	2.2367	51.47735
39	79.6	1.34	2.47	1.68	79.6302	1.6828	5	2.15176	123.0893	2.29978	0	2.2998	33.625	1.7328	0.0023	5	0.8714	0.5084	2.3954	37.15414
40	121.3	1.38	1.71	1.14	121.321	1.1375	6	1.90205	124.3314	2.36195	0	2.362	50.365	1.1601	0.001	5	0.7699	0.5389	2.1208	60.58599
41	134.8	1.14	1.71	0.85	134.821	0.8456	6	1.78285	123.1908	2.42354	0	2.4235	54.63	0.861	0.0009	6	0.7274	0.5473	2.0014	68.47713
42	114.8	1.04	1.71	0.9	114.821	0.9058	6	1.85558	122.1274	2.48461	0	2.4846	45.213	0.9258	0.0011	5	0.7664	0.5198	2.0963	55.19004
43	89.8	1.23	1.52	1.37	89.8186	1.3694	5	2.05314	122.7562	2.54599	0	2.546	34.279	1.4094	0.0013	5	0.8567	0.4713	2.3259	38.87502
44	106.4	1.25	1.61	1.17	106.42	1.1746	6	1.95381	123.2879	2.60763	0	2.6076	39.811	1.2041	0.0011	5	0.8194	0.4776	2.2201	46.85489
45	64.6	1.74	1.73	2.69	64.6212	2.6926	5	2.35785	124.4912	2.66988	0	2.6699	23.204	2.8087	0.002	4	0.9994	0.3965	2.6854	23.21705
46	77	1.12	1.75	1.45	77.0214	1.4541	5	2.12061	121.6958	2.73072	0	2.7307	27.206	1.5076	0.0017	5	0.9082	0.4227	2.4383	29.67918
47	102.5	1.25	1.8	1.22	102.522	1.2193	6	1.97668	123.1968	2.79232	0	2.7923	35.716	1.2534	0.0013	5	0.8488	0.4388	2.2743	41.36179
48	153	1.46	1.99	0.95	153.024	0.9541	6	1.7761	125.31	2.85498	0	2.855	52.599	0.9722	0.001	6	0.7636	0.4687	2.0425	66.51146
49	174.8	1.63	2.09	0.93	174.826	0.9324	6	1.72697	126.4408	2.9182	0	2.9182	58.909	0.9482	0.0009	6	0.7461	0.4691	1.9885	76.2196
50	184.2	1.75	2.19	0.95	184.227	0.9499	6	1.7162	127.0883	2.98174	0	2.9817	60.785	0.9655	0.0009	6	0.746	0.4617	1.9805	79.07931
51	195	1.6	2.37	0.82	195.029	0.8204	6	1.65428	126.5716	3.04503	0	3.045	63.048	0.8334	0.0009	6	0.7262	0.4641	1.9203	84.21212
52	185.4	1.45	2.37	0.78	185.429	0.782	6	1.65624	125.7282	3.10789	0	3.1079	58.664	0.7953	0.0009	6	0.7348	0.4531	1.935	78.06691
53	133.7	2.01	2.37	1.5	133.729	1.503	6	1.95545	127.3205	3.17155	0	3.1716	41.165	1.5396	0.0013	5	0.8686	0.3854	2.2793	47.55282
54	187.4	1.98	2.66	1.06	187.433	1.0564	6	1.74345	128.0339	3.23557	0	3.2356	56.929	1.0749	0.001	6	0.7797	0.4183	2.0374	72.82179
55	99.8	2.2	2.37	2.21	99.829	2.2038	5	2.16318	127.2683	3.2992	0	3.2992	29.259	2.2791	0.0018	4	0.9743	0.3302	2.5404	30.127
56	169.1	1.24	2.75	0.73	169.134	0.7332	6	1.66768	124.3591	3.36138	0	3.3614	49.317	0.748	0.0012	6	0.7671	0.412	1.9881	64.55019
57	143.6	1.88	2.91	1.31	143.636	1.3089	6	1.89092	127.0056	3.42488	0	3.4249	40.939	1.3408	0.0015	5	0.8657	0.3618	2.2399	47.93554
58	166.7																			

87	83.9	6.48	3.43	7.72	83.942	7.7196	9	2.62842	134.7498	5.3521	0	5.3521	14.684	8.2453	0.0031	3	1	0.1977	3.1413	14.68394
88	75	5.94	3.6	7.91	75.0441	7.9154	9	2.66641	133.8399	5.41902	0	5.419	12.848	8.5314	0.0037	3	1	0.1953	3.1941	12.84828
89	113.6	6.32	3.42	5.56	113.642	5.5613	9	2.4357	135.3057	5.48667	0	5.4867	19.712	5.8435	0.0023	3	1	0.1929	2.946	19.71236
90	124.2	5.23	3.32	4.21	124.241	4.2096	9	2.31559	134.1381	5.55374	0	5.5537	21.371	4.4066	0.002	3	1	0.1905	2.8382	21.37063
91	179.4	4.48	3.42	2.49	179.442	2.4966	5	2.03837	133.9021	5.62069	0	5.6207	30.925	2.5774	0.0014	4	1	0.1883	2.5651	30.92524
92	210.3	3.75	3.3	1.78	210.34	1.7828	6	1.88064	132.9882	5.68718	0	5.6872	35.985	1.8324	0.0012	5	1	0.1861	2.4212	35.98498
93	203.8	3.86	3.37	1.89	203.841	1.8936	6	1.90963	133.1232	5.75374	0	5.7537	34.428	1.9486	0.0012	5	1	0.1839	2.4528	34.42758
94	215.6	4.2	3.43	1.95	215.642	1.9477	6	1.90423	133.8781	5.82068	0	5.8207	36.048	2.0017	0.0012	5	1	0.1818	2.4443	36.04753
95	247.5	4.03	3.83	1.63	247.547	1.628	6	1.80597	133.9123	5.88764	0	5.8876	41.045	1.6676	0.0011	5	1	0.1797	2.351	41.04518
96	262.7	2.65	3.6	1.01	262.744	1.0086	6	1.62883	130.9903	5.95314	0	5.9531	43.135	1.032	0.001	5	0.9676	0.188	2.1912	45.618
97	106.4	3.61	3.51	3.39	106.443	3.3915	5	2.28411	131.0485	6.01866	0	6.0187	16.685	3.5948	0.0025	3	1	0.1758	2.8644	16.68549
98	110.8	2.04	3.42	1.84	110.842	1.8405	5	2.07533	126.9711	6.08215	0	6.0822	17.224	1.9473	0.0024	4	1	0.174	2.696	17.22414
99	117.8	2.87	3.6	2.44	117.844	2.4354	5	2.14631	129.6182	6.14695	0	6.147	18.171	2.5695	0.0023	4	1	0.1721	2.7465	18.17113
100	51.7	3.57	3.21	6.9	51.7393	6.9	3	2.72209	129.2075	6.21156	0	6.2116	7.3295	7.8414	0.0051	3	1	0.1704	3.355	7.32952
101	184.5	2.06	3.49	1.12	184.543	1.1163	6	1.7653	128.2858	6.2757	0	6.2757	28.406	1.1556	0.0014	5	1	0.1686	2.39	28.40591
102	208.6	2.74	3.84	1.31	208.647	1.3132	6	1.78103	130.6724	6.34104	0	6.341	31.904	1.3544	0.0014	5	1	0.1669	2.386	31.90424
103	242.6	2.04	3.13	0.84	242.638	0.8408	6	1.59418	128.8819	6.40548	0	6.4055	36.88	0.8636	0.001	5	1	0.1652	2.2269	36.87981
104	146.4	3.06	3.04	2.09	146.437	2.0896	5	2.03414	130.6171	6.47079	0	6.4708	21.631	2.1862	0.0016	4	1	0.1635	2.644	21.63051
105	85.5	5.44	3.47	6.35	85.5425	6.3594	9	2.55639	133.5159	6.53754	0	6.5375	12.085	6.8857	0.0032	3	1	0.1619	3.1522	12.0848
106	101.8	3.8	3.23	3.73	101.84	3.7314	5	2.32826	131.316	6.6032	0	6.6032	14.423	3.9901	0.0024	3	1	0.1602	2.9422	14.42275
107	61.7	4.41	4.17	7.14	61.751	7.1416	3	2.684	131.1851	6.6688	0	6.6688	8.2597	8.0062	0.0055	3	1	0.1587	3.3207	8.2597
108	43.6	3.23	3.89	7.39	43.6476	7.4002	3	2.79363	128.0604	6.73283	0	6.7328	5.4828	8.7499	0.0076	2	1	0.1572	3.4832	5.48281
109	108.1	4.58	3.89	4.24	108.148	4.235	9	2.35456	132.8287	6.79924	0	6.7992	14.906	4.5191	0.0028	3	1	0.1556	2.9649	14.90584
110	48.6	3.43	3.84	7.05	48.647	7.0508	3	2.74674	128.7645	6.86362	0	6.8636	6.0877	8.209	0.0066	3	1	0.1542	3.4304	6.08766
111	63.1	4.83	3.51	7.65	63.143	7.6493	9	2.70103	131.9051	6.92957	0	6.9296	8.1121	8.5923	0.0045	3	1	0.1527	3.3464	8.1121
112	107.5	3.99	3.7	3.71	107.545	3.7101	5	2.31129	131.806	6.99548	0	6.9955	14.374	3.9682	0.0027	3	1	0.1513	2.9419	14.37355
113	68.6	4.34	3.24	6.32	68.6397	6.3229	9	2.61398	131.326	7.06114	0	7.0611	8.7208	7.0479	0.0038	3	1	0.1499	3.2673	8.72076
114	135.9	4.7	3.33	3.46	135.941	3.4574	8	2.22396	133.5758	7.12793	0	7.1279	18.072	3.6487	0.0019	3	1	0.1485	2.8414	18.07157
115	120.2	4.58	3.14	3.81	120.238	3.8091	8	2.28992	133.0871	7.19447	0	7.1945	15.713	4.0515	0.002	3	1	0.1471	2.9172	15.71261
116	96.1	6.34	3.6	6.6	96.1441	6.5943	9	2.53834	134.9211	7.26193	0	7.2619	12.239	7.133	0.0029	3	1	0.1457	3.1581	12.23946
117	100.4	6.27	3.89	6.25	100.448	6.2421	9	2.50786	134.9466	7.32941	0	7.3294	12.705	6.7334	0.003	3	1	0.1444	3.1294	12.70474
118	87	4.07	3.33	4.68	87.0408	4.676	9	2.44725	131.4353	7.39512	0	7.3951	10.77	5.1101	0.003	3	1	0.1431	3.1083	10.77002
119	40.8	2.72	3.51	6.68	40.843	6.6597	3	2.77902	126.641	7.45844	0	7.4584	4.4761	8.1475	0.0076	2	1	0.1419	3.5339	4.47607
120	44.7	3.24	3.55	7.24	44.7435	7.2413	3	2.77943	128.1435	7.52252	0	7.5225	4.9479	8.7048	0.0069	2	1	0.1407	3.5169	4.94794
121	53.1	3.61	3.51	6.79	53.143	6.793	3	2.70936	129.3543	7.58719	0	7.5872	6.0043	7.9244	0.0056	3	1	0.1395	3.4256	6.0043
122	43.1	2.61	3.6	6.04	43.1441	6.0495	3	2.73222	126.4726	7.65043	0	7.6504	4.6394	7.3534	0.0073	3	1	0.1383	3.4948	4.63943
123	44.7	2.64	3.6	5.89	44.7441	5.9002	3	2.71351	126.6451	7.71375	0	7.7138	4.8006	7.1293	0.007	3	1	0.1372	3.4748	4.80056
124	172.7	5.29	3.79	3.06	172.746	3.0623	8	2.11919	135.0254	7.78126	0	7.7813	21.2	3.2067	0.0017	4	1	0.136	2.7522	21.2003
125	259.6	3.57	3.57	1.38	259.644	1.375	6	1.73542	133.1419	7.84784	0	7.8478	32.085	1.4178	0.001	5	1	0.1348	2.3953	32.08475
126	332.7	4.15	3.79	1.25	332.746	1.2472	6	1.63624	134.8484	7.91526	0	7.9153	41.039	1.2776	0.0008	5	1	0.1337	2.2819	41.0386
127	286.9	4.93	3.79	1.72	286.946	1.7181	6	1.78661	135.7475	7.98313	0	7.9831	34.944	1.7673	0.001	5	1	0.1325	2.4218	34.94408
128	356.4	5.79	4.55	1.62	356.456	1.6243	6	1.71324	137.28	8.05177	0	8.0518	43.27	1.6619	0.0009	5	1	0.1314	2.332	43.27046
129	371.4	3.51	4.65	0.95	371.457	0.9449	6	1.51126	133.8913	8.11872	0	8.1187	44.753	0.966	0.0009	5	1	0.1303	2.1821	44.75314
130	387.6	3.97	4.86	1.03	387.659	1.0241	6	1.52798	134.8965	8.18617	0	8.1862	46.355	1.0462	0.0009	5	1	0.1293	2.1888	46.35543
131	370.6	3.68	4.84	0.99	370.659	0.9928	6	1.52887	134.2321	8.25328	0	8.2533	43.911	1.0154	0.001	5	1	0.1282	2.201	43.91052
132	267.7	3.02	4.64	1.13	267.757	1.1279	6	1.66033	131.9927	8.31928	0	8.3193	31.185	1.1641	0.0013	5	1	0.1272	2.3577	31.18509
133	144.9	4.03	4.83	2.78	144.959	2.7801	5	2.13231	132.6071	8.38558	0	8.3856	16.287	2.9508	0.0026	4	1	0.1262	2.8205	16.28671
134	73	2.87	3.79	3.92	73.0464	3.929	4	2.43958	128.4517	8.44981	0	8.4498	7.6447	4.443	0.0042	3	1	0.1252	3.1904	7.64474
135	81.3	3.5	4.17	4.3	81.351	4.3023	4	2.4384	130.1664	8.51489	0	8.5149	8.554	4.8053	0.0041	3	1	0.1243	3.1713	8.55397
136	85	4.7	3.9	5.53	85.0477	5.5263	9	2.50997	132.4319	8.58111	0	8.5811	8.911	6.1465	0.0037	3	1	0.1233	3.2226	8.91104
137	174.9	5.91	4.05	3.38	174.95	3.3781	8	2.15044	135.8673	8.64904	0	8.649	19.228	3.5538	0.0018	3	1	0.1223	2.8132	19.22762
138	68.3	3.34	3.4	4.89	68.3416	4.8872	4	2.52974	129.399	8.71374	0	8.7137	6.843	5.6014	0.0041	3	1	0.1214	3.2888	6.84297
139	45.4	1.44	3.79	3.16	45.4464	3.1686	4	2.51715	122.248	8.77487	0	8.7749	4.1792	3.9268	0.0074	3	1	0.1206	3.3774	4.17916
140	46.5	1.57	3.7	3.38	46.5453	3.3731	4	2.52829	122.9387	8.83633	0	8.8363	4.2675	4.1635	0.0071	3	1	0.1198	3.3835	4.26749
141	50.6	1.97	3.58	3.89	50.6438	3.8899	4	2.54558	124.8051	8.89874	0	8.8987	4.6911	4.7191	0.0062	3	1	0.1189	3.3793	4.69112
142	64	3.36	3.49	5.25	64.0427	5.2465	4	2.57151	129.2843	8.96338	0	8.9634	6.1449	6.1003	0.0046	3	1	0.1181	3.3484	6.14493
143	174.6	0	3.9	0	174.648	0	0	0	769.6	9.34818	0	9.3482	17.683	0	0.0017	0	1	0.1132	0	0

Depth (ft)	CPT-3 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	139.6	1.83	0.97	1.31	139.612	1.3108	6	1.90011	126.739	0.06337	0	0.0634	2202.1	1.3114	0.0005	6	0.5006	2	1.6998	263.7699
2	113.4	0.82	0.85	0.72	113.41	0.723	6	1.7994	120.3582	0.12355	0	0.1236	916.94	0.7238	0.0005	6	0.4539	2	1.5696	214.131
3	66.5	0.59	0.76	0.88	66.5093	0.8871	6	2.03925	116.648	0.18187	0	0.1819	364.69	0.8895	0.0008	6	0.5453	2	1.8024	125.3699
4	42.9	0.34	0.73	0.79	42.9089	0.7924	5	2.17232	111.5461	0.23765	0	0.2377	179.56	0.7968	0.0012	6	0.5943	2	1.9239	80.65583
5	55.5	0.26	0.76	0.46	55.5093	0.4684	6	1.96374	110.2112	0.29275	0	0.2928	188.61	0.4709	0.001	6	0.5179	1.9453	1.7144	101.5145
6	42.5	0.36	0.66	0.86	42.5081	0.8469	5	2.19082	111.9414	0.34872	0	0.3487	120.9	0.8539	0.0011	6	0.6103	1.9688	1.9513	78.44451
7	55.6	0.36	0.66	0.65	55.6081	0.6474	6	2.03068	112.5966	0.40502	0	0.405	136.3	0.6521	0.0009	6	0.5679	1.7252	1.835	90.0064
8	73.3	0.53	0.76	0.72	73.3093	0.723	6	1.95431	116.1007	0.46307	0	0.4631	157.31	0.7276	0.0008	6	0.5555	1.5826	1.7953	108.9527
9	77	0.49	0.66	0.63	77.0081	0.6363	6	1.90618	115.6466	0.52089	0	0.5209	146.84	0.6406	0.0006	6	0.5487	1.4752	1.7702	106.6404
10	83.9	0.67	0.72	0.8	83.9088	0.7985	6	1.93045	118.1452	0.57997	0	0.58	143.68	0.804	0.0006	6	0.569	1.408	1.8159	110.88
11	76.8	0.66	0.76	0.86	76.8093	0.8593	6	1.98022	117.8195	0.63888	0	0.6389	119.23	0.8665	0.0007	6	0.5966	1.3512	1.8806	97.26966
12	81.4	0.6	0.57	0.73	81.407	0.737	6	1.92127	117.2639	0.69751	0	0.6975	115.71	0.7434	0.0005	6	0.5841	1.2756	1.8403	97.29634
13	78.3	0.73	0.66	0.93	78.3081	0.9322	6	1.99431	118.6042	0.75681	0	0.7568	102.47	0.9413	0.0006	6	0.6205	1.2311	1.9285	90.23326
14	76.9	0.76	0.76	0.99	76.9093	0.9882	6	2.01575	118.855	0.81624	0	0.8162	93.224	0.9988	0.0007	6	0.6374	1.1799	1.9654	84.85083
15	91.8	0.79	0.67	0.86	91.8082	0.8605	6	1.91817	119.5701	0.87602	0	0.876	103.8	0.8688	0.0005	6	0.6096	1.122	1.8843	96.42313
16	61.8	1.01	0.66	1.63	61.8081	1.6341	5	2.22624	120.4027	0.93622	0	0.9362	65.018	1.6592	0.0008	5	0.7347	1.0941	2.2059	62.94158
17	109.5	0.77	0.85	0.71	109.51	0.7031	6	1.80439	119.8125	0.99613	0	0.9961	108.94	0.7096	0.0006	6	0.582	1.0358	1.7977	106.2217
18	104.2	0.76	0.57	0.73	104.207	0.7293	6	1.83116	119.5958	1.05593	0	1.0559	97.688	0.7368	0.0004	6	0.5998	1.0012	1.8369	97.60695
19	113.8	0.88	0.76	0.77	113.809	0.7732	6	1.81582	120.8835	1.11637	0	1.1164	100.95	0.7809	0.0005	6	0.6011	0.9683	1.8329	103.1273
20	112.5	0.77	0.76	0.68	112.509	0.6844	6	1.78799	119.8784	1.17631	0	1.1763	94.646	0.6916	0.0005	6	0.5978	0.9387	1.8166	98.76434
21	56.7	0.62	0.47	1.09	56.7058	1.0934	5	2.14831	116.6219	1.23462	0	1.2346	44.93	1.1177	0.0006	5	0.7476	0.8911	2.2024	46.71403
22	62.4	0.78	0.66	1.24	62.4081	1.2498	5	2.14981	118.5354	1.29389	0	1.2939	47.233	1.2763	0.0008	5	0.7553	0.8591	2.2151	49.61672
23	111.6	0.56	0.66	0.5	111.608	0.5018	6	1.71483	117.5287	1.35265	0	1.3527	81.511	0.5079	0.0004	6	0.5904	0.865	1.7756	90.13586
24	72	0.95	0.63	1.32	72.0077	1.3193	5	2.11584	120.3271	1.41282	0	1.4128	49.968	1.3457	0.0006	5	0.7561	0.8036	2.2022	53.61745
25	107.6	0.87	0.76	0.81	107.609	0.8085	6	1.84691	120.6632	1.47315	0	1.4732	72.047	0.8197	0.0005	6	0.6552	0.8051	1.9307	80.75411
26	141.3	0.92	0.39	0.65	141.305	0.6511	6	1.6958	121.7365	1.53402	0	1.534	91.114	0.6582	0.0002	6	0.6008	0.8	1.7802	105.6762
27	134.2	0.75	0.38	0.56	134.205	0.5589	6	1.67442	120.1159	1.59407	0	1.5941	83.19	0.5656	0.0002	6	0.5997	0.7821	1.7698	98.02021
28	101.1	0.63	0.44	0.62	101.105	0.6231	6	1.80242	118.1495	1.65315	0	1.6532	60.159	0.6335	0.0003	6	0.6594	0.7451	1.9193	70.03218
29	79.3	0.99	0.57	1.25	79.307	1.2483	5	2.0682	120.8644	1.71358	0	1.7136	45.281	1.2759	0.0005	5	0.7725	0.6891	2.2087	50.52983
30	59.9	1.07	0.4	1.79	59.9049	1.7862	5	2.26161	120.7486	1.77395	0	1.774	32.769	1.8407	0.0005	5	0.8602	0.6412	2.4298	35.2246
31	123	1.2	0.66	0.98	123.008	0.9756	6	1.85342	123.3425	1.83563	0	1.8356	66.012	0.9903	0.0004	6	0.6957	0.6816	1.9917	78.06001
32	191	1.4	0.76	0.73	191.009	0.733	6	1.62785	125.5437	1.8984	0	1.8984	99.616	0.7403	0.0003	6	0.6073	0.7012	1.7519	125.3164
33	116	0.87	0.66	0.75	116.008	0.75	6	1.80114	120.8465	1.95882	0	1.9588	58.223	0.7628	0.0004	6	0.6899	0.6538	1.9612	70.47405
34	90.4	0.91	0.53	1	90.4065	1.0066	6	1.96515	120.5673	2.01911	0	2.0191	43.776	1.0296	0.0004	5	0.7651	0.6099	2.1511	50.95042
35	72.4	0.88	0.57	1.21	72.407	1.2154	5	2.09157	119.7805	2.079	0	2.079	33.828	1.2513	0.0006	5	0.826	0.5724	2.3036	38.04589
36	71.2	1.1	0.73	1.54	71.2089	1.5448	5	2.16357	121.3726	2.13968	0	2.1397	32.28	1.5926	0.0008	5	0.8611	0.5453	2.3882	35.59687
37	114.5	1.17	0.57	1.02	114.507	1.0218	6	1.89012	122.9826	2.20117	0	2.2012	51.021	1.0418	0.0004	5	0.7501	0.5773	2.089	61.26886
38	101.3	1.74	0.47	1.72	101.306	1.7176	5	2.08173	125.5878	2.26397	0	2.264	43.747	1.7568	0.0003	5	0.8337	0.5304	2.3006	49.64754
39	47.9	1.29	0.55	2.7	47.9067	2.6927	5	2.45239	121.5717	2.32475	0	2.3248	19.607	2.8301	0.0009	4	1	0.4552	2.7453	19.60724
40	96.7	0.99	0.57	1.02	96.707	1.0237	6	1.94696	121.3482	2.38543	0	2.3854	39.541	1.0496	0.0004	5	0.7963	0.5235	2.1872	46.66159
41	86.4	1.5	0.65	1.74	86.408	1.736	5	2.13484	124.1138	2.44748	0	2.4475	34.305	1.7866	0.0006	5	0.8787	0.4786	2.396	37.97924
42	147.5	1.42	0.66	0.96	147.508	0.9627	6	1.79049	125.0172	2.50999	0	2.51	57.768	0.9793	0.0003	6	0.7363	0.5294	2.0141	72.54487
43	123.1	1.05	0.57	0.85	123.107	0.8529	6	1.81563	122.3674	2.57118	0	2.5712	46.88	0.8711	0.0003	6	0.7578	0.5103	2.0627	58.12743
44	62.5	2.31	0.66	3.69	62.5081	3.6955	4	2.46597	126.4835	2.63442	0	2.6344	22.727	3.8581	0.0008	4	1	0.4017	2.7802	22.72748
45	105.1	1.08	0.66	1.03	105.108	1.0275	6	1.92008	122.188	2.69551	0	2.6955	37.994	1.0546	0.0005	5	0.8161	0.4662	2.2004	45.12504
46	101.5	1.47	0.66	1.45	101.508	1.4482	5	2.03	124.3588	2.75769	0	2.7577	35.809	1.4886	0.0005	5	0.8659	0.4363	2.3239	40.7158
47	106.4	1.48	0.66	1.39	106.408	1.3909	6	2.00307	124.5234	2.81995	0	2.82	36.734	1.4287	0.0005	5	0.8603	0.4303	2.3014	42.12318
48	103.5	1.32	0.66	1.27	103.508	1.2753	6	1.98653	123.6189	2.88176	0	2.8818	34.918	1.3118	0.0005	5	0.8615	0.4218	2.2966	40.11722
49	89	2.07	0.76	2.32	89.0093	2.3256	5	2.21459	126.5429	2.94503	0	2.945	29.224	2.4052	0.0006	4	0.9621	0.3735	2.5522	30.37884
50	153.6	1.58	0.85	1.03	153.61	1.0286	6	1.7971	125.8973	3.00798	0	3.008	50.068	1.0491	0.0004	5	0.7864	0.4397	2.0833	62.5864
51	143.2	1.04	0.72	0.73	143.209	0.7262	6	1.72059	122.6663	3.06932	0	3.0693	45.658	0.7421	0.0004	6	0.7659	0.4423	2.0216	58.58542
52	149.3	1.57	0.76	1.05	149.309	1.0515	6	1.81264	125.7815	3.13221	0	3.1322	46.669	1.074	0.0004	5	0.8056	0.4172	2.1182	57.63288
53	172.9	1.28	0.85	0.74	172.91	0.7403	6	1.66316	124.6452	3.19453	0	3.1945	53.127	0.7542	0.0004	6	0.7485	0.4373	1.9601	70.147
54	203.5	1.38	1.04	0.68	203.513	0.6781	6	1.58482	125.5931	3.25733	0	3.2573	61.478	0.6891	0.0004	6	0.7178	0.4461	1.8715	84.43417
55	197.7	1.35	1.04	0.68	197.713	0.6828	6	1.59623	125.3618	3.32001	0	3.32	58.552	0.6945	0.0004	6	0.7292	0.4344	1.8936	79.79993
56	136.5	1.89	1.21	1.39	136.515	1.3845	6	1.92378	126.9204	3.38347	0	3.3835	39.348	1.4197	0.0007	5	0.8765	0.361	2.2735	45.42345
57	140.3	1.34	1.23	0.95	140.315	0.955	6	1.80432	124.471	3.4457	0	3.4457	39.722	0.979	0.0007	5	0.8358	0.3728	2.1584	48.22232
58																				

87	111.7	4.33	1.14	3.88	111.714	3.876	8	2.31568	132.4971	5.36467	0	5.3647	19.824	4.0715	0.0008	3	1	0.1972	2.8406	19.82403
88	64.3	4.94	1.61	7.68	64.3197	7.6804	9	2.69738	132.1149	5.43072	0	5.4307	10.844	8.3887	0.002	3	1	0.1948	3.244	10.84367
89	77.9	6.14	1.71	7.88	77.9209	7.8798	9	2.65497	134.174	5.49781	0	5.4978	13.173	8.478	0.0017	3	1	0.1925	3.1842	13.17309
90	82.3	5.97	1.61	7.25	82.3197	7.2522	9	2.61183	134.1024	5.56486	0	5.5649	13.793	7.778	0.0015	3	1	0.1901	3.1443	13.79277
91	120.8	5.62	1.33	4.65	120.816	4.6517	9	2.35753	134.5961	5.63216	0	5.6322	20.451	4.8791	0.0008	3	1	0.1879	2.8817	20.45115
92	132.1	5.29	1.42	4	132.117	4.004	8	2.28214	134.3715	5.69934	0	5.6993	22.181	4.1845	0.0008	3	1	0.1857	2.8113	22.18115
93	193.3	3.67	1.42	1.9	193.317	1.8984	6	1.92486	132.6246	5.76566	0	5.7657	32.529	1.9568	0.0006	5	1	0.1835	2.4734	32.52912
94	160.6	3.81	1.42	2.37	160.617	2.3721	5	2.05068	132.4465	5.83188	0	5.8319	26.541	2.4615	0.0007	4	1	0.1814	2.6043	26.54127
95	145.3	4.28	1.49	2.95	145.318	2.9453	5	2.15126	133.0535	5.89841	0	5.8984	23.637	3.0699	0.0008	4	1	0.1794	2.7036	23.63686
96	150.3	4.45	1.87	2.96	150.323	2.9603	5	2.14393	133.4211	5.96512	0	5.9651	24.2	3.0826	0.0009	4	1	0.1774	2.6968	24.20032
97	52.6	2.99	1.71	5.68	52.6209	5.6822	3	2.65397	127.9515	6.02909	0	6.0291	7.7278	6.4174	0.0026	3	1	0.1755	3.2828	7.72784
98	118.1	4.65	1.65	3.93	118.12	3.9367	8	2.30594	133.1548	6.09567	0	6.0957	18.378	4.1509	0.0011	3	1	0.1736	2.8712	18.37772
99	130.1	5.48	1.67	4.21	130.12	4.2115	9	2.30366	134.5925	6.16297	0	6.163	20.113	4.4209	0.001	3	1	0.1717	2.859	20.11328
100	241	2.74	1.59	1.14	241.019	1.1368	6	1.69264	131.0242	6.22848	0	6.2285	37.696	1.167	0.0005	5	1	0.1699	2.2897	37.69636
101	233	3.13	1.52	1.34	233.019	1.3432	6	1.75726	131.9156	6.29444	0	6.2944	36.02	1.3805	0.0005	5	1	0.1681	2.3476	36.01977
102	295.6	3.47	1.9	1.17	295.623	1.1738	6	1.64657	133.2505	6.36106	0	6.3611	45.474	1.1996	0.0005	5	1	0.1663	2.2297	45.47389
103	367.2	2.53	1.71	0.69	367.221	0.689	6	1.40852	131.4678	6.4268	0	6.4268	56.139	0.7012	0.0003	6	0.9011	0.1968	1.9587	67.09883
104	61.6	2.75	1.61	4.46	61.6197	4.4629	4	2.53018	127.7243	6.49066	0	6.4907	8.4936	4.9883	0.0021	3	1	0.163	3.1835	8.4936
105	202.7	2.05	1.62	1.01	202.72	1.0113	6	1.70609	128.4793	6.5549	0	6.5549	29.926	1.045	0.0006	5	1	0.1614	2.3476	29.92647
106	71.5	3.19	1.61	4.46	71.5197	4.4603	4	2.48686	129.1737	6.61948	0	6.6195	9.8044	4.9152	0.0018	3	1	0.1599	3.1301	9.80442
107	136.5	5.4	2.01	3.95	136.525	3.9553	8	2.26934	134.6021	6.68679	0	6.6868	19.417	4.159	0.0011	3	1	0.1582	2.8535	19.41708
108	145.9	3.35	1.57	2.29	145.919	2.2958	5	2.06624	131.271	6.75242	0	6.7524	20.61	2.4072	0.0008	4	1	0.1567	2.6857	20.60991
109	47.9	1.59	1.8	3.32	47.922	3.3179	4	2.5142	123.1024	6.81397	0	6.814	6.0329	3.8679	0.0032	3	1	0.1553	3.2404	6.03291
110	54.4	1.98	1.61	3.64	54.4197	3.6384	4	2.50298	125.0176	6.87648	0	6.8765	6.9139	4.1646	0.0024	3	1	0.1539	3.2097	6.91389
111	78.2	3.02	1.42	3.86	78.2174	3.861	4	2.41415	128.9913	6.94098	0	6.941	10.269	4.237	0.0014	3	1	0.1524	3.075	10.26893
112	121.9	4.53	1.61	3.71	121.92	3.7156	8	2.2777	133.0407	7.0075	0	7.0075	16.398	3.9421	0.001	3	1	0.151	2.8953	16.39847
113	63.9	4.19	1.52	6.56	63.9186	6.5552	3	2.64577	130.8948	7.07294	0	7.0729	8.0371	7.3708	0.0019	3	1	0.1496	3.307	8.03706
114	115.6	4.79	1.43	4.14	115.618	4.143	9	2.32915	133.3196	7.1396	0	7.1396	15.194	4.4157	0.001	3	1	0.1482	2.9521	15.19383
115	83.5	5.22	1.52	6.25	83.5186	6.2501	9	2.55682	133.1554	7.20618	0	7.2062	10.59	6.8403	0.0014	3	1	0.1468	3.194	10.58986
116	43.6	3.18	1.52	7.29	43.6186	7.2905	3	2.78897	127.9446	7.27015	0	7.2702	4.9997	8.7487	0.003	2	1	0.1455	3.5147	4.99968
117	36.8	2.08	1.58	5.65	36.8193	5.6492	3	2.7582	124.4252	7.33237	0	7.3324	4.0215	7.054	0.0039	3	1	0.1443	3.5341	4.02148
118	39	2.38	1.52	6.1	39.0186	6.0997	3	2.76471	125.5525	7.39514	0	7.3951	4.2763	7.5261	0.0035	2	1	0.1431	3.5292	4.27625
119	48.2	3.49	1.43	7.23	48.2175	7.238	3	2.75785	128.8698	7.45958	0	7.4596	5.4638	8.5628	0.0025	2	1	0.1419	3.4786	5.46384
120	206.8	5.02	1.7	2.43	206.821	2.4272	5	1.99155	135.0812	7.52712	0	7.5271	26.477	2.5189	0.0006	4	1	0.1406	2.6113	26.47676
121	284.1	3.88	1.42	1.37	284.117	1.3656	6	1.709	133.9708	7.5941	0	7.5941	36.413	1.4031	0.0004	5	1	0.1393	2.3478	36.41289
122	363.4	5.84	1.71	1.61	363.421	1.607	6	1.70472	137.28	7.66274	0	7.6627	46.427	1.6416	0.0004	5	1	0.1381	2.3047	46.427
123	368	3.85	1.82	1.05	368.022	1.0461	6	1.54886	134.5452	7.73002	0	7.73	46.61	1.0686	0.0004	5	1	0.1369	2.192	46.60951
124	353.4	3.92	2.09	1.11	353.426	1.1091	6	1.57973	134.5783	7.79731	0	7.7973	44.327	1.1342	0.0004	5	1	0.1357	2.2247	44.32663
125	388.8	5.09	2.41	1.31	388.83	1.3091	6	1.61433	136.7222	7.86567	0	7.8657	48.434	1.3361	0.0005	5	1	0.1345	2.2354	48.43376
126	368.7	3.7	2.75	1	368.734	1.0034	6	1.53391	134.2591	7.9328	0	7.9328	45.482	1.0255	0.0006	5	1	0.1334	2.1907	45.48218
127	332.8	3.48	2.85	1.04	332.835	1.0456	6	1.57523	133.5607	7.99958	0	7.9996	40.607	1.0713	0.0006	5	1	0.1323	2.2421	40.60656
128	334.3	3.69	2.86	1.1	334.335	1.1037	6	1.59259	134.0004	8.06658	0	8.0666	40.447	1.131	0.0006	5	1	0.1312	2.2567	40.44695
129	284.1	2.33	2.52	0.82	284.131	0.82	6	1.53925	130.2395	8.1317	0	8.1317	33.941	0.8442	0.0007	5	1	0.1301	2.2528	33.94115
130	215.6	2.7	1.71	1.25	215.621	1.2522	6	1.75608	130.645	8.19702	0	8.197	25.305	1.3017	0.0006	5	1	0.1291	2.4602	25.3048
131	256.5	3.31	2.28	1.29	256.528	1.2903	6	1.71722	132.5591	8.2633	0	8.2633	30.044	1.3333	0.0007	5	1	0.1281	2.4037	30.04425
132	51	1.44	2.18	2.83	51.0267	2.8221	5	2.44606	122.5304	8.32456	0	8.3246	5.1297	3.3722	0.0037	3	1	0.1271	3.2669	5.12965
133	171.6	6.28	2.11	3.66	171.626	3.6591	8	2.18355	136.2648	8.3927	0	8.3927	19.449	3.8473	0.0009	3	1	0.1261	2.8312	19.44943
134	198.4	4.72	1.71	2.38	198.421	2.3788	5	1.99525	134.5292	8.45996	0	8.46	22.454	2.4847	0.0007	4	1	0.1251	2.6642	22.45412
135	47.8	1.87	1.99	3.9	47.8244	3.9101	4	2.56473	124.2843	8.5221	0	8.5221	4.6118	4.758	0.0037	3	1	0.1242	3.3874	4.6118
136	60.5	2.49	1.85	4.12	60.5226	4.1142	4	2.50951	126.9538	8.58558	0	8.5856	6.0493	4.7943	0.0026	3	1	0.1232	3.2924	6.04934
137	118.5	8.06	1.81	6.8	118.522	6.8004	9	2.49627	137.1878	8.65417	0	8.6542	12.695	7.3361	0.0012	3	1	0.1223	3.1542	12.69538
138	212.9	7.85	1.8	3.69	212.922	3.6868	8	2.13363	137.28	8.72281	0	8.7228	23.41	3.8443	0.0006	4	1	0.1213	2.7695	23.40979
139	312.3	5.74	1.9	1.84	312.323	1.8378	6	1.7897	137.0672	8.79135	0	8.7914	34.526	1.8911	0.0005	5	1	0.1204	2.4438	34.52621
140	422	8.49	15.23	2.01	422.186	2.011	8	1.75384	137.28	8.85999	0	8.86	46.651	2.0541	0.0027	5	1	0.1194	2.365	46.65091
141	361.8	7.38	15.34	2.04	361.988	2.0387	6	1.79297	137.28	8.92863	0	8.9286	39.542	2.0903	0.0031	5	1	0.1185	2.4249	39.54238
142	507.4	8.68	14.51	1.71	507.578	1.7101	6	1.65343	137.28	8.99727	0	8.9973	55.415	1.7409	0.0021	5	1	0.1176	2.2615	55.41464
143	368.6	4.16	14.16	1.13	368.773	1.1281	6	1.57467	135.1168	9.06483	0	9.0648	39.682	1.1565	0.0028	5	1	0.1167	2.2691	39.68179
144	427	4.2	12.84	0.98	427.157	0.9832	6	1.48894	135.5452	9.1326	0	9.1326	45.773	1.0047	0.0022	5	1	0.1159	2.1834	45.7728
145	384.1	5.06	13.13	1.32	384.261	1.3168	6	1.61934	136.6501	9.20092	0	9.2009	40.763	1.3491						

Presented below is a list of formulas used for the estimation of various soil properties. The formulas are presented in SI unit system and assume that all components are expressed in the same units.

:: Unit Weight, g (kN/m³) ::

$$g = g_w \cdot \left(0.27 \cdot \log(R_f) + 0.36 \cdot \log\left(\frac{q_t}{p_a}\right) + 1.236 \right)$$

where g_w = water unit weight

:: Permeability, k (m/s) ::

$$I_c < 3.27 \text{ and } I_c > 1.00 \text{ then } k = 10^{0.952-3.04 \cdot I_c}$$

$$I_c \leq 4.00 \text{ and } I_c > 3.27 \text{ then } k = 10^{-4.52-1.37 \cdot I_c}$$

:: N_{SPt} (blows per 30 cm) ::

$$N_{60} = \left(\frac{q_c}{p_a} \right) \cdot \frac{1}{10^{1.1268-0.2817 \cdot I_c}}$$

$$N_{1(60)} = Q_{tn} \cdot \frac{1}{10^{1.1268-0.2817 \cdot I_c}}$$

:: Young's Modulus, E_s (MPa) ::

$$(q_t - \sigma_v) \cdot 0.015 \cdot 10^{0.55 \cdot I_c + 1.68}$$

(applicable only to $I_c < I_{c_cutoff}$)

:: Relative Density, Dr (%) ::

$$100 \cdot \frac{\sqrt{Q_{tn}}}{k_{DR}} \quad \text{(applicable only to SBT}_n\text{: 5, 6, 7 and 8 or } I_c < I_{c_cutoff}\text{)}$$

:: State Parameter, ψ ::

$$\psi = 0.56 - 0.33 \cdot \log(Q_{tn,cs})$$

:: Peak drained friction angle, ϕ (°) ::

$$\phi = 17.60 + 11 \cdot \log(Q_{tn})$$

(applicable only to SBT_n: 5, 6, 7 and 8)

:: 1-D constrained modulus, M (MPa) ::

If $I_c > 2.20$

$a = 14$ for $Q_{tn} > 14$

$a = Q_{tn}$ for $Q_{tn} \leq 14$

$$M_{CPT} = a \cdot (q_t - \sigma_v)$$

If $I_c \leq 2.20$

$$M_{CPT} = (q_t - \sigma_v) \cdot 0.0188 \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Small strain shear Modulus, G_0 (MPa) ::

$$G_0 = (q_t - \sigma_v) \cdot 0.0188 \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Shear Wave Velocity, V_s (m/s) ::

$$V_s = \left(\frac{G_0}{\rho} \right)^{0.50}$$

:: Undrained peak shear strength, S_u (kPa) ::

$$N_{kt} = 10.50 + 7 \cdot \log(F_r) \text{ or user defined}$$

$$S_u = \frac{(q_t - \sigma_v)}{N_{kt}}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Remolded undrained shear strength, $S_u(rem)$ (kPa) ::

$$S_{u(rem)} = f_s \quad \text{(applicable only to SBT}_n\text{: 1, 2, 3, 4 and 9 or } I_c > I_{c_cutoff}\text{)}$$

:: Overconsolidation Ratio, OCR ::

$$k_{OCR} = \left[\frac{Q_{tn}^{0.20}}{0.25 \cdot (10.50 + 7 \cdot \log(F_r))} \right]^{-1.25} \text{ or user defined}$$

$$OCR = k_{OCR} \cdot Q_{tn}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: In situ Stress Ratio, K_0 ::

$$K_0 = 0.1 \cdot \left(\frac{q_t - \sigma_v}{\sigma'_{vo}} \right)$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Soil Sensitivity, S_t ::

$$S_t = \frac{N_s}{F_r}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Effective Stress Friction Angle, ϕ' (°) ::

$$\phi' = 29.5^\circ \cdot B_q^{0.121} \cdot (0.256 + 0.336 \cdot B_q + \log Q_t)$$

(applicable for $0.10 < B_q < 1.00$)

References

- Robertson, P.K., Cabal K.L., Guide to Cone Penetration Testing for Geotechnical Engineering, Gregg Drilling & Testing, Inc., 4th Edition, July 2010
- Robertson, P.K., Interpretation of Cone Penetration Tests - a unified approach., Can. Geotech. J. 46(11): 1337–1355 (2009)

SUMMARY
OF
CONE PENETRATION TEST DATA

Project:

**8150 W. Sunset Blvd.
Los Angeles, CA
November 4, 14, 15 & 18, 2013**

Prepared for:

**Mr. Don Lowry
Golder Associates Inc.
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Prepared by:



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- CPT Classification/Soil Behavior Chart
- Interpretation Output (CPeT-IT)
- CPeT-IT Calculation Formulas

SUMMARY OF CONE PENETRATION TEST DATA

1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the project located at 8150 W. Sunset Blvd. in Los Angeles, California. The work was performed by Kehoe Testing & Engineering (KTE) on November 4, 14, 15 & 18, 2013. The scope of work was performed as directed by Golder Associates Inc. personnel.

2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at 11 locations to determine the soil lithology. Groundwater measurements and hole collapse depths provided in **TABLE 2.1** are for information only. The readings indicate the apparent depth to which the hole is open and the apparent water level (if encountered) in the CPT probe hole at the time of measurement upon completion of the CPT. KTE does not warranty the accuracy of the measurements and the reported water levels may not represent the true or stabilized groundwater levels.

LOCATION	DEPTH OF CPT (ft)	COMMENTS/NOTES:
CPT-4	185	Hole open to 32.0 ft (dry)
CPT-5	160	Hole open to 150.0 ft (dry)
CPT-6	150	Hole open to 96.1 ft (dry)
CPT-7	160	Hole open to 125.0 ft (dry)
CPT-8	160	Hole open to 125.0 ft (dry)
CPT-9	158	Refusal, hole open to 125.0 ft (dry)
CPT-10	151	Refusal, hole open to 125.0 ft (dry)
CPT-11	147	Refusal, hole open to 125.0 ft (dry)
CPT-12	148	Refusal, hole open to 125.0 ft (dry)
CPT-13	164	Refusal, hole open to 125.0 ft (dry)
CPT-14	152	Refusal, hole open to 125.0 ft (dry)

TABLE 2.1 - Summary of CPT Soundings

3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone

used during the program was a 15 cm² cone and recorded the following parameters at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed

The above parameters were recorded and viewed in real time using a laptop computer. Data is stored at the KTE office for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. These plots were generated using the CPeT-IT program. Penetration depths are referenced to ground surface. The soil classification on the CPT plots is derived from the attached CPT Classification Chart (Robertson) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (qc), sleeve friction (fs), and penetration pore pressure (u). The friction ratio (Rf), which is sleeve friction divided by cone resistance, is a calculated parameter that is used along with cone resistance to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

Tables of basic CPT output from the interpretation program CPeT-IT are provided for CPT data averaged over one foot intervals in the Appendix. Spreadsheet files of the averaged basic CPT output and averaged estimated geotechnical parameters are also included for use in further geotechnical analysis. We recommend a geotechnical engineer review the assumed input parameters and the calculated output from the CPeT-IT program. A summary of the equations used for the tabulated parameters is provided in the Appendix.

