

# GEOTECHNICAL DESKTOP STUDY REPORT MIDWAY RISING SPORTS ARENA COMPLEX 3220, 3240, 3250 AND 3500 SPORTS ARENA BOULEVARD SAN DIEGO, CALIFORNIA 92110

Prepared for

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Attention: Ryan Herrell, Executive Vice President

SUBJECT: GEOTECHNICAL DESKTOP STUDY REPORT

Midway Rising Sports Arena Complex

3220, 3240, 3250 and 3500 Sports Arena Boulevard

San Diego, California 92110

Mr. Herrell:

Group Delta Consultants (Group Delta) is submitting this Geotechnical Desktop Study Report to support the preliminary development of the project. The purpose of this report is to inform the development and design team about the subsurface conditions, geologic hazards, and geotechnical engineering characteristics of the site and the design and construction aspects of the underground components of the project. Group Delta prepared this report per the referenced proposal (Group Delta, 2022).

We appreciate the opportunity to support this project. Please contact us with questions or

OFESS/

comments, or if you need anything else.

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# **EXECUTIVE SUMMARY**

Group Delta Consultants (Group Delta) is submitting this Geotechnical Desktop Study Report to support the preliminary redevelopment of the project. Midway Rising is redeveloping a 50-acre site with an Arena, Entertainment Plaza, Hotel, and seven Blocks of residential housing.

Young, loose/soft soils associated with historic development of the coastline and previous deposition within the San Diego River Delta underlie the site. These soils consist of artificial fill from land reclamation, and fine and coarse grained alluvial/estuarine sediments deposited by the San Diego River. Prior subsurface exploration encountered these paralic estuarine deposits to a depth of about 100 feet and identified two distinct units: a) the upper paralic estuarine deposit unit consisting of loose/soft soils to a depth of about 60 feet, and b) consolidated estuarine deposits consisting of sandstone, siltstone and cobble that underlie the upper paralic estuarine deposits at depth. Prior subsurface exploration measured groundwater at depths of 8 to 12 feet within the project limits. Groundwater levels in this area typically coincide with nearby San Diego River flow elevations and are influenced by tidal fluctuations in nearby San Diego Bay.

Liquefaction is the geologic hazard that will influence design and construction. Liquefaction is the sudden loss of soil shear strength within saturated, loose to medium dense, sands that occurs from strong ground motion during an earthquake. Liquefaction-induced settlement should be the most likely effect given the site surface and subsurface conditions. Liquefaction is a common hazard along the shoreline of seismically active regions with older reclaimed ground. Mitigation is typically ground improvement and/or deep foundations. The California Building Code requires mitigation so that collapse does not occur in habitable structures. Civil infrastructure that requires mitigation are "lifeline" structures that must remain serviceable during and after an earthquake.

The high compressibility and the low soil shear strength of the artificial fill and paralic estuarine deposits are the geotechnical engineering characteristics that will influence design and construction. We interpret the soils with these characteristics to extend from the ground surface to a depth of about 60 feet. Structures with relatively high column loads will require ground improvement and/or deep foundations. Settlement of the fill placed to raise the site will influence the design and construction of some of the civil infrastructure, such as underground utilities.

The formation of the site and the design and construction of civil infrastructure and structure foundations will need to economically combine the mitigation of geologic hazards along with the management of the geotechnical engineering characteristics. This report discusses these hazards and conditions, and the methods of design and construction that have been used locally, and could be adopted individually or combined, for this project. Prior methods of ground improvement are Vibro-Replacement Stone Columns and cement Deep Soil Mixing. Prior methods of piling are small diameter Auger-Cast-In-Place (ACIP) or Drilled Displacement (DDP) piles. ACIP piles use a continuous flight auger to advance the hole and remove the soil. DDP piles use a proprietary drill tool to advance the hole and displace the soil into the ground. These methods do not generate significant amounts of spoil. This report provides prior configurations and design capacities.



# 1.0 INTRODUCTION

Group Delta Consultants (Group Delta) is submitting this Geotechnical Desktop Study Report (Desktop Report) to support the preliminary development of the project. The purpose of this report is to inform the development and design team about the subsurface conditions, geologic hazards, geotechnical engineering characteristics of the site and the design and construction aspects of the underground components of the project.

# 1.1 Project Description

Midway Rising LLC (Midway Rising) is proposing to redevelop the site with a new Arena, Entertainment Plaza, Hotel, and seven Blocks of residential housing. The housing will have a podium parking structure, or it will surround a reinforced concrete parking structure. The redevelopment will include community, urban and linear parks. Redevelopment will raise the site several feet to mitigate flooding. We have based our understanding of the redevelopment on the Midway Masterplan, Sports Arena Complex prepared by Safdie Rabines Architects dated November 23, 2021.

# 1.2 Site Description

The 50-acre site is located north of Sports Arena Boulevard and south of Kurtz Street in the Midway District of the City of San Diego. The existing Pechanga Arena and surrounding surface parking occupies most of the site. Low rise retail and commercial buildings occupy the eastern and western portions of the site. Interstate 5 and the channelized San Diego River are north of the site. Figure 1, Site Location Map shows the regional location of the site.

The elevation of the site ranges from about 8 feet to 15 feet above the National Geodetic Vertical Datum of 1929 (NGVD 29) (Project Design Consultants, 2023). The highest elevations surround the existing Pechanga Arena. The lowest elevations are in the northwest area of the site.

#### 1.3 Prior Geotechnical Studies

Several geotechnical engineering investigations have been completed at the site and nearby. Figure 2, Prior Geologic and Geotechnical Studies, shows the locations of these sites. Group Delta has reviewed these studies and incorporated relevant information into the findings presented in this report. Appendix A provides relevant data.

#### 2.0 SUBSURFACE CONDITIONS

#### 2.1 Landform Evolution

The coastal landforms in the site vicinity have evolved significantly throughout the recent geologic past. Within Holocene time (11,700 years to present), Mission Bay and San Diego Bay were connected as a single, large bay (the ancient San Diego Bay) that served as the base level for the



ancient San Diego River. At this time, what is now Point Loma was an island cut off from the mainland, positioned just across the bay from the mouth of the ancient San Diego River. Throughout the centuries, the river deposited large quantities of sediment into the bay as its delta grew and pro-graded seaward. A few thousand years ago, the delta met the ancient Point Loma Island and connected it to the mainland to form what is now the Point Loma Peninsula. This land formation split the bay into Mission Bay (or False Bay) to the north and San Diego Bay to the south. Today, the deltaic land that grew outward into the ancient San Diego Bay is known as the Midway District and includes the entire project site (Abbott, 1999).

In historic time, after the river delta split the bay and connected Point Loma to the mainland, parts of the Midway District were an active wetland environment (similar to that found today at the Tijuana River Estuary to the south) with branching tidal channels and fingers of the San Diego River. The San Diego River would periodically alternate between draining into Mission Bay to the north and San Diego Bay to the south as sediments built up and diverted the flow of water. Reports by Spanish explorers in the 17<sup>th</sup> century indicate the waters of Mission Bay and San Diego Bay would connect during significant high tides (Wilson, 2012). At the time of the 1904 Geologic Survey of the area, the Midway Rising site sat near the waterfront of Mission Bay) adjacent to the San Diego River Estuary, as shown on Figure 3, Site Location on Historic Map.

The project site vicinity was further transformed during the 1940's as the area was subject to land reclamation. Land reclamation created the current topography around San Diego and Mission Bay that exists today. Land Reclamation activities included dredging the San Diego and Mission Bays, raising grades in the Midway District, extending reclaimed land north into Mission Bay near the project site, creating the islands in Mission Bay, extending reclaimed land to the south into San Diego Bay, creating the San Diego International Airport and Harbor and Shelter Islands, and channelizing the San Diego River using levees that are located just north of the project site.

# 2.2 Geology and Soils

Young, loose/soft soils associated with the changing coastline and the deposition within the San Diego River Delta underlie the project site. These soils consist of artificial fill from land reclamation, and fine and coarse grained alluvial/estuarine sediments (interpreted to be paralic estuarine deposits at the project site) deposited from the ancient San Diego River. Consolidated estuarine deposits consisting of sandstone, siltstone and cobble underlie the younger, loose soils at depth.

Kennedy and Tan (2008) regionally mapped these soils as Artificial Fill at the surface. They mapped Young Alluvial Deposits followed by Old Paralic Deposits, Unit 6, below the artificial fill. Figure 4, Geologic Map, shows the site relative to the regionally mapped surface geology. Figure 5, Generalized Geologic Cross Section depicts the vertical distribution of these materials in a north-south oriented regional cross section.



Prior subsurface explorations conducted at the site and nearby by Group Delta (Group Delta, 1999, 2019 and 2020) encountered undocumented Artificial Fill<sup>1</sup> over Paralic Estuarine Deposits. Some of these explorations encountered Old Paralic Deposits below these soils. The following paragraphs describe these materials using information obtained from the prior geotechnical investigations. Appendix A provides relevant data from these investigations

#### 2.2.1 Artificial Fill

In prior explorations at the site, Group Delta observed the fill soils to be 2 to 6 feet thick and consist of clayey to silty sand with varying amounts of gravel and gravel sized brick, asphalt, and concrete fragments. Group Delta interpreted fill associated with a historic dump site (the Pueblo Lands Parcel 242, circa 1900) exists in the southwest portion of the site.

#### 2.2.2 Paralic Estuarine Deposits

In prior explorations at the site and nearby, Group Delta observed Paralic Estuarine Deposits below the Artificial Fill. Group Delta encountered these materials to a depth of about 95 to 100 feet in explorations northwest of the site (Group Delta, 2019). Group Delta observed the soils to consist of interbedded layers of silt and sand with occasional clay beds. The relative density/consistency of these soils based on drive sampler resistance was generally loose/soft with an abrupt change to medium dense/firm at a depth of about 60 feet. This significant contrast in relative density is the basis for the interpretation of two distinct geologic units referred to as upper and lower Paralic Estuarine Deposits.

# 2.2.3 Old Paralic Deposits

Kennedy and Tan (2008) describe the old paralic deposits as sandstone, siltstone, and cobble. In prior explorations northwest of the site, Group Delta observed the Old Paralic Deposits that were disturbed by drive sampling to consist of sandy silt to silty sand with some layers of gravels of cobbles. The relative density based on drive sampler resistance was very dense.

#### 2.3 Groundwater

In prior explorations at the site, Group Delta measured groundwater at depths ranging from 8 to 12 feet. These depths correspond to groundwater elevations that are at or slightly above Mean Sea Level. Group Delta obtained the measurements 30 to 60 minutes following drilling. Groundwater was interpreted from cone penetration test pore water pressure dissipation tests at depths ranging from 6 to 11 feet across the site, consistent with the direct borehole measurements.

<sup>1.</sup> Undocumented fill is soil that has been placed and compacted with no documentation of observation and compaction testing by a geotechnical engineer.



Groundwater levels at the site should be closely related to the water surface elevation within the San Diego River and subject to tidal influences.

# 2.4 Underground Obstructions

In addition to known underground utilities, remnant building foundations, and the historic dump site (Group Delta, 1999), there may be other types of underground obstructions. Typical environmental assessments, along with surface geophysical studies, potholing, and research by cultural resources specialists, such as an architectural historian, should help to locate obstructions. We expect that piled foundations support the Pechanga Area that was built in 1966, which should be confirmed by obtaining structural design and/or as-built construction plans.

#### 3.0 GEOLOGIC HAZARDS

The primary geologic hazard at the site requiring mitigation is liquefaction. The City of San Diego Seismic Safety Element map indicates the site lies within the "Liquefaction, High Potential – shallow groundwater, major drainages, hydraulic fills" Geologic Hazard Category. Figure 6 reproduces this map with an outline of the site. Listed below are the primary geologic hazards that could affect the project followed by discussions that elaborate on these hazards.

- Strong Ground Motion
- Earthquake Surface Fault Rupture
- Liquefaction and Secondary Effects
- Seismic Compaction
- Tsunamis

# 3.1 Strong Ground Motion

The site could be subjected to moderate to strong ground motion from a nearby or more distant, large magnitude earthquake occurring during the expected life span of the project. Numerous regional and local faults can produce large earthquakes with magnitudes (M) 7.0 or greater. Figure 7, Regional Faults and Earthquakes Map, presents the locations of these faults and the historical earthquake epicenters recorded on them. This hazard is managed by structural design using the latest edition of the California Building Code, as discussed later in this report.

# 3.2 Earthquake Surface Fault Rupture Hazard

The potential for surface fault rupture to occur at the site is very low based on publicly available geologic hazard maps and the findings from prior geotechnical investigation reports. Surface fault rupture is displacement on a fault that occurs at the ground surface because of tectonic forces. The site is not underlain by an active or a potentially active fault, per the City of San Diego



definitions of fault activity<sup>2</sup> in their Guidelines for Geotechnical Reports (City of San Diego, 2018). No active or potentially active faults project towards the site. We have based this assessment on the following information.

- The California Geological Survey (CGS, 2021) maps the trace of the active Rose Canyon Fault Zone (RCFZ) approximately 4,000 feet east of the western perimeter of the site. The RCFZ is a complex system of northwest-trending, right-lateral strike-slip, steeply dipping, parallel to subparallel faults. Figure 8, Earthquake Zones of Required Investigation, La Jolla outlines the site on the CGS map of the same title relative to the RCFZ. Figure 6, San Diego Seismic Element also shows the location of the RCFZ relative to site.
- The City of San Diego Seismic Safety Element maps the trace of the Point Loma Fault approximately 1,800 feet southwest of the southwest corner of the site. This map also indicates the trace of a short unnamed fault is located approximately 1,100 feet southwest of the southwest corner of the site. The City of San Diego Seismic Safety Element map indicates these faults are "Potentially Active, Inactive, Presumed Inactive or Activity Unknown". Figure 6, San Diego Seismic Element shows the locations of these faults.

# 3.3 Liquefaction and Secondary Effects

Potentially liquefiable soils underlie the site. Liquefaction is the sudden loss of soil shear strength within saturated, loose to medium dense, sands and non-plastic silts that exist at depths of less than 50 feet. Liquefaction is caused by the build-up of pore water pressure from strong ground motion during an earthquake.

The loss of soil shear strength could cause bearing capacity failure and tilting of large, isolated spread or pad footings supporting relatively high structural loads. It could also create high lateral earth pressures against subterranean structures, reduce the lateral geotechnical resistances used against footings, grade beams and pile caps to resist seismic demands, and cause underground utilities to become buoyant. The California Building Code does not allow the portion of piled foundations that are within liquefiable soils to generate geotechnical resistance.

The secondary effects of liquefaction are sand boils, settlement, lateral spreading<sup>3</sup>, and instabilities within sloping ground (overall slope instability, and horizontal seismic deformation). Of these, settlement should be the most likely to occur given the site surface and subsurface conditions.

<sup>3.</sup> Lateral spreading is the relatively rapid, fluid-like movement that can cause large horizontal deformations within the gently sloping ground near the shoreline with an unconfined face. An unconfined face does not exist along the San Diego River near the site.



<sup>2.</sup> **Active Faults** – this class of fault has had demonstrable surface displacement during Holocene time (past 11,700 years). **Potentially Active Faults** - faults with Quaternary (2.6 million years ago) displacement, but Holocene surface displacement is indeterminate. **Inactive Faults** – pre-Quaternary faults.

Liquefaction-induced settlement can cause adverse total and differential settlement and it creates large downdrag loads on piles.

Group Delta (Group Delta, 1999, 2015, 2019, 2020) assessed liquefaction triggering and interpreted that potentially liquefiable soils mostly exist as 5- to 20-foot thick layers that are below groundwater and extend to a depth of about 50 feet. Estimated settlements ranged from 2 to 10 inches. Differential settlement over the common 30- to 40-feet column spacing is typically estimated to be one-half to two-thirds of the total settlement.

# 3.4 Seismic Compaction

The potential for seismic compaction-induced settlement should be low. Soils prone to seismic compaction should be removed by typical site preparation earthwork. Seismic compaction is the densification from strong ground motion of granular soil that exist above groundwater.

# 3.5 Tsunamis (and Flooding)

The potential for large waves from a tsunami to affect the site should be low. The State of California Tsunami Inundation Map (California Emergency Management Agency, 2009) indicates the site does not lie within a tsunami inundation area. Tsunamis are sea waves created by the sudden uplift of the sea floor during an earthquake. Figure 9, Tsunami Inundation Map reproduces this map with the outline of the site shown.

The California Tsunami Inundation map indicates the existing San Diego River levees north of the site would channel a tsunami up the San Diego River channel beyond the project site. Group Delta completed a geotechnical evaluation of these levees near the West Mission Bay Bridge (Group Delta, 2015). Group Delta made the following conclusions in their evaluation report:

- The overall static stability of the levee should be acceptable per Army Corps of Engineers guidelines (Army Corps of Engineers, 2003, 1995) during a 100-year flood and during the rapid drawdown that could occur following this flood. The elevation of the flood waters was assumed to be 15.5 feet.
- The overall stability of the levee during and following an earthquake should be acceptable
  using Army Corps of Engineers guidelines. Group Delta also estimated the levee could
  experience 12-inches of permanent horizontal deformation during the earthquake. These
  seismic assessments did not consider a flood or tsunami condition.
- Seepage through the levees due to flooding of the San Diego River should not be significant hazard. Group Delta expressed this opinion primarily for the levees that were to be reconfigured for the replacement of the West Mission Bay Bridge.



#### 4.0 GEOTECHNICAL ENGINEERING CHARACTERISTICS

The primary geotechnical engineering characteristics of the soils at the site requiring mitigation are the high compressibility and the low soil shear strength of the artificial fill and paralic estuarine deposits. We interpret these soils to extend from the ground surface to a depth of about 60 feet. The soils below this depth gain shear strength and become less compressible. Sandstones with lesser amounts of siltstones and cobbles, mapped as old paralic deposits, exist at depths greater than about 100 feet. For geotechnical engineering purposes, these materials are typically assumed to behave like dense to very sands.

# 4.1 Compressibility

Prior monitoring of the settlement of fill placed in the area indicates there could be 0.25 to 0.50 inches of settlement per foot of fill placed. The monitoring data indicated this settlement was substantially complete with one to three months of placement.

Increased stresses from placing new fill, imposing new structural loads, and/or lowering groundwater levels will cause total and differential settlement that may exceed the accepted tolerances of new and/or existing infrastructure. This settlement can also create a downdrag load on piled foundations. The settlement can occur elastically as soon as the stress is applied and continue over time as the excess pore water pressures from the applied stress dissipate. Mitigation is often accomplished by delaying construction of settlement-sensitive infrastructure until the settlement is substantially completed.

Replacement of the West Mission Bay Drive Bridge to the northwest (Group Delta, 2019) and geotechnical engineering conference proceedings (Stamatopoulos, A. and Kotzias, C., 1985) provide information about the compressibility characteristics of the soils in the area that is summarized below.

- Monitoring of the fill placed to form abutments for the West Mission Bay Bridge measured about 1 to 3 inches of settlement from the placement of 5 to 15 feet of fill. The monitoring data indicated settlement was substantially complete within three months of placement.
- A single story bank building on Sports Arena Boulevard was preloaded in 1971 with 10.5 feet of fill. The fill caused a maximum settlement of about 2.5 inches in a "few weeks".
  - The Midway USPS Facility at 2701 Midway Drive was preloaded in 1968 by placing a 26-foot high earth embankment on top of a permanent 10-foot thick fill (36-foot high preload fill).
     The fill remained in place for 10 months and caused 15 to 28 inches of settlement.
  - A nine-story hotel on Harbor Drive was preloaded in 1969 with 15 feet of fill. The fill caused settlement ranging from 2 to 3 inches that occurred in "about 30 days".

# 4.2 Soil Shear Strength

The relatively low soil strength will preclude using shallow foundations, except for lightly loaded



structures that can be economically designed using a low allowable bearing pressure, such as 1,000 pounds per square foot, and it can accommodate the combined total and differential settlement estimated from static loads and liquefaction, and/or repair is acceptable.

# 4.3 Other Geotechnical Engineering Characteristics

Prior geotechnical investigations at the site and nearby did not encounter expansive soils (Group Delta, 1999, 2019, 2020). Expansive soils are clays that are prone to shrinking or swelling with decreases or increases in moisture content. Construction may encounter some expansive soils in the artificial fill due to the uncontrolled method of placement.

The artificial fill may be corrosive to structural members due to low pH, low electrical resistivity, and high chloride content. Structural elements exposed to groundwater should be designed to resist an environment similar to seawater.



#### 5.0 DISCUSSION

Design and construction of the project will need to address the geologic hazards and the geotechnical engineering characteristics of the site. The formation of the site and the design and construction of civil infrastructure and structure foundations will need to economically combine the mitigation of geologic hazards along with the management of the geotechnical engineering characteristics. The following sections discusses these hazards and conditions, and the methods of design and construction that have been used locally, and could be adopted individually or combined, for this project.

# 5.1 Geologic Hazards

The mitigation of liquefaction is the geologic hazard that will significantly influence design and construction. Liquefaction is a common hazard along the shoreline of seismically active regions, especially where there is old, reclaimed land. Considering the demand to redevelop these areas, there are numerous methods of mitigation that involve, individually or combined, ground improvement and/or deep foundations. Prior local projects have adopted these types of mitigation, and they have proven to successfully mitigate liquefaction when used in other areas that have been subjected to this hazard.

Mitigation of liquefaction should not be required sitewide. The California Building Code requires mitigation of liquefaction to the extent that collapse does not occur in habitable structures. Civil infrastructure that requires mitigation of liquefaction are "lifeline" structures that must remain serviceable during and after an earthquake. Civil infrastructure meeting the criteria below are typically not designed to resist displacements associated with liquefaction.

- Not required to remain operable after a seismic event.
- Can remain out of service for an extended period while undergoing repair.
- Have a very low hazard to human life in the event of failure.

# 5.2 Geotechnical Engineering Characteristics

The primary geotechnical engineering characteristics that will influence design and construction are the shallow groundwater level combined with the high compressibility and the low shear strength of the Artificial Fill and Paralic Estuarine Deposits. We expect the buildings proposed for the project to have relatively high structural loads that will require ground improvement and/or deep foundations to provide satisfactory long-term performance. Settlement of the fill placed to raise the site will influence the design and construction of some of the civil infrastructure, such as underground utilities. The design of these utilities may need to select materials and/or connections to accommodate the estimated settlement. Alternatively, the installation of the utilities can occur after the settlement is substantially complete. Loads on existing utilities generated from new fill or structures may require specialty evaluation by geotechnical engineer and structural engineer that specialized in utilities.



#### 6.0 GEOTECHNICAL ENGINEERING DESIGN AND CONSTRUCTION GUIDANCE

#### 6.1 Seismic Ground Motions

There are several considerations that can impact the seismic design for the project, including the potential for variation in site classification, different structure types and corresponding analysis requirements, and potential changes to seismic design in upcoming building codes. Each of these topics are discussed in more detail below.

# 6.1.1 Site Classification

The site classification for seismic design is governed by the subsurface conditions and the potential for liquefaction or ground failure. In absence of liquefaction, the site classification for seismic design is governed by the stiffness of the soils based on the parameter  $V_{5,30}$  (the average shear wave velocity in the upper 100 feet). Nearby sites have reported  $V_{5,30}$  values ranging from 575 feet per second (ft/s) to 690 ft/s, which range from Site Class E to Site Class D.

However, when soils are susceptible to liquefaction (such as the paralic estuarine deposits), they are classified as Site Class F. According to the 2022 California Building Code and ASCE 7-16, Site Class F requires site-specific ground motions to be developed by performing site response analyses to capture the impact of liquefaction on the ground shaking, with only one exception: For stiff structures with fundamental periods of 0.5-seconds or less. Structures meeting this exception may be classified as they would in the absence of liquefaction (either Site Class D or E). Site response analyses are relatively common in waterfront and port areas, but they require a more sophisticated evaluation where ground motion time histories are propagated through a soil profile to evaluate the behavior and response at the ground surface.

If ground improvement is completed over the entire building area, then the potential for liquefaction is eliminated. In this case, the site would be classified as either Site Class E or D, depending on the average shear wave velocity in the upper 100 feet after improvement.

Another point of consideration is that even with Site Class D or E ground motions (no liquefaction), there are limitations on the use of commonly available "mapped" seismic design parameters in California due to the high seismic demand. Mapped seismic design parameters are permitted to be used under only limited conservative exceptions, otherwise a seismic hazard analysis must be performed to develop the ground motions for the site (Exceptions 1 and 2 of Section 11.4.8 of Supplement 3 of ASCE 7-16). Seismic hazard analyses are commonly performed in San Diego to avoid those penalties, and if the necessary shear wave velocity data is collected during future geotechnical investigations, the analysis can be performed quickly and for low cost.



# **6.1.2** Structure Types and Analysis Requirements

The mixed-use redevelopment of Midway Rising will have a variety of different structure types, including small accessory structures, larger mid-rise buildings, and complex structures. The structural analysis requirements will therefore vary depending on the structure type and complexity. The smaller accessory structures will likely meet the exceptions mentioned above such that mapped values may be used based on Site Class D or E. However, mid-rise or complex structures usually utilize analysis methods that would require seismic hazard analyses (or site response) that would require the development of site-specific ground motions.

# 6.1.3 Future Changes to Seismic Design

The building codes in California are updated every three years (the 2022 CBC just became effective on January 1, 2023), therefore, depending on when the structures are designed and submitted for agency review, it is possible that future codes will be used as the basis of design. The next edition of the CBC is the 2025 CBC, which is anticipated to be effective in about three years, starting January 1, 2026.

More critically for seismic design, the next edition of ASCE 7 (ASCE 7-22) to be adopted by the 2025 CBC has already been released. There will be significant changes to seismic design, in particular to site classification for seismic design. The current site classes are being split and regrouped (i.e., Site Class CD, Site Class D, Site Class DE, Site Class E etc.). Shear wave velocity measurements will also be necessary to classify the site appropriately (unless penalties are adopted). Although this is still a few years away, it may be worthwhile to review these potential changes in advance.

#### 6.2 Earthwork

Earthwork to form the site should consist of demolition and removal of existing infrastructure, removal of soils that are unsuitable for engineering purposes to the depth above groundwater that can be practically excavated (typically about 3 to 5 feet above groundwater), replacement and recompaction of soils that are suitable for reuse, and the placement and compaction of a few feet of new fill to raise the site. Earthwork will also involve the import of soils to raise the site, the installation of new underground utilities, and the excavation and the export of soils generated from construction of ground improvement and piled foundations, most of which occur below groundwater. The following sections discuss aspects of the earthwork that are specific to this site.

# 6.2.1 Demolition

Demolition removes deleterious materials and remnant debris from asphalt pavements, concrete slabs and pavements, existing structures, and remnant foundations. Piles below the existing Pechanga stadium should be cut down at least 5 feet below the lowest planned excavation for utilities or other infrastructure requiring excavation. The cut off portion of the pile should be disposed of offsite. Recent attempts to remove existing steel H-piles to construct an underground



stormwater storage tank at the San Diego International Airport and to construct the Snapdragon Stadium ranged from extremely difficult to economically impossible. To provide information for future development, the as-built documentation for the extraction of piles should provide the information listed below.

- Condition of the disturbed ground.
- Vertical and lateral extent of the disturbed ground.
- Variation in disturbance between removal locations.
- Remedial actions undertaken during or following removal to mitigate disturbance.
- Broken piles left in place that could not be removed.
- Typical construction information such as drilling records, grout volumes, etc.

# 6.2.2 Soils Management

From a geotechnical perspective most of the soils excavated above groundwater should be suitable for reuse with some processing and handling. The environmental conditions of the soil could limit its reuse onsite or for export to another construction project.

Soil excavated from below groundwater may not be suitable for reuse. Earthwork contractors may not want to use these soils due to the extra handling and processing needed to dry them for placement and compaction. A contractor did not reuse soils removed from the deep excavation needed to recently construct an underground stormwater storage tank at the San Diego International Airport, even though fill was needed to raise the site elevations in other areas of the project. In this instance, the contractor disposed of most of the material off site, and processing of the remainder was difficult.

Our recent and current experience vetting import sources has indicated that the quantity of available export at local construction sites is approximately 10,000 cubic yards. Multiple sites will likely need to be reviewed from geotechnical and environmental standpoints to acquire the necessary amount of import for this project. Some important factors to consider for geotechnical quality include expansion index, proportion of oversize (greater than ¾-inch) material, corrosivity, and soil classification. An environmental consultant should be utilized to review and screen proposed import sites and provide feedback regarding their conformance with applicable residential and/or commercial standards as appropriate for the project.

#### 6.2.3 Static Settlement from Fill Loads

For planning purposes, the static settlement from the placement of fill can be estimated to be 0.25 to 0.50 inches per foot of fill placed. The duration of this settlement to be substantially complete can be estimated using two to four months following placement of the fill to finish grades.



We recommend that a utilities specialist review these estimates relative to the performance and serviceability of new and existing utilities over which fill will be placed. We further recommend settlement monitoring during and following fill placement to confirm these estimates and to plan the timing of the construction of settlement sensitive improvements.

The installation of piles, if adopted, should not occur until this settlement is substantially complete.

# 6.3 Ground Improvement

Considering prior projects nearby, Vibro-Replacement Stone Columns (VRSC) and Deep Soil Mixing (DSM) should be the most likely types of ground improvement used to mitigate liquefaction and reduce the soil compressibility and increase the soil shear strength to allow for conventional shallow foundations. The purposes of ground improvement are to achieve the performance objectives listed below.

- Increase the allowable bearing pressure and reduce the static settlement.
- Reduce liquefaction-induced settlement.
- Increase the shear strength of the soils to:
  - Mitigate liquefaction-induced secondary effects, such as the downdrag on piles; and
  - o Increase the lateral resistance of piled foundations, where used together.
- Improve the Site Class for seismic design to reduce seismic demands on the structures.

Geotechnical and structural engineers will develop performance objectives for the ground improvement. A ground improvement specialty contractor will design the ground improvement to meet the performance objectives. The final design often includes a pilot study as an early construction activity to confirm the contractor's final design.

# **6.3.1** Vibro-Replacement Stone Columns

Vibro-Replacement Stone Columns (VRSC) are typically 24 to 36 inches in diameter and filled with compacted gravel. They are spaced at 6 to 10 feet (center to center) and installed to depths ranging from 30 to 60 feet. The design uses an area replacement ratio over a treatment area and depth to meet the required performance objectives. VRSCs have been able to achieve allowable bearing pressures of 4,000 pound per square foot with acceptable settlement tolerances.

VRSCs are only placed at support locations when their sole purpose is to increase the allowable bearing pressure and reduce the static settlement. They are placed over the entire building footprint when used to mitigate liquefaction. A down-hole vibrating probe suspended from a crane or an excavator, creates the hole, and then places and compacts the gravel.



VRSCs have been commonly used to support various facilities in the area. Group Delta (legacy firm Geotechnics, 2005) provided geotechnical services during the design and construction of the Continuing Education Building at the West City Campus of the San Diego Community College located at 3249 Fordham Street (about 0.5 miles south of the project site). This project used VRSCs beneath the entire footprint of the building to mitigate liquefaction. The depth of improvement was 60 feet. Condon-Johnson completed the final design of the VRSCs per the performance objectives established by Group Delta and they installed the VRSCs. Condon Johnson noted the subsurface conditions at this site, which are similar to those at the project site, made installation of VRSCs difficult. They indicated numerous instances of the vibrating probe getting stuck in the ground and the ejection of air and soil from the ground in areas away from the location of the probe installing an individual VRSC.

VRSCs are currently being installed for apartment complex developments associated the redevelopment of the Midway USPS facility site. They have also been used to support buildings located along the reclaimed shoreline at local military bases. Group Delta provided geotechnical design and construction services for the installation of over 2,000 VRSCs that were used to improve the ground supporting the recently constructed Snapdragon Stadium. VRSCs were used with driven precast concrete piles to support the 30-story San Diego Hilton Bayfront Hotel (Keller, 2021a), which provides a local case history of their use with piled foundations.

# 6.3.2 Deep Soil Mixing

Deep Soil Mixing (DSM) mixes a binder (typically cement) with the soils to create a column or panel (an element) with increased shear strength and stiffness and reduced compressibility. Typically, the elements overlap to create a block or cellular structure in the ground that uniformly improves a large volume of soil supporting a foundation or creates cellular structures that confines the soil to mitigate liquefaction. The design uses an area replacement ratio over a treatment area and depth to meet the required performance objectives.

A drill rig advances a tool to mechanically mix the soil with a binder slurry that is pumped out of the bottom of the mixing tool. A separate on-site batch plant produces the binder slurry. DSM can generate relatively large volumes of spoils, which have often been reused for engineered fill.

DSM has recently been used to support three 1.1 million gallon jet fuel storage tanks at the San Diego International Airport and a large mat foundation that supports the Electric Eel coaster at SeaWorld (Keller, 2021b). These projects used 6-foot diameter columns in a lattice grid and in isolated arrangements with treatment depths ranging from 40 to 50 feet. DSM was used to improve bearing capacity and mitigate liquefaction. These projects have subsurface conditions similar to those at the project site.



#### 6.4 Deep Foundations

Deep foundations may be needed to support the proposed structures. Deep foundations would use piles to transmit structure loads through the upper paralic estuarine deposits that are very compressible and have a very low soil shear strength to the lower paralic estuarine deposits and old paralic deposits that have a high enough soil shear strength to provide geotechnical resistance. Previous projects nearby with relatively similar soil conditions have adopted 16-inch, 24-inch and 36-inch diameter Auger-Cast-In-Place (ACIP) or Drilled Displacement (DDP) piles. ACIP piles use a continuous flight auger to advance the hole and remove the soil. DDP piles use a drill tool that is proprietary to the piling contractor to advance the hole and displace the soil into the ground. They do not generate significant amounts of spoil. Driven precast concrete piles are also suitable. We have not considered them further because of the noise associated with driving and the current piling contracting industry's more prevalent use of ACIP and DDP piles.

# 6.4.1 Prior Piling Projects

The ConRAC parking structure at the San Diego International Airport provides a relevant example of the use of DDP piles to support a structure that could be similar in size and structural loads as the Arena proposed for this project. We understand the Morris-Shea Bridge Company (MSB) installed over 2,000 16-inch diameter DDP piles as a piling subcontractor to Austin-Sundt with typical production of 20 piles per day. MSB conducted ten load tests on 16-inch diameter piles with lengths ranging from 32 to 63 feet. The test capacities ranged from about 560 to 760 kilopounds (kips) (SBE, 2013) for a design compression load of 300 kips.

We understand from KPFF (2021) the IQHQ project is using 16- to 24-inch diameter ACIP piles to support a series of low- to mid-rise structures and a 17-story tower. The piles are arranged in groups within the thickened portions of a reinforced concrete mat foundation at the bottom of two to three levels of subterranean parking. The piles are used to resist tension from hydrostatic uplift and to support compressive loads. They have ultimate capacities ranging from 200 to 700 kips. The pile lengths range from 40 to 60 feet.

#### 6.4.2 Prior Pile Load Testing

Based on the nearby advance pile load testing summarized below, 16-inch diameter ACIP or DDP piles should be capable of supporting an ultimate load of 400 kips<sup>4</sup> in compression and 200 kips in tension with embedment into the old paralic deposits of about 50 and 30 feet for ACIP and DDP piles, respectively. The old paralic deposits occur at a depth of about 100 feet at the project site. We do not expect ACIP and DDP piles to be this long if used to support structures at the project site. This is because the relative density of the soils (as interpreted from drive sampler and cone penetrometer tip resistances) increases abruptly at a depth of about 60 feet within the paralic

<sup>4.</sup> Ultimate load without an estimated liquefaction-induced downdrag load of 100 kips.



estuarine deposits, and therefore the soil shear strength should be suitable to provide resistance for piles at depths shallower than 100 feet. The test data summarized below could provide precedent for the project site, if the paralic estuarine deposits below a depth of 60 feet provide geotechnical resistances similar to the old paralic deposits at the test sites below.

- Advance pile load testing for the Airline Support Building at the San Diego International Airport indicated a 75-foot long, 16-inch diameter DDP should be capable of supporting an ultimate load of 400 kips in compression and 200 kips in tension (Group Delta, 2019a). This capacity considered that no geotechnical resistance could be used in the potentially liquefiable soils that extend about 45 feet below the pile cutoff level (30 feet of embedment into old paralic deposits). An estimated liquefaction induced downdrag load of 135 kips was added as a vertical load on the pile head under some loading conditions. This project is a two-story high bay type structure. The piles are arranged in groups using pile caps and grade beams. The pile cutoff level is about 4 feet below the finished floor elevation. Condon-Johnson conducted the pile load testing and installed 79, 16-inch diameter, 55-foot long DDP piles from September 20, 2019 through September 30, 2019 (about 12 piles per day).
- Advance pile load testing for the 3.0 Million Gallon Underground Stormwater Storage Tank (Northside Cistern) at the San Diego International Airport indicated a 60-foot long, 16-inch diameter ACIP should be capable of supporting an ultimate load of 400 kips in compression and 280 kips in tension (Group Delta, 2019b). This capacity considered that no geotechnical resistance could be used in the potentially liquefiable soils, which extend about 10 feet below the pile cutoff level (50 feet of embedment into old paralic deposits). There is no liquefaction induced downdrag load since the piles are embedded almost entirely in old paralic deposits and the method of shoring mitigated the potential for increases in pore water pressure that are typically required for liquefaction triggering. The piles are uniformly spaced in the reinforced concrete mat slab that is about 30 feet below the ground surface. Condon-Johnson conducted the pile load testing and installed 123, 16-inch diameter, 51- to 61-foot long ACIP piles from October 16, 2019 through October 30, 2019 (about 12 piles per day). Production was compromised by remnant steel H-piles.

Additional relevant pile load testing and installations are summarized below.

Advance pile load testing for the 3.0 Million Gallon Underground Stormwater Storage Tank (Southside Cistern) at the San Diego International Airport confirmed that a 36-inch diameter, 83-foot long ACIP pile could sustain a 490 kip test load in tension (Malcolm Drilling, 2022). Malcolm Drilling constructed this test pile on June 29, 2022, in about an hour and half (drilling, installation of reinforcing steel and grouting). Production piling has not started as of the date of this report.

 Advance pile load testing for the P-296 Messhall Expansion at the Marine Corp Recruit Depot indicated a 55-foot long, 24-inch diameter ACIP could support an ultimate load of 280 kips (URS, 2010). This capacity considered that no geotechnical resistance could be used in the potentially liquefiable soils that extend about 35 feet below the pile cutoff level (20 feet of embedment into old paralic deposits). An estimated liquefaction induced downdrag load of 80



kips was added as a vertical load on the pile head. This project is a single-story structure with piles arranged in groups using pile caps and grade beams. Keller conducted the pile load testing and installed 55, 24-inch diameter, 50-foot long ACIP piles from October 27, 2010 through November 12, 2010 (about 5 piles per day).

#### 7.0 ADDITIONAL GEOTECHNICAL ENGINEERING SERVICES

The next phase of geotechnical engineering services should include subsurface exploration within the site and the preparation of a geotechnical investigation report for preliminary engineering and CEQA purposes. Figure 10 shows the proposed locations of the subsurface exploration. The geotechnical investigation report would provide more detailed recommendations for design and construction. It would also be included in permit submissions.

The primary focus of this investigation should be to:

- Interpret the vertical and areal distribution of potentially liquefiable soils and develop current, site-specific estimates of liquefaction-induced settlement to inform the assessment of ground improvement and/or piled foundations alternatives,
- Interpret and vertical and areal distribution of thick clay deposits to develop current, sitespecific estimates of static settlement and the duration for this settlement to be substantially complete, and
- Obtain better information about the soil strength and compressibility of the lower paralic estuarine deposits to inform the assessment of piled foundations.

#### 8.0 LIMITATIONS

This report has been prepared for the exclusive use of the Midway Rising team and their consultants for specific application to the subject project. The findings, conclusions and recommendations presented in this report were prepared using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in similar localities. No warranty, express or implied, is made as to the conclusions and professional opinions included in this report.

The scope of services for this report did not include subsurface exploration, soil sampling and laboratory testing, environmental assessments, or evaluations regarding the presence or absence of hazardous substances in the soil, surface water, or groundwater at this site.

The findings of this report are valid as of the present date. However, changes in the condition of a property can occur with the passage of time, whether due to natural processes or the work of humans on this or adjacent properties. In addition, changes in applicable or appropriate standards of practice may occur from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review, and it should not be relied upon after a period of three years.



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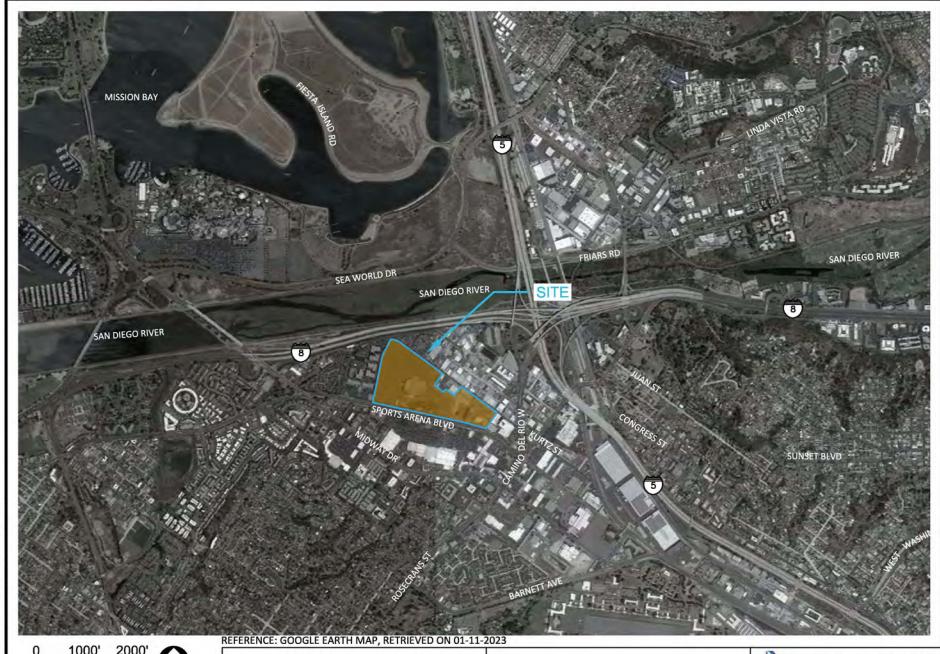
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NOTE: SCALE, DIRECTION, AND LOCATIONS ARE APPROXIMATE

SPORTS ARENA COMPLEX MIDWAY RISING

SITE LOCATION MAP

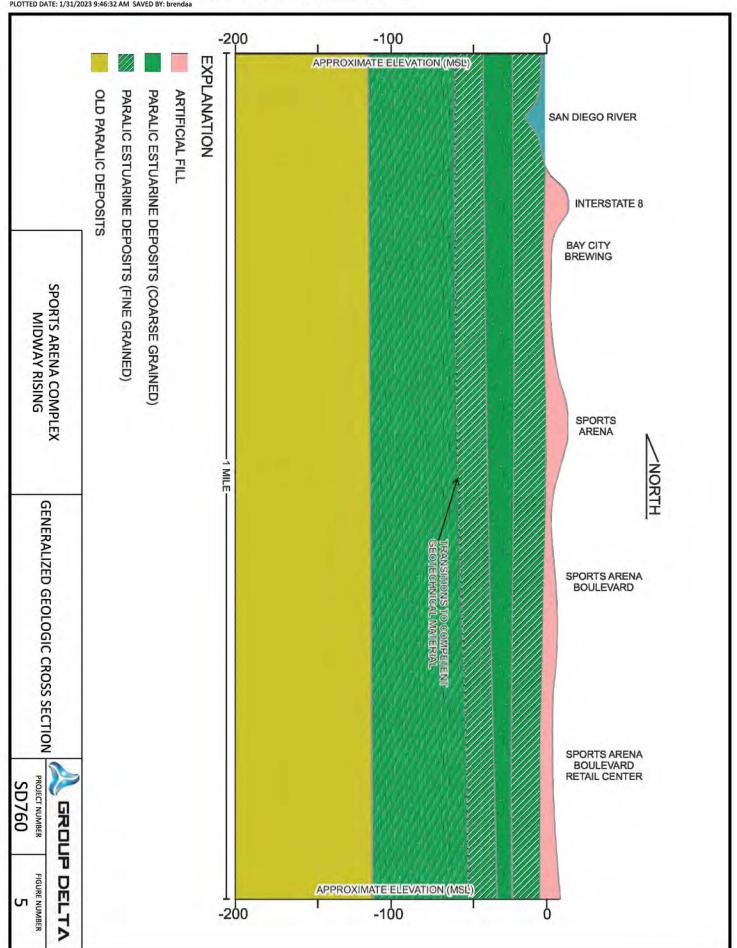


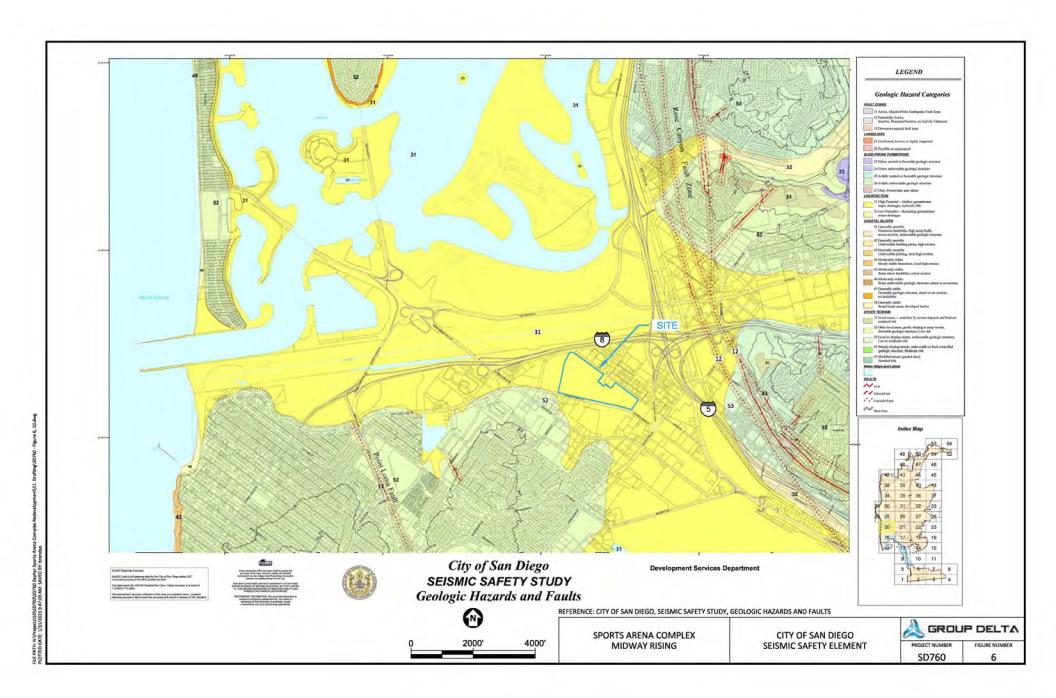
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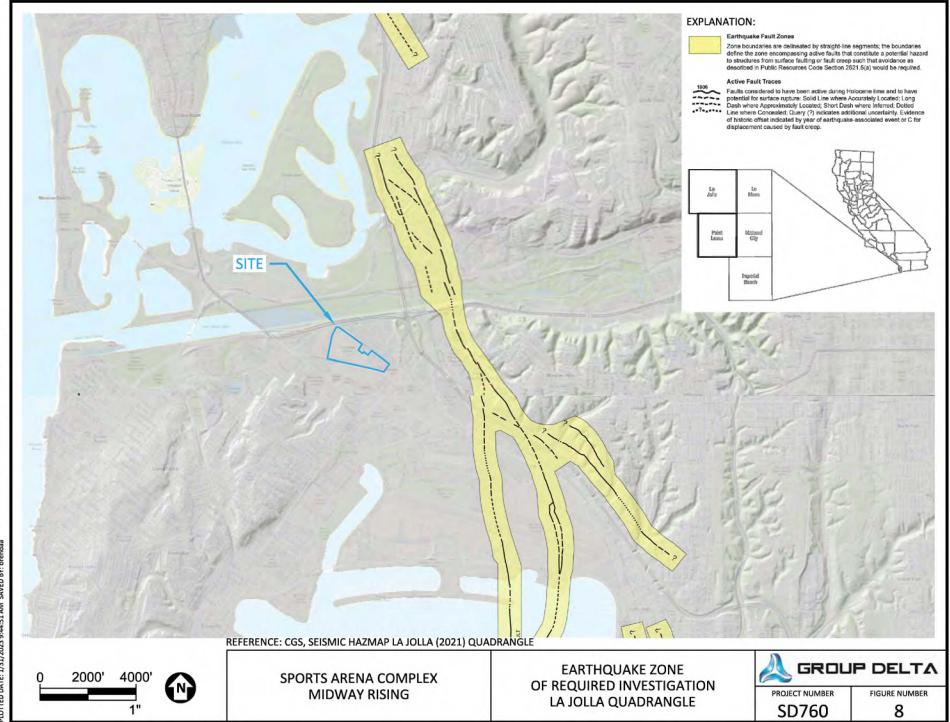
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APPROXIMATE LIMITS OF SITE DEVELOPMENT



APPROXIMATE LOCATION OF HOLLOW-STEM AUGER BORING



DP-23-004 APPROXIMATE LOCATION OF DIRECT PUSH BORING



400'



APPROXIMATE LOCATION OF MUD ROTARY WASH BORING



CPT-23-028 APPROXIMATE LOCATION OF CONE PENETRATION TEST (CPT)



SPORTS ARENA COMPLEX MIDWAY RISING

PROPOSED EXPLORATION LOCATIONS



REFERENCE: GOOGLE, INC. (2022) GOOGLE EARTH PRO, AERIAL IMAGERY DATED: AUGUST 1, 2021.

NOTE: DIRECTION, SCALE AND LOCATIONS ARE APPROXIMATE

# APPENDIX DATA FROM PRIOR GEOLOGIC AND GEOTECHNICAL STUDIES



### PRIOR STUDIES

Subsurface data from the project site and the surrounding area was compiled from publicly and privately available sources. Data was obtained from thirteen different sites within a half-mile radius of the site and was used to inform our conclusions and recommendations herein. Year of data collection ranges from 1968 to 2020. Four sites were investigated by Group Delta or our legacy company Geotechnics, and nine sites were investigated by other consultants or agencies. Each site containing subsurface data is shown in relation to the project site on Figure 2, Existing Subsurface Data.



# GROUP DELTA 2020 - PANERA BREAD RESTAURANT





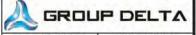
APPROXIMATE SCALE IN FEET 500 1,000

NOTE: DIRECTION, SCALE AND LOCATIONS ARE APPROXIMATE.

PROPOSED PANERA BREAD RESTAURANT **3711 SPORTS ARENA BOULEVARD** MANNA DEVELOPMENT GROUP, LLC

FIGURE NAME

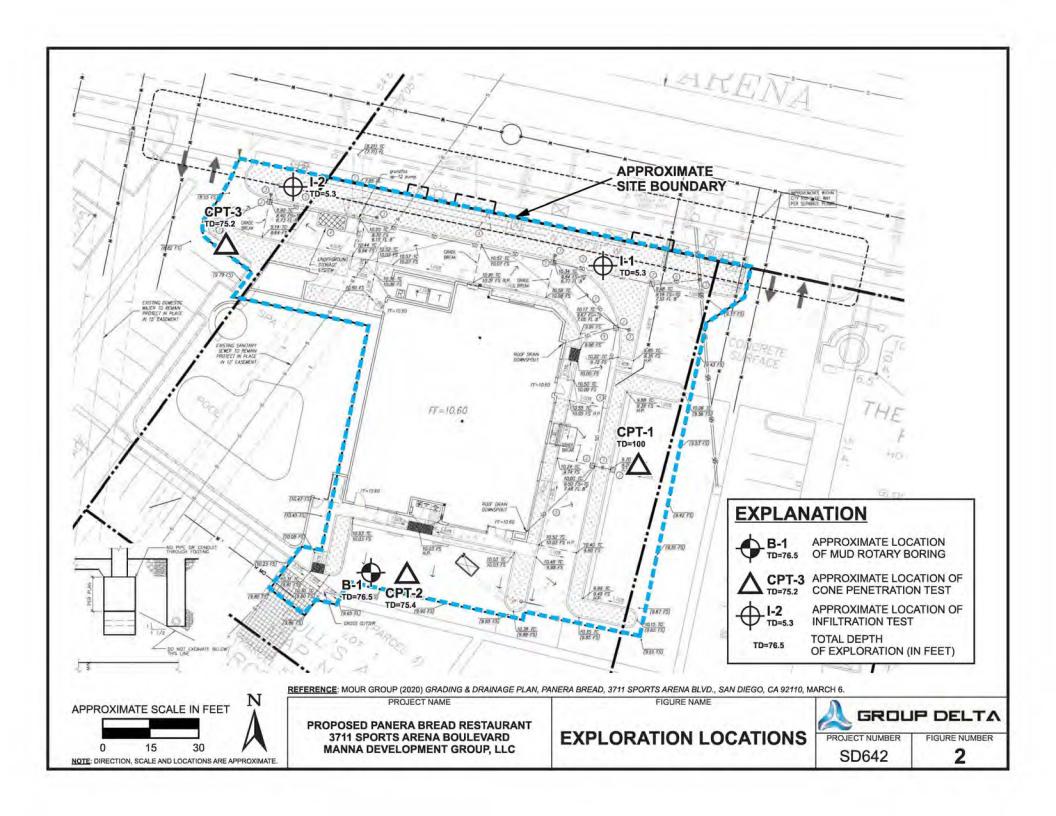
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12/16/7	_		S10	3 6 4	10	16	38.6		PA	-		wet; m shell fr		SÁND ; nonpl	); sor astic	ne fines;	trace	gray to gray; sand sized
GR BOKING MMX SOIL SPARS OF JOS SOIL SPARS OF JO	35   		S11	4 3 4	7	11				45 — - - - -		CLAYE wet; m micace	ostly fine	— — — (SC); SAND	med ); litte	ium dens	e fines	rk gray to gray; s; low plasticity;
GR	924	5 A	ctivi	A CON ty Roa o, Calif	ad, S	uite	103	INC	OF SU LO WI PR	THIS BO BSURFA CATIONS TH THE F ESENTE	IARY APPL DRING AND CE CONDI S AND MAY PASSAGE ( D IS A SIM IS ENCOUI	AT THE TIONS M. CHANG OF TIME. PLIFICAT	TIME OF AY DIFFE E AT THIS THE DAT	DRILLI R AT C S LOCA TA	NG. OTHE ATION	R N	F	FIGURE A-1 b

F	30R	IN		RECO	)RD		PROJE			Droop	I Restaurant			ROJEC SD64	T NUMBI	ER	BORING B-1
	CATION						Propos	seu P	anera	Dieac	Restaurant	STAF		F	NISH		SHEET NO.
	Sports		a Boı	ulevard,	San Di	ego, C	aliforn		INC M	ETHOD		11.	/22/2019	LOGGE	11/22/2		3 of 4
	ic Drilli										iger/Rotary \	Wash			arveson		C. Vonk
	NG EQUI	PMEN	Г					BORII	NG DIA		TOTAL DEP			ELEV (	- 1		GROUNDWATER (ft)
Marl SAMPL	M10 ING MET	HOD					NOTES	8/4			76.5		10		<b>▼</b> 1	0.0 / 0.	0
Hamı	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	~ 95	%, N <sub>6</sub>	0 = 1.5	58N <sub>SPT</sub>						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESCF	RIPTION	N AND CL	ASSIFIC	ATION
- - - - -55		X	S12	4 3 2	5	8	48.9		-200 PI	- - - 55 —		SAND ines; li blastici 85% F LL: 59	(CH); soft ittle fine S/ ity; trace m	to very AND; ti nica; PI PI: 30)	soft; da	rk gray; GRAVE	Fat CLAY with wet; mostly EL; high
-		X	S13-2		10	16				-	· · · · · · · · · · · · · · · · · · ·	EILTY	SAND (SN	· — — - И); те	dium den BAND; litt	se; vergle fines	/ dark gray; wet; ; nonplastic; little
60 _ _ _	50  		S14	9 12 13	25	40				60 — - - -		Dense.					
950 GDCL06.GDT 72/18/19	55  	X	S15	3 5 6	11	17				65 — - -	i r	nterbe nediur ines; r vet; m	ds of lean n dense; d	CLAY lark gra micac ; little fi	(CL). SIL ay; wet; r eous. CL	_TY SA nostly fi .AY (CL	ne SAND; little ); stiff; dark gray;
GBC_LOG_BORING_MMX_SOIL_SD_SD642_LOGS.GPJ_GDCLOG.GDT_12/16/19	60 		S16	2 3 6	9	14				70 — - - -	///] r	nostly		ne fine	SAND; lo		dark gray; wet; edium plasticity;
	924	5 A	ctivi	A CON ty Roa , Calif	ad, S	uite	103	INC	OF SU LO WI PR	THIS B BSURFA CATION TH THE ESENTE	MARY APPLIES ORING AND A' ACE CONDITIC IS AND MAY C PASSAGE OF ED IS A SIMPL NS ENCOUNTI	T THE ONS MA HANGI TIME. IFICAT	TIME OF D AY DIFFER E AT THIS THE DATA	RILLIN RAT OT LOCAT A	G. HER TON		FIGURE A-1 c

F			2 5	RECC	<u> </u>	١ ١	PROJE									IUMBER		BORING
			ין כ	,LOC	ハフレ	'	Propos	sed P	anera	Bread	Restaur			SD	642			B-1
	CATION		a Roi	ulevard,	San Di	eao C	aliforn	ia				STA 11	RT /22/2019	2	FINIS	н 22/2019	<b>1</b>	SHEET NO. 4 of 4
	IG COM		a DU	aicvaiu,	Jan Di	ogo, o	amonn		ING M	ETHOD		11	, <u> </u>		GED B			CKED BY
	ic Drilli										ger/Rota			S.	Narv	eson	C.	Vonk
RILLIN	IG EQUI		Г					BORII	NG DIA		TOTAL		GROUN	D ELE	V (ft)			ROUNDWATER
Marl I								8/4			76.5		10			▼ 10.0	/ 0.0	
	NG MET		Dra	m. 20 im	/ Ato	4:-\	NOTES		0/ NI	_ 1 5	ONI							
⊣amn	ner: 14	IU IDS.	, Dro	p: 30 in.	(Auton	natic)	EIR	( ~ 95 	%, N <sub>6</sub> □ □	0 = 1.5	OBIN <sub>SPT</sub>							
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTI	ION AN	ND CLASS	BIFICAT	ΓΙΟΝ
	_	X	S17	8 11 11	22	35				-		(SM);	dense; da ; little fine	ark gra	ay; we	t; mostly	fine to	ILTY SAND o medium trace shell
-										_		Total I	Depth = 7	6.5 fe	et (Ta	rget dept	th read	ched).
80	— —-70									- 80 —		from 0	methods to 14 fee 4 to 75 fe	et; 4-in	ich dia ich dia	meter Ho ameter ro	ollow S tary w	Stem Auger ash (drag bit)
,0	ru 									JU — -		Groun			ed du	ring drillir	ng at a	a depth of 10
	_									_		feet. Boring	backfille	d on 1	11/22/2	2019 sho	rtly af	ter drilling with
	_									-		portlar		t and	bento	nite grou		capped with
	_									_			oring Red must be d					cal report
85	75									85 —		The ex	ploration	eleva	ations	were esti	imated	d bv
	_									_		interpo	olation usi	ing the	e refer	renced pl	ans p	rovided by
-										-		North		Verti	cal Da	atum of 1		utilizes the IAVD 88) as
ŀ	_									-								
										_								
90	80									90 —								
-	_									_								
İ										_								
	_									_								
										_								
_	_																	
95	—85									95 —								
}	_									_								
Ī										_								
-	_									-								
	_									_								
		DE		\ CO\	16111	TAR	ITC	INIC	TH		MARY APP							IGURE
JK				A CON			-	IIIC	SU	BSURFA	ORING AN	ITIONS M	AY DIFFE	RAT	OTHE		Г	IGUNE
				ty Roa , Calif					WI	TH THE ESENTE	S AND MA PASSAGE ED IS A SIN	OF TIME.	THE DAT	TΑ				A-1 d

F	3OR	RINO	 G F	RECO	ORD		PROJE			Broad	Restaura	ant		OJECT	NUMBE	₹	BORING I-1
SITE LO	CATION	N .							ancia	Dieau	rtestaure	STAF	RT	FINI	SH		SHEET NO.
	Sports NG COM		а Во	ulevard,	San Di	ego, C	aliforn		ING M	ETHOD		11/	/14/2019	11 DGGED	1/14/20 BY		1 of 1 ECKED BY
N/A	10 00								nual					S. Nar	veson	С	. Vonk
	NG EQUI		Г						NG DIA	. (in)		DEPTH (ft)		LEV (ft)			ROUNDWATER (ft)
	Auger						NOTES	6 3			5.3		9		▼ NE	: / na	
N/A			ı				N/A	_									
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N 209	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESCRI	PTION #	AND CLA	SSIFICA	ATION
- - - - -5	5		B1				17.3		PA EI	5 —		brownis trace to plastici inches (6% Gr	CLAYEY S sh gray; mo o few fine to ty (increasir consist of g ravel; 52% S on oxide sta	ist; mos coarse ng plast rass, ro Sand; 4	stly fine GRAVE cicity with pots and	SAND; EL; low n depth organi	). Upper 6
- - - - -10	0									- - - 10 —		Ground Boring of infilte This Bo which r The ex interpo Mour G	ration testing pring Record must be con ploration ele lation using Group Engin	ncount n 11/15 g. d is par sidered evations the refeering	ered dui 5/2019 s t of a ge d in its e s were e erenced + Design	ring dril hortly a otechn ntirety. stimate plans p	iling.  Ifter completion  ical report  od by  provided by  n utilizes the
15	5 5									- 15 — - -		the ver	American Ve	ericai L	atum of	1988 (	NAVD 88) as
- 20	10   15									-20 — - - -							
GR	924	5 A	ctivi	A CONity Road, Calif	ad, S	uite	103	INC	OF SU LO WI PR	THIS BOBSURFACATION TH THE ESENTE	DRING ANI ACE COND S AND MA PASSAGE	D AT THE ITIONS MAY Y CHANGI OF TIME. MPLIFICAT	Y AT THE LC TIME OF DR AY DIFFER A E AT THIS LO THE DATA TION OF THE	ILLING. AT OTHI DCATIO	ER DN		FIGURE A-2