It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. In these situations, experience, judgement and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

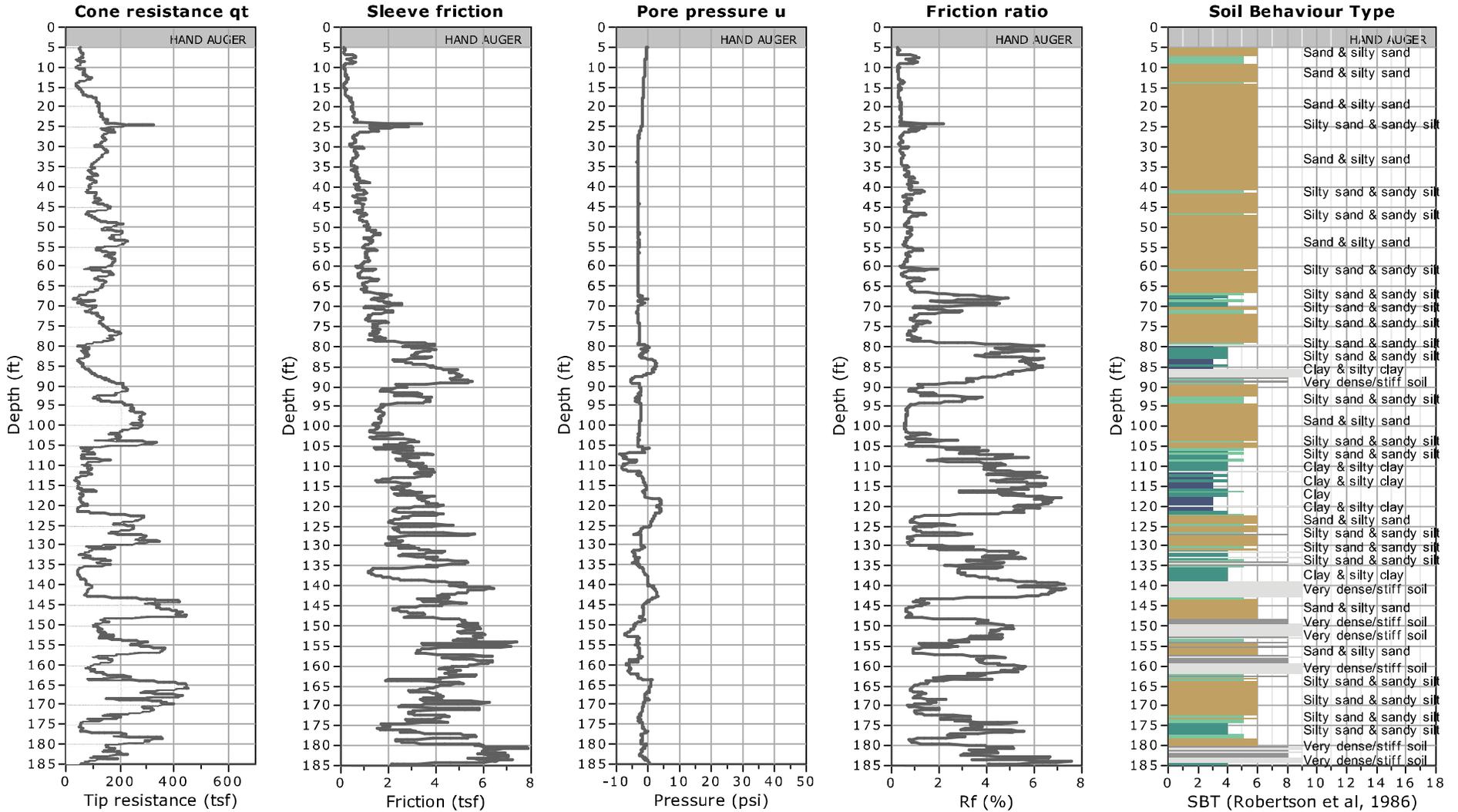
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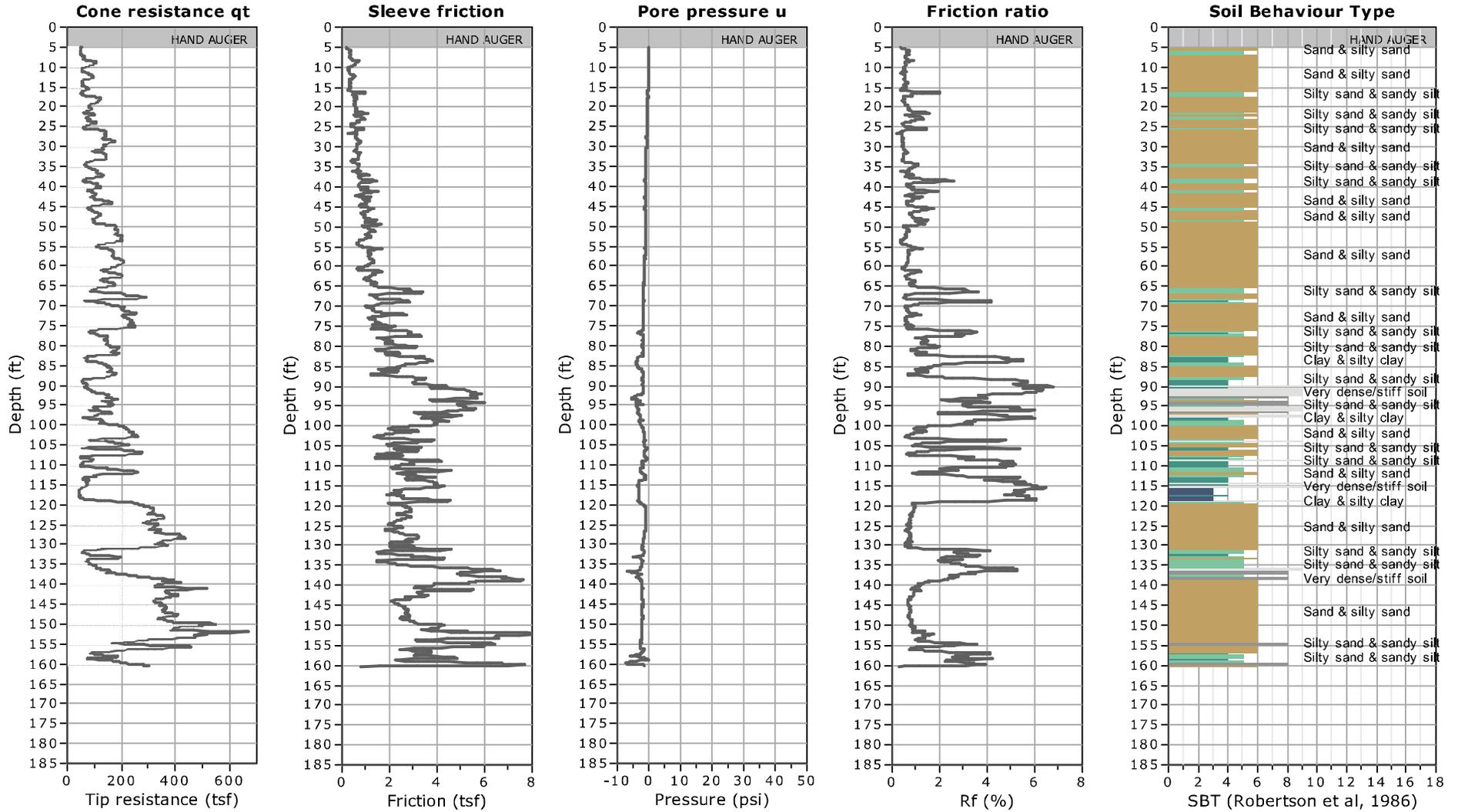


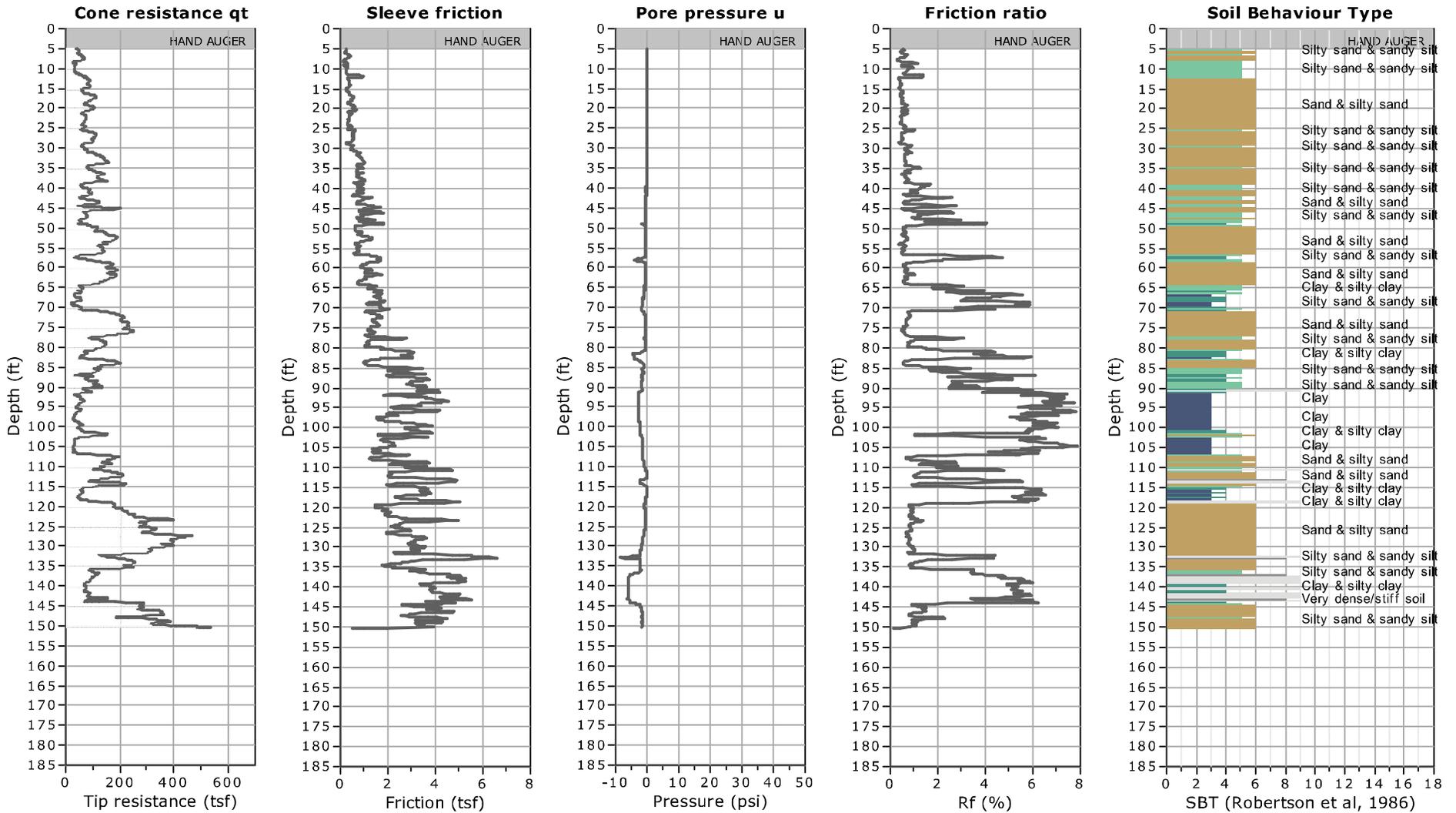
Richard W. Koester, Jr.
General Manager

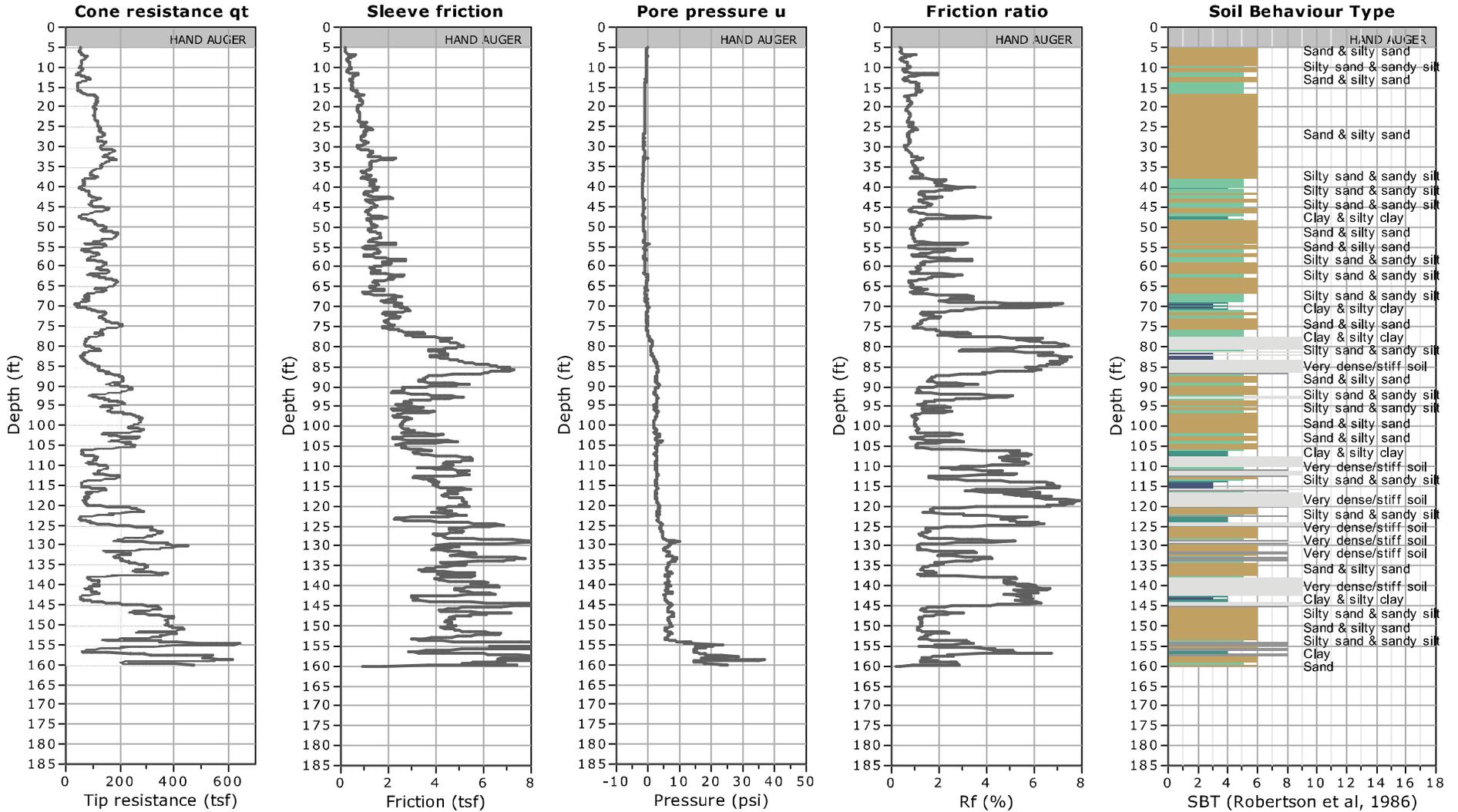
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APPENDIX







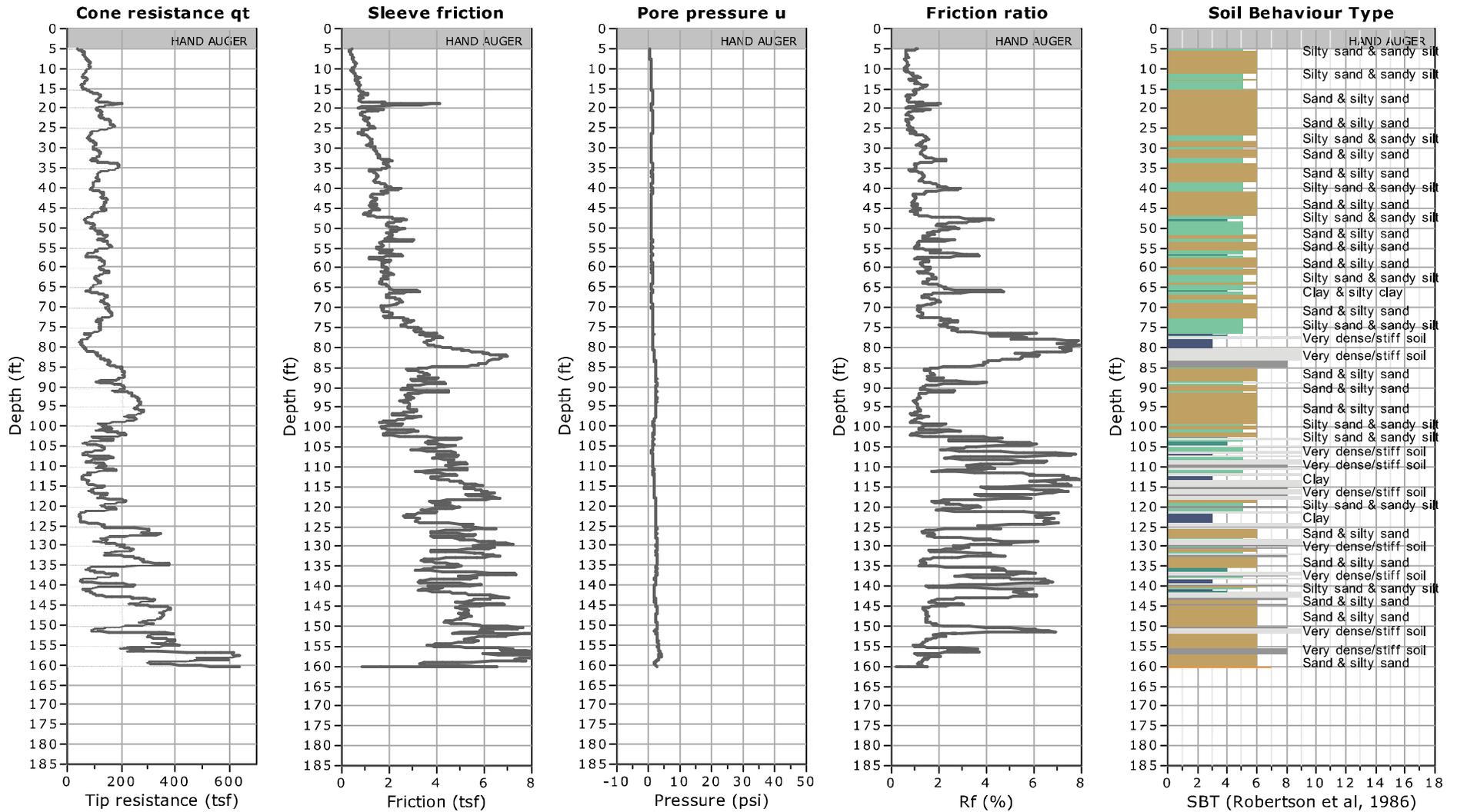




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Project: Golder Associates
Location: 8150 W. Sunset Blvd. Los Angeles, CA

CPT: CPT-8
Total depth: 160.41 ft, Date: 11/14/2013
Cone Type: Vertek





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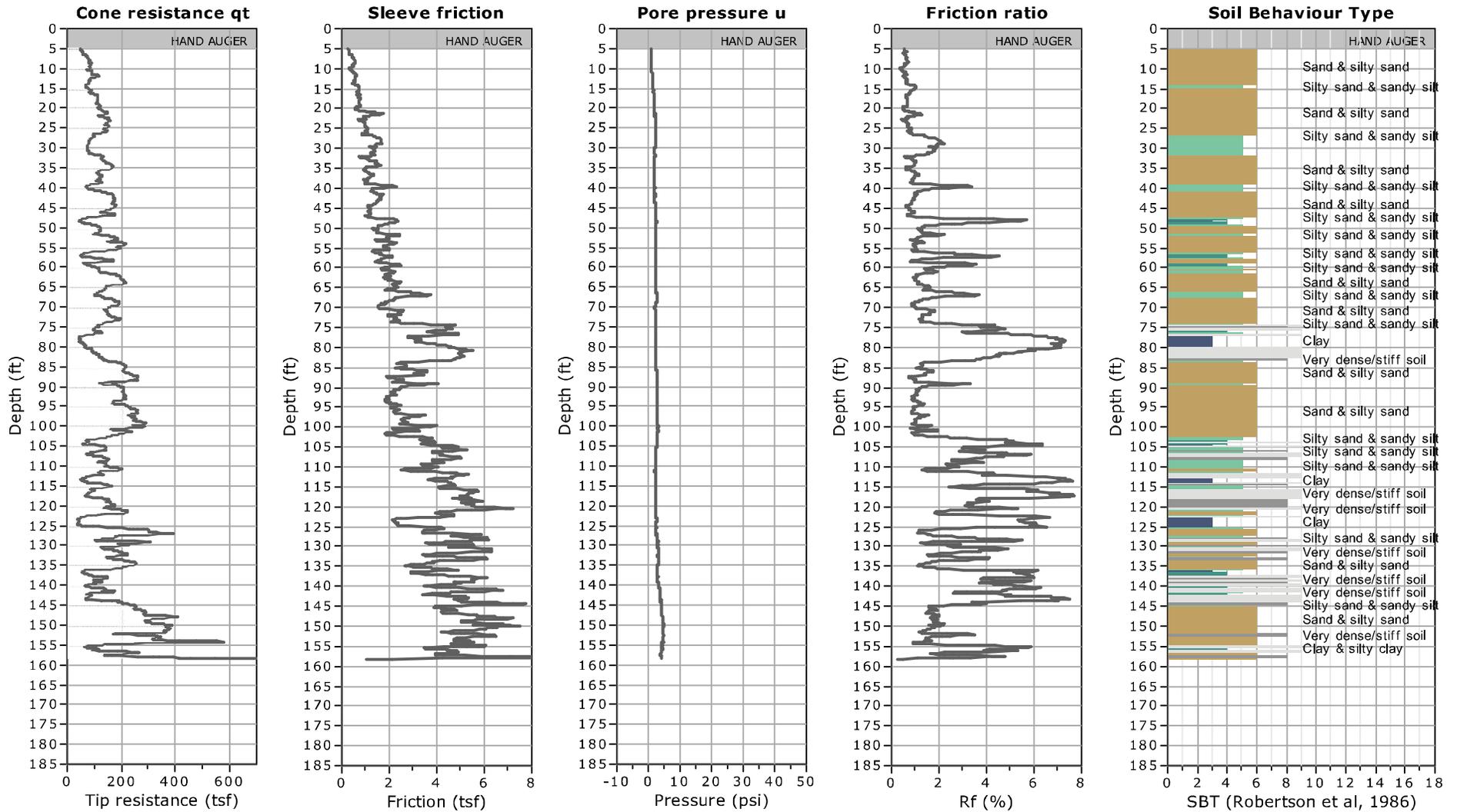
Project: Golder Associates

Location: 8150 W. Sunset Blvd. Los Angeles, CA

CPT: CPT-9

Total depth: 158.38 ft, Date: 11/14/2013

Cone Type: Vertek





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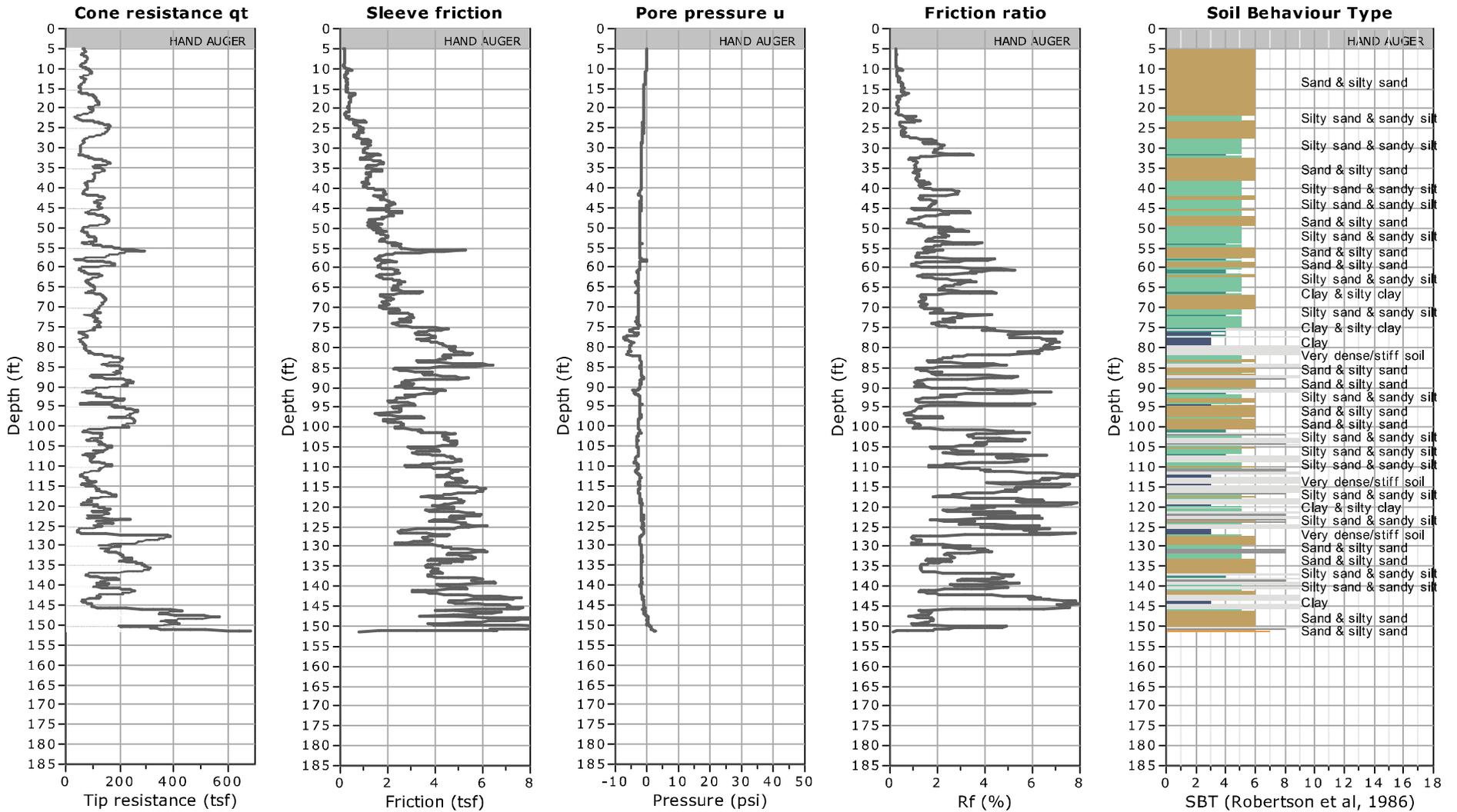
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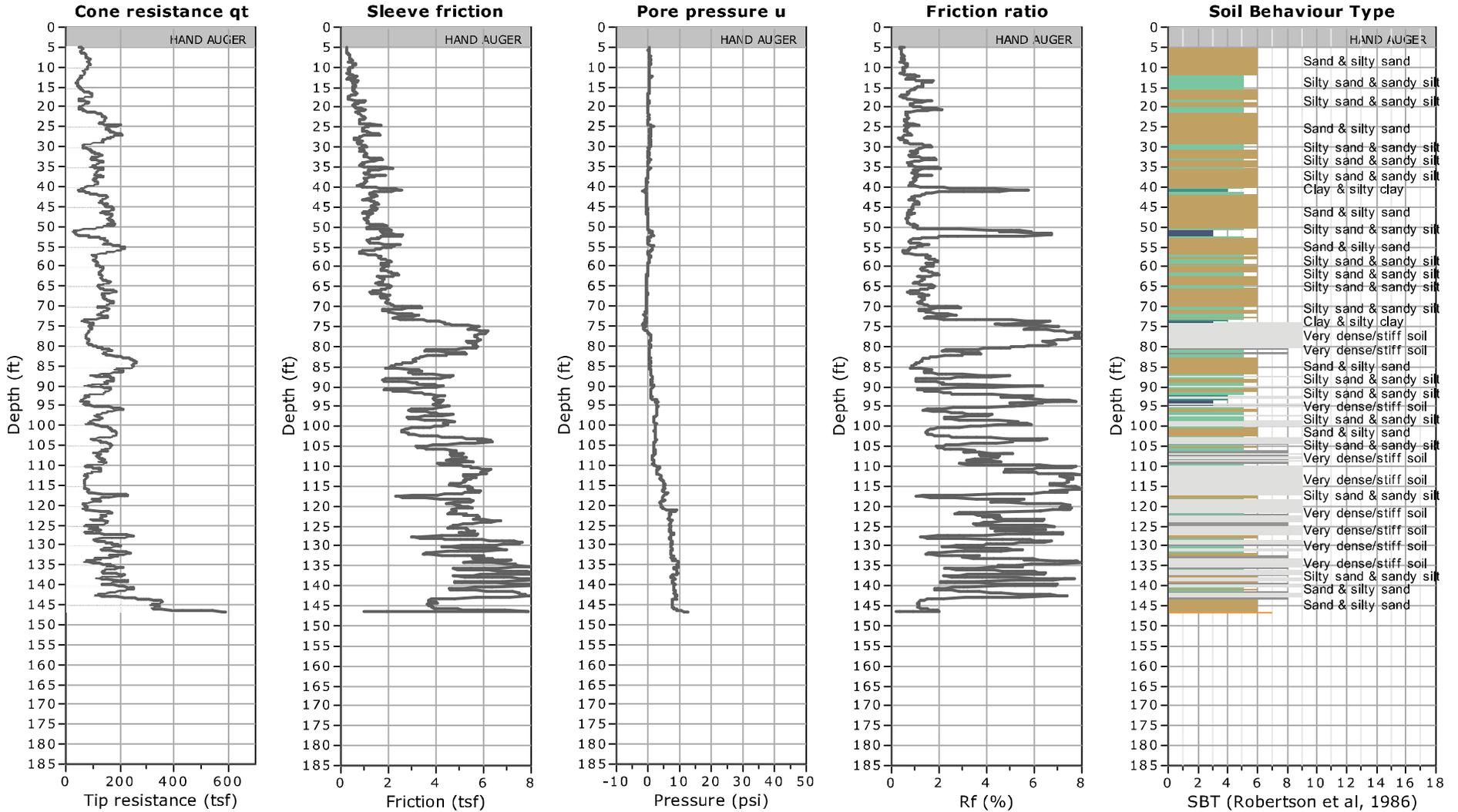
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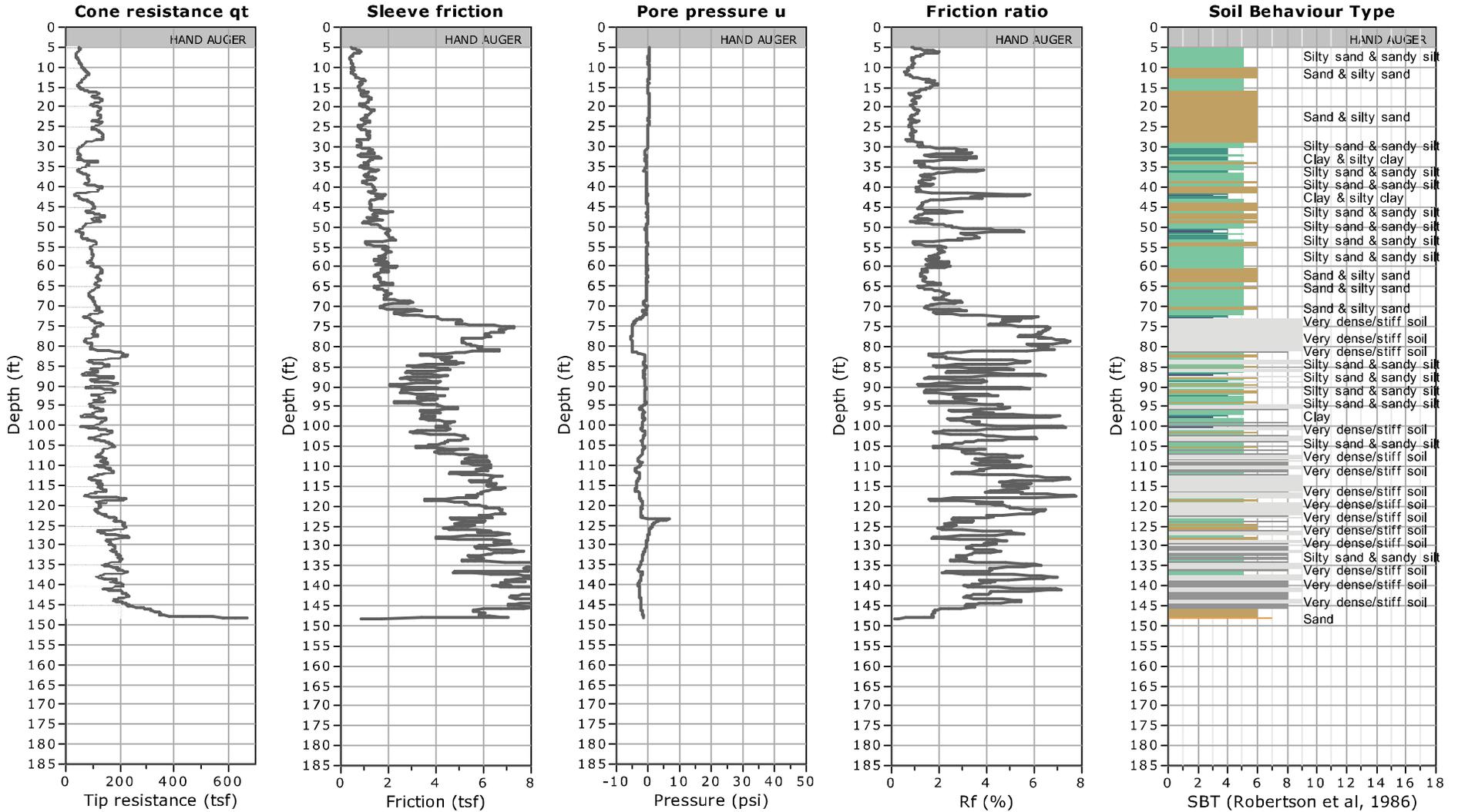
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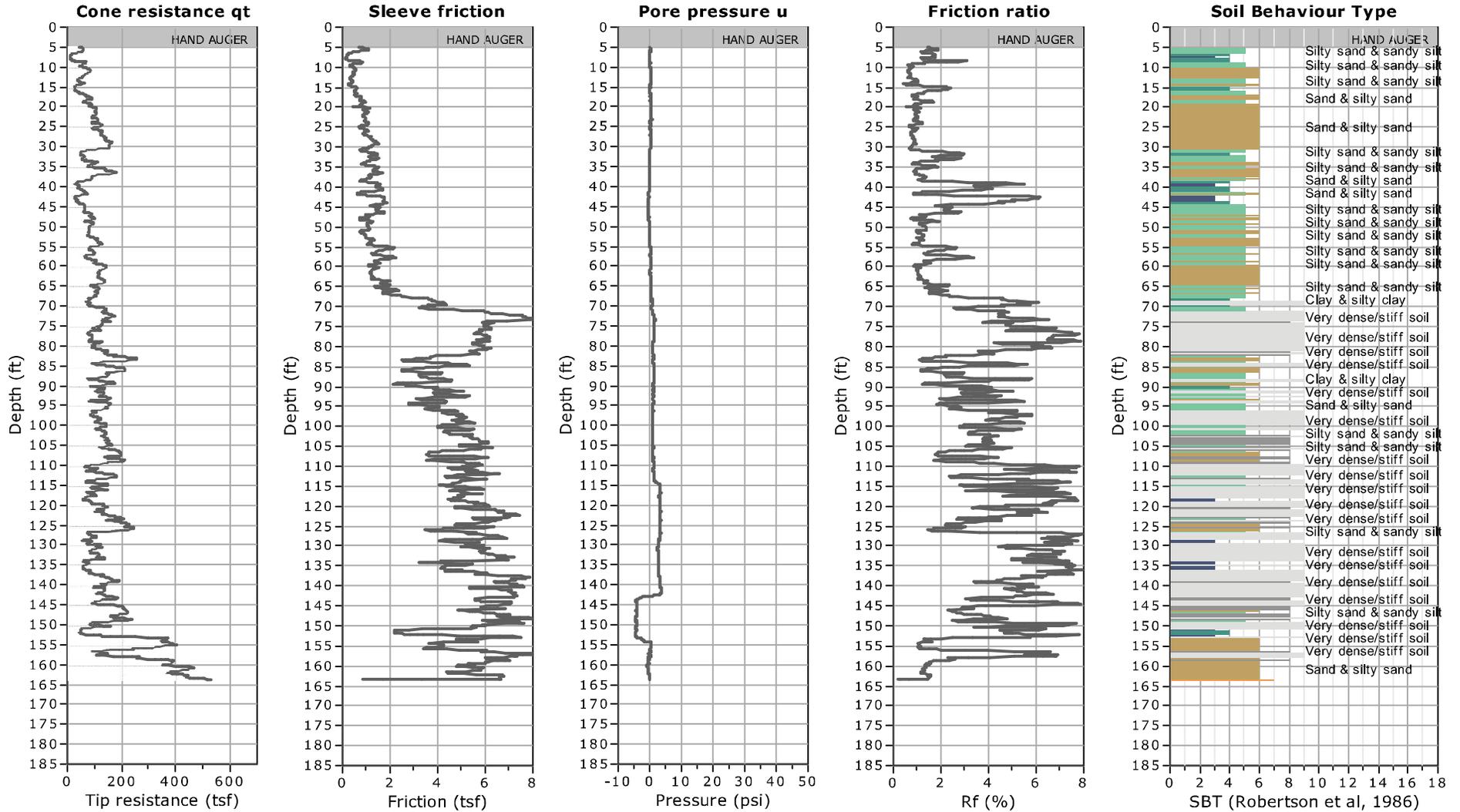
Total depth: 151.45 ft, Date: 11/15/2013

Cone Type: Vertek







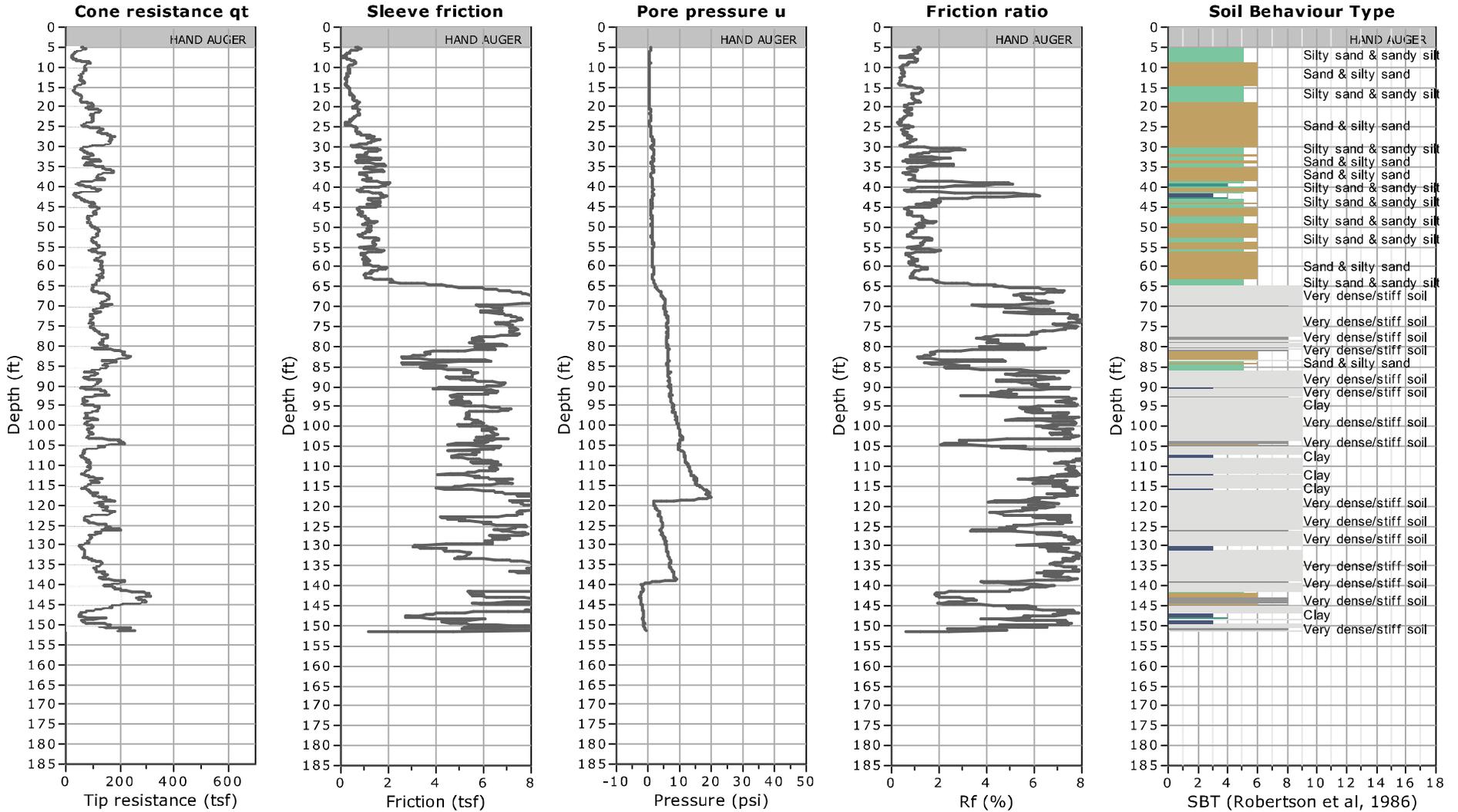


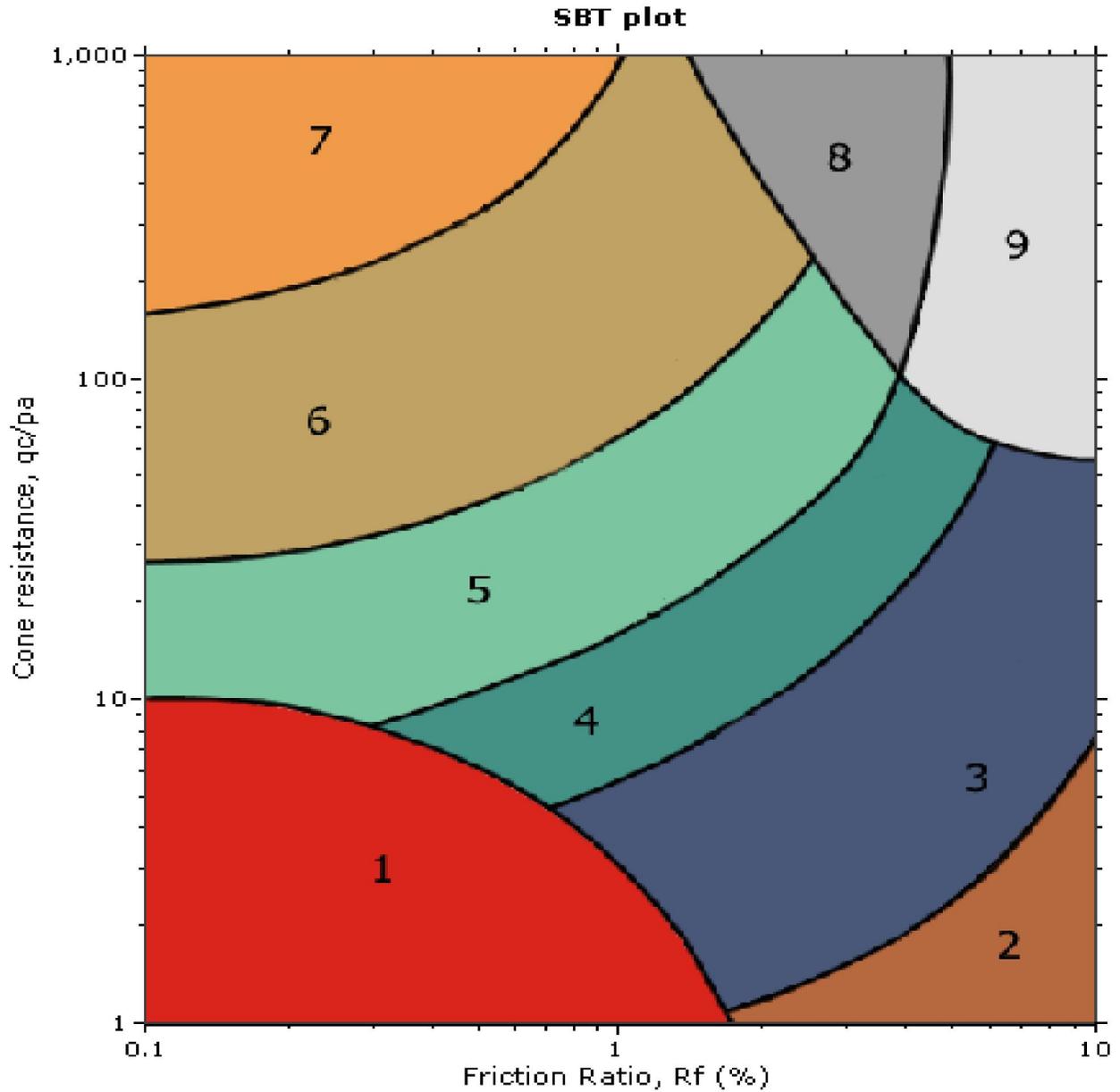


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Project: Golder Associates
Location: 8150 W. Sunset Blvd. Los Angeles, CA

CPT: CPT-14
 Total depth: 151.63 ft, Date: 11/18/2013
 Cone Type: Vertek





SBT legend

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

Depth (ft)	CPT-4 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	73.6	0.21	-0.09	0.29	73.5989	0.2853	6	1.76221	109.3365	0.05467	0	0.0547	1345.3	0.2855	-9E-05	6	0.4199	2	1.4891	139.0108
2	107.9	0.19	-0.09	0.17	107.899	0.1761	6	1.53393	109.5372	0.10944	0	0.1094	984.95	0.1763	-6E-05	7	0.3318	2	1.251	203.74
3	68.9	0.11	-0.09	0.15	68.8989	0.1597	6	1.70952	104.4441	0.16166	0	0.1617	425.2	0.16	-9E-05	6	0.3991	2	1.4211	129.9248
4	53.8	0.12	-0.1	0.22	53.7988	0.2231	6	1.85309	104.4774	0.2139	0	0.2139	250.52	0.2239	-1E-04	6	0.4589	2	1.5715	101.2843
5	50.6	0.13	-0.18	0.25	50.5978	0.2569	6	1.89794	104.9135	0.26635	0	0.2664	188.96	0.2583	-3E-04	6	0.4846	1.9512	1.6299	92.81476
6	50.4	0.14	-0.55	0.28	50.3933	0.2778	6	1.91113	105.4458	0.31908	0	0.3191	156.93	0.2796	-8E-04	6	0.5017	1.8247	1.6723	86.35262
7	60.5	0.57	-0.56	0.94	60.4932	0.9423	5	2.08801	116.1644	0.37716	0	0.3772	159.39	0.9482	-7E-04	6	0.585	1.8284	1.8829	103.8788
8	39.2	0.28	-0.66	0.7	39.1919	0.7144	5	2.18368	109.9045	0.43211	0	0.4321	89.699	0.7224	-0.001	6	0.6253	1.7507	1.9822	64.12976
9	54.2	0.2	-0.83	0.38	54.1898	0.3691	6	1.92855	108.2328	0.48623	0	0.4862	110.45	0.3724	-0.001	6	0.5457	1.5285	1.7672	77.57957
10	38.8	0.12	-0.94	0.3	38.7885	0.3094	6	2.03395	103.6796	0.53807	0	0.5381	71.088	0.3137	-0.002	6	0.5913	1.4916	1.8801	53.92077
11	61.8	0.19	-0.94	0.31	61.7885	0.3075	6	1.84482	108.1775	0.59216	0	0.5922	103.34	0.3105	-0.001	6	0.5354	1.3645	1.7265	78.91794
12	74	0.22	-1.13	0.3	73.9862	0.2974	6	1.76706	109.6896	0.647	0	0.647	113.35	0.3	-0.001	6	0.5171	1.2896	1.6711	89.38398
13	81.8	0.28	-1.23	0.34	81.7849	0.3424	6	1.75257	111.6987	0.70285	0	0.7029	115.36	0.3453	-0.001	6	0.5211	1.2376	1.6745	94.8367
14	38.7	0.19	-1.32	0.5	38.6838	0.4912	5	2.11352	107.0354	0.75637	0	0.7564	50.144	0.501	-0.003	6	0.6623	1.249	2.0383	44.76989
15	42.6	0.14	-1.42	0.33	42.5826	0.3288	6	2.00558	105.0351	0.80889	0	0.8089	51.644	0.3351	-0.002	6	0.6305	1.1845	1.9483	46.76426
16	59	0.17	-1.5	0.29	58.9816	0.2882	6	1.85299	107.2503	0.86251	0	0.8625	67.384	0.2925	-0.002	6	0.5817	1.1262	1.8134	61.86133
17	71	0.2	-1.51	0.28	70.9815	0.2818	6	1.77467	108.8911	0.91696	0	0.917	76.41	0.2855	-0.002	6	0.5602	1.0835	1.7499	71.74714
18	112.1	0.42	-1.61	0.38	112.08	0.3747	6	1.64864	115.434	0.97467	0	0.9747	113.99	0.378	-0.001	6	0.52	1.0436	1.6376	109.5863
19	118.3	0.47	-1.7	0.4	118.279	0.3974	6	1.64076	116.3883	1.03287	0	1.0329	113.52	0.4009	-0.001	6	0.5241	1.0127	1.6412	112.2186
20	122.7	0.45	-1.7	0.37	122.679	0.3668	6	1.60982	116.1592	1.09095	0	1.091	111.45	0.3701	-0.001	6	0.5192	0.9843	1.6211	113.1019
21	122.4	0.51	-1.8	0.41	122.378	0.4167	6	1.63846	117.069	1.14948	0	1.1495	105.46	0.4207	-0.001	6	0.5371	0.9565	1.6607	109.5857
22	129.9	0.56	-1.8	0.43	129.878	0.4312	6	1.62406	117.8984	1.20843	0	1.2084	106.48	0.4352	-0.001	6	0.5383	0.931	1.6561	113.2122
23	143.7	0.62	-1.89	0.43	143.677	0.4315	6	1.58713	118.8895	1.26788	0	1.2679	112.32	0.4354	-1E-03	6	0.5301	0.9086	1.6277	122.2849
24	147.8	1.29	-1.99	0.87	147.776	0.8729	6	1.76163	124.3191	1.33004	0	1.33	110.11	0.8809	-1E-03	6	0.6035	0.8711	1.8127	120.5591
25	180.1	2.58	-2.08	1.43	180.075	1.4327	6	1.8518	129.8729	1.39497	0	1.395	128.09	1.4439	-8E-04	6	0.6433	0.8371	1.9091	141.3599
26	168.1	1.58	-2.5	0.94	168.069	0.9401	6	1.74187	126.1167	1.45803	0	1.458	114.27	0.9483	-0.001	6	0.6085	0.8228	1.8099	129.5542
27	136.6	0.62	-2.99	0.46	136.563	0.454	6	1.6176	118.7656	1.51741	0	1.5174	88.998	0.4591	-0.002	6	0.5694	0.8144	1.6999	103.9434
28	144.4	0.56	-3	0.39	144.363	0.3879	6	1.56092	118.1563	1.57649	0	1.5765	90.573	0.3922	-0.002	6	0.5533	0.802	1.6501	108.2314
29	131.5	0.51	-3.13	0.39	131.462	0.388	6	1.59585	117.2437	1.63511	0	1.6351	79.399	0.3928	-0.002	6	0.5742	0.7789	1.6977	95.56579
30	124.5	0.88	-3.13	0.71	124.462	0.707	6	1.76134	121.1017	1.69566	0	1.6957	72.4	0.7168	-0.002	6	0.6451	0.7377	1.8763	85.59055
31	149.9	0.58	-3.26	0.38	149.86	0.387	6	1.54654	118.5042	1.75492	0	1.7549	84.394	0.3916	-0.002	6	0.5659	0.7511	1.6608	105.1253
32	132.2	0.68	-3.31	0.51	132.159	0.5145	6	1.65947	119.3616	1.8146	0	1.8146	71.831	0.5217	-0.002	6	0.6176	0.7167	1.7893	88.28412
33	115.6	0.51	-3.29	0.44	115.56	0.4413	6	1.67262	116.9292	1.87306	0	1.8731	60.696	0.4486	-0.002	6	0.6314	0.6973	1.8181	74.91654
34	99.7	0.39	-3.27	0.4	99.66	0.3913	6	1.70243	114.6053	1.93036	0	1.9304	50.628	0.3991	-0.002	6	0.6521	0.6757	1.8652	62.40665
35	90.3	0.64	-3.32	0.71	90.2594	0.7091	6	1.87484	117.9879	1.98936	0	1.9894	44.371	0.7251	-0.003	6	0.7271	0.6319	2.055	52.71275
36	84.6	0.59	-3.32	0.7	84.5594	0.6977	6	1.89422	117.2336	2.04797	0	2.048	40.289	0.7151	-0.003	5	0.7427	0.6124	2.0885	47.75098
37	113.5	0.62	-3.29	0.55	113.46	0.5465	6	1.72905	118.3136	2.10713	0	2.1071	52.846	0.5568	-0.002	6	0.6785	0.6266	1.9125	65.94512
38	85.2	0.65	-3.32	0.77	85.1594	0.7633	6	1.91388	117.9595	2.16611	0	2.1661	38.314	0.7832	-0.003	5	0.7633	0.5788	2.1278	45.39609
39	103.2	1.03	-3.17	1	103.161	0.9984	6	1.91837	121.7955	2.22701	0	2.227	45.323	1.0205	-0.002	5	0.7665	0.5653	2.1287	53.92464
40	89.3	0.76	-3.22	0.85	89.2606	0.8514	6	1.9252	119.2182	2.28662	0	2.2866	38.036	0.8738	-0.003	5	0.7796	0.5484	2.1557	45.07669
41	76.2	1.06	-3.25	1.39	76.1602	1.3918	5	2.11198	121.2655	2.34725	0	2.3473	31.447	1.4361	-0.003	5	0.8629	0.5028	2.3669	35.07771
42	108.7	0.64	-3.32	0.59	108.659	0.589	6	1.76279	118.4404	2.40647	0	2.4065	44.153	0.6023	-0.002	6	0.7243	0.5515	1.9953	55.37854
43	119.1	0.97	-3.22	0.81	119.061	0.8147	6	1.8144	121.706	2.46732	0	2.4673	47.255	0.832	-0.002	6	0.7477	0.531	2.0492	58.5083
44	104.3	0.69	-3.17	0.66	104.261	0.6618	6	1.80635	118.8901	2.52677	0	2.5268	40.263	0.6782	-0.002	6	0.755	0.5183	2.0608	49.83375
45	157.8	0.9	-3.22	0.57	157.761	0.5705	6	1.62297	121.8444	2.58769	0	2.5877	59.966	0.58	-0.001	6	0.6777	0.5455	1.85	79.99973
46	110	0.61	-3.13	0.55	109.962	0.5547	6	1.74399	118.1182	2.64675	0	2.6468	40.546	0.5684	-0.002	6	0.7419	0.5065	2.0112	51.37224
47	81.6	1	-3.26	1.23	81.5601	1.2261	5	2.05385	121.0062	2.70725	0	2.7073	29.127	1.2682	-0.003	5	0.8779	0.4384	2.3614	32.66805
48	110.8	0.8	-3.03	0.72	110.763	0.7223	6	1.80734	120.1199	2.76731	0	2.7673	39.025	0.7408	-0.002	5	0.7784	0.4731	2.0923	48.29095
49	168.1	1.02	-3.03	0.61	168.063	0.6069	6	1.61764	122.9145	2.82877	0	2.8288	58.412	0.6173	-0.001	6	0.697	0.5039	1.8705	78.68479
50	167.3	1.09	-3.03	0.65	167.263	0.6517	6	1.63859	123.3885	2.89047	0	2.8905	56.867	0.6631	-0.001	6	0.7112	0.4893	1.9	76.0176
51	179	1.52	-3.13	0.85	178.962	0.8493	6	1.69186	125.9866	2.95346	0	2.9535	59.594	0.8636	-0.001	6	0.7351	0.4702	1.9553	78.21438
52	168.1	1.38	-3.03	0.82	168.063	0.8211	6	1.70217	125.1263	3.01602	0	3.016	54.723	0.8361	-0.001	6	0.7474	0.4571	1.9797	71.29786
53	164.3	0.96	-3.03	0.58	164.263	0.5844	6	1.61538	122.4151	3.07723	0	3.0772	52.38	0.5956	-0.001	6	0.7211	0.4631	1.9024	70.54951
54	213.9	1.28	-3.03	0.6	213.863	0.5985	6	1.53296	125.1637	3.13981	0	3.1398	67.113	0.6074	-0.001	6	0.6851	0.4746	1.8001	94.5254
55	136.9	0.9	-2.94	0.66	136.864	0.6576	6	1.70943	121.4978	3.20056	0	3.2006	41.763	0.6733	-0.002	6	0.7765	0.4234	2.0329	53.48364
56	125.6	1.29	-3.03	1.03	125.563	1.0274	6	1.86146	123.9218	3.26252	0	3.2625	37.486	1.0548	-0.002	5	0.8444	0.3864	2.2041	44.66448
57	148.1	1.02	-3.07	0.69	148.062	0.6889	6	1.69496	122.6055	3.32382	0	3.3238	43.546	0.7047	-0.002	6	0.77			