E	30R	RING	G F	RECC	)RD	1	PROJE			Bread	Restau	rant		PROJEC	T NUME	BER	BORING I-2
	CATION				0:		•					STAF		F	NISH	2040	SHEET NO.
	Sports IG COM		a Bo	ulevard,	San Di	ego, C	aliforn		ING M	ETHOD		11	/14/2019	LOGGE	11/14/2 D BY		1 of 1 ECKED BY
N/A								Mai	nual					S. N	arvesoi	n C	. Vonk
	IG EQUI		Γ						NG DIA	. (in)	1	DEPTH (ft)		ELEV (			GROUNDWATER (ft)
	Auger						NOTES	6 3			5.3		9		Ā	NE / na	
N/A							N/A										
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž <sup>°</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	RIPTIOI	N AND C	LASSIFICA	ATION
- - - - - -5			B1				14.3			- - - 5 —		moist; coarse clay br	GRAVEL ick, glass ition. Upp	e SAÑI sized ); nonpl	D; little to rubble fr astic to	o some fir agments low plasti	se; gray; nes; few fine to (e.g., asphalt, city; difficult ass, roots and
_	_									-		Total D	epth = 5.	3 feet (	Target d	epth read	ched).
-	_									_		Ground	dwater no	t encou	ntered o	luring dril	ling.
-	_									-			backfilled ration test		15/2019	shortly a	ifter completion
-	0									-		This Bo	oring Rec	ord is p	art of a	geotechn entirety.	ical report
_10										10 —		The ex	ploration	elevatio	ns were	estimate	ed by
-										_		Mour G North	Proup Eng	gineerin Vertica	g + Des I Datum	ign, which	provided by n utilizes the (NAVD 88) as
-	_									-							
ŀ	<u>     -5                               </u>									_							
<u>15</u>	_									15 —							
15  -	_									_							
										_							
										_							
-	<u> </u> -10									-							
<u>     20                               </u>	_									20 —							
_										_							
										_							
_										-							
-	<u> </u> -15									-							
20 20 				A CON				INC	OF SU	THIS BO BSURFA	ORING AN	PLIES ONL' ND AT THE DITIONS MA	TIME OF I AY DIFFEI	DRILLIN R AT OT	G. HER		FIGURE
i				ity Roa o, Calif					WI <sup>*</sup> PR	TH THE ESENTE	PASSAGI D IS A SI	AY CHANGI E OF TIME. MPLIFICAT UNTERED.	THE DAT	Α			A-3



#### Group Delta Consultants, Inc.

9245 Activity Road, Suite 103 San Diego, California 92126 www.groupdelta.com Total depth: 100.01 ft, Date: 11/15/2019

Surface Elevation: 9.50 ft Coords: X:0.00, Y:0.00

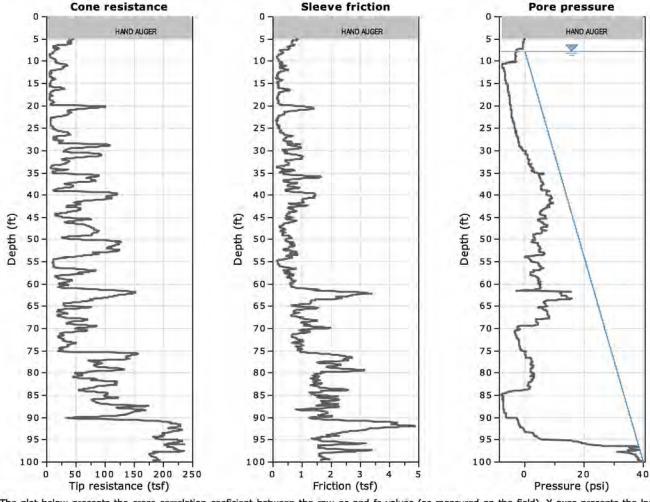
Cone Type: Vertek

CPT: CPT-1

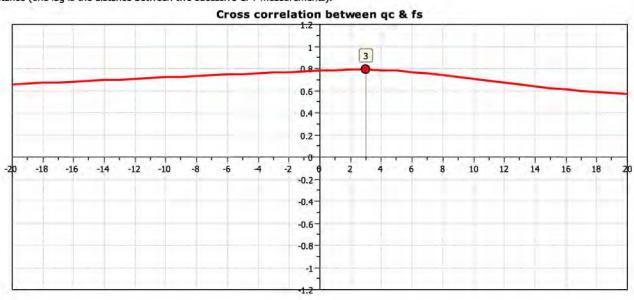
Cone Operator: Kehoe Testing & Engineering

Project: Proposed Panera Bread Restaurant

Location: 3711 Sports Arena Boulevard, San Diego, California



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).





Project:

Group Delta Consultants, Inc.

9245 Activity Road, Suite 103 San Diego, California 92126 www.groupdelta.com

Proposed Panera Bread Restaurant

Location: 3711 Sports Arena Boulevard, San Diego, California

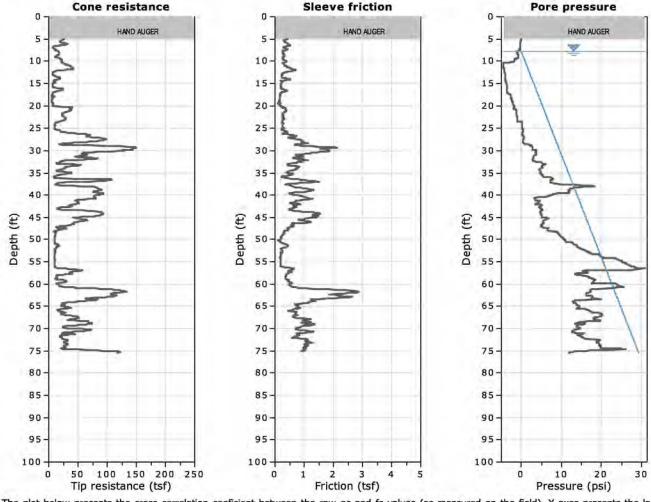
CPT: CPT-2

Total depth: 75.41 ft, Date: 11/15/2019

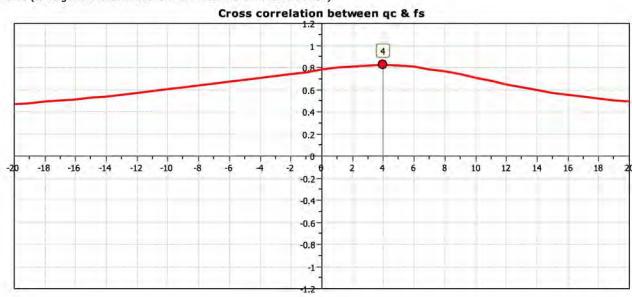
Surface Elevation: 10.00 ft Coords: X:0.00, Y:0.00

Cone Type: Vertek

Cone Operator: Kehoe Drilling & Testing



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).





Group Delta Consultants, Inc.

9245 Activity Road, Suite 103 San Diego, California 92126 www.groupdelta.com

Proposed Panera Bread Restaurant

Location: 3711 Sports Arena Boulevard, San Diego, California

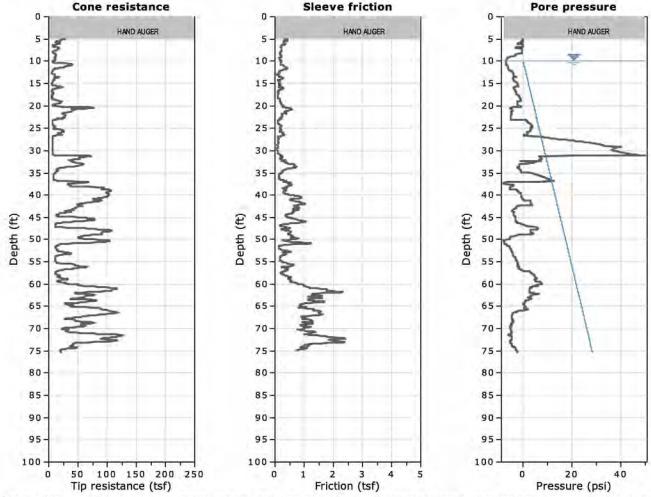
CPT: CPT-3

Total depth: 75.22 ft, Date: 11/15/2019

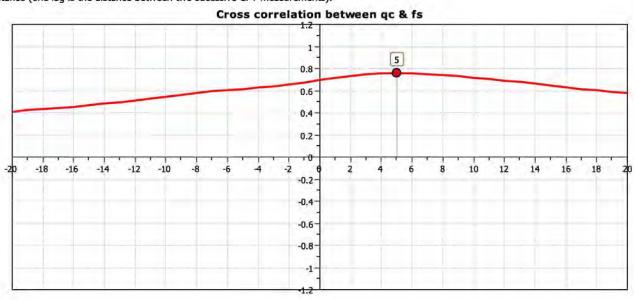
Surface Elevation: 9.00 ft Coords: X:0.00, Y:0.00

Cone Type: Vertek

Cone Operator: Kehoe Drilling & Testing



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



Group Delta Consultants Panera Bread Sports Arena San Diego, CA

**CPT Shear Wave Measurements** 

					S-Wave	Interval
	Tip	Geophone	Travel	S-Wave	Velocity	S-Wave
	Depth	Depth	Distance	Arrival	from Surface	Velocity
Location	(ft)	(ft)	(ft)	(msec)	(ft/sec)	(ft/sec)
CPT-1	10.04	9.04	9.89	13.16	751.17	<del></del>
	15.03	14.03	14.59	24.72	590.17	406.89
	19.98	18.98	19.40	36.16	536.42	420.27
	25.07	24.07	24.40	48.04	507.91	421.14
	30.02	29.02	29.29	57.78	507.00	502.49
	35.07	34.07	34.30	65.96	520.07	612.42
	40.06	39.06	39.26	74.40	527.75	587.71
	45.08	44.08	44.26	82.32	537.67	630.91
	50.07	49.07	49.23	89.92	547.52	654.16
	55.09	54.09	54.24	97.00	559.15	706.91
	60.07	59.07	59.21	104.48	566.67	664.11
	65.03	64.03	64.15	111.36	576.10	719.41
	70.01	69.01	69.13	117.76	587.01	776.72
	75.07	74.07	74.18	123.42	601.02	892.60
	80.02	79.02	79.12	130.40	606.76	708.20
	85.07	84.07	84.17	137.48	612.20	712.42
	90.09	89.09	89.18	144.02	619.22	766.77
	95.05	94.05	94.14	150.32	626.23	786.55
	100.03	99.03	99.11	156.93	631.56	752.76

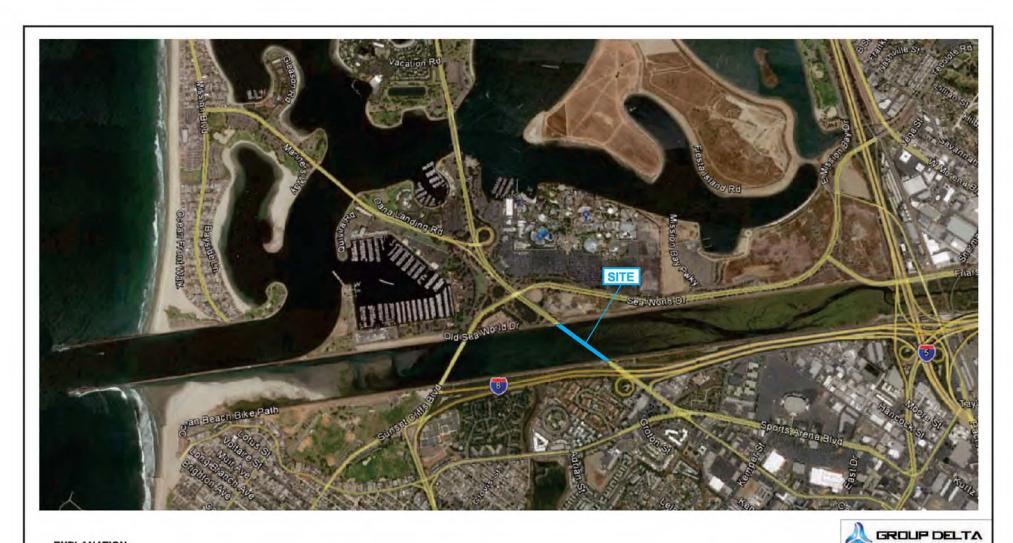
Shear Wave Source Offset -

4 ft

S-Wave Velocity from Surface = Travel Distance/S-Wave Arrival Interval S-Wave Velocity = (Travel Dist2-Travel Dist1)/(Time2-Time1)

# GROUP DELTA 2019 - WEST MISSION BAY DRIVE BRIDGE





## **EXPLANATION:**

✓ Approximate location of the West Mission Bay Drive Bridge over the San Diego River (Latitude 32.7585 °N, -117.2257 °W)



PROJECT NAME
West Mission Bay Drive Bridge
T. Y. Lin International

SITE LOCATION MAP

PROJECT NUMBER SD130C

15-0014

NO SCALE



### **EXPLANATION:**

R-19-003 Approximate location of exploratory boring with year drilled (R~Rotary Wash, S~Sonic Core)

CPT-09-002 Approximate location of cone penetrometer test (CPT) sounding (Vs<sub>30</sub> ~ average shear wave velocity, where indicated)



NO SCALE

15-0014R West Mission Bay Drive Bridge T. L. Lin International 2A

SD130E

SITE VICINITY PLAN

F	ROR	INC		RECC	)RD	ı .	PROJE								NUMBER		BORING
	CATION		<u>ا</u> ر	·LOC			West	Missic	on Bay	y Drive	Bridge Re	eplacement START	S	D130			R-19-001 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over tl	he Sar	Diego	Rive	r			3/25/20	)19	3/2	28/2019		1 of 7
	NG COM									ETHOD				GGED I	BY		KED BY
	Explora NG EQUI		г						ary W		TOTAL D	EPTH (ft) GRO		ARB	DEPTH/	MAF	E ROUND WATER
CME								6/4		(,	179.5	0	JONE EL	(,	▼ 0.0		
	ING MET		_		,, ,		NOTE	S				D"	000/		20/00 # 1	4 . 4 . 4	2 4 8 1
Ham	mer: 14 	U Ibs.	, Dro	p: 30 in.	(Auton	natic) I	Rigi	nt Brid	ige, P	ier 5, C	tr of East	Pile. ETR ~	68%,	$N_{60} \sim 6$	58/6U ^ I	N ~ 1.13	3 ^ N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG	ī	DESCRIF	PTION A	ND CLAS	SIFICATI	ON
- - -										-		ALLUVIUM brown; wet; nonplastic.	: SILTY	Y SANE fine to	O (SM); lo medium :	oose; gra SAND; s	ayish some fines;
5 - - -	5  									5 — - - -		Auger sank	to -11 f	eet MS	L under s	self-weig	nht.
_10	10 		S-1		1	1			PA	10 — - - -		PARALIC E (ML); very losome fine S	oose; gr	eenish	black; w	et; most	
_15	15 		<b>5</b> -1	1	'	'			14	15 — -		SILTY SAN mostly fine micaceous. fragments le	to medii Contai	um SAI ns few	ND; some small she	e fines; r ells and	nonplastic;
										-		78% Sand;	22% Fli	nes			
<b>–20</b>	20 									20 — - -		Rig chatter	due to g	gravel b	etween -	20 and -	-22 feet MSL.
25	  25	X	S-2	2 4 7	11	12			PA	- - 25 —		84% Sand;	16% Fir	nes			
	_									- - -		Rig chatter	due to ç	gravel b	ed at -25	5½ feet №	MSL.
GRO				CON ity Ro			_		OF SU	THIS BOBSURFA	ORING AND	IES ONLY AT AT THE TIME TIONS MAY DI	OF DRI	LLING. T OTHE	R	FI	GURE
				go, C				, ,	WI <sup>*</sup> PR	TH THE ESENTE	PASSAGE (	OF TIME. THE PLIFICATION (	DATA			A	\-01 a

			G F	RECC	RD	)	PROJE West I			/ Drive	Bridge Re	placem	ent	PROJECT SD130	Е	R	BORING R-19-001
West	CATION t Missic NG COM	n Bay	/ Driv	e Bridge	over tl	he Sar	n Diego			ETHOD		3/2	RT 25/2019	FINIS 3/2 LOGGED	28/2019		SHEET NO.  2 of 7 CKED BY
Baja DRILLII	Explora NG EQUI	ation	Г					Rot BORII	ary W	ash		PTH (ft)		ARB D ELEV (ft)	DEPTH	MA <i>IELEV.</i> G	
	ING MET		_				NOTES				179.5		0		•	0.0	
Hami	mer: 14 	0 lbs.	, Dro	p: 30 in.	(Auton	natic) 	Righ	nt Bric	lge, P	ier 5, C	Ctr of East	Pile. E	TR ~ 68	3%, N <sub>60</sub> ~ 0	68/60 *	N ~ 1.1	3 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION A	ND CLA	SSIFICAT	TION
- - - -35 -			S-3	6 7 12	19	21				- - - 35 — -		(ML); n	nedium d	UARINE D dense; very D; nonplas	dark gr		DY SILT mostly fines;
- -40 - - - - - -45	40  45		S-4	1 1	2	2			PA PI	-40 —		few fine 89% Fi	e SAND; ines; 11% ; PL=27;	medium p			———————; ; mostly fines; iells.
55 - 50 - 55 - 55 - 55 - 65 - 75 - 75 - 75 - 75 - 75 - 75 - 75 - 7	50		R-5	6 12 24	36	27	32.7	91	PA	50 — - - - -		wet; monpla SILT (N	ostly fine stic; mica ML) layer	e to medium aceous. The s less than to gravel b	n SAND ninly inte n ¾-inch	; some fi erbedded thick.	se; dark gray; nes; d with SANDY -50 feet MSL.
55 - - - - - -	55  									55 — - - -		wet; m GRAVI	ostly fine EL; nonp	to mediun lastic.	1 SAND	; some fi	; dark gray; nes; little -60 feet MSL.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATION TH THE ESENTE	MARY APPLI ORING AND ACE CONDIT IS AND MAY PASSAGE C ED IS A SIMF NS ENCOUN	AT THE IONS MA CHANGI F TIME. PLIFICAT	TIME OF AY DIFFE E AT THIS THE DA	DRILLING. ER AT OTHE S LOCATION TA	ER N		IGURE A-01 b

F	30R			RECC	)RD	ı .	PROJE			. D.:	DI.I	D :					NUMBER		BORING D 40 004
	CATION		<u> </u>	<u> </u>			west	Missic	on Bay	y Drive	Bridge		CEM STAF			130E FINIS			R-19-001 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over tl	he Sar	Diego						3/2	5/2019	1.00		8/2019	Ta	3 of 7
	Explor								∟ing m :ary W	ETHOD /ash					AR	GED E	BY	CHE	CKED BY
	NG EQUI		Γ						NG DIA		TOTA	L DEPTI	H (ft)	GROUNE			DEPTH/E		ROUND WATER
CME	95 ING MET	THOD					NOTES	6/4	4		179	.5		0			▼ 0.0 /	0.0	
			, Dro	p: 30 in.	(Auton	natic)	1		lge, P	ier 5, C	tr of Ea	ast Pile	e. E	TR ~ 68'	%, N <sub>e</sub>	<sub>50</sub> ~ 6	8/60 * N	۱ ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>N</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG			DESC	CRIPTI	ON AI	ND CLASS	SIFICA <sup>-</sup>	ΓΙΟΝ
<b>–65</b>		X	S-6	4 6 12	18	20				- - - - 65 —		S <i>F</i>	ND es; li	(ML); me ttle fine S	dium SAND;	dense	EPOSITS e; dark ol GRAVEL 62 feet M	live gra .; low p	ay; wet; mostly
-70										- - - 70		Ri	g cha	atter due	to gra	ivel b	etween -l	67 and	l -69 feet MSL.
-75		X	S-7	4 4 6	10	11			PA PI	- - 75 —		64	et; mo	ostly fine and; 36%	SANE Fines	O; sor s	_TY SAN me fines;	D (SM nonpl	); dark gray; astic.
										- - -			=NP	; PL=NP;	; PI=N	ΙΡ			
-80	80 									80 —		me me	ediun ediun	n dense t	o den few fi	se; g	AND with ray; wet; nonplasti	mostly	————— (SP-SM); / fine to
-85	85 	X	S-8	6 8 17	25	28			PA	85 — - -			,, 30						
GRO				CON					OF SU	THIS BO	RING A	NDITION	THE '	AT THE TIME OF I	DRILL R AT (	ING. OTHE	R	F	IGURE
				ity Ro go, C	-			S	WI PR	TH THE F	PASSAG D IS A S	SE OF T	IME. ICAT	E AT THIS THE DAT ION OF T	ГΑ				A-01 c

SITE LOC West N		111/			11-21			CT NAI							T NUMBER	`	BORING
West N	. AIILIN		<i>-</i>	ECC			West I	Missic	n Bay	/ Drive	Bridge Re	placem STAI		SD13	0E lish		R-19-001 SHEET NO.
			Drive	e Bridae	over th	ne San	Dieac	Rive	r				25/2019	1	3/28/2019	)	4 of 7
DRILLING	COMF	PANY								ETHOD		, 0,2	20,20.0	LOGGE			CKED BY
Baja E									ary W					ARB		MA	
DRILLING CME 9		MENI						BORII 6 / 4	NG DIA	. (in)	179.5	PTH (ft)		DELEV (fi	) DEPTH. ▼ 0.0		ROUND WATER
SAMPLIN		HOD					NOTES		+		179.5		0		¥ 0.0	7 0.0	
Hamm	er: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 5, C	tr of East	Pile. E	TR ~ 68	%, N <sub>60</sub> ~	68/60 *	N ~ 1.1	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CLAS	SSIFICAT	TION
95 			S-9	10 15 17	32	36			PA	- - - 95 — - - - 100—		SAND mostly micace	with SILT fine to me	(SP-SM edium S/	DEPOSIT ); very de AND; few	_ nse; ligł	nt gray; wet;
										- - 105— -		SILT a mostly	nd GRAV	'EL (SP-S edium S/	SM); very AND; little	dense;	d SAND with gray; wet; coarse
	 110 _ _ _		S-10	11 20 29	49	55			РА	110_		fine to nonpla	medium S	SÁND; so	dense; da ome fines;		; wet; mostly RAVEL;
115 										- 115 - - -		very de		y; wet; m	ostly fine		/EL (SP-SM); um SAND;
				<b>CON</b> ity Ro					• OF SU LO	THIS BO BSURFA CATIONS	IARY APPLI DRING AND CE CONDIT S AND MAY PASSAGE C	AT THE IONS M. CHANG	TIME OF I AY DIFFEI E AT THIS	DRILLING R AT OTH LOCATION	iER		IGURE A-01 d

	NOR	INIC		RECC	)BD		PROJE							PROJEC1		R	BORING
	CATION		יו כ	LUC	טאול		West I	Missic	on Bay	y Drive	Bridge	Replacem		SD13	DE ISH		R-19-001 SHEET NO.
			/ Driv	e Bridge	over tl	he San	Diego	Rive	r				2 <u>5/2019</u>		/28/201		5 of 7
	NG COM								.ING M ary W	ETHOD				LOGGED	BY		CKED BY
	Explora IG EQUI		Г						NG DIA		TOTAL	DEPTH (ft)	GROUN		DEPT		AF GROUND WATER (
CME								6/4	4		179.		0	•		0 / 0.0	
	ng MET mer: 14		, Dro	p: 30 in.	(Auton	natic)	NOTES Righ		lge, P	ier 5, C	tr of Ea	st Pile. E	TR ~ 68	8%, N <sub>60</sub> ~	68/60	* N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	z <sup>o</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION	AND CLA	ASSIFICA	TION
  -  -	_									-		GRAV	EL (SM);	DEPOSI very dens ; little GRA	<u></u> se; gray;	; wet; mo	ostly fine to
- - —125	 125	X	S-11	18 42 60	102	115				- 125_		SILT w mostly plastici	fines; litt	O (ML); ve lle fine SA	ry dense ND; few	e; very d	lark gray; wet; .ES; low
- - - - -130										- - - 130		very de	ense; gra	SAND with y; wet; morse GRAV	ostly fine	nd GRA e to med	VEL (SP-SM); ium SAND;
- -		X	S-12	27 42 75	117	132			PA	-	, , , , ,	mostly	graded s fine to m and; 4%	nedium S/	); very o	dense; o ce fines;	live gray; wet; nonplastic.
- —135	 135									- 135_			ne SÁNI	); hard; da D; high pla		; wet; mo	ostly fines;
- -	_									-			ostly fine	— — — — rith GRAV ∍ SAND; li			ense; light gray; stic; little
—140 -	140 									140 _		Rig ch	atter fron	n gravel a	t -140 to	-142 fe	et MSL.
- - - - - - - - - - - - -	145 		S-13	15 26 41	67	76				- - 145 - -				— — — — ND (ML); lle fine SA			gray; wet;
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATION TH THE ESENTE	DRING AI ACE CON S AND M PASSAG ED IS A S	PLIES ONL' ND AT THE DITIONS MA AY CHANG E OF TIME. IMPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THIS THE DA	DRILLING ER AT OTH S LOCATION	ER ON	ſ	FIGURE A-01 e

		INI	2 5	RECC	חם(		PROJE						1		NUMBER	<b>l</b>	BORING
	DCATION		יו כ	CCC	טאט		West I	Missic	on Bay	y Drive	Bridge	Replacemei START		D130			R-19-001 SHEET NO.
West	Missic	n Bay	y Driv	e Bridge	over tl	ne Sar	Diego						/2019		28/2019		6 of 7
	NG COM Explora								∟in <b>g m</b> :ary W	ETHOD /ash				ARB	BY	CHE	CKED BY
DRILLII	NG EQUI		Т					BORII	NG DIA			DEPTH (ft)	ROUND EI			<i>ELEV.</i> G	ROUND WATER (
CME SAMPL	95 ING MET	HOD					NOTES	6/4 S	4		179	5	0		<b>¥</b> 0.0	/ 0.0	
Ham	mer: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 5, C	tr of Ea	st Pile. ETF	₹ ~ 68%,	N <sub>60</sub> ~ (	68/60 *	N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>2</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESCRI	PTION A	ND CLAS	SSIFICAT	rion .
- -	_									-		very den	RALIC DE se; dark gi ow plasticit	ray; we			SAND (ML); ittle fine
- - 155	  155									- 155_		SILTY S/ wet; mos nonplasti	tly fine SA	GRAVE ND; litt	EL (SM); le fines;	very de little GF	nse; light gray; RAVEL;
- -										_		SILT WIT	TH SAND nes; little fi	- — — - (ML); v ne SAN	ery dens ND; low p	e; dark	 gray; wet; /.
_		X	S-14	28 37	74	84			PA	_		77% Fine	es; 23% S	and			
_160	160			37						160_							
_	_									_							
_	_									_							
_	_									_							
_	_									_							
_165	165									165_							
-										_							
-	_									-							
-		$\bigvee$	S-15	12	80	90				_							
_170	170			20 60						- 170_							
_170										170_							
-										-		very den		vet; mo	stly fine	to medi	/EL (SP-SM); um SAND;
-	_									-							
_175	175									175_							
-										_							
_										-	$(\bigcap ($						
-		X	S-16	16 29	73	82				-							
CD/	ם ום אוום	חבי	T A	CON	CIII.	T A NI	TC		<u> </u> . Т <u>н</u>			PLIES ONLY			<u> </u>	г	IGURE
JNU							_		SU	<b>BSURF</b> A	CE COV	ND AT THE TII DITIONS MAY	DIFFER A	T OTHE		r	IGURE
				ity Ro	-			5	WI	TH THE	PASSAG	AY CHANGE / E OF TIME. T IMPLIFICATIO	HE DATA				A-01 f
	3	an	υle	go, C	A 92	エスク	)					UNTERED.	OI IIIE	, .O I OA	-		

BORING RECORD	PROJE			, Drive I	Bridge Re	nlacem		PROJECT SD130		₽	BORING <b>R-19-001</b>
SITE LOCATION	TVVC5t1	VIIOGIC	ni Daj	y Dilve i	bridge rite	STAR			ISH		SHEET NO.
West Mission Bay Drive Bridge over the DRILLING COMPANY	San Diego					3/2	5/2019		/28/20		7 of 7
Baja Exploration			ary W	ETHOD /ash				LOGGED	BY		ECKED BY IAF
DRILLING EQUIPMENT			NG DIA		TOTAL DE	EPTH (ft)	GROUNE	ELEV (ft	) DEPT		GROUND WATER (1
CME 95	NOTE	6/4	4		179.5		0		<b>▼</b> 0.	.0 / 0.0	
SAMPLING METHOD Hammer: 140 lbs., Drop: 30 in. (Automat	tic) Righ		lae. P	ier 5. Ci	tr of East l	Pile. E1	ΓR ~ 68'	%. N., ~	68/60	* N ~ 1	.13 * N
(feet) ION NO. NO. ATION ANCE (6 IN)	N <sub>50</sub> NOISTURE (%)	DRY DENSITY (pcf)		DEPTH (feet)	GRAPHIC LOG			CRIPTION			
				- - - 185 - - - - 190		This Bothe Call Present NOTE: trestle babove thollow- 88 feet case th	water enterminated ring Rectrans Soitation Ma  The boringe de the mudli stem aug below the boring	I & Rock anual (20 ing was c ick, which ne. The b ger from t e mudling	d at 0 feined depended depende	eet. oth. d in acco g, Classi om the c cated al as initia ge deck er was ae d 180 fe	ordance with  fication, and  construction  cout 12 feet  lly cased using down to about gain used to et. A total of
				- - - 195— -							
-				- 200_ - -							
GROUP DELTA CONSULTA 9245 Activity Road. Si				- 205 - - - -							
GROUP DELTA CONSULTA 9245 Activity Road, S San Diego, CA 921	uite 10		OF SU LO WI' PR	THIS BC BSURFA CATIONS TH THE F ESENTE	IARY APPLI PRING AND CE CONDIT S AND MAY PASSAGE C D IS A SIMF IS ENCOUN	AT THE TONS MACHANGE OF TIME. PLIFICATI	TIME OF I AY DIFFEI E AT THIS THE DAT	DRILLING R AT OTH LOCATION	i. IER DN		FIGURE A-01 g