66	116.2	1.1	-3.22	0.95	116.161	0.947	6	1.86403	122.5661	3.87306	0	3.8731	28.992	0.9796	-0.002	5	0.9104	0.3069	2.3016	32.56726
67	57.6	2.11	-3.28	3.67	57.5599	3.6658	4	2.48826	125.6197	3.93587	0	3.9359	13.624	3.9348	-0.004	3	1	0.2688	2.9579	13.62444
68	26.1	1.08	-1.15	4.14	26.0859	4.1402	3	2.77367	118.789	3.99526	0	3.9953	5.5292	4.8889	-0.004	3	1	0.2648	3.3292	5.52922
69	44.7	1.77	-1.95	3.97	44.6761	3.9619	4	2.58974	123.716	4.05712	0	4.0571	10.012	4.3576	-0.003	3	1	0.2608	3.0911	10.01179
70	106.4	1.22	-3.25	1.14	106.36	1.1471	6	1.94721	123.1087	4.11867	0	4.1187	24.824	1.1933	-0.002	5	0.9725	0.2667	2.4332	25.76838
71	72	1.97	-3.22	2.74	71.9606	2.7376	5	2.32982	125.662	4.1815	0	4.1815	16.209	2.9065	-0.003	4	1	0.253	2.8182	16.20926
72	115.4	1.26	-3.22	1.09	115.361	1.0922	6	1.90665	123.5429	4.24328	0	4.2433	26.187	1.1339	-0.002	5	0.9652	0.2617	2.3977	27.48506
73	139.5	1.07	-3.1	0.77	139.462	0.7672	6	1.74458	122.8097	4.30468	0	4.3047	31.398	0.7917	-0.002	5	0.8976	0.2838	2.214	36.24798
74	120	1.79	-3.03	1.49	119.963	1.4921	6	1.98653	126.2074	4.36778	0	4.3678	26.465	1.5485	-0.002	5	1	0.2423	2.4858	26.4654
75	140.1	1.42	-2.84	1.02	140.065	1.0138	6	1.82226	124.8909	4.43023	0	4.4302	30.616	1.0469	-0.002	5	0.9409	0.2599	2.3085	33.32101
76	159.8	1.44	-2.84	0.9	159.765	0.9013	6	1.74561	125.3142	4.49289	0	4.4929	34.56	0.9274	-0.001	5	0.9081	0.269	2.2182	39.47437
77	186.6	1.14	-2.75	0.61	186.566	0.611	6	1.58418	123.9831	4.55488	0	4.5549	39.96	0.6263	-0.001	6	0.8439	0.2917	2.0408	50.18369
78	163.5	1.67	-2.73	1.02	163.467	1.0216	6	1.77549	126.4543	4.61811	0	4.6181	34.397	1.0513	-0.001	5	0.9299	0.2541	2.2602	38.14239
79	114.4	3.33	-2.94	2.91	114.364	2.9118	5	2.21341	130.6329	4.68342	0	4.6834	23.419	3.0361	-0.002	4	1	0.2259	2.7036	23.4189
80	43.9	2.55	-0.15	5.82	43.8982	5.8089	3	2.71419	126.3447	4.74659	0	4.7466	8.2484	6.5132	-3E-04	3	1	0.2229	3.2646	8.24835
81	61.5	3.73	-1.04	6.08	61.4873	6.0663	3	2.63083	129.9493	4.81157	0	4.8116	11.779	6.5813	-0.001	3	1	0.2199	3.1479	11.77905
82	79	3.14	-2.17	3.97	78.9734	3.976	4	2.42094	129.2999	4.87622	0	4.8762	15.196	4.2377	-0.002	3	1	0.217	2.9408	15.19563
83	48.8	3.08	-1.28	6.3	48.7843	6.3135	3	2.70999	127.9838	4.94021	0	4.9402	8.875	7.0249	-0.002	3	1	0.2142	3.2605	8.87495
84	49.3	2.81	2.13	5.69	49.3261	5.6968	3	2.67364	127.3395	5.00388	0	5.0039	8.8576	6.3399	0.0035	3	1	0.2115	3.2331	8.85756
85	60.6	3.73	2.37	6.16	60.629	6.1522	3	2.63944	129.915	5.06884	0	5.0688	10.961	6.7134	0.0031	3	1	0.2088	3.1774	10.96113
86	85	4.91	1.26	5.77	85.0154	5.7754	9	2.52507	132.7508	5.13521	0	5.1352	15.555	6.1467	0.0011	3	1	0.2061	3.0372	15.55538
87	101.1	4.9	-0.1	4.85	101.099	4.8468	9	2.41872	133.1584	5.20179	0	5.2018	18.435	5.1097	-8E-05	3	1	0.2034	2.9288	18.43537
88	142.7	4.54	-4.8	3.19	142.641	3.1828	5	2.18276	133.4397	5.26851	0	5.2685	26.074	3.3049	-0.003	4	1	0.2008	2.6912	26.07429
89	170.6	5.24	-5.59	3.07	170.532	3.0727	8	2.1237	134.9245	5.33597	0	5.336	30.959	3.172	-0.002	4	1	0.1983	2.623	30.95885
90	212.8	2.75	-2.64	1.29	212.768	1.2925	6	1.77023	130.7468	5.40135	0	5.4014	38.392	1.3262	-9E-04	5	0.9844	0.2009	2.3059	39.3807
91	226.4	1.67	-2.37	0.74	226.371	0.7377	6	1.57558	127.2484	5.46497	0	5.465	40.422	0.756	-8E-04	5	0.9129	0.2234	2.1098	46.63354
92	184.7	2.63	-3.19	1.43	184.661	1.4242	6	1.84258	130.0747	5.53001	0	5.53	32.393	1.4682	-0.001	5	1	0.1913	2.4006	32.39252
93	107.4	3.62	-3.77	3.37	107.354	3.372	5	2.27982	131.0896	5.59555	0	5.5956	18.186	3.5575	-0.003	3	1	0.1891	2.8324	18.18556
94	167.6	3.48	-3.43	2.08	167.558	2.0769	5	1.99436	131.8868	5.6615	0	5.6615	28.596	2.1495	-0.002	4	1	0.1869	2.5426	28.59606
95	241.5	1.79	-2.37	0.74	241.471	0.7413	6	1.55688	127.9136	5.72545	0	5.7255	41.175	0.7593	-7E-04	5	0.9253	0.2096	2.1102	46.70685
96	241.7	1.47	-2.37	0.61	241.671	0.6083	6	1.49773	126.4745	5.78869	0	5.7887	40.749	0.6232	-7E-04	6	0.9095	0.2132	2.0603	47.52162
97	287.5	1.81	-2.46	0.63	287.47	0.6296	6	1.45317	128.4202	5.8529	0	5.8529	48.116	0.6427	-6E-04	6	0.8857	0.2198	1.989	58.50952
98	275	1.59	-2.46	0.58	274.97	0.5783	6	1.44156	127.3635	5.91658	0	5.9166	45.474	0.591	-7E-04	6	0.8908	0.2158	1.9945	54.88181
99	277.5	1.65	-2.56	0.59	277.469	0.5947	6	1.44701	127.6566	5.98041	0	5.9804	45.396	0.6078	-7E-04	6	0.8979	0.2112	2.0054	54.18105
100	276.3	1.59	-2.65	0.57	276.268	0.5755	6	1.43867	127.375	6.0441	0	6.0441	44.709	0.5884	-7E-04	6	0.901	0.208	2.0059	53.1234
101	212.8	1.26	-2.75	0.59	212.766	0.5922	6	1.53167	125.0359	6.10662	0	6.1066	33.842	0.6097	-1E-03	5	0.9638	0.1846	2.161	36.05948
102	157.6	2.62	-2.97	1.66	157.564	1.6628	6	1.93867	129.6598	6.17145	0	6.1715	24.531	1.7306	-0.001	4	1	0.1715	2.5405	24.53107
103	197.5	1.21	-3.03	0.61	197.463	0.6128	6	1.566	124.5576	6.23373	0	6.2337	30.677	0.6328	-0.001	5	0.9945	0.1714	2.2269	30.97935
104	278.3	2.92	-3.13	1.05	278.262	1.0494	6	1.62556	131.8402	6.29965	0	6.2997	63.171	1.0737	-8E-04	5	0.9938	0.1699	2.2166	43.65543
105	203.2	2.68	-3.22	1.32	203.161	1.3192	6	1.79015	130.4454	6.36487	0	6.3649	30.919	1.3618	-0.001	5	1	0.1662	2.3986	30.91905
106	78.3	2.96	-1.87	3.78	78.2771	3.7814	4	2.40716	128.8463	6.42929	0	6.4293	11.175	4.1198	-0.002	3	1	0.1646	3.0384	11.17508
107	99.3	3.9	-7.44	3.93	99.2089	3.9311	4	2.35296	131.4422	6.49501	0	6.495	14.275	4.2065	-0.006	3	1	0.1629	2.96	14.27463
108	56.9	3.04	-8.05	5.34	56.8015	5.352	4	2.61245	128.2593	6.55914	0	6.5591	7.6599	6.0507	-0.012	3	1	0.1613	3.2701	7.65989
109	82.6	2.8	-3.7	3.4	82.5547	3.3917	5	2.35656	128.5695	6.62343	0	6.6234	11.464	3.6875	-0.004	3	1	0.1598	3.0006	11.46405
110	84.3	3.31	-7.55	3.94	84.2076	3.9308	4	2.39888	129.8422	6.68835	0	6.6884	11.59	4.2699	-0.007	3	1	0.1582	3.0352	11.59019
111	85.5	3.78	-7.85	4.43	85.4039	4.426	4	2.43416	130.8481	6.75377	0	6.7538	11.645	4.8061	-0.007	3	1	0.1567	3.0652	11.64536
112	88.5	3.6	-3.1	4.07	88.4621	4.0695	4	2.39642	130.5769	6.81906	0	6.8191	11.973	4.4094	-0.003	3	1	0.1552	3.0326	11.97276
113	38.9	2.23	-1.61	5.74	38.8803	5.7356	3	2.74646	125.0675	6.88159	0	6.8816	4.6499	6.969	-0.004	3	1	0.1538	3.4801	4.6499
114	37.1	1.9	-1.37	5.13	37.0832	5.1236	3	2.72585	123.7803	6.94348	0	6.9435	4.3407	6.304	-0.003	3	1	0.1524	3.4787	4.34072
115	43	2.71	-0.63	6.31	42.9923	6.3035	3	2.74637	126.7391	7.00685	0	7.0069	5.1358	7.5308	-0.001	3	1	0.151	3.4657	5.13575
116	55.4	2.43	-0.84	4.38	55.3897	4.3871	4	2.55618	126.5592	7.07013	0	7.0701	6.8343	5.029	-0.001	3	1	0.1497	3.2614	6.83432
117	49.5	2.14	-1	4.32	49.4878	4.3243	4	2.58545	125.3545	7.13281	0	7.1328	5.938	5.0525	-0.002	3	1	0.1483	3.3121	5.93804
118	47.3	3.23	-0.66	6.84	47.2919	6.8299	3	2.74447	128.256	7.19694	0	7.1969	5.5711	8.0559	-0.001	3	1	0.147	3.4556	5.57112
119	53.1	3.62	3.97	6.81	53.1486	6.8111	3	2.7102	129.3748	7.26163	0	7.2616	6.3191	7.889	0.0062	3	1	0.1457	3.4069	6.3191
120	77.9	3.97	2.93	5.1	77.9359	5.0939	9	2.50649	130.9838	7.32712	0	7.3271	9.6366	5.6225	0.003	3	1	0.1444	3.1719	9.63663
121	41.7	2.12	3.81	5.07	41.7466	5.0783	4	2.68699	124.8709	7.38955	0	7.3896	4.6494	6.1705	0.008	3	1	0.1432	3.4491	4.64941
122	133.8	4.2	2.77	3.14	133.834	3.1382	5	2.19507	132.7147	7.45591	0	7.4559	16.95	3.3234	0.0016	3	1	0.1419	2.838	16.95004
123	282	2.82	1.72	1	282.021	0.9999	6	1.60586	131.6179	7.52172	0	7.5217	36.494	1.0273	0.0005	5	1	0.1407	2.2708	36.49422
124	231.6	1.94	1.15	0.84	231.614	0.8376	6	1.60714	128.4008	7.58592	0	7								

133	65.1	3.6	-3.64	5.54	65.0555	5.5337	4	2.58458	129.8273	8.17522	0	8.1752	6.9576	6.3291	-0.005	3	1	0.1294	3.3151	6.95764
134	119.2	5.29	-3.03	4.44	119.163	4.4393	9	2.34493	134.1197	8.24228	0	8.2423	13.458	4.7692	-0.002	3	1	0.1284	3.0141	13.45752
135	154.6	3.54	-2.99	2.29	154.563	2.2903	5	2.04944	131.815	8.30819	0	8.3082	17.604	2.4204	-0.001	4	1	0.1274	2.7423	17.60375
136	45.8	1.3	-1.51	2.84	45.7815	2.8396	4	2.48249	121.5175	8.36895	0	8.369	4.4704	3.4748	-0.003	3	1	0.1264	3.3244	4.4704
137	44.4	1.22	-0.87	2.75	44.3894	2.7484	4	2.48292	120.9775	8.42943	0	8.4294	4.266	3.3927	-0.002	3	1	0.1255	3.3362	4.26599
138	52.1	2.16	-0.18	4.14	52.0978	4.1461	4	2.55679	125.5479	8.49221	0	8.4922	5.1348	4.9535	-3E-04	3	1	0.1246	3.3588	5.13478
139	73.3	4.46	-0.04	6.09	73.2995	6.0846	9	2.58302	131.6858	8.55805	0	8.5581	7.565	6.8889	-4E-05	3	1	0.1236	3.3091	7.56498
140	82.2	4.35	0.29	5.29	82.2036	5.2917	9	2.50456	131.7827	8.62394	0	8.6239	8.532	5.912	0.0003	3	1	0.1227	3.227	8.53201
141	79.6	5.6	2.07	7.04	79.6253	7.0329	9	2.61002	133.5531	8.69072	0	8.6907	8.1621	7.8946	0.0021	3	1	0.1218	3.3208	8.16211
142	69.9	4.62	2.54	6.6	69.9311	6.6065	9	2.62365	131.8289	8.75663	0	8.7566	6.9861	7.5522	0.003	3	1	0.1208	3.361	6.98607
143	175.9	4.44	2.15	2.53	175.926	2.5238	5	2.04733	133.7882	8.82353	0	8.8235	18.938	2.6571	0.0009	4	1	0.1199	2.7408	18.93832
144	411.9	4.5	0.17	1.09	411.902	1.0925	6	1.53543	135.9614	8.89151	0	8.8915	45.325	1.1166	3E-05	5	1	0.119	2.2129	45.32533
145	340.3	3.78	-1.45	1.11	340.282	1.1108	6	1.59017	134.2198	8.95862	0	8.9586	36.984	1.1409	-3E-04	5	1	0.1181	2.2911	36.98379
146	351.2	2.16	-1.55	0.62	351.181	0.6151	6	1.38511	130.2019	9.02372	0	9.0237	37.918	0.6313	-3E-04	5	1	0.1173	2.1488	37.91755
147	415.8	3.51	-1.45	0.84	415.782	0.8442	6	1.44261	134.1662	9.0908	0	9.0908	44.737	0.8631	-3E-04	5	1	0.1164	2.1556	44.73658
148	336.2	3.65	-2.63	1.09	336.168	1.0858	6	1.58551	133.934	9.15777	0	9.1578	35.708	1.1162	-6E-04	5	1	0.1155	2.2985	35.70848
149	140.1	5.06	-1.74	3.61	140.079	3.6123	8	2.23115	134.1889	9.22486	0	9.2249	14.185	3.8669	-1E-03	3	1	0.1147	2.9395	14.18491
150	97.5	4.88	-4.59	5.01	97.4438	5.008	9	2.43977	133.0387	9.29138	0	9.2914	9.4876	5.5359	-0.004	3	1	0.1139	3.1731	9.48755
151	129	5.69	-4.72	4.41	128.942	4.4128	9	2.32228	134.8455	9.35881	0	9.3588	12.778	4.7582	-0.003	3	1	0.1131	3.031	12.77764
152	145.8	6.09	-6.69	4.18	145.718	4.1793	9	2.27184	135.6409	9.42663	0	9.4266	14.458	4.4684	-0.004	3	1	0.1123	2.972	14.45814
153	137.5	5.74	-3.26	4.17	137.46	4.1758	9	2.28648	135.0655	9.49416	0	9.4942	13.478	4.4856	-0.002	3	1	0.1115	2.9968	13.47839
154	224.6	7.31	-3.32	3.26	224.559	3.2553	8	2.07575	137.28	9.5628	0	9.5628	22.483	3.4001	-0.001	4	1	0.1107	2.7485	22.4826
155	240.9	6.65	-3.43	2.76	240.858	2.761	8	1.99934	137.28	9.63144	0	9.6314	24.007	2.876	-0.001	4	1	0.1099	2.6805	24.00748
156	357.1	3.37	-2.89	0.94	357.065	0.9438	6	1.52141	133.4971	9.69819	0	9.6982	35.818	0.9702	-6E-04	5	1	0.1091	2.2643	35.81767
157	291.8	3.41	-2.88	1.17	291.765	1.1688	6	1.64866	133.0908	9.76473	0	9.7647	28.879	1.2092	-7E-04	5	1	0.1084	2.3946	28.87944
158	104.5	4.18	-1.88	4.01	104.477	4.0009	9	2.34465	132.0758	9.83077	0	9.8308	9.6276	4.4165	-0.001	3	1	0.1076	3.1082	9.62755
159	165.3	6.34	-5.81	3.84	165.229	3.8371	8	2.20992	136.2417	9.89889	0	9.8989	15.692	4.0816	-0.003	3	1	0.1069	2.9197	15.69165
160	92	5.15	-6.71	5.61	91.9179	5.6028	9	2.49379	133.2903	9.96554	0	9.9655	8.2236	6.2841	-0.006	3	1	0.1062	3.2559	8.22357
161	83.3	4.35	-5.55	5.23	83.2321	5.2264	9	2.49697	131.813	10.03144	0	10.031	7.2971	5.9426	-0.005	3	1	0.1055	3.282	7.29712
162	136.2	4.38	-5.83	3.22	136.129	3.2175	5	2.19898	133.0632	10.09798	0	10.098	12.481	3.4753	-0.003	3	1	0.1048	2.9557	12.48079
163	238.5	4.11	-3.28	1.73	238.46	1.7236	6	1.83552	133.9649	10.16496	0	10.165	22.459	1.8003	-0.001	4	1	0.1041	2.5817	22.45901
164	279.7	4.27	1.04	1.53	279.713	1.5266	6	1.75167	134.6335	10.23227	0	10.232	26.336	1.5845	0.0003	5	1	0.1034	2.4933	26.33632
165	440.8	4.11	0.74	0.93	440.809	0.9324	6	1.46223	135.4635	10.30001	0	10.3	41.797	0.9547	0.0001	5	1	0.1027	2.2041	41.79697
166	423.4	3.43	0.56	0.81	423.407	0.8101	6	1.42359	134.0419	10.36703	0	10.367	39.842	0.8304	0.0001	5	1	0.1021	2.1894	39.84169
167	282.5	4.09	-0.31	1.45	282.496	1.4478	6	1.73069	134.3426	10.4342	0	10.434	26.074	1.5033	-8E-05	5	1	0.1014	2.4839	26.07407
168	377.9	3.41	-0.85	0.9	377.89	0.9024	6	1.49088	133.7217	10.50106	0	10.501	34.986	0.9282	-2E-04	5	1	0.1008	2.2628	34.98586
169	312.6	6.01	-0.87	1.92	312.589	1.9227	6	1.80578	137.28	10.5697	0	10.57	28.574	1.9899	-2E-04	4	1	0.1001	2.5225	28.5741
170	372.1	2.53	-1.27	0.68	372.084	0.68	6	1.40046	131.4999	10.63545	0	10.635	33.985	0.7	-3E-04	5	1	0.0995	2.212	33.98531
171	316.3	4.67	-1.88	1.48	316.277	1.4766	6	1.7085	135.5884	10.70324	0	10.703	28.55	1.5283	-4E-04	5	1	0.0989	2.4555	28.54964
172	247.4	2.8	-2.12	1.13	247.374	1.1319	6	1.68379	131.2462	10.76887	0	10.769	21.971	1.1834	-7E-04	5	1	0.0983	2.4902	21.97123
173	191	4.07	-3	2.13	190.963	2.1313	6	1.96751	133.3516	10.83554	0	10.836	16.624	2.2595	-0.001	4	1	0.0977	2.7453	16.62379
174	128.2	4.32	-2.56	3.37	128.169	3.3706	5	2.23104	132.8153	10.90195	0	10.902	10.756	3.6839	-0.002	3	1	0.0971	3.0226	10.75649
175	54.2	2.01	-1.8	3.72	54.178	3.71	4	2.51037	125.1168	10.96451	0	10.965	3.9412	4.6513	-0.003	3	1	0.0965	3.4387	3.94121
176	61.5	2.15	-1.5	3.5	61.4816	3.497	4	2.45363	125.9179	11.02747	0	11.027	4.5753	4.2613	-0.002	3	1	0.096	3.3637	4.57532
177	123.8	3.78	-0.4	3.05	123.795	3.0534	5	2.20713	131.7536	11.09334	0	11.093	10.159	3.354	-3E-04	3	1	0.0954	3.0189	10.1594
178	222.2	5.32	-1.85	2.4	222.177	2.3945	6	1.9685	135.6806	11.16118	0	11.161	18.906	2.5211	-6E-04	4	1	0.0948	2.7277	18.90625
179	295.4	2.61	-2.09	0.88	295.374	0.8836	6	1.55212	131.1645	11.22677	0	11.227	25.31	0.9185	-5E-04	5	1	0.0943	2.3814	25.30984
180	127.7	5.53	-1.83	4.33	127.678	4.3312	9	2.31834	134.6127	11.29407	0	11.294	10.305	4.7515	-0.001	3	1	0.0937	3.104	10.30483
181	173.5	6.17	-1.31	3.56	173.484	3.5565	8	2.17077	136.1618	11.36215	0	11.362	14.269	3.8058	-6E-04	3	1	0.0931	2.9332	14.26858
182	195.9	6.29	-2.34	3.21	195.871	3.2113	8	2.10418	136.5987	11.43045	0	11.43	16.136	3.4103	-9E-04	3	1	0.0926	2.8618	16.13592
183	99.1	6.6	-1.97	6.67	99.0759	6.6616	9	2.53415	135.2884	11.4981	0	11.498	7.6167	7.5362	-0.002	3	1	0.092	3.3312	7.61672
184	91.9	6.47	-0.39	7.04	91.8952	7.0406	9	2.57288	134.9593	11.56558	0	11.566	6.9456	8.0543	-4E-04	3	1	0.0915	3.3805	6.94558
185	57.6	2.6	0.61	4.51	57.6075	4.5133	4	2.55356	127.1497	11.62915	0	11.629	3.9537	5.6548	0.001	3	1	0.091	3.4849	3.95371

Depth (ft)	CPT-5 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	106.1	0.64	-0.01	0.6	106.1	0.6032	6	1.77717	118.3823	0.05919	0	0.0592	1791.5	0.6035	-1E-05	6	0.4388	2	1.5381	200.4345
2	52.5	0.23	0.09	0.44	52.5011	0.4381	6	1.97247	109.1782	0.11378	0	0.1138	460.43	0.439	0.0001	6	0.5061	2	1.708	99.02075
3	82.1	0.35	0.09	0.42	82.1011	0.4263	6	1.79416	113.3408	0.17045	0	0.1705	480.67	0.4272	8E-05	6	0.4436	2	1.5369	154.8626
4	50.7	0.27	0.09	0.53	50.7011	0.5325	6	2.02433	110.2664	0.22558	0	0.2256	223.76	0.5349	0.0001	6	0.5337	2	1.7665	95.40712
5	52.5	0.16	0.09	0.31	52.5011	0.3048	6	1.9089	106.5228	0.27885	0	0.2789	187.28	0.3064	0.0001	6	0.4931	1.9302	1.6499	95.26149
6	47.6	0.36	0.09	0.75	47.6011	0.7563	5	2.12327	112.2174	0.33495	0	0.335	141.11	0.7616	0.0001	6	0.5841	1.9579	1.8839	87.46164
7	53.7	0.34	0.09	0.64	53.7011	0.6331	6	2.03889	112.0933	0.391	0	0.391	136.34	0.6378	0.0001	6	0.5673	1.759	1.8352	88.62429
8	60.7	0.4	0.09	0.66	60.7011	0.659	6	2.00197	113.5813	0.44779	0	0.4478	134.56	0.6639	0.0001	6	0.5674	1.629	1.8286	92.76081
9	101.8	0.52	0.07	0.51	101.801	0.5108	6	1.75276	116.7621	0.50617	0	0.5062	200.12	0.5134	5E-05	6	0.4923	1.4376	1.6242	137.6238
10	61.5	0.3	-0.01	0.49	61.4999	0.4878	6	1.9324	111.5082	0.56193	0	0.5619	108.44	0.4923	-1E-05	6	0.5631	1.4281	1.8027	82.24542
11	50	0.25	0.09	0.51	50.0011	0.5	6	2.01705	109.6693	0.61676	0	0.6168	80.07	0.5062	0.0001	6	0.6027	1.3845	1.8997	64.61702
12	87.9	0.49	0.09	0.56	87.9011	0.5574	6	1.82694	115.9693	0.67475	0	0.6748	129.27	0.5618	7E-05	6	0.5455	1.2782	1.742	105.366
13	68.3	0.34	-0.03	0.5	68.2996	0.4978	6	1.89657	112.6798	0.73109	0	0.7311	92.422	0.5032	-3E-05	6	0.5787	1.2386	1.8222	79.09282
14	55.1	0.35	-0.18	0.64	55.0978	0.6352	6	2.02997	112.368	0.78727	0	0.7873	68.986	0.6444	-2E-04	6	0.6371	1.2073	1.9683	61.9674
15	66.8	0.39	-0.2	0.58	66.7976	0.5839	6	1.93931	113.6295	0.84408	0	0.8441	78.136	0.5913	-2E-04	6	0.612	1.1483	1.8954	71.57728
16	52.6	0.32	-0.29	0.61	52.5965	0.6084	6	2.03813	111.599	0.89988	0	0.8999	57.448	0.619	-4E-04	6	0.6579	1.1124	2.0082	54.35095
17	56.2	0.49	-0.29	0.88	56.1965	0.8719	5	2.0955	114.8781	0.95732	0	0.9573	57.702	0.8871	-4E-04	5	0.6882	1.0713	2.081	55.92841
18	121.9	0.6	-0.39	0.49	121.895	0.4922	6	1.67811	118.2486	1.01645	0	1.0165	118.92	0.4964	-2E-04	6	0.5363	1.0218	1.6753	116.7284
19	100.9	0.55	-0.39	0.55	100.895	0.5451	6	1.77114	117.1507	1.07502	0	1.075	92.854	0.551	-3E-04	6	0.5793	0.9909	1.7809	93.47559
20	81.2	0.56	-0.48	0.68	81.1941	0.6897	6	1.90605	116.7527	1.1334	0	1.1334	70.638	0.6995	-4E-04	6	0.6391	0.957	1.9304	72.41215
21	70.3	0.51	-0.48	0.72	70.2941	0.7255	6	1.97039	115.7168	1.19126	0	1.1913	58.008	0.738	-5E-04	6	0.6721	0.9234	2.0097	60.3075
22	91.4	0.45	-0.56	0.5	91.3932	0.4924	6	1.78445	115.4412	1.24898	0	1.249	72.174	0.4992	-5E-04	6	0.6066	0.9043	1.8303	77.04044
23	78.4	0.92	-0.58	1.17	78.3929	1.1736	5	2.05515	120.2995	1.30913	0	1.3091	58.882	1.1935	-5E-04	5	0.7189	0.8581	2.1176	62.51323
24	106.7	0.57	-0.58	0.53	106.693	0.5342	6	1.746	117.5483	1.3679	0	1.3679	76.997	0.5412	-4E-04	6	0.6045	0.8562	1.8107	85.22762
25	61	0.44	-0.58	0.72	60.9929	0.7214	6	2.02089	114.2904	1.42505	0	1.4251	41.801	0.7387	-7E-04	5	0.723	0.8063	2.1146	45.39352
26	130.9	0.56	-0.48	0.42	130.894	0.4278	6	1.6194	117.9175	1.48401	0	1.484	87.203	0.4327	-3E-04	6	0.567	0.8255	1.6976	100.96
27	138.2	0.61	-0.67	0.44	138.192	0.4414	6	1.60668	118.6755	1.54334	0	1.5433	88.541	0.4464	-4E-04	6	0.5679	0.8071	1.6926	104.2279
28	133.4	0.61	-0.63	0.45	133.392	0.4573	6	1.62788	118.5893	1.60264	0	1.6026	82.233	0.4629	-3E-04	6	0.5828	0.7851	1.7244	97.78364
29	156.1	0.76	-0.58	0.49	156.093	0.4869	6	1.58632	120.5813	1.66293	0	1.6629	92.866	0.4921	-3E-04	6	0.571	0.7725	1.6859	112.7418
30	131.5	0.6	-0.58	0.45	131.493	0.4563	6	1.63261	118.4334	1.72215	0	1.7222	75.354	0.4624	-3E-04	6	0.5976	0.7475	1.7483	91.67038
31	88.8	0.48	-0.67	0.54	88.7918	0.5406	6	1.81619	115.843	1.78007	0	1.7801	48.881	0.5517	-6E-04	6	0.6813	0.7016	1.9609	57.69392
32	142.5	0.67	-0.67	0.47	142.492	0.4702	6	1.61051	119.4368	1.83979	0	1.8398	76.45	0.4764	-3E-04	6	0.6001	0.7175	1.7401	95.37817
33	138.6	0.7	-0.67	0.51	138.592	0.5051	6	1.63788	119.6896	1.89963	0	1.8996	71.957	0.5121	-4E-04	6	0.6174	0.6968	1.7779	90.01621
34	73.9	0.54	-0.86	0.74	73.8895	0.7308	6	1.95406	116.2567	1.95776	0	1.9578	36.742	0.7507	-9E-04	5	0.7587	0.627	2.1417	42.62421
35	71.7	0.63	-0.96	0.88	71.6883	0.8788	6	2.01028	117.3108	2.01641	0	2.0164	34.552	0.9042	-1E-03	5	0.7878	0.6017	2.211	39.61887
36	109.5	0.75	-0.96	0.69	109.488	0.685	6	1.79777	119.6195	2.07622	0	2.0762	51.734	0.6983	-6E-04	6	0.7025	0.6228	1.9794	63.22247
37	127.3	1.13	-0.97	0.89	127.288	0.8878	6	1.81557	122.9861	2.13772	0	2.1377	58.544	0.9029	-6E-04	6	0.7122	0.606	1.9973	71.67738
38	74.9	0.77	-1.05	1.03	74.8872	1.0282	6	2.03539	118.8856	2.19716	0	2.1972	33.084	1.0593	-0.001	5	0.817	0.5505	2.2652	37.8162
39	76.7	0.86	-1.15	1.12	76.6859	1.1215	5	2.05033	119.7524	2.25704	0	2.257	32.976	1.1555	-0.001	5	0.8288	0.5337	2.2887	37.54201
40	106.4	0.82	-1.05	0.77	106.387	0.7708	6	1.83827	120.2023	2.31714	0	2.3171	44.913	0.7879	-7E-04	6	0.7445	0.5579	2.0595	54.87331
41	73.5	1.42	-1.09	1.93	73.4867	1.9323	5	2.21804	123.3177	2.3788	0	2.3788	29.892	1.997	-0.001	5	0.9092	0.4788	2.4825	32.17487
42	106.2	0.8	-1.05	0.75	106.187	0.7534	6	1.83298	120.017	2.4388	0	2.4388	42.541	0.7711	-7E-04	5	0.7554	0.5322	2.0729	52.18208
43	97.2	0.83	-1.15	0.86	97.1859	0.854	6	1.8965	120.0704	2.49884	0	2.4988	37.892	0.8766	-9E-04	5	0.7889	0.5077	2.1536	45.42899
44	159.2	1.01	-1.05	0.63	159.187	0.6345	6	1.64809	122.7101	2.56019	0	2.5602	61.178	0.6448	-5E-04	6	0.6843	0.5463	1.871	80.85968
45	79.7	0.88	-1.06	1.11	79.687	1.1043	6	2.0331	120.0142	2.6202	0	2.6202	29.413	1.1419	-1E-03	5	0.8613	0.458	2.3286	33.35567
46	89.8	1.07	-1.15	1.19	89.7859	1.1917	6	2.01389	121.7356	2.68107	0	2.6811	32.489	1.2284	-1E-03	5	0.8562	0.4511	2.3076	37.13799
47	119.9	0.96	-1.12	0.8	119.886	0.8008	6	1.80738	121.647	2.74189	0	2.7419	42.724	0.8195	-7E-04	5	0.773	0.479	2.0812	53.03353
48	95.1	1.03	-1.11	1.09	95.0864	1.0832	6	1.9682	121.5968	2.80269	0	2.8027	32.927	1.1161	-9E-04	5	0.8494	0.4372	2.2748	38.1282
49	92.5	1.03	-1.05	1.11	92.4872	1.1137	6	1.98515	121.5292	2.86346	0	2.8635	31.299	1.1493	-8E-04	5	0.8634	0.4233	2.304	35.85751
50	179.7	0.86	-1.05	0.48	179.687	0.4786	6	1.53219	121.8292	2.92437	0	2.9244	60.445	0.4865	-4E-04	6	0.6712	0.5055	1.7903	84.43908
51	184.2	1.35	-1.05	0.73	184.187	0.733	6	1.63966	125.1889	2.98696	0	2.987	60.664	0.745	-4E-04	6	0.7173	0.475	1.904	81.34943
52	175.1	0.94	-1.05	0.54	175.087	0.5369	6	1.57097	122.4167	3.04817	0	3.0482	56.44	0.5464	-4E-04	6	0.6988	0.4774	1.8475	77.62244
53	196.2	1.06	-1.05	0.54	196.187	0.5403	6	1.53362	123.5734	3.10996	0	3.11	62.084	0.549	-4E-04	6	0.686	0.4773	1.806	87.09754
54	169.9	0.66	-1.05	0.39	169.887	0.3885	6	1.50124	119.7556	3.16984	0	3.1698	52.595	0.3959	-5E-04	6	0.6852	0.4715	1.7959	74.29593
55	106.7	0.83	-1.05	0.78	106.687	0.778	6	1.83974	120.2979	3.22999	0	3.23	32.03	0.8023	-7E-04	5	0.84	0.3916	2.1965	38.29061
56	161.6	1.11	-1.05	0.69	161.587	0.6869	6	1.66469	123.4374	3.29171	0	3.2917	48.089	0.7012	-5E-04	6	0.7613	0.4215	1.9814	63.05482
57	167.4	1.16	-1.15	0.7	167.386	0.693	6	1.65533	123.8458	3.35363	0	3.3536	48.912	0.7072	-5E-04	6	0.7621	0.4151	1.9759	64.35513
58	181.8	1.17	-1.24	0.64																

87	176.4	1.21	-1.91	0.68	176.377	0.686	6	1.63511	124.2821	5.24803	0	5.248	32.608	0.7071	-8E-04	5	0.9326	0.2246	2.1889	36.32493
88	119.5	3.4	-1.91	2.84	119.477	2.8458	5	2.19352	130.8917	5.31348	0	5.3135	21.486	2.9782	-0.001	4	1	0.1991	2.7276	21.48559
89	53.8	3.05	-2	5.67	53.7755	5.6717	4	2.64708	128.1498	5.37755	0	5.3776	9	6.3019	-0.003	3	1	0.1968	3.226	9
90	64.9	4.41	-2.07	6.8	64.8747	6.7977	9	2.65384	131.3055	5.4432	0	5.4432	10.918	7.4203	-0.003	3	1	0.1944	3.2068	10.91847
91	81.3	5.18	-1.9	6.37	81.2767	6.3733	9	2.57078	133.0328	5.50972	0	5.5097	13.752	6.8368	-0.002	3	1	0.192	3.1079	13.75152
92	118.1	5.78	-2.1	4.9	118.074	4.8952	9	2.38126	134.7455	5.57709	0	5.5771	20.171	5.1379	-0.001	3	1	0.1897	2.9011	20.1713
93	143.3	5.68	-5.32	3.97	143.235	3.9655	8	2.25782	135.089	5.64464	0	5.6446	24.375	4.1282	-0.003	3	1	0.1875	2.7765	24.37539
94	143	5.82	-2.69	4.07	142.967	4.0709	8	2.26748	135.2626	5.71227	0	5.7123	24.028	4.2403	-0.001	3	1	0.1852	2.7889	24.02808
95	162.2	5.12	-3.81	3.16	162.153	3.1575	8	2.14624	134.6321	5.77958	0	5.7796	27.056	3.2742	-0.002	4	1	0.1831	2.6764	27.05624
96	85.3	5.05	-3.47	5.92	85.2575	5.9232	9	2.53293	132.9634	5.84607	0	5.8461	13.584	6.3593	-0.003	3	1	0.181	3.0912	13.58374
97	156.3	3.92	-3.42	2.51	156.258	2.5087	5	2.07711	132.5877	5.91236	0	5.9124	25.429	2.6073	-0.002	4	1	0.179	2.6344	25.42907
98	56.5	3.33	-2.68	5.9	56.4672	5.8972	3	2.64571	128.9116	5.97682	0	5.9768	8.4477	6.5953	-0.004	3	1	0.177	3.2599	8.44771
99	128.9	4.01	-3.15	3.11	128.861	3.1119	5	2.2025	132.2836	6.04296	0	6.043	20.324	3.265	-0.002	4	1	0.1751	2.7714	20.32424
100	186.9	2.91	-2.47	1.56	186.87	1.5572	6	1.86827	130.844	6.10838	0	6.1084	29.592	1.6099	-1E-03	5	1	0.1732	2.4558	29.59237
101	223.2	2.76	-1.62	1.24	223.18	1.2367	6	1.74214	130.8898	6.17382	0	6.1738	35.149	1.2719	-5E-04	5	1	0.1714	2.3359	35.14942
102	244.8	1.99	-1.53	0.81	244.781	0.813	6	1.58106	128.7218	6.23818	0	6.2382	38.239	0.8342	-5E-04	5	0.9814	0.1753	2.1935	39.52005
103	218.5	1.59	-1.41	0.73	218.483	0.7278	6	1.58271	126.8027	6.30159	0	6.3016	33.671	0.7494	-5E-04	5	0.9974	0.1687	2.2282	33.82883
104	129.2	3.29	-1.2	2.55	129.185	2.5467	5	2.1348	130.8416	6.36701	0	6.367	19.29	2.6788	-7E-04	4	1	0.1662	2.7365	19.2898
105	224.9	1.99	-1.43	0.89	224.883	0.8849	6	1.63313	128.515	6.43126	0	6.4313	33.967	0.911	-5E-04	5	1	0.1645	2.2695	33.96707
106	159.2	2.65	-0.59	1.66	159.193	1.6647	6	1.93604	129.7682	6.49615	0	6.4962	23.506	1.7355	-3E-04	4	1	0.1629	2.5564	23.50572
107	268	1.75	-1.43	0.65	267.983	0.653	6	1.48605	128.0023	6.56015	0	6.5602	39.85	0.6694	-4E-04	5	0.9699	0.1704	2.1213	42.10174
108	48.6	1.27	-0.98	2.62	48.588	2.6138	5	2.43917	121.4918	6.6209	0	6.6209	6.3386	3.0262	-0.002	3	1	0.1598	3.1641	6.33858
109	66.3	3.2	-2.28	4.82	66.2721	4.8286	4	2.53459	129.0107	6.6854	0	6.6854	8.913	5.3703	-0.003	3	1	0.1583	3.1863	8.91296
110	44.9	2.29	-2.1	5.11	44.8743	5.1031	4	2.66674	125.6115	6.74821	0	6.7482	5.6498	6.0064	-0.004	3	1	0.1568	3.3737	5.64981
111	152.3	4.13	-2.57	2.71	152.269	2.7123	5	2.11061	132.9064	6.81466	0	6.8147	21.344	2.8394	-0.001	4	1	0.1553	2.7171	21.34426
112	245.8	2.18	-2.24	0.89	245.773	0.887	6	1.60713	129.3989	6.87936	0	6.8794	34.726	0.9125	-7E-04	5	1	0.1538	2.2617	34.72609
113	66.3	3.56	-1.38	5.38	66.2831	5.3709	4	2.56944	129.7912	6.94426	0	6.9443	8.545	5.9994	-0.002	3	1	0.1524	3.2304	8.54503
114	71.5	3.79	-3.23	5.31	71.4605	5.3036	4	2.54411	130.4327	7.00947	0	7.0095	9.1948	5.8804	-0.004	3	1	0.151	3.2	9.19484
115	69.8	4.28	-3.42	6.14	69.7581	6.1355	9	2.59943	131.2636	7.0751	0	7.0751	8.8597	6.828	-0.004	3	1	0.1496	3.2532	8.85966
116	44.4	2.32	-3.33	5.23	44.3592	5.23	4	2.67791	125.6786	7.13794	0	7.1379	5.2146	6.233	-0.006	3	1	0.1482	3.4113	5.21457
117	39.8	2.04	-3.33	5.12	39.7592	5.1309	3	2.705	124.4705	7.20018	0	7.2002	4.522	6.2655	-0.007	3	1	0.147	3.4627	4.52198
118	42.9	2.45	-3.31	5.72	42.8595	5.7164	3	2.71622	125.9936	7.26317	0	7.2632	4.9009	6.8827	-0.007	3	1	0.1457	3.4585	4.90093
119	130.4	3.92	-3.38	3.01	130.359	3.0071	5	2.18779	132.1457	7.32925	0	7.3293	16.786	3.1862	-0.002	3	1	0.1444	2.8302	16.78609
120	268.2	2.64	-1.81	0.99	268.178	0.9844	6	1.61505	131.0126	7.39475	0	7.3948	35.266	1.0123	-5E-04	5	1	0.1431	2.2799	35.26596
121	316.7	2.85	-0.96	0.9	316.688	0.8999	6	1.53838	131.9781	7.46074	0	7.4607	41.447	0.9217	-2E-04	5	1	0.1418	2.1989	41.44728
122	297.5	2.28	-0.96	0.77	297.488	0.7664	6	1.50413	130.1929	7.52584	0	7.5258	38.529	0.7863	-2E-04	5	1	0.1406	2.1897	38.52891
123	354.3	2.85	-0.96	0.8	354.288	0.8044	6	1.46972	132.2518	7.59196	0	7.592	45.666	0.8221	-2E-04	5	1	0.1394	2.1367	45.66621
124	305.7	2.24	-0.86	0.73	305.689	0.7328	6	1.4818	130.1297	7.65703	0	7.657	38.923	0.7516	-2E-04	5	1	0.1382	2.176	38.92272
125	333	2.19	-0.86	0.66	332.989	0.6577	6	1.42213	130.1731	7.72212	0	7.7221	42.122	0.6733	-2E-04	5	1	0.137	2.1224	42.12153
126	300.5	1.82	-0.96	0.61	300.488	0.6057	6	1.42765	128.5685	7.7864	0	7.7864	37.591	0.6218	-2E-04	5	1	0.1359	2.149	37.59142
127	333.2	2.48	-1.24	0.74	333.185	0.7443	6	1.46166	131.0845	7.85194	0	7.8519	41.433	0.7623	-3E-04	5	1	0.1348	2.1557	41.43342
128	408.2	3.23	-1.53	0.79	408.181	0.7913	6	1.42534	133.513	7.9187	0	7.9187	50.547	0.807	-3E-04	5	1	0.1336	2.0952	50.5465
129	345.4	2.99	-1.72	0.87	345.379	0.8657	6	1.5013	132.5405	7.98497	0	7.985	42.254	0.8862	-4E-04	5	1	0.1325	2.1827	42.25363
130	355.2	2.88	-2.01	0.81	355.175	0.8109	6	1.47168	132.3345	8.05114	0	8.0511	43.115	0.8297	-4E-04	5	1	0.1314	2.16	43.11494
131	187.6	4.63	-2.41	2.47	187.571	2.4684	5	2.02278	134.2512	8.11826	0	8.1183	22.105	2.5801	-1E-03	4	1	0.1303	2.6796	22.10476
132	59.3	1.68	-1.24	2.83	59.2848	2.8338	5	2.40014	124.0242	8.18027	0	8.1803	6.2473	3.2874	-0.002	3	1	0.1294	3.1888	6.24729
133	187.5	3.92	-5.04	2.09	187.438	2.0914	6	1.96606	133.0314	8.24679	0	8.2468	21.729	2.1876	-0.002	4	1	0.1283	2.6426	21.72864
134	71.5	1.23	-2.19	1.71	71.4732	1.7209	5	2.1932	122.1989	8.30789	0	8.3079	7.6031	1.9473	-0.003	3	1	0.1274	2.9969	7.60305
135	85.5	2.64	-2.19	3.08	85.4732	3.0887	5	2.31632	128.2237	8.372	0	8.372	9.2094	3.4241	-0.002	3	1	0.1264	3.059	9.20941
136	113.1	5.96	-2.66	5.28	113.067	5.2712	9	2.41827	134.8643	8.43943	0	8.4394	12.398	5.6964	-0.002	3	1	0.1254	3.0906	12.39752
137	146	4.05	-4.02	2.78	145.951	2.7749	5	2.12983	132.6599	8.50576	0	8.5058	16.159	2.9466	-0.002	4	1	0.1244	2.8229	16.15905
138	264.8	6.81	-3.77	2.57	264.754	2.5722	8	1.951	137.28	8.5744	0	8.5744	29.877	2.6583	-0.001	4	1	0.1234	2.5852	29.87723
139	348.6	5.65	-2.33	1.62	348.571	1.6209	6	1.71784	137.2194	8.64301	0	8.643	39.33	1.6621	-5E-04	5	1	0.1224	2.3648	39.32986
140	336	3.87	-2.47	1.15	335.97	1.1519	6	1.60608	134.3608	8.71019	0	8.7102	37.572	1.1826	-5E-04	5	1	0.1215	2.2941	37.57202
141	514.3	5.23	-2.1	1.02	514.274	1.017	6	1.45599	137.28	8.77883	0	8.7788	57.581	1.0346	-3E-04	5	1	0.1205	2.109	57.58116
142	365.2	3.19	-2.19	0.87	365.173	0.8736	6	1.48905	133.1502	8.84541	0	8.8454	40.284	0.8952	-4E-04	5	1	0.1196	2.2025	40.28392
143	381.2	2.65	-2.19	0.69	381.173	0.6952	6	1.40086	131.8978	8.91136	0	8.9114	41.774	0.7119	-4E-04	5	1	0.1187	2.1376	41.77386
144	306.4	2.17	-2.03	0.71	306.375	0.7083	6	1.47036	129.9028	8.97631	0	8.9763	33.132	0.7297	-5E-04	5	1	0.1179	2.2304	33.13153
145	343.9	2.38	-2.1	0.69	343.874	0.6921	6	1.42898	130.8603	9.04174	0	9.0417	37.032	0.7108	-5E-04	5	1	0.117	2.18	

Depth (ft)	CPT-6 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	82.4	0.43	0	0.52	82.4	0.5218	6	1.83602	114.8559	0.05743	0	0.0574	1433.8	0.5222	0	6	0.4566	2	1.5851	155.6412
2	87.5	0.46	0.01	0.52	87.5001	0.5257	6	1.8153	115.4958	0.11518	0	0.1152	758.71	0.5264	1E-05	6	0.4523	2	1.5664	165.1721
3	81.4	0.55	0.09	0.67	81.4011	0.6757	6	1.90018	116.6271	0.17349	0	0.1735	468.2	0.6771	8E-05	6	0.4903	2	1.6589	153.5337
4	38.9	0.16	0.09	0.42	38.9011	0.4113	6	2.07923	105.7916	0.22639	0	0.2264	170.84	0.4137	0.0002	6	0.5507	2	1.811	73.10164
5	37	0.19	0.09	0.52	37.0011	0.5135	5	2.1393	106.9269	0.27985	0	0.2799	131.22	0.5174	0.0002	6	0.5785	2	1.8773	69.40927
6	44.2	0.2	0.09	0.46	44.2011	0.4525	6	2.04593	107.7359	0.33372	0	0.3337	131.45	0.4559	0.0002	6	0.5544	1.8959	1.8033	78.60076
7	61.8	0.37	0.19	0.6	61.8023	0.5987	6	1.97393	113.0547	0.39024	0	0.3902	157.37	0.6025	0.0002	6	0.5454	1.7229	1.7779	99.99562
8	39.1	0.13	0.19	0.34	39.1023	0.3325	6	2.04182	104.2849	0.44239	0	0.4424	87.39	0.3363	0.0004	6	0.5742	1.6499	1.8474	60.28337
9	35.1	0.19	0.19	0.55	35.1023	0.5413	5	2.16988	106.7984	0.49579	0	0.4958	69.801	0.549	0.0004	6	0.6325	1.6152	1.9933	52.8275
10	32	0.25	0.09	0.8	32.0011	0.7812	5	2.27944	108.5809	0.55008	0	0.5501	57.176	0.7949	0.0002	5	0.6843	1.5647	2.1223	46.50744
11	37	0.23	0.09	0.62	37.0011	0.6216	5	2.17667	108.3248	0.60424	0	0.6042	60.236	0.6319	0.0002	6	0.6579	1.4457	2.0461	49.73061
12	65	0.95	0.09	1.46	65.0011	1.4615	5	2.17841	120.0774	0.66428	0	0.6643	96.852	1.4766	0.0001	5	0.6743	1.3688	2.0813	83.22602
13	87	0.38	0.15	0.43	87.0018	0.4368	6	1.7771	114.0839	0.72132	0	0.7213	119.61	0.4404	0.0001	6	0.5336	1.2268	1.7049	100.0392
14	80.5	0.4	0.18	0.49	80.5022	0.4969	6	1.834	114.2699	0.77845	0	0.7785	102.41	0.5017	0.0002	6	0.5631	1.1887	1.7752	89.56036
15	59.9	0.24	0.17	0.4	59.9021	0.4007	6	1.90403	109.8113	0.83336	0	0.8334	70.88	0.4063	0.0002	6	0.5967	1.1531	1.8566	64.37331
16	65.7	0.33	0.09	0.51	65.7011	0.5023	6	1.9132	112.3668	0.88954	0	0.8895	72.859	0.5092	0.0001	6	0.609	1.1115	1.8812	68.07994
17	110.9	0.53	0.09	0.48	110.901	0.4779	6	1.70591	117.1103	0.9481	0	0.9481	115.97	0.482	6E-05	6	0.5385	1.0609	1.6893	110.2434
18	83.9	0.47	0.19	0.56	83.9023	0.5602	6	1.84524	115.5508	1.00587	0	1.0059	82.412	0.567	0.0002	6	0.5991	1.0308	1.8413	80.7565
19	68.4	0.45	0.12	0.66	68.4015	0.6579	6	1.95744	114.7344	1.06324	0	1.0632	63.333	0.6683	0.0001	6	0.65	0.9969	1.968	63.44035
20	101.8	0.5	0.09	0.49	101.801	0.4912	6	1.7438	116.4751	1.12148	0	1.1215	89.774	0.4966	6E-05	6	0.5747	0.9671	1.7628	92.0228
21	39.5	0.31	0.13	0.79	39.5016	0.7848	5	2.20108	110.6684	1.17681	0	1.1768	32.567	0.8089	0.0002	5	0.7627	0.9221	2.2495	33.39872
22	74.9	0.33	0.09	0.44	74.9011	0.4406	6	1.83065	112.6864	1.23316	0	1.2332	59.739	0.448	9E-05	6	0.6257	0.9087	1.8826	63.2624
23	69.4	0.34	0.09	0.5	69.4011	0.4899	6	1.88713	112.7188	1.28952	0	1.2895	52.82	0.4992	0.0001	6	0.6532	0.8788	1.9475	56.56953
24	60	0.31	0.09	0.52	60.0011	0.5167	6	1.95366	111.688	1.34536	0	1.3454	43.599	0.5285	0.0001	6	0.6871	0.8479	2.0302	47.00139
25	56.6	0.3	0.09	0.52	56.6011	0.53	6	1.98122	111.3058	1.40101	0	1.401	39.4	0.5435	0.0001	6	0.7056	0.8203	2.0719	42.79426
26	97.9	0.49	0.04	0.5	97.9005	0.5005	6	1.76255	116.232	1.45913	0	1.4591	66.095	0.5081	3E-05	6	0.6224	0.8187	1.8461	74.62341
27	102	0.51	0	0.5	102	0.5	6	1.74714	116.6248	1.51744	0	1.5174	66.218	0.5076	0	6	0.6227	0.7989	1.8397	75.86853
28	100.9	0.5	0	0.49	100.9	0.4955	6	1.74911	116.4535	1.57567	0	1.5757	63.036	0.5034	0	6	0.6302	0.7781	1.8522	73.03662
29	55.3	0.37	-0.05	0.67	55.2994	0.6691	6	2.04007	112.7835	1.63206	0	1.6321	32.883	0.6894	-7E-05	5	0.7584	0.7199	2.1815	36.51362
30	68.2	0.35	0	0.52	68.2	0.5132	6	1.90355	112.8884	1.6885	0	1.6885	39.391	0.5262	0	6	0.709	0.7179	2.045	45.12899
31	87.6	0.82	-0.01	0.93	87.5999	0.9361	6	1.95653	119.7284	1.74837	0	1.7484	49.104	0.9551	-1E-05	5	0.7319	0.6924	2.0976	56.18128
32	131.1	0.79	0	0.6	131.1	0.6026	6	1.70176	120.439	1.80859	0	1.8086	71.488	0.611	0	6	0.6334	0.7121	1.8315	87.01186
33	145.7	0.93	0	0.64	145.7	0.6383	6	1.68001	121.8903	1.86953	0	1.8695	76.934	0.6466	0	6	0.6295	0.6989	1.8136	94.99716
34	117.2	0.76	-0.1	0.64	117.199	0.6485	6	1.75987	119.8824	1.92947	0	1.9295	59.741	0.6593	-6E-05	6	0.6707	0.6684	1.9144	72.80905
35	85.4	0.82	-0.1	0.96	85.3988	0.9602	6	1.97203	119.6663	1.98931	0	1.9893	41.929	0.9831	-9E-05	5	0.7658	0.6167	2.1565	48.61104
36	111.2	0.72	-0.1	0.65	111.199	0.6475	6	1.77803	119.3586	2.04899	0	2.049	53.27	0.6596	-7E-05	6	0.6916	0.6331	1.9543	65.31142
37	114.6	0.65	-0.1	0.56	114.599	0.5672	6	1.73447	118.6837	2.10833	0	2.1083	53.355	0.5778	-6E-05	6	0.6805	0.6255	1.9176	66.50286
38	138.8	0.91	-0.1	0.66	138.799	0.6556	6	1.7038	121.6129	2.16913	0	2.1691	62.988	0.666	-5E-05	6	0.6704	0.618	1.8835	79.80233
39	56.8	0.87	-0.19	1.53	56.7977	1.5318	5	2.23671	119.1047	2.22869	0	2.2287	24.485	1.5943	-3E-04	5	0.9072	0.5088	2.4961	26.23721
40	72	0.91	-0.36	1.26	71.9956	1.264	5	2.10416	120.0119	2.28869	0	2.2887	30.457	1.3055	-4E-04	5	0.855	0.5171	2.3535	34.06232
41	82.5	0.94	-0.28	1.14	82.4966	1.1394	6	2.02986	120.5813	2.34898	0	2.349	34.12	1.1728	-3E-04	5	0.829	0.5163	2.2778	39.10474
42	60.7	0.76	-0.28	1.25	60.6966	1.2521	5	2.15985	118.2776	2.40812	0	2.4081	24.205	1.3039	-4E-04	5	0.8957	0.4788	2.4455	26.37325
43	97.8	0.91	-0.4	0.93	97.7951	0.9305	6	1.91722	120.7589	2.4685	0	2.4685	38.617	0.9546	-3E-04	5	0.7934	0.5106	2.1693	46.00249
44	92.4	0.7	-0.28	0.76	92.3966	0.7576	6	1.88314	118.7007	2.52785	0	2.5279	35.551	0.7789	-2E-04	5	0.7886	0.5032	2.1489	42.7398
45	152.3	1.11	-0.28	0.73	152.297	0.7288	6	1.70089	123.2929	2.5895	0	2.5895	57.813	0.7415	-1E-04	6	0.7088	0.5303	1.9318	75.02362
46	65.7	1.72	-0.38	2.62	65.6954	2.6182	5	2.34421	124.4468	2.65172	0	2.6517	23.775	2.7283	-4E-04	4	0.9924	0.4018	2.6671	23.94138
47	77.1	0.95	-0.39	1.23	77.0952	1.2322	5	2.07412	120.4936	2.71197	0	2.712	27.428	1.2772	-4E-04	5	0.8883	0.4334	2.3882	30.46874
48	46.8	1.37	-0.47	2.93	46.7943	2.9277	4	2.48447	121.9546	2.77295	0	2.773	15.875	3.1121	-8E-04	3	1	0.3816	2.8433	15.87529
49	53.1	1.69	-0.96	3.19	53.0883	3.1834	4	2.46973	123.7984	2.83484	0	2.8348	17.727	3.363	-0.001	3	1	0.3733	2.8259	17.72704
50	115.9	0.6	-0.28	0.52	115.897	0.5177	6	1.70843	118.1255	2.89391	0	2.8939	39.048	0.531	-2E-04	6	0.7519	0.4693	2.0065	50.12022
51	134.9	0.87	-0.28	0.65	134.897	0.6449	6	1.70934	121.2145	2.95451	0	2.9545	44.658	0.6594	-2E-04	6	0.7526	0.4617	2.0008	57.57633
52	176.4	1.08	-0.28	0.61	176.397	0.6123	6	1.6036	123.4508	3.01624	0	3.0162	57.482	0.6229	-1E-04	6	0.7079	0.4764	1.8756	78.05733
53	175.2	1.23	-0.28	0.7	175.197	0.7021	6	1.64383	124.3857	3.07843	0	3.0784	55.911	0.7146	-1E-04	6	0.7295	0.4588	1.9246	74.63781
54	149	0.58	-0.28	0.39	148.997	0.3893	6	1.54999	118.4902	3.13768	0	3.1377	46.486	0.3976	-1E-04	6	0.706	0.4642	1.8547	63.99248
55	134.8	0.69	-0.28	0.51	134.797	0.5119	6	1.65111	119.5166	3.19744	0	3.1974	41.158	0.5243	-2E-04	6	0.7546	0.4341	1.9755	53.98895
56	138.6	0.68	-0.28	0.49	138.597	0.4906	6	1.63079	119.4776	3.25717	0	3.2572	41.551	0.5024	-2E-04	6	0.7516	0.4295	1.96	54.93755
57	36	1.35	-0.28	3.76	35.9966	3.7504	4	2.64113	121.2072	3.31778	0	3.3178	9.8496	4.1311	-6E-04	3	1	0.3189	3.083	9.8496
58	81.1	1.71	-4.12	2.11	81.0496	2.1098	5	2.21346	124.9164	3.38024	0	3.38								

87	40.1	1.96	-1.44	4.9	40.0824	4.8899	4	2.68766	124.1975	5.17991	0	5.1799	6.738	5.6157	-0.003	3	1	0.2043	3.2948	6.73804
88	74.1	3.74	-1.47	5.05	74.082	5.0485	4	2.51765	130.4234	5.24513	0	5.2451	13.124	5.4331	-0.002	3	1	0.2017	3.0584	13.12397
89	96.8	2.99	-1.9	3.09	96.7767	3.0896	5	2.28038	129.4376	5.30985	0	5.3099	17.226	3.2689	-0.002	3	1	0.1993	2.8281	17.22591
90	133	3.13	-1.68	2.36	132.979	2.3538	5	2.10063	130.5475	5.37512	0	5.3751	23.74	2.4529	-1E-03	4	1	0.1969	2.6416	23.73981
91	83.6	3.46	-1.71	4.14	83.5791	4.1398	4	2.41806	130.1482	5.44019	0	5.4402	14.363	4.428	-0.002	3	1	0.1945	2.9718	14.36325
92	35.2	1.99	-2.75	5.66	35.1663	5.6588	3	2.77271	123.9895	5.50219	0	5.5022	5.3913	6.7084	-0.007	3	1	0.1923	3.4186	5.39134
93	58.5	3.96	-2.75	6.77	58.4663	6.7731	3	2.6815	130.2643	5.56732	0	5.5673	9.5017	7.486	-0.004	3	1	0.1901	3.2553	9.5017
94	50.8	3.35	-2.66	6.59	50.7674	6.5987	3	2.71288	128.6959	5.63167	0	5.6317	8.0146	7.4221	-0.004	3	1	0.1879	3.3099	8.01464
95	35.2	2.22	-2.66	6.31	35.1674	6.3127	3	2.80668	124.7898	5.69406	0	5.6941	5.1762	7.5322	-0.007	3	1	0.1858	3.463	5.17616
96	44.9	3.41	-2.63	7.59	44.8678	7.6001	3	2.79439	128.5245	5.75833	0	5.7583	6.7918	8.7191	-0.005	3	1	0.1838	3.4098	6.79182
97	32.9	2.34	-2.56	7.13	32.8687	7.1192	3	2.86469	125.0102	5.82083	0	5.8208	4.6467	8.6513	-0.007	2	1	0.1818	3.5368	4.64673
98	29.1	1.7	-2.56	5.85	29.0687	5.8482	3	2.84142	122.3726	5.88202	0	5.882	3.942	7.3318	-0.008	2	1	0.1799	3.551	3.94196
99	45.3	3.15	-2.43	6.96	45.2703	6.9582	3	2.76311	127.9659	5.946	0	5.946	6.6136	8.0103	-0.004	3	1	0.178	3.3956	6.61357
100	42.6	2.81	-2.28	6.61	42.5721	6.6006	3	2.76399	126.9803	6.00949	0	6.0095	6.0841	7.6855	-0.004	3	1	0.1761	3.4128	6.08414
101	64.1	3.64	-2.18	5.67	64.0733	5.681	4	2.59754	129.8711	6.07443	0	6.0744	9.5481	6.276	-0.003	3	1	0.1742	3.2049	9.54805
102	141.7	1.66	-2.28	1.17	141.672	1.1717	6	1.86155	126.0614	6.13746	0	6.1375	22.083	1.2248	-0.001	5	1	0.1724	2.4961	22.0832
103	29.3	1.67	-1.42	5.68	29.2826	5.703	3	2.83151	122.2602	6.19859	0	6.1986	3.7241	7.2344	-0.004	2	1	0.1707	3.5676	3.72408
104	31.7	2.2	-1.42	6.95	31.6826	6.9439	3	2.86794	124.4691	6.26082	0	6.2608	4.0605	8.654	-0.004	2	1	0.169	3.5835	4.06046
105	27.2	1.71	-1.42	6.28	27.1826	6.2908	3	2.8844	122.2519	6.32195	0	6.322	3.2997	8.1972	-0.005	2	1	0.1674	3.642	3.29972
106	31.6	1.47	-1.33	4.65	31.5837	4.6543	3	2.74669	121.5113	6.3827	0	6.3827	3.9483	5.8331	-0.004	3	1	0.1658	3.493	3.94833
107	120.8	2.73	-1.42	2.26	120.783	2.2603	5	2.11499	129.3124	6.44736	0	6.4474	17.734	2.3877	-9E-04	4	1	0.1641	2.7363	17.73366
108	164.2	1.31	-1.23	0.8	164.185	0.7979	6	1.7015	124.6885	6.5097	0	6.5097	24.222	0.8308	-6E-04	5	1	0.1625	2.3768	24.22157
109	152.5	2.61	-1.04	1.71	152.487	1.7116	6	1.95752	129.552	6.57448	0	6.5745	22.194	1.7887	-5E-04	4	1	0.1609	2.5843	22.19382
110	141.3	2.71	-0.78	1.92	141.29	1.918	5	2.01644	129.6411	6.6393	0	6.6393	20.281	2.0126	-4E-04	4	1	0.1594	2.6458	20.28093
111	148.1	2.46	-0.71	1.66	148.091	1.6611	6	1.95646	129.0475	6.70382	0	6.7038	21.091	1.7399	-4E-04	4	1	0.1578	2.5958	21.09058
112	209.4	2.12	-0.02	1.01	209.4	1.0124	6	1.69668	128.8041	6.76822	0	6.7682	29.939	1.0462	-1E-05	5	1	0.1563	2.3477	29.93865
113	129.4	4.56	-0.43	3.53	129.395	3.5241	8	2.24368	133.2341	6.83484	0	6.8348	17.932	3.7206	-3E-04	3	1	0.1548	2.8493	17.93164
114	166.5	2.89	-2.47	1.73	166.47	1.7361	6	1.93684	130.5116	6.9001	0	6.9001	23.126	1.8111	-0.001	4	1	0.1534	2.5728	23.12571
115	79.1	3.48	-0.06	4.4	79.0993	4.3995	4	2.4537	130.056	6.96513	0	6.9651	10.356	4.8244	-6E-05	3	1	0.1519	3.1063	10.35647
116	58	3.41	-0.1	5.88	57.9988	5.8794	3	2.63708	129.1506	7.0297	0	7.0297	7.2505	6.6903	-1E-04	3	1	0.1505	3.3157	7.25053
117	49.5	2.77	-0.19	5.6	49.4977	5.5962	3	2.66691	127.243	7.09332	0	7.0933	5.9781	6.5324	-3E-04	3	1	0.1492	3.3758	5.97807
118	52.6	3.2	-0.38	6.09	52.5954	6.0842	3	2.67627	128.447	7.15755	0	7.1576	6.3482	7.0426	-6E-04	3	1	0.1478	3.375	6.34824
119	148.5	3.74	-0.6	2.52	148.493	2.5186	5	2.09238	132.1194	7.22361	0	7.2236	19.557	2.6474	-3E-04	4	1	0.1465	2.7287	19.55658
120	175.8	1.52	-0.66	0.87	175.792	0.8647	6	1.70283	125.943	7.28658	0	7.2866	23.125	0.9021	-3E-04	5	1	0.1452	2.4116	23.12545
121	211.7	1.98	-0.34	0.93	211.696	0.9353	6	1.66868	128.3308	7.35074	0	7.3507	27.799	0.969	-1E-04	5	1	0.144	2.3579	27.79925
122	253.1	1.95	-0.28	0.77	253.097	0.7705	6	1.55425	128.6547	7.41507	0	7.4151	33.133	0.7937	-8E-05	5	1	0.1427	2.2484	33.13273
123	338.9	3.1	-0.28	0.91	338.897	0.9147	6	1.52501	132.7587	7.48145	0	7.4815	44.298	0.9354	-6E-05	5	1	0.1414	2.1781	44.29825
124	271.5	2.5	-0.47	0.92	271.494	0.9208	6	1.58982	130.6439	7.54677	0	7.5468	34.975	0.9472	-1E-04	5	1	0.1402	2.2676	34.97489
125	269.3	2.27	-0.57	0.84	269.293	0.843	6	1.56384	129.9178	7.61173	0	7.6117	34.379	0.8675	-2E-04	5	1	0.139	2.2541	34.37869
126	311.9	2.61	-0.66	0.84	311.892	0.8368	6	1.51877	131.2972	7.67738	0	7.6774	39.625	0.858	-2E-04	5	1	0.1378	2.1989	39.62479
127	371.5	2.99	-0.95	0.81	371.488	0.8049	6	1.45675	132.7183	7.74374	0	7.7437	46.973	0.822	-2E-04	5	1	0.1366	2.1263	46.97275
128	397.2	3.44	-1.23	0.87	397.185	0.8661	6	1.46354	133.9072	7.81069	0	7.8107	49.851	0.8835	-2E-04	5	1	0.1355	2.1216	49.85145
129	382.5	2.89	-1.42	0.76	382.483	0.7556	6	1.42753	132.5405	7.87696	0	7.877	47.557	0.7715	-3E-04	5	1	0.1343	2.1072	47.55713
130	359.9	3.51	-1.72	0.98	359.879	0.9753	6	1.53055	133.8141	7.94387	0	7.9439	44.303	0.9973	-4E-04	5	1	0.1332	2.1934	44.30273
131	303.8	3.26	-2.11	1.07	303.774	1.0732	6	1.60881	132.8601	8.0103	0	8.0103	36.923	1.1022	-5E-04	5	1	0.1321	2.2833	36.92295
132	166.4	5.2	-2.46	3.13	166.37	3.1256	8	2.13604	134.8081	8.0777	0	8.0777	19.596	3.2851	-0.001	4	1	0.131	2.7854	19.59619
133	206.4	4.72	-5.57	2.29	206.332	2.2876	6	1.97148	134.6245	8.14501	0	8.145	24.332	2.3816	-0.002	4	1	0.1299	2.6253	24.33228
134	252.5	2.55	-2.37	1.01	252.471	1.01	6	1.64077	130.6116	8.21032	0	8.2103	29.75	1.044	-7E-04	5	1	0.1289	2.3496	29.75044
135	239.7	2.29	-2.43	0.96	239.67	0.9555	6	1.63816	129.6978	8.27517	0	8.2752	27.963	0.9897	-8E-04	5	1	0.1279	2.3604	27.96258
136	82.5	2.88	-1.9	3.49	82.4767	3.4919	5	2.36624	128.7733	8.33956	0	8.3396	8.8898	3.8847	-0.002	3	1	0.1269	3.1032	8.88982
137	114	4.76	-5.41	4.18	113.934	4.1779	9	2.33594	133.2378	8.40618	0	8.4062	12.554	4.5107	-0.004	3	1	0.1259	3.0225	12.55358
138	91.3	5.13	-5.88	5.63	91.228	5.6233	9	2.49705	133.2435	8.4728	0	8.4728	9.7672	6.199	-0.005	3	1	0.1249	3.1939	9.76717
139	71.8	3.95	-5.79	5.51	71.7291	5.5068	9	2.55557	130.7444	8.53817	0	8.5382	7.401	6.2509	-0.007	3	1	0.1239	3.2906	7.401
140	73.9	3.9	-5.88	5.28	73.828	5.2826	9	2.53368	130.7215	8.60353	0	8.6035	7.5811	5.9794	-0.006	3	1	0.123	3.2705	7.58113
141	69.2	3.86	-5.93	5.58	69.1274	5.5839	4	2.5705	130.4857	8.66877	0	8.6688	6.9743	6.3845	-0.007	3	1	0.1221	3.3166	6.9743
142	83.6	4.91	-6.07	5.88	83.5257	5.8784	9	2.53586	132.7076	8.73513	0	8.7351	8.5621	6.565	-0.006	3	1	0.1211	3.2541	8.56205
143	155.4	5.36	-6.19	3.45	155.324	3.4509	8	2.18835	134.8623	8.80256	0	8.8026	16.645	3.6582	-0.003	3	1	0.1202	2.87	16.64535
144	157.9	4.33	-5.35	2.75	157.835	2.7434	5	2.10485	133.34	8.86923	0	8.8692	16.796	2.9067	-0.003	4	1	0.1193	2.8059	16.79575
145	270.8	3.85	-2.19	1.42	270.773	1.4219	6	1.73563	133.7967	8.93613	0	8.9361	29.301	1.4704	-6E-04	5	1	0.1184	2.4367	29.30096

Depth (ft)	CPT-7 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	78.8	0.42	-0.1	0.53	78.7988	0.533	6	1.8574	114.5747	0.05729	0	0.0573	1374.5	0.5334	-9E-05	6	0.4647	2	1.6062	148.8345
2	48.4	0.26	-0.1	0.54	48.3988	0.5372	6	2.04396	109.8769	0.11223	0	0.1122	430.26	0.5385	-2E-04	6	0.5351	2	1.7843	91.26961
3	60.3	0.31	-0.19	0.51	60.2977	0.5141	6	1.95076	111.7	0.16808	0	0.1681	357.75	0.5156	-2E-04	6	0.5034	2	1.694	113.6549
4	47.9	0.29	-0.29	0.6	47.8965	0.6055	5	2.07259	110.6504	0.2234	0	0.2234	213.4	0.6083	-4E-04	6	0.5531	2	1.8177	90.10999
5	52.3	0.19	-0.26	0.37	52.2968	0.3633	6	1.9399	107.7708	0.27729	0	0.2773	187.6	0.3653	-4E-04	6	0.5035	1.9626	1.6791	96.48758
6	49	0.19	-0.34	0.39	48.9958	0.3878	6	1.97727	107.6117	0.33109	0	0.3311	146.98	0.3904	-5E-04	6	0.5287	1.8482	1.7412	85.00435
7	64.1	0.59	-0.29	0.92	64.0965	0.9205	5	2.06161	116.5579	0.38937	0	0.3894	163.62	0.9261	-3E-04	6	0.5788	1.7836	1.8652	107.3855
8	64.1	0.25	-0.38	0.39	64.0954	0.39	6	1.8725	110.275	0.44451	0	0.4445	143.19	0.3928	-4E-04	6	0.519	1.5685	1.7025	94.35579
9	57.8	0.39	-0.48	0.67	57.7941	0.6748	6	2.02555	113.2764	0.50115	0	0.5012	114.32	0.6807	-6E-04	6	0.586	1.5495	1.8707	83.90236
10	49	0.39	-0.48	0.8	48.9941	0.796	5	2.12421	112.8735	0.55758	0	0.5576	86.869	0.8052	-7E-04	6	0.632	1.4991	1.984	68.623
11	50.4	0.27	-0.48	0.53	50.3941	0.5358	6	2.0279	110.2515	0.61271	0	0.6127	81.248	0.5424	-7E-04	6	0.6062	1.3926	1.9092	65.51889
12	50.6	0.71	-0.65	1.4	50.592	1.4034	5	2.25275	117.3355	0.67138	0	0.6714	74.356	1.4223	-9E-04	5	0.7017	1.3761	2.1524	64.92099
13	84.6	0.42	-0.67	0.49	84.5918	0.4965	6	1.81522	114.7477	0.72875	0	0.7288	115.08	0.5008	-6E-04	6	0.5489	1.2272	1.7442	97.26091
14	43.4	0.48	-0.67	1.1	43.3918	1.1062	5	2.24637	114.0966	0.7858	0	0.7858	54.22	1.1266	-0.001	5	0.7182	1.2382	2.1814	49.85932
15	42	0.46	-0.76	1.09	41.9907	1.0955	5	2.2558	113.7051	0.84265	0	0.8427	48.832	1.1179	-0.001	5	0.7315	1.1812	2.2084	45.93575
16	51.4	0.64	-0.86	1.25	51.3895	1.2454	5	2.21618	116.6141	0.90096	0	0.901	56.039	1.2676	-0.001	5	0.7257	1.1238	2.1864	53.62102
17	100	0.96	-0.86	0.96	99.9895	0.9601	6	1.91816	121.2044	0.96156	0	0.9616	102.99	0.9694	-6E-04	6	0.6209	1.0612	1.904	99.31828
18	108.8	0.78	-0.86	0.71	108.789	0.717	6	1.81172	119.8908	1.02151	0	1.0215	105.5	0.7238	-6E-04	6	0.588	1.0209	1.8102	103.9798
19	105.5	0.89	-0.86	0.84	105.489	0.8437	6	1.86508	120.781	1.0819	0	1.0819	96.504	0.8524	-6E-04	6	0.6159	0.9864	1.8761	97.33183
20	98.8	0.68	-0.86	0.69	98.7895	0.6883	6	1.83532	118.6518	1.14122	0	1.1412	85.565	0.6964	-6E-04	6	0.6122	0.9548	1.8588	88.11105
21	105.3	0.7	-1.05	0.66	105.287	0.6649	6	1.80403	119.0192	1.20073	0	1.2007	86.686	0.6725	-7E-04	6	0.6072	0.9261	1.8383	91.0997
22	103.4	0.8	-1.05	0.77	103.387	0.7738	6	1.84923	119.9519	1.26071	0	1.2607	81.007	0.7833	-7E-04	6	0.6319	0.8952	1.8954	86.40318
23	106.3	0.78	-1.05	0.74	106.287	0.7339	6	1.82585	119.8341	1.32063	0	1.3206	79.482	0.7431	-7E-04	6	0.6297	0.8698	1.8825	86.2815
24	115.6	1.07	-1.14	0.92	115.586	0.9257	6	1.85938	122.3517	1.3818	0	1.3818	82.649	0.9369	-7E-04	6	0.6488	0.841	1.9252	90.77037
25	121.8	1.01	-1.14	0.83	121.786	0.8293	6	1.81157	122.0569	1.44283	0	1.4428	83.408	0.8393	-7E-04	6	0.6369	0.8208	1.8863	93.34956
26	123	1	-1.14	0.81	122.986	0.8131	6	1.80287	122.008	1.50383	0	1.5038	80.782	0.8232	-7E-04	6	0.6402	0.7985	1.8875	91.67224
27	139.8	1	-1.24	0.72	139.785	0.7154	6	1.72471	122.3203	1.56499	0	1.565	88.32	0.7235	-7E-04	6	0.6153	0.786	1.8145	102.6698
28	115.9	0.86	-1.24	0.74	115.885	0.7421	6	1.79874	120.7594	1.62537	0	1.6254	70.297	0.7527	-8E-04	6	0.6529	0.7556	1.9055	81.59276
29	145.7	1.11	-1.24	0.76	145.685	0.7619	6	1.72803	123.1847	1.68697	0	1.687	85.359	0.7708	-6E-04	6	0.629	0.7457	1.8351	101.4879
30	129.8	0.71	-1.42	0.54	129.783	0.5471	6	1.68103	119.6332	1.74678	0	1.7468	73.298	0.5545	-8E-04	6	0.6191	0.7332	1.8015	88.72137
31	178	1.29	-1.14	0.73	177.986	0.7248	6	1.64765	124.7727	1.80917	0	1.8092	97.38	0.7322	-5E-04	6	0.6074	0.722	1.7632	120.207
32	141.6	1.19	-1.06	0.84	141.587	0.8405	6	1.76492	123.6243	1.87098	0	1.871	74.675	0.8517	-6E-04	6	0.6628	0.6854	1.9009	90.50034
33	178.7	2.23	-1.18	1.25	178.686	1.248	6	1.80999	128.7873	1.93537	0	1.9354	91.326	1.2617	-5E-04	6	0.6822	0.6624	1.9439	110.6468
34	142	1.24	-1.24	0.88	141.985	0.8733	6	1.77485	123.9323	1.99734	0	1.9973	70.087	0.8858	-6E-04	6	0.6796	0.6494	1.9292	85.91072
35	126.5	1.26	-1.33	1	126.484	0.9962	6	1.85024	123.7674	2.05922	0	2.0592	60.423	1.0127	-8E-04	6	0.7175	0.6202	2.021	72.92824
36	93.9	1.02	-1.54	1.08	93.8812	1.0865	6	1.9733	121.4943	2.11997	0	2.12	43.284	1.1116	-0.001	5	0.7785	0.5822	2.1735	50.48829
37	89.9	1.18	-1.62	1.31	89.8802	1.3129	5	2.04086	122.4542	2.1812	0	2.1812	40.207	1.3455	-0.001	5	0.8123	0.5557	2.2547	46.05514
38	70.9	0.96	-1.9	1.35	70.8767	1.3545	5	2.1284	120.3651	2.24138	0	2.2414	30.622	1.3987	-0.002	5	0.8594	0.5246	2.371	34.03052
39	66.6	1.19	-1.79	1.79	66.5781	1.7874	5	2.22718	121.784	2.30227	0	2.3023	27.918	1.8514	-0.002	5	0.9071	0.494	2.4867	30.00874
40	46.8	1.58	-1.91	3.39	46.7766	3.3778	4	2.52715	122.9972	2.36377	0	2.3638	18.789	3.5575	-0.003	3	1	0.4476	2.8213	18.78897
41	74.1	1.3	-2.03	1.76	74.0752	1.755	5	2.18729	122.6912	2.42512	0	2.4251	29.545	1.8144	-0.002	5	0.9024	0.4731	2.4587	32.0351
42	84.2	1.08	-1.9	1.28	84.1767	1.283	5	2.05597	121.6464	2.48594	0	2.4859	32.861	1.3221	-0.002	5	0.8534	0.4824	2.3249	37.2434
43	124	2.08	-1.85	1.68	123.977	1.6777	5	2.0126	127.3863	2.54963	0	2.5496	47.626	1.713	-0.001	5	0.8309	0.4815	2.2579	55.26042
44	93.1	1.3	-1.33	1.4	93.0837	1.3966	5	2.0472	123.2483	2.61126	0	2.6113	34.647	1.4369	-0.001	5	0.8602	0.4598	2.327	39.31161
45	109.6	1.24	-1.33	1.13	109.584	1.1316	6	1.93356	123.3005	2.67291	0	2.6729	39.998	1.1599	-9E-04	5	0.8174	0.4689	2.2068	47.37258
46	137.4	1.05	-1.43	0.76	137.383	0.7643	6	1.74858	122.635	2.73423	0	2.7342	49.245	0.7798	-8E-04	6	0.7449	0.493	2.0084	62.73996
47	58.7	1.21	-1.71	2.07	58.6791	2.0621	5	2.3094	121.5979	2.79502	0	2.795	19.994	2.1652	-0.002	4	0.999	0.3789	2.6689	20.01283
48	69.3	1.19	-1.32	1.72	69.2838	1.7176	5	2.20276	121.8812	2.85597	0	2.856	23.259	1.7914	-0.001	4	0.9584	0.3861	2.5533	24.23927
49	106.5	1.27	-1.43	1.19	106.483	1.1927	6	1.95801	123.4054	2.91767	0	2.9177	35.496	1.2263	-1E-03	5	0.8532	0.4209	2.2702	41.19649
50	141.3	1.44	-1.24	1.02	141.285	1.0192	6	1.82103	125.0144	2.98018	0	2.9802	46.408	1.0412	-7E-04	5	0.7961	0.4385	2.1122	57.32129
51	130.1	1.29	-1.33	0.99	130.084	0.9917	6	1.83978	124.0081	3.04218	0	3.0422	41.76	1.0154	-8E-04	5	0.8126	0.4239	2.148	50.89835
52	189.7	1.64	-0.97	0.86	189.688	0.8646	6	1.67817	126.6845	3.10552	0	3.1055	60.081	0.879	-4E-04	6	0.7423	0.4497	1.955	79.29633
53	150.1	1.38	-1.06	0.92	150.087	0.9195	6	1.77155	124.8504	3.16795	0	3.168	46.377	0.9393	-5E-04	5	0.7931	0.4191	2.081	58.18625
54	91.1	1.91	-1.33	2.09	91.0837	2.097	5	2.17555	126.0104	3.23095	0	3.231	27.191	2.1741	-0.001	4	0.9761	0.3364	2.5538	27.92611
55	135.2	0.96	-0.93	0.71	135.189	0.7101	6	1.73411	121.94	3.29192	0	3.2919	40.067	0.7278	-5E-04	5	0.7955	0.4054	2.0715	50.534
56	65.7	1.56	-0.67	2.37	65.6918	2.3747	5	2.31482	123.7323	3.35379	0	3.3538	18.587	2.5025	-8E-04	4	1	0.3155	2.7318	18.58734
57	116.6	1.06	-0.86	0.91	116.589	0.9092	6	1.85149	122.3041	3.41494	0	3.4149	33.141	0.9366	-6E-04	5	0.8593	0.3654	2.2242	39.08101
58	80.2	2.38	-1.27	2.97	80.1845	2.9682	5	2.32												

87	157	5.05	2.85	3.21	157.035	3.2159	8	2.16096	134.4531	5.34786	0	5.3479	28.364	3.3292	0.0014	4	1	0.1979	2.6655	28.36404
88	214.1	3.47	2.55	1.62	214.131	1.6205	6	1.84349	132.4639	5.4141	0	5.4141	38.551	1.6625	0.0009	5	1	0.1954	2.3717	38.55069
89	195.8	3.74	2.31	1.91	195.828	1.9098	6	1.92337	132.7943	5.48049	0	5.4805	34.732	1.9648	0.0009	5	1	0.1931	2.452	34.73187
90	200.4	3.63	3.31	1.81	200.441	1.811	6	1.89906	132.6326	5.54681	0	5.5468	35.136	1.8626	0.0012	5	1	0.1908	2.4338	35.13618
91	224.4	2.55	2.25	1.14	224.428	1.1362	6	1.71298	130.3244	5.61197	0	5.612	38.991	1.1654	0.0007	5	0.9789	0.1953	2.2646	40.38781
92	112.4	3.41	1.87	3.03	112.423	3.0332	5	2.23174	130.7648	5.67735	0	5.6774	18.802	3.1945	0.0013	4	1	0.1864	2.792	18.80199
93	135.7	4.3	3.17	3.17	135.739	3.1679	5	2.19445	132.9213	5.74381	0	5.7438	22.632	3.3078	0.0018	4	1	0.1842	2.7387	22.63217
94	193.4	2.56	2.56	1.32	193.431	1.3235	6	1.8054	129.9905	5.80881	0	5.8088	32.3	1.3644	0.001	5	1	0.1822	2.3834	32.29965
95	124.5	3.17	1.9	2.54	124.523	2.5457	5	2.14505	130.4801	5.87405	0	5.8741	20.199	2.6717	0.0012	4	1	0.1801	2.7199	20.19888
96	153.2	2.81	2	1.83	153.224	1.8339	6	1.97849	130.104	5.9391	0	5.9391	24.799	1.9079	0.001	4	1	0.1782	2.5612	24.79927
97	223.8	2.34	2.47	1.04	223.83	1.0454	6	1.68701	129.6891	6.00395	0	6.004	36.281	1.0743	0.0008	5	1	0.1762	2.2836	36.28052
98	280.2	2.62	2.2	0.93	280.227	0.935	6	1.58563	131.0641	6.06948	0	6.0695	45.17	0.9557	0.0006	5	0.9577	0.1877	2.1494	48.63307
99	272.6	2.59	1.71	0.95	272.621	0.95	6	1.59875	130.9127	6.13493	0	6.1349	43.437	0.9719	0.0005	5	0.9701	0.1818	2.1753	45.78052
100	242.9	2.47	1.81	1.02	242.922	1.0168	6	1.65412	130.2843	6.20008	0	6.2001	38.181	1.0434	0.0006	5	1	0.1707	2.2581	38.18051
101	283.9	2.96	2.42	1.04	283.93	1.0425	6	1.61777	131.9889	6.26607	0	6.2661	44.312	1.066	0.0006	5	0.985	0.1734	2.2	45.51061
102	122.1	4.08	2.47	3.34	122.13	3.3407	5	2.24112	132.2794	6.33221	0	6.3322	18.287	3.5234	0.0015	3	1	0.1671	2.8279	18.28714
103	256.8	2.08	2.46	0.81	256.83	0.8099	6	1.56534	129.1627	6.39679	0	6.3968	39.15	0.8306	0.0007	5	0.9861	0.1696	2.1867	40.13923
104	188	4.51	4.26	2.4	188.052	2.3983	5	2.01214	134.0653	6.46382	0	6.4638	28.093	2.4836	0.0017	4	1	0.1637	2.5874	28.09301
105	255.4	2.73	3.04	1.07	255.437	1.0688	6	1.65584	131.1391	6.52939	0	6.5294	38.121	1.0968	0.0009	5	1	0.1621	2.2706	38.12112
106	83.2	3.78	2.66	4.54	83.2326	4.5415	4	2.44992	130.7853	6.59479	0	6.5948	11.621	4.9323	0.0025	3	1	0.1605	3.0729	11.62096
107	58	3.42	1.97	5.9	58.0241	5.8941	3	2.63777	129.1731	6.65937	0	6.6594	7.7132	6.6583	0.0028	3	1	0.1589	3.2933	7.71315
108	114.7	5.42	2.56	4.72	114.731	4.7241	9	2.37639	134.205	6.72648	0	6.7265	16.057	5.0183	0.0017	3	1	0.1573	2.9691	16.05668
109	82.3	4.6	2.34	5.59	82.3286	5.5874	9	2.52251	132.1952	6.79257	0	6.7926	11.12	6.0898	0.0022	3	1	0.1558	3.1454	11.12039
110	135	4.43	2.37	3.28	135.029	3.2808	5	2.2078	133.1264	6.85914	0	6.8591	18.686	3.4564	0.0013	3	1	0.1543	2.8153	18.68601
111	119.8	5.29	2.41	4.41	119.831	4.4146	9	2.34153	134.1334	6.9262	0	6.9262	16.301	4.6854	0.0015	3	1	0.1528	2.9449	16.30089
112	95	5.31	2.62	5.59	95.0321	5.5876	9	2.48399	133.5955	6.993	0	6.993	12.59	6.0314	0.0021	3	1	0.1513	3.1014	12.5896
113	185.6	3.14	2.47	1.69	185.63	1.6915	6	1.89745	131.3844	7.05869	0	7.0587	25.298	1.7584	0.001	4	1	0.1499	2.5335	25.2981
114	65.8	4.04	2.23	6.14	65.8273	6.1373	3	2.6156	130.6998	7.12404	0	7.124	8.2402	6.8821	0.0027	3	1	0.1485	3.2799	8.24016
115	57.9	3.98	2.3	6.88	57.9282	6.8706	3	2.68883	130.2786	7.18918	0	7.1892	7.0577	7.8441	0.0033	3	1	0.1472	3.3679	7.05768
116	148.7	4.78	2.82	3.21	148.735	3.2138	5	2.17499	133.9186	7.25614	0	7.2561	19.498	3.3786	0.0014	4	1	0.1458	2.7947	19.49774
117	91.6	4.34	2.74	4.74	91.6335	4.7363	9	2.43745	132.0307	7.32216	0	7.3222	11.515	5.1476	0.0023	3	1	0.1445	3.0876	11.51455
118	82.6	4.97	2.56	6.02	82.6313	6.0147	9	2.54656	132.7703	7.38854	0	7.3885	10.184	6.6053	0.0025	3	1	0.1432	3.1974	10.18371
119	72.5	5.28	2.8	7.28	72.5343	7.2793	9	2.6467	132.8951	7.45499	0	7.455	8.7296	8.1132	0.0031	3	1	0.1419	3.306	8.72963
120	83.2	5.42	3.71	6.51	83.2454	6.5109	9	2.57171	133.4225	7.5217	0	7.5217	10.067	7.1576	0.0035	3	1	0.1407	3.2235	10.06736
121	261.2	4.43	3.04	1.7	261.237	1.6958	6	1.80601	134.736	7.58907	0	7.5891	33.423	1.7465	0.0009	5	1	0.1394	2.4341	33.42283
122	154.6	4.84	3.11	3.13	154.638	3.1299	5	2.1556	134.1048	7.65612	0	7.6561	19.198	3.2929	0.0015	4	1	0.1382	2.793	19.19796
123	47.9	2.33	3.12	4.87	47.9382	4.8604	4	2.63163	125.8993	7.71907	0	7.7191	5.2104	5.7933	0.0056	3	1	0.1371	3.3929	5.21036
124	83.1	4.49	3.04	5.4	83.1372	5.4007	9	2.50836	132.042	7.78509	0	7.7851	9.679	5.9587	0.0029	3	1	0.1359	3.1862	9.67903
125	185.1	6.25	4.28	3.37	185.152	3.3756	8	2.13595	136.4148	7.85533	0	7.8553	22.576	3.5251	0.0017	4	1	0.1347	2.7571	22.57638
126	312.5	4.77	4	1.53	312.549	1.5262	6	1.72317	135.7145	7.92116	0	7.9212	38.457	1.5659	0.001	5	1	0.1336	2.3569	38.45749
127	344.5	3.86	4.38	1.12	344.554	1.1203	6	1.58983	134.4034	7.98836	0	7.9884	42.132	1.1469	0.0009	5	1	0.1325	2.2456	42.13197
128	258.8	4.85	4.47	1.87	258.855	1.8736	6	1.84328	135.3765	8.05605	0	8.0561	31.132	1.9338	0.0013	5	1	0.1313	2.4854	31.13173
129	209.2	9.12	9.26	4.36	209.313	4.3571	8	2.1987	137.28	8.12469	0	8.1247	24.763	4.5331	0.0033	3	1	0.1302	2.7985	24.76263
130	392.2	4.59	6.54	1.17	392.28	1.1701	6	1.572	135.9872	8.19268	0	8.1927	46.882	1.195	0.0012	5	1	0.1292	2.218	46.88177
131	301.2	4	5.17	1.33	301.263	1.3277	6	1.68385	134.3366	8.25985	0	8.2599	35.473	1.3652	0.0013	5	1	0.1281	2.3502	35.47322
132	232	5.31	6.74	2.29	232.083	2.288	6	1.94141	135.7732	8.32774	0	8.3277	26.869	2.3731	0.0022	4	1	0.1271	2.5903	26.86862
133	182.9	7.76	8.63	4.24	183.006	4.2403	8	2.22055	137.28	8.39638	0	8.3964	20.796	4.4442	0.0036	3	1	0.126	2.8495	20.79579
134	218.6	4.75	8.32	2.17	218.702	2.1719	6	1.93831	134.8129	8.46378	0	8.4638	24.84	2.2593	0.0029	4	1	0.125	2.6043	24.83973
135	291.3	4.6	6.58	1.58	291.381	1.5787	6	1.75289	135.2779	8.53142	0	8.5314	33.154	1.6263	0.0017	5	1	0.124	2.4184	33.15381
136	265.3	3.21	5.98	1.21	265.373	1.2096	6	1.68619	132.4173	8.59763	0	8.5976	29.866	1.2501	0.0017	5	1	0.1231	2.3903	29.86586
137	365.5	4.34	7.68	1.19	365.594	1.1871	6	1.59482	135.4056	8.66533	0	8.6653	41.19	1.2159	0.0016	5	1	0.1221	2.2682	41.19042
138	78.6	4.19	6.18	5.32	78.6756	5.3257	9	2.51877	131.4015	8.73103	0	8.731	8.011	5.9905	0.0064	3	1	0.1212	3.2521	8.01103
139	120	5.98	6.47	4.98	120.079	4.9801	9	2.38289	135.0355	8.79855	0	8.7986	12.648	5.3738	0.0042	3	1	0.1203	3.0677	12.64761
140	123.7	6.59	6.38	5.32	123.778	5.324	9	2.39857	135.8202	8.86646	0	8.8665	12.96	5.7348	0.004	3	1	0.1193	3.0776	12.96026
141	86.7	4.91	6.09	5.65	86.7745	5.6583	9	2.51258	132.8007	8.93286	0	8.9329	8.7141	6.3077	0.0056	3	1	0.1185	3.2372	8.71408
142	119.6	6.34	7.59	5.3	119.693	5.2969	9	2.40532	135.4554	9.00059	0	9.0006	12.298	5.7276	0.0049	3	1	0.1176	3.0948	12.29834
143	55.3	3.2	5.23	5.78	55.364	5.7799	4	2.64482	128.5721	9.06488	0	9.0649	5.1075	6.9116	0.0081	3	1	0.1167	3.4452	5.10753
144	86.1	5.24	5.69	6.08	86.1697	6.081	9	2.53909	133.2596	9.1315	0	9.1315	8.4365	6.8018	0.0053	3	1	0.1159	3.2687	8.43652
145	250	7.76	7.58	3.1	250.093	3.1029	8	2.0328	137.28	9.20014	0	9.200								

Depth (ft)	CPT-8 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	69.7	0.47	0.19	0.67	69.7023	0.6743	6	1.95623	115.0985	0.05755	0	0.0576	1210.2	0.6749	0.0002	6	0.5043	2	1.7103	131.6402
2	75.5	0.54	0.38	0.71	75.5047	0.7152	6	1.94104	116.3094	0.1157	0	0.1157	651.57	0.7163	0.0004	6	0.503	2	1.6995	142.4976
3	40.1	0.39	0.2	0.98	40.1025	0.9725	5	2.24416	112.385	0.1719	0	0.1719	232.29	0.9767	0.0004	6	0.62	2	1.9997	75.47538
4	36	0.32	0.29	0.88	36.0036	0.8888	5	2.26333	110.6746	0.22723	0	0.2272	157.44	0.8945	0.0006	6	0.6286	2	2.0154	67.62318
5	38.8	0.44	0.29	1.13	38.8036	1.1339	5	2.29262	113.1874	0.28383	0	0.2838	135.72	1.1423	0.0005	5	0.6459	2	2.0537	72.80868
6	64.4	0.36	0.48	0.56	64.4059	0.559	6	1.94347	112.9549	0.3403	0	0.3403	188.26	0.5619	0.0005	6	0.5239	1.8118	1.7276	109.7008
7	65.2	0.45	0.57	0.69	65.207	0.6901	6	1.98608	114.6178	0.39761	0	0.3976	163	0.6943	0.0006	6	0.5525	1.7173	1.7955	105.1843
8	76.6	0.48	0.67	0.63	76.6082	0.6266	6	1.90451	115.483	0.45536	0	0.4554	167.24	0.6303	0.0006	6	0.536	1.5714	1.7453	113.0938
9	78.3	0.54	0.76	0.69	78.3093	0.6896	6	1.91908	116.3984	0.51355	0	0.5136	151.48	0.6941	0.0007	6	0.5524	1.4909	1.781	109.6126
10	74.3	0.43	0.76	0.58	74.3093	0.5787	6	1.8976	114.6038	0.57086	0	0.5709	129.17	0.5831	0.0007	6	0.5537	1.4073	1.777	98.07475
11	62.5	0.48	0.91	0.76	62.5111	0.7679	6	2.02652	114.987	0.62835	0	0.6284	98.485	0.7757	0.0011	6	0.6104	1.3745	1.9183	80.38921
12	54.3	0.59	0.95	1.1	54.3116	1.0863	5	2.16189	116.1538	0.68643	0	0.6864	78.122	1.1002	0.0013	5	0.6704	1.3366	2.0684	67.73857
13	67	0.58	1.05	0.87	67.0129	0.8655	6	2.03045	116.5413	0.7447	0	0.7447	88.987	0.8752	0.0011	6	0.6315	1.2483	1.9589	78.18196
14	50.4	0.7	0.96	1.39	50.4118	1.3886	5	2.25119	117.223	0.80331	0	0.8033	61.755	1.4111	0.0014	5	0.7234	1.2205	2.1927	57.22365
15	61.6	0.7	1.14	1.14	61.614	1.1361	5	2.12913	117.7124	0.86217	0	0.8622	70.464	1.1522	0.0014	5	0.6869	1.1511	2.0891	66.08821
16	89.5	0.88	1.14	0.99	89.514	0.9831	6	1.96217	120.2978	0.92231	0	0.9223	96.054	0.9933	0.0009	6	0.6325	1.0908	1.939	91.32488
17	115.3	0.76	1.24	0.65	115.315	0.6591	6	1.7697	119.8429	0.98224	0	0.9822	116.4	0.6647	0.0008	6	0.5671	1.0431	1.7601	112.7108
18	107.5	0.7	1.24	0.66	107.515	0.6511	6	1.79135	119.0703	1.04177	0	1.0418	102.2	0.6574	0.0008	6	0.5828	1.0091	1.794	101.5429
19	166.3	3.14	1.03	1.89	166.313	1.888	6	1.96471	131.1163	1.10733	0	1.1073	149.19	1.9007	0.0005	6	0.6557	0.9706	1.9772	151.5469
20	102.9	1.08	1.05	1.05	102.913	1.0494	6	1.933	122.1365	1.1684	0	1.1684	87.08	1.0615	0.0007	6	0.6526	0.9373	1.9616	90.13176
21	124.5	0.9	1.24	0.72	124.515	0.7228	6	1.76702	121.2672	1.22903	0	1.229	100.31	0.73	0.0007	6	0.5955	0.9147	1.8039	106.5754
22	115.3	0.95	1.24	0.82	115.315	0.8238	6	1.82828	121.4756	1.28977	0	1.2898	88.408	0.8332	0.0008	6	0.6266	0.8833	1.8776	95.19139
23	158.1	0.95	1.32	0.6	158.116	0.6008	6	1.63583	122.2455	1.35089	0	1.3509	116.05	0.606	0.0006	6	0.5571	0.8728	1.6882	129.3065
24	156.1	1.08	1.33	0.69	156.116	0.6918	6	1.6782	123.1529	1.41247	0	1.4125	109.53	0.6981	0.0006	6	0.58	0.8458	1.7408	123.655
25	148.3	1.14	1.33	0.77	148.316	0.7686	6	1.72448	123.4235	1.47418	0	1.4742	99.609	0.7763	0.0007	6	0.6048	0.8183	1.7983	113.5563
26	86.7	0.67	1.33	0.77	86.7163	0.7726	6	1.91052	118.2254	1.53329	0	1.5333	55.556	0.7865	0.0011	6	0.6894	0.7744	2.0128	62.34058
27	78.8	1.11	1.14	1.41	78.814	1.4084	5	2.10399	121.6863	1.59414	0	1.5941	48.44	1.4375	0.0011	5	0.7722	0.7287	2.2227	53.18051
28	84.8	1.22	1.14	1.44	84.814	1.4384	5	2.08594	122.5566	1.65541	0	1.6554	50.234	1.4671	0.001	5	0.7713	0.7081	2.2128	55.64785
29	104.4	1.11	1.14	1.06	104.414	1.0631	6	1.93179	122.3723	1.7166	0	1.7166	59.826	1.0809	0.0008	5	0.7157	0.7073	2.0591	68.64895
30	95.7	1.33	1.05	1.39	95.7129	1.3896	5	2.03674	123.4831	1.77834	0	1.7783	52.821	1.4159	0.0008	5	0.7644	0.6724	2.1794	59.69342
31	121.6	1.44	1.05	1.18	121.613	1.1841	6	1.91303	124.6487	1.84067	0	1.8407	65.07	1.2023	0.0006	5	0.7193	0.6715	2.0531	76.00988
32	112.1	1.54	1.05	1.37	112.113	1.3736	6	1.98279	124.9416	1.90314	0	1.9031	57.91	1.3973	0.0007	5	0.7544	0.6422	2.1375	66.88982
33	87.2	2.03	0.95	2.33	87.2116	2.3277	5	2.22106	126.3503	1.96631	0	1.9663	43.353	2.3814	0.0008	5	0.8583	0.5875	2.4024	47.3326
34	178.8	1.8	1.24	1	178.815	1.0066	6	1.74307	127.2217	2.02992	0	2.0299	87.09	1.0182	0.0005	6	0.6658	0.6481	1.889	108.2763
35	183.1	1.84	1.18	1	183.114	1.0048	6	1.73518	127.4405	2.09364	0	2.0936	86.462	1.0165	0.0005	6	0.6685	0.6337	1.8881	108.4128
36	114.9	1.39	1.14	1.21	114.914	1.2096	6	1.93744	124.2519	2.15577	0	2.1558	52.305	1.2327	0.0007	5	0.7634	0.5808	2.1296	61.89662
37	108.9	1.41	1.14	1.29	108.914	1.2946	6	1.97452	124.2257	2.21788	0	2.2179	48.107	1.3215	0.0008	5	0.7856	0.5591	2.1802	56.3787
38	115.6	1.38	1.24	1.19	115.615	1.1936	6	1.9316	124.2139	2.27999	0	2.28	49.709	1.2176	0.0008	5	0.7741	0.552	2.1421	59.12313
39	94.5	1.75	1.05	1.85	94.5129	1.8516	5	2.12609	125.4604	2.34272	0	2.3427	39.343	1.8987	0.0008	5	0.8612	0.5044	2.3631	43.93361
40	85.1	2.36	1.14	2.77	85.114	2.7728	5	2.28321	127.3931	2.40642	0	2.4064	34.37	2.8534	0.001	4	0.9323	0.4649	2.5404	36.33718
41	124.2	1.84	1.24	1.48	124.215	1.4813	6	1.97355	126.4939	2.46966	0	2.4697	49.296	1.5114	0.0007	5	0.8077	0.5043	2.2068	58.02234
42	125.7	1.23	0.97	0.98	125.712	0.9784	6	1.84712	123.5762	2.53145	0	2.5315	48.66	0.9985	0.0006	5	0.7651	0.513	2.0871	59.72345
43	142.2	1.4	1.05	0.98	142.213	0.9844	6	1.80878	124.8242	2.59386	0	2.5939	53.827	1.0027	0.0005	6	0.7528	0.5091	2.0469	67.18198
44	131.5	1.43	1.05	1.08	131.513	1.0874	6	1.86296	124.7886	2.65626	0	2.6563	48.511	1.1098	0.0006	5	0.7824	0.4867	2.1169	59.26758
45	121.4	1.35	1.05	1.11	121.413	1.1119	6	1.8952	124.1725	2.71834	0	2.7183	43.664	1.1374	0.0006	5	0.8038	0.4684	2.1653	52.54489
46	108.4	1.18	1.05	1.09	108.413	1.0884	6	1.92602	122.9114	2.7798	0	2.7798	38	1.1171	0.0007	5	0.826	0.4503	2.2159	44.9564
47	88.5	1.3	1.14	1.47	88.514	1.4687	5	2.07807	123.1255	2.84136	0	2.8414	30.152	1.5174	0.001	5	0.8984	0.4117	2.3988	33.33436
48	64.8	2.63	1.11	4.06	64.8136	4.0578	4	2.48489	127.5211	2.90512	0	2.9051	21.31	4.2482	0.0013	3	1	0.3642	2.8287	21.31011
49	85.9	1.86	1.05	2.17	85.9129	2.165	5	2.2033	125.6738	2.96796	0	2.968	27.947	2.2425	0.0009	4	0.9617	0.3709	2.5482	29.07219
50	87.2	2.45	1.05	2.81	87.2129	2.8092	5	2.28012	127.7263	3.03182	0	3.0318	27.766	2.9104	0.0009	4	0.9971	0.3501	2.6338	27.8496
51	124.6	2.21	1.14	1.77	124.614	1.7735	5	2.02843	127.8424	3.09574	0	3.0957	39.253	1.8187	0.0007	5	0.8919	0.3838	2.3501	44.08252
52	145.9	1.96	1.14	1.34	145.914	1.3433	6	1.89409	127.3489	3.15942	0	3.1594	45.184	1.373	0.0006	5	0.8403	0.3988	2.2063	53.80806
53	109.2	2.71	1.07	2.48	109.213	2.4814	5	2.17438	129.013	3.22392	0	3.2239	32.876	2.5569	0.0007	4	0.9669	0.3405	2.5302	34.10988
54	150.1	1.64	1.14	1.09	150.114	1.0925	6	1.82237	126.1138	3.28698	0	3.287	44.669	1.117	0.0006	5	0.8241	0.3929	2.1477	54.52385
55	153.4	1.47	1.22	0.96	153.415	0.9582	6	1.77654	125.3662	3.34966	0	3.3497	44.8	0.9796	0.0006	5	0.8118	0.3924	2.1073	55.65254
56	102.3	1.66	1.14	1.62	102.314	1.6225	5	2.06141	125.2675	3.4123	0	3.4123	28.984	1.6784	0.0008	5	0.9465	0.3302	2.4517	30.85899
57	68.3	2.11	1.14	3.09	68.314	3.0887	5	2.38306	126.0375	3.47532	0	3.4753	18.657	3.2542	0.0013	4	1	0.3045	2.7996	18.6569
58																				