F	ROR	INC		RECC	)RD	۱ ا	PROJE			. Dali ca	D.:: J D	-1	4	l		NUMBER		BORING
	CATION						vvest	MISSIC	on Bay	y Drive	Bridge Re	STAF		2D	130I FINIS			R-19-002 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over t	he Sar	Diego					4/1	/2019	1.00		9/2019	lour.	1 of 7
	Explora								ary W	ETHOD /ash				AF	GED E RB	SY	MA	CKED BY
	IG EQUI		Γ						NG DIA		TOTAL DE	PTH (ft)	GROUN			DEPTH/E		ROUND WATER
CME	95 ING MET	HOD					NOTE	6/4	4		173.5		0			<b>▼</b> 0.0 /	0.0	
			, Dro	p: 30 in.	(Auton	natic)	1		lge, P	ier 6, C	tr of East I	Pile. E	TR ~ 68	3%, N	<sub>60</sub> ~ 6	8/60 * N	<b>\</b> ~ 1.1	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>N</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES(	CRIPTI	ION A	ND CLASS	SIFICAT	TION .
- - -										-			wet; mo			(SM); lo nedium S		rayish some fines;
5 - - -	5   									5 —		Auger	sank to -	9 feet	MSL	under se	lf-weig	ıht.
—10 - - - - -	—-10 — — — —-15		S-1	P P 3	3	3			PA	10 — - - - 15 —		(SM); v fines; r		e; darl c.	k gray	EPOSITS v; wet; mo		Y SAND ne SAND; little
- - - - 20										- - - 20 —								
<u></u>	20									-								
_ _ _ 25 _ _			S-2	3 7 10	17	19				_ _ _ 25 — _ _ _		Poorly- dark gr	Graded ay; wet;	SAND	) with y fine	Silt (SP-	SM); mew fine	nedium dense; s; nonplastic.
	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO Wi	THIS BOBSURFACATIONS TH THE I	MARY APPLI DRING AND ICE CONDIT S AND MAY PASSAGE O D IS A SIMP	AT THE IONS MA CHANGI F TIME.	TIME OF AY DIFFE E AT THIS THE DA	DRILL ER AT ( S LOC, TA	.ING. OTHE ATION	R N		FIGURE A-02 a

R	<b>OR</b>	INC	3 R	ECC	)RN	ı	PROJE			. Б.	D-1 -	•					NUMBER		BORING D 10 00
	CATION		٠ i `		·		vvest l	VIISSIC	on Bay	y Drive	Bridge R		emer			130			R-19-00
West	Missio	n Bay	/ Driv	e Bridge	over tl	he Sar	Diego	Rive	er				4/1/2				9/2019		2 of 7
RILLIN	G COM	PANY						DRILL	ING M	ETHOD						GED E			CKED BY
Baja E	Explora G EQUI	ation	_						ary W				(6)		AR		DEDT!!	M/	
CME		rIVIEN	•					6 / 4	NG DIA 4	. (in)	173.5			iroune 0	, ELE\	v (ft)	<b>DEPTH</b> /E <b>▼</b> 0.0 /		ROUND WATE
AMPLII	NG MET						NOTES	3											
Hamn	ner: 14	0 lbs.	., Dro	p: 30 in.	(Auton	natic) I	Righ	nt Bric	lge, P	ier 6, C	tr of Eas	t Pile.	ETF	₹ ~ 68'	%, N <sub>e</sub>	<sub>50</sub> ~ 6	88/60 * N	l ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	2°	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG			DESC	RIPTI	ON A	ND CLASS	SIFICA	TION
-	_			5						- -		(SM little	1); me e fines	edium d s; nonpl	ense; lastic.	dark	EPOSITS gray; we	t; mos	Y SAND stly fine SAND;
-35 -	— —-35 —	X	S-3	5 6	11	12			PA	35 — -		86%	% San 	d; 14% 	Fine:	s - – –	. — — — –		 k gray; wet;
-40	  	X	S-4	2 4 7	11	12				- - 40 —		mos	stly fir	ie SAN	D; littl	le to	some fine	es; low	r gray, wei, plasticity.
40	— <del>-4</del> 0	X	S-5-1 S-5-2	P P P	1	1			PA PI	40 — - -		few	fine S	- — — - / (CH); SAND; es; 9% :	high p	very olastic	dark gray	- – – ; wet;	—————— mostly fines;
														•					
45										45		LL=	:58; P	L=29; F	7 =29				
.45 -	45  									45 — - -		PP	= 1⁄4 T	SF					
	_	X	R-6	6 8 11	19	14				-									
_50 -	50  			11						50 — - -		mos	stly fir	ne SAN	D; so	me fi		GRA	——————gray; wet; VEL; trace caceous.
-55 -	— — —-55	X	S-7	6 9 13	22	25			PA	- 55 —		66%	% San	d; 33%	Fine	s; 1%	Gravel		
-	— —									- - -									
GRC	UP	DE	LTA	CON	SUL	TAN	TS,	INC	. OF	THIS BO	MARY APP	D AT T	HE TI	ME OF I	DRILL	ING.		F	IGURE
(	924	5 A	ctiv	ity Ro	oad,	Suit	e 10	3	LO	CATION	ACE COND S AND MA	Y CHA	NGE A	AT THIS	LOCA				
				,			,				PASSAGE	OF TIM	ME. TI	HE DAT		CTUA	- 1		A-02 b

		INIC		RECC	חםו		PROJE							PROJECT		R	BORING
	CATION		יו כ	LUC			West I	Missic	on Bay	/ Drive	Bridge R	eplacem star		SD130			R-19-002 SHEET NO.
West	Missio	n Bay	y Driv	e Bridge	over t	he Sar	Diego					4/1	/2019		19/201		3 of 7
	Explora								ary W	ETHOD 'ash				LOGGED I	ВҮ	CHE MA	CKED BY
DRILLII	IG EQUI		Т					BORII	NG DIA					D ELEV (ft)		H/ELEV. C	GROUND WATER (ff
CME SAMPL	95 ING MET	HOD					NOTES	6/4 S	4		173.5	)	0		▼ 0.	0 / 0.0	
Hamı	mer: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 6, C	tr of Eas	t Pile. E	TR ~ 68	3%, N <sub>60</sub> ~ 6	68/60 '	* N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG			CRIPTION A			
-										-		(SM); r some f	nedium ( ines; nor	nplastic. — — — — —	gray;	wet; mos	stly fine SAND;
<u> </u>			S-8-1	5 7	19	21				-		CLAYE mostly	Y SAND; s	) (SC); med some fines;	dium de low pla	ense; dai asticity; t	rk gray; wet; race mica.
- 65 -	65 		S-8-2	7 12	13	21				65 — -		SILTY mostly	SAND (S	— — — — — SM); mediu ND; some fi	m dens ines; no	e; dark g	gray; wet; ; laminated.
70 75 75 80	70 70 75 80		S-9	5 9 17	26	29			PA	70 —			mica; no and; 23%	laminations 6 Fines	s; little t	fines.	
- - - - - - - - - - - - - - - - - - -	  85	X	S-10	8 9 9	18	20			PA	- 85 —		78% S	and; 22%	6 Fines			
GRO										- - -		dense;	gray to	— — — — SAND with dark gray; \ s; nonplast	wet; mc	stly fine	medium to medium
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LOO WI PR	THIS BOBSURFACATION TH THE ESENTE	DRING ANI ACE COND S AND MA PASSAGE	D AT THE DITIONS MAY Y CHANGI OF TIME. MPLIFICAT	TIME OF AY DIFFE E AT THIS THE DA	LOCATION DRILLING. R AT OTHE S LOCATION TA THE ACTUA	ER N		FIGURE A-02 c