87	203.9	3.51	2.28	1.72	203.928	1.7212	6	1.87718	132.4287	5.41281	0	5.4128	36.675	1.7681	0.0008	5	1	0.1955	2.4052	36.67506
88	189.7	3.46	2.45	1.82	189.73	1.8236	6	1.91645	132.1477	5.47888	0	5.4789	33.629	1.8779	0.001	5	1	0.1931	2.451	33.62932
89	126.7	4.32	2.53	3.41	126.731	3.4088	5	2.23792	132.7878	5.54528	0	5.5453	21.854	3.5648	0.0015	4	1	0.1908	2.7711	21.85386
90	209.3	2.95	2.28	1.41	209.328	1.4093	6	1.80325	131.2207	5.61089	0	5.6109	36.307	1.4481	0.0008	5	1	0.1886	2.3568	36.30746
91	164.7	4.48	2.37	2.72	164.729	2.7196	5	2.09047	133.6935	5.67773	0	5.6777	28.013	2.8167	0.0011	4	1	0.1864	2.6228	28.01316
92	236.7	2.7	2.38	1.14	236.729	1.1405	6	1.69883	130.8728	5.74317	0	5.7432	40.219	1.1689	0.0007	5	0.9816	0.1901	2.2558	41.48858
93	159.6	2.89	2.21	1.81	159.627	1.8105	6	1.96256	130.4092	5.80837	0	5.8084	26.482	1.8788	0.001	4	1	0.1822	2.5342	26.48222
94	270.3	2.86	2.28	1.06	270.328	1.058	6	1.63644	131.6177	5.87418	0	5.8742	45.02	1.0815	0.0006	5	0.9613	0.1925	2.1837	48.10882
95	256.2	2.76	2.28	1.08	256.228	1.0772	6	1.65753	131.2266	5.9398	0	5.9398	42.137	1.1027	0.0007	5	0.9784	0.1849	2.2225	43.73469
96	278.8	3.06	2.38	1.1	278.829	1.0975	6	1.63993	132.1878	6.00589	0	6.0059	45.426	1.1216	0.0006	5	0.9717	0.1851	2.1958	47.71805
97	239.1	2.23	2.28	0.93	239.128	0.9326	6	1.63112	129.498	6.07064	0	6.0706	38.391	0.9569	0.0007	5	0.9859	0.1787	2.2266	39.34956
98	248	2.58	1.79	1.04	248.022	1.0402	6	1.65547	130.6538	6.13597	0	6.136	39.421	1.0666	0.0005	5	0.9979	0.1731	2.2504	39.56883
99	165.2	1.91	1.52	1.15	165.219	1.156	6	1.80981	127.4628	6.1997	0	6.1997	25.649	1.2011	0.0007	5	1	0.1707	2.4365	25.64946
100	127.9	1.62	1.52	1.27	127.919	1.2664	6	1.91694	125.6338	6.26251	0	6.2625	19.426	1.3316	0.0009	4	1	0.169	2.5626	19.42608
101	118.3	3.19	1.71	2.7	118.321	2.6961	5	2.17841	130.4015	6.32772	0	6.3277	17.699	2.8484	0.0011	4	1	0.1672	2.7824	17.69884
102	216.3	1.73	1.43	0.8	216.318	0.7998	6	1.6141	127.3958	6.39141	0	6.3914	32.845	0.8241	0.0005	5	1	0.1656	2.2598	32.84502
103	120.5	4.99	1.73	4.14	120.521	4.1404	9	2.31789	133.7202	6.45827	0	6.4583	17.662	4.3748	0.0011	3	1	0.1638	2.8991	17.66152
104	63	3.5	1.43	5.55	63.0175	5.554	4	2.59479	129.5436	6.52305	0	6.5231	8.6608	6.1953	0.0018	3	1	0.1622	3.2345	8.66075
105	128.2	4.15	1.52	3.24	128.219	3.2367	5	2.21717	132.5225	6.58931	0	6.5893	18.459	3.412	0.0009	4	1	0.1606	2.816	18.45859
106	116.4	4.02	1.08	3.45	116.413	3.4532	5	2.2654	132.054	6.65533	0	6.6553	16.492	3.6626	0.0007	3	1	0.159	2.8735	16.49172
107	55.6	4.12	1.33	7.4	55.6163	7.4079	3	2.72525	130.4322	6.72055	0	6.7206	7.2756	8.4261	0.002	3	1	0.1574	3.3773	7.27556
108	155	4.16	1.24	2.68	155.015	2.6836	5	2.10216	133.003	6.78705	0	6.7871	21.84	2.8065	0.0006	4	1	0.1559	2.7061	21.83984
109	85.5	5.02	1.43	5.87	85.5175	5.8701	9	2.52904	132.9272	6.85351	0	6.8535	11.478	6.3816	0.0013	3	1	0.1544	3.1479	11.4779
110	135.1	4.56	1.43	3.38	135.118	3.3748	5	2.21729	133.3397	6.92018	0	6.9202	18.525	3.557	0.0008	3	1	0.1529	2.8261	18.52513
111	178.4	3.01	1.52	1.69	178.419	1.687	6	1.90773	130.9783	6.98567	0	6.9857	24.541	1.7558	0.0006	4	1	0.1515	2.5439	24.54064
112	82.6	4.81	1.62	5.83	82.6198	5.8219	9	2.53551	132.5305	7.05194	0	7.0519	10.716	6.3651	0.0015	3	1	0.15	3.1701	10.7159
113	50.5	3.98	1.71	7.88	50.5209	7.8779	3	2.77256	129.9449	7.11691	0	7.1169	6.0987	9.1697	0.0028	2	1	0.1487	3.4599	6.09872
114	72.7	4.98	1.64	6.85	72.7201	6.8482	9	2.6252	132.4733	7.18315	0	7.1832	9.1237	7.5988	0.0018	3	1	0.1473	3.273	9.12371
115	129.6	5.25	1.81	4.05	129.622	4.0502	8	2.29111	134.2694	7.25028	0	7.2503	16.878	4.2902	0.0011	3	1	0.1459	2.9088	16.87822
116	80.1	5.86	1.81	7.32	80.1222	7.3138	9	2.62188	133.9004	7.31723	0	7.3172	9.9498	8.0489	0.0018	3	1	0.1446	3.2604	9.94979
117	147.3	5.11	1.98	3.47	147.324	3.4685	8	2.20388	134.3839	7.38442	0	7.3844	18.951	3.6516	0.001	3	1	0.1433	2.8256	18.95067
118	129.5	6.37	2.14	4.92	129.526	4.9179	9	2.35909	135.6825	7.45227	0	7.4523	16.381	5.2182	0.0013	3	1	0.142	2.9736	16.38078
119	200.2	4.21	2.09	2.1	200.226	2.1026	6	1.95023	133.7146	7.51912	0	7.5191	25.629	2.1847	0.0008	4	1	0.1407	2.5847	25.62885
120	129.1	4.82	2.19	3.73	129.127	3.7328	8	2.26395	133.6348	7.58594	0	7.5859	16.022	3.9657	0.0013	3	1	0.1395	2.9048	16.02186
121	153.2	3.39	2.19	2.21	153.227	2.2124	5	2.04029	131.477	7.65168	0	7.6517	19.025	2.3287	0.0011	4	1	0.1383	2.7052	19.02525
122	43.3	2.71	2.19	6.26	43.3268	6.2548	3	2.74161	126.7581	7.71506	0	7.7151	4.6159	7.6099	0.0044	3	1	0.1372	3.5054	4.61588
123	47.7	3.24	2.19	6.8	47.7268	6.7886	3	2.73986	128.301	7.77921	0	7.7792	5.1352	8.1106	0.004	3	1	0.136	3.4853	5.13517
124	51.1	3.48	2.09	6.8	51.1256	6.8068	3	2.72102	128.9916	7.8437	0	7.8437	5.518	8.0403	0.0035	3	1	0.1349	3.4583	5.51804
125	121.5	5.08	2.09	4.18	121.526	4.1802	9	2.31899	133.8712	7.91064	0	7.9106	14.362	4.4712	0.0013	3	1	0.1338	2.9745	14.36229
126	296.1	4.23	2.09	1.43	296.126	1.4285	6	1.71374	134.7038	7.97799	0	7.978	36.118	1.468	0.0005	5	1	0.1326	2.3622	36.11781
127	325.1	5.61	2.46	1.73	325.13	1.7255	6	1.75722	136.9976	8.04649	0	8.0465	39.406	1.7693	0.0006	5	1	0.1315	2.3807	39.40645
128	110.3	5.12	2.39	4.64	110.329	4.6407	9	2.38055	133.6929	8.11334	0	8.1133	12.599	5.009	0.0017	3	1	0.1304	3.0497	12.5985
129	130.6	6.12	2.7	4.68	130.633	4.6849	9	2.33986	135.4103	8.18104	0	8.181	14.968	4.9979	0.0016	3	1	0.1293	2.9913	14.96778
130	208.7	5.73	2.38	2.75	208.729	2.7452	5	2.03257	136.0715	8.24908	0	8.2491	24.303	2.8581	0.0009	4	1	0.1283	2.6746	24.30333
131	241.2	3.68	2.47	1.53	241.23	1.5255	6	1.79063	133.1845	8.31567	0	8.3157	28.009	1.58	0.0008	5	1	0.1272	2.4706	28.00911
132	156.9	6.12	2.47	3.9	156.93	3.8998	8	2.22864	135.8576	8.3836	0	8.3836	17.719	4.1199	0.0012	3	1	0.1262	2.8814	17.71872
133	252.5	3.97	2.47	1.57	252.53	1.5721	6	1.78867	133.8512	8.45052	0	8.4505	28.883	1.6265	0.0007	5	1	0.1252	2.467	28.88338
134	272	3.84	2.47	1.41	272.03	1.4116	6	1.73192	133.789	8.51742	0	8.5174	30.938	1.4572	0.0007	5	1	0.1242	2.4151	30.9381
135	293.4	5.15	2.53	1.75	293.431	1.7551	6	1.78856	136.1214	8.58548	0	8.5855	33.178	1.808	0.0006	5	1	0.1232	2.4457	33.17758
136	72.9	3.06	2.52	4.2	72.9308	4.1958	4	2.46133	128.9169	8.64994	0	8.6499	7.4314	4.7604	0.0028	3	1	0.1223	3.218	7.43137
137	158.6	6.59	2.63	4.16	158.632	4.1543	8	2.2483	136.4253	8.71815	0	8.7182	17.196	4.3959	0.0013	3	1	0.1214	2.9093	17.19562
138	101.9	5.27	2.19	5.17	101.927	5.1704	9	2.43873	133.711	8.78501	0	8.785	10.602	5.658	0.0017	3	1	0.1204	3.1413	10.60236
139	50.8	3.08	2.09	6.05	50.8256	6.0599	3	2.68485	128.0838	8.84905	0	8.8491	4.7436	7.3374	0.0036	3	1	0.1196	3.4865	4.74362
140	246.3	3.96	2.05	1.61	246.325	1.6076	6	1.80296	133.772	8.91593	0	8.9159	26.628	1.668	0.0006	5	1	0.1187	2.5021	26.62751
141	62.3	3.31	1.71	5.3	62.3209	5.3112	4	2.5833	129.1081	8.98049	0	8.9805	5.9396	6.2054	0.0023	3	1	0.1178	3.3647	5.93959
142	93.2	5.42	1.71	5.82	93.2209	5.8141	9	2.50277	133.6986	9.04734	0	9.0473	9.3037	6.4391	0.0015	3	1	0.117	3.2207	9.30369
143	240	6.28	2.05	2.61	240.025	2.6164	8	1.98083	137.0829	9.11588	0	9.1159	25.33	2.7197	0.0006	4	1	0.1161	2.6471	25.33044
144	281	4.81	2	1.71	281.024	1.7116	6	1.79054	135.5163	9.18364	0	9.1836	29.601	1.7694	0.0005	5	1	0.1152	2.4798	29.60056
145	276.7	4.98	2.26	1.8	276.728	1.7996	6	1.81214	135.7											

Depth (ft)	CPT-9 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	70.9	0.32	0.78	0.45	70.9096	0.4513	6	1.86194	112.3277	0.05616	0	0.0562	1261.5	0.4516	0.0008	6	0.4634	2	1.6029	133.9247
2	61.6	0.29	0.69	0.48	61.6085	0.4707	6	1.92449	111.2645	0.1118	0	0.1118	550.08	0.4716	0.0008	6	0.4896	2	1.6648	116.2389
3	45.7	0.28	0.77	0.62	45.7094	0.6126	5	2.09281	110.2797	0.16694	0	0.1669	272.81	0.6148	0.0012	6	0.5577	2	1.8369	86.08287
4	45.7	0.28	0.78	0.62	45.7096	0.6126	5	2.0928	110.2797	0.22208	0	0.2221	204.83	0.6156	0.0012	6	0.5606	2	1.8376	85.97888
5	38.1	0.26	0.69	0.69	38.1085	0.6823	5	2.18457	109.2938	0.27672	0	0.2767	136.71	0.6873	0.0013	6	0.5987	2	1.9308	71.50824
6	57.7	0.3	0.78	0.52	57.7096	0.5198	6	1.9698	111.3531	0.3324	0	0.3324	172.62	0.5229	0.001	6	0.5297	1.8465	1.7435	100.1277
7	75.5	0.45	0.89	0.59	75.5109	0.5959	6	1.89831	114.9756	0.38989	0	0.3899	192.67	0.599	0.0009	6	0.5207	1.6818	1.7133	119.401
8	82.1	0.54	1.07	0.66	82.1131	0.6576	6	1.89055	116.5141	0.44814	0	0.4481	182.23	0.6612	0.0009	6	0.5306	1.5775	1.7318	121.7491
9	84.1	0.47	1.07	0.56	84.1131	0.5588	6	1.84374	115.5569	0.50592	0	0.5059	165.26	0.5622	0.0009	6	0.5237	1.4717	1.7068	116.2901
10	61.7	0.3	1.07	0.49	61.7131	0.4861	6	1.93037	111.5167	0.56168	0	0.5617	108.87	0.4906	0.0013	6	0.5623	1.4277	1.8008	82.51357
11	88	0.45	1.16	0.51	88.0142	0.5113	6	1.80689	115.3493	0.61936	0	0.6194	141.11	0.5149	0.001	6	0.5293	1.3277	1.7067	109.6653
12	106.1	0.56	1.35	0.53	106.117	0.5277	6	1.74509	117.4056	0.67806	0	0.6781	155.5	0.5311	0.0009	6	0.5166	1.2585	1.6658	125.4033
13	82.7	0.53	1.45	0.63	82.7178	0.6407	6	1.8817	116.3952	0.73626	0	0.7363	111.35	0.6465	0.0013	6	0.5751	1.2319	1.8119	95.44618
14	67.8	0.62	1.36	0.92	67.8167	0.9142	6	2.03988	117.0584	0.79479	0	0.7948	84.327	0.9251	0.0015	6	0.6429	1.202	1.9825	76.13422
15	76.3	0.74	1.54	0.97	76.3189	0.9696	6	2.01348	118.641	0.85411	0	0.8541	88.355	0.9806	0.0015	6	0.642	1.1474	1.9729	81.83383
16	80.5	0.63	1.54	0.78	80.5189	0.7824	6	1.93998	117.5942	0.9129	0	0.9129	87.201	0.7914	0.0014	6	0.6227	1.0963	1.9143	82.47665
17	104	0.65	1.64	0.62	104.02	0.6249	6	1.79293	118.4475	0.97213	0	0.9721	106	0.6308	0.0012	6	0.5746	1.0499	1.7812	102.2493
18	109.3	0.72	1.64	0.66	109.32	0.6586	6	1.78835	119.317	1.03178	0	1.0318	104.95	0.6649	0.0011	6	0.5803	1.0147	1.7889	103.8487
19	113.8	0.75	1.71	0.66	113.821	0.6589	6	1.77424	119.7141	1.09164	0	1.0916	103.27	0.6653	0.0011	6	0.5822	0.982	1.7865	104.6206
20	114.4	0.54	1.64	0.47	114.42	0.472	6	1.69151	117.3233	1.1503	0	1.1503	98.469	0.4767	0.001	6	0.5577	0.9545	1.7148	102.1757
21	147.2	1.01	1.89	0.68	147.223	0.686	6	1.69576	122.5195	1.21156	0	1.2116	120.52	0.6917	0.0009	6	0.5654	0.9263	1.7269	127.822
22	126	1.03	2.04	0.82	126.025	0.8173	6	1.79603	122.2838	1.27271	0	1.2727	98.021	0.8256	0.0012	6	0.6116	0.8932	1.8406	105.3097
23	158.6	0.75	2.3	0.47	158.628	0.4728	6	1.5733	120.5237	1.33297	0	1.333	118	0.4768	0.0011	6	0.5312	0.8846	1.6225	131.4967
24	137	0.99	2.11	0.72	137.026	0.7225	6	1.73416	122.1981	1.39407	0	1.3941	97.292	0.7299	0.0011	6	0.6007	0.8474	1.7973	108.618
25	134	1.1	2.2	0.82	134.027	0.8207	6	1.77652	122.9151	1.45552	0	1.4555	91.082	0.8297	0.0012	6	0.6239	0.8196	1.8505	102.689
26	135	1.11	2.3	0.82	135.028	0.8221	6	1.77448	122.9994	1.51702	0	1.517	88.009	0.8314	0.0012	6	0.6297	0.797	1.8582	100.5692
27	98.3	1.37	2.2	1.39	98.3269	1.3933	6	2.02884	123.7657	1.57891	0	1.5789	61.275	1.4161	0.0016	5	0.7383	0.7442	2.1355	68.04277
28	81.3	1.62	2.28	2	81.3279	1.9919	5	2.19503	124.5292	1.64117	0	1.6412	48.555	2.033	0.0021	5	0.8127	0.7	2.3218	52.71514
29	73.5	1.44	2.3	1.96	73.5282	1.9584	5	2.22182	123.4215	1.70288	0	1.7029	42.179	2.0049	0.0023	5	0.8321	0.673	2.3651	45.68579
30	73.2	1.39	2.01	1.9	73.2246	1.8983	5	2.21395	123.1528	1.76446	0	1.7645	40.5	1.9451	0.002	5	0.836	0.6522	2.3689	44.04342
31	79.9	1.25	2.01	1.56	79.9246	1.564	5	2.12933	122.5896	1.82575	0	1.8258	42.776	1.6005	0.0019	5	0.8089	0.6432	2.2903	47.4756
32	127.9	1.21	2.11	0.94	127.926	0.9459	6	1.83176	123.4988	1.8875	0	1.8875	66.775	0.96	0.0012	6	0.6921	0.6699	1.9759	79.79962
33	130.3	1.18	1.72	0.9	130.321	0.9055	6	1.81331	123.3604	1.94918	0	1.9492	65.859	0.9192	0.001	6	0.6912	0.6556	1.9656	79.53557
34	155.1	1.53	1.82	0.99	155.122	0.9863	6	1.78154	125.6859	2.01203	0	2.012	76.098	0.9993	0.0009	6	0.6818	0.6452	1.9332	93.36608
35	163.2	0.97	1.73	0.59	163.221	0.5943	6	1.62201	122.4754	2.07326	0	2.0733	77.727	0.6019	0.0008	6	0.6255	0.6566	1.7777	99.99123
36	102.1	1.08	1.82	1.06	102.122	1.0576	6	1.93771	122.1177	2.13432	0	2.1343	46.848	1.0801	0.0013	5	0.7642	0.585	2.1343	55.27643
37	126	1.25	1.92	0.99	126.024	0.9919	6	1.8502	123.7002	2.19617	0	2.1962	56.383	1.0095	0.0011	6	0.7318	0.586	2.0415	68.58093
38	106.3	0.76	1.92	0.72	106.324	0.7148	6	1.81896	119.6449	2.25599	0	2.256	46.129	0.7303	0.0013	6	0.7306	0.5752	2.0307	56.56752
39	97.1	1.11	1.82	1.15	97.1223	1.1429	6	1.9761	122.1957	2.31709	0	2.3171	40.916	1.1708	0.0014	5	0.8	0.5342	2.2056	47.85928
40	73.6	1.44	2.01	1.95	73.6246	1.9559	5	2.22102	123.4247	2.3788	0	2.3788	29.95	2.0212	0.002	5	0.9102	0.4784	2.4854	32.20925
41	126.9	1.32	2.01	1.04	126.925	1.04	6	1.86147	124.1163	2.44086	0	2.4409	51	1.0604	0.0012	5	0.7611	0.5293	2.0879	62.27146
42	35.5	1.7	1.54	4.78	35.5189	4.7862	4	2.71834	122.8613	2.50229	0	2.5023	13.195	5.1489	0.0034	3	1	0.4229	3.0417	13.19452
43	167.5	1.54	2.01	0.92	167.525	0.9193	6	1.73626	125.9211	2.56525	0	2.5653	64.305	0.9336	0.0009	6	0.7171	0.5299	1.9565	82.61623
44	166.1	1.34	2.11	0.81	166.126	0.8066	6	1.70079	124.8828	2.6277	0	2.6277	62.221	0.8196	0.0009	6	0.7098	0.5243	1.9295	81.01887
45	159.1	1.17	2.11	0.74	159.126	0.7353	6	1.68869	123.7851	2.68959	0	2.6896	58.164	0.7479	0.001	6	0.7126	0.5144	1.929	76.05099
46	119.6	1.17	2.11	0.98	119.626	0.9781	6	1.86334	123.0892	2.75113	0	2.7511	42.482	1.0011	0.0013	5	0.7954	0.4676	2.1392	51.65339
47	141.6	0.96	2.2	0.68	141.627	0.6778	6	1.70574	122.0535	2.81216	0	2.8122	49.362	0.6916	0.0011	6	0.7352	0.4874	1.973	63.94537
48	40.9	2.3	2.3	5.63	40.9282	5.6196	3	2.72462	125.4189	2.87487	0	2.8749	13.237	6.0442	0.0044	3	1	0.3681	3.0854	13.23653
49	71.9	1.93	2.3	2.68	71.9282	2.6832	5	2.32377	125.5108	2.93762	0	2.9376	23.485	2.7975	0.0024	4	1	0.3602	2.6804	23.48515
50	119.9	1.54	2.3	1.28	119.928	1.2841	6	1.94142	125.1059	3.00018	0	3.0002	38.974	1.3171	0.0014	5	0.8505	0.4121	2.2531	45.5428
51	113.2	1.45	2.2	1.28	113.227	1.2806	6	1.95891	124.5251	3.06244	0	3.0624	35.973	1.3162	0.0014	5	0.8659	0.3984	2.2856	41.48359
52	150.1	2.12	2.39	1.41	150.129	1.4121	6	1.90101	127.9925	3.12644	0	3.1264	47.019	1.4422	0.0012	5	0.8386	0.4031	2.2059	56.00471
53	178.4	1.08	2.3	0.61	178.428	0.6053	6	1.5966	123.4787	3.18818	0	3.1882	54.966	0.6163	0.0009	6	0.7212	0.4514	1.8889	74.75339
54	211.1	2.16	2.3	1.03	211.128	1.0231	6	1.69751	128.9609	3.25266	0	3.2527	63.909	1.0391	0.0008	6	0.7589	0.4265	1.9804	83.78414
55	188.3	1.89	2.2	1	188.327	1.0036	6	1.72617	127.7051	3.31651	0	3.3165	55.785	1.0216	0.0009	6	0.7805	0.41	2.0293	71.6819
56	92	1.34	2.2	1.46	92.0269	1.4561	5	2.06301	123.4422	3.37823	0	3.3782	26.241	1.5116	0.0018	5	0.9486	0.3325	2.4616	27.85407
57	45.9	2.04	2.12	4.43	45.926	4.4419	4	2.61644	124.8221	3.44064	0	3.4406	12.348	4.8017	0.0036	3	1	0.3075	3.045	12.34808
58	151.7	1.6	2.3	1																

87	236.9	3.45	2.58	1.46	236.932	1.4561	6	1.77973	132.6684	5.38105	0	5.3811	43.031	1.49	0.0008	5	0.9787	0.2036	2.2929	44.54812
88	250.3	2.54	2.49	1.01	250.33	1.0147	6	1.64472	130.5621	5.44633	0	5.4463	44.963	1.0372	0.0007	5	0.9295	0.2181	2.1563	50.46667
89	111.1	3.54	2.49	3.19	111.13	3.1854	5	2.25123	131.0104	5.51183	0	5.5118	19.162	3.3517	0.0017	4	1	0.192	2.7985	19.16216
90	197	2.39	2.68	1.21	197.033	1.213	6	1.77201	129.5327	5.5766	0	5.5766	34.332	1.2483	0.001	5	1	0.1897	2.3397	34.33206
91	200.4	2.26	2.68	1.13	200.433	1.1276	6	1.74371	129.1652	5.64118	0	5.6412	34.53	1.1602	0.001	5	1	0.1876	2.3199	34.53028
92	209.7	2.33	2.75	1.11	209.734	1.1109	6	1.72556	129.4991	5.70593	0	5.7059	35.757	1.142	0.001	5	0.9973	0.1863	2.3018	35.92334
93	214.5	1.94	2.77	0.91	214.534	0.9043	6	1.65419	128.2139	5.77004	0	5.77	36.181	0.9293	0.001	5	0.9755	0.1912	2.2354	37.71905
94	167.4	2.02	2.68	1.21	167.433	1.2065	6	1.81895	133.0699	5.83399	0	5.834	27.7	1.25	0.0012	5	1	0.1814	2.4177	27.69952
95	224.9	2.04	2.77	0.91	224.934	0.9069	6	1.64071	128.6971	5.89834	0	5.8983	37.135	0.9314	0.0009	5	0.9786	0.1861	2.2281	38.52417
96	258.9	2.09	2.77	0.81	258.934	0.8072	6	1.56184	129.2177	5.96295	0	5.963	42.424	0.8262	0.0008	5	0.9436	0.1956	2.1291	46.77167
97	224.4	3.37	2.72	1.5	224.433	1.5016	6	1.80494	132.3646	6.02913	0	6.0291	36.225	1.543	0.0009	5	1	0.1755	2.3739	36.22481
98	252	2.48	2.84	0.99	252.035	0.984	6	1.63283	130.4037	6.09433	0	6.0943	40.356	1.0084	0.0008	5	0.9845	0.1784	2.22	41.46357
99	280.2	2.52	2.86	0.9	280.235	0.8993	6	1.57296	130.7794	6.15972	0	6.1597	44.495	0.9195	0.0008	5	0.9611	0.184	2.1475	47.64778
100	286.7	3.42	3.23	1.19	286.74	1.1927	6	1.66026	133.0699	6.22626	0	6.2263	45.053	1.2192	0.0008	5	0.9966	0.171	2.235	45.32904
101	184.9	3.09	3.05	1.67	184.937	1.6708	6	1.89442	131.2578	6.29189	0	6.2919	28.393	1.7297	0.0012	5	1	0.1682	2.4886	28.39298
102	178.6	1.96	2.68	1.1	178.633	1.0972	6	1.76984	127.8423	6.35581	0	6.3558	27.105	1.1377	0.0011	5	1	0.1665	2.4036	27.10544
103	101.1	3.61	2.69	3.57	101.133	3.5696	5	2.31542	130.9237	6.42127	0	6.4213	14.75	3.8116	0.002	3	1	0.1648	2.9223	14.74968
104	70.8	3.75	2.57	5.29	70.8315	5.2943	4	2.546	130.3335	6.48644	0	6.4864	9.9199	5.828	0.0029	3	1	0.1631	3.1718	9.91993
105	134.5	4.55	2.58	3.38	134.532	3.3821	5	2.21919	133.313	6.55309	0	6.5531	19.529	3.5553	0.0015	3	1	0.1615	2.8081	19.52948
106	144.7	4.35	2.26	3.01	144.728	3.0057	5	2.15928	133.1623	6.61967	0	6.6197	20.863	3.1497	0.0012	4	1	0.1598	2.7528	20.86326
107	67.8	4.06	2.11	5.98	67.8258	5.9859	4	2.59895	130.8089	6.68508	0	6.6851	9.1459	6.6404	0.0025	3	1	0.1583	3.2349	9.14585
108	144.4	4.66	2.2	3.23	144.427	3.2266	5	2.18413	133.6609	6.75191	0	6.7519	20.391	3.3848	0.0012	4	1	0.1567	2.7801	20.39053
109	125.3	4.22	2.3	3.36	125.328	3.3672	5	2.23676	132.5893	6.8182	0	6.8182	17.381	3.5609	0.0014	3	1	0.1552	2.848	17.3814
110	141.8	4.03	2.11	2.84	141.826	2.8415	5	2.14565	132.5538	6.88448	0	6.8845	19.601	2.9865	0.0011	4	1	0.1537	2.7597	19.6008
111	169.2	3.23	2.11	1.91	169.226	1.9087	6	1.96345	131.3655	6.95016	0	6.9502	23.348	1.9904	0.0009	4	1	0.1522	2.5932	23.34846
112	124.6	5.13	2.2	4.12	124.627	4.1163	9	2.30703	134.0044	7.01717	0	7.0172	16.76	4.3619	0.0014	3	1	0.1508	2.9158	16.76029
113	54.3	3.96	2.22	7.28	54.3272	7.2892	3	2.72643	130.0852	7.08221	0	7.0822	6.6709	8.3819	0.0034	3	1	0.1494	3.405	6.67094
114	68	4.48	2.2	6.59	68.0269	6.5856	9	2.63014	131.5364	7.14798	0	7.148	8.517	7.3589	0.0026	3	1	0.148	3.2871	8.51695
115	162.9	3.88	2.2	2.38	162.927	2.3814	5	2.04812	132.6145	7.21428	0	7.2143	21.584	2.4918	0.001	4	1	0.1467	2.6786	21.58393
116	100.8	5.76	2.11	5.71	100.826	5.7128	9	2.47606	134.335	7.28145	0	7.2815	12.847	6.1575	0.0016	3	1	0.1453	3.1005	12.84694
117	69.7	5.28	2.11	7.57	69.7258	7.5725	9	2.67078	132.7988	7.34785	0	7.3479	8.4893	8.4645	0.0024	3	1	0.144	3.3271	8.48928
118	126.6	4.63	2.2	3.66	126.627	3.6564	8	2.26207	133.2929	7.4145	0	7.4145	16.078	3.8838	0.0013	3	1	0.1427	2.8979	16.07829
119	153.5	4.9	2.2	3.19	153.527	3.1916	5	2.16425	134.1774	7.48159	0	7.4816	19.521	3.3551	0.0011	4	1	0.1414	2.7924	19.52064
120	165.1	5.76	2.3	3.49	165.128	3.4882	8	2.17641	135.5382	7.54936	0	7.5494	20.873	3.6553	0.0011	4	1	0.1402	2.7934	20.87315
121	199.9	4.68	2.39	2.34	199.929	2.3408	5	1.98769	134.4854	7.6166	0	7.6166	25.249	2.4335	0.0009	4	1	0.1389	2.6183	25.24915
122	158	4.72	2.39	2.99	158.029	2.9868	5	2.13373	133.974	7.68359	0	7.6836	19.567	3.1394	0.0011	4	1	0.1377	2.7737	19.56712
123	41.1	2.41	2.49	5.87	41.1305	5.8594	3	2.7363	125.7727	7.74647	0	7.7465	4.3096	7.219	0.0054	3	1	0.1366	3.5158	4.30958
124	37.5	2.27	2.49	6.04	37.5305	6.0484	3	2.77372	125.1114	7.80903	0	7.809	3.806	7.6376	0.006	2	1	0.1355	3.5738	3.80604
125	59.9	3.94	2.39	6.58	59.9293	6.5744	3	2.66469	130.2875	7.87417	0	7.8742	6.6109	7.5689	0.0033	3	1	0.1344	3.3804	6.61087
126	290.1	3.43	2.11	1.18	290.126	1.1823	6	1.65409	133.1199	7.94073	0	7.9407	35.536	1.2155	0.0005	5	1	0.1333	2.3208	35.53641
127	388.1	5.87	2.3	1.51	388.128	1.5124	6	1.66706	137.28	8.00937	0	8.0094	47.459	1.5443	0.0004	5	1	0.1321	2.2807	47.45926
128	157.5	5.99	2.69	3.81	157.533	3.8024	8	2.21874	135.7099	8.07723	0	8.0772	18.503	4.0079	0.0013	3	1	0.131	2.8592	18.50335
129	297.7	4.12	3.05	1.38	297.737	1.3838	6	1.70127	134.5242	8.14449	0	8.1445	35.557	1.4227	0.0008	5	1	0.1299	2.3597	35.55691
130	203.2	4.84	2.94	2.38	203.236	2.3815	5	1.98941	134.7714	8.21187	0	8.2119	23.749	2.4817	0.0011	4	1	0.1289	2.6446	23.74904
131	168.1	6.22	2.98	3.7	168.136	3.6994	8	2.19259	136.1445	8.27995	0	8.28	19.306	3.891	0.0013	3	1	0.1278	2.8368	19.30647
132	218.5	3.46	3.05	1.58	218.537	1.5833	6	1.83007	132.4925	8.34619	0	8.3462	25.184	1.6461	0.001	5	1	0.1268	2.5187	25.18408
133	151.5	6.09	3.05	4.02	151.537	4.0188	8	2.2481	135.7364	8.41406	0	8.4141	17.01	4.2551	0.0015	3	1	0.1258	2.904	17.01001
134	231.2	3.87	3.05	1.67	231.237	1.6736	6	1.8336	133.4497	8.48079	0	8.4808	26.266	1.7373	0.001	4	1	0.1248	2.5172	26.26603
135	225.9	2.87	2.96	1.27	225.936	1.2703	6	1.74744	131.2057	8.54639	0	8.5464	25.436	1.3202	0.001	5	1	0.1238	2.4616	25.43646
136	90	4.69	2.82	5.21	90.0345	5.2091	9	2.47448	132.5552	8.61267	0	8.6127	9.4537	5.7601	0.0025	3	1	0.1229	3.185	9.45373
137	65.6	3.83	2.86	5.84	65.635	5.8353	4	2.59963	130.3021	8.67782	0	8.6778	6.5635	6.7244	0.0036	3	1	0.1219	3.3512	6.56354
138	149.5	5.65	2.97	3.78	149.536	3.7784	8	2.22983	135.1553	8.74539	0	8.7454	16.099	4.013	0.0015	3	1	0.121	2.9064	16.09887
139	126.7	4.64	2.77	3.66	126.734	3.6612	8	2.26229	133.3107	8.81205	0	8.8121	13.382	3.9348	0.0017	3	1	0.1201	2.9641	13.38189
140	65.9	3.44	3.21	5.22	65.9393	5.2169	4	2.56135	129.5276	8.87681	0	8.8768	6.4283	6.0285	0.0041	3	1	0.1192	3.3297	6.42826
141	142.2	6.81	3.46	4.79	142.242	4.7876	9	2.32596	136.3996	8.94501	0	8.945	14.902	5.1089	0.0019	3	1	0.1183	2.9989	14.90186
142	69.5	3.23	3.46	4.65	69.5424	4.6447	4	2.50811	129.1965	9.00961	0	9.0096	6.7187	5.336	0.0041	3	1	0.1174	3.2826	6.71868
143	71.8	5.32	3.65	7.4	71.8447	7.4049	9	2.6551	132.927	9.07608	0	9.0761	6.9158	8.4756	0.0042	3	1	0.1166	3.3959	6.91583
144	189.9	6.54	3.65	3.44	189.945	3.4431	8	2.13666	136.809	9.14448	0	9.1445	19.772	3.6173	0.0015	3	1	0.1157	2.8087	19.77151
145	243.3	4.17	3.84	1.71	243.347	1.7136	6	1.82817	1											

Depth (ft)	CPT-10 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	125.9	0.18	0.08	0.14	125.901	0.143	6	1.44411	109.518	0.05476	0	0.0548	2298.2	0.143	5E-05	7	0.2931	2	1.1563	237.8703
2	72.2	0.15	-0.1	0.2	72.1988	0.2078	6	1.72205	106.8276	0.10817	0	0.1082	666.44	0.2081	-1E-04	6	0.4038	2	1.44	136.2632
3	52.6	0.17	0.07	0.32	52.6009	0.3232	6	1.91769	106.9711	0.16166	0	0.1617	324.38	0.3242	0.0001	6	0.4844	2	1.6451	99.1188
4	61.6	0.18	0.04	0.29	61.6005	0.2922	6	1.83766	107.7745	0.21555	0	0.2156	284.79	0.2932	5E-05	6	0.4562	2	1.5645	116.0278
5	63.5	0.15	0	0.24	63.5	0.2362	6	1.79278	106.5145	0.2688	0	0.2688	235.23	0.2372	0	6	0.4506	1.8542	1.5447	110.8068
6	66.4	0.15	0	0.23	66.4	0.2259	6	1.7681	106.6234	0.32211	0	0.3221	205.14	0.227	0	6	0.455	1.718	1.5504	107.2885
7	75.4	0.16	0	0.21	75.4	0.2122	6	1.70708	107.4057	0.37582	0	0.3758	199.63	0.2133	0	6	0.4463	1.5872	1.5212	112.5383
8	73.2	0.17	-0.1	0.23	73.1988	0.2322	6	1.73214	107.777	0.42971	0	0.4297	169.35	0.2336	-1E-04	6	0.4657	1.5215	1.5652	104.6368
9	56.9	0.13	-0.19	0.23	56.8977	0.2285	6	1.83322	105.1997	0.48231	0	0.4823	116.97	0.2304	-2E-04	6	0.5098	1.4926	1.6738	79.58026
10	77.2	0.29	-0.19	0.38	77.1977	0.3757	6	1.79274	111.8146	0.53821	0	0.5382	142.43	0.3783	-2E-04	6	0.509	1.4107	1.6642	102.2038
11	94	0.29	-0.38	0.31	93.9954	0.3085	6	1.67864	112.2948	0.59436	0	0.5944	157.15	0.3105	-3E-04	6	0.4777	1.3172	1.5747	116.2724
12	54.6	0.18	-0.48	0.34	54.5941	0.3297	6	1.9061	107.48	0.6481	0	0.6481	83.237	0.3337	-6E-04	6	0.5671	1.3205	1.8023	67.32222
13	67.3	0.25	-0.45	0.37	67.2945	0.3715	6	1.8443	110.3938	0.7033	0	0.7033	94.684	0.3754	-5E-04	6	0.5545	1.2542	1.7621	78.93056
14	54.8	0.29	-0.67	0.52	54.7918	0.5293	6	1.99334	110.9785	0.75879	0	0.7588	71.21	0.5367	-9E-04	6	0.6186	1.2284	1.9234	62.72839
15	53	0.28	-0.75	0.52	52.9908	0.5284	6	2.0058	110.6402	0.81411	0	0.8141	64.091	0.5366	-0.001	6	0.6321	1.1802	1.9517	58.19768
16	52.5	0.32	-0.76	0.6	52.4907	0.6096	6	2.03932	111.5941	0.8699	0	0.8699	59.341	0.6199	-0.001	6	0.6538	1.1366	2.0011	55.45042
17	103.1	0.26	-0.86	0.25	103.089	0.2522	6	1.60651	111.721	0.92576	0	0.9258	110.36	0.2545	-6E-04	6	0.4977	1.0688	1.5851	103.1918
18	114.7	0.43	-0.95	0.38	114.688	0.3749	6	1.64	115.6623	0.9836	0	0.9836	115.6	0.3782	-6E-04	6	0.5179	1.0385	1.6307	111.6019
19	119	0.36	-0.95	0.31	118.988	0.3026	6	1.58264	114.452	1.04082	0	1.0408	113.32	0.3052	-6E-04	6	0.5029	1.0083	1.5845	112.3975
20	83.6	0.35	-1.05	0.42	83.5872	0.4187	6	1.78361	113.3846	1.09751	0	1.0975	75.16	0.4243	-9E-04	6	0.5875	0.9788	1.7996	76.30264
21	87.1	0.3	-1.14	0.34	87.0861	0.3445	6	1.72917	112.3567	1.15369	0	1.1537	74.485	0.3491	-1E-03	6	0.5737	0.9516	1.7563	77.2818
22	33.2	0.38	-1.14	1.13	33.1861	1.1451	5	2.35168	111.7332	1.20956	0	1.2096	26.436	1.1884	-0.003	5	0.8271	0.8953	2.4144	27.05507
23	75.1	1.02	-0.98	1.36	75.088	1.3584	5	2.10991	120.9495	1.27003	0	1.27	58.123	1.3818	-1E-03	5	0.7352	0.8744	2.1654	61.00204
24	136.9	0.59	-1.2	0.43	136.885	0.431	6	1.60462	118.4085	1.32924	0	1.3292	101.98	0.4352	-6E-04	6	0.5439	0.8833	1.6563	113.1634
25	155.7	0.95	-1.25	0.61	155.685	0.6102	6	1.64527	122.2077	1.39034	0	1.3903	110.98	0.6157	-6E-04	6	0.565	0.857	1.7043	124.9715
26	149	0.55	-1.03	0.37	148.987	0.3692	6	1.5381	118.1014	1.44939	0	1.4494	101.79	0.3728	-5E-04	6	0.5307	0.8462	1.6066	117.9933
27	95.6	0.55	-1.42	0.58	95.5826	0.5754	6	1.80361	117.0188	1.5079	0	1.5079	62.388	0.5846	-0.001	6	0.6441	0.796	1.8971	70.77119
28	66.2	1.22	-1.48	1.85	66.1819	1.8434	5	2.238	121.9516	1.56888	0	1.5689	41.184	1.8882	-0.002	5	0.8237	0.7229	2.3599	44.14593
29	56.3	1.15	-1.65	2.04	56.2798	2.0434	5	2.32037	121.124	1.62944	0	1.6294	33.539	2.1043	-0.002	5	0.8657	0.6882	2.4627	35.5421
30	52.3	1.05	-1.78	2.02	52.2782	2.0085	5	2.33967	120.2784	1.68958	0	1.6896	29.942	2.0756	-0.003	4	0.8822	0.6618	2.4986	31.63847
31	52.6	0.97	-1.81	1.85	52.5779	1.8449	5	2.31392	119.7125	1.74943	0	1.7494	29.054	1.9084	-0.003	5	0.8799	0.6425	2.4849	30.86269
32	72.1	1.33	-1.84	1.84	72.0775	1.8452	5	2.21071	122.7914	1.81083	0	1.8108	38.804	1.8928	-0.002	5	0.8406	0.6366	2.3752	42.27447
33	133	1.27	-1.72	0.96	132.979	0.955	6	1.82181	123.9474	1.8728	0	1.8728	70.005	0.9687	-9E-04	6	0.686	0.6759	1.9617	83.75057
34	155.7	1.68	-1.89	1.08	155.677	1.0792	6	1.80727	126.3789	1.93599	0	1.936	79.412	1.0928	-9E-04	6	0.6839	0.6616	1.9482	96.12254
35	123.2	1.2	-1.9	0.98	123.177	0.9742	6	1.85258	123.3458	1.99767	0	1.9977	60.66	0.9903	-0.001	6	0.7125	0.6358	2.0157	72.81913
36	117.1	1.21	-1.9	1.04	117.077	1.0335	6	1.88605	123.2827	2.05931	0	2.0593	55.852	1.052	-0.001	5	0.733	0.6138	2.0618	66.71859
37	105.1	1.29	-1.9	1.23	105.077	1.2277	6	1.97066	123.4874	2.12105	0	2.1211	48.54	1.253	-0.001	5	0.7747	0.5835	2.1636	56.77277
38	100.6	1.16	-1.85	1.16	100.577	1.1533	6	1.96712	122.6034	2.18235	0	2.1824	45.087	1.1789	-0.001	5	0.7811	0.5681	2.1726	52.82934
39	72.7	1.24	-2	1.71	72.6755	1.7062	5	2.1853	122.2989	2.2435	0	2.2435	31.394	1.7606	-0.002	5	0.8807	0.5159	2.4282	34.33778
40	80.1	1.29	-2	1.62	80.0755	1.611	5	2.13728	122.8246	2.30491	0	2.3049	33.741	1.6587	-0.002	5	0.8663	0.5094	2.3618	37.44314
41	64	1.78	-2.09	2.79	63.9744	2.7824	5	2.37095	124.633	2.36723	0	2.3672	26.025	2.8893	-0.002	4	0.9705	0.4577	2.6465	26.65114
42	117.6	1.5	-2.1	1.28	117.574	1.2758	6	1.94579	124.865	2.42966	0	2.4297	47.391	1.3027	-0.001	5	0.7946	0.5166	2.1773	56.21428
43	112.6	1.82	-2	1.61	112.576	1.6167	5	2.03063	126.174	2.49275	0	2.4928	44.161	1.6533	-0.001	5	0.8351	0.4889	2.2758	50.86582
44	127.7	2.32	-2.02	1.81	127.675	1.8171	5	2.02886	128.257	2.55688	0	2.5569	48.934	1.8542	-0.001	5	0.837	0.4778	2.2729	56.5037
45	125.8	1.86	-2.04	1.48	125.775	1.4788	6	1.96919	126.6034	2.62018	0	2.6202	47.002	1.5103	-0.001	5	0.821	0.475	2.2229	55.28602
46	71.7	2.6	-2.5	3.62	71.6694	3.6278	4	2.41952	127.6824	2.68402	0	2.684	25.702	3.7689	-0.003	4	1	0.3942	2.7332	25.70224
47	136.3	2.02	-2.09	1.49	136.274	1.4823	6	1.94541	127.4028	2.74772	0	2.7477	48.595	1.5128	-0.001	5	0.822	0.4564	2.2096	57.59378
48	155.8	1.33	-2.09	0.85	155.774	0.8538	6	1.73808	124.6711	2.81006	0	2.8101	54.435	0.8695	-1E-03	6	0.744	0.4835	1.9966	69.89904
49	137	1.76	-2.16	1.28	136.974	1.2849	6	1.89994	126.4071	2.87326	0	2.8733	46.672	1.3125	-0.001	5	0.8169	0.4422	2.1804	56.04193
50	61	1.68	-2.25	2.76	60.9725	2.7553	5	2.3829	124.0927	2.93531	0	2.9353	19.772	2.8947	-0.003	4	1	0.3605	2.7484	19.77207
51	68.1	1.47	-2.49	2.16	68.0695	2.1596	5	2.27528	123.3842	2.997	0	2.997	21.713	2.259	-0.003	4	1	0.3531	2.6511	21.71254
52	83.2	1.95	-2.34	2.35	83.1714	2.3446	5	2.23775	125.9404	3.05997	0	3.06	26.18	2.4341	-0.002	4	0.9857	0.3511	2.6008	26.57984
53	109.7	1.76	-2.28	1.61	109.672	1.6048	5	2.03647	125.8649	3.1129	0	3.1229	34.119	1.6518	-0.002	5	0.9031	0.3763	2.376	37.89263
54	79	2.53	-1.53	3.2	78.9813	3.2033	5	2.35119	127.7196	3.18676	0	3.1868	23.784	3.338	-0.001	4	1	0.332	2.7246	23.78416
55	169.3	2.53	-2.29	1.49	169.272	1.4946	6	1.88344	129.5789	3.25155	0	3.2516	51.059	1.5239	-1E-03	5	0.839	0.3899	2.1914	61.17577
56	216.1	3.91	-2.21	1.81	216.073	1.8096	6	1.87848	133.3595	3.31823	0	3.3182	64.117	1.8378	-8E-04	5	0.8332	0.3859	2.168	77.58372
57	153.3	1.72	-2.28	1.12	153.272	1.1222	6	1.82393	126.5131	3.38149	0	3.3815	44.327	1.1475	-0.001	5	0.833	0.3799	2.1592	53.8203
58	37.4	1.61	-1.62	4.31	37.3802	4.3071	4	2.67052	122.5879	3.44278	0	3.4428</								

87	105.7	3.9	-2.04	3.69	105.675	3.6906	5	2.31435	131.5962	5.31503	0	5.315	18.882	3.886	-0.001	3	1	0.1991	2.8439	18.88232
88	185.9	4.15	-2.04	2.23	185.875	2.2327	5	1.99063	133.4282	5.38174	0	5.3817	33.538	2.2993	-8E-04	4	1	0.1966	2.5065	33.53809
89	237.9	2.74	-2.04	1.15	237.875	1.1519	6	1.70068	130.9922	5.44724	0	5.4472	42.669	1.1789	-6E-04	5	0.9559	0.2088	2.2223	45.87005
90	159.6	2.65	-2.18	1.66	159.573	1.6607	6	1.93457	129.774	5.51212	0	5.5121	27.95	1.7201	-0.001	5	1	0.192	2.4927	27.94952
91	71.1	4.12	-4.66	5.81	71.043	5.7993	9	2.57551	131.0293	5.57764	0	5.5776	11.737	6.2934	-0.005	3	1	0.1897	3.1366	11.73711
92	126.4	2.71	-2.95	2.14	126.364	2.1446	5	2.08491	129.3687	5.64232	0	5.6423	21.396	2.2448	-0.002	4	1	0.1875	2.6546	21.39572
93	202.4	2.37	-2.28	1.17	202.372	1.1711	6	1.75292	129.5365	5.70709	0	5.7071	34.46	1.2051	-8E-04	5	1	0.1854	2.3298	34.45977
94	72	3.01	-2.55	4.18	71.9688	4.1824	4	2.46412	128.764	5.77147	0	5.7715	11.47	4.547	-0.003	3	1	0.1833	3.0555	11.46974
95	171.6	2.18	-2.47	1.27	171.57	1.2706	6	1.8278	128.5223	5.83573	0	5.8357	28.4	1.3154	-0.001	5	1	0.1813	2.4208	28.39986
96	264.7	2.55	-2.34	0.96	264.671	0.9635	6	1.61184	130.7267	5.9011	0	5.9011	43.851	0.9854	-7E-04	5	0.9565	0.1932	2.1673	47.25258
97	237.6	1.82	-1.98	0.77	237.576	0.7661	6	1.57193	127.9955	5.96509	0	5.9651	38.828	0.7858	-6E-04	5	0.9564	0.1913	2.1586	41.86864
98	250.1	2.2	-2.4	0.88	250.071	0.8798	6	1.59937	129.508	6.02985	0	6.0299	40.472	0.9015	-7E-04	5	0.9678	0.1856	2.1819	42.80805
99	250.3	2.58	-2.57	1.03	250.269	1.0309	6	1.64994	130.6758	6.09519	0	6.0952	40.06	1.0566	-8E-04	5	0.9929	0.1758	2.2392	40.56361
100	225.2	2.39	-2.55	1.06	225.169	1.0614	6	1.69011	129.8583	6.16012	0	6.1601	35.553	1.0913	-8E-04	5	1	0.1718	2.2947	35.55269
101	69.9	3.2	-2.28	4.58	69.8721	4.5798	4	2.50216	129.1397	6.22469	0	6.2247	10.225	5.0277	-0.003	3	1	0.17	3.1217	10.225
102	124.5	4.28	-2.66	3.44	124.467	3.4387	5	2.24576	132.6758	6.29102	0	6.291	18.785	3.6217	-0.002	3	1	0.1682	2.8263	18.78493
103	86	4.41	-3.32	5.13	85.9594	5.1303	9	2.48189	131.9919	6.35702	0	6.357	12.522	5.54	-0.003	3	1	0.1665	3.0795	12.52196
104	128.6	4.61	-3.23	3.59	128.56	3.5859	8	2.25135	133.2981	6.42367	0	6.4237	19.014	3.7745	-0.002	3	1	0.1647	2.8335	19.01356
105	164.9	3.19	-3.3	1.94	164.86	1.935	6	1.97531	131.2105	6.48927	0	6.4893	24.405	2.0143	-0.002	4	1	0.1631	2.5807	24.40494
106	109.1	3.49	-2.8	3.2	109.066	3.1999	5	2.25798	130.8605	6.5547	0	6.5547	15.639	3.4045	-0.002	3	1	0.1614	2.8721	15.63931
107	63.8	3.95	-2.72	6.2	63.7667	6.1945	3	2.62755	130.4574	6.61993	0	6.6199	8.6325	6.912	-0.003	3	1	0.1598	3.2653	8.63253
108	91.8	4.82	-3.61	5.25	91.7558	5.2531	9	2.47223	132.8015	6.68633	0	6.6863	12.723	5.666	-0.003	3	1	0.1583	3.0804	12.72289
109	116	4.26	-3.84	3.67	115.953	3.6739	5	2.28742	132.4687	6.75257	0	6.7526	16.172	3.9011	-0.003	3	1	0.1567	2.8972	16.17169
110	157.6	3.29	-2.96	2.09	157.564	2.088	5	2.01326	131.326	6.81823	0	6.8182	22.109	2.1825	-0.001	4	1	0.1552	2.6359	22.10919
111	121.7	4.95	-3.33	4.07	121.659	4.0687	9	2.30939	133.6842	6.88507	0	6.8851	16.67	4.3128	-0.002	3	1	0.1537	2.9144	16.67
112	55.2	4.37	-2.84	7.93	55.1652	7.9217	3	2.74989	130.8434	6.95049	0	6.9505	6.9369	9.0636	-0.004	3	1	0.1522	3.4134	6.93688
113	78.8	5.1	-2.24	6.48	78.7726	6.4743	9	2.58454	132.8425	7.01692	0	7.0169	10.226	7.1075	-0.002	3	1	0.1508	3.2164	10.2261
114	112	4.66	-2.5	4.16	111.969	4.1619	9	2.33928	133.0401	7.08344	0	7.0834	14.807	4.4429	-0.002	3	1	0.1494	2.9624	14.80722
115	89	5.42	-2.34	6.09	88.9714	6.0919	9	2.53119	133.5848	7.15023	0	7.1502	11.443	6.6242	-0.002	3	1	0.148	3.1593	11.44315
116	113.1	5.98	-2.64	5.29	113.068	5.2889	9	2.41944	134.8888	7.21767	0	7.2177	14.665	5.6495	-0.002	3	1	0.1466	3.0325	14.66539
117	153.4	4.39	-2.57	2.86	153.369	2.8624	5	2.12705	133.3707	7.28436	0	7.2844	20.055	3.0051	-0.001	4	1	0.1453	2.7536	20.0545
118	92.5	4.87	-2.09	5.26	92.4744	5.2663	9	2.47099	132.896	7.35081	0	7.3508	11.58	5.7211	-0.002	3	1	0.1439	3.1146	11.58017
119	80.6	5.14	-2.1	6.38	80.5743	6.3792	9	2.57342	132.9549	7.41728	0	7.4173	9.8631	7.026	-0.002	3	1	0.1427	3.2252	9.86305
120	97	4.4	-2	4.54	96.9755	4.5372	9	2.40749	132.2693	7.48342	0	7.4834	11.959	4.9166	-0.002	3	1	0.1414	3.0623	11.95872
121	156	3.76	-1.9	2.41	155.977	2.4106	5	2.06413	132.2783	7.54956	0	7.5496	19.66	2.5332	-9E-04	4	1	0.1402	2.7153	19.66038
122	144.4	6.08	-1.73	4.21	144.379	4.2111	9	2.27686	135.6063	7.61736	0	7.6174	17.954	4.4457	-9E-04	3	1	0.1389	2.8981	17.95392
123	90.1	5.21	-1.41	5.79	90.0827	5.7836	9	2.51005	133.3259	7.68402	0	7.684	10.723	6.3229	-0.001	3	1	0.1377	3.168	10.72338
124	155.5	5.29	-1.52	3.4	155.481	3.4023	8	2.18315	134.7686	7.75141	0	7.7514	19.058	3.5809	-7E-04	3	1	0.1365	2.8183	19.05847
125	108.1	5.63	-1.09	5.2	108.087	5.2088	9	2.42585	134.3376	7.81858	0	7.8186	12.824	5.615	-8E-04	3	1	0.1353	3.0753	12.82434
126	38.6	2.56	-1.14	6.63	38.5861	6.6345	3	2.79461	126.0588	7.88161	0	7.8816	3.8957	8.3376	-0.003	2	1	0.1343	3.5882	3.89571
127	121.1	4.52	-0.76	3.73	121.091	3.7327	8	2.28111	133.0079	7.94811	0	7.9481	14.235	3.995	-5E-04	3	1	0.1331	2.947	14.23516
128	351.6	3.51	-2.1	1	351.574	0.9984	6	1.54478	133.7571	8.01499	0	8.015	42.865	1.0217	-4E-04	5	1	0.132	2.2111	42.8646
129	266.4	2.67	-2.28	1	266.372	1.0024	6	1.62288	131.0788	8.08053	0	8.0805	31.965	1.0337	-6E-04	5	1	0.131	2.3208	31.96469
130	155.5	4.24	-1.98	2.72	155.476	2.7271	5	2.10685	133.1496	8.1471	0	8.1471	18.084	2.8779	-1E-03	4	1	0.1299	2.7777	18.08357
131	151.9	6.06	-1.71	3.99	151.879	3.99	8	2.24499	135.7058	8.21496	0	8.215	17.488	4.2182	-9E-04	3	1	0.1288	2.8923	17.48812
132	198.1	4.64	-1.78	2.34	198.078	2.3425	5	1.99037	134.3999	8.28216	0	8.2822	22.916	2.4447	-7E-04	4	1	0.1278	2.6529	22.91626
133	230.4	4.22	-1.37	1.83	230.383	1.8317	6	1.8656	134.0741	8.34919	0	8.3492	26.593	1.9006	-4E-04	4	1	0.1267	2.5357	26.59347
134	227.1	4.68	-1.52	2.06	227.081	2.0609	6	1.91029	134.796	8.41659	0	8.4166	25.98	2.1403	-5E-04	4	1	0.1257	2.5746	25.98021
135	289.1	3.62	-1.81	1.25	289.078	1.2523	6	1.67466	133.5055	8.48334	0	8.4833	33.076	1.2901	-5E-04	5	1	0.1247	2.3611	33.07593
136	291.7	3.91	-1.81	1.34	291.678	1.3405	6	1.69566	134.0913	8.55039	0	8.5504	33.113	1.381	-5E-04	5	1	0.1238	2.3775	33.11282
137	74.9	3.7	-2.02	4.94	74.8753	4.9416	4	2.50757	130.3707	8.61557	0	8.6156	7.6907	5.5841	-0.002	3	1	0.1228	3.2475	7.69069
138	135	6.06	-1.7	4.49	134.979	4.4896	9	2.31654	135.418	8.68328	0	8.6833	14.545	4.7983	-1E-03	3	1	0.1219	2.9896	14.54472
139	137.7	6.37	-1.68	4.63	137.679	4.6267	9	2.32208	135.8314	8.7512	0	8.7512	14.733	4.9407	-9E-04	3	1	0.1209	2.9934	14.73264
140	135.9	4.41	-2.16	3.25	135.874	3.2457	5	2.20246	133.1085	8.81775	0	8.8178	14.409	3.4709	-0.001	3	1	0.12	2.9054	14.40909
141	225	3.27	-1.87	1.45	224.977	1.4535	6	1.79335	132.1501	8.88383	0	8.8838	24.324	1.5132	-6E-04	5	1	0.1191	2.5105	24.32434
142	197	4.59	-1.75	2.33	196.979	2.3302	5	1.99	134.307	8.95098	0	8.951	21.006	2.4411	-7E-04	4	1	0.1182	2.6827	21.00637
143	125.3	7.32	-1.21	5.85	125.285	5.8427	9	2.42842	136.6184	9.01929	0	9.0193	12.891	6.2959	-8E-04	3	1	0.1173	3.1056	12.8908
144	60.7	4.67	-0.92	7.7	60.6887	7.695	3	2.71387	131.5619	9.08507	0	9.0851	5.6801	9.0497	-0.001	2	1	0.1165	3.4803	5.68005
145	96.1	7.04	-0.92	7.33	96.0887	7.3266	9	2.57537	135.686	9.15291	0	9.1529	9.4982	8.0979	-8E-04	3	1	0.1156		

Depth (ft)	CPT-11 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	72	0.4	0.12	0.55	72.0015	0.5555	6	1.90028	113.9977	0.057	0	0.057	1262.2	0.556	0.0001	6	0.4808	2	1.6485	135.987
2	54.1	0.38	0.16	0.7	54.102	0.7024	6	2.05908	112.9253	0.11346	0	0.1135	475.83	0.7039	0.0002	6	0.5448	2	1.8096	102.0472
3	46.5	0.52	0.29	1.12	46.5036	1.1182	5	2.22424	114.8512	0.17089	0	0.1709	271.13	1.1223	0.0005	6	0.615	2	1.9867	87.57643
4	51	0.48	0.31	0.95	51.0038	0.9411	5	2.14893	114.4908	0.22813	0	0.2281	222.57	0.9453	0.0004	6	0.588	2	1.9087	95.97444
5	47.7	0.27	0.46	0.56	47.7056	0.566	6	2.06011	110.1178	0.28319	0	0.2832	167.46	0.5694	0.0007	6	0.5507	2	1.804	89.63629
6	52.2	0.22	0.15	0.41	52.2018	0.4214	6	1.96742	108.839	0.33761	0	0.3376	153.62	0.4242	0.0002	6	0.5279	1.8276	1.7384	89.58213
7	73.5	0.34	0.42	0.46	73.5051	0.4626	6	1.85326	112.859	0.39404	0	0.394	185.54	0.4651	0.0004	6	0.5042	1.6455	1.6697	113.6941
8	86	0.42	0.69	0.49	86.0085	0.4883	6	1.80536	114.7882	0.45143	0	0.4514	189.52	0.4909	0.0006	6	0.4999	1.5309	1.6514	123.7852
9	85.3	0.51	0.46	0.6	85.3056	0.5979	6	1.85416	116.1889	0.50953	0	0.5095	166.42	0.6014	0.0004	6	0.5285	1.4714	1.7187	117.9138
10	79.1	0.47	0.38	0.59	79.1047	0.5942	6	1.88045	115.4072	0.56723	0	0.5672	138.46	0.5984	0.0004	6	0.5474	1.4067	1.7607	104.4121
11	66.3	0.33	0.6	0.49	66.3073	0.4977	6	1.90778	112.3892	0.62343	0	0.6234	105.36	0.5024	0.0007	6	0.5653	1.3486	1.8006	83.71467
12	51.2	0.47	0.52	0.92	51.2064	0.9179	5	2.14148	114.3464	0.6806	0	0.6806	74.237	0.9302	0.0007	6	0.6613	1.3388	2.0451	63.93079
13	43.4	0.32	0.3	0.74	43.4037	0.7373	5	2.15207	111.1305	0.73617	0	0.7362	57.959	0.75	0.0005	5	0.6739	1.277	2.0714	51.49307
14	37.2	0.51	0.49	1.37	37.206	1.3708	5	2.35431	114.1651	0.79325	0	0.7933	45.903	1.4006	0.001	5	0.7605	1.2449	2.2903	42.84228
15	46.6	0.43	0.31	0.93	46.6038	0.9227	5	2.17693	113.4659	0.84998	0	0.85	53.829	0.9398	0.0005	5	0.7028	1.1664	2.1323	50.43721
16	64.8	0.49	0.26	0.76	64.8032	0.7561	6	2.00977	115.2257	0.90759	0	0.9076	70.401	0.7669	0.0003	6	0.6483	1.1046	1.9822	66.70236
17	94.4	0.55	0.15	0.58	94.4018	0.5826	6	1.81108	116.9885	0.96609	0	0.9661	96.716	0.5886	0.0001	6	0.5808	1.0543	1.7981	93.09611
18	48.2	0.36	0	0.76	48.2	0.7469	5	2.11582	112.2479	1.02221	0	1.0222	46.153	0.7631	0	5	0.7059	1.0247	2.1196	45.68648
19	81.8	0.72	-0.08	0.88	81.799	0.8802	6	1.96425	118.6097	1.08152	0	1.0815	74.634	0.892	-7E-05	6	0.6545	0.9858	1.9774	75.20003
20	46.7	0.58	-0.15	1.25	46.6982	1.242	5	2.24909	115.6604	1.13935	0	1.1394	39.987	1.2731	-2E-04	5	0.7742	0.9443	2.2843	40.66038
21	71.8	0.75	-0.15	1.04	71.7982	1.0446	5	2.05412	118.5903	1.19864	0	1.1986	58.9	1.0623	-2E-04	5	0.7049	0.9159	2.0949	61.10763
22	133	0.84	0.23	0.63	133.003	0.6316	6	1.7088	120.9232	1.2591	0	1.2591	104.63	0.6376	0.0001	6	0.5764	0.9046	1.7497	112.6334
23	143.5	0.94	0.32	0.65	143.504	0.655	6	1.6921	121.9316	1.32007	0	1.3201	107.71	0.6611	0.0002	6	0.576	0.8804	1.7418	118.3
24	121.2	0.79	0.08	0.65	121.201	0.6518	6	1.7494	120.2476	1.38019	0	1.3802	86.814	0.6593	5E-05	6	0.6061	0.8512	1.8132	96.39518
25	149.1	1.02	0.55	0.69	149.107	0.6841	6	1.69067	122.6226	1.4415	0	1.4415	102.44	0.6908	0.0003	6	0.5883	0.8337	1.759	116.3441
26	164.8	0.99	0.47	0.6	164.806	0.6007	6	1.62157	122.6483	1.50283	0	1.5028	108.66	0.6062	0.0002	6	0.5673	0.8195	1.6961	126.481
27	192.4	1.63	0.58	0.85	192.407	0.8472	6	1.66814	126.6745	1.56617	0	1.5662	121.85	0.8541	0.0002	6	0.5898	0.7935	1.7474	143.1172
28	140	0.56	0.41	0.4	140.005	0.4	6	1.57921	118.0816	1.62521	0	1.6252	85.146	0.4047	0.0002	6	0.5659	0.7844	1.6771	102.5838
29	100.8	0.65	0.61	0.65	100.807	0.6448	6	1.81188	118.3709	1.68439	0	1.6844	58.848	0.6558	0.0004	6	0.6666	0.7335	1.9343	68.71353
30	63.7	1.05	0.32	1.65	63.7039	1.6483	5	2.21864	120.7606	1.74477	0	1.7448	35.511	1.6947	0.0004	5	0.8389	0.6573	2.3773	38.49169
31	95.2	0.74	0.06	0.78	95.2007	0.7773	6	1.87918	119.1802	1.80436	0	1.8044	51.761	0.7923	5E-05	6	0.707	0.6857	2.0252	60.52372
32	131	1.05	0.27	0.8	131.003	0.8015	6	1.77763	122.519	1.86562	0	1.8656	69.22	0.8131	0.0002	6	0.6686	0.6844	1.9168	83.53271
33	92.8	1.74	0.35	1.88	92.8043	1.8749	5	2.13556	125.374	1.92831	0	1.9283	47.127	1.9147	0.0003	5	0.8198	0.6114	2.3061	52.50969
34	123.7	0.95	0.39	0.77	123.705	0.768	6	1.78543	121.6469	1.98913	0	1.9891	61.19	0.7805	0.0002	6	0.6857	0.6487	1.9464	74.6159
35	91.3	1.45	-0.22	1.58	91.2973	1.5882	5	2.09102	124	2.05113	0	2.0511	43.511	1.6247	-2E-04	5	0.8168	0.5824	2.2828	49.12133
36	112.7	1.15	-0.17	1.02	112.698	1.0204	6	1.895	122.8176	2.11254	0	2.1125	52.347	1.0399	-1E-04	5	0.743	0.5983	2.0814	62.52523
37	107.4	1.35	-0.08	1.26	107.399	1.257	6	1.97042	123.8733	2.17448	0	2.1745	48.391	1.283	-5E-05	5	0.7798	0.5703	2.1703	56.70864
38	98.5	0.98	-0.38	1	98.4954	0.995	6	1.93298	121.3186	2.23514	0	2.2351	43.067	1.0181	-3E-04	5	0.7742	0.5605	2.148	50.98799
39	117.6	0.99	-0.15	0.85	117.598	0.8419	6	1.82749	121.8252	2.29605	0	2.2961	50.218	0.8586	-9E-05	6	0.7353	0.5657	2.0381	61.64715
40	70.4	1.14	-0.31	1.61	70.3962	1.6194	5	2.18073	121.6059	2.35685	0	2.3569	28.869	1.6755	-3E-04	5	0.8928	0.4892	2.4445	31.45564
41	50.8	2.07	-1.52	4.06	50.7814	4.0763	4	2.55925	125.1741	2.41944	0	2.4194	19.989	4.2802	-0.002	3	1	0.4373	2.8519	19.9889
42	112	1.44	-0.47	1.29	111.994	1.2858	6	1.96359	124.4477	2.48166	0	2.4817	44.129	1.3149	-3E-04	5	0.8083	0.5021	2.2069	51.96129
43	132.8	1.25	-0.39	0.94	132.795	0.9413	6	1.81813	123.8279	2.54358	0	2.5436	51.208	0.9597	-2E-04	6	0.7535	0.5164	2.0551	63.56562
44	123.4	1.46	-0.46	1.18	123.394	1.1832	6	1.90816	124.7851	2.60597	0	2.606	46.351	1.2087	-3E-04	5	0.7968	0.4877	2.1609	55.66891
45	152.9	1.28	-0.46	0.84	152.894	0.8372	6	1.73853	124.3452	2.66814	0	2.6681	56.304	0.8521	-2E-04	6	0.7309	0.5087	1.9799	72.21576
46	158.4	1.18	-0.23	0.74	158.397	0.745	6	1.69388	123.8362	2.73006	0	2.7301	57.02	0.758	-1E-04	6	0.7187	0.506	1.94	74.44452
47	157.7	1.13	-0.2	0.71	157.698	0.7166	6	1.68452	123.5086	2.79182	0	2.7918	55.486	0.7295	-9E-05	6	0.7213	0.4967	1.939	72.71536
48	156.2	1.02	-0.08	0.65	156.199	0.653	6	1.66231	122.736	2.85318	0	2.8532	53.746	0.6652	-4E-05	6	0.7191	0.49	1.9255	71.01548
49	157.9	1.08	-0.07	0.68	157.899	0.684	6	1.67126	123.1806	2.91477	0	2.9148	53.172	0.6968	-3E-05	6	0.7281	0.4782	1.9416	70.03587
50	135	1.23	0.04	0.91	135	0.9111	6	1.80344	123.75	2.97665	0	2.9767	44.353	0.9317	2E-05	5	0.7907	0.4414	2.0986	55.07196
51	28.5	1.62	0.52	5.67	28.5064	5.6829	3	2.83881	121.9722	3.03763	0	3.0376	8.3844	6.3607	0.0015	3	1	0.3483	3.2526	8.3844
52	37.6	2.62	1.28	6.97	37.6157	6.9652	3	2.8176	126.1662	3.10072	0	3.1007	11.131	7.5909	0.0027	3	1	0.3413	3.2069	11.13128
53	134.6	1.55	0.15	1.15	134.602	1.1515	6	1.87249	125.4348	3.16344	0	3.1634	41.549	1.1793	8E-05	5	0.8358	0.4004	2.1939	49.73567
54	148.9	1.14	0.06	0.77	148.901	0.7656	6	1.72208	123.4331	3.22515	0	3.2252	45.169	0.7826	3E-05	6	0.7802	0.4192	2.0396	57.70853
55	200.1	2.1	1.46	1.05	200.118	1.0494	6	1.72155	128.6241	3.28946	0	3.2895	59.836	1.0669	0.0005	6	0.7737	0.4158	2.0147	77.34739
56	183.8	0.96	1.15	0.52	183.814	0.5223	6	1.5469	122.6894	3.35081	0	3.3508	53.857	0.532	0.0005	6	0.7165	0.4378	1.856	74.67068
57	100.7	1.35	0.15	1.34	100.702	1.3406	6	2.00991	123.7163	3.41267	0	3.4127	28.508	1.3876	0.0001	5	0.928	0.3373	2.4021	31.01466
58	103.2	1.77	0.49	1.71	103.206	1.														

87	133	3.78	0.77	2.85	133.009	2.8419	5	2.16325	131.9287	5.35799	0	5.358	23.824	2.9612	0.0004	4	1	0.1975	2.691	23.82448
88	169.4	3.71	1.3	2.19	169.416	2.1899	5	2.00913	132.382	5.42418	0	5.4242	30.233	2.2623	0.0006	4	1	0.1951	2.5372	30.23344
89	143.3	3.15	0.67	2.2	143.308	2.1981	5	2.05692	130.7765	5.48957	0	5.4896	25.106	2.2856	0.0004	4	1	0.1928	2.6037	25.10553
90	82.4	4.25	1.61	5.16	82.4197	5.1565	9	2.49513	131.6189	5.55538	0	5.5554	13.836	5.5292	0.0015	3	1	0.1905	3.0457	13.83601
91	158.8	2.14	1.05	1.35	158.813	1.3475	6	1.86942	128.1983	5.61948	0	5.6195	27.261	1.3969	0.0005	5	1	0.1883	2.45	27.26112
92	105.3	3.75	1.06	3.56	105.313	3.5608	5	2.30333	131.3009	5.68513	0	5.6851	17.524	3.764	0.0008	3	1	0.1861	2.8603	17.52428
93	59.6	3.89	0.92	6.53	59.6113	6.5256	3	2.66371	130.1811	5.75022	0	5.7502	9.3668	7.2223	0.0012	3	1	0.184	3.2501	9.36678
94	81.7	4.13	3.17	5.05	81.7388	5.0527	9	2.49058	131.3891	5.81592	0	5.8159	13.054	5.4397	0.003	3	1	0.1819	3.0605	13.05433
95	88	4.52	2.34	5.14	88.0286	5.1347	9	2.4757	132.2301	5.88203	0	5.882	13.966	5.5024	0.0021	3	1	0.1799	3.0412	13.96569
96	193.3	2.74	2.54	1.42	193.331	1.4173	6	1.82775	130.4865	5.94728	0	5.9473	31.508	1.4622	0.001	5	1	0.1779	2.4095	31.50751
97	119.6	4.49	2.48	3.75	119.63	3.7532	8	2.28624	132.9296	6.01374	0	6.0137	18.893	3.9519	0.0016	3	1	0.176	2.8484	18.89284
98	126.5	2.78	1.74	2.2	126.521	2.1973	5	2.0924	129.5584	6.07852	0	6.0785	19.814	2.3082	0.001	4	1	0.1741	2.6886	19.81449
99	88.1	4.67	1.9	5.3	88.1233	5.2994	9	2.48612	132.4716	6.14475	0	6.1448	13.341	5.6966	0.0017	3	1	0.1722	3.0661	13.34122
100	122.3	3.92	2.16	3.2	122.326	3.2045	5	2.22664	131.9906	6.21075	0	6.2108	18.696	3.3759	0.0013	4	1	0.1704	2.8088	18.69592
101	168.7	2.52	2.22	1.49	168.727	1.4935	6	1.88414	129.542	6.27552	0	6.2755	25.887	1.5512	0.001	5	1	0.1686	2.4942	25.88656
102	187.7	3	2.09	1.6	187.726	1.5981	6	1.8755	131.078	6.34106	0	6.3411	28.605	1.6539	0.0008	5	1	0.1669	2.4746	28.60476
103	112.4	5.22	2.22	4.64	112.427	4.643	9	2.37574	133.8804	6.408	0	6.408	16.545	4.9236	0.0015	3	1	0.1651	2.9539	16.54481
104	125	6.03	2.09	4.82	125.026	4.823	9	2.3613	135.1949	6.4756	0	6.4756	18.307	5.0865	0.0013	3	1	0.1634	2.9298	18.30719
105	167.9	3.21	1.84	1.91	167.923	1.9116	6	1.96612	131.3012	6.54125	0	6.5413	24.671	1.9891	0.0008	4	1	0.1618	2.5736	24.67133
106	133.6	4.8	1.91	3.59	133.623	3.5922	8	2.24167	133.6879	6.60809	0	6.6081	19.221	3.7791	0.0011	3	1	0.1601	2.8302	19.22117
107	112.7	4.11	2.13	3.64	112.726	3.646	5	2.29253	132.1375	6.67416	0	6.6742	15.89	3.8755	0.0015	3	1	0.1585	2.9014	15.88992
108	123.5	5.12	1.34	4.14	123.516	4.1452	9	2.3118	133.9683	6.74115	0	6.7412	17.323	4.3845	0.0008	3	1	0.157	2.9062	17.32276
109	121.8	5.4	1.67	4.43	121.82	4.4328	9	2.33864	134.3241	6.80831	0	6.8083	16.893	4.6952	0.0011	3	1	0.1554	2.9336	16.89291
110	70	5.26	1.9	7.52	70.0233	7.5118	9	2.66689	132.7814	6.8747	0	6.8747	9.1857	8.3296	0.0022	3	1	0.1539	3.2965	9.18565
111	116.5	6.16	2.89	5.29	116.535	5.286	9	2.41146	135.1794	6.94229	0	6.9423	15.786	5.6208	0.0019	3	1	0.1524	3.0068	15.78631
112	73.1	5.79	2.87	7.91	73.1351	7.9169	9	2.67329	133.5899	7.00908	0	7.0091	9.4343	8.756	0.0031	3	1	0.151	3.3018	9.43434
113	73.4	5.4	3.96	7.35	73.4485	7.3521	9	2.64675	133.0901	7.07563	0	7.0756	9.3805	8.1359	0.0043	3	1	0.1495	3.2829	9.38049
114	69.5	5.2	4.91	7.48	69.5601	7.4756	9	2.66702	132.6813	7.14197	0	7.142	8.7396	8.3309	0.0057	3	1	0.1482	3.313	8.73963
115	67.4	5.09	5.22	7.55	67.4639	7.5448	9	2.67841	132.4502	7.20819	0	7.2082	8.3593	8.4473	0.0062	3	1	0.1468	3.3316	8.35933
116	84.4	5.58	5.09	6.6	84.4623	6.6065	9	2.57288	133.6708	7.27503	0	7.275	10.61	7.2292	0.0048	3	1	0.1454	3.2089	10.60989
117	102.5	4.33	6.24	4.22	102.576	4.2212	9	2.36778	132.289	7.34117	0	7.3412	12.973	4.5466	0.0047	3	1	0.1441	3.0135	12.92725
118	134.6	3.39	4.65	2.51	134.657	2.5175	5	2.11934	131.1619	7.40675	0	7.4068	17.18	2.664	0.0026	4	1	0.1429	2.7754	17.18029
119	120.2	5.09	4.66	4.23	120.257	4.2326	9	2.32606	133.86	7.47368	0	7.4737	15.091	4.5131	0.003	3	1	0.1416	2.9604	15.09073
120	69.8	5.09	4.25	7.3	69.852	7.2868	9	2.65718	132.5351	7.53995	0	7.54	8.2643	8.1686	0.0049	3	1	0.1403	3.3261	8.26425
121	67.5	4.68	5.49	6.93	67.5672	6.9264	9	2.64901	131.8395	7.60587	0	7.6059	7.8836	7.805	0.0066	3	1	0.1391	3.3293	7.88356
122	151.7	5.3	7.01	3.49	151.786	3.4918	8	2.19843	134.7238	7.67323	0	7.6732	18.781	3.6777	0.0035	3	1	0.1379	2.8305	18.78121
123	129.9	5.65	6.87	4.35	129.984	4.3467	9	2.31493	134.8135	7.74064	0	7.7406	15.792	4.6219	0.0041	3	1	0.1367	2.9517	15.79242
124	152.3	6.11	7.09	4.01	152.387	4.0095	8	2.24587	135.774	7.80853	0	7.8085	18.515	4.2261	0.0035	3	1	0.1355	2.8737	18.51543
125	68	4.51	6.63	6.62	68.0812	6.6245	9	2.6319	131.5872	7.87432	0	7.8743	7.646	7.4908	0.0079	3	1	0.1344	3.3283	7.64597
126	81.6	5.09	7.01	6.22	81.6858	6.2312	9	2.56172	132.9168	7.94078	0	7.9408	9.2869	6.9022	0.0068	3	1	0.1333	3.2404	9.28688
127	101.1	5.71	7.9	5.64	101.197	5.6425	9	2.47081	134.2802	8.00792	0	8.0079	11.637	6.1274	0.0061	3	1	0.1321	3.132	11.63708
128	184.1	3.82	7.06	2.07	184.186	2.074	6	1.96796	132.7997	8.07432	0	8.0743	21.811	2.1691	0.0029	4	1	0.1311	2.639	21.81139
129	118.1	7.51	7.63	6.35	118.193	6.354	9	2.47278	136.6638	8.14265	0	8.1427	13.515	6.8241	0.005	3	1	0.13	3.113	13.51535
130	191.4	4.91	7.55	2.56	191.492	2.5641	5	2.03058	134.7313	8.21002	0	8.21	22.324	2.6789	0.003	4	1	0.1289	2.6861	22.32424
131	124.7	6.83	7.63	5.47	124.793	5.4731	9	2.40624	136.1019	8.27807	0	8.2781	14.075	5.8619	0.0047	3	1	0.1278	3.0565	14.07518
132	235.6	3.47	7.47	1.47	235.691	1.4723	6	1.78488	132.6979	8.34442	0	8.3444	27.245	1.5263	0.0024	5	1	0.1268	2.4719	27.24541
133	145.8	5.73	7.32	3.92	145.89	3.9276	8	2.24974	135.1979	8.41202	0	8.412	16.343	4.168	0.0038	3	1	0.1258	2.9117	16.343
134	72.4	5.46	9.11	7.53	72.5115	7.5298	9	2.65836	133.1396	8.47859	0	8.4786	7.5523	8.5269	0.0102	3	1	0.1248	3.3681	7.55231
135	160.9	7.52	8.81	4.67	161.008	4.6706	9	2.28645	137.28	8.54723	0	8.5472	17.837	4.9324	0.0042	3	1	0.1238	2.9296	17.83744
136	147.6	5.61	8.55	3.8	147.705	3.7981	8	2.23482	135.0732	8.61476	0	8.6148	16.146	4.0334	0.0044	3	1	0.1228	2.9068	16.14553
137	149.4	8.09	9.27	5.41	149.513	5.4109	9	2.35738	137.28	8.6834	0	8.6834	16.218	5.7445	0.0047	3	1	0.1219	3.0042	16.21831
138	124.5	7.5	7.44	6.01	124.591	6.0197	9	2.44041	136.7826	8.75179	0	8.7518	13.236	6.4745	0.0046	3	1	0.1209	3.1048	13.23606
139	228.6	4.24	7.68	1.86	228.694	1.854	6	1.87172	134.0908	8.81884	0	8.8188	24.932	1.9284	0.0025	4	1	0.12	2.562	24.93244
140	164.5	8.27	8.4	5.03	164.603	5.0242	9	2.30738	137.28	8.88748	0	8.8875	17.521	5.311	0.0039	3	1	0.1191	2.9565	17.52076
141	238.5	4.9	8.29	2.05	238.601	2.0536	6	1.89631	135.2528	8.9551	0	8.9551	25.644	2.1337	0.0026	4	1	0.1182	2.5783	25.64418
142	142	7.4	8.37	5.21	142.102	5.2075	9	2.35612	137.0052	9.02361	0	9.0236	14.748	5.5606	0.0045	3	1	0.1173	3.0262	14.74785
143	201.4	5.32	8.64	2.64	201.506	2.6401	5	2.02771	135.4424	9.09133	0	9.0913	21.165	2.7649	0.0032	4	1	0.1164	2.7129	21.16461
144	342.8	4	7.6	1.17	342.893	1.1665	6	1.60515	134.6523	9.15865	0	9.1587	36.439	1.1986	0.0016	5	1	0.1155	2.3084	36.43923
145	320.1	3.77	7.7	1.18	320.194	1.1774	6	1.6263	134.052	9.22568	0	9.2257	33.707	1.2123	0.001					

Depth (ft)	CPT-12 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	88	0.71	0	0.8	88	0.8068	6	1.91632	118.6856	0.05934	0	0.0593	1481.9	0.8074	0	6	0.4939	2	1.6826	166.2225
2	76.4	0.56	0	0.73	76.4	0.733	6	1.94272	116.6043	0.11764	0	0.1176	648.41	0.7341	0	6	0.5041	2	1.7023	144.1863
3	62.3	0.48	0.05	0.77	62.3006	0.7705	6	2.02855	114.9788	0.17513	0	0.1751	354.73	0.7726	6E-05	6	0.5386	2	1.7856	117.4275
4	46	0.54	0	1.18	46	1.1739	5	2.24021	115.1008	0.23268	0	0.2327	196.69	1.1799	0	6	0.6248	2	2.0047	86.50783
5	47.8	0.41	0.38	0.87	47.8047	0.8577	5	2.15048	113.1794	0.28927	0	0.2893	164.26	0.8629	0.0006	6	0.5902	2	1.907	89.81196
6	43.8	0.84	0.38	1.91	43.8047	1.9176	5	2.38578	118.2144	0.34838	0	0.3484	124.74	1.933	0.0006	5	0.6914	2	2.1652	82.13957
7	37.9	0.47	0.28	1.25	37.9034	1.24	5	2.32283	113.6127	0.40519	0	0.4052	92.545	1.2534	0.0005	5	0.6718	1.9057	2.1044	67.53614
8	42	0.37	0.19	0.89	42.0023	0.8809	5	2.20424	112.1127	0.46124	0	0.4612	90.063	0.8907	0.0003	6	0.6406	1.7021	2.0185	66.82401
9	48	0.45	0.19	0.94	48.0023	0.9375	5	2.16995	113.8707	0.51818	0	0.5182	91.636	0.9477	0.0003	6	0.6413	1.5806	2.0134	70.93256
10	58	0.49	0.28	0.84	58.0034	0.8448	5	2.07645	114.9553	0.57566	0	0.5757	99.76	0.8533	0.0004	6	0.6192	1.4578	1.9481	79.12133
11	76.7	0.49	0.38	0.64	76.7047	0.6388	6	1.90855	115.6369	0.63348	0	0.6335	120.09	0.6441	0.0004	6	0.5686	1.3387	1.808	96.24529
12	77.3	0.57	0.28	0.73	77.3034	0.7374	6	1.93993	116.7625	0.69186	0	0.6919	110.73	0.744	0.0003	6	0.5899	1.2848	1.8563	93.02517
13	62.4	0.88	0.21	1.42	62.4026	1.4102	5	2.18235	119.4179	0.75157	0	0.7516	82.03	1.4274	0.0003	5	0.6898	1.2661	2.111	73.77064
14	47.7	0.82	0.28	1.73	47.7034	1.719	5	2.32714	118.246	0.81069	0	0.8107	57.843	1.7487	0.0004	5	0.7536	1.2223	2.2703	54.16828
15	47	0.77	0.09	1.63	47.0011	1.6383	5	2.3192	117.7495	0.86956	0	0.8696	53.051	1.6691	0.0001	5	0.76	1.1608	2.2801	50.61014
16	82.8	0.96	0.09	1.15	82.8011	1.1594	6	2.03337	120.7444	0.92994	0	0.9299	88.04	1.1726	8E-05	6	0.6605	1.089	2.0117	84.26349
17	99.9	0.84	0.38	0.84	99.9047	0.8408	6	1.88287	120.2253	0.99005	0	0.9901	99.909	0.8492	0.0003	6	0.6112	1.0415	1.875	97.35921
18	128.3	1.21	0.47	0.94	128.306	0.9431	6	1.82995	123.506	1.0518	0	1.0518	120.99	0.9509	0.0003	6	0.5984	1.0036	1.8338	120.6965
19	101.5	1.05	0.35	1.03	101.504	1.0344	6	1.93359	121.8968	1.11275	0	1.1128	90.219	1.0459	0.0003	6	0.646	0.968	1.9512	91.8418
20	119.4	1.12	0.38	0.93	119.405	0.938	6	1.85221	122.7651	1.17413	0	1.1741	100.70	0.9473	0.0002	6	0.6218	0.9374	1.8798	104.7379
21	118.3	1.32	0.28	1.12	118.303	1.1158	6	1.9046	123.9447	1.2361	0	1.2361	94.707	1.1276	0.0002	6	0.6492	0.904	1.944	100.0158
22	122.9	1.08	0.28	0.88	122.903	0.8787	6	1.82442	122.5695	1.29739	0	1.2974	93.731	0.8881	0.0002	6	0.6255	0.8803	1.8739	101.1678
23	108.7	0.72	0.19	0.66	108.702	0.6624	6	1.79178	119.3032	1.35704	0	1.357	79.102	0.6707	0.0001	6	0.6207	0.8569	1.8544	86.93273
24	131.1	0.99	0.32	0.75	131.104	0.7551	6	1.76112	122.0904	1.41809	0	1.4181	91.451	0.7634	0.0002	6	0.6141	0.8354	1.8294	102.3935
25	91.8	0.8	0.19	0.88	91.8023	0.8714	6	1.9215	119.662	1.47792	0	1.4779	61.116	0.8857	0.0002	6	0.6863	0.7951	2.0116	67.87031
26	118.1	1.18	0.09	1	118.101	0.9991	6	1.8736	123.1202	1.53948	0	1.5395	75.715	1.0123	6E-05	6	0.6718	0.7773	1.966	85.63004
27	136	1.15	0	0.85	136	0.8456	6	1.77996	123.276	1.60112	0	1.6011	83.941	0.8557	0	6	0.6408	0.7669	1.8768	97.40817
28	131.1	1.18	0	0.9	131.1	0.9001	6	1.80966	123.3749	1.6628	0	1.6628	77.843	0.9116	0	6	0.6593	0.7423	1.9178	90.80287
29	68.1	0.87	-0.19	1.28	68.0977	1.2776	5	2.12592	119.5473	1.72258	0	1.7226	38.532	1.3107	-2E-04	5	0.7986	0.6776	2.276	42.50595
30	49.6	0.74	-0.1	1.49	49.5988	1.492	5	2.27578	117.5899	1.78137	0	1.7814	26.843	1.5476	-2E-04	5	0.8708	0.6354	2.4566	28.71249
31	42.6	1.17	-0.81	2.74	42.5901	2.7471	4	2.49618	120.5704	1.84166	0	1.8417	22.126	2.8713	-0.001	4	0.9664	0.5853	2.7014	22.54143
32	49	0.75	-0.81	1.52	48.9901	1.5309	5	2.28688	117.658	1.90049	0	1.9005	24.778	1.5927	-0.001	5	0.8904	0.5937	2.4934	26.41957
33	40.2	1.09	-0.71	2.72	40.1913	2.712	4	2.51137	119.9107	1.96044	0	1.9604	19.501	2.8511	-0.001	4	0.9901	0.5431	2.747	19.62102
34	93.4	0.95	-0.54	1.02	93.3934	1.0172	6	1.95698	120.9613	2.02092	0	2.0209	45.213	1.0397	-4E-04	5	0.7614	0.611	2.1411	52.76131
35	58.8	0.76	-0.5	1.3	58.7939	1.2927	5	2.17925	118.1999	2.08002	0	2.08	27.266	1.3401	-6E-04	5	0.8655	0.5571	2.4072	29.86061
36	40.7	1.37	-1.49	3.38	40.6818	3.3676	4	2.57038	121.6132	2.14083	0	2.1408	18.003	3.5547	-0.003	3	1	0.4943	2.8356	18.00281
37	78.6	0.99	-0.57	1.26	78.593	1.2597	5	2.07372	120.8423	2.20125	0	2.2013	34.704	1.296	-5E-04	5	0.8308	0.5441	2.301	39.28221
38	82.3	1.38	-0.57	1.68	82.293	1.6769	5	2.14019	123.3847	2.26294	0	2.2629	35.366	1.7244	-5E-04	5	0.8619	0.5193	2.375	39.27945
39	73.4	0.92	-0.38	1.25	73.3954	1.2535	5	2.09538	120.1389	2.32301	0	2.323	30.595	1.2945	-4E-04	5	0.8549	0.5105	2.349	34.29262
40	125.9	1.37	-0.38	1.08	125.895	1.0882	6	1.87723	124.3685	2.3852	0	2.3852	51.782	1.1092	-2E-04	5	0.7617	0.5384	2.0964	62.84875
41	115.7	1.21	-0.28	1.04	115.697	1.0458	6	1.89331	123.2537	2.44682	0	2.4468	46.284	1.0684	-2E-04	5	0.7767	0.5215	2.1282	55.81093
42	30.4	1.9	-0.1	6.25	30.3988	6.2503	3	2.84792	123.2955	2.50847	0	2.5085	11.118	6.8124	-3E-04	3	1	0.4218	3.1767	11.11845
43	48.9	1.63	-0.38	3.34	48.8954	3.3337	4	2.50933	123.3332	2.57014	0	2.5701	18.024	3.5186	-6E-04	3	1	0.4117	2.8324	18.02442
44	91	1.2	-0.28	1.32	90.9966	1.3187	5	2.03809	122.6073	2.63144	0	2.6314	33.581	1.358	-2E-04	5	0.8596	0.457	2.323	38.16142
45	102.2	1.26	-0.17	1.24	102.198	1.2329	6	1.98091	123.2474	2.69306	0	2.6931	36.949	1.2663	-1E-04	5	0.8401	0.4562	2.264	42.90088
46	73.5	1.84	-0.28	2.51	73.4966	2.5035	5	2.29585	125.214	2.75567	0	2.7557	25.671	2.601	-3E-04	4	0.9803	0.3913	2.6241	26.16054
47	120.5	1.41	-0.28	1.17	120.497	1.1702	6	1.91251	124.4722	2.81791	0	2.8179	41.761	1.1982	-2E-04	5	0.8208	0.4475	2.1977	49.77308
48	91.7	1.27	-0.1	1.39	91.6988	1.385	5	2.04965	123.0409	2.87943	0	2.8794	30.846	1.4299	-8E-05	5	0.8902	0.4102	2.3724	34.43122
49	86.4	0.91	-0.19	1.05	86.3977	1.0533	6	1.99283	120.4567	2.93966	0	2.9397	28.39	1.0904	-2E-04	5	0.8772	0.4081	2.3307	32.18515
50	64.2	1.64	-0.46	2.55	64.1944	2.5547	5	2.344	124.042	3.00168	0	3.0017	20.386	2.6801	-5E-04	4	1	0.3525	2.7175	20.38617
51	35.9	2.06	-0.38	5.72	35.8954	5.7389	3	2.77081	124.2925	3.06382	0	3.0638	10.716	6.2745	-8E-04	3	1	0.3454	3.1661	10.71587
52	57.8	1.97	-0.4	3.41	57.7951	3.4086	4	2.46446	125.1273	3.12639	0	3.1264	17.486	3.6035	-5E-04	3	1	0.3384	2.8492	17.48623
53	72.9	2.1	-0.75	2.88	72.8908	2.881	5	2.34176	126.1609	3.18947	0	3.1895	21.854	3.0129	-8E-04	4	1	0.3318	2.725	21.8536
54	103.7	0.97	-0.24	0.93	103.697	0.9354	6	1.89875	121.369	3.25015	0	3.2502	30.905	0.9657	-2E-04	5	0.8659	0.3784	2.2622	35.92402
55	88.3	2.02	-0.26	2.29	88.2968	2.2877	5	2.21193	126.3443	3.31332	0	3.3133	25.649	2.3769	-2E-04	4	0.9997	0.3195	2.6066	25.65758
56	93.8	2	-0.47	2.13	93.7943	2.1323	5	2.17175	126.4189	3.37653	0	3.3765	26.778	2.212	-4E-04	4	0.9882	0.3177	2.5681	27.14661
57	96.8	1.85	-0.38	1.91	96.7954	1.9113	5	2.12839	125.9252	3.4395	0	3.4395	27.142	1.9817	-3E-04	4	0.9769	0.3161	2.5298	27.89208
58	94.2	1.69	-0.46	1.8	94.1944	1.7942	5	2.11759	125.1969	3.50209	0	3.5021	25.897	1.86						

87	57	3.68	-1.14	6.46	56.9861	6.4577	3	2.67292	129.6652	5.38555	0	5.3856	9.5813	7.1317	-0.002	3	1	0.1965	3.239	9.58128
88	156.7	2.5	-1.21	1.59	156.685	1.5956	6	1.92701	129.3031	5.45021	0	5.4502	27.748	1.6531	-6E-04	5	1	0.1941	2.4852	27.74849
89	118.2	3.96	-0.79	3.35	118.19	3.3505	5	2.25108	131.9809	5.5162	0	5.5162	20.426	3.5146	-5E-04	4	1	0.1918	2.7898	20.42606
90	82	2.7	-0.83	3.29	81.9898	3.2931	5	2.34906	128.2867	5.58034	0	5.5803	13.693	3.5336	-8E-04	3	1	0.1896	2.9278	13.69263
91	169.2	2.56	-0.76	1.51	169.191	1.5131	6	1.88753	129.6639	5.64517	0	5.6452	28.971	1.5653	-3E-04	5	1	0.1874	2.4563	28.97087
92	97.4	3.52	-0.76	3.61	97.3907	3.6143	5	2.33012	130.647	5.7105	0	5.7105	16.055	3.8394	-6E-04	3	1	0.1853	2.8953	16.05468
93	122.4	3.24	-0.76	2.64	122.391	2.6473	5	2.16283	130.5978	5.77579	0	5.7758	20.19	2.7784	-5E-04	4	1	0.1832	2.7304	20.19028
94	133.7	2.19	-0.85	1.64	133.69	1.6381	6	1.98241	127.9473	5.83977	0	5.8398	21.893	1.713	-5E-04	4	1	0.1812	2.5786	21.89296
95	92.3	4.19	-1.31	4.54	92.284	4.5403	9	2.42127	131.7906	5.90566	0	5.9057	14.626	4.8508	-0.001	3	1	0.1792	2.9907	14.62635
96	135.3	3.18	-2.26	2.35	135.272	2.3508	5	2.09538	130.7051	5.97102	0	5.971	21.655	2.4594	-0.001	4	1	0.1772	2.6741	21.65483
97	87.6	3.3	-1.65	3.77	87.5798	3.768	4	2.37384	129.9158	6.03597	0	6.036	13.51	4.0469	-0.001	3	1	0.1753	2.9683	13.50964
98	125.1	3.31	-1.82	2.64	125.078	2.6464	5	2.15659	130.8072	6.10138	0	6.1014	19.5	2.7821	-0.001	4	1	0.1734	2.7427	19.49992
99	126.6	4.65	-1.61	3.68	126.58	3.6736	8	2.26377	133.3235	6.16804	0	6.168	19.522	3.8617	-1E-03	3	1	0.1716	2.831	19.52197
100	58.3	3.94	-1.98	6.77	58.2758	6.761	3	2.68181	130.2193	6.23315	0	6.2332	8.3493	7.5707	-0.003	3	1	0.1698	3.3016	8.34933
101	139	3.48	-2.43	2.5	138.97	2.5041	5	2.10877	131.4305	6.29886	0	6.2989	21.063	2.623	-0.001	4	1	0.168	2.7006	21.06275
102	143.5	4.24	-0.92	2.96	143.489	2.9549	5	2.15579	132.9539	6.36534	0	6.3653	21.542	3.0921	-5E-04	4	1	0.1662	2.7369	21.54219
103	85.2	5.32	-1.52	6.25	85.1814	6.2455	9	2.55131	133.3423	6.43201	0	6.432	12.243	6.7556	-0.001	3	1	0.1645	3.1425	12.24335
104	142.1	4.35	-2.09	3.06	142.074	3.0618	5	2.17056	133.1172	6.49857	0	6.4986	20.862	3.2085	-0.001	4	1	0.1628	2.7578	20.86241
105	175.2	3.15	-1.61	1.8	175.18	1.7982	6	1.93397	131.2663	6.5642	0	6.5642	25.687	1.8682	-7E-04	4	1	0.1612	2.5434	25.68721
106	135.7	4.6	-1.42	3.39	135.683	3.3903	5	2.21774	133.4138	6.63091	0	6.6309	19.462	3.5645	-8E-04	3	1	0.1596	2.81	19.46214
107	123.1	4.99	-1.9	4.05	123.077	4.0544	9	2.30511	133.7714	6.6978	0	6.6978	17.376	4.2877	-0.001	3	1	0.158	2.899	17.37571
108	134.2	5.28	-3.21	3.93	134.161	3.9356	8	2.27215	134.395	6.76499	0	6.765	18.832	4.1446	-0.002	3	1	0.1564	2.8627	18.83161
109	134.8	4.84	-3.31	3.6	134.759	3.5916	8	2.23937	133.7692	6.83188	0	6.8319	18.725	3.7834	-0.002	3	1	0.1549	2.8393	18.7251
110	103.1	6.04	-2.62	5.86	103.068	5.8602	9	2.47919	134.736	6.89925	0	6.8993	13.939	6.2806	-0.002	3	1	0.1534	3.0792	13.93901
111	160.2	6.19	-4.08	3.87	160.15	3.8651	8	2.22035	135.9904	6.96724	0	6.9672	21.986	4.0409	-0.002	3	1	0.1519	2.8042	21.98615
112	141.4	4.99	-2.7	3.53	141.367	3.5298	8	2.26076	134.1093	7.0343	0	7.0343	19.097	3.7147	-0.001	3	1	0.1504	2.8277	19.09682
113	86.4	6.29	-3	7.28	86.3633	7.2832	9	2.60078	134.6015	7.1016	0	7.1016	11.161	7.9357	-0.003	3	1	0.149	3.2187	11.16111
114	127.2	5.91	-3.49	4.65	127.157	4.6478	9	2.344	135.089	7.16914	0	7.1691	16.737	4.9255	-0.002	3	1	0.1476	2.9502	16.73675
115	125.9	6.18	-3.79	4.91	125.854	4.9105	9	2.3659	135.3908	7.23684	0	7.2368	16.391	5.2101	-0.002	3	1	0.1462	2.9729	16.39069
116	138.1	6.17	-3.98	4.47	138.051	4.4694	9	2.30921	135.6046	7.30464	0	7.3046	17.899	4.7191	-0.002	3	1	0.1449	2.9159	17.89912
117	84	5.72	-2.84	6.81	83.9652	6.8123	9	2.58501	133.8377	7.37156	0	7.3716	10.39	7.468	-0.003	3	1	0.1435	3.225	10.39043
118	163.7	5.12	-2.94	3.13	163.664	3.1284	8	2.1406	134.6547	7.43889	0	7.4389	21.001	3.2773	-0.001	4	1	0.1422	2.7613	21.00115
119	97.9	4.97	-2.09	5.08	97.8744	5.0779	9	2.44333	133.1832	7.50548	0	7.5055	12.04	5.4997	-0.002	3	1	0.141	3.0906	12.0404
120	123.7	6.1	-1.99	4.93	123.676	4.9323	9	2.37193	135.2529	7.5731	0	7.5731	15.331	5.254	-0.001	3	1	0.1397	2.9974	15.33091
121	102.6	6.75	-2.09	6.58	102.574	6.5806	9	2.52097	135.5375	7.64087	0	7.6409	12.424	7.1102	-0.002	3	1	0.1385	3.1523	12.42444
122	123.7	6.36	-2.09	5.15	123.674	5.1425	9	2.38658	135.5582	7.70865	0	7.7087	15.044	5.4844	-0.001	3	1	0.1373	3.0157	15.04359
123	171.8	5.64	-2.16	3.29	171.774	3.2834	8	2.14507	135.4804	7.77639	0	7.7764	21.089	3.4391	-1E-03	4	1	0.1361	2.7731	21.08911
124	175.1	5.98	3.24	3.41	175.14	3.4144	8	2.15395	135.9561	7.84437	0	7.8444	21.327	3.5745	0.0014	4	1	0.1349	2.78	21.3268
125	206.8	5.54	1.38	2.68	206.817	2.6787	5	2.02622	135.8023	7.91227	0	7.9123	25.139	2.7853	0.0005	4	1	0.1337	2.6562	25.13875
126	184.9	5.89	0.57	3.19	184.907	3.1854	8	2.11571	135.9775	7.98026	0	7.9803	22.171	3.3291	0.0002	4	1	0.1326	2.7474	22.17055
127	129.2	7.01	0.21	5.43	129.203	5.4256	9	2.39442	136.3769	8.04845	0	8.0485	15.053	5.786	0.0001	3	1	0.1315	3.0306	15.0531
128	231.5	3.87	0.09	1.67	231.501	1.6717	6	1.83291	133.4524	8.11517	0	8.1152	27.527	1.7324	3E-05	5	1	0.1304	2.4999	27.52694
129	152.7	6.21	-0.28	4.07	152.697	4.0669	8	2.25036	135.8978	8.18312	0	8.1831	17.66	4.2972	-1E-04	3	1	0.1293	2.8941	17.65994
130	160	5.79	-0.66	3.62	159.992	3.6189	8	2.1974	135.4992	8.25087	0	8.2509	18.391	3.8157	-3E-04	3	1	0.1282	2.8477	18.39091
131	173.6	6.95	-0.82	4.01	173.59	4.0037	8	2.21278	137.0343	8.31939	0	8.3194	19.866	4.2052	-4E-04	3	1	0.1272	2.849	19.86571
132	181.4	6.24	-1.33	3.44	181.384	3.4402	8	2.14782	136.3529	8.38757	0	8.3876	20.625	3.607	-6E-04	4	1	0.1262	2.7937	20.62531
133	187.3	5.95	-1.8	3.17	187.278	3.1771	8	2.11158	136.0827	8.45561	0	8.4556	21.148	3.3273	-7E-04	4	1	0.1251	2.7631	21.14838
134	198.8	6.45	-2.03	3.25	198.775	3.2449	8	2.10425	136.8184	8.52402	0	8.524	22.319	3.3903	-8E-04	4	1	0.1241	2.7502	22.31942
135	126.3	8.31	-2.52	6.58	126.269	6.5812	9	2.46896	137.28	8.59266	0	8.5927	13.695	7.0617	-0.002	3	1	0.1231	3.1186	13.69501
136	190.4	8.08	-3.12	4.25	190.362	4.2446	8	2.21147	137.28	8.6613	0	8.6613	20.978	4.4469	-0.001	3	1	0.1222	2.8468	20.97844
137	191.2	6.56	-1.9	3.43	191.177	3.4314	8	2.13384	136.8471	8.72972	0	8.7297	20.9	3.5956	-8E-04	4	1	0.1212	2.7884	20.89953
138	123.6	7.93	-2.18	6.41	123.573	6.4172	9	2.46525	137.1706	8.79831	0	8.7983	13.045	6.9092	-0.001	3	1	0.1203	3.1281	13.04513
139	170.9	5.82	-2.56	3.41	170.869	3.4061	8	2.15933	135.6974	8.86615	0	8.8662	18.272	3.5925	-0.001	3	1	0.1193	2.8334	18.27202
140	210.5	5.97	-3.03	2.84	210.463	2.8366	8	2.04214	136.3919	8.93435	0	8.9344	22.557	2.9624	-0.001	4	1	0.1184	2.7096	22.5566
141	136.8	9.82	-2.81	7.18	136.766	7.1802	9	2.48113	137.28	9.00299	0	9.003	14.191	7.6861	-0.002	3	1	0.1175	3.1316	14.19113
142	208.8	8.46	-2.83	4.05	208.765	4.0524	8	2.17275	137.28	9.07163	0	9.0716	22.013	4.2365	-0.001	3	1	0.1166	2.8173	22.01299
143	212.9	5.48	-2.57	2.58	212.869	2.5744	5	2.0049	135.793	9.13953	0	9.1395	22.291	2.6899	-9E-04	4	1	0.1158	2.6877	22.29098
144	179.3	8.65	-2.25	4.83	179.272	4.8251	9	2.27232	137.28	9.20817	0	9.2082	18.469	5.0863	-1E-03	3	1	0.1149	2.9269	18.46885
145	228	7	-2.44	3.07	227.97	3.0706	8	2.05099	137.28	9.27681	0	9.2768	23.574	3.2008	-8E-04	4	1	0.1141		