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SITE LOCATION		<u>۱</u> ۲	<u>,</u>	/ I \ U		West I	Missic	on Bay	y Drive	Bridge I	Replacer		SD	130			R-19-002 SHEET NO.
West Mission		, Driv	o Bridgo	over t	ho San	Diogo	Divo	\r				1/2019			19/2019		
ORILLING CON	IPANY	, DIIV	o bridge	OVEI L	ic Gal	. Diego			ETHOD		4/	1/2018	LOG	GED I		CHEC	4 of 7 KED BY
Baja Explor	ation							ary W					AF			MAF	=
RILLING EQU		Т						NG DIA			DEPTH (f	) GROUN				LEV. GR	OUND WATER
CME 95						11155	6/4	4		173.	5	0			▼ 0.0 /	0.0	
AMPLING ME Hammer: 14		Dro	n: 20 in	/Auton	actic)	NOTES		lao D	ior 6 C	tr of Ea	et Dilo I	TD ~ 69	00/ NI	_ 6	68/60 * N	. 1 11	2 * NI
	10 108	., Dio		Auton	lauc)	Rigi	IL BIIC	ige, r	ler 6, C	u oi La	SUPIIE. I	-11 ~ 00	) /0, IN	60 ~ (	36/00 IN	1.13	) IN
DEPTH (feet) ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION A	ND CLASS	SIFICATI	ON
	X	S-11	12 16 17	33	37			PA	- - - 95 —		SANE to me	ALIC EST With SIL dium SAN sand; 9%	T (SP- ND; fe\	-SM);	EPOSITS dense; gr es.	:Poorly- ray; wet	graded ; mostly fine
									- - - 100— - -		SILT	PARALIC (SP-SM); Im SAND	very c	lense	<u>S</u> :Poorly- <sub>(</sub> ; gray; we	graded et; mosti	SAND with ly fine to
		R-12	38 60	98	74				- 105_ - -								
-110110		S-13	50 (3")	200	200+				- 110_ - -		yellov SANE	vish browi ); some fi	n; wet; nes.	mos	AND (GC) tly GRAVE	EL; som	ense; ne fine
115115 									- 115_ - - - -								
		T *	CON	CI !!!	TAR	TC		ТН	IS SUMN	MARY AP	PLIES ONI	Y AT THE	E LOCA	ATION	ı		01155
~~~	IJĿ	LIA	CON	<b>SUL</b>	IAN	15,		. OF	THIS BO	DRING A	ND AT THE	TIME OF	DRILL	.ING.		Fl	GURE
GROUP							_	100	DOOKER	$\sim$ $\sim$ $\sim$ $\sim$ $\sim$ $\sim$							
		ctiv	ity Ro	oad.	Suit	e 10	3		CATIONS	S AND M	AY CHANG	SE AT THI	SLOC				
924	5 A		ity Ro	·-			3	WI	CATION: TH THE I	S AND M. PASSAGI		SE AT THI THE DA	S LOC TA	ATIOI	N	A	√-02 d

F	3OR	IN	GF	RECO	)RD	۱ ۱	PROJE				D-2 1	D'				NUMBER		BORING D 40 004
	CATION		٠ i `	,LUC	/	'	West I	Missic	on Ba	y Drive	Bridge	Replace	ment ART	SE	130 FINI:			R-19-002 SHEET NO.
			v Driv	e Bridge	over t	ha Sar	Diogr	Divo	\r							19/2019		
	IVIISSIO		אווט א	e briuge	overl	ne oar	ו טו <del>פ</del> עני			ETHOD		4	/1/2019	LOG	GED		CHEC	5 of 7 CKED BY
	Explora								ary W					AF			MA	
	IG EQUI		Т						NG DIA		TOTAL	DEPTH (	t) GROUN			DEPTH/E		ROUND WATER
CME	95							6/4	4		173.	5	0			<b>▼</b> 0.0 /	0.0	
	ING MET						NOTES											
Hamr	ner: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Bric	ige, P	ier 6, C	tr of Ea	st Pile.	ETR ~ 68	8%, N	<sub>60</sub> ~ (	68/60 * N	l ~ 1.1	3 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION A	ND CLASS	SIFICAT	TION
	_		S-14	50	150	170			PA	-		with most	SAND (GF	o); ver oarse	y den GRA	ise; dark g VEL and	rayish	I GRAVEL brown; wet; LES; some
			]	(4")		'''				_		55%	Gravel; 42	2% Sa	nd; 3	% Fines		
_125	125		2 15	12	47	E2				125_			of sampli			ated Borin	ıg R-19	9-002 at
	_		S-15	20 27	47	53				- -		dark	grayish br	own; v	wet; r	nostly fine	to coa	very dense; arse GRAVEL
										_		and (	COBBLES	i; little	fine S	SAND; few	/ fines;	nonplastic.
120	400									420								
_130	130									130_								
	_									_								
	_									_	$^{\prime}$							
										_								
			S-16	41	121	137												
		$\sim$	4	46 75						40-								
_135	135									135_								
	_									-	LL N							
	_									_	h>_							
			S-17	10	99	112			PA			SIIT	(ML): ver	v dens	e: ar	av: wet: m	ostlv fi	ines; few fine
		$\swarrow$	ļ	39 60					PI				D; low pla		-, 5''	,,, 111		
_140	140			-						140_		90%	Fines; 10	% San	ıd			
	_									_								
										_		LL=3	6; PL=26;	PI=10	)			
	_									_							··	
	_									-	人》							very dense; arse GRAVEL
-145	145									145_	4							nonplastic.
	_									_								
										_								
		$\geq$	S-18	50 (2")	200+	200+				_	$\mathbb{I}^{-1}$							
	_			`-'						-								
			. <del></del>						<u> </u> , Ттн	IS SUMA	MARY AP	PLIES ON	LY AT THE	E LOC	ATION	, T	=	
				CON			_		• OF	THIS BO	DRING A	ND AT TH	E TIME OF MAY DIFFI	DRIL	_ING.		F	IGURE
	924	5 A	ctiv	ity Ro	oad,	Suit	e 10	3	LO	CATION	S AND M	AY CHAN	GE AT THI	S LOC				A 00
				•	-								E. THE DA ATION OF		CTUA	<sub>L</sub>	1	A-02 e
		odii	DIE	ego, C	ハフ		ı					UNTERE						

Р	3OR	INC	3 F	RECC	)RD	۱ ۱	PROJE			. Di	Dalalaa	DI				IUMBER -	BOR	
	CATION						vvest i	VIISSIC	on Ba	y Drive	Briage	Replacer	nent IRT		130E FINIS			-19-002 ET NO.
			/ Driv	e Bridge	over t	he Sar	n Diego	Rive	r				1/2019			9/2019		of 7
DRILLIN	IG COM	PANY	,	go	LI	Jul				ETHOD		1 -1/	.,_010	LOG	GED B		CHECKED	
Baja l	Explora	ation						Rot	ary W	/ash				AR	RB		MAF	
DRILLIN	IG EQUI	PMEN	Т					BORII	NG DIA	l. (in)	TOTAL	DEPTH (f	) GROUN	D ELE	/ (ft)	DEPTH/E	LEV. GROU	ND WATER
CME								6/4	4		173.	5	0			<b>▼</b> 0.0 /	0.0	
	NG MET		_	00.			NOTES		. –		–			20/ 11	_	0.000 # 1.1	4 40 **	
Hamn	ner: 14	·0 lbs.	., Dro	p: 30 in.	(Auton	natic)	Rigr	it Bric	lge, P	ier 6, C	tr of Ea	st Pile. I	= IR ~ 68	3%, N <sub>e</sub>	<sub>50</sub> ~ 6	8/60 * N	~ 1.13 * [	N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON AN	ND CLASS	IFICATION	
_155	155 155 160		S-19	50 (6")	100	113				155		with S mostl	AND (GF	oarse	dens	se; dark g /EL and (	graded GR. rayish brov COBBLES;	vn; wet;
_165  170	—-165 —- —- —-		S-20	30 37 50	87	98			PA	165		wet; r some		to coa D; little	arse ( e fines	GRAVEL s; nonplas	ery dense; and COBB stic.	
		×	S-21	50 (4")	150	170				- -		mostl		oarse			dense; olive e fine SANI	
_175	175 									175_ - -		Groui Borin	m of borel ndwater e g terminat	ncount ted at p	tered olanne	at 0 feet. ed depth.		
	— —									_		the C	Boring Re altrans Sc Intation M	oil & Ro	ock Lo	ogging, C	accordano lassification	ce with
				CON ity Ro			_		OF SU	THIS BO	ORING AI	PLIES ON ND AT THE DITIONS N AY CHANG	TIME OF	DRILL ER AT (	ING. OTHEI		FIG	JRE
				go, C	-				WI PR	TH THE	PASSAG D IS A S	E OF TIME IMPLIFICA JUNTERED	. THE DA	·ΤΑ			A-C	)2 f

							PROJE	CT NA	MF					PROJECT	NUMBER	•	BORING
E	3OR	IN(	G F	RECC	ORD					y Drive	Bridge	Replacer	nent	SD130		`	R-19-002
	CATION		رام ا	o Dridgo	over th	an San	Diogr	Divo				STA		FINI	<b>sн</b> 19/2019	n	SHEET NO.
	IG COM		y Diiv	e Bridge	overu	ie Sari	Diego	DRILL	ING M	ETHOD		4/	1/2019	LOGGED			7 of 7 CKED BY
	Exploration Explor		т —						ary W		TOTAL	DEDTH /#	CROUN	ARB D ELEV (ft)	DERTU	MA	AF ROUND WATER (ft
CME		r IVILIA	•					6/4		L. (III)	173.		0	D ELEV (II)	▼ 0.0		IROUND WATER (II
	NG MET		Dro	p: 30 in.	/Auton	natio)	NOTES	3		ior 6 C	tr of Ea	et Dilo E	TD ~ 69	3%, N <sub>60</sub> ~			12 * N
Папп	1161. 14	פמו טי	., Dio	Ī	Auton	lauc)	Rigi	IL DITC	ige, r		u oi La	ISCFIIE. L	.110 - 00	70, 14 <sub>60</sub>	00/00	IN ** 1.	13 11
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>09</sup>	MOISTURE (%)	(pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION A	AND CLAS	SSIFICAT	<b>FION</b>
	Ш	Ϋ́S	S	8.6	m m		2	DRY		٥							
- - -	_									- - -		trestle above hollow 123 fe	bridge de the mudi v-stem au et below	line. The bo ger from th the mudlin	was loca oring wa e bridge e. Howe	ated abo s initially deck d	out 12 feet y cased using own to about
	 185									185_				hat elevation			
												10-fee	t north of		line of P	ier 6R (	outside of the
L												sampi	e at the n	illed to the lew boring	location	was col	lected at a
-	_									_		depth Thie r	of 125 fe elocated l	et below th boring was	e mudlir ∈grouted	ne (Sam I full dep	ple No. S-15). oth.
1	_									_							
_190	190									190_							
-	_									_							
-	_									_							
-	_									_							
}	_									_							
195	<u></u> -195									195_							
_										_							
-	_									-							
3-	_									_							
200 200	— —-200									200_							
200	200									200-							
_205	20 <u>5</u>									205_							
3   -	_																
<u> </u>	_									-							
-	_									-							
-	_									_							
\!				CON			_		• OF	THIS BO	DRING A	ND AT THE	TIME OF	E LOCATION DRILLING. ER AT OTHE		F	IGURE
5				ity Ro go, C	-			3	LO WI PR	CATIONS TH THE I ESENTE	S AND M PASSAG D IS A S	AY CHANG E OF TIME	E AT THIS . THE DA TION OF 1	S LOCATIO	N		A-02 g

		111					PROJE	CT NA	ME					PROJECT	Г NUMBI	ĒR	BORING
	SUK OCATION		א כ	RECC	RD		West I	Missio	on Bay	y Drive	Bridge Re	placem		SD13	0E IISH		R-19-003 SHEET NO.
West	t Missic	n Bay	/ Driv	e Bridge	over th	he Sar	n Diego						2/2019		/25/20		1 of 7
	NG COM								_in <b>g m</b> tary W	ETHOD				LOGGED	BY		CKED BY
	Explora NG EQUI		Г						NG DIA		TOTAL DE	PTH (ft)	GROUNE		) DEPT		AF GROUND WATER (fi
CME	95 ING MET	THOD					NOTES	6/4	4		179.5		0		▼ 0	.0 / 0.0	
I '			, Dro	p: 30 in.	(Auton	natic)	1 '		lge, P	ier 7, 3'	NE of Ea	st Pile.	ETR ~	68%, N <sub>6</sub>	o ~ 68/0	60 * N ~	1.13 * N
eet)	N <sub>C</sub>	/PE	Ŏ.	TION NCE 6 IN)	Į.		2	È	~	et)	U						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>o</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CL	ASSIFICA	TION
- - - - - 5 -										5 —		brown; nonpla		stly fine to	o mediu	m SAND	, some fines;
- -10 - - - -	10 10 		S-1	2 2 4	6	7			PA	- 10 — - - - 15 —		(SM); I fine SA Sample	LIC ESTU oose to m ND; som e contains avel; 64%	nedium d le fines; r s a trace	ense; da nonplast of shell	ark gray; ic; micac fragmen	TY SAND wet; mostly ceous. ts.
SD SD130E BORING LOGS.GPJ GDCLOG.GDT 5/3/19	20 		S-2	4 7 3	10	11				20 —			very darl				; medium AND; few fines;
GBC_LOS_BORING_MMX_SOLL_SD_SD_30E_BORING_MX_SOLL_SD_SD_30E_BORING_MX_SOLL_SD_SD_SD_SD_SD_SD_SD_SD_SD_SD_SD_SD_SD_	25 		S-3	4 9	14	16			PA	25 — - - -		mostly micace	fine SAN	ID; little fi	nes; tra	ce GRA\	gray; wet; /EL; nonplastic;
GBG	) I IP	DF	ΤΔ	S CON	SIII.	L TΔN	TS	INC	   <u>                                  </u>		IARY APPLI					ı	FIGURE
							_		SU	<b>BSURFA</b>	ORING AND	TONS M	AY DIFFE	R AT OTH	IER		IOUIL
Ō				ity Ro go, C	·-			13	WI <sup>*</sup> PR	TH THE I ESENTE	S AND MAY PASSAGE C D IS A SIMF IS ENCOUN	F TIME. PLIFICAT	THE DAT	ГΑ			A-03 a

BORING RECORD	PROJECT NAME			PROJECT NUMBE	
SITE LOCATION	West Mission	Bay Drive Bridge Re	placement	SD130E FINISH	R-19-003 SHEET NO.
West Mission Bay Drive Bridge over the S	an Diego River		4/22/2019		
DRILLING COMPANY	DRILLIN	IG METHOD		LOGGED BY	CHECKED BY
Baja Exploration  DRILLING EQUIPMENT		ry Wash	(v)	SRN	MAF
CME 95	6 / 4	G DIA. (in) TOTAL D 179.5	EPTH (ft) GROUN	` '	TH <i>IELEV.</i> GROUND WATER (fi .0 / <i>0.0</i>
SAMPLING METHOD	NOTES	170.0		- 0	.07 0.0
Hammer: 140 lbs., Drop: 30 in. (Automatic	) Right Bridge	e, Pier 7, 3' NE of Ea	st Pile. ETR ~	68%, N <sub>60</sub> ~ 68/6	60 * N ~ 1.13 * N
DEPTH (feet)  ELEVATION (feet) SAMPLE TYPE SAMPLE TYPE SAMPLE NO. PENETRATION RESISTANCE (BLOWS / 6 IN) BLOW/FT "N"	MOISTURE (%) DRY DENSITY (pcf)	DEPTH (feet) GRAPHIC LOG	DES	CRIPTION AND CLA	ASSIFICATION
S-4 4 17 19		35	SAND with SIL wet; mostly fine	T (SP-SM); mediue SAND; few fines	se; dark gray; wet;
S-5-1 2 5 6  S-5-2 3 5 6		PA 40	1% Gravel; 839  Fat CLAY with little fine SAND	% Sand; 16% Fine	black; wet; mostly fines;
8LFG 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	35.5 87	50 —		SM); loose; very d me fines; nonplast	lark gray; wet; mostly ic.
GG	F	PA	medium SAND		gray; wet; mostly fine to plastic; micaceous.
GROUP DELTA CONSULTA 9245 Activity Road, Sui San Diego, CA 9212	te 103	THIS SUMMARY APPL OF THIS BORING AND SUBSURFACE CONDI' LOCATIONS AND MAY WITH THE PASSAGE ( PRESENTED IS A SIMI CONDITIONS ENCOUN	AT THE TIME OF FIONS MAY DIFFE CHANGE AT THI OF TIME. THE DA PLIFICATION OF	DRILLING. ER AT OTHER S LOCATION TA	FIGURE A-03 b

F	ROR	INIC		RECC	)RD	ı .	PROJE									NUMBER		BORING
	CATION		יו כ	·LOC			West I	Missic	n Bay	/ Drive	Bridge Re	olacem STAI			130E			R-19-003 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over tl	he Sar	Diego					4/2	22/2019			25/2019		3 of 7
	NG COM Explora								.ing m ary W	ETHOD /ach				LOGO		3Y	CHEC	CKED BY
	IG EQUI		Γ						NG DIA		TOTAL DE	PTH (ft)	GROUNE			DEPTH/E		ROUND WATER (
CME	95 ING MET	1100					NOTES	6/4	4		179.5		0			<b>▼</b> 0.0 /	0.0	
			, Dro	p: 30 in.	(Auton	natic)	1		lge, P	ier 7, 3	NE of Eas	st Pile.	ETR ~ 6	68%,	N <sub>60</sub> -	~ 68/60	* N ~	1.13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>N</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTI	ON AI	ND CLASS	SIFICAT	TION
- - - - - 65										65 —		(SM); I	LIC ESTU medium d m SAND;	lense;	dark	gray; we	t; mos	
- - - 70 - - - -	70 70 		S-8	5 7 10	17	19						SITLY	SAND (S fine SAN	SM); m ID; sor	iediur me fii	m dense; nes; nonp	dark g olastic;	ıray; wet; laminated.
	80		S-9	4 6 6	12	14			РА	80 —		dense; SAND;	graded S gray to d few fines	lark gr s; non	ray; w plasti	vet; mostl ic; trace r	ly fine	— — — — — — medium to medium
- - - 	85 									85 —								
	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATIONS TH THE I ESENTE	MARY APPLII DRING AND CE CONDIT S AND MAY PASSAGE O D IS A SIMP IS ENCOUN	AT THE IONS M. CHANG F TIME. LIFICAT	TIME OF I AY DIFFEI E AT THIS THE DAT	DRILL R AT ( S LOCA TA	ING. OTHE ATION	R N		IGURE A-03 c

	BORING RECORD PROJECT NAME West Mission Bay Drive Bridge Replacement SD130F BORING R-19-003																			
E	INC	G F	RECC	RD	1				Bay Drive Bridge Replacement					E	,	R-19-003				
SITE LC	CATION	1								START				FINI			SHEET NO.			
West	Missic	n Ba	y Driv	e Bridge	over t	he San	Diego			4/22/201					25/2019	9	4 of 7			
	NG COM									IG METHOD							KED BY			
	Explora NG EQUI		-							ry Wash			SRN GROUND ELEV (ft) DEP			MAF PTH <i>IELEV.</i> GROUND WATER (ft				
CME		PIVICIN	•					6 / 4		G DIA. (in) TOTAL DEPT 179.5				ID ELEV (π)	<b>▼</b> 0.0		OUND WATER (II			
	ING MET	HOD					NOTES		+		179.	၁ ၂	0		<u> </u>	1 / 0.0				
Hami	mer: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 7, 3	NE of I	East Pile.	ETR ~	68%, N <sub>60</sub>	~ 68/60	) * N ~ 1	.13 * N			
DEPTH (feet)	ELEVATION (feet) SAMPLE TYPE SAMPLE NO. PENETRATION RESISTANCE (BLOWS / 6 IN) BLOW/FT "N"  No. No. No. OTHER TESTS DEPTH (feet)									GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION									
- - - - - -			S-10	4 4 7	11	12			PA	95 —		SAND wet; m	with SIL ostly fin	UARINE DEPOSITS:Poorly-graded Γ (SP-SM); medium dense; dark gray; to medium SAND; few fines; nonplastic. 6 Sand; 10% Fines						
- - - - -100 - -	100 									- - - 100— -		SILT at mostly	nd GRA fine to r	C DEPOSIT VEL (SP-Si nedium SAI COBBLES;	M); very ND; little	dense; g	SAND with ray; wet; parse			
- 105 - 105 - 105 - 110 - 110 - 110	105   110		R-11	50 (3")	200	200+				- 105— - - - 110—										
GBC_LOG_BORING_MMX_SOIL_SD_SD130E_BORING_LOGS.CPJ	 115 									- 115— - - -										
GRO	GROUP DELTA CONSULTANTS, INC. 9245 Activity Road, Suite 103 San Diego, CA 92126										DRING AN ACE CON S AND MA PASSAGI ED IS A SI	ND AT THE ' DITIONS MA AY CHANGE E OF TIME.	TIME OF AY DIFFI E AT THI THE DA	E LOCATION F DRILLING. ER AT OTHE IS LOCATION ATA THE ACTUA	ER N		GURE A-03 d			

		INIC		RECC	, DD		PROJE	CT NA	ME					PROJECT		ER	BORING		
SITE LO			יו כ	CCC	טאנ		West I	Missic	on Bay	y Drive	Bridge	Replacem	cement SE		130E FINISH		R-19-003 SHEET NO.		
West	Missio	n Bay	/ Driv	e Bridge	over th	he San	Diego	Rive	er				22/2019		1/25/2019		5 of 7		
	IG COM									NG METHOD				LOGGED BY		CHECKED BY MAF			
											Rotary Wash BORING DIA. (in) TOTAL DEPT				) DEP1		AF GROUND WATER (f		
	CME 95 6										179.5 0				▼ 0	.0 / 0.0			
	SAMPLING METHOD  Hammer: 140 lbs., Drop: 30 in. (Automatic)  Right Brid										, Pier 7, 3' NE of East Pile. ETR ~ 68%, N <sub>60</sub> ~ 68/60 * N ~ 1.13								
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>Z</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION							
-	_									- -		SAND mostly fine SA	OLD PARALIC DEPOSITS: SILTY GRAVEL with SAND (GM); very dense; dark grayish brown; wet; mostly fine to coarse GRAVEL and COBBLES; some fine SAND; some fines; nonplastic.  44% Gravel; 27% Sand; 29% Fines						
	—-125 —-		S-12	19 50 (5")	79	89			PA	125_ - - -		SILTY brown; nonpla	wet; mos	ith GRAV	— — — EL (SM :AND; li	— — — — ); very de ttle fines;	ense; gray Iittle GRAVEL;		
130	130   135		S-13	19 35 36	71	80				130— 135— -		CLAYE mostly plastici	fine SAN	 ) (SC); ve ID; some	— — — ry dens fines; tı	e; dark o ace fine	live gray; wet; GRAVEL; low		
	  140 									- 140_ - -			fines; litt	— — — — D (ML); ve le fine SA			olive gray; wet; EL; low		
	145 145 		S-14	20 26 28	54	61			PA	- 145 - - -		5% Gra	avel; 20%	ն Sand; 7	5% Find	es			
GRC	GROUP DELTA CONSULTANTS, INC. 9245 Activity Road, Suite 103 San Diego, CA 92126										DRING A CE CON S AND M PASSAG D IS A S	PLIES ONLY ND AT THE IDITIONS MA IAY CHANGE IE OF TIME. IMPLIFICAT DUNTERED.	TIME OF AY DIFFE E AT THIS THE DA	DRILLING R AT OTH S LOCATION	i. IER ON	I	FIGURE A-03 e		

	BOR		G R	RECC	RD	1	PROJE West I			y Drive	Bridge I	Replace		SD13	T NUMBE	R	BORING R-19-003 SHEET NO.
West DRILLII Baja DRILLII CME	Mission NG COM Explora NG EQUI	on Bay PANY ation PMENT		e Bridge	over t	he San	Diego	Rot BORII	ING M ary W NG DIA		<b>TOTAL</b> 179.	DEPTH (	(22/2019 (1) GROUNI	LOGGE SRN	4/25/201 D BY	CHE	6 of 7 CKED BY  AF GROUND WATER (ft)
Hami	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 7, 3	NE of E	East Pile	. ETR~	68%, N	<sub>60</sub> ~ 68/6	60 * N ~	1.13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N <sub>0</sub>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	I AND CLA	ASSIFICA	TION
- - - -155 - - - -160 - - -	155 160 160 		S-15	28 49 150	199	200+				- - 155— - - 160— - -		GRA	PARALIC VEL (SM); ); little fine	very der	nse; gray	brown; v	wet; mostly fine
GDCLOG.GDT 5/3/19			S-16	43 50	143	162			PA	- - - 170_		fines nonp	VELLY SIL few fine S astic. Gravel; 8%	SAND; so	ome GRA	VEL and	; wet; mostly d COBBLES;
GBC_LOG_BORING_MMX_SOIL_SD SD130E BORING LOGS.GPJ GDCLOG.GDT 5/3	175 		S-17	(3") 50 (4")	150	170				- - - 175— - - -		very	dense; dar D; little fine	k gray; v	vet; most	ly fine to	VEL (SP-SM); medium COBBLES; few
GRO				CON ity Ro					oF SU	THIS BO	ORING AN	ND AT TH DITIONS I	LY AT THE E TIME OF MAY DIFFE GE AT THIS	DRILLING R AT OT	G. HER	ŀ	FIGURE

9245 Activity Road, Suite 103 San Diego, CA 92126

SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED.

A-03 f

							PROJE	CT NA	ME				1	PROJECT	NUMBE	D	BORING
E	3OR	INC	3 F	RECC	<b>)</b> RD	۱ ۱				v Drive I	Bridge	Replacem		SD130		:K	R-19-003
	CATION											STAI	RT	FINI	SH		SHEET NO.
West	: Missic	on Bay	/ Driv	e Bridge	over th	<u>าe San</u>	Diego			ETHOD		4/2	22/2019	4/  LOGGED	25/201		7 of 7
	Explor								ary W					SRN			AF
	NG EQUI	PMEN	Γ						NG DIA	l. (in)	1	DEPTH (ft)		ELEV (ft)			GROUND WATER (ft
CME SAMPL	95 ING MET	THOD					NOTES	6/4	4		179.	.5	0		<b>▼</b> 0.	0 / 0.0	
Hami	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	Righ	t Bric	lge, P	ier 7, 3'	NE of	East Pile.	ETR ~	68%, N <sub>60</sub>	~ 68/6	80 * N ~	1.13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	zº	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION A	AND CLA	ASSIFICA	TION
- - - 185 - -										- - - 185— - -		Ground Boring This Bo the Ca Preser NOTE: trestle above	dwater er terminate oring Rec Itrans Soi ntation Ma : The bor bridge de the mudli	il & Rock I anual (201 ing was di eck, which ne. The b	d at 0 fend depended	eet. oth.  d in acco g, Classif  om the co cated ab as case	ordance with fication, and onstruction out 11 feet d from the the mudline.
- 190 - - -	190 									190_							
195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 - 1 195 -	195  									195 - - -							
SD SD130F BORING LOGS GD1 5/8/3	200 									200_							
	205  									205							
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO IBSURFA CATIONS TH THE F ESENTE	DRING AI CE CON S AND M PASSAG D IS A S	PLIES ONL' ND AT THE IDITIONS MA AY CHANGI E OF TIME. IMPLIFICAT DUNTERED.	TIME OF AY DIFFE E AT THIS THE DAT TON OF T	DRILLING. R AT OTHI LOCATIO A	ER N	ſ	FIGURE A-03 g

		1817		·F-0-0			PROJE	CT NA	ME					PROJEC	T NUMB	ER	BORING
SITE LO			א כ	RECC	טאט		West I	Missic	n Bay	/ Drive	Bridge Re	placen		SD13	0E lish		R-18-001 SHEET NO.
			/ Driv	e Bridge	over th	ne San	Diego	Rive	er				/27/201		113F1 2/7/20	18	1 of 6
DRILLIN Baia	G COMI Explora									ETHOD	ger / Mud	Potani	,	LOGGE	BY	CHE	CKED BY
DRILLIN			Г						NG DIA		TOTAL DI				) DEP		ROUND WATER (
CME		HOD					NOTES	6/4	4		173		0		<b>▼</b> 0	0.0 / 0.0	
			, Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 2, C	tr of East	Pile. E	TR ~ 68	3%, N <sub>60</sub> ~	68/60	* N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	og Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION	AND CL	ASSIFICA	TION
 										- - -		mostly	fine to n	ILTY SAN nedium gr sea shell	ained Ś		
5 -  	5  	$\times$	S-1-1 S-1-2	P	0	0				5 — - -		CH: ve	ery soft; o SC: Very	dark gray;	wet; hiç rk gray;	gh plastic mostly fi	∕ SAND (SC). ity; PP < ¼ ne SAND;
10	—-10 —-		S-2-1 S-2-2	P 4 4	8	9				 10  		interbe gray; v micac	edded wit wet; most eous. CH	th Fat CL/	AY with AND; so t; dark o	SAND (Č me fines; gray; wet;	SAND (SM) CH). SM: loose; nonplastic; few fine
- 15 - - -	—-15 —-		S-3-1 S-3-2	2 4 4	8	9				- 15 — - -		CH: T	race SAN	ID; micac	eous.		
20	—-20 —-		S-4-1 S-4-2	3 4 6	10	11			PA	- 20 — - -			ledium de Sand; 38%				
 25 - 	—-25 —-		S-5-1 S-5-2	P 3 4	7	8				- 25 — - -							
-	_		S-6-1	4						_		Fat Cl	 -AY (CH)		 ded with	 SILTY S	 SAND (SM).
	924	5 A	L <b>TA</b> ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BOBSURFACATION TH THE ESENTE	MARY APPL DRING AND ACE CONDITS S AND MAY PASSAGE OF ED IS A SIMITAL	ES ONL AT THE TIONS M CHANG OF TIME PLIFICA	Y AT THE TIME OF IAY DIFFE E AT THI THE DA	E LOCATIO DRILLING ER AT OTH S LOCATION	ON G. HER ON	Γ	FIGURE A-04 a

	30R	INIC	3 R	RECC	)RD		PROJE							PROJECT			BORING
	OCATION		J 1 V	LUC			West	Missic	on Bay	y Drive	Bridge R	eplacem star		SD130			R-18-001 SHEET NO.
			, Driv	e Bridge	over th	ne Sar	n Diego	Rive	r				(27/201		2/7/2018		2 of 6
DRILLI	NG COM	PANY	y Dilv	e bridge	OVEI II	ie Gai	Diego			ETHOD		11/	21/201	LOGGED		CHEC	CKED BY
Baja	Explor	ation						Hol	low S	tem Au	iger / Mud	d Rotary		TSL		MA	Æ
DRILLI	NG EQUI	PMEN <sup>-</sup>	Т						NG DIA				GROUN	D ELEV (ft)	DEPTH/E	LEV. G	ROUND WATER (f
CME								6/4	4		173		0		<b>▼</b> 0.0 /	0.0	
	ING MET						NOTE										
Ham	mer: 14	lo lbs.	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 2, 0	ctr of Eas	t Pile. E	TR ~ 68	3%, N <sub>60</sub> ~ (	68/60 * N	l ~ 1.1	3 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>N</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION A	IND CLASS	SIFICAT	TION
		> <	S-6-2	8	17	19			PA								
-  -  -	<u> </u>			9						- - -		interbe wet; litt TSF. S nonpla:	dded wit le SANE M: medi stic; mic	); high plas um dense; aceous (58	AND (SM) ticity; mica gray; wet; % Fines;	. CH: s aceous ; some 42% S	soft; dark grey; s; PP = ¼ fines; and)
- 35	— —-35	X	S-7-1 S-7-2 S-7-3	5 4	8	9			PA	35 <u> </u>		SILTY some fi	SAND (S ines; no	SM); loose; nplastic (67 ————	gray; wet '% Sand; : - – – –	; most 33% F	ly fine SAND; ines). ——————
-	_		5-7-3	4						-	-	loose; o	dark bro ty. CH: s	ML) interbe wn-gray; w soft; dark gr asticity; mic	et; some f ay; wet; tı	ine SA race to	few fine
- -40 -	40	X	R-8-1 R-8-2	9 17 24	41	31	26.5	98		- 40 — -		mediun	SAND (SAND) (SAND) fine SAN	————— SM); dense ; some fine ND.	; gray; we s; nonplas	t; mos	tly fine to
- - -45	  45		R-9-1 R-9-2	4 5 5	10	8	53.9	66	PA PI	- - 45 —		high pla	- — — — AY (CH) asticity; : nes; 6%		gray; wet; ; PP = ½ ·	; few fi - ½ TS	ne SAND; F.
1/24/19										-			PL=27,				
GBC, LOG, BORING MMX, SOIL, SD, SD130E BORING LOGS, GPJ, GDC, COG, GPJ, CDC, CDG, GPJ, CDC, CDG, CDG, CDG, CDG, CDG, CDG, CDG	50		S-10-1 S-10-2	8 11 23	34	38			PA	50 —		CLAY ( SAND; CH: so PP = ½	(CH). SÌ some fi ft; dark ç ZTSF.	/l: dense; d nes; nonpla gray; wet; h	ark gray; vastic; mica igh plastic	vet; m	; few shells.
E BORING LC		X	S-11-1 S-11-2	13 19	39	44				-		-SANDY	/ SILT (I	; 37% Fine: ML); dense D; low plas	dark gra		mostly fines; s.
55   55   55   55   55   55   55   5	55 		11-2	20						55 — - -		brown-	gray; we	————— SAND with ot; mostly fir c; micaceo	ne to med	- SM); ( ium SA	dense; AND; few
OKING MIN		X	S-12	7 12 12	24	27								SM); mediu ne fines; no			wet; mostly eous.
GRO				CON ity Ro			-		OF SU	THIS B BSURF	ORING AN ACE COND	D AT THE '	TIME OF AY DIFFE	LOCATION DRILLING. ER AT OTHE S LOCATION	R	F	IGURE

9245 Activity Road, Suite 103 San Diego, CA 92126

SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED.

A-04 b

F	ROR	INIC	3 E	RECC	)RD		PROJE								NUMBER		BORING
	CATION		יו כ	LUC			West	Missic	on Bay	y Drive	Bridge Re	placement	S	D130			R-18-001 SHEET NO.
			/ Driv	e Bridge	over tl	he Sar	n Diego	Rive	er			11/27/20	18		/7/2018		3 of 6
DRILLI	NG COM	PANY						DRILL	ING M	ETHOD			LOC	GGED E		CHEC	KED BY
	Explor		_								ger / Mud			SL		MA	
CME	NG EQUI	PMEN	•					6 / 4	NG DIA	. (in)	173	EPTH (ft) GROU	ND ELE	EV (ft)	<b>▼</b> 0.0 /		ROUND WATER (
	ING MET	HOD					NOTE		+		173	0			¥ 0.07	0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	ier 2, C	tr of East	Pile. ETR ~ 6	88%, N	<b>1</b> <sub>60</sub> ∼ 6	8/60 * N	l ~ 1.1	3 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG	DE	SCRIPT	TION A	ND CLASS	SIFICAT	ION
- - - -65 - - - - -	65 65 70		S-13	3 7 9	16	18						PARALIC ES (SM); medium some fines; no	ı dense	e; gray	; wet; mo		
- - - 75 -			R-14	26 42 50 (4")	102	77	24.3	103	PA	- - 75 —		SILTY SAND mostly fine to micaceous. 85% Sand; 15 Dark gray; mo	mediu	m SAN es.	ND; little f	ense; d ines; no	ark gray; wet; onplastic;
- - - 80 -	80									80 —							
-  	85 		S-15	15 15 15	30	34				- 85 — - - -		Blue-gray; mo	ostly fin	ne to m	edium S <i>i</i>	AND.	
GRO				CON ity Ro			_		OF SU	THIS BOBSURFA	ORING AND	IES ONLY AT TH AT THE TIME O TIONS MAY DIFF CHANGE AT TH	F DRIL	LING. OTHE	R		IGURE
				go, C					PR	ESENTE	PASSAGE ( ED IS A SIMI NS ENCOUN	OF TIME. THE D PLIFICATION OF NTERED.	THE A	CTUA	_	/	4-04 c

		INIC		RECC	חסו	1	PROJE								T NUMBE	R	BORING
	CATION		רו כ	CCC	טאנ		West I	Missic	on Bay	/ Drive	Bridge Re			SD13	NISH		R-18-001 SHEET NO.
			, Driv	e Bridge	over ti	ho San	Diego	Rive	ır			START	7/2018		งเอก 1 <i>2/7/</i> 201	18	4 of 6
DRILLIN	NG COM	PANY	/ DIIV	e bridge	OVEI II	ie Gai	Diego	DRILL	ING M	ETHOD		11/2		OGGE			CKED BY
	Explora							Hol	low S	tem Au	ger / Mud			TSL		M	٩F
	IG EQUI	PMEN	Γ						NG DIA	. (in)	TOTAL DE			LEV (f	- 1		GROUND WATER (
SAMPLI	95 ING MET	HOD					NOTES	6/4	4		173		0		<b>▼</b> 0.	0 / 0.0	
l '			, Dro	p: 30 in.	(Auton	natic)	1		lge, P	ier 2, C	tr of East I	Pile. ETF	२ ∼ 68%,	N <sub>60</sub> -	- 68/60	* N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>Z</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESCRII	PTION	I AND CLA	ASSIFICA	TION