Depth (ft)	CPT-13 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	65.9	2.28	0.35	3.47	65.9043	3.4596	4	2.42937	126.5169	0.06326	0	0.0633	1040.8	3.4629	0.0004	8	0.7038	2	2.233	124.4505
2	53.3	1.41	0.43	2.65	53.3053	2.6451	5	2.41301	122.4829	0.1245	0	0.1245	427.16	2.6513	0.0006	5	0.6954	2	2.2035	100.5205
3	40.2	0.77	0.29	1.93	40.2036	1.9153	5	2.4145	117.3685	0.18318	0	0.1832	218.47	1.924	0.0005	5	0.6929	2	2.1897	75.64514
4	34.8	0.59	0.29	1.7	34.8036	1.6952	5	2.43189	115.0684	0.24072	0	0.2407	143.58	1.707	0.0006	5	0.7002	2	2.2017	65.3295
5	42.6	0.65	0.19	1.53	42.6023	1.5257	5	2.33417	116.2702	0.29885	0	0.2989	141.55	1.5365	0.0003	5	0.6664	2	2.1058	79.96059
6	53.1	0.67	0.19	1.27	53.1023	1.2617	5	2.20812	117.0293	0.35737	0	0.3574	147.59	1.2703	0.0003	6	0.6233	1.9672	1.9846	98.06193
7	10.2	0.17	0.19	1.69	10.2023	1.6663	4	2.87367	102.9708	0.40885	0	0.4089	23.954	1.7359	0.0014	4	0.876	2	2.6423	18.51129
8	13.1	0.18	0.19	1.39	13.1023	1.3738	4	2.73769	103.9992	0.46085	0	0.4609	27.431	1.4239	0.0011	5	0.8262	1.9871	2.5047	23.74051
9	57.5	0.67	0.19	1.17	57.5023	1.1652	5	2.15974	117.2235	0.51946	0	0.5195	109.7	1.1758	0.0002	6	0.6401	1.5767	2.0099	84.91311
10	61	0.49	0.19	0.8	61.0023	0.8033	6	2.04612	115.0783	0.577	0	0.577	104.72	0.8109	0.0002	6	0.6086	1.4463	1.92	82.59579
11	82.3	0.49	0.35	0.59	82.3043	0.5954	6	1.86632	115.8088	0.63491	0	0.6349	128.63	0.6	0.0003	6	0.5536	1.3268	1.7683	102.4051
12	61.1	0.43	0.31	0.71	61.1038	0.7037	6	2.01449	114.1266	0.69197	0	0.692	87.304	0.7118	0.0004	6	0.6164	1.2992	1.9259	74.17854
13	36.9	0.35	0.29	0.94	36.9036	0.9484	5	2.2689	111.3905	0.74767	0	0.7477	48.358	0.968	0.0006	5	0.7196	1.2839	2.1898	43.87129
14	60.1	0.31	0.38	0.51	60.1047	0.5158	6	1.95265	111.6922	0.80351	0	0.8035	73.802	0.5228	0.0005	6	0.6106	1.183	1.8968	66.30185
15	24.8	0.58	0.19	2.33	24.8023	2.3385	4	2.63342	114.1171	0.86057	0	0.8606	27.821	2.4226	0.0006	4	0.8785	1.1991	2.5925	27.13099
16	32.8	0.49	0.19	1.5	32.8023	1.4938	5	2.42054	113.5651	0.91735	0	0.9174	34.758	1.5368	0.0004	5	0.8067	1.122	2.397	33.81156
17	67.1	0.53	0.29	0.79	67.1036	0.7898	6	2.00758	115.885	0.9753	0	0.9753	67.803	0.8015	0.0003	6	0.657	1.055	1.9971	65.93437
18	84.9	0.73	0.29	0.86	84.9036	0.8598	6	1.94519	118.8015	1.0347	0	1.0347	81.056	0.8704	0.0003	6	0.6409	1.0144	1.9476	80.40787
19	73.1	0.83	0.37	1.14	73.1045	1.1354	5	2.06997	119.3759	1.09439	0	1.0944	65.8	1.1526	0.0004	5	0.697	0.9768	2.0872	66.47529
20	86.7	0.89	0.38	1.03	86.7047	1.0265	6	1.98466	120.3027	1.15454	0	1.1545	74.099	1.0403	0.0003	6	0.6715	0.9431	2.0128	76.25285
21	99.4	1.02	0.48	1.02	99.4059	1.0261	6	1.93835	121.6337	1.21535	0	1.2154	80.792	1.0388	0.0004	6	0.6607	0.9125	1.9767	84.68089
22	96.2	0.86	0.55	0.89	96.2067	0.8939	6	1.91207	120.3055	1.27551	0	1.2755	74.426	0.9059	0.0004	6	0.6583	0.8843	1.9627	79.33403
23	110.1	0.95	0.57	0.86	110.107	0.8628	6	1.85648	121.3629	1.33619	0	1.3362	81.404	0.8734	0.0004	6	0.6429	0.8607	1.9153	88.47768
24	94	1.11	0.19	1.19	94.0023	1.1808	6	1.99609	122.1161	1.39725	0	1.3973	66.277	1.1986	0.0002	5	0.705	0.822	2.0709	71.9411
25	95.3	0.67	0.19	0.71	95.3023	0.703	6	1.85336	118.4557	1.45647	0	1.4565	64.434	0.7139	0.0002	6	0.6572	0.8106	1.9379	71.89252
26	124.5	1.05	0.35	0.85	124.504	0.8433	6	1.80873	122.3949	1.51767	0	1.5177	81.036	0.8538	0.0002	6	0.6439	0.7928	1.8953	92.14418
27	120	0.9	0.19	0.75	120.002	0.75	6	1.78951	121.1772	1.57826	0	1.5783	75.035	0.76	0.0001	6	0.6436	0.7731	1.8872	86.52509
28	140	1.19	0.29	0.85	140.004	0.85	6	1.77181	123.5969	1.64006	0	1.6401	84.365	0.8601	0.0002	6	0.6414	0.755	1.8736	98.72232
29	162.1	1.46	0.38	0.9	162.105	0.9007	6	1.74073	125.4506	1.70278	0	1.7028	94.2	0.9102	0.0002	6	0.6339	0.7397	1.846	112.1259
30	151.4	1.14	0.29	0.75	151.404	0.753	6	1.71188	123.4737	1.76452	0	1.7645	84.804	0.7618	0.0001	6	0.6302	0.7245	1.8287	102.4579
31	53.1	0.92	0.1	1.74	53.1012	1.7325	5	2.29317	119.3494	1.82419	0	1.8242	28.109	1.7942	0.0001	5	0.8812	0.6188	2.4788	29.98815
32	51.3	1.41	0.19	2.76	51.3023	2.7484	5	2.43652	122.3895	1.88539	0	1.8854	26.21	2.8533	0.0003	4	0.9444	0.5795	2.6379	27.06571
33	53.2	1.48	0.19	2.79	53.2023	2.7818	5	2.42857	122.8328	1.94681	0	1.9468	26.328	2.8875	0.0003	4	0.9481	0.561	2.6398	27.17501
34	108.3	0.91	-0.04	0.84	108.3	0.8403	6	1.85499	121.0078	2.00731	0	2.0073	52.953	0.8561	-3E-05	6	0.7173	0.6317	2.0271	63.4589
35	80.8	1.5	-0.06	1.86	80.7993	1.8565	5	2.17604	123.9501	2.06928	0	2.0693	38.047	1.9053	-5E-05	5	0.8545	0.5638	2.3796	41.94763
36	147.8	0.97	0	0.65	147.8	0.6563	6	1.6825	122.2334	2.1304	0	2.1304	68.377	0.6659	0	6	0.6568	0.6315	1.8526	86.94131
37	101.9	1.13	-0.19	1.11	101.898	1.109	6	1.95174	122.4435	2.19162	0	2.1916	45.494	1.1333	-1E-04	5	0.7758	0.5684	2.1577	53.56075
38	86.2	1.05	-0.1	1.22	86.1988	1.2181	6	2.03357	121.4981	2.25237	0	2.2524	37.27	1.2508	-9E-05	5	0.8185	0.5388	2.2621	42.74864
39	31.8	1.39	-0.26	4.37	31.7968	4.3715	4	2.72591	121.1183	2.31293	0	2.3129	12.747	4.7144	-6E-04	3	1	0.4575	3.0292	12.74741
40	39.9	1.45	-0.19	3.65	39.8977	3.6343	4	2.59914	121.981	2.37392	0	2.3739	15.807	3.8642	-4E-04	3	1	0.4457	2.9024	15.80665
41	58.7	1.27	-0.19	2.17	58.6977	2.1636	5	2.32322	121.9528	2.4349	0	2.4349	23.107	2.2573	-2E-04	4	0.9631	0.4481	2.6185	23.82843
42	51.5	0.94	-0.46	1.82	51.4944	1.8254	5	2.31791	119.4319	2.49461	0	2.4946	19.642	1.9184	-7E-04	4	0.9729	0.4341	2.6369	20.10436
43	28.6	1.73	-0.28	6.04	28.5966	6.0497	3	2.85679	122.4606	2.55584	0	2.5558	10.189	6.6434	-8E-04	3	1	0.414	3.1988	10.1887
44	39	1.83	-0.46	4.68	38.9944	4.693	4	2.68347	123.6282	2.61766	0	2.6177	13.897	5.0307	-9E-04	3	1	0.4042	3.018	13.89666
45	63.7	1.43	-0.48	2.25	63.6941	2.2451	5	2.30789	123.0203	2.67917	0	2.6792	22.774	2.3437	-6E-04	4	0.982	0.4016	2.6382	23.15797
46	61.6	1.49	-0.48	2.42	61.5941	2.4191	5	2.34066	123.2393	2.74079	0	2.7408	21.473	2.5317	-6E-04	4	1	0.3861	2.6846	21.47314
47	84.5	0.95	-0.38	1.12	84.4954	1.1243	6	2.01813	120.7171	2.80115	0	2.8012	29.165	1.1629	-3E-04	5	0.873	0.4275	2.3368	33.00416
48	92.7	0.69	-0.28	0.74	92.6966	0.7444	6	1.87754	118.6033	2.86045	0	2.8605	31.406	0.7681	-2E-04	5	0.8218	0.4416	2.1947	37.49581
49	88.3	1.07	-0.1	1.22	88.2988	1.2118	6	2.02411	121.6949	2.9213	0	2.9213	29.226	1.2533	-8E-05	5	0.8864	0.4065	2.3571	32.80132
50	80	1.1	-0.1	1.37	79.9988	1.375	5	2.0923	121.6565	2.98212	0	2.9821	25.826	1.4283	-9E-05	5	0.9245	0.3837	2.4467	27.92893
51	77.9	0.51	-0.02	0.66	77.8998	0.6547	6	1.90865	115.9674	3.04011	0	3.0401	24.624	0.6813	-2E-05	5	0.8602	0.4034	2.2733	28.5378
52	75.1	0.97	-0.1	1.29	75.0988	1.2916	5	2.09589	120.582	3.1004	0	3.1004	23.222	1.3473	-1E-04	5	0.9412	0.3635	2.4766	24.73686
53	107.5	1.24	0.1	1.15	107.501	1.1535	6	1.94532	123.2537	3.16203	0	3.162	32.998	1.1884	7E-05	5	0.8731	0.3845	2.292	37.9174
54	110.9	1.22	0.1	1.1	110.901	1.1001	6	1.92159	123.2107	3.22363	0	3.2236	33.403	1.133	7E-05	5	0.8689	0.3798	2.2735	38.65452
55	81.5	2.01	0.19	2.46	81.5023	2.4662	5	2.25957	126.1127	3.28669	0	3.2867	23.798	2.5698	0.0002	4	1	0.3219	2.6531	23.79771
56	90.3	1.5	0.29	1.66	90.3036	1.6611	5	2.10777	124.2214	3.3488	0	3.3488	25.966	1.725	0.0002	5	0.9632	0.3296	2.5045	27.08998
57	74.2	1.43	0.15	1.93	74.2018	1.9272	5	2.21417	123.3927	3.41049	0	3.4105	20.757	2.02	0.0002	4	1	0.3103	2.6385	20.75691
58	74.1	1.88	0.29	2.54	74.1036	2.537	5	2.2974	1											

87	152.6	3.4	1.33	2.23	152.616	2.2278	5	2.04372	131.4888	5.36919	0	5.3692	27.424	2.309	0.0007	4	1	0.1971	2.576	27.42445
88	76.8	3.88	1.31	5.05	76.816	5.051	9	2.50769	130.7807	5.43458	0	5.4346	13.135	5.4356	0.0013	3	1	0.1947	3.0583	13.13468
89	149.6	3.03	1.47	2.02	149.618	2.0252	5	2.01774	130.5974	5.49988	0	5.4999	26.204	2.1024	0.0007	4	1	0.1924	2.5669	26.20387
90	84.8	3.43	1.05	4.05	84.8129	4.0442	4	2.40622	130.1202	5.56494	0	5.5649	14.241	4.3282	0.001	3	1	0.1901	2.9685	14.24057
91	107.3	4.49	1.05	4.19	107.313	4.184	9	2.35253	132.6645	5.63127	0	5.6313	18.057	4.4158	0.0007	3	1	0.1879	2.8943	18.0566
92	134.8	4.16	1.05	3.09	134.813	3.0858	5	2.18737	132.6624	5.6976	0	5.6976	22.661	3.2219	0.0006	4	1	0.1857	2.731	22.66133
93	155.6	3.13	1.14	2.01	155.614	2.0114	5	2.00437	130.9308	5.76307	0	5.7631	26.002	2.0887	0.0006	4	1	0.1836	2.5679	26.00193
94	117.9	4.22	1.24	3.58	117.915	3.5788	5	2.27398	132.4406	5.82929	0	5.8293	19.228	3.765	0.0008	3	1	0.1815	2.8291	19.22806
95	147.8	4.04	1.03	2.73	147.813	2.7332	5	2.12125	132.6728	5.89562	0	5.8956	24.072	2.8467	0.0005	4	1	0.1795	2.6768	24.07158
96	93.1	4.64	1	4.98	93.1122	4.9832	9	2.45032	132.5588	5.9619	0	5.9619	14.618	5.3241	0.0008	3	1	0.1775	3.0169	14.61787
97	83.7	4.85	0.95	5.79	83.7116	5.7937	9	2.53032	132.6231	6.02822	0	6.0282	12.887	6.2433	0.0009	3	1	0.1755	3.1034	12.88664
98	115.8	5.05	0.95	4.36	115.812	4.3605	9	2.34628	133.7104	6.09507	0	6.0951	18.001	4.6028	0.0006	3	1	0.1736	2.907	18.00087
99	98.4	5.5	0.86	5.59	98.4105	5.5888	9	2.47484	133.9379	6.16204	0	6.162	14.97	5.9622	0.0007	3	1	0.1717	3.041	14.97045
100	144.1	3.98	0.86	2.76	144.111	2.7618	5	2.13167	132.5014	6.22829	0	6.2283	22.138	2.8865	0.0005	4	1	0.1699	2.709	22.13806
101	112.9	4.3	0.86	3.81	112.911	3.8083	8	2.30682	132.4722	6.29453	0	6.2945	16.938	4.0332	0.0006	3	1	0.1681	2.8906	16.93789
102	141.9	4.62	0.76	3.25	141.909	3.2556	5	2.19189	133.5549	6.3613	0	6.3613	21.308	3.4084	0.0004	4	1	0.1663	2.7672	21.30821
103	143.6	5.33	0.95	3.71	143.612	3.7114	8	2.23404	134.63	6.42862	0	6.4286	21.339	3.8853	0.0005	3	1	0.1646	2.8031	21.33942
104	149.6	6.11	1.05	4.08	149.613	4.0839	8	2.257	135.7292	6.49648	0	6.4965	22.03	4.2693	0.0005	3	1	0.1629	2.8192	22.02982
105	156.8	5.26	1.08	3.35	156.813	3.3543	8	2.17599	134.7478	6.56386	0	6.5639	22.89	3.5009	0.0005	4	1	0.1612	2.7506	22.89041
106	159.8	4.54	1.05	2.84	159.813	2.8408	5	2.1135	133.7169	6.63072	0	6.6307	23.102	2.9638	0.0005	4	1	0.1596	2.7017	23.1019
107	197.7	3.63	1.05	1.84	197.713	1.836	6	1.90742	132.5992	6.69702	0	6.697	28.523	1.9004	0.0004	4	1	0.158	2.5112	28.52253
108	145.9	5.66	1.24	3.88	145.915	3.879	8	2.24533	135.1084	6.76457	0	6.7646	20.571	4.0675	0.0006	3	1	0.1564	2.8281	20.5705
109	157.4	4.64	1.24	2.94	157.415	2.9476	5	2.13021	133.8395	6.83149	0	6.8315	22.043	3.0813	0.0006	4	1	0.1549	2.7282	22.04259
110	66.7	5.17	1.24	7.75	66.7152	7.7494	9	2.69052	132.5371	6.89776	0	6.8978	8.672	8.643	0.0015	3	1	0.1534	3.3259	8.67201
111	86	5.58	0.95	6.49	86.0116	6.4875	9	2.56181	133.7151	6.96462	0	6.9646	11.35	7.0591	0.0009	3	1	0.1519	3.1799	11.3498
112	137.9	6.05	1.33	4.38	137.916	4.3867	9	2.3029	135.4585	7.03234	0	7.0323	18.612	4.6224	0.0007	3	1	0.1505	2.8972	18.61171
113	159.1	5.09	1.4	3.2	159.117	3.1989	8	2.15569	134.543	7.09962	0	7.0996	21.412	3.3483	0.0007	4	1	0.149	2.7607	21.41208
114	66.7	4.94	1.62	7.4	66.7198	7.4041	9	2.67502	132.2043	7.16572	0	7.1657	8.311	8.295	0.002	3	1	0.1477	3.3285	8.31098
115	136.4	4.51	3.04	3.3	136.437	3.3056	5	2.20759	133.2827	7.23236	0	7.2324	17.865	3.4906	0.0017	3	1	0.1463	2.8333	17.86483
116	137.9	4.51	3.23	3.27	137.94	3.2696	5	2.20092	133.3094	7.29901	0	7.299	17.898	3.4522	0.0018	3	1	0.145	2.8296	17.89838
117	93.3	5.61	3.34	6.01	93.3409	6.0102	9	2.51387	133.9538	7.36599	0	7.366	11.672	6.5252	0.0028	3	1	0.1437	3.1485	11.67187
118	61.6	4.68	2.95	7.59	61.6361	7.593	9	2.70513	131.6154	7.4318	0	7.4318	7.2936	8.634	0.0039	3	1	0.1424	3.3832	7.29357
119	80.2	5.63	3.14	7.01	80.2384	7.0166	9	2.60719	133.6109	7.4986	0	7.4986	9.7005	7.7399	0.0031	3	1	0.1411	3.2578	9.70045
120	129.1	6.13	3.14	4.74	129.138	4.7468	9	2.34741	135.3942	7.5663	0	7.5663	16.068	5.0423	0.0019	3	1	0.1398	2.9703	16.06758
121	106.9	6.36	3.17	5.94	106.939	5.9473	9	2.47481	135.2036	7.6339	0	7.6339	13.008	6.4045	0.0023	3	1	0.1386	3.1075	13.0084
122	130	7.16	3.18	5.51	130.039	5.506	9	2.39803	136.5476	7.70218	0	7.7022	15.883	5.8527	0.0019	3	1	0.1374	3.0163	15.8834
123	189.6	6.04	3.33	3.19	189.641	3.185	8	2.10931	136.2231	7.77029	0	7.7703	23.406	3.321	0.0013	4	1	0.1362	2.7285	23.40588
124	185.3	6.03	3.14	3.25	185.338	3.2535	8	2.12262	136.155	7.83837	0	7.8384	22.645	3.3972	0.0013	4	1	0.135	2.7459	22.64503
125	228.9	5.47	3.14	2.39	228.938	2.3893	6	1.96017	135.9572	7.90634	0	7.9063	27.956	2.4748	0.001	4	1	0.1338	2.5881	27.95629
126	237.4	3.27	3.2	1.38	237.439	1.3772	6	1.76039	132.2816	7.97249	0	7.9725	28.782	1.425	0.001	5	1	0.1327	2.4354	28.78233
127	71	5.51	3.39	7.76	71.0415	7.756	9	2.67396	133.1564	8.03906	0	8.0391	7.837	8.7457	0.0039	3	1	0.1316	3.3628	7.83704
128	98.7	6.31	2.99	6.39	98.7366	6.3907	9	2.52052	134.9512	8.10654	0	8.1065	11.18	6.9624	0.0024	3	1	0.1305	3.181	11.17987
129	75.7	5.1	2.95	6.74	75.7361	6.7339	9	2.60852	132.7467	8.17291	0	8.1729	8.2667	7.5485	0.0031	3	1	0.1295	3.3041	8.26672
130	120.2	5.09	2.58	4.24	120.232	4.2335	9	2.32619	133.8595	8.23984	0	8.2398	13.591	4.545	0.0017	3	1	0.1284	2.9976	13.59149
131	89.7	5.95	2.38	6.62	89.7291	6.6311	9	2.55824	134.2881	8.30699	0	8.307	9.8017	7.3076	0.0021	3	1	0.1274	3.2382	9.80165
132	97.8	6.18	2.57	6.32	97.8315	6.317	9	2.51886	134.7765	8.37437	0	8.3744	10.682	6.9083	0.0021	3	1	0.1264	3.1939	10.68224
133	103.9	6.47	2.57	6.22	103.931	6.2253	9	2.49813	135.2595	8.442	0	8.442	11.311	6.7756	0.0019	3	1	0.1253	3.1695	11.31123
134	54.7	4.13	2.84	7.54	54.7348	7.5455	3	2.73583	130.411	8.50721	0	8.5072	5.4339	8.9341	0.0044	2	1	0.1244	3.4919	5.43393
135	54.8	4.33	2.76	7.9	54.8338	7.8966	3	2.7505	130.7614	8.57259	0	8.5726	5.3964	9.3599	0.0043	2	1	0.1234	3.5068	5.39641
136	63.2	4.91	2.85	7.77	63.2349	7.7647	9	2.7057	132.0289	8.6386	0	8.6386	6.32	8.9933	0.0038	3	1	0.1225	3.4425	6.32003
137	80.8	5.02	2.92	6.21	80.8357	6.2101	9	2.56338	132.7899	8.705	0	8.705	8.2861	6.9596	0.0029	3	1	0.1216	3.281	8.28613
138	144.2	7.69	3.04	5.33	144.237	5.3315	9	2.36086	137.28	8.77364	0	8.7736	15.44	5.6768	0.0016	3	1	0.1206	3.0169	15.43984
139	188.7	6.19	3.04	3.28	188.737	3.2797	8	2.12091	136.391	8.84184	0	8.8418	20.346	3.4409	0.0012	4	1	0.1197	2.7853	20.34593
140	141.2	7.52	3.23	5.32	141.24	5.3243	9	2.36555	137.108	8.91039	0	8.9104	14.851	5.6828	0.0018	3	1	0.1188	3.03	14.85111
141	133.2	6.68	3.61	5.02	133.244	5.0134	9	2.3587	136.0992	8.97844	0	8.9784	13.84	5.3756	0.0021	3	1	0.1179	3.0377	13.84046
142	105.3	7.17	3.68	6.81	105.345	6.8062	9	2.52606	136.0441	9.04646	0	9.0465	10.645	7.4456	0.0028	3	1	0.117	3.2162	10.64489
143	170.4	5.88	-2.33	3.45	170.371	3.4513	8	2.16472	135.7654	9.11434	0	9.1143	17.693	3.6464	-0.001	3	1	0.1161	2.8484	17.69268
144	103.1	7.07	-4.33	6.86	103.047	6.861	9	2.53447	135.8876	9.18229	0	9.1823	10.222	7.5321	-0.003	3	1	0.1152	3.2328	10.22237
145	131	6.38	-4.3	4.87	130.947	4.8722	9	2.35303	135.7206	9.25015	0	9.2502	13.156	5.2425	-0					

Depth (ft)	CPT-14 In situ data				Basic output data															
	qc (tsf)	fs (tsf)	u (psi)	Other	qt (tsf)	Rf(%)	SBT	Ic SBT	ã (pcf)	ó,v (tsf)	u0 (tsf)	ó',vo (tsf)	Qt1	Fr (%)	Bq	SBTn	n	Cn	Ic	Qtn
1	130.5	5.17	1.04	3.96	130.513	3.9613	8	2.28163	134.1738	0.06709	0	0.0671	1944.4	3.9633	0.0006	8	0.6585	2	2.1137	246.564
2	81.8	2.27	0.98	2.78	81.812	2.7747	5	2.29523	127.0121	0.13059	0	0.1306	625.47	2.7791	0.0009	5	0.6563	2	2.1001	154.3914
3	52.7	0.79	0.77	1.49	52.7094	1.4988	5	2.25618	118.2167	0.1897	0	0.1897	276.85	1.5042	0.0011	5	0.6326	2	2.0305	99.27101
4	45.8	0.58	0.69	1.26	45.8085	1.2661	5	2.26075	115.6135	0.24751	0	0.2475	184.08	1.273	0.0011	6	0.6342	2	2.0276	86.11775
5	54.8	0.53	0.69	0.96	54.8085	0.967	5	2.12967	115.3913	0.3052	0	0.3052	178.58	0.9724	0.0009	6	0.5855	2	1.8926	103.0202
6	37.7	0.38	0.61	1.02	37.7075	1.0078	5	2.27502	112.0448	0.36123	0	0.3612	103.39	1.0175	0.0012	6	0.6423	1.9943	2.0345	70.38922
7	19.4	0.13	0.54	0.68	19.4066	0.6699	5	2.44195	102.5762	0.41251	0	0.4125	46.045	0.6844	0.0021	5	0.7071	1.9465	2.1968	34.94197
8	34.3	0.36	0.46	1.06	34.3056	1.0494	5	2.31911	111.4186	0.46822	0	0.4682	72.268	1.0639	0.001	5	0.6824	1.7443	2.1273	55.78024
9	82.7	0.6	0.62	0.72	82.7076	0.7255	6	1.9117	117.3026	0.52687	0	0.5269	155.98	0.7301	0.0005	6	0.5527	1.4702	1.78	114.1875
10	70.3	0.3	0.54	0.42	70.3066	0.4267	6	1.85394	111.8346	0.58279	0	0.5828	119.64	0.4303	0.0006	6	0.5387	1.3789	1.7361	90.86013
11	65.3	0.34	0.61	0.52	65.3075	0.5206	6	1.92302	112.5705	0.63908	0	0.6391	101.19	0.5258	0.0007	6	0.5735	1.3353	1.8202	81.61193
12	48.3	0.23	0.46	0.49	48.3056	0.4761	6	2.02088	108.9751	0.69356	0	0.6936	68.648	0.4831	0.0007	6	0.6175	1.298	1.9286	58.40566
13	48	0.21	0.54	0.44	48.0066	0.4374	6	2.00723	108.2943	0.74771	0	0.7477	63.205	0.4444	0.0008	6	0.6214	1.2408	1.9322	55.41946
14	65.8	0.1	0.58	0.15	65.8071	0.152	6	1.72372	103.6348	0.79953	0	0.7995	81.307	0.1538	0.0006	6	0.5234	1.158	1.6683	71.14166
15	33	0.3	0.34	0.91	33.0042	0.909	5	2.30074	109.9902	0.85452	0	0.8545	37.623	0.9331	0.0008	5	0.7505	1.174	2.2569	35.66937
16	27.6	0.37	0.38	1.33	27.6047	1.3404	5	2.45603	111.089	0.91007	0	0.9101	29.332	1.3861	0.001	5	0.8195	1.1315	2.4316	28.54531
17	47	0.4	0.38	0.84	47.0047	0.851	5	2.15486	112.9576	0.96655	0	0.9666	47.631	0.8689	0.0006	5	0.7125	1.0666	2.1437	46.40793
18	51.3	0.47	0.23	0.91	51.3028	0.9161	5	2.14034	114.351	1.02372	0	1.0237	49.114	0.9348	0.0003	5	0.7152	1.0239	2.1439	48.65405
19	80.8	0.75	0.54	0.93	80.8066	0.9281	6	1.98224	118.8786	1.08316	0	1.0832	73.602	0.9408	0.0005	6	0.6616	0.9846	1.9958	74.18769
20	74.9	0.35	0.46	0.47	74.9056	0.4673	6	1.84818	113.1171	1.13972	0	1.1397	64.723	0.4745	0.0005	6	0.6182	0.9551	1.8747	66.58529
21	127.1	0.71	0.69	0.56	127.108	0.5586	6	1.69362	119.5824	1.19951	0	1.1995	104.97	0.5639	0.0004	6	0.5639	0.9317	1.7247	110.8685
22	95.8	0.77	0.69	0.81	95.8085	0.8037	6	1.88557	119.4865	1.25926	0	1.2593	75.083	0.8144	0.0005	6	0.6462	0.8936	1.933	79.85238
23	98	0.49	0.77	0.5	98.0094	0.5	6	1.76188	116.2347	1.31737	0	1.3174	73.398	0.5068	0.0006	6	0.6054	0.8757	1.8193	80.02698
24	70.6	0.19	0.54	0.27	70.6066	0.2691	6	1.76937	108.5029	1.37162	0	1.3716	50.477	0.2744	0.0006	6	0.6179	0.8518	1.8453	55.73845
25	78.2	0.63	0.75	0.81	78.2092	0.8055	6	1.95758	117.5232	1.43039	0	1.4304	53.677	0.8205	0.0007	6	0.6964	0.8106	2.044	58.82227
26	120.2	0.59	0.79	0.49	120.21	0.4908	6	1.68251	118.0916	1.48943	0	1.4894	79.708	0.497	0.0005	6	0.5927	0.8166	1.7646	91.61765
27	146.2	0.93	0.82	0.64	146.21	0.6361	6	1.67788	121.8989	1.55038	0	1.5504	93.306	0.6429	0.0004	6	0.5953	0.7966	1.7636	108.9079
28	168.7	1.34	1.29	0.8	168.716	0.7942	6	1.69131	124.9205	1.61284	0	1.6128	103.61	0.8019	0.0006	6	0.6051	0.7749	1.7817	122.3724
29	162.4	1.09	1.65	0.67	162.42	0.6711	6	1.65654	123.3169	1.6745	0	1.6745	95.996	0.6781	0.0007	6	0.5986	0.7597	1.757	115.4178
30	64.6	0.76	0.94	1.18	64.6115	1.1763	5	2.12179	118.43	1.73371	0	1.7337	36.268	1.2087	0.0011	5	0.7994	0.6739	2.2767	40.04379
31	65.4	1.34	1.61	2.04	65.4197	2.0483	5	2.27236	122.6098	1.79502	0	1.795	35.445	2.1061	0.0018	5	0.8649	0.6331	2.4397	38.06772
32	100.8	0.94	1.61	0.93	100.82	0.9324	6	1.90739	121.0705	1.85556	0	1.8556	53.334	0.9498	0.0012	5	0.7224	0.6665	2.0594	62.33345
33	83.1	1.66	1.64	2	83.1201	1.9971	5	2.18899	124.7608	1.91794	0	1.9179	42.338	2.0443	0.0015	5	0.8416	0.6062	2.3645	46.52156
34	78.2	1.05	1	1.34	78.2122	1.3425	5	2.09306	121.261	1.97857	0	1.9786	38.53	1.3773	0.0009	5	0.8131	0.6012	2.2822	43.31096
35	130.1	1.13	1.6	0.86	130.12	0.8684	6	1.80211	123.0398	2.04009	0	2.0401	62.781	0.8823	0.0009	6	0.6964	0.6331	1.9679	76.63045
36	172.2	1.82	1.68	1.06	172.221	1.0568	6	1.76952	127.2109	2.10369	0	2.1037	80.866	1.0699	0.0007	6	0.684	0.625	1.9276	100.4784
37	115.1	1.04	0.93	0.9	115.111	0.9035	6	1.85403	122.1336	2.16476	0	2.1648	52.175	0.9208	0.0006	6	0.7323	0.592	2.0467	63.19583
38	139.6	1.22	1.38	0.87	139.617	0.8738	6	1.78053	123.7723	2.22664	0	2.2266	61.703	0.888	0.0007	6	0.7056	0.5916	1.9688	76.8139
39	42.4	2.05	1.43	4.83	42.4175	4.8329	4	2.66677	124.6641	2.28898	0	2.289	17.531	5.1086	0.0026	3	1	0.4623	2.9452	17.53121
40	84.3	1.3	1.45	1.54	84.3178	1.5418	5	2.10786	123.007	2.35048	0	2.3505	34.873	1.586	0.0013	5	0.8585	0.504	2.355	39.04321
41	119.2	0.73	1.55	0.61	119.219	0.6123	6	1.73933	119.6294	2.41029	0	2.4103	48.462	0.625	0.001	6	0.7129	0.556	1.9649	61.38195
42	27	1.73	1.68	6.41	27.0206	6.4025	3	2.89161	122.3224	2.47146	0	2.4715	9.9331	7.0471	0.0049	3	1	0.4281	3.2237	9.93306
43	56.1	1.13	1.52	2.01	56.1186	2.0136	5	2.31711	120.9886	2.53195	0	2.532	21.164	2.1087	0.002	4	0.9737	0.4276	2.6343	21.65639
44	91.8	1.61	1.28	1.75	91.8157	1.7535	5	2.1187	124.7797	2.59434	0	2.5943	34.391	1.8045	0.001	5	0.8863	0.4517	2.3977	38.08347
45	93	1.34	1.33	1.44	93.0163	1.4406	5	2.05645	123.4682	2.65607	0	2.6561	34.02	1.483	0.0011	5	0.8685	0.4496	2.3433	38.39611
46	103.6	0.77	1.15	0.74	103.614	0.7431	6	1.83799	119.6775	2.71591	0	2.7159	37.151	0.7632	0.0008	5	0.7872	0.4761	2.1219	45.40214
47	101.2	0.81	1.07	0.8	101.213	0.8003	6	1.86539	119.9909	2.77591	0	2.7759	35.461	0.8229	0.0008	5	0.8049	0.4601	2.1608	42.80463
48	82.4	1.11	1.22	1.35	82.4149	1.3468	5	2.07663	121.7953	2.83681	0	2.8368	28.052	1.3949	0.0011	5	0.9002	0.4116	2.4041	30.95302
49	83.6	1.12	1.38	1.33	83.6169	1.3394	5	2.0703	121.8962	2.89775	0	2.8978	27.856	1.3875	0.0012	5	0.9038	0.4023	2.4058	30.69187
50	97.3	1.3	1.3	1.33	97.3159	1.3359	6	2.01994	123.3567	2.95943	0	2.9594	31.883	1.3778	0.001	5	0.8848	0.4025	2.3483	35.89333
51	123.3	1.27	1.38	1.03	123.317	1.0299	6	1.86804	123.7634	3.02131	0	3.0213	39.816	1.0557	0.0008	5	0.8235	0.4215	2.1792	47.91701
52	114.4	0.68	1.3	0.59	114.416	0.5943	6	1.74651	119.0099	3.08082	0	3.0808	36.138	0.6108	0.0008	5	0.7861	0.4317	2.0731	45.41859
53	93.6	1.6	1.38	1.71	93.6169	1.7091	5	2.1049	124.7815	3.14321	0	3.1432	28.784	1.7685	0.0011	5	0.3993	0.3596	2.4663	30.74983
54	103.5	1.36	1.45	1.31	103.518	1.3138	6	1.99515	123.8375	3.20513	0	3.2051	31.298	1.3558	0.001	5	0.8982	0.3696	2.3529	35.03604
55	122.2	0.99	1.61	0.81	122.22	0.81	6	1.80395	121.9192	3.26609	0	3.2661	36.421	0.8323	0.001	5	0.824	0.3951	2.1498	44.41171
56	91.2	1.82	1.45	1.99	91.2178	1.9952	5	2.15984	125.6608	3.32892	0	3.3289	26.402	2.0708	0.0012	4	0.9802	0.3252	2.5525	27.00753
57	137.3	0.88	1.41	0.64	137.317	0.6409	6	1.70151	121.3415	3.38959	0	3.3896	39.511	0.6571	0.0008	6	0.7921	0.3977	2.0501	50.33327
58	108																			

87	114.8	5.53	6.67	4.81	114.882	4.8137	9	2.38255	134.3552	5.37413	0	5.3741	20.377	5.0499	0.0044	3	1	0.1969	2.8928	20.37681
88	67.8	4.64	6.59	6.84	67.8807	6.8355	9	2.64328	131.7879	5.44002	0	5.44	11.478	7.4311	0.0076	3	1	0.1945	3.1908	11.47802
89	120.3	6.75	6.74	5.6	120.383	5.6071	9	2.42389	135.9279	5.50798	0	5.508	20.856	5.876	0.0042	3	1	0.1921	2.9296	20.856
90	97.9	6.15	6.94	6.27	97.985	6.2765	9	2.51621	134.7447	5.57536	0	5.5754	16.575	6.6552	0.0054	3	1	0.1898	3.0397	16.57465
91	123.8	6.11	7.09	4.93	123.887	4.9319	9	2.37147	135.269	5.64299	0	5.643	20.954	5.1673	0.0043	3	1	0.1875	2.8904	20.9541
92	103.1	5.4	6.77	5.23	103.183	5.2334	9	2.43968	133.9192	5.70995	0	5.71	17.071	5.54	0.005	3	1	0.1853	2.9771	17.07071
93	64.4	4.94	7.04	7.66	64.4862	7.6606	9	2.6958	132.1212	5.77601	0	5.776	10.164	8.4142	0.0086	3	1	0.1832	3.266	10.16448
94	70.9	5.45	7.43	7.68	70.9909	7.677	9	2.67065	133.0745	5.84255	0	5.8426	11.151	8.3655	0.0082	3	1	0.1811	3.2342	11.15068
95	95.6	6.04	8.12	6.31	95.6994	6.3114	9	2.52428	134.5551	5.90982	0	5.9098	15.193	6.7268	0.0065	3	1	0.179	3.0708	15.19327
96	115.5	6.82	8.03	5.9	115.598	5.8997	9	2.45211	135.9045	5.97778	0	5.9778	18.338	6.2215	0.0053	3	1	0.177	2.9875	18.33801
97	70.6	5.29	8.6	7.48	70.7053	7.4818	9	2.66292	132.8467	6.0442	0	6.0442	10.698	8.1811	0.0096	3	1	0.1751	3.2413	10.69803
98	66.4	5.24	9.12	7.87	66.5116	7.8783	9	2.69697	132.628	6.11051	0	6.1105	9.8848	8.6753	0.0109	3	1	0.1732	3.2839	9.88478
99	76	5.91	9.17	7.77	76.1122	7.7649	9	2.65606	133.8373	6.17743	0	6.1774	11.321	8.4507	0.0094	3	1	0.1713	3.2322	11.32101
100	97.3	6.04	9.49	6.2	97.4162	6.2002	9	2.51347	134.5984	6.24473	0	6.2447	14.6	6.6249	0.0075	3	1	0.1694	3.0794	14.59973
101	80	6	9.99	7.49	80.1223	7.4886	9	2.63003	134.0731	6.31177	0	6.3118	11.694	8.1289	0.0097	3	1	0.1676	3.2104	11.69411
102	97.7	6.61	9.99	6.76	97.8223	6.7572	9	2.54241	135.2684	6.3794	0	6.3794	14.334	7.2286	0.0079	3	1	0.1659	3.1105	14.33408
103	92.3	6.66	10.83	7.21	92.4326	7.2053	9	2.57945	135.1853	6.447	0	6.447	13.337	7.7455	0.0091	3	1	0.1641	3.1539	13.33731
104	193.3	6.19	10.11	3.2	193.424	3.2002	8	2.10608	136.4508	6.51522	0	6.5152	28.688	3.3118	0.0039	4	1	0.1624	2.6603	28.68798
105	112.4	6.63	9.65	5.89	112.518	5.8924	9	2.45854	135.6319	6.58304	0	6.583	16.092	6.2586	0.0066	3	1	0.1607	3.0314	16.09213
106	65.6	4.82	9.86	7.34	65.7207	7.3341	9	2.6759	131.9876	6.64903	0	6.649	8.8843	8.1596	0.012	3	1	0.1591	3.3017	8.88425
107	64.1	5.71	11.48	8.89	64.2405	8.8885	9	2.74752	133.1718	6.71562	0	6.7156	8.5658	9.9261	0.0144	3	1	0.1576	3.3692	8.56584
108	63.2	5.1	11.71	8.05	63.3433	8.0514	9	2.71753	132.3109	6.78177	0	6.7818	8.3402	9.0167	0.0149	3	1	0.156	3.3507	8.34023
109	77.6	5.56	11.72	7.15	77.7435	7.1517	9	2.62213	133.4423	6.84849	0	6.8485	10.352	7.8426	0.0119	3	1	0.1545	3.24	10.35191
110	85.4	6.38	12.72	7.46	85.5557	7.4571	9	2.61143	134.6825	6.91583	0	6.9158	11.371	8.1129	0.0117	3	1	0.153	3.219	11.37099
111	82.8	6.31	13.09	7.61	82.9602	7.6061	9	2.62632	134.5266	6.9831	0	6.9831	10.88	8.3051	0.0124	3	1	0.1515	3.2401	10.88015
112	58.1	4.31	13.63	7.39	58.2668	7.397	3	2.71182	130.8756	7.04854	0	7.0485	7.2665	8.415	0.0192	3	1	0.1501	3.3773	7.26652
113	101.2	6.2	15.23	6.12	101.386	6.1152	9	2.49829	134.8872	7.11598	0	7.116	13.248	6.5768	0.0116	3	1	0.1487	3.109	13.24771
114	104.4	6.84	15.34	6.54	104.588	6.54	9	2.51383	135.6818	7.18382	0	7.1838	13.559	7.0223	0.0113	3	1	0.1473	3.1202	13.55879
115	70.7	4.68	15.43	6.6	70.8889	6.6019	9	2.6197	131.9565	7.2498	0	7.2498	8.7781	7.354	0.0175	3	1	0.146	3.2768	8.77805
116	81.3	6.06	17.77	7.43	81.5175	7.434	9	2.62297	134.188	7.31689	0	7.3169	10.141	8.1671	0.0172	3	1	0.1446	3.2583	10.141
117	117.9	8.29	18.83	7.02	118.13	7.0177	9	2.50833	137.28	7.38553	0	7.3855	14.995	7.4857	0.0122	3	1	0.1433	3.1062	14.99485
118	144.2	8.71	19.69	6.03	144.441	6.0301	9	2.40481	137.28	7.45417	0	7.4542	18.377	6.3583	0.0104	3	1	0.142	2.9932	18.3772
119	161	7.41	5.76	4.6	161.071	4.6005	9	2.28093	137.28	7.52281	0	7.5228	20.411	4.8259	0.0027	3	1	0.1407	2.8792	20.41094
120	125	8.3	1.91	6.64	125.023	6.6388	9	2.47452	137.28	7.59145	0	7.5915	15.469	7.0679	0.0012	3	1	0.1394	3.0794	15.46897
121	139.9	7.96	2.42	5.69	139.93	5.6886	9	2.39153	137.28	7.66009	0	7.6601	17.267	6.018	0.0013	3	1	0.1381	2.9972	17.26735
122	160.9	7.5	3.53	4.66	160.943	4.66	9	2.28574	137.28	7.72873	0	7.7287	19.824	4.8951	0.0017	3	1	0.1369	2.8928	19.82401
123	69.2	4.17	3.89	6.02	69.2476	6.0219	9	2.5952	131.0551	7.79426	0	7.7943	7.8844	6.7856	0.0046	3	1	0.1358	3.291	7.88444
124	82.9	6.25	4.12	7.53	82.9504	7.5346	9	2.62308	134.4564	7.86149	0	7.8615	9.5515	8.3235	0.004	3	1	0.1346	3.2834	9.55149
125	148.4	7.8	4.68	5.25	148.457	5.254	9	2.34854	137.28	7.93013	0	7.9301	17.721	5.5505	0.0024	3	1	0.1334	2.9654	17.72067
126	186.7	6.34	4.02	3.4	186.749	3.3949	8	2.13584	136.5403	7.9984	0	7.9984	22.348	3.5468	0.0016	4	1	0.1323	2.7622	22.34832
127	127	7.86	4.51	6.19	127.055	6.1863	9	2.44529	137.1735	8.06699	0	8.067	14.75	6.6057	0.0027	3	1	0.1312	3.0752	14.75002
128	92.8	7.08	5.18	7.62	92.8634	7.6241	9	2.59807	135.6441	8.13481	0	8.1348	10.416	8.3561	0.0044	3	1	0.1301	3.2561	10.41556
129	76.5	6.01	5.47	7.85	76.567	7.8493	9	2.65823	133.9746	8.20179	0	8.2018	8.3354	8.791	0.0058	3	1	0.129	3.3438	8.33539
130	42.3	3.05	5.68	7.2	42.3695	7.1986	3	2.79328	127.5684	8.26558	0	8.2656	4.126	8.9433	0.012	2	1	0.128	3.5866	4.12602
131	61.9	4.3	5.98	6.94	61.9732	6.9385	3	2.67334	131.0091	8.33108	0	8.3311	6.4388	8.0161	0.008	3	1	0.127	3.4049	6.43879
132	67.8	5.44	6.3	8.01	67.8771	8.0145	9	2.69736	132.9517	8.39756	0	8.3976	7.083	9.146	0.0076	3	1	0.126	3.409	7.08296
133	63.8	4.69	6.77	7.33	63.8829	7.3416	9	2.68398	131.7183	8.46342	0	8.4634	6.5481	8.4627	0.0088	3	1	0.125	3.4139	6.54812
134	109.7	7.9	7.29	7.2	109.789	7.1956	9	2.5354	136.8544	8.53185	0	8.5319	11.868	7.8019	0.0052	3	1	0.124	3.1938	11.86817
135	126.1	8.92	6.83	7.07	126.184	7.0691	9	2.49483	137.28	8.60049	0	8.6005	13.672	7.5861	0.0042	3	1	0.123	3.1398	13.67168
136	107	8.43	7.45	7.87	107.091	7.8718	9	2.57358	137.2688	8.66912	0	8.6691	11.353	8.5652	0.0055	3	1	0.1221	3.2351	11.35318
137	130	9.33	8.01	7.17	130.098	7.1715	9	2.49264	137.28	8.73776	0	8.7378	13.889	7.6879	0.0048	3	1	0.1211	3.1386	13.88918
138	118.1	9.09	8.15	7.69	118.2	7.6904	9	2.54103	137.28	8.8064	0	8.8064	12.422	8.3095	0.0054	3	1	0.1202	3.1972	12.42203
139	218.5	8.22	4.76	3.76	218.558	3.761	8	2.13473	137.28	8.87504	0	8.875	23.626	3.9202	0.0016	4	1	0.1192	2.772	23.62617
140	132	9.31	-2.22	7.06	131.973	7.0545	9	2.48325	137.28	8.94368	0	8.9437	13.756	7.5673	-0.001	3	1	0.1183	3.1371	13.75599
141	192.8	9.99	-1.59	5.18	192.781	5.1821	9	2.28147	137.28	9.01232	0	9.0123	20.391	5.4362	-6E-04	3	1	0.1174	2.914	20.39078
142	298.6	5.43	-2.43	1.82	298.57	1.8187	6	1.79695	136.5511	9.0806	0	9.0806	31.88	1.8757	-6E-04	5	1	0.1165	2.4691	31.88003
143	265.3	7.97	-2.58	3.01	265.268	3.0045	8	2.00727	137.28	9.14924	0	9.1492	27.994	3.1118	-7E-04	4	1	0.1157	2.6508	27.99351
144	290.1	6.88	-2.14	2.37	290.074	2.3718	8	1.89983	137.28	9.21788	0	9.2179	30.469	2.4497	-6E-04	4	1	0.1148	2.5562	30.46862
145	178.8	9.46	-1.97	5.29	178.776	5.2915	9	2.30665	137.28	9.28652	0	9.2865	18.251	5.5815	-8E-04	3	1	0.1139	2.9575	18.2511

Presented below is a list of formulas used for the estimation of various soil properties. The formulas are presented in SI unit system and assume that all components are expressed in the same units.