- - - - - -95		<u> </u>	S-16	20 24 25	49	55				- - - - 95 —		(SM); der SAND; lit	ttle fines; r	gray; nonpla  ND (S	wet; mos astic; mic 	stly fine t caceous. 	TY SAND o medium  pht gray; wet;
- - - - -100										- - - 100_							
- - - 105 -			S-17	24 25 27	52	59			PA	- - 105_ - -		GRAVEL to coarse sub-roun	SAND; li	ry der ttle fin	nse; light nes; little	gray; we fine GRA	et; mostly fine
- - - -110 - - - - - -	 110 									- - 110_ - -							
- 115 	— —-115	$\times$	S-18	32 50 (6")	100	113				- 115_ -		very dens		vet; m	nostly fine		VEL (SP-SM); ium SAND;
										- - -			raded SAN ; mostly fi				very dense;
4	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO Wi	THIS BOBSURFACATION TH THE	MARY APPLI ORING AND ACE CONDIT S AND MAY PASSAGE O ED IS A SIMP	AT THE TII IONS MAY CHANGE A F TIME. T	ME OF DR ' DIFFER A AT THIS LO HE DATA	ILLING AT OTI DCATI	G. HER ON		FIGURE A-04 d

F	ROR	INI		RECO	)RD		PROJE							1		NUMBER	R	BORING
	CATION		<u> </u>	·LOC			West I	Missic	on Bay	y Drive	Bridge I	Replacem		SD	130E			R-18-001 SHEET NO.
			y Driv	e Bridge	over tl	ne San	Diego					11	/27/201			/7/2018		5 of 6
	NG COM Explora									ETHOD	aer / Mi	ıd Rotary		LOG	GED E	3Y	CHE	CKED BY
	IG EQUI		Т						NG DIA			DEPTH (ft)	GROUN			DEPTH		ROUND WATER (
CME	95 ING MET						NOTES	6/4	4		173		0			<b>▼</b> 0.0	0.0	
			., Dro	p: 30 in.	(Auton	natic)	1		lge, P	ier 2, C	tr of Ea	st Pile. E	TR ~ 68	3%, N <sub>e</sub>	<sub>50</sub> ~ 6	8/60 *	N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>2</b> 00	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON AI	ND CLA	SSIFICA	TION
- -	_			50						-		with SI	ARALIC LT and ( fine to n	GRAVE	EL (S	P-SM);	very de	ed SAND nse; gray; wet; EL.
- 125 - - -	125 		S-19	50 (3")	200	226				- 125— - - -		Poorly gray; v	-graded vet; mos	SAND tly fine	with to me	SILT (S	6P-SM); SAND.	very dense;
—130 - - - - - - -135	130 									130— - - - 135—		very de		ay; wet	; mos	tly fine		VEL (SP-SM); um SAND;
- -	_									-		fines; s	Y SILT (I some fine 3/4 - 21/4	e SÁNI				ay; mostly
- 140	140	X	S-20	13 20 28	48	54			PA	-		56% F	ines, 44º	% San	d			
- - -140 - - - - - -145	140 									140_ - -		very de		ay; wet	; mos	tly fine		VEL (SP-SM); um SAND;
- 145 	145 145									- 145_ -			-graded vet; mos					very dense;
-	_									_ _ 		very de	-graded ense; gra ne to coa	ay; wet	; mos	tly fine	nd GRA' to medi	VEL (SP-SM); um SAND;
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BOBSURFACATION TH THE ESENTE	ORING AN ACE CON S AND M PASSAGI ED IS A SI	PLIES ONL ND AT THE DITIONS M AY CHANG OF TIME. MPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THI THE DA TON OF	DRILLER AT ( S LOC/ TA	ING. OTHE ATION	R N		FIGURE A-04 e

E	BOR	INC	G F	RECC	RD		PROJE West I			y Drive	Bridge	Replacem	ent	PROJECT SD130		R	BORING R-18-001
West	CATION : Missic	n Bay	/ Driv	e Bridge	over t			Rive	er	ETHOD		STAI		FINI	<b>sн</b> 2/7/2018		SHEET NO. 6 of 6
Baja DRILLII CME	Explora NG EQUI 95	ation PMEN	Г					Hol BORII 6 / 4	IOW S	tem Au		ud Rotary . DEPTH (ft)	GROUN 0	TSL ID ELEV (ft)	DEPTH	M	
	ng met mer: 14		, Dro	p: 30 in.	(Auton	natic)	NOTE: Righ		lge, P	ier 2, C	tr of Ea	st Pile. E	TR ~ 68	8%, N <sub>60</sub> ~ (	68/60 *	N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION A	ND CLA	SSIFICA	TION
- - - - -155		X	S-21	30 38 50	88	100				- - - 155–		very de fines; r	ense; bro nonplasti	ic; micaceo	vet; mos us.	stly fine	SANĎ; some
	155									155		verv de	ense: ara	SAND with ay; wet; mo arse GRAVE	stlv fine	nd GRA to medi	VEL (SP-SM); ium SAND;
- - -160 - - - - -	160 160 		S-22	13 31 39	70	79				- - 160- - - - 165-			vet; mos	SAND with tly fine to m			very dense; ew fines;
SD130E BORING LOGS.GPJ GDC.OG.GDT 1/24/19										- - - 170 - -		very de	ense; gra		stly fine		VEL (SP-SM); ium SAND;
GRC GRENGE BORING MAX SOIL SO STATES OF THE BORING GRENGE	175 									- 175_ - - - -		Ground Boring This Bo the Ca Preser <b>NOTE</b> : trestle mudlin from th	dwater e termina oring Re Itrans So tation M The bo deck, wh e. The b ne bridge	oil & Rock L lanual (201 pring was dr hich was lo poring was c	l at 0 fee ned depi repared .ogging, 0). rilled from cated at cased us n to abo	th. I in acco Classif m the co bout 11 sing holl out 74 fe	feet above the low-stem auger et below the
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO Wi PR	THIS BOBSURFACATION TH THE ESENTE	ORING AI ACE CON S AND M PASSAG ED IS A S	ND AT THE DITIONS M AY CHANG E OF TIME.	TIME OF AY DIFFE E AT THI THE DA	ER AT OTHE S LOCATIO	ER N	F	FIGURE A-04 f

B	OR	INIC		RECC	)RD		PROJE								NUMBER		BORING
SITE LO			٠ · ر	LOC			West	Missic	on Bay	y Drive	Bridge R	eplacement START	SL	D130			R-18-002 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over tl	he Sar	Diego	Rive	er			12/13/20	18	12	/15/2018	3	1 of 6
DRILLIN										ETHOD				GED E	3Y		CKED BY
Baja b	Explora G FOUI		г						NG DIA		ger / Mu	DEPTH (ft) GROU		SL V (ff)	DEPTH/E	MA	KF ROUND WATER
CME								6/4		()	172	0		- • (,	▼ 0.0 /		NOOND MAILN
SAMPLII			_				NOTE	S				, D., ETD (	00/ 1		20/00 # 1		10 + 11
Hamn	ner: 14	U IDS.	, Dro	p: 30 in.	(Auton	natic) 	Rigi	T Bric	ige, P	ier 3, C	tr of Eas	t Pile. ETR ~ 6	8%, N	N <sub>60</sub> ~ €	08/6U * N	l ~ 1.1	13 ° N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	"N" T=/WOTB	N N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG	DE	SCRIPT	ΓΙΟΝ A	ND CLASS	SIFICAT	TION
- - - - -5 -										- - - 5 —		ALLUVIUM: dense; gray; v fines; nonplas	vet; mo				
- - - 10		X	S-1-1 S-1-2	5 12 13	25	28			PA PI	- - 10 —		PARALIC ES (ML); loose; v. SAND; low pla PL=43, LL=27 SILTY SAND gray; wet; mos	ery dar asticity ', PI=10  (SM); I	k gray (66% 6  oose t	/; wet; mo Fines, 34	ostly fir I% Sar  n dens	nes; some fine nd). — — — — — — e; very dark
  15 -			S-2	5 7 12	19	22				- - 15 — -							
- - 20 -			S-3	2 1 3	4	5			PA	- 20 — -		Loose; trace s		es			
- 25 -		X	S-4	2 3 4	7	8				- 25 — -							
_	_		S-5	3					PA	-		Medium dens 75% Sand; 25			ı		
GRC	UP	DEI	LTA	CON	SUL <sup>*</sup>	TAN	TS.	INC	TH OF			LIES ONLY AT TH				F	IGURE
				ity Ro			_		SU	BSURF#	ACE COND	ITIONS MAY DIFF Y CHANGE AT TH	ER AT	OTHE		-	
•				go, C	-			, ,	WI <sup>*</sup> PR	TH THE ESENTE	PASSAGE	OF TIME. THE D	ATA			4	A-05 a

	200	1817					PROJE	CT NA	ME					PROJECT	NUMBE	R	BORING
	OCATION		א כ	RECC	RD		West I	Missic	n Bay	/ Drive	Bridge R	eplacem STAF		SD130			R-18-002 SHEET NO.
Wes	Missic	n Bay	/ Driv	e Bridge	over th	ne Sar	n Diego						/13/2018	12	2/15/20		2 of 6
	NG COM Explora									ETHOD	iger / Mud	l Rotary		LOGGED TSL	BY	CHE	CKED BY
DRILLII	NG EQUI		Г						NG DIA				GROUNE	ELEV (ft)		HELEV. G	ROUND WATER (ff
CME	95 ING MET	HOD					NOTES	6/4	4		172		0		<b>▼</b> 0.	0 / 0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	Righ	t Brid	lge, P	ier 3, 0	Ctr of East	Pile. E	TR ~ 68	%, N <sub>60</sub> ~ (	68/60 '	' N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>Z</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION A	ND CLA	SSIFICA <sup>-</sup>	ΓΙΟΝ
_			S-5	4 5	9	10				-		(SM); r SAND;	medium d some fin	es; nonpla	/ dark g astic.	ray; wet	mostly fine
_ 35	 35	X	S-6	8 11	23	26			PA PI	35 —		SANĎ;	Lean CL/ medium , LL=25, F	plasticity (	oft; dar (87% Fi	k gray; w nes; 13%	/et; little fine 6 Sand).
- - -				12						- - -				M); mediu D; some fi			dark gray; wet;
40 - -	40 		SH-7							40 — - -		SAND\ little fin	Y Fat CLA le SAND;	AY (CH); v high plast	ery soft ticity.	; very da	ark gray; wet;
- 45 - 45	45 	X	S-8	P P P	0	0				- 45 — -			ND; high	soft; very plasticity.		ay; wet;	trace to few
SD SD130E BORING LOGS.GPJ GDCLOG.GDT 1/24	50	X	S-9	6 7 10	17	19				- 50 — -							——————————————————————————————————————
	55 		R-10-1 R-10-2	10 15 21	36	27	32.4	91		- 55 — -							
GBC_LOG_BORING_MMX_SOIL		X	S-11	15						- -		Dense;	; gray; no	shells.			
GRO				CON ity Ro			_		OF SU LO	THIS B BSURF CATION	MARY APPI ORING AND ACE COND IS AND MA	O AT THE ITIONS MAY CHANGI	TIME OF I AY DIFFEI E AT THIS	DRILLING. R AT OTHE LOCATIO	≣R		FIGURE
				go, C	-				PR	ESENTI	PASSAGE ED IS A SIN NS ENCOU	IPLIFICAT			L		A-05 b

П		INIC		ECC	<u></u>		PROJE	CT NAI	ME					PROJECT	NUMBER		BORING
			ד כ	RECC	טאנ		West I	Missic	on Bay	y Drive	Bridge	Replacem		SD130	DE		R-18-002
SITE LOC			. Dais	a Delalara	41	ha Car	D:	Diva				STAI		FIN	<b>ізн</b> 2/15/2018	,	SHEET NO.
DRILLING	G COMI	PANY	Dilv	e Bridge	over u	ie San	Diego	DRILL	ING M	ETHOD		12	/13/201	LOGGED			3 of 6 CKED BY
Baja E	Explora	ation									ger / Mu	ud Rotary		TSL		MA	
DRILLING	G EQUII		Г						NG DIA		TOTAL	DEPTH (ft)	GROUN	D ELEV (ft)	DEPTH/E		ROUND WATER (f
CME 9		1105					NOTE	6/4	4		172		0		▼ 0.0 /	0.0	
SAMPLIN			Dro	p: 30 in.	(Autor	natic)	NOTES		lne D	ier 3 C	tr of ⊑o	st Pile. E	TR ~ 69	3% N ~	68/60 * N	]~11	3 * N
Tiaiiiii	101. 14	o iba.	, 510		(Auton		rtigi		ige, i	101 0, 0	I OI La	Striie. L	110 00	570, 1 <b>4</b> 60	00/00 1	1.1	10 11
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	, N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION	AND CLASS	SIFICAT	TION
  65 -			S-11	20 22	42	48				- - - 65 —		(SM); r	medium	UARINE I dense to d nes; nonpl	DEPOSITS ense; gray astic.	s: SILT	Y SAND mostly fine
 70 -  			S-12	7 13 15	28	32				- 70 — - - -							
75	75   80 		S-13	10 12 15	27	31			РА	75 — 80 —		60% S	and, 40%	% Fines			
85	85 		S-14	7						- 85 — - - -		Light g	ray; mos	stly fine to	medium S <i>i</i>	AND; li	ittle fines.
GRO			LTA	CON ity Ro			_		OF SU	THIS BOBSURFA	ORING AI	PLIES ONL' ND AT THE IDITIONS M. AY CHANG	TIME OF AY DIFFE	DRILLING ER AT OTH	ER	F	IGURE

9245 Activity Road, Suite 103 San Diego, CA 92126

OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED.

A-05 c

		INIC		RECC	חםו		PROJE								NUMBER		BORING
	CATION		יו כ	LCC	אוע		West I	Missic	on Bay	/ Drive	Bridge F	Replacemer START		D130			R-18-002 SHEET NO.
		-	/ Driv	e Bridge	over th	ne San	Diego	Rive	r				3/2018		/15/201	8	4 of 6
DRILLI	NG COM	PANY	, D.III	o Briago	0101 1	10 0411	Dioge			ETHOD		12/10		GED I			CKED BY
	Explora											d Rotary	l l	SL		MA	
	IG EQUI	PMEN	Г						NG DIA	. (in)		DEPTH (ft) G		EV (ft)			ROUND WATER
CME SAMPL	95 ING MET	HOD					NOTES	6/4	4		172		0		▼ 0.0	1 0.0	
Hamı	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	Righ	t Brid	lge, P	ier 3, C	tr of Eas	t Pile. ETF	R ~ 68%, N	<b>1</b> <sub>60</sub> ∼ 6	1 * 06/88	N ~ 1.1	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESCRIPT	ΓΙΟΝ A	ND CLAS	SIFICAT	rion .
- - - - - -95			S-14	8 18	26	29				- - 95 —		(SM); me	C ESTUARI dium dense edium SANI	e to de	nse: liah	t grav:	wet: mostly
- - - 100 -	100		S-15	18 24 24	48	54			PA	100		blue-gray	raded SANE v; wet; most d; 7% Fines	ly fine	SILT (SF to coars	P-SM); e SANI	very dense; D; nonplastic.
- - 105 - -	 105 									_ 105 _ _		SILT and	GRAVEL ( ne to mediu	SP-SN	M); very o	lense;	
- —110 - - -	110 110 									- 110_ - -							
- —115 - - -	115  									_ 115 - - -							
GRO				CON ity Ro			-		OF SU	THIS BO BSURFA	ORING AN	PLIES ONLY A ID AT THE TIP DITIONS MAY NY CHANGE A	ME OF DRIL ' DIFFER AT	LING. OTHE	:R	F	IGURE
				go, C					PASSAGE D IS A SI	E OF TIME. TI MPLIFICATIO JNTERED.	HE DATA				A-05 d		

							PROJE	CT NA	ME				1	PROJECT	NUMBE	R	BORING
			G F	RECC	RD	ı .				y Drive	Bridge R	eplacem		SD130		•	R-18-002
	CATION		. Deix	e Bridge	over ti	ho Son	Diogr	Dive				STAF		FINI	<b>sн</b> 2/15/20	110	SHEET NO.
DRILLI	NG COM	PANY	אווט ע	e briage	overu	ie Sai	Diego			ETHOD		12/	/13/2018	LOGGED			5 of 6 CKED BY
	Explor		_								ger / Mud			TSL	T	M/	
CME	NG EQUI	PMEN	•					6 / 4	NG DIA 4	. (in)	172	DEPTH (ft)	GROUNE 0	ELEV (ft)	1	H <i>IELEV.</i> G O / <i>O.O</i>	GROUND WATER (ft
SAMPL	ING MET						NOTES	3									
Hami	mer: 14	l0 lbs	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Bric	lge, P	ier 3, C	tr of Eas	t Pile. E	TR ~ 68	%, N <sub>60</sub> ~	68/60 3	* N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION A	AND CLA	ASSIFICA <sup>*</sup>	TION
- - - - -125										_ _ _ _ 125		SILT a	nd GRAV fine to m	<b>DEPOSIT</b> /EL (SP-SI edium SA	M); very	dense;	d SAND with gray; wet; coarse
_ - - -130			S-16	37 50 (6")	100	113			PA	- - 130—		fine to	EY SAND medium 9 and, 14%	SAND; littl	y dense e fines;	e; light gr nonplas	ay; wet; mostly tic.
2PJ GDCLOG.GDT 1/24/19	135 									135— - - - - 140—		gray; w	et; mostl	(SC) with y fine SAN ub-angula	ND; som	EL; very ne fines;	dense; light nonplastic; few
GBC_LOG_BORING_MMX_SOIL_SD_SD130E_BORING_LOGS.GPJ_GDCLOG.GDT_11/2	145 		S-17	7 17 19	36	41				- - 145— - - -		mostly  CLAYE brown-	fine SAN  EY SAND gray; wel	(SC); den ID; little fin (SC) with t; mostly fine GRAV	es; non GRAVI ne SAN	plastic.  EL; very	—————————dense; light
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATION TH THE	DRING ANI ACE COND S AND MA PASSAGE	D AT THE ITIONS MAY Y CHANGI OF TIME. MPLIFICAT	TIME OF AY DIFFE E AT THIS THE DAT	LOCATION DRILLING. R AT OTHE S LOCATIO FA HE ACTUA	≣R N		FIGURE A-05 e

BORING RECORD	PROJECT N						PROJECT		
SITE LOCATION	West Miss	sion Bay	Drive	Bridge F	Replacem STAF		SD130		R-18-002 SHEET NO.
West Mission Bay Drive Bridge over the S	an Diego Riv	iver				(13/2018		2/15/201	
DRILLING COMPANY	DRI	RILLING ME			•		LOGGED		CHECKED BY
Baja Exploration  DRILLING EQUIPMENT		Hollow St					TSL		MAF
*		RING DIA.	. (in)	l l	DEPTH (ft)		D ELEV (ft)	1	<i>IELEV.</i> GROUND WATER (f
CME 95 SAMPLING METHOD	NOTES	5 / 4		172		0		▼ 0.0	17 0.0
Hammer: 140 lbs., Drop: 30 in. (Automatic	) Right Br	Bridge, Pi	er 3, C	tr of Eas	t Pile. E	TR ~ 68	%, N <sub>60</sub> ~ (	68/60 *	N ~ 1.13 * N
DEPTH (feet)  ELEVATION (feet) SAMPLE TYPE SAMPLE NO. PENETRATION RESISTANCE (BLOW/FT "N"  BLOW/FT "N"	MOISTURE (%) DRY DENSITY	(pcf) OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION A	AND CLAS	SSIFICATION
			155		GRAVE	EL; very of some fire	dense; ligh	nt brown-	TEY SAND (SC) with gray; wet; mostly fine fine GRAVEL,
			-		CLAYE mostly	Y SAND	(SC); very ID; little fin	y dense; les; nonp	light brown-gray; wet; blastic.
-			160		brown-	gray; we		ne SAND	EL; very dense; light D; some fines; -angular.
			165_		CLAYE mostly	Y SAND	 (SC); very ID; little fin	y dense; les; nonp	light brown-gray; wet; blastic.
S-18 50 200 224	3		170		brown-	gray; we	t; mostly fi	ne to coa	L; very dense; light arse SAND; some L, sub-angular.
			- - -		Ground	lwater er	nole at 172 ncountered ed at planr	at 0 fee	
5 — 175 — -175 —			175_		the Cal	trans So		ogging,	in accordance with Classification, and
GROUP DELTA CONSULTA 9245 Activity Road. Su			- - -		NOTE: trestle l above t hollow-	The bor bridge de the mudl stem au below th	ing was dr eck, which ine. The bo ger from th	rilled fron was loca oring was ie bridge	n the construction ated about 11 feet s cased using deck down to about of 100 feet of auger
<b>GROUP DELTA CONSULTA</b> 9245 Activity Road, Su San Diego, CA 9212	te 103	OF SUE LOC WIT PRE	THIS BO BSURFA CATIONS TH THE F ESENTE	ORING AN ACE COND S AND MA PASSAGE ED IS A SIN	D AT THE DITIONS MA Y CHANGE OF TIME.	TIME OF AY DIFFE E AT THIS THE DA	R AT OTHE S LOCATIO	ER N	FIGURE A-05 f

	BOR		G R	RECC	RD		PROJE West I			/ Drive	Bridge Rep			SD13		R	BORING R-18-003 SHEET NO.
Wesi DRILLII Baja	Mission MG COMI Explora	n Bay PANY ation		e Bridge	over th	ne Sar	n Diego	DRILI Hol	ING MI		uger / Mud F	Rotary	/18/201	8  LOGGE   TSL		CHE	1 of 7 CKED BY
CME SAMPL	ING MET	HOD		p: 30 in.	(Autom	natic)	NOTE:	6 / ·			189 Ctr of East F		0		<b>▼</b> 0.	.0 / 0.0	GROUND WATER (ft
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>N</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION	I AND CLA	ASSIFICA	TION
- - - - -5 -	5		S-1	<b>66</b>	0	0				5 —		<b>ALLU</b> ' gray; v micace	vet; most	ILTY SA	ND (SM) AND; son	; very loo ne fines;	ose; dark low plasticity;
- 10 - - -	10		S-2	4 4 3	7	8				10 -	1.1111	(SM); I		rk gray;	wet; mos		ΓΥ SAND AND; some
DT 1/24/19 	15 		R-3-1 R-3-2	11 22 23	45	34	26.2	100		15 — - -		with Cl mostly micace	LAYEY S fine to m	SAND (Senedium Senedium Sened Senedium Senedium Se	C). SP-SI AND; fev	M: dense v fines; r	interbedded e; gray; wet; nonplastic; fine SAND;
9 - - 20 - 20	 20	X	S-4-1 S-4-2	2 3 2	5	6			PA	20 –		SAND	Y SAND some fir and; 27%	nes; low			ostly fine ous.
BORING LOGS.GP	_			2						- - -		SAND		osè; gray	; wet; fev		at CLAY with fine SAND; low
GBC_LOG_BORING_MMX_SOIL_SD_SD130E_BORING_LOGS.GPJ_GDCL.OG.GDT_1/2.	25 	X	S-5	15 21 23	44	50			%200	25 — -		light bl	ue-gray; nonplasti	wet; mo:	stly fine to		very dense; n SAND; few
SORING MA			R-6-1	14			21.5	71		- -			EY SAND some fir			rk gray; v	vet; mostly fine
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS B BSURF. CATION TH THE ESENTI	MARY APPLIE ORING AND A ACE CONDITI IS AND MAY ( PASSAGE OF ED IS A SIMPL INS ENCOUNT	T THE ONS M CHANG TIME. LIFICAT	TIME OF AY DIFFE E AT THIS THE DA	DRILLIN R AT OT S LOCAT TA	G. HER ION	F	FIGURE A-06 a

Е	30R	IN	G R	RECC	DRD		PROJE			v Drive	Bridge Re	nlacem	ent	PROJECT		₹	BORING R-18-003
SITE LO	CATION	1					VV C S C 1	VIIOGIC	711 Da	y Dilve	Diago No	STA		FINI			SHEET NO.
Wes	t Missic	n Ba	y Driv	e Bridge	over t	ne Sar	n Diego	Rive	r			12	/18/201		2/20/20		2 of 7
	NG COM									ETHOD				LOGGED	BY		CKED BY
	Explora NG EQUI		_								iger / Mud			TSL		M/	
		PIVIEN	•						NG DIA	A. (IN)	TOTAL DE	:PIH (ft)		ID ELEV (ft)	1		GROUND WATER (f
CME SAMPL	ING MET	HOD					NOTES	6/4 S	+		109		0		<b>▼</b> 0.0	7 0.0	
			., Dro	p: 30 in.	(Auton	natic)	Righ	nt Brid	lge, P	Pier 4, 0	Ctr of East I	Pile. E	TR ~ 68	8%, N <sub>60</sub> ∼	68/60 *	N ~ 1.	13 * N
(feet)	EVATION (feet)	TYPE	E NO.	ATION ANCE ( 6 IN)	<u>"</u> 2		J. L	DENSITY (pcf)	T.R.	(feet)	HIC						
DEPTH (feet)	ELEVA:	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>o</sup>	MOISTURE (%)	DRY DEN (pcf	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION A	AND CLAS	SSIFICA <sup>-</sup>	TION
			R-6-2		45	34						DADA	LIC EST	HADINE C	EDOCIT	'C. Doo	thy aradod
-				24						-		SAND to med	with SIL lium SAI	TUARINE D T (SP-SM) ND; few find blue-gray	; dense; es; nonp	gray; w	ry-graded et; mostly fine
	Ε		S-7	P	8	9						Fat CL plastic	AY (CH) ity. PP =	); medium : 1⁄4 - 1⁄2 TSF	stiff; dark	gray; v	vet; high
_35	35 		3-7	3 5		3				35 —		Lean C	CLAY wit AND; me	th SAND (C	CL); stiff; icity; high	dark gra	ay; wet; little iceous.
-	_									-		PP = 1	≨TSF				
_40			SH-8							40 _		Fat CL	AY (CH)	 ); medium : asticity; trac		gray; v	 vet; trace fine
			_							-		PP = 1		astroity, trac	oe ariena	•	
-												0.5					
45 _	45 		R-9-1 R-9-2	5 5 5	10	8	57.8	66		45 _		Soft. PP = ½	4 TSF.				
	_									-							
_50			S-10-1	7	19	22				50 —							
_50	30		S-10-2	11 8					PA			fine SA		me fines; n			wet; mostly eous.
										-		33 % 3	anu, 47	70 1 11103			
55	55	X	S-11	8 11 16	27	31				55 —	<u> </u>			SAND with			dense; light
-												g. ⊶ <i>J</i> , ¥	. 24, 11100	., 0 11	.ouiuiii C	<b>10</b> , 11	. — . 1 pr 1 see see 11 See
-		X	S-12-1	6						-				CLAY (CL); ID; medium			; mostly fines; ceous.
GR				CON			_		OF SU	THIS B	MARY APPLI ORING AND ACE CONDIT	AT THE TONS M	TIME OF AY DIFFE	DRILLING. ER AT OTH	ER	F	FIGURE
				go, C	-				WI PR	TH THE	IS AND MAY PASSAGE O ED IS A SIMP NS ENCOUN	F TIME. LIFICAT	THE DA	NΤΑ			A-06 b

F	ROR	INI	3 E	RECC	)BD		PROJE								NUMBER		BORING
	CATION		יו כ	LUC			West	Missic	on Bay	/ Drive	Bridge F	Replacement start	S	D130			R-18-003 SHEET NO.
West	Missio	n Bay	y Driv	e Bridge	over tl	he Sar	n Diego	Rive	er			12/18/20	18		/20/2018	3	3 of 7
DRILLII	NG COM	PANY						DRILL	ING M	ETHOD				GGED I	ВҮ		CKED BY
	Explora NG EQUI		т —						IOW S			d Rotary  DEPTH (ft) GROU		SL	DEDTU/S	MA	ROUND WATER
CME			•					6/4		. (111)	189	0	ND ELI	= (11)	<b>▼</b> 0.0 /		ROUND WATER
SAMPL	ING MET						NOTE	S				1		l			
Hamı	mer: 14 	0 lbs	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Bric	lge, P	ier 4, C	tr of Eas	st Pile. ETR ~ (	68%, N	√ <sub>60</sub> ~ €	68/60 * N	l ~ 1.1	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG	DE	SCRIP <sup>*</sup>	TION A	ND CLASS	SIFICAT	TION
- - - - -65 -	65 		S-12-2	14 16	30	34				- - - - 65 —		PARALIC ES SAND with S fine SAND; no	LT (SF	P-SM);	dense; li	: Poor ght gra	ly-graded ly; wet; mostly
-			D 40 4	11	60	47			D4	-		Fat CLAY wit few to little fir	n SANI e SAN	— — — D (CH) D; higl	); medium h plasticit	n stiff; o y; mica	 dark gray; wet; aceous.
—70 - -	70  		R-13-1 R-13-2	17 45	62	47	23.0	107	PA PI	70 — - -		Silty SAND (S mostly fine to 51% Sand; 49	mediu	m SAN	dense to ND; some	dense SANE	; gray; wet; ; nonplastic.
- - 75 -	 75									- 75 — -		Grades to Po dense; light g fines.	 orly-gra ray; we	— — — aded S et; mos	SAND with	n SILT medi	(SP-SM); um SAND; few
- - 80 -	80	X	S-14							- 80 — -		Sample distu	bed (s	ample	r packed)	ı <b>.</b>	
85	85 									- 85 — - -							
			S-15						Тты	IS SUMM	AARY API	PLIES ONLY AT TH	IE I OC	ATION	, T		_
GRO	DUP	DE	LTA	CON	SUL	TAN	ITS,	INC	. OF	THIS B	ORING AN	ID AT THE TIME C	F DRIL	LING.		F	IGURE
	924	5 A	ctiv	ity Ro	oad,	Suit	e 10	)3	LO	CATION	S AND MA	DITIONS MAY DIF NY CHANGE AT TI	HS LO				
				go, C					PR	ESENTE	D IS A SI	E OF TIME. THE D MPLIFICATION OF JNTERED.	ATA THE A	CTUA	L		А-06 с

		18.14				1	PROJE	CT NAI	ME					PROJ	JECT I	NUMBER	₹	BORING
SITE LO			jΚ	ECC	RD		West I	Missic	n Bay	/ Drive	Bridge F	Replace		SD	130 FINIS			R-18-003 SHEET NO.
			Driv	e Bridge	over th	ne San	Diego	Rive	r				art 2/18/201	18		л /20/20′	18	4 of 7
	IG COM						_			ETHOD	gor / Mu	ıd Rotar	,	LOG	GED I	BY.		CKED BY
DRILLIN	Explora IG EQUI		<u> </u>						NG DIA				( t) GROUN			DEPTH	MA <i>IELEV.</i> G	\ <del> -</del>  ROUND WATER (f
CME SAMPLI		HOD					NOTES	6/4	1		189		0			<b>▼</b> 0.0	0.0	
			, Dro	p: 30 in.	(Auton	natic)	1 '		ge, P	ier 4, C	tr of Eas	st Pile.	ETR ~ 6	8%, N	<sub>60</sub> ~ 6	88/60 *	N ~ 1.1	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>o</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	SCRIPT	ION A	ND CLAS	SSIFICAT	TION
- - - - - - - - - -			S-15	18 29 50 (2")	179	202				95 —		SANI most	O with SIL y fine to eous.	T (SP	-SM);	very de	nse; ligi	ly-graded nt gray; wet; nonplastic;
100 	100 			16 26		, ,				- - -		very	y-graded dense; graine to coa	ay; we	t; mos	stly fine	id GRA\ to medi	/EL (SP-SM); um SAND;
- - 105	  105									- 105		light	y-graded gray; wet; astic; mic	mostly	y fine	SILT (S to medi	iP-SM); ium SAN	very dense; ID; few fines;
- - - 110										- -		SILT	and GRA y fine to r	VEL (S	SP-SN	۸); very	dense;	d SAND with gray; wet; coarse
—110 · - -	—-110 — — —									110 _ _ _ _								
	115  		S-17-1	22	400	445				115— - - -		indur		•	- – - ; gray	- — — — ; wet; h	- — — — igh plas	ticity; strongly
-	_		S-17-2	50 (6")	100	113				_		SANI	OY SILT (	(ML); v	ery de	ense; gr	ay; wet;	mostly fines;.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		• OF SU LO WI PR	THIS BOBSURFACATIONS TH THE SENTE	ORING AN ACE CONI S AND MA PASSAGE ED IS A SI	ND AT THI DITIONS I AY CHAN E OF TIME	LY AT THI E TIME OF MAY DIFFI GE AT THI E. THE DA TION OF	F DRILL ER AT IS LOC ATA	LING. OTHE ATIO	R N		GURE A-06 d

	PR	OJECT NAME	<u> </u>			PROJECT NUMBE	R BORING
BORING RECO	וסות		Bay Drive E	Bridge Repla		SD130E	R-18-003
SITE LOCATION			-		START	FINISH	SHEET NO.
West Mission Bay Drive Bridge	e over the San Di		G METHOD		12/18/2018	12/20/20 LOGGED BY	18   5 of 7 CHECKED BY
Baja Exploration		Hollov	w Stem Aug			TSL	MAF
DRILLING EQUIPMENT			DIA. (in)		TH (ft) GROUND		HELEV. GROUND WATER (f
CME 95 SAMPLING METHOD	NO	6/4 DTES		189	0	₹ 0.	0 / 0.0
Hammer: 140 lbs., Drop: 30 in.	(Automatic) F	Right Bridge	e, Pier 4, Ct	r of East Pil	e. ETR ~ 68°	%, N <sub>60</sub> ~ 68/60 *	' N ~ 1.13 * N
DEPTH (feet) ELEVATION (feet) SAMPLE TYPE SAMPLE TYPE PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N" N <sub>60</sub>	MOISTURE (%) DRY DENSITY (pcf)	TESTS DEPTH (feet)	GRAPHIC LOG	DESC	CRIPTION AND CLA	SSIFICATION
- — — — — — — — — — — — — — — — — — — —			- - - 125		PLD PARALIC ense; gray; we lasticity.	<b>DEPOSITS</b> : SAN t; mostly fines; so	DY SILT (ML); very me fine SAND; low
S-18-1 40 S-18-2 50 S-18-2 50	200 226	į	PA _	s	at CLAY (CH); AND; high plas P = 4½+ TSF		wet; trace to few fine
			130	s	ANDY SILT (Mome fine SAND 6% Fines, 34%	); nonplastic.	ray; wet; mostly fines;
-135135 	200 226		135		ean CLAY (CL AND; medium	); hard; gray; wet; plasticity.	few to trace fine
S-19 45 50 (3")  S-19 45 50 (3")  S-19 45 50 (3")			140—]; ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	J b M w	ILTY SAND wi et; mostly fine RAVEL.	th GRAVEL (SM) SAND; little fines	; very dense; light gray; ; nonplastic; little
			145_  		ILTY SAND (S AND; some fin		ray; wet; mostly fine
GROUP DELTA CON 9245 Activity Re	200 226		- i				; very dense; gray; wet; astic; little GRAVEL.
GROUP DELTA CON 9245 Activity Ro San Diego, C	oad, Suite		OF THIS BOI SUBSURFAC LOCATIONS WITH THE P PRESENTED	RING AND AT CE CONDITIO AND MAY CH ASSAGE OF	ONLY AT THE THE TIME OF I NS MAY DIFFEI HANGE AT THIS TIME. THE DAT FICATION OF THE	DRILLING. R AT OTHER LOCATION A	FIGURE A-06 e

R	()R	INI	3 E	RECC	)BU	ı .	PROJE					_		- 1			NUMBER	BORING
			יו כ	,LUC	ハレ		West I	Missic	on Bay	/ Drive	Bridge			<u> </u>		130I		R-18-00
SITE LO			. D.:		II	C	D:	. D:					START	10040		FINIS		SHEET NO.
West DRILLIN	IVIISSIO	PANY In Bay	y Uriv	e Bridge	over ti	ne Sar	ו טego	י ייםח	ING M	ETHOD			12/18	/2018 	LOG		/20/2018 BY C	6 of 7
	Explora										ger / Mi	ud Rot	arv		TS			MAF
	G EQUI		Т						NG DIA				diy d(ft) GF	ROUND				MAF V. GROUND WATEI
CME								6/4		\·'	189		(10)			``''	<b>▼</b> 0.0 / 0.	
	NG MET	HOD					NOTES	3										
Hamn	ner: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	Righ	nt Bric	lge, P	ier 4, C	tr of Ea	st Pile	. ETR	~ 689	%, N <sub>e</sub>	<sub>50</sub> ~ 6	88/60 * N ~	1.13 * N
		111		Z m S	_													
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"		MOISTURE (%)	(pcf)	ഗ	DEPTH (feet)	ဋ							
Ĕ	VAT feet)		H	IST,	M	zº	STU (%)	) G	OTHER TESTS	) E	GRAPHIC LOG			DESC	RIPTI	ON A	ND CLASSIFI	CATION
Щ.	ELE)	MP	AM		Ĭ,		<u> </u>	DRY D	ö#	EP.	GR L							
	ш	S.	ر ا	5. 6			-	5		L								
												+						
-	_									_		OL	D PAR	ALIC I	DEPO	OSITS	S:SILTY SAI ne SAND; so	ND (SM); very
										_			nse; gra nplastic		., 11108	ouy III	IC SAIND, SC	ome imes,
												:	•					
ľ	_									_		:						
}	_									-		:						
-155	155									155_		1						
										_								
	_									-		1						
}	_	$\geq <$	S-21	50	120	136				-		:						
	_ [		]	(5")						_								
_160 <b>-</b>	160									160_		:						
-100	100									100		1						
}	_									-		:						
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	!									_		:						
	_									_								
-165	165									165_		:						
-	_									_								
												:						
				50								:						
}	_		S-22	50 (3")	200	226				-		Lig	ht gray	little t	o sor	ne fin	ies.	
-	_			\-						_			_ •					
_170	170									170_		]						
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				50								:						
ļ	_	><	S-23	(3")	200	226				_		Litt	tle fines					
}	_									_		:						
									<u> </u>		<u> </u>	<u> </u>					<u> </u>	
GRC	)UP	DE	LTA	CON	SUL	TAN	TS,	INC	TH F		IARY AP DRING A							<b>FIGURE</b>
				ity Ro			_		SU	BSURFA	CE CON	NOITION	IS MAY I	DIFFER	R AT (	OTHE		· <del></del>
				•	-			.J	WI	TH THE	S AND M PASSAG	E OF TI	IME. TH	E DAT	Α			A-06 f
	_		<b>-</b> :	go, C		400				<b>ESENTE</b>						TILAL		,

F	ROR	INIC		RECC	)RD	· I	PROJE								T NUMB	ER	BORING
SITE LO			ر ر ا				West I	Missic	on Bay	y Drive	Bridge	Replacen		SD13	30E INISH		R-18-003 SHEET NO.
			/ Driv	e Bridge	over tl	he San	Diego					12	/18/201		12/20/2		7 of 7
	IG COM Explora									ETHOD	aer / Mi	ud Rotary		LOGGE	D BY		CKED BY AF
	IG EQUI		Г						NG DIA			DEPTH (ft)			ft) DEP		GROUND WATER (1
CME	95 <b>NG MET</b>	THOD					NOTES	6/4	4		189		0		<b>▼</b> 0	.0 / 0.0	
			, Dro	p: 30 in.	(Auton	natic)			lge, P	ier 4, C	tr of Ea	st Pile. E	TR ~ 68	3%, N <sub>60</sub>	~ 68/60	* N ~ 1.	13 * N
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION	N AND CL	ASSIFICA	TION
- - - - -185 - -	185	<b>&gt;</b>	S-24	50 (5")	120	136				- - - 185— - -			; light gra				O (SM); very little fines;
—190 - -	190 									190 <u> </u>		Groun Boring This B the Ca	dwater e termina oring Re lltrans So	hole at 1 ncounter ted at pla cord was oil & Roc lanual (2)	red at 0 f anned de s prepare k Loggin	pth. ed in acco	ordance with rication, and
- 195 - -	 195 									195— - - -		NOTE trestle above hollow	: The bo bridge d the mud -stem au t below t	ring was eck, which line. The	drilled fr ch was lo boring v	ocated ab vas cased ge deck d	onstruction out 11 feet d using down to about feet of auger
- 200 - -	200 									200— - - -							
- - -200 - - - - -205 -										205 - - - -							
	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATION TH THE ESENTE	DRING AI ACE CON S AND M PASSAG ED IS A S	PLIES ONL ND AT THE DITIONS M AY CHANG E OF TIME. IMPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THI THE DA TION OF	DRILLINER AT OT S LOCAT	G. HER TON	ı	FIGURE A-06 g

		18.14		)F^^	<u> </u>		PROJE	CT NA	ME					PRO.	JECT N	NUMBER		BORING
	SOK DICATION		ר כ	RECC	JKU		West I	Missic	n Bay	/ Drive	Bridge Re	olacem STAF		SD	130I			R-15-001 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over t	ne Sar	Diego						3/2015		3/1	3/2015		1 of 8
DRILLI	NG COM	PANY							ING M ary W	ETHOD /ash				LOG	GED E	ЗҮ	CHE	CKED BY
	NG EQUI	PMEN	г						NG DIA		TOTAL DE	PTH (ft)	GROUN				ELEV. G	NF ROUND WATER (1
CME	85 ING MET	HOD					NOTE	8 S			223.5		0			<b>▼</b> 0.0	/ 0.0	
			, Dro	p: 30 in.	(Auton	natic)			%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1.4	0Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION AI	ND CLAS	SIFICAT	TION .
- - - - - - - - - -			S-1	233	6	8			PA	5 —		mediur shells. NOTE: Mission located was ca below t was us	The bon an Bay Dril about 2 sed from the mudli ed.	ring w ive Br of feet of the b ine. A	ID; litt	lled from deck. Th e the mu deck do of about	nonpla the ex e bridg idline. wn to a t 49 fee	mostly fine to stic; few sea sisting West e deck was The boring about 22 feet et of casing
15 - - - - 20 -	15   20									15 — 20 —		(ML); lo some f	oose to n ine grain	nediui ed S <i>A</i>	m den ND; I	ow plasti	; wet; n icity; m	y SILT nostly fines; icaceous.
- - - - - - - - - - - -			S-2	2 3 5	8	11			PA	- - 25 —		some f 1% Gra  Silty S/	ine grain avel; 33% - — — — AND (SM d SAND;	ed S <i>A</i> 6 San — — - 1); me	ND; t d; 669 	trace she % Fines; - — — - dense; g	ells; hig PP<¼ 	h plasticity.
- - -	- DUP	DEI	LTA	CON	SUL	TAN	TS,	INC	• OF	THIS BO	MARY APPLII	AT THE	TIME OF	DRILL	ING.		F	GURE
	924	5 A	ctiv	ity Ro	oad,	Suit	e 10		LO Wi PR	CATION: TH THE I ESENTE	ACE CONDIT S AND MAY PASSAGE O ED IS A SIMP NS ENCOUN	CHANGI F TIME. LIFICAT	E AT THIS	S LOC TA	ATION	١	,	A-07 a

	200	1816			<u></u>		PROJE	CT NA	ME					PROJEC1	NUMBI	ER	BORING
	SUK OCATION		ר כ	RECC	IRU		West I	Missic	on Bay	y Drive	Bridge	Replacem		SD13	OD IISH		R-15-001 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over tl	ne San	n Diego	Rive	er				8/2015	3	/13/20	15	2 of 8
DRILLII	NG COM	PANY							<b>₋ing m</b> tary W	ETHOD /ash				LOGGED TSL	BY		ECKED BY AF
DRILLI	NG EQUI	PMEN	г						NG DIA			L DEPTH (ft)	GROUNI	4	' I	H/ELEV.	GROUND WATER (f
CME	85 ING MET	HOD					NOTES	8			223	.5	0		<b>▼</b> 0	.0 / 0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =	1.40Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CL	ASSIFICA	ATION
-		X	S-3	7 2	4	6			PA	-		(SM); n SAND;	nedium d some fin	JARINE I lense; gra nes; low p 6 Sand; 4	ay; wet; lasticity	mostly f	ine grained
- 35 - -	35 			2						35 — - -		Sandy fine gra	SILT (ML ained SAI	_); loose; ND; low p	gray; w lasticity	et; mosti '.	y fines; little
- -40 - - - -	40 45		S-4	  1	1	1			PA PI	40 — - - - 45 —		fine SA	ND; high	plasticity Sand; 95	<i>/</i> .		otly fines; trace
GDCLOG.GD 1 1/24/19										- - - 50 —							vet; mostly fine caceous; trace
25 SOTSUD BOKING LOGS. GPJ GDCLOG. GD 1774	_	X	S-5	8 9 10	19	27			PA	- -		1% Gra	avel; 81%	ն Sand; 1	8% Find	es	
55	55  									55 — - - -							
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATION TH THE ESENTE	ORING A CE CON S AND M PASSAG D IS A S	PPLIES ONLY ND AT THE ' NDITIONS MA MAY CHANGE E OF TIME. BIMPLIFICAT DUNTERED.	TIME OF AY DIFFE E AT THIS THE DAT	DRILLING R AT OTH B LOCATION	i. IER ON		FIGURE A-07 b

E	3OR	INC		RECC	)RD	1	PROJE			. Drivo	Dridge [		ont.		JECT I	NUMBER	R	BORING R-15-001
	CATION						vvesti	VIISSIC	л Бау	Drive	bridge r	Replacem STAI		SL	FINIS			SHEET NO.
	Missic		/ Driv	e Bridge	over th	he San	Diego			ETHOD		3/8	3/2015	1.00	3/1 GED E	13/2015		3 of 8 CKED BY
Caso		FANI							ary W					TS		<b>)</b> [	M	
	NG EQUI	PMEN	Γ						NG DIA		1	DEPTH (ft)		D ELE	V (ft)		IELEV. C	GROUND WATER
CME	85 ING MET	HOD					NOTES	8			223.	5	0			▼ 0.0	/ 0.0	
			, Dro	p: 30 in.	(Auton	natic)	1		%, N <sub>6</sub>	<sub>0</sub> = 84/6	60 * N =1	.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION A	ND CLAS	SSIFICA	TION
- - - 65 - - - -	65 65 		S-6	7 8 10	18	25				- - - 65 — - - - 70 —		(SM); r	LIC EST nedium i SAND;	dense	; gray	ish brov	vn; wet	; mostly fine
- - - - 75			S-7	17 19 15	34	48				- - - 75 —		SAND; PP~¼  Poorly	high pla TSF 	esticity SAND	r; few	shells. - — — — silt (SP-	— — — SM); de	es; trace fine
- - - - - - - - - - - - - - -	80 80 85		S-8	10 14 16	30	42			PA	80 —			avel; 92° medium					
	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BOBSURFACATION TH THE ESENTE	ORING AN ACE CONI S AND MA PASSAGE ED IS A SII	PLIES ONL' ID AT THE DITIONS MAY CHANGI E OF TIME. MPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THI THE DA	DRILI ER AT S LOC TA	LING. OTHE ATION	R N		FIGURE A-07 c

ROR	INC	$\exists \ F$	RECC	RD	· I	PROJE				<b>.</b>					NUMBER		BORING
SITE LOCATION		<u> </u>	·LOC			West I	Missic	on Bay	y Drive	Bridge	Replacen		เรย	130			R-15-00' SHEET NO.
West Mission		/ Driv	e Bridge	over t	he Sar	Diego	Rive	ar.				3/2015			3/2015		4 of 8
DRILLING COM		יווט א	o Driuge	OVEI L	ic Jai	ו טו <del>ט</del> טוט ו			ETHOD		3/0	,, <u>ZUI</u>	LOG	GED E		CHEC	KED BY
Cascade								ary W					TS			MAF	
ORILLING EQU	PMEN	Т						NG DIA		TOTAL	DEPTH (ft)	GROUN			DEPTH/E/		ROUND WATER
CME 85							8			223	.5	0			<b>▼</b> 0.0 /	0.0	
SAMPLING ME		_	00.1			NOTES		0/ 1	0.440	0 # 11	4 4051 4						
Hammer: 14	IU Ibs	., Dro	p: 30 in.	(Auton	natic)	EIR	K = 84	.%, N <sub>∈</sub>	<sub>:0</sub> = 84/6	U ^ N =	1.40Nspt						
DEPTH (feet) ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON A	ND CLASS	IFICATI	ON
		S-9	11 13 14	27	38			PA	- - - 95 — - -		SAND coarse	with silt	(SW-S SANE	SM); d D; few	fines; no	y; wet;	mostly fine to
-100100 		R-10	24 35 40	75	70	22.1	101	PA DS	- 100— - - - 105— -	A A A	gray; v fines; ı	graded syet; most nonplasti avel; 94%	ly fine c.	to m	silt (SP-SI edium gra	- — — — M); ver iined S <i>i</i>	y dense; AND; few
	<b>&gt;</b>	S-11	60	120	168				- 110_ - - -		silt (SF fine to	P-SM) an	d cobb graine	oles; v	very dens	e; gray:	SAND with ; wet; mostly I and cobble;
115									- 115_ - - - -								
GROUP	DE	TA	CON	CI II	TAN	TC		ŢH.			PLIES ONL						CUBE
								•   OF   SU			ND AT THE IDITIONS M				R	FI	GURE
	- A	:	ity Da	<b>^</b> ~~	C i+	ച 1∩	13				AY CHANG						
924	5 A	CUV	ILY KC	Jau,	Juit	CIO	_				E OF TIME.				`	_	<b>∖-</b> 07 d

E	BOR	INC	G R	RECC	RD		PROJE West I			y Drive	Bridge Re	placem	ent		JECT I	NUMBER D	R	BORING R-15-001
	CATION		D :	- Dide								STA	RT		FINIS	SH	_	SHEET NO.
DRILLI	IVIISSIO	n Bay PANY	/ Driv	e Bridge	over ti	ne Sar	Diego			ETHOD		3/8	3/2015	LOG	GED I	13/2019 BY		5 of 8 CKED BY
Caso									ary W					TS			MA	
	NG EQUI	PMENT	Γ						NG DIA	l. (in)	TOTAL DI	PTH (ft)		ND ELE	V (ft)			ROUND WATER (ft
CME	85 ING MET	HOD					NOTES	8			223.5		0			₹ 0.0	0.0	
			, Dro	p: 30 in.	(Auton	natic)	1		%, N <sub>e</sub>	<sub>so</sub> = 84/6	0 * N =1.4	0Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	SCRIPT	ION A	ND CLA	SSIFICA	TION
-	_									- - -		with si	t (SP-S	M) and mediur	cobb n grai	īes; ver ned SA	ry dense	ed SAND e; gray; wet; ne gravel and
125 	125 									125_		brown; nonpla	wet; m	ostly fir	ne gra	ained S	AND; fe	ery dense; w fines; D with silt
_ 										130_		(SW-S		adou w	iai we	iii grade	50 O/ II V	y with one
-	_		R-12	26	120	112	29.5	92	PA	-		0% Gr	avel; 90	ı% San	d; 10'	% Fines	S	
	135 		112	60	120	112	23.3	32	DS	135_								
130 140	140									140_								
NG LOGS. GPJ	_									-		mostly		médiur	n grai	ned SA		e; gray; wet; ne gravel and
	145 145 		S-13	35 50	100	140			PA	145		mediui trace g	m graine	ed graii	ned S	AND; fe	ew fines	mostly fine to ; nonplastic;
\"	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO IBSURFA CATIONS TH THE F ESENTE	MARY APPLIDRING AND ICE CONDITES AND MAYPASSAGE COD IS A SIMPLE ENCOUN	AT THE TONS M CHANG OF TIME. PLIFICAT	TIME OI AY DIFF E AT TH THE D	F DRILL ER AT IIS LOC ATA	LING. OTHE ATIO	R N		FIGURE A-07 e

		INI			<u> </u>		PROJE	CT NA	ME					PROJ	IECT N	NUMBER		BORING
	DCATION		י כ	RECC	JKU		West I	Missic	on Bay	y Drive	Bridge F	eplacem		SD	130I			R-15-001 SHEET NO.
West	Missic	n Bay	y Driv	e Bridge	over t	ne Sar	Diego						3/2015		3/1	13/2015		6 of 8
Casc	NG COM	PANY							.in <b>G M</b> :ary W	ETHOD /ash				LOG	GED E	3Y	CHE	CKED BY
DRILLIN	NG EQUI	PMEN	Т						NG DIA			DEPTH (ft)	GROUN	_			LEV. G	ROUND WATER (f
SAMPL	85 ING MET	HOD					NOTES	8 3			223.5	j	0			▼ 0.0 /	/ 0.0	
			., Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1	.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	200	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION AI	ND CLASS	SIFICAT	TION
- - - - - -155										- - - 155_		with sil mostly	t (SP-SN	1) and rediun	cobb n grai	ned SAN	dense	d SAND ; gray; wet; ne gravel and
- - - -160										- - - 160		gray; w	graded S vet; most es; nonp	ly fine	with :	silt (SP-S edium gra		ry dense; grained SAND;
- - - 165	  165									- - 165_		dense;	gray; we	et; mo	stly fir	silt (SP-S ne to med ew fines;	dium g	d cobbles; very rained SAND; stic.
170 			R-14	33 60	120	112	20.4	107	PA DS	- - 170—		gray; w fines; t	graded S vet; most race grav avel; 91%	ly fine vel; no	to mo	edium gra stic.	6M); ve ained \$	ry dense; SAND; few
170   -   170   -   175   -   175   -   175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -     175   -       175   -     175   -     175   -       175   -       175   -       175   -       175   -       175   -         175   -         175   -         175   -										- - - 175_		wet; m		to me	edium	grained		ense; gray; ; some gravel
										- - -								nostly fines; plasticity.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATION: TH THE I ESENTE	DRING AN ACE COND S AND MA PASSAGE	LIES ONL' D AT THE DITIONS MAY Y CHANGI OF TIME. MPLIFICAT JNTERED.	TIME OF AY DIFFE E AT THIS THE DA	DRILL R AT S LOC TA	ING. OTHE ATION	R N		GURE A-07 f

F	ROR	INIC	- F	RECC	)RD		PROJE							PROJECT		
	CATION		J 1 V	·LOC			West I	Missic	on Bay	y Drive	Bridge	Replacem STAF		SD130		R-15-001 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over th	ne Sar	n Diego					3/8	/2015		13/201	
	NG COM	PANY								ETHOD				TSL	BY	CHECKED BY
Caso	iade 1 <b>G EQU</b> I	PMEN	г						ary W		TOTAL	DEPTH (ft)	GROUN	ND ELEV (ft)	DEPTH	MAF HELEV. GROUND WATER (fi
CME	85							8		- ()	223.		0	(,		0.0 / 0.0
	ING MET		_				NOTES		0/ 1	0.470	0 # 1.1	4 4001 4				
Hami	ner: 14	U IDS.	., Dro	p: 30 in.	(Auton	natic)	EIR	K = 84	%, N <sub>6</sub>	<sub>:0</sub> = 84/6	U " N =	1.40Nspt				
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N 09	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	SCRIPTION A	ND CLA	SSIFICATION
- - - -185 - - - - -	185		S-15	13 28 32	60	84			PA	- - 185— - - - 190—		very de SAND;	ense; gra low pla	ay; wet; mo:	stly fines	with sand (ML); s; some fine gradind
- - - - 195 - - - - - - - - - - - - - - - - - - -	195		R-16	50	100	93	25.4	98	PA DS	195		grained	SAND		nonplas	y; wet; mostly fine stic; trace shells.
- - - - - - - - - - - - - - - - - - -	200 		S-17	24 36	60	84			PA	200		some f gravel. gray; w nonpla	ine graii Interbe vet; mos stic.	ned SAND; edded with s	low plas silty SAN ned SAN	y; wet; mostly fines; sticity; few shells; trace ND (SM); very dense, ND; some fines;
205 	205  									205		some f cobble ————— SILT w	ine graii - — — — ith sand	ned SAND;	low plas	ny; wet; mostly fines; sticity; few gravel and gray; wet; mostly w plasticity.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATIONS TH THE F ESENTE	ORING A CE CON S AND M PASSAG D IS A S	ND AT THE DITIONS MA AY CHANGI E OF TIME.	TIME OF AY DIFFI E AT THI THE DA	E LOCATION F DRILLING. ER AT OTHE IS LOCATION ATA THE ACTUA	ER N	FIGURE A-07 g

F	3OR	INC		RECC	)RD	1	PROJE			. Dai	Dalabara I	<b>7</b>				NUMBER	R	BORING D 45 004
	CATION						west I	Missio	on Bay	y Drive	Bridge i	Replacem STAF		SD	130   FINIS			R-15-001 SHEET NO.
			/ Driv	e Bridge	over t	he San	Diego					3/8	/2015	1		13/201		8 of 8
Caso	NG COM ade	PANT							∟ing m tary W	ETHOD /ash				TS	GED E	3 <b>Y</b>	CHE M/	CKED BY
	NG EQUI	PMEN	Γ						NG DIA		l l	DEPTH (ft)	GROUN				I/ELEV. C	ROUND WATER (
CME	85 ING MET	HOD					NOTES	8			223.	5	0			<b>▼</b> 0.0	0.0	
			, Dro	p: 30 in.	(Auton	natic)			.%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1	I.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION A	ND CLA	SSIFICA	TION
- - - -215 - - - -	215									215		very de	ARALIC ense; gra ines; nor	ay; mo	ist; m	S: SILT ostly fin	with sa	ind (ML); ed SAND;
-  -  -	_	<b>&gt;</b>	S-18	100	200	280			PA	- - -		mostly mediur	fines; so n plastic	me gr itv. C	avel a	and cob fragme	oble; littl ent in sa	gray; wet; e fine sand; mpler inflated % Fines
225 	225 									- 225_ -		Ground Boring	of borel dwater e terminat	ncoun ted at	tered plann	at 0 ft. ed dept		
- - - -230										- - - 230—		the Cal		oil & R	ock L	ogging,		rdance with iation, and
- - -230 - - - - - - -235										-								
II.	235 									- 235_ - - -								
4				CON			_		OF SU	THIS BO BSURFA	ORING AN	PLIES ONL' ND AT THE DITIONS MA AY CHANGI	TIME OF AY DIFFE	DRILL R AT	JNG. OTHE	R	F	FIGURE
				go, C				, ,	WI <sup>*</sup>	TH THE I ESENTE	PASSAGE D IS A SI	E OF TIME. MPLIFICAT UNTERED.	THE DA	TA				A-07 h

		INI		RECC	<u> </u>	ı	PROJE									NUMBER		BORING
	CATION		ר כ	LUC			West I	Missic	n Bay	y Drive	Bridge Rep	lacem STAF		SD	130I FINIS			R-15-002 SHEET NO.
	Missio		/ Driv	e Bridge	over t	ne Sar	Diego			<b>ET.10</b>		8/2	/2015	1.00		7/2015	OUE	1 of 7
Casc	ade								.ing m ary W	ETHOD /ash				TS	GED E SL	<b>)</b>	MA	CKED BY \F
	NG EQUI	PMEN	Γ						NG DIA	. (in)	<b>TOTAL DEF</b> 193.5	TH (ft)		DELE	V (ft)			ROUND WATER (f
	ING MET						NOTES				•		0			<b>▼</b> 0.0	7 0.0	
Hamı	mer: 14	l0 lbs.	., Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>50</sub> = 84/6	0 * N =1.40	Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION AI	ND CLAS	SIFICAT	ΓΙΟΝ
- - - - 5 -										5		dense; some final Mote: Mission located was ult about 5	The bon Bay Dri Babout 2 I about 2	et; mo iplast ring w ive Br 8 feet cased elow t	stly fir ic. ras dri idge d : abov from the mu	ne to me lled fron leck. The the bride	n the ex ne bridg udline. ge deck	edium rained SAND; disting West e deck was The boring down to of about 80
- - - - - - - - - - - -	10 10 15									- 10 — - - 15 — -		(SM); lo		nediu ND; s	m der	ise; darl	gray; v	SAND wet; mostly c; micaceous;
20 	 20 									20 —		to dens		wet; r	nostly	fine to		edium dense n grained
20 25	25		S-1	14 13 10	23	32			PA	- 25 - - -		0% Gra	avel; 92%	% San	d; 8%	Fines		
GRO	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATION: TH THE I ESENTE	MARY APPLIED DRING AND A ICE CONDITION S AND MAY C PASSAGE OF D IS A SIMPL IS ENCOUNT	T THE ONS MA HANGE TIME. IFICAT	TIME OF AY DIFFE E AT THIS THE DA	DRILI R AT S LOC TA	LING. OTHE ATION	R N		FIGURE A-08 a

F	ROR	INC		RECC	)RD	ı .	PROJE									UMBER	R	BORING D. 4.5. 000
	CATION						west i	VIISSIC	on Bay	y Drive	Bridge R	epiacem STAF		SD1	FINIS			R-15-002 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over tl	he Sar	Diego			ETHOD		8/2	2/2015	LOGG		7/2015 RY		2 of 7
Casc	ade								ary W					TSL		,,	M	
	NG EQUI	PMENT	Г						NG DIA	. (in)	l l	DEPTH (ft)		ELEV	(ft)			GROUND WATER (f
CME SAMPL	NG MET	HOD					NOTES	8 3			193.5		0			₹ 0.0	0.0	
Hami	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>o</sub> = 84/6	0 * N =1.	40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	z <sup>o</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTIC	1A NO	ND CLA	SSIFICA	TION
- - - - - -35		X	S-2	6 10 5	15	21				- - - 35 —		SAND	LIC ESTU with silt ( fine grair	SP-SM	I): m	edium (	dense: d	rly graded gray; wet; plastic.
- - - -40 - -	40 		S-3	  	1	1			PA PI	- - 40 — - -		high pla	AY (CH); asticity; F avel; 4% PL=28, I	PP<¼ T Sand; s	rsf.		ay; wet;	mostly fines;
45 - 45 - 50 - 50 - 50 - 50 - 50 - 50 -	45   50									45 — - - - - 50 —		Silty S/ graded	- — — — - AND (SM SAND; I	— — — ittle find	— — ium es; lo	dense; ow plas	gray; w	et; mostly fine
GRC LOG-BORING MMX SOIL SD SD130D BORING LOGS:GD1 7129	55 55		S-4	10 9 9	18	25			PA	- - 55 — - - -		0% Gra	avel; 82%	ố Sand;	; 18%	% Fines	5	
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BOBSURFACATION TH THE ESENTE	MARY APPI DRING ANI ACE COND S AND MA PASSAGE D IS A SIM NS ENCOU	D AT THE ITIONS MAY Y CHANGI OF TIME. IPLIFICAT	TIME OF AY DIFFE E AT THIS THE DAT	DRILLII R AT O S LOCA TA	NG. THE TION	R I		FIGURE A-08 b

	OR	INIC		RECC	)RD		PROJE						_			NUMBER		BORING
SITE LOC			יו כ	LOC			West I	Missic	on Bay	/ Drive	Bridge Re	olacem STAF		SD	130			R-15-002 SHEET NO.
West M	/lissio	n Bay	Driv	e Bridge	over tl	he San	Diego					8/2	/2015			7/2015		3 of 7
DRILLING Cascad		PANY							.ing m ary W	ETHOD /ach				LOG	GED I	ВҮ	CHE	CKED BY
DRILLING		PMENT	•						NG DIA		TOTAL DE	PTH (ft)	GROUN			DEPTH/E		ROUND WATER
CME 8		HOD					NOTES	8			193.5		0			▼ 0.0 /	0.0	
			, Dro	p: 30 in.	(Auton	natic)			%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1.4	0Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N 09	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION A	ND CLASS	SIFICAT	FION
65	- - - - 65	X	S-5	6 8 9	17	24			PA	- - - 65 —		(SM); r SAND;	LIC EST nedium o some fir avel; 52%	dense nes; lo	; gray ow pla	sticity.	: Silty stly fir	SAND ne graded
70	  70    75		S-6	14 14 16	30	42				70 —		Poorly wet; m nonpla	ostly fine	SAND to m	with edium	silt (SP-S	- — — M); de SAND	ense; gray; ; few fines;
_80			S-7	16 16 20	36	50			PA	80 — - - - 85 — -		0% Gra	avel; 92%	∕6 San	d; 8%	o Fines		
	9245	5 Ac	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI	THIS BO BSURFA CATIONS TH THE I	IARY APPLI PRING AND CE CONDIT B AND MAY PASSAGE O D IS A SIMF	AT THE IONS MA CHANGI F TIME.	TIME OF AY DIFFE E AT THIS THE DA	DRILI R AT S LOC TA	LING. OTHE ATIO	R N		FIGURE A-08 c

			\ <u></u>		. 1	PROJE	CT NA	ME					PRO.	JECT I	NUMBER	₹	BORING
		G h	RECC	)RD		West	Missic	on Bay	/ Drive	Bridge R				130	D		R-15-002
SITE LOCATION West Miss		v Driv	o Bridgo	over t	ho Sar	Diog	. Divo	\r			STAF	RT 2/2015		FINIS	s <b>H</b> 7/2015		SHEET NO.
DRILLING CO	MPANY	y Diiv	e bridge	overu	ile Sai	Diego			ETHOD		0/2	72015	LOG	GED		СНЕ	4 of 7 CKED BY
Cascade	UDMEN	_						ary W		I			TS			MA	
CME 85	JIPIMEN	•					8 BOKII	NG DIA	. (IN)	193.5	DEPTH (ft)	GROUN 0	DELE	:V (ft)	<b>▼</b> 0.0		GROUND WATER
SAMPLING MI						NOTE	S							l		, , ,	
Hammer: 1	40 lbs	., Dro		(Auton	natic) I	ETF	₹ = 84	%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1.	40Nspt						
DEPTH (feet) ELEVATION	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž.	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	TON A	ND CLAS	SSIFICA	TION
		S-8 S-9	12 20 20 20	40	56			РА	95 —		with sil coarse 0% Gra		/I); ve SANI % Sar	ry den D; few nd; 8%	se; gray fines; r	y, wet; r	ed SAND mostly fine to tic.
	0								- 105— 110— - 115—		gray; w	graded set; most	lly fine	e to m	ediúm g	rained	es; very dense; SAND; some
	15 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATION: TH THE I ESENTE	MARY APPI DRING ANI ICE COND IS AND MA PASSAGE D IS A SIM IS ENCOU	D AT THE ITIONS MAY Y CHANGI OF TIME. IPLIFICAT	TIME OF AY DIFFE E AT THI THE DA	DRIL ER AT S LOC TA	LING. OTHE CATION	R N		FIGURE A-08 d

		1817			<u></u>		PROJE	CT NA	ME					PROJECT	NUMBE	R	BORING
	SUK DICATION		ר כ	RECC	RD		West I	Missic	n Bay	y Drive I	Bridge F	Replacem		SD130			R-15-002 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over tl	he San	Diego	Rive	r				2/2015		/7/2015	5	5 of 7
	NG COM	PANY		-			_			ETHOD				LOGGED	ВҮ		CKED BY
Casc DRILLIN	iade NG EQUI	PMEN	г						ary W NG DIA		TOTAL	DEPTH (ft)	GROUNE	TSL DELEV (ft)	DEPT	M. H/ELEV. (	AF GROUND WATER (ft
CME	85 ING MET	1100					NOTES	8			193.5	5	0		<b>▼</b> 0.	0 / 0.0	
			., Dro	p: 30 in.	(Auton	natic)			%, N <sub>6</sub>	<sub>so</sub> = 84/6	0 * N =1	.40Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	zº	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG	·	DESC	CRIPTION	AND CLA	ASSIFICA	TION
-										-	8	with sil mostly	t (SP-SM fine to co		bles; ve ned SA	ery dense	ed SAND e; gray; wet; e gravel and
- 125 -	 125 									125_ -		Silty Sa grained indurat	d SAND;	); very de little fines	nse; gra ; nonpla	ay; moisi astic; mo	t; mostly fine derately
- - - -130										130_		gray; w	et; mostl		nedium	grained	es; very dense; SAND; some
- - - - -135										135		grained		little fines			t; mostly fine nplastic;
- - -										-		gray; w	et; mostl		nedium	grained	es; very dense; SAND; some
SD SD130D BORING LOGS.GPJ GDCLOG.GDT 1/2/2	140 									140	9						
GRO GROUNG WWX SOIL SD SD1300 BOK	145 									145		graine		little fines			- — — — — — - t; mostly fine nplastic;
GRO	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO WI' PR	THIS BODIES THIS BODIES THE THE FREE THE THE FREE THE THE FREE THE THE FREE THE THE THE THE THE THE THE THE THE T	PRING ANCE COND S AND MAP PASSAGE D IS A SII	PLIES ONL' ID AT THE DITIONS MAY CHANGI E OF TIME. MPLIFICAT JNTERED.	TIME OF AY DIFFE E AT THIS THE DAT	DRILLING R AT OTH S LOCATION	ER DN	ſ	FIGURE A-08 e

		18 1 4					PROJE	CT NA	ME					PROJECT	NUMBI	ER	BORING
	BOR	INC	j K	RECC	RU		West I	Missic	n Bay	y Drive	Bridge F	Replacem	ent	SD130	OD		R-15-002
	CATION											STAF	₹T		ISH		SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over th	ne San	Diego			FTUOD		8/2	<u>2/2015</u>		/7/201		6 of 7
Casc		PANT							ary W	ETHOD				LOGGED	ь		CKED BY
	IG EQUI	PMENT	г						NG DIA		TOTAL	DEPTH (ft)	GROU	ND ELEV (ft	DEPT	M/ELEV.	SROUND WATER (ft
СМЕ	85							8		- ()	193.		0	(		.0 / 0.0	
1	ING MET						NOTES				•						
Hamr	mer: 14	0 lbs.	., Dro	p: 30 in.	(Auton	natic)	ETR	= 84	%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1	I.40Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	°9 N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DE	SCRIPTION	AND CL	ASSIFICA	TION
- - - - -155		<b>&gt;</b>	S-10	50  	100	140				- - - 155_		with sil mostly	t (SP-S fine to	C DEPOSI M) and cob coarse grai nes; nonpla	obles; voned SA	erv dense	ed SAND e; gray; wet; e gravel and
- - 160 - -	160 1		S-11	38 39 49	88	123			PA	160		mediur nonpla	n grain stic.	M); very de ed SAND; I	ittle fine	es; few gr	mostly fine to avel;
- - - - - - - - - - - - - - - - - - -	165 									165 - - - - 170		gray; w	et; mos	SAND (SF stly fine to r obles; little	nediúm	grained	es; very dense; SAND; some
GRC TOO BOX NO. SO 1300 BOX NO. CO. CO. CO. CO. CO. CO. CO. CO. CO. C			S-12	50  	100	140				- - - 175 - - -		mediur nonpla One-fo	n grain stic. ot thick	ed SAND; I	ittle fine	es; few gr	mostly fine to avel; encountered.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATIONS TH THE I ESENTE	ORING AN CE CONI S AND MA PASSAGE D IS A SI	ND AT THE DITIONS MA AY CHANGI E OF TIME.	TIME O AY DIFF E AT TH THE D.	IE LOCATIO F DRILLING ER AT OTH IIS LOCATIO ATA THE ACTU	IER ON		FIGURE A-08 f

F	 ≀∩R	INC	 7 F	RECC	)RD	١ ١	PROJE				<b>-</b>	<u> </u>		PROJEC		ER	BORING D 45 000
	DCATION		<u> </u>	<u></u>	<u>ハ、レ</u>		West	Missic	on Bay	/ Drive	Bridge	Replacem STAF		SD13	OD NSH		R-15-002 SHEET NO.
			/ Driv	e Bridge	over th	he Sar	ı Diego					8/2	2/2015		3/7/201		7 of 7
DRILLIN	NG COMI	PANY							LING M tary W	ETHOD /ach				LOGGE	) BY		ECKED BY
	NG EQUI	PMENT	г						NG DIA		ТОТА	L DEPTH (ft)	GROUNI		) DEPT		IAF GROUND WATER (f
CME								8			193		0	-	-	.0 / 0.0	•
	ING MET mer: 14		., Dro	p: 30 in.	(Auton	natic)	NOTES		.%, N <sub>6</sub>	<sub>:0</sub> = 84/6	0 * N =	1.40Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>N</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CL	ASSIFICA	ATION
- - - - -185 - - - -	185 190		S-13	8 13 22	35	49			PA	- - 185— - - - 190—		dense; little fin	ARALIC gray; we es; few g ravel; 72	et; mostly gravel; no	fine to o	coarse g ; trace s	(SM); very rained SAND; hells.
- -			S-14	11 21 27	48	67			PA PI	- -			avel; 68% PL~19, F		?7% Fine	es	
195 	195 									195 <u> </u>		Ground Boring	of boreh dwater er terminate	ncountere ed at plan	ed at 0 fi nned de	pth.	ordance with
5 - 5 - 200	  200									- - 200_		the Cal		il & Rock	Logging		fiation, and
200 - 200 - 205 - 205 - 205										_							
	205 									205_ - - -							
										_							
\!I	924!	5 Ac	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO IBSURFA CATIONS TH THE I ESSENTE	ORING A ACE CON S AND M PASSAG ED IS A S	PPLIES ONLY ND AT THE IDITIONS MA IAY CHANGI E OF TIME. IMPLIFICAT DUNTERED.	TIME OF AY DIFFE E AT THIS THE DAT	DRILLING R AT OTI S LOCATI FA	6. HER ON		FIGURE A-08 g

DOD					. 1	PROJE	CT NAI	ME				Т	PROJ	IECT	NUMBER		BORING