:: Unit Weight, g (kN/m³) ::

$$g = g_w \cdot \left(0.27 \cdot \log(R_f) + 0.36 \cdot \log\left(\frac{q_t}{p_a}\right) + 1.236 \right)$$

where g_w = water unit weight

:: Permeability, k (m/s) ::

$$I_c < 3.27 \text{ and } I_c > 1.00 \text{ then } k = 10^{0.952-3.04 \cdot I_c}$$

$$I_c \leq 4.00 \text{ and } I_c > 3.27 \text{ then } k = 10^{-4.52-1.37 \cdot I_c}$$

:: N_{SPt} (blows per 30 cm) ::

$$N_{60} = \left(\frac{q_c}{p_a} \right) \cdot \frac{1}{10^{1.1268-0.2817 \cdot I_c}}$$

$$N_{1(60)} = Q_{tn} \cdot \frac{1}{10^{1.1268-0.2817 \cdot I_c}}$$

:: Young's Modulus, E_s (MPa) ::

$$(q_t - \sigma_v) \cdot 0.015 \cdot 10^{0.55 \cdot I_c + 1.68}$$

(applicable only to $I_c < I_{c_cutoff}$)

:: Relative Density, Dr (%) ::

$$100 \cdot \sqrt{\frac{Q_{tn}}{k_{DR}}} \quad \text{(applicable only to SBT}_n\text{: 5, 6, 7 and 8} \\ \text{or } I_c < I_{c_cutoff}\text{)}$$

:: State Parameter, ψ ::

$$\psi = 0.56 - 0.33 \cdot \log(Q_{tn,cs})$$

:: Peak drained friction angle, ϕ (°) ::

$$\phi = 17.60 + 11 \cdot \log(Q_{tn})$$

(applicable only to SBT_n: 5, 6, 7 and 8)

:: 1-D constrained modulus, M (MPa) ::

If $I_c > 2.20$

$a = 14$ for $Q_{tn} > 14$

$a = Q_{tn}$ for $Q_{tn} \leq 14$

$$M_{CPT} = a \cdot (q_t - \sigma_v)$$

If $I_c \leq 2.20$

$$M_{CPT} = (q_t - \sigma_v) \cdot 0.0188 \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Small strain shear Modulus, G_0 (MPa) ::

$$G_0 = (q_t - \sigma_v) \cdot 0.0188 \cdot 10^{0.55 \cdot I_c + 1.68}$$

:: Shear Wave Velocity, V_s (m/s) ::

$$V_s = \left(\frac{G_0}{\rho} \right)^{0.50}$$

:: Undrained peak shear strength, S_u (kPa) ::

$$N_{kt} = 10.50 + 7 \cdot \log(F_r) \text{ or user defined}$$

$$S_u = \frac{(q_t - \sigma_v)}{N_{kt}}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Remolded undrained shear strength, $S_u(rem)$ (kPa) ::

$$S_{u(rem)} = f_s \quad \text{(applicable only to SBT}_n\text{: 1, 2, 3, 4 and 9} \\ \text{or } I_c > I_{c_cutoff}\text{)}$$

:: Overconsolidation Ratio, OCR ::

$$k_{OCR} = \left[\frac{Q_{tn}^{0.20}}{0.25 \cdot (10.50 + 7 \cdot \log(F_r))} \right]^{-1.25} \text{ or user defined}$$

$$OCR = k_{OCR} \cdot Q_{tn}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: In situ Stress Ratio, K_0 ::

$$K_0 = (1 - \sin \phi') \cdot OCR^{\sin \phi'}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Soil Sensitivity, S_t ::

$$S_t = \frac{N_s}{F_r}$$

(applicable only to SBT_n: 1, 2, 3, 4 and 9 or $I_c > I_{c_cutoff}$)

:: Effective Stress Friction Angle, ϕ' (°) ::

$$\phi' = 29.5^\circ \cdot B_q^{0.121} \cdot (0.256 + 0.336 \cdot B_q + \log Q_t)$$

(applicable for $0.10 < B_q < 1.00$)

References

- Robertson, P.K., Cabal K.L., Guide to Cone Penetration Testing for Geotechnical Engineering, Gregg Drilling & Testing, Inc., 5th Edition, November 2012
- Robertson, P.K., Interpretation of Cone Penetration Tests - a unified approach., Can. Geotech. J. 46(11): 1337–1355 (2009)

APPENDIX C
LABORATORY TEST RESULTS

SUMMARY OF LABORATORY TEST RESULTS

Client: Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034

HAI Project No: GLDL-13-003
Performed by: JT
Date: 3/7/2013

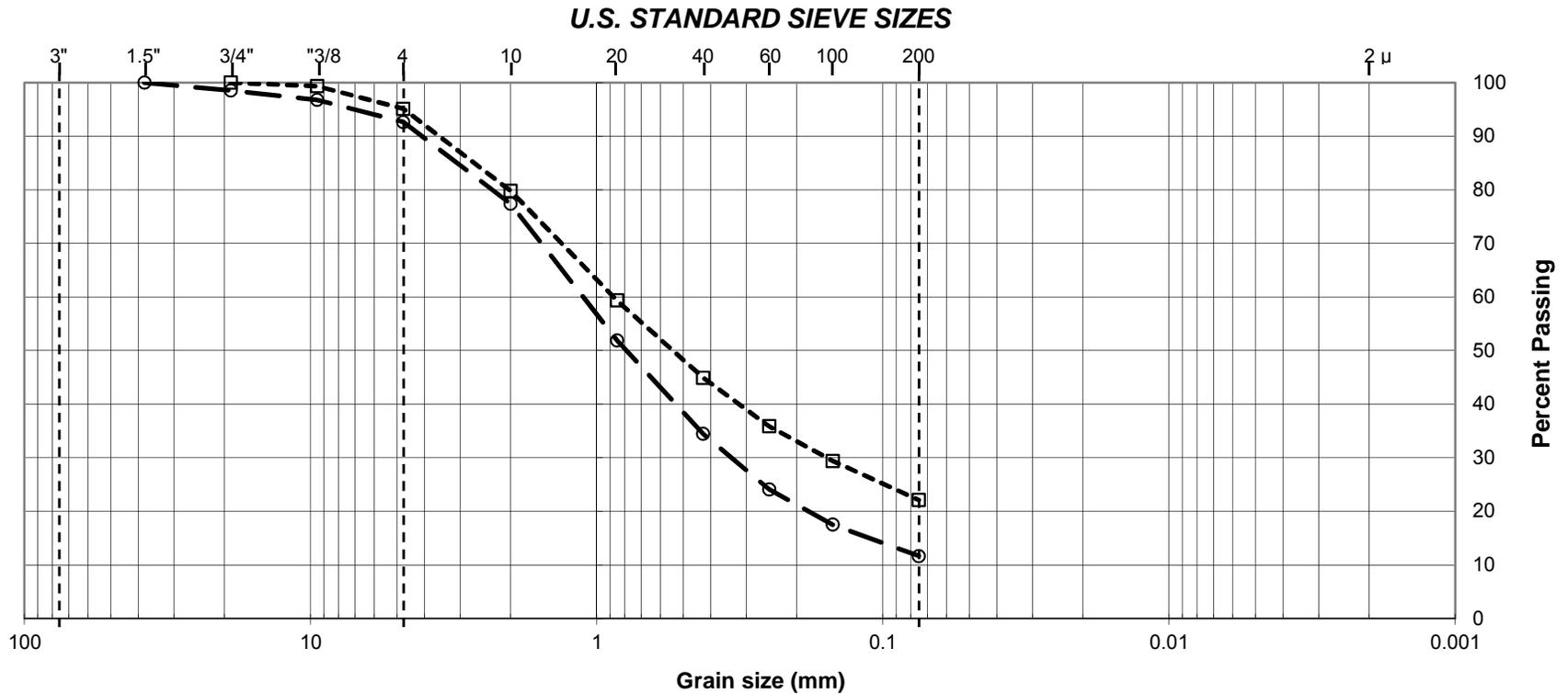
Boring No.	Sample No.	Depth (ft)	In-situ Moisture Content (%)	In-situ Dry Density (pcf)	Modified Proctor (ASTM D1557)		R Value (CTM 301)	Particle-size Analysis of Soils (ASTM D422) (Percent Passing)									
					Optimum Moisture Content (%)	Maximum Dry Density (pcf)		1 1/2 "	3/4 "	3/8 "	# 4	# 10	# 20	# 40	# 60	# 100	# 200
B-101	Bulk 1	11.5-15						100.0	98.5	96.8	92.6	77.4	51.9	34.5	24.1	17.5	11.7
	Bulk 2	26.5-30			7.8	136.0	71		100.0	99.4	95.1	79.8	59.4	44.9	35.9	29.4	22.1
	MC-1	30	5.4	117.3						100.0	97.5	83.8	59.6	38.4	25.0	17.0	10.6
	MC-2	40	10.2	124.1					100.0	99.1	96.2	82.2	64.0	50.2	40.8	32.5	25.0
B-102	S-1	5							100.0	89.2	82.8	64.5	39.5	23.4	15.1	10.6	6.8
	S-5	25							100.0	98.6	95.9	77.4	53.7	37.5	26.9	18.8	11.1
	MC-1	30	3.7	111.8					100.0	98.2	94.6	73.8	42.9	24.6	14.9	9.4	5.4
	S-7	40								100.0	99.0	86.7	57.6	32.2	18.6	11.8	7.4
B-103	S-2	10								100.0	97.5	82.0	56.2	37.1	25.2	18.1	12.0
	S-3	15							100.0	99.7	98.5	87.6	71.0	57.6	46.7	37.4	25.6
	MC-1	20	4.0	109.2					100.0	99.5	98.2	82.7	57.3	35.2	20.4	11.9	6.5
B-104	Bulk 1	21.5-25			7.0	134.1	63	100.0	99.3	98.3	93.2	67.7	43.9	29.9	21.6	16.0	11.1
	S-7	40							100.0	98.6	95.7	80.0	63.6	51.9	41.7	33.2	23.1

PARTICLE-SIZE ANALYSIS OF SOILS
(ASTM D422)

Client: Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034

HAI Project No.: GLDL-13-003
Tested by: KL/PM
Checked by: JT
Date: 3/5/2013

COBBLES	GRAVEL		SAND			SILT AND CLAY
	<i>Coarse</i>	<i>Fine</i>	<i>Coarse</i>	<i>Medium</i>	<i>Fine</i>	



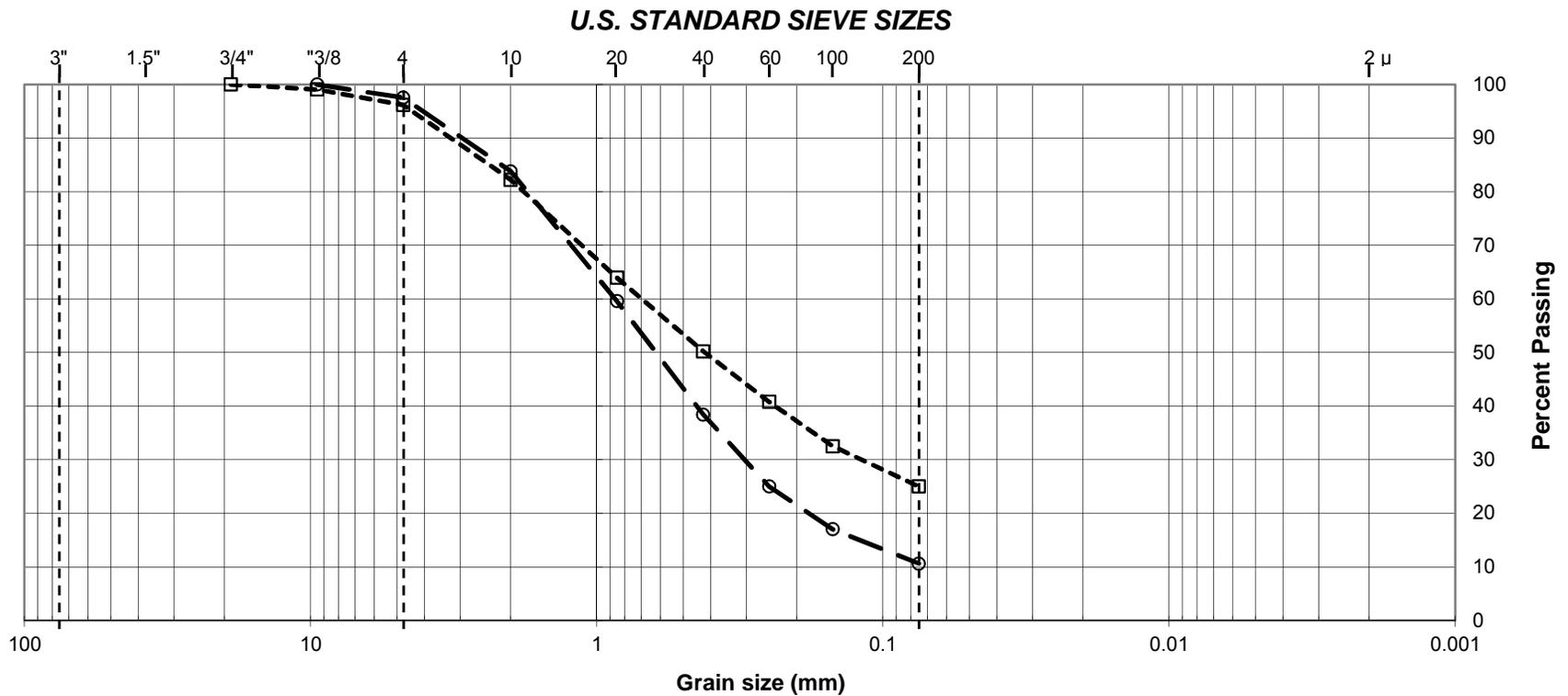
Boring No.	Sample No.	Depth (ft)	Symbol	USCS	% Gravel	% Sand	% Fines
B-101	Bulk 1	11.5-15	○	Brown, Well-Graded Sand with Silt (SW-SM)	7.4	81.0	11.7
	Bulk 2	26.5-30	□	Brown, Silty Sand (SM)	4.9	73.0	22.1

PARTICLE-SIZE ANALYSIS OF SOILS
(ASTM D422)

Client: Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034

HAI Project No.: GLDL-13-003
Tested by: KL/PM
Checked by: JT
Date: 3/5/2013

COBBLES	GRAVEL		SAND			SILT AND CLAY
	<i>Coarse</i>	<i>Fine</i>	<i>Coarse</i>	<i>Medium</i>	<i>Fine</i>	



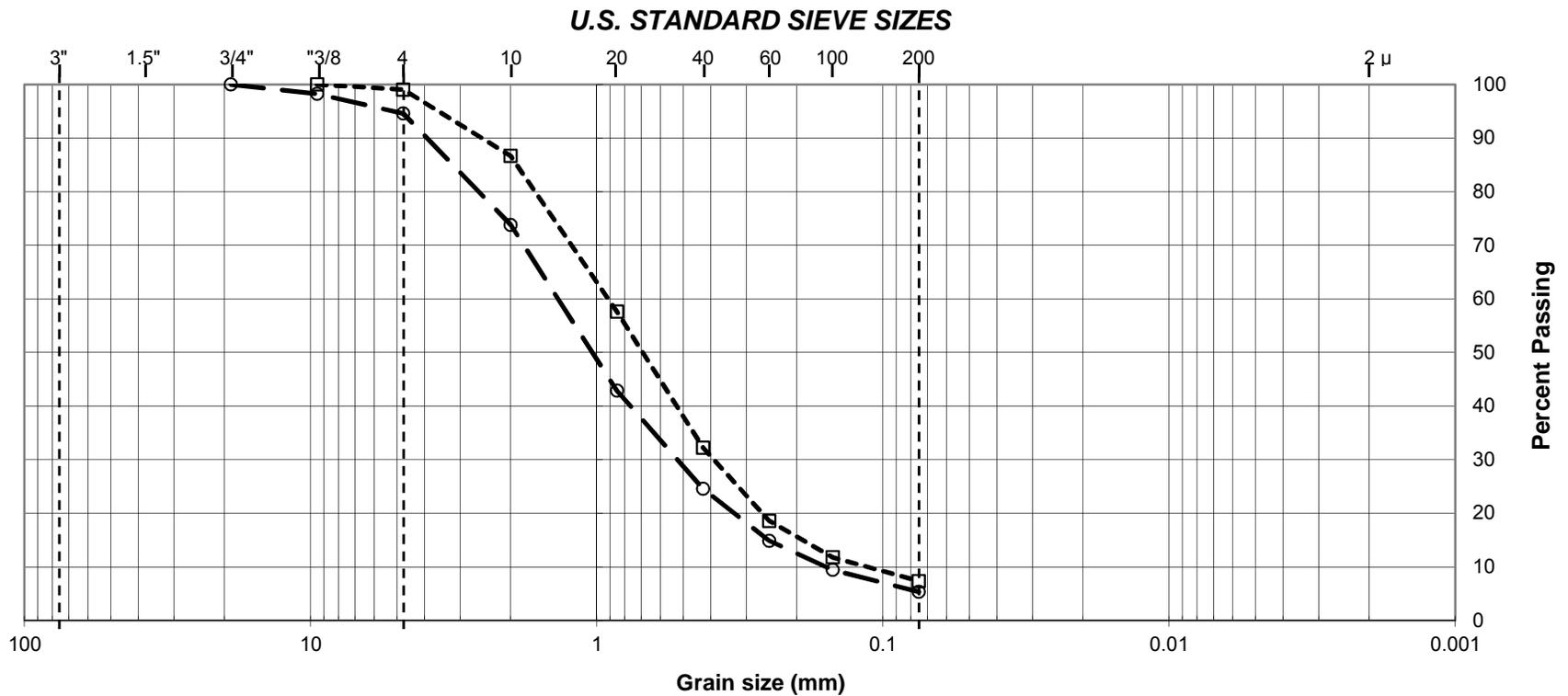
Boring No.	Sample No.	Depth (ft)	Symbol	USCS	% Gravel	% Sand	% Fines
B-101	MC-1	30	○	Brown, Well-Graded Sand with Silt (SW-SM)	2.5	86.9	10.6
	MC-2	40	□	Brown, Clayey Sand (SC)	3.8	71.2	25.0

PARTICLE-SIZE ANALYSIS OF SOILS
(ASTM D422)

Client: Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034

HAI Project No.: GLDL-13-003
Tested by: KL/PM
Checked by: JT
Date: 3/5/2013

COBBLES	GRAVEL		SAND			SILT AND CLAY
	<i>Coarse</i>	<i>Fine</i>	<i>Coarse</i>	<i>Medium</i>	<i>Fine</i>	



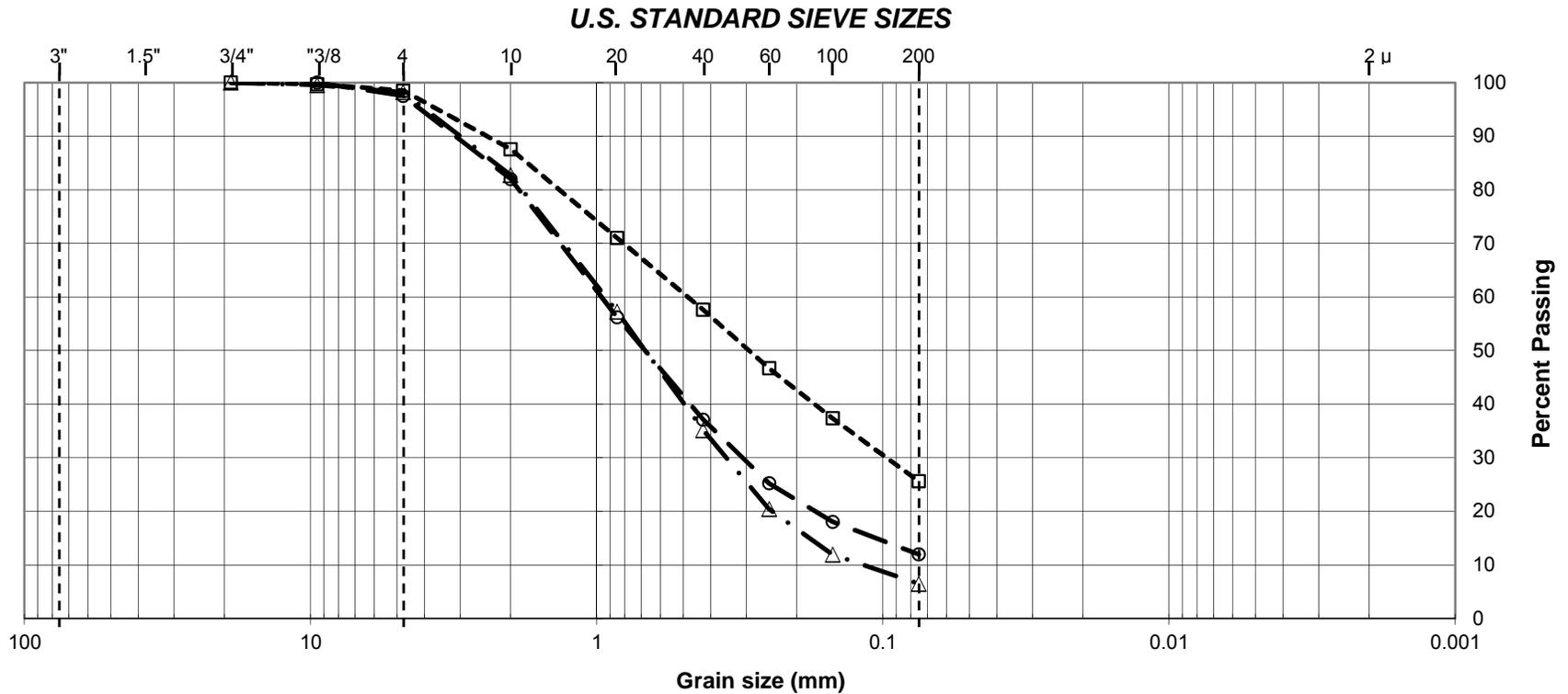
Boring No.	Sample No.	Depth (ft)	Symbol	USCS	% Gravel	% Sand	% Fines
B-102	MC-1	30	○	Brown, Well-Graded Sand with Silt (SW-SM)	5.4	89.2	5.4
	S-7	40	□	Brown, Well-Graded Sand with Silt (SW-SM)	1.0	91.7	7.4

PARTICLE-SIZE ANALYSIS OF SOILS
(ASTM D422)

Client: Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034

HAI Project No.: GLDL-13-003
Tested by: KL/PM
Checked by: JT
Date: 3/5/2013

COBBLES	GRAVEL		SAND			SILT AND CLAY
	<i>Coarse</i>	<i>Fine</i>	<i>Coarse</i>	<i>Medium</i>	<i>Fine</i>	



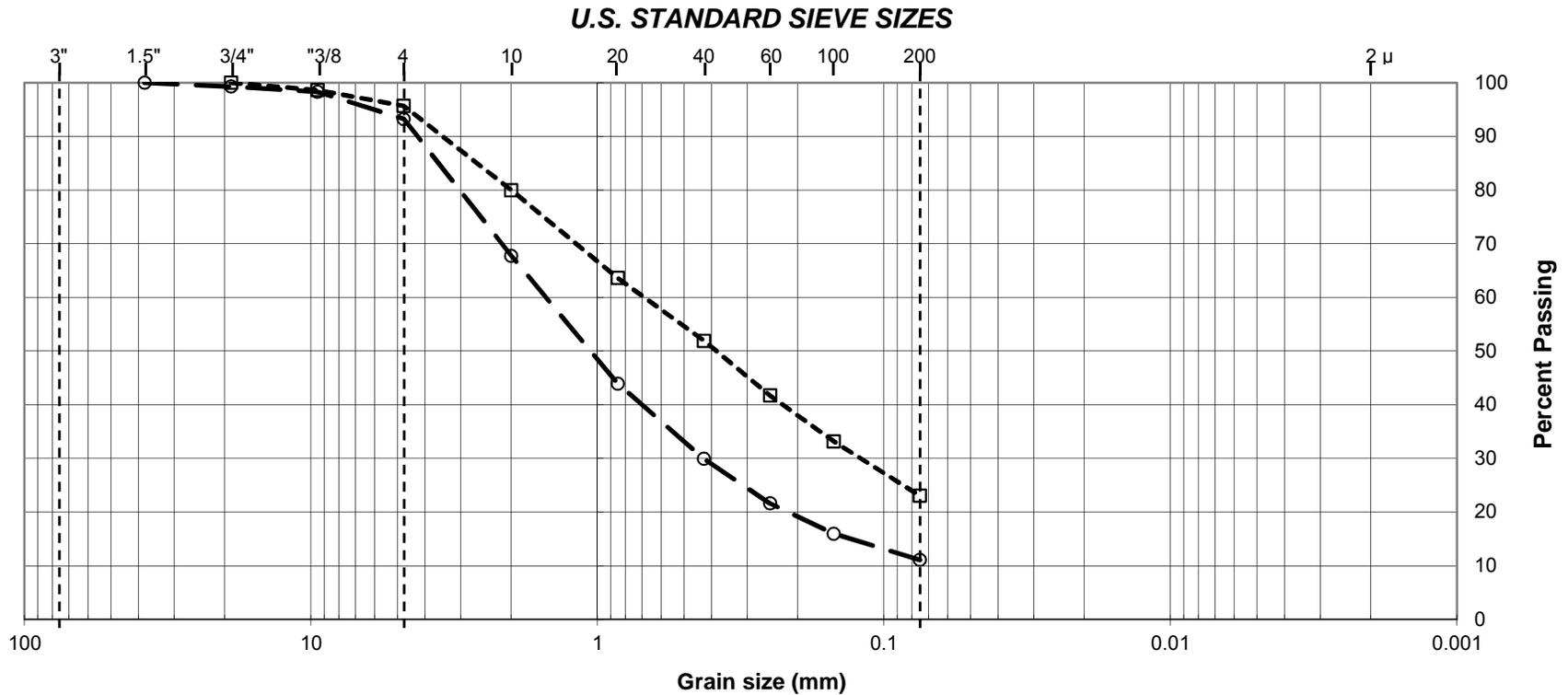
Boring No.	Sample No.	Depth (ft)	Symbol	USCS	% Gravel	% Sand	% Fines
B-103	S-2	10	○	Brown, Silty Sand (SM)	2.5	85.5	12.0
	S-3	15	□	Brown, Clayey Sand (SC)	1.5	72.9	25.6
	MC-1	20	△	Brown, Well-Graded Sand with Silt (SW-SM)	1.8	91.7	6.5

PARTICLE-SIZE ANALYSIS OF SOILS
(ASTM D422)

Client: Golder Associates Inc.
Project Name: Townscope Sunset
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HAI Project No.: GLDL-13-003
Tested by: KL/PM
Checked by: JT
Date: 3/5/2013

COBBLES	GRAVEL		SAND			SILT AND CLAY
	<i>Coarse</i>	<i>Fine</i>	<i>Coarse</i>	<i>Medium</i>	<i>Fine</i>	



Boring No.	Sample No.	Depth (ft)	Symbol	USCS	% Gravel	% Sand	% Fines
B-104	Bulk 1	21.5-25	○	Brown, Well-Graded Sand with Silt (SW-SM)	6.8	82.1	11.1
	S-7	40	□	Brown, Silty Sand (SM)	4.3	72.6	23.1

MOISTURE CONTENT AND DRY DENSITY OF RING SAMPLES

Client: Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034

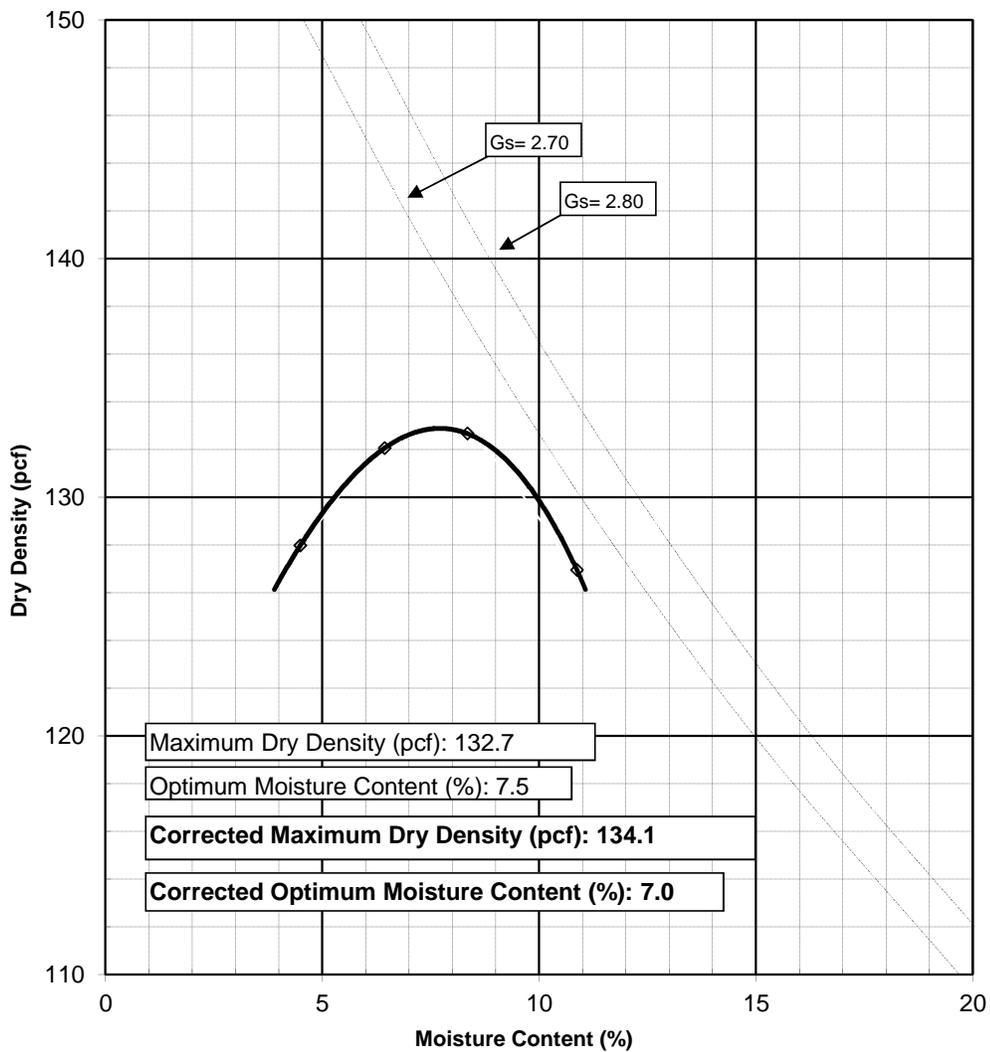
HAI Project No.: GLDL-13-003
Performed by: KL/PM
Checked by: JT
Date: 3/5/2013

Boring No.	B-101		B-102	B-103	
	MC-1	MC-2	MC-1	MC-1	
Sample No.					
Depth (ft)	30	40	30	20	
Total wt of rings and soil	gr	581.20	1257.39	922.91	908.86
Height of sample	in	3	6	5	5
Diameter of sample	in	2.416	2.416	2.416	2.416
Volume of sample	cu.ft	0.0080	0.0159	0.0133	0.0133
Weight of rings	gr	135.09	270.19	225.15	225.15
Weight of soil	lbs.	0.983	2.176	1.538	1.507
Wet Density	pcf	123.6	136.7	116.0	113.6
Container No.		84	85	88	92
Weight of cont.+ wet soil	gr	390.94	549.91	407.83	414.85
Weight of cont.+ dry soil	gr	371.39	499.84	393.50	399.06
Weight of container	gr	8.37	8.45	8.36	8.30
Weight of water	gr	19.55	50.07	14.33	15.79
Weight of dry soil	gr	363.02	491.39	385.14	390.76
Moisture Content	%	5.4	10.2	3.7	4.0
Dry Density	pcf	117.3	124.1	111.8	109.2

**COMPACTION CURVE
(ASTM D1557)**

Client : Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034
Boring No: B-104
Sample No.: Bulk 1 **Depth:** 21.5-25'
Soil Description: Brown, Well-Graded Sand with Silt (SW-SM)

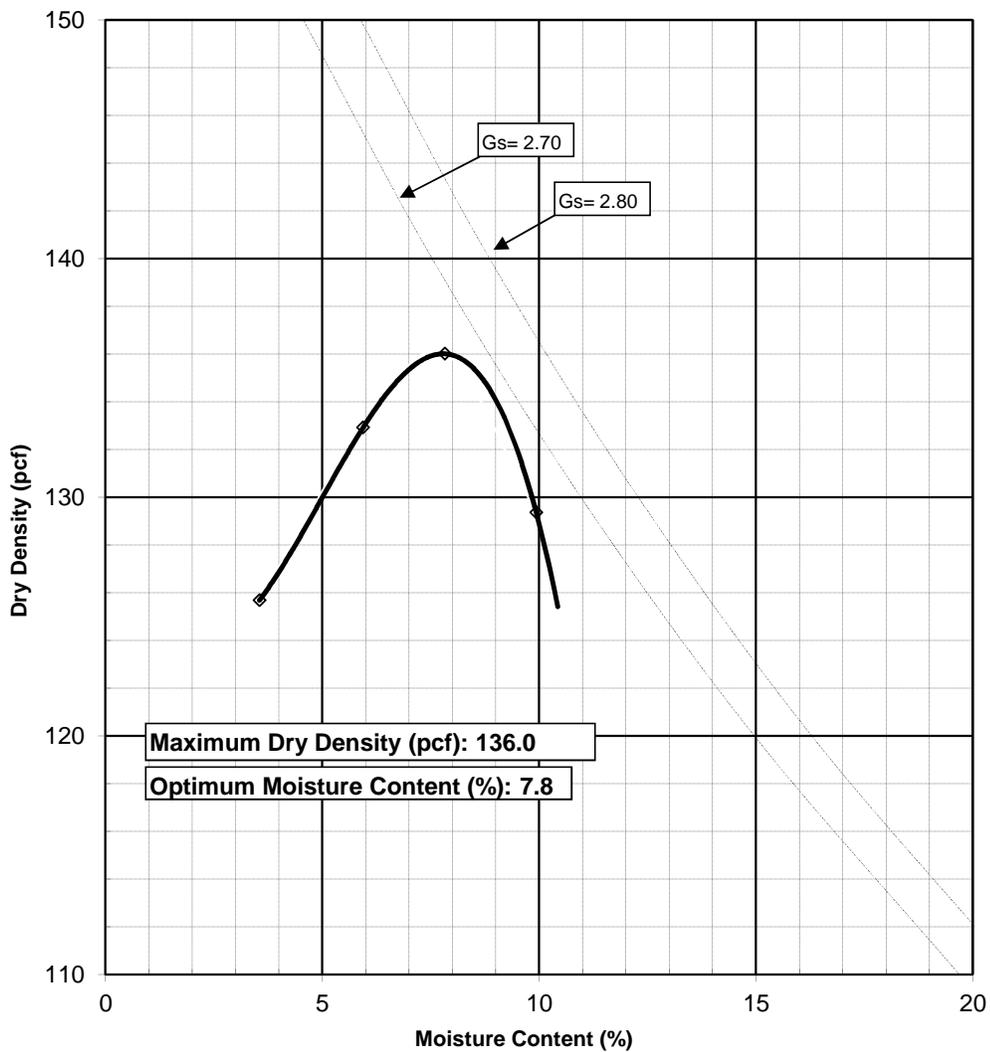
HAI Project No.: GLDL-13-003
Tested by: KL/PM
Checked by: JT
Date: 3/5/2013
Mold size: 4 in
Procedure: A
% Ret. on # 4: 6.8



COMPACTION CURVE (ASTM D1557)

Client : Golder Associates Inc.
Project Name: Townscope Sunset
Project No.: 123-92034
Boring No: B-101
Sample No.: Bulk 2 **Depth:** 26.5-30'
Soil Description: Brown, Silty Sand (SM)

HAI Project No.: GLDL-13-003
Tested by: KL/PM
Checked by: JT
Date: 3/5/2013
Mold size: 4 in
Procedure: A
% Ret. on # 4: 4.9



March 1, 2013

Mr. Peter Moore
Hushmand Associates
250 Goddard
Irvine, California 92618

Fax: (949) 777-1276
Project No. 38571

Dear Mr. Moore:

Testing of the bulk soil samples delivered to our laboratory on 2/27/2013 has been completed.

Reference: *GLDL-13-003*
Project Name: *GOLDER- Townscape Sunset*
Sample: *B-101 @ 26.5"- 30.0" (T.I. 4.0)*
B-104 @ 21.5"- 25.0" (T.I. 4.0)

Data sheets are attached for your use and file. Any untested portion of the sample will be retained for a period of 60 days prior to disposal. The opportunity to be of service is sincerely appreciated and should you have any questions, kindly call.

Respectfully Submitted,



Steven R. Marvin
RCE 30659

SRM:tw

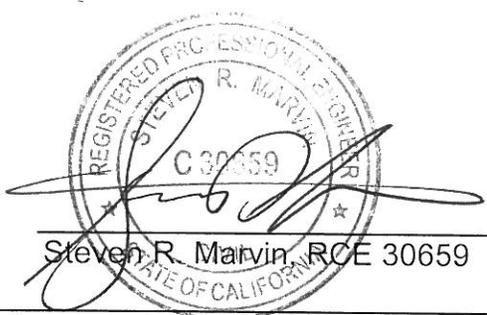
R - VALUE DATA SHEET

P.N. GLDL-13-003

Golder Townscape

PROJECT NUMBER 38571 BORING NUMBER: B-101 @ 26.5"-30.0"

SAMPLE DESCRIPTION: Brown Silty Sand

Item	SPECIMEN		
	a	b	c
Mold Number	1	3	4
Water added, grams	75	100	86
Initial Test Water, %	8.5	10.6	9.4
Compact Gage Pressure, psi	350	95	230
Exudation Pressure, psi	623	209	361
Height Sample, Inches	2.62	2.59	2.58
Gross Weight Mold, grams	3155	3162	3153
Tare Weight Mold, grams	1965	1977	1977
Sample Wet Weight, grams	1190	1185	1176
Expansion, Inches x 10exp-4	10	4	5
Stability 2,000 lbs (160psi)	14 / 26	16 / 29	15 / 27
Turns Displacement	4.74	5.45	5.40
R-Value Uncorrected	73	67	70
R-Value Corrected	75	69	72
Dry Density, pcf	126.8	125.3	126.2
DESIGN CALCULATION DATA			
Traffic Index	Assumed: 4.0	4.0	4.0
G.E. by Stability	0.26	0.32	0.29
G. E. by Expansion	0.33	0.13	0.17
Equilibrium R-Value	71 by EXUDATION	Examined & Checked: 3 /1/ 13	
REMARKS:	Gf = 1.25		
	0.0% Retained on the		
	3/4" Sieve.		
		 Steven R. Marvin, RCE 30659	
<p>The data above is based upon processing and testing samples as received from the field. Test procedures in accordance with latest revisions to Department of Transportation, State of California, Materials & Research Test Method No. 301.</p>			

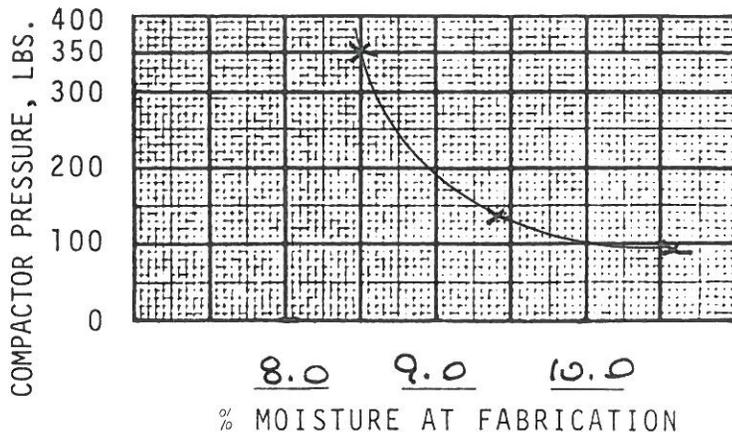
R-VALUE GRAPHICAL PRESENTATION

PROJECT NO. 38571
 P.N. GLDL-13-003
 BORING NO. B-101 @ 26.5"-30.0"
 DATE 3/1/13
Golden-Townscape Sunset

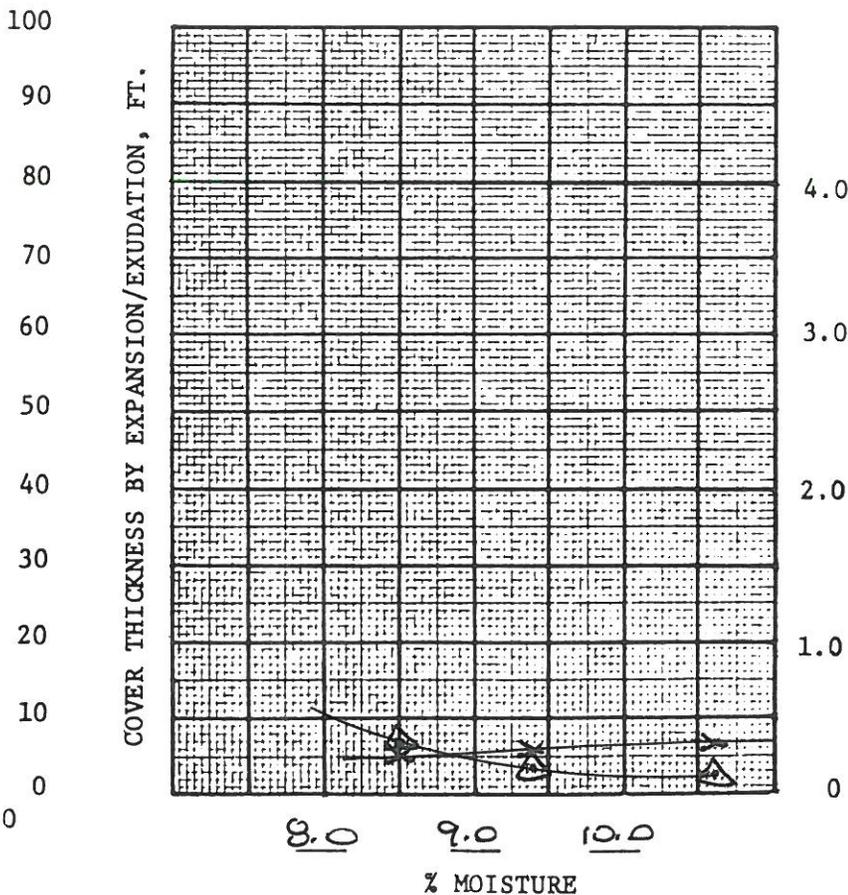
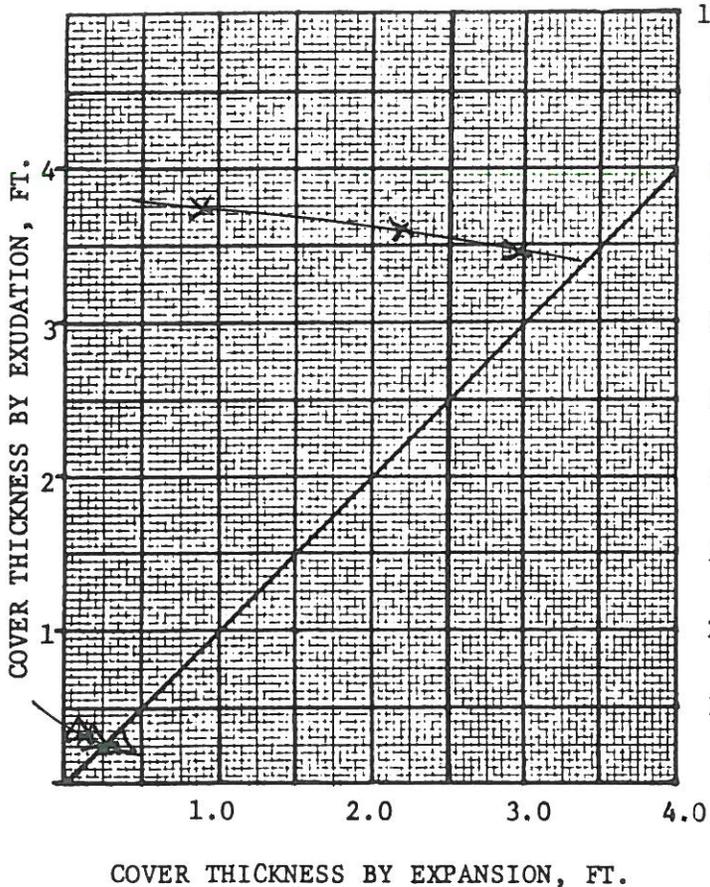
TRAFFIC INDEX Assume 4.0

R-VALUE BY EXUDATION 71

R-VALUE BY EXPANSION ✓



800 700 600 500 400 300 200 100



—■— R-VALUE vs. EXUD. PRES.

—x— T by EXUDATION

—△— EXUD. T vs. EXPAN. T

—△— T by EXPANSION

REMARKS _____

GJ-1.25

R - VALUE DATA SHEET

P.N. GLDL-13-003

Golder Townscape

PROJECT NUMBER 38571 BORING NUMBER: B-104 @ 21.5"-25.0"

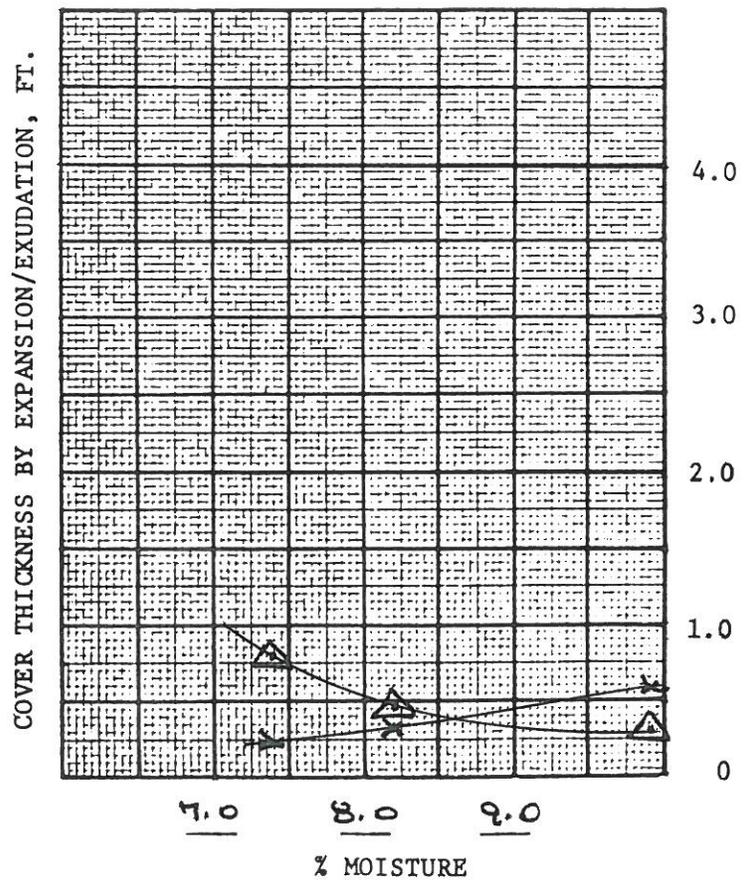
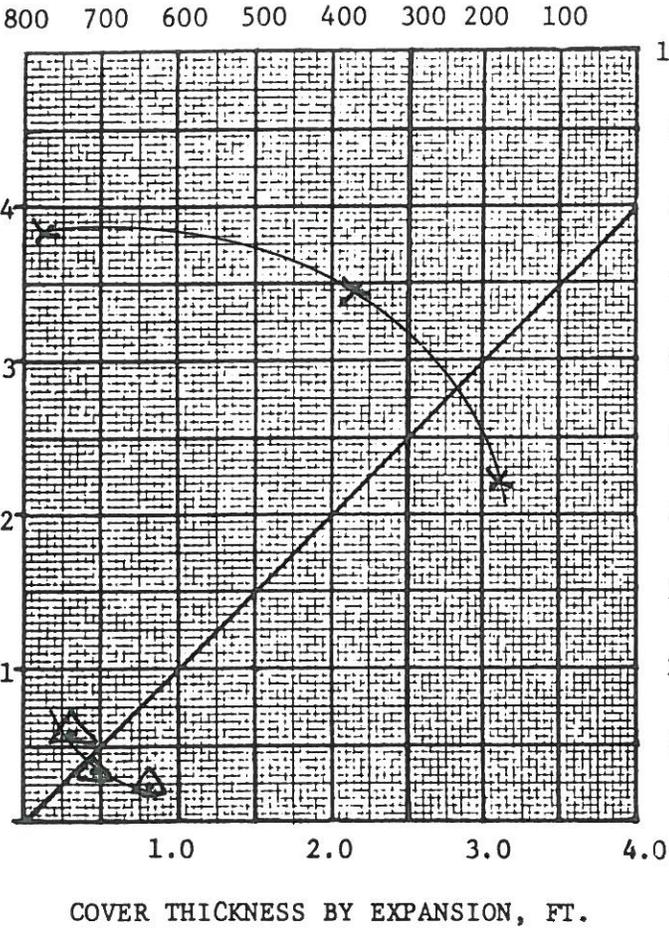
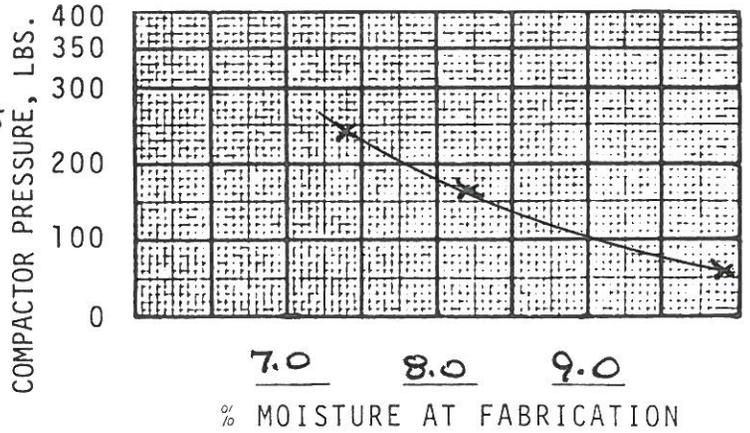
SAMPLE DESCRIPTION: Brown Sandy Silt

Item	SPECIMEN		
	a	b	c
Mold Number	7	8	9
Water added, grams	80	60	51
Initial Test Water, %	9.9	8.2	7.4
Compact Gage Pressure, psi	60	165	240
Exudation Pressure, psi	179	370	772
Height Sample, Inches	2.64	2.62	2.49
Gross Weight Mold, grams	3184	3180	2951
Tare Weight Mold, grams	1968	1964	1789
Sample Wet Weight, grams	1216	1216	1162
Expansion, Inches x 10exp-4	9	14	24
Stability 2,000 lbs (160psi)	33 / 71	18 / 37	15 / 25
Turns Displacement	4.73	4.30	4.01
R-Value Uncorrected	40	66	77
R-Value Corrected	44	69	77
Dry Density, pcf	127.0	130.0	131.7
DESIGN CALCULATION DATA			
Traffic Index	Assumed: 4.0	4.0	4.0
G.E. by Stability	0.57	0.32	0.24
G. E. by Expansion	0.30	0.47	0.80
Equilibrium R-Value	63 by EXUDATION	Examined & Checked: 3 /1/ 13	
REMARKS:	Gf = 1.25		
	0.0% Retained on the		
	3/4" Sieve.		
		 Steven R. Marvin, RCE 30659	
The data above is based upon processing and testing samples as received from the field. Test procedures in accordance with latest revisions to Department of Transportation, State of California, Materials & Research Test Method No. 301.			

R-VALUE GRAPHICAL PRESENTATION

PROJECT NO. 38571
 P.N. GLPL-13-003
 BORING NO. B-104 @ 21.5"-25.0"
Colder-Biandscape Sunset
 DATE 3-1-13

TRAFFIC INDEX Assume 4.0
 R-VALUE BY EXUDATION 63
 R-VALUE BY EXPANSION ✓



—■— R-VALUE vs. EXUD. PRES.
 —▲— EXUD. T vs. EXPAN. T

—×— T by EXUDATION
 —▲— T by EXPANSION

REMARKS _____

GF=1.25

Table 1 - Laboratory Tests on Soil Samples

*Hushmand Associates, Inc.
Townscope Sunset
Your #GLDL-13-003, HDR|Schiff #13-0167LAB
28-Feb-13*

Sample ID
B101
@ 11.5 - 15'

Resistivity	Units	
as-received	ohm-cm	60,000
minimum	ohm-cm	18,330

pH 8.0

Electrical

Conductivity mS/cm 0.03

Chemical Analyses

Cations

calcium	Ca ²⁺	mg/kg	16
magnesium	Mg ²⁺	mg/kg	4.2
sodium	Na ¹⁺	mg/kg	32
potassium	K ¹⁺	mg/kg	3.1

Anions

carbonate	CO ₃ ²⁻	mg/kg	ND
bicarbonate	HCO ₃ ¹⁻	mg/kg	70
fluoride	F ¹⁻	mg/kg	1.0
chloride	Cl ¹⁻	mg/kg	2.7
sulfate	SO ₄ ²⁻	mg/kg	8.3
phosphate	PO ₄ ³⁻	mg/kg	4.0

Other Tests

ammonium	NH ₄ ¹⁺	mg/kg	ND
nitrate	NO ₃ ¹⁻	mg/kg	1.3
sulfide	S ²⁻	qual	na
Redox	mV		na

Minimum resistivity per CTM 643, Chlorides per CTM 422, Sulfates per CTM 417
Electrical conductivity in millisiemens/cm and chemical analysis were made on a 1:5 soil-to-water extract.
mg/kg = milligrams per kilogram (parts per million) of dry soil.
Redox = oxidation-reduction potential in millivolts
ND = not detected
na = not analyzed

APPENDIX D
IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT
(by ASFE)

Important Information About Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes. The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

A Geotechnical Engineering Report Is Based on a Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, Project-specific factors when establishing the scope of a study. Typical factors include the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report that was:*

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, always inform your geotechnical engineer of project changes-even minor ones-and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an *opinion* about subsurface conditions throughout the site. Actual sub-surface conditions may differ - sometimes significantly - from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions

A Report's Recommendations Are *Not* Final

Do not over-rely on the construction recommendations included in your report. Those *recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability* for the report's recommendations if that engineer does not perform construction observation.

A Geotechnical Engineering Report Is Subject To Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A brand conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations: e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Rely on Your Geotechnical Engineer for Additional Assistance

Membership in ASFE exposes geotechnical engineers to a wide army of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE

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email: info@asde.org www.asfe.org