BORI	III	jΚ	KECC	טאנ		West I	Missic	n Bay	/ Drive	Bridge R			SD	130			R-15-00
TE LOCATION	_				_						STA			FINIS			SHEET NO.
West Missior	n Bay	Driv	e Bridge	over t	ne Sar	Diego	Rive	r INC 11	ETHOD		3/1	8/2015	1.00	3/2 GED	23/2015	CUE	1 of 8 CKED BY
Cascade	ANI							ary W					TS		БТ	MA	
RILLING EQUIP	MENT	•						NG DIA		TOTAL D	EPTH (ft)	GROUNE			DEPTH/E		NC ROUND WATER
CME 85							8		` ,	221.5	(,	0		- ()	<b>▼</b> 0.0		
MPLING METH						NOTES	3			•							
lammer: 140	) lbs.	, Dro	p: 30 in.	(Auton	natic)	ETF	R = 84	%, N <sub>6</sub>	<sub>o</sub> = 84/6	0 * N =1.	40Nspt						
DEPTH (feet) ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPT	ION A	ND CLAS	SIFICAT	TION
5 —-5 — — — ————————————————————————————									5		nonpla  NOTE  Missio located was ca below	gray; we stic; few s The born Bay Dri d about 30 sed from	et; mos shells ing w ve Br 0 feet the b ne. A	stly fi as dr idge o abov oridge	illed from deck. Th	the ex e bridg dline. wn to a	D; some fines; isting West e deck was The boring bout 13 feet
20		S-1	2 7 8	15	21			PA	20		(SM); r SAND; with sa fines; s	nedium d some fin Indy SILT	lense nes; n (ML) grain	; gray onpla ), med ned S	astic; few dium den AND; low	ostly fin shells. se; gra	SAND le grained Interbedded y; wet; mostly city; few shells
25 —-25 — — — —									25 — - - -								
GROUP I			CON ity Ro			-		• OF SU	THIS BO BSURFA	IARY APPL PRING AND CE CONDI S AND MA	AT THE	TIME OF AY DIFFE	DRILL R AT	JNG. Othe	₽		IGURE A-09 a

	ROP	INIC		RECC	)BD		PROJE					_				NUMBER		BORING
	DCATION		יו כ	LUC	יוע		West I	Missic	on Bay	/ Drive	Bridge Re	placem STAI		SD	130I FINIS			R-15-003 SHEET NO.
Wes	Missio	n Bay	/ Driv	e Bridge	over th	ne Sar	Diego			ETHOD		3/1	8/2015	LOG	3/2 GED E	23/2015	CUE	2 of 8 CKED BY
Caso	ade							Rot	ary W	ash				TS	SL		MA	\F
DRILLII	NG EQUI	PMENT	Γ					BORII 8	NG DIA	. (in)	<b>TOTAL DI</b> 221.5	EPTH (ft)	GROUNI 0	D ELE	V (ft)	<b>DEPTH/</b> E <b>▼</b> 0.0 /		ROUND WATER (f
SAMPL	ING MET		_				NOTES	3					<u> </u>			¥ 0.07	0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic) 	ETR	k = 84 	%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1.4	·0Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>o</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTI	ON A	ND CLASS	SIFICAT	ΓΙΟΝ
- - - - -35			S-2	699	18	25				- - - 35 —		(ML); le SAND; nonpla	oose; gra few GR/ stic to lov	ıy; we AVEL w plas	t; mos layers ticity;	s; small s micaced	; some shell fra ous. In	dy SILT fine grained agments; terbedded ts, micaceous.
- - - <u>4</u> 0 - -	40 		R-3	3 3 4	7	7	49.3	72	PA PI UC	40		fines; t	race fine avel; 4% PL=24,	SANI Sand;	D; hig ; 96%	h plastici	 ; gray; ty. PP	wet; mostly P∼1⁄2 TSF.
45 	45  50									45 — - - - 50 —		grained	d SAND;	little fi	ines;	nonplasti	ray; we	et; mostly fine aceous.
)  -  -		X	S-4	5 5 3	8	11			PA	-			avel; 86% - — — — - SILT (MI				 mostly	fines; some
50 - 55 - 55 - 55 - 55 - 55 - 55 - 55 -	55 55									- 55 — - -		fine gra fragme Interbe	ained ŠA nts; nonp	ŃD; fe olastic h Silty	ew GF to lo		yers; s ity; mic	small shell caceous.
GRO	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO	THIS BO BSURFA CATION:	MARY APPL DRING AND CE CONDIT S AND MAY PASSAGE O	AT THE TIONS M. CHANG	TIME OF AY DIFFE E AT THIS	DRILL R AT ( S LOC	.ING. OTHE	R		FIGURE A-09 b

		INIC		RECC	, DD		PROJE							PROJEC		ER	BORING
	CATION		יו כ	LCC	טאול		West I	Missic	n Bay	y Drive I	Bridge R	eplacem		SD13	OD vish		R-15-003 SHEET NO.
Wes	Missic	n Bay	/ Driv	e Bridge	over th	ne San	Diego					3/1	8/2015		3/23/20		3 of 8
Caso		PANT							ary W	ETHOD /ash				TSL	DBA		ECKED BY AF
	NG EQUI	PMEN	Γ					BORII	NG DIA		1	DEPTH (ft)		D ELEV (f	1	H/ELEV.	GROUND WATER (ft
CME SAMPL	. 85 ING MET	HOD					NOTES	8 3			221.5	)	0		₹ 0	.0 / 0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>io</sub> = 84/60	) * N =1.	.40Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CL	ASSIFICA	ATION
- - - -65 - - - -	65 65 		S-5	689	17	24			PA	65 —		mediur little fin	LIC ESTU n dense; les; nonp avel; 77%	gray; we lastic.	t; mostly	y fine gra	SAND (SM); nined SAND;
			S-6	12 14 16	30	42			PA	75 —		gray; w fines; r		ly fine to c.	medium	grained	ense; light SAND; few
SD SD130D BORING LOGS.GPJ GDCLOG.GDT 1/24	80 		S-7	12 14 16	30	42			PA	80 —		SAND;	AND (SM little fine avel; 85%	s; nonpla	astic.		ly fine grained
GBC LOG BORING MMX SOIL SD SIG										-			SILT (ML ained SA				ily fines; some sticity.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATIONS TH THE F ESENTE	RING ANI CE COND AND MAP ASSAGE DIS A SIM	LIES ONL' D AT THE DITIONS MAY Y CHANGI OF TIME. MPLIFICAT INTERED.	TIME OF AY DIFFE E AT THIS THE DAT	DRILLING R AT OTI S LOCATI TA	G. HER ON	ı	FIGURE A-09 c

F	ROR	INIC		RECC	)RD	_ I	PROJE					_				NUMBER	₹	BORING
	CATION		٠ I ر	LOC			West I	Missic	on Bay	/ Drive	Bridge Re	olacem STAF		SD	1301 FINIS			R-15-003 SHEET NO.
			/ Driv	e Bridge	over t	ne San	Diego					3/1	8/2015			23/201		4 of 8
	NG COM	PANY								ETHOD					GED E	3Y		CKED BY
Casc	iade I <b>G EQU</b> I	PMEN1	Γ						ary W		TOTAL DE	PTH (ft)	GROUNI	TS D ELE		DEPTH	MA NELEV. G	AF GROUND WATER (1
СМЕ								8			221.5		0			<b>▼</b> 0.0		•
	ng met mer: 14		, Dro	p: 30 in.	(Auton	natic)	NOTES		%, N <sub>6</sub>	<sub>o</sub> = 84/6	0 * N =1.4	ONspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N 09	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG						SSIFICA	
-		$\times$	S-8	4 10	22	31			PA	-		(ML); c	LIC EST lense; grander low plas	ay; we	et; mo	stly fine	es; som	dy SILT e SAND; trace ind; 68% Fines
				12								0% Gra	avel; 70%	6 San	d; 30 <sup>9</sup>	% Fines	3	<del>_</del>
- 95 - -	95 									- 95 — - -		SAND; with sa	somè fir	nes; n Γ (ML)	onpla ); den	stic; mio se; gray	caceous /; wet; n	y fine grained s. Interbedded nostly fines;
- 100 - -	100 1	X	S-9	4 1	7	10			PA PI	- 100- - -								), PL=23, PI=7) 
-				6					-	_		Silty sa	AY (CH): and (SM)	 ; very	dens	e; gray;	moist;	mostly fine to
105  	105 									105 - - -		OLD P (SM); \	ery dens	DEPose; gra	OSITS	<b>S</b> :Silty soist; mo	sand wit	istic. ith gravel to medium onplastic.
- - - -110 - - - - -115	110 									- 110_ - -			ostly fine					ense; gray; trace gravel;
	— —-115 —									- 115_ - -		- — — —				. <b>—</b> — —	. — — —	
  -    -										_		dense;		et; mo	stly fir	ne tò m	edium g	d cobbles; very grained SAND; astic.
.'	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATION TH THE ESENTE	MARY APPLII DRING AND , CE CONDIT S AND MAY PASSAGE O D IS A SIMP IS ENCOUN	AT THE IONS MA CHANGI F TIME. LIFICAT	TIME OF AY DIFFE E AT THIS THE DA	DRILL R AT S LOC TA	LING. OTHE ATION	R		FIGURE A-09 d

		INIC			<u> </u>		PROJE	CT NA	ME					PROJEC	T NUMBI	ĒR	BORING
	DCATION		ח כ	RECC	טאנ		West I	Missic	on Bay	y Drive	Bridge	Replacem		SD13	OD NISH		R-15-003 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over th	ne Sar	n Diego						18/2015		3/23/20		5 of 8
DRILLII	NG COM	PANY							.ing m :ary W	ETHOD /ach				TSL	D BY		ECKED BY
	NG EQUI	PMEN	г						NG DIA		TOTAL	DEPTH (ft)	GROUNI	1	t) DEPT		AF GROUND WATER (fi
CME		TIOD.					NOTE	8			221.	5	0		▼ 0	.0 / 0.0	
	ING MET mer: 14		. Dro	p: 30 in.	(Auton	natic)	NOTES		%. Na	. <sub>.</sub> = 84/6	0 * N =	1.40Nspt					
113					( 10.1011					0 - 11 -							
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	200	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CL	ASSIFICA	ATION
- - - - -125 - -										125—		with sil mostly	t (SP-SM	l) and co edium gi	bbles; verained S	ery dens	ed SAND e; gray; wet; me gravel and
	130		S-10	5 38 42	80	112			PA PI	130-		mostly plastici 3% Gra	lean CLA fines; so ity; weakl avel; 41%	me fine on the fine of the first terms of the first	grained sed.	SAND; tr	ish gray; moist; ace gravel; low
— 135 — 1374/19 — — — — — — — — — — — — — — — — — — —	135   140									135			AND (SM d SAND;				t; mostly fine
SD SD130D BORING LOGS.GPJ GDCLOG.GDT 1/24			R-11	50	100	93	32.2	88	PA	- - - 145—		0% Gra	avel; 78%	6 Sand; 2	22% Fine	es 	
GBC LOG BORING MMX SOIL SD ST	_									- - -			SILT (MI îne grain				st; mostly fines;
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO IBSURFA CATIONS TH THE F ESENTE	ORING AI CE CON S AND M PASSAG D IS A S	PLIES ONL' ND AT THE DITIONS MAY CHANGI E OF TIME. IMPLIFICAT	TIME OF AY DIFFE E AT THIS THE DAT	DRILLING R AT OTI S LOCATI FA	G. HER ON	ı	FIGURE A-09 e

P	3OR	INI	3 F	RECC	)RD	· I	PROJE				<u> </u>	_		1			NUMBER		BORING
	CATION		<u> </u>		<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		West I	Missic	on Bay	y Drive	Bridge	e Repla	STAR		SD	130			R-15-00
			v Driv	e Bridge	over t	he Sar	n Dieac	Rive	er					8/2015			23/2015		6 of 8
ORILLIN	IG COM	PANY	,		_ , _ ,			DRILL	ING M	ETHOD			<u> </u>	_,,		GED E		CHE	CKED BY
Casc									ary W		1				TS			M	<b>AF</b>
	IG EQUI	PMEN	Т						NG DIA	l. (in)		AL DEPT	ΓH (ft)		) ELE	V (ft)			GROUND WATER
CME SAMPLI	ਲਹ NG MET	HOD					NOTES	8 S			22	1.5		0			▼ 0.0 /	0.0	
Hamn	ner: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	ETF	R = 84	%, N <sub>6</sub>	<sub>50</sub> = 84/6	0 * N	=1.401	Ispt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG			DESC	CRIPTI	ON A	ND CLASS	SIFICA	TION
		X	S-12	30 50	100	140			PA	- - -		d S	ense; AND;	ARALIC gray; mo nonplast	oist; m tic.	ostly	fines; so	SILT me fir	(ML); very le grained
_155	— —-155 —									155_ - -									
-160	 160 									160		∵¦ m	ostly	———- nd with g fine to m onplastic	edium	- — — (SM) n grai	- — — - i; very de ned SAN	– – – nse; ç D; soi	gray; moist; me gravel; little
-165	—		S-13	23 60	120	168			PA	165— -		m	nostly :		e fine	grair	ned SANI		sh gray; moist; plasticity;
_170 -	— —-170 — —									- 170- - -		0	% Gra	vel; 16%	Sano	d; 84°	% Fines		
-175 -	— —-175 — — —		R-14	60	120	112	19.4	107	PA PI DS	- 175 - - -		0	noist; r % Gra	nterbedd nostly fir vel; 3% PL=26; I	nes; tra Sand;	ace fi ; 97%	ne SANE	CL); ve D; low	ery hard; gray; plasticity.
				CON ity Ro			-		OF SU	THIS BO	ORING CE CC	AND AT	THE T	AT THE ΓIME OF ΔY DIFFE Σ AT THIS	DRILL R AT (	ING. OTHE	R	F	FIGURE
	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BODIES THIS BODIES THE THE F	DRING CE CC S AND PASSA D IS A	AND AT INDITIO MAY CH GE OF SIMPLII	THE	TIME OF	DRILL R AT ( S LOC, TA	ING. OTHE ATION	R N	F	FIGU A-0

E	BOR	INC	G R	RECC	RD	۱ ۱	PROJE West I			y Drive	Bridge	Replacem	ent	1	130		R	BORING R-15-003
West	Missio	n Bay	/ Driv	e Bridge	over t	he Sar	n Diego			ETHOD		<b>STAI</b> 3/1	रा ।8/2015		FINIS 3/2 GED I	23/201		SHEET NO. 7 of 8 CKED BY
Casc	ade IG EQUI		г					Rot	ary W	/ash	<b>тота</b> 221	L DEPTH (ft)	GROUN 0	TS	SL	DEPTH	M	
SAMPL	NG MET		. Dro	p: 30 in.	(Auton	natic)	NOTES	3	.%, N <sub>a</sub>	<sub>o</sub> = 84/6		:1.40Nspt	-					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ION A	ND CLA	SSIFICA	TION
- - - - - - - - - - - - - - -	185 190 190		S-15	39 38 60	98	137			PA PI	- - 185— - - 190—		dense; SAND; Thinly gray; n nonpla 0% Gra LL=NP	gray; m nonplas interbed- noist; mo stic; mic avel; 25%	oist; m stic. ded wi bistly fi aceou % Sand P, PI=N — — —	ith silf ne gr s. d; 75°	ty sand ained S % Fines	(SM); v (SM); v (SAND; se (SAND; se (SAND; se (SAND; se	and (ML); grained ery dense; ome fines;
20130D BORING LOGS: GFJ GDCCLOG: GD	195 200 200 	<b>&gt;</b> <	R-16	150	300	280				195— - 195— - 200— - - - 205—		gray; n	graded s noist; mc nonplasti	stly fir	ne to	mediun	n graine	ery dense; d SAND; few
GRUPE WAX SOLL OF THE COLOR OF	924	5 A	ctiv	CON	oad,	Suit	e 10		OF SU LO Wi	THIS BOBSURFA CATIONS TH THE F	ORING A CE COI S AND N PASSAC	mediur	n graine t drilling.  Y AT THE TIME OF AY DIFFE E AT THI THE DA	E LOCA DRILL ER AT ( S LOCA TA	ATION LING. OTHE	tle fines	; nonpla	; mostly fine to astic. Very

			G R	RECC	RD	ı .	PROJE West I			y Drive	Bridge f	Replacem		1	130		R	BORING R-15-003
West	NG COM	n Bay	y Driv	e Bridge	over tl	he Sar	n Diego	DRILL		ETHOD /ash		3/1	श्र । 8/2015		GED I	23/201	CHE	SHEET NO. 8 of 8 ECKED BY
CME SAMPL	ING MET	THOD		00 !	/At	4! - \	NOTES	8 S	NG DIA		221.		GROUN 0	ND ELE	V (ft)			GROUND WATER (ft
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE G	SAMPLE NO.	PENETRATION RESISTANCE 00 (BLOWS / 6 IN)	BLOW/FT "N"	z <sup>©</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	= DEPTH (feet)	GRAPHIC Z LOG	I.40Nspt	DES	6CRIPT	ION A	ND CLA	ASSIFICA	ATION
- - - - -215			S-17	75	150	210			PA	- - - 215		dense; fines; r	ARALIC light gra nonplast avel; 81°	ay; mo ic; wea	ist; m akly ir	ostly fir durate	ne grain d.	(SM); very ed SAND; little
										-		few find	CLAY (Ce graine	d SAN	IĎ; lov	w plasti	 y; moist; icity; we	mostly fines; akly indurated.
—220 -	220 	>	S-18	75	150	210			PA PI	220 <u> </u>			PL=23,					
- - - - 225	 225 									225 - -		Ground Boring This Bo the Cal	of bore dwater e termina oring Re ltrans So tation M	encoun ited at ecord w oil & R	tered plann vas pr ock L	at 0 ft. led dep repared logging	d in acco	ordance with fiation, and
201300 BORING COD - 2300 COD - 2300 COD - 2300 COD - 235	230 									230— - - -								
108 0081408 008 1008 2007 2009 2007 2009 2007 2009 2007 2009 2007 2007	235 									235— - - - -								
dg 901 000	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BOURFANCATION TH THE RESENTE	DRING AN ACE CONI S AND MA PASSAGE ED IS A SI	PLIES ONLY ND AT THE DITIONS MAY CHANGE OF TIME. MPLIFICAT UNTERED.	TIME OF AY DIFFI E AT THI THE DA	F DRILL ER AT IS LOC ATA	LING. OTHE ATIO	ER N	·	FIGURE A-09 h

	<u> </u>	18.17		·F00			PROJE	CT NA	ME					PROJ	ECT	NUMBER		BORING
			۲ ز	RECC	)KD		West I	Missic	n Bay	y Drive	Bridge Re <sub>l</sub>			SD	130			R-15-004
SITE LO												STAF			FINIS			SHEET NO.
West   DRILLIN	Missio	n Bay	/ Driv	e Bridge	over t	ne Sar	Diego	Rive	r	ETHOD		3/1	/2015	1.00		5/2015	CUE	1 of 8 CKED BY
									ary W					TS	GED I	ВҮ		
C&L DRILLING			Γ						NG DIA		TOTAL DE	PTH (ft)	GROUNI			DEPTH/	MA ELEV. G	ROUND WATER
Mayhe	ew 100	00						5		- ()	221.5	(,	0		. (,	<b>▼</b> 0.0		
SAMPLIN	NG MET	HOD					NOTE				•							
Hamm	ner: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETF	R = 74	%, N <sub>6</sub>	<sub>io</sub> = 74/6	0 * N =1.2	3Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPT	ON A	ND CLAS	SIFICAT	ΓΙΟΝ
										5 —		dense; some f NOTE: Mission located was ca below	The born Bay Dri	et; mo iplasti ing w ve Br 0 feet the b ne. A	stly fi c. as dr idge abov ridge	ne to me illed from deck. Th re the mu deck do	dium g  the ex  e bridg  udline.	rained SAND; kisting West ge deck was The boring about 13 feet
 15 -  										- 15 — - - -		(ML); lo	ose to m	nediur raine	n der d SAI	nse: dark	arav: ۱	with sand wet; mostly fragments; low
20	20   		S-1	4 8 11	19	23			PA	20 — - - - 25 — - -		gray; w small s		y fine nplas	grair tic.	ned SAN		edium dense; fines; some
	924!	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO WI	THIS BOBSURFACATIONS TH THE I	MARY APPLII DRING AND A CE CONDIT S AND MAY PASSAGE O D IS A SIMP	AT THE IONS MA CHANGI F TIME.	TIME OF AY DIFFE E AT THIS THE DA	DRILL R AT ( S LOC TA	.ING. OTHE ATIOI	R N		FIGURE A-10 a

F	3OR	INC		RECC	RD		PROJE			. D.:	Daide - I	21	1			NUMBER	R	BORING D 45 004
	CATION						vvesti	VIISSIC	л вау	Drive	Briage i	Replacem STAF		SL	1301 FINIS			R-15-004 SHEET NO.
	Missic		/ Driv	e Bridge	over th	ne San	Diego			ETUOD		3/1	/2015	1.00		5/2015	OUE	2 of 8
	Drillin								ary W	ETHOD ash				TS	IGED E	5 T	MA	CKED BY
DRILLI	IG EQUI	PMEN	Г						NG DIA		1	DEPTH (ft)					ELEV. C	ROUND WATER (
Mayl SAMPL	new 100	00 THOD					NOTES	<u>5</u>			221.	5	0			<b>▼</b> 0.0	/ 0.0	
			, Dro	p: 30 in.	(Auton	natic)	1		%, N <sub>6</sub>	<sub>0</sub> = 74/6	0 * N =	I.23Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION AI	ND CLAS	SSIFICA	TION
- - - - -35 -			S-2	6 8 10	18	22			PA	- - - 35 — -		SAND mostly nonpla	with silt fine grai	(SP-S ined S	M); m AND;	edium of few fine	dense; g	rly graded gray; wet; e small shells;
- 40 - - - - -	40 	X	S-3		1	1			PA PI	-40 — - - - 45 —		fine SA 0% Gra	AY (CH) ND; higl avel; 7% PL=26,	h plas Sand	ticity; ; 93%	trace sh	et; most nells; Pf	ly fines; few P~1⁄4 TSF.
- - -										- - -		mostly plastici Thinly i	AND (SM fine to n ty; micad interbed imately	nediur ceous ded w	n grai · ith sai	ned SAI ndy silt (	ND; little	brown; wet; e fines; low /ers,
50 - - - - 55	50   55		S-4	5 5 8	13	16			РА	50 — - - - 55 —		0% Gra	avel; 68%	% San	d; 32°	% Fines		
- - - -										- - -								
				CON ity Ro			_		OF SU LO	THIS BOB BSURFA CATION	ORING AN ACE CON S AND MA	PLIES ONLY ND AT THE DITIONS MAY CHANGI	TIME OF AY DIFFE E AT THI	DRILLER AT S LOC	_ING. OTHE	R		FIGURE
	9	San	Die	go, C	A 92	126			PR	ESENTE	D IS A SI	E OF TIME. MPLIFICAT UNTERED.			CTUAI	L		A-10 b

F	ROR	INIC		RECC	)RD		PROJE									NUMBER		BORING
	CATION		יו כ	LUC			West I	Missic	on Bay	/ Drive	Bridge R	eplacem star		SD	130I			R-15-004 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over th	ne San	Diego	Rive	er				/2015			5/2015		3 of 8
	IG COM									ETHOD		•			GED E	3Y		CKED BY
	_ Drillin		г						ary W		TOTAL	DEPTH (ft)	GROUN	TS		DEPTH/E	MA	\F ROUND WATER (1
	new 10							5	10 5.,	()	221.5		0		.,,,	▼ 0.0 /		
	ING MET		_				NOTES	3	٥, ١.	=					•			
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	EIR	R = 74	%, N <sub>6</sub>	<sub>0</sub> = /4/6	0 * N =1.	23Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	"N" T=/WOJB	og N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION AI	ND CLASS	SIFICAT	ΓΙΟΝ
- - -	_	$\times$	S-5	11 10 8	18	22			PA	-		SAND mostly nonpla 0% Gra	with silt ( fine to m stic. avel; 85%	(SP-S nediur % San	M); m n grai d; 15	edium de ned SAN % Fines	ense; g D; few	
—65 - - - - —70	65  									65 — - - - 70 —		dense;	interbedo gray; we ines; low	et; mo	stly fir	ty SAND	(SM), lium g	medium rained SAND;
- - -	_	$\times$	S-6	6 14 20	34	42			PA	_		mediur micace	n grained	d SAN	ND; litt	le fines; r	wet; m nonpla	nostly fine to stic;
- —75 - -	75 									- 75 — -		Thinly to 1-ind	interbedo ch thick.	ded w	ith silt	: (ML) lay	ers, ap	oproximately ½
- - 80 -	80 		S-7	9 17 17	34	42			РА	80 — - -		4% Gra	avel; 77%	∕₀ San	d; 19º	% Fines		
- 85 - - -	85 85									85 — - - -			ostly fine					ense; gray; ; few fines;
GRO				CON ity Ro					oF SU	THIS BO BSURFA	MARY APPI DRING ANI CE COND S AND MA	O AT THE ITIONS M	TIME OF AY DIFFE	DRILI R AT	_ING. OTHE	R	F	IGURE
1				go, C	-				WI <sup>*</sup> PR	TH THE ESENTE	PASSAGE D IS A SIM IS ENCOU	OF TIME. IPLIFICAT	THE DA	TA			į	A-10 c

RO	RII	NO	R	ECC	)RD		PROJE									NUMBER	BORING	
SITE LOCAT		1	<i>-</i>		/\ \D		West I	Missic	on Bay	/ Drive	Bridge R	eplacem		SD1	301 SINIS		R-15-0	
West Mis		Ray	Driv	a Bridge	over ti	na Sar	Diego	Rive	r				/2015			5/2015	4 of 8	
ORILLING C	OMPA	NY	שווט	e briuge	over u	ie Sai	Diego			ETHOD		3/1	12015	LOGG			CHECKED BY	
C & L Dri									ary W					TSL		- 1	MAF	
ORILLING E	DUIPN	/FNT							NG DIA		TOTAL	DEPTH (ft)	GROUNI			DEPTHIEI	.EV. GROUND WA	TER
Mayhew								5	אום טוא	. ()	221.5		0	DELLY	(11)	▼ 0.0 /		
SAMPLING I	METH	OD					NOTES				221.5		0			± 0.07	0.0	—
Hammer:	140	lbs	. Droi	o: 30 in.	(Auton	natic)	ETR	R = 74	%. Na	<sub>0</sub> = 74/6	0 * N =1.	23Nspt						
	Ť		,		(* 15.15.1													
DEPTH (feet)	(feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTIC	)N AI	ND CLASSI	FICATION	
959	95		S-8	8 17 20	37	46				- - - 95 -		SAND	with silt ( fine to m	SP-SN	l); de	ense to ve	Poorly graded ry dense; gray; v ; few fines;	vet;
	00		R-9	22 31 40	71	58	21.0	104	PA DS	100-		0% Gra	avel; 91%	6 Sand∶	; 9%	Fines		
-  -  -  -	05									105		gravel; grained	very der	nse; gra some s	ay; w subro	et; mostly ounded gra	ND (SM) with fine to medium avel with trace	
-110  1 	10 2	X	S-10	10 12 15	27	33			PA	110		mediur nonpla	n grained	SANE	); litt	le fines; tra	nostly fine to ace gravel;	-
												370 010	, 01 /	Juliu	, ,,,			
_115	15									115_		mostly	fine tò m	édium	graii		ense; gray; wet; l; some subround astic.	
										- - - -								
GROU							_		• OF	THIS BO	RING ANI	LIES ONLY D AT THE ITIONS MA	TIME OF	DRILLII	NG.		FIGURE	
92	45	Ac	CTIV	ity Ro	ad,	Suit	e 10	13	LO	CATIONS	S AND MA	Y CHANGI OF TIME.	E AT THIS	SLOCA			A-10 d	
									1 441									

BOR	INC	3 R	RECC	RD	۱ ا	PROJE			, Deb	Deid	Donlasses	ont			NUMBER	BORING R-15-0	ነበ
SITE LOCATION						vvest i	VIISSIC	on Bay	/ Drive	Briage	Replacem		ן אַט	130		SHEET NO.	
West Mission	n Bay	/ Driv	e Bridge	over t	he Sar	) Diego	Rive	er				 /2015		l	5/2015	5 of 8	
RILLING COM	PANY						DRILL	ING M	ETHOD					GED I	ЗҮ	CHECKED BY	
C & L Drillin		_						ary W		I			TS			MAF	
Mayhew 10		•					BORII 5	NG DIA	. (in)	221	L DEPTH (ft)	GROUN 0	D ELE	V (ft)	<b>■</b> 0.0 /	LEV. GROUND WAT	IEF
AMPLING ME	THOD					NOTES				221	.0				<u>+</u> 0.07	0.0	
Hammer: 14	10 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	= 74	%, N <sub>6</sub>	<sub>0</sub> = 74/6	0 * N =	1.23Nspt						
DEPTH (feet) ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON A	ND CLASS	IFICATION	
									- - - 125- - -		cobbles gravel a NOTE: feet aft 1000 ri north, a	s; very d and cobb The boo er refusa g. The b and then de Drillin	ense; oles; li ring wa al on c ooring redrill	gray; ttle fii as ab obble was l	wet; mos nes; nonp andoned as with C8 later move rough the	AND (SM) with tly fine SAND; sor lastic. at a depth of 122 L Drilling's Mayhed 10 feet to the cobble bed using to continuing with	ew I
130		R-11	31 75	106	99	19.2	108	PA DS	130— - - - 135—		fines; li		SAND	; low	plasticity.	ay; moist; mostly	
		S-12	30 36 42	78	109			PA	- - - 140— - - - 145—		some fi	SILT (M ne SAN avel; 33%	D; low	plas	ticity.	- — — — — — moist; mostly fine	es;
GROUP 924			. <b>CON</b>			_		OF SU LO	THIS BO BSURFA CATION:	ORING A CE CON S AND N	PPLIES ONLY IND AT THE NOTIONS MA IAY CHANGE GE OF TIME.	TIME OF AY DIFFE E AT THIS	DRILL R AT ( S LOC	.ING. OTHE	:R	FIGURE A-10 e	_

PODING RECORD	PROJECT NA	ME			PROJECT NUMBE	
BORING RECORD  SITE LOCATION	West Mission	on Bay Drive E		cement START	SD130D FINISH	R-15-004 SHEET NO.
West Mission Bay Drive Bridge over the S				3/1/2015	3/5/2015	5 6 of 8
C & L Drilling		LING METHOD tary Wash			TSL	CHECKED BY MAF
DRILLING EQUIPMENT		NG DIA. (in)	TOTAL DEPT	H (ft) GROUN	D ELEV (ft) DEPT	HIELEV. GROUND WATER (ft
Mayhew 1000 SAMPLING METHOD	NOTES 5		221.5	0	₹ 0.	.0 / 0.0
Hammer: 140 lbs., Drop: 30 in. (Automatic	) ETR = 74	1%, N <sub>60</sub> = 74/60	) * N =1.23N	spt		
DEPTH (feet)  ELEVATION (feet) SAMPLE TYPE SAMPLE NO. PENETRATION RESISTANCE (BLOW/FT "N"	MOISTURE (%) DRY DENSITY (pd)	OTHER TESTS DEPTH (feet)	GRAPHIC LOG	DES	CRIPTION AND CLA	ASSIFICATION
		PA PI DS - 160— - 165—	grapia	ay; moist; mo asticity.	ostly fines; few fine	T (ML); very dense; e grained SAND; low
S-14 38 113 15 S-14 75 S-14 75 S-14 75 S-14 75 S-14 75 S-14 S-14 75 S-14 S-14 S-15 S-14 S-14 S-14 S-14 S-14 S-14 S-14 S-14	3	PA - 175	mo fin	ostly fine grai es; nonplasti 	ined SAND; some c.  ———————————————————————————————————	ery dense; gray; moist; gravel and cobble; little  ay; moist; mostly fine elastic; micaceous;
GROUP DELTA CONSULTA 9245 Activity Road, Su San Diego, CA 9212	ite 103	OF THIS BO SUBSURFAI LOCATIONS WITH THE F PRESENTEI	ARY APPLIES RING AND AT CE CONDITION AND MAY CH. PASSAGE OF T D IS A SIMPLIF S ENCOUNTER	THE TIME OF NS MAY DIFFE ANGE AT THI IME. THE DA ICATION OF T	DRILLING. ER AT OTHER S LOCATION TA	FIGURE A-10 f

R	OR	INC	3 R	ECC	)RN		PROJE			- D :	D-11 1					NUMBER		BORING D 15 00
SITE LOC					,, <u>,</u>		vvest l	VIISSIC	on Bay	/ Drive	Bridge I		ment ART	SL	130 FINIS			R-15-00
			v Driv	e Bridge	over t	ne Sar	n Dieac	Rive	er				7 3/1/201	5		5/2015		7 of 8
PRILLING	COM	PANY								ETHOD					GED		CHE	CKED BY
C&LI									ary W		_		_	TS			M	
RILLING			Г						NG DIA	. (in)		DEPTH (	· -	UND ELE	V (ft)	l		SROUND WATE
Mayhe AMPLIN	G MET	HOD					NOTES	<u>5</u>			221.	5	0			<b>▼</b> 0.0	/ 0.0	
Hamm	er: 14	0 lbs.	., Dro	p: 30 in.	(Auton	natic)	ETR	= 74	%, N <sub>6</sub>	<sub>0</sub> = 74/6	0 * N =	1.23Nsp	ot					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>Z</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		ם	ESCRIPT	ION A	ND CLASS	SIFICA	TION
	- - -		R-15	100	200	187	21.4	106	PA			dens	se; light s; nonpla	gray; mo astic.	oist; m	<b>S</b> : Silty Solostly fine % Fines	SAND ( graind	(SM); very ed SAND; little
-185 <u> </u>	185     									185— - - - 190—								
-195	 _ _ _ 195		S-16	36 60	96	134			PA PI	- - 195—		few tindu	fine grai rated. Gravel;	ned SAN 3% Sand	1D; lo	w plastici	— — — moist; ty; mo	mostly fines; derately
-195	 - - -									193		LL=4	45, PL=2	22, PI=23	3			
-200	200 _ _									200 <u> </u>		— — — — Siltv	- — — — SAND :	———- 'SM) with		- — — - /el; verv d	– – – lense:	 qray; wet;
-205	_ _ 205 			41		40-				205_		mos	tly fine t	o médiur	n grai		ID; sor	ne subrounded
-	- -		S-17	 75	116	162			PA PI	- -		little 2% (	fine gra Gravel;	ined SAI	ND; tr id; 85	rd; gray; i ace grave % Fines	moist; el; low	mostly fines; plasticity.
GRO	UP	DF	Ļ—— LTΔ	CON	SUI.	TAN	TS.	ווור ווור	TH		ARY API ORING AN	PLIES ON	NLY AT 1	HE LOC	ATION	1	F	FIGURE
	9245	5 A	ctiv	ity Ro go, C	oad,	Suit	e 10		LO Wi	BSURFA CATIONS TH THE I	CE CON S AND M PASSAGI D IS A SI	DITIONS AY CHAN E OF TIM	MAY DII IGE AT E. THE	FFER AT THIS LOC DATA	OTHE	N		A-10 g

E	 30R	INC	 3 F	RECC	)RD	<b>)</b>	PROJE			· Drivo	Dridge	Caplacom	ant	1		UMBER		BORING R-15-004
SITE LO	CATION	1								/ Drive	Briage	Replacem STAI		SD1	INIS	Н		SHEET NO.
	t Missio		/ Driv	e Bridge	over tl	he San	ı Diego			ETHOD		3/1	1/2015	LOGG		/2015 Y	CHE	8 of 8 CKED BY
C&I	L Drillin	g						Rot	tary W	/ash				TSL			MA	۸F
	NG EQUI		Γ						NG DIA	. (in)	<b>TOTAL</b> 221.	DEPTH (ft)	GROUN 0	D ELEV		<b>DEPTH</b> / <b>L ▼</b> 0.0		ROUND WATER (ft
SAMPL	new 100 ING MET	HOD					NOTES						U			₹ 0.0	/ 0.0	
Hami	mer: 14	l0 lbs.	., Dro	p: 30 in.	(Auton	natic)	ETR	₹ = 74	-%, N <sub>6</sub>	<sub>.0</sub> = 74/6	0 * N =	1.23Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTIC	N AN	ID CLAS	SIFICAT	ΓΙΟΝ
- - - -215 - - - - -	215		R-18	150	300	280				- - 215— - - - 220—		very de	ARALIC ense; gra low plas	ıy; mois	SITS t; mc	: SILT v	with sai	nd (ML); fine grained
- - 225 - -	 225 									- - 225 - -		Ground Boring This Bo the Ca		ncounte ed at pl cord wa bil & Roo	ered a anne s pre ck Lo	at 0 ft. ed depth epared in egging, (	n accoi	rdance with ation, and
230 	230 									230_								
.11	235 									235								
."	924	5 A	ctiv	CON rity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO IBSURFA CATIONS TH THE F ESENTE	DRING AI ACE CON S AND M PASSAG ED IS A S	PLIES ONL' ND AT THE IDITIONS MA AY CHANG E OF TIME. IMPLIFICAT DUNTERED.	TIME OF AY DIFFE E AT THI THE DA	DRILLING R AT O'S LOCA' TA	NG. THEF TION			FIGURE A-10 h

	20P	INI		RECC	חסו	۱ ۱	PROJE									NUMBER		BORING
	OCATION OCATION		יו כ	CCC	טאנ		West	Missic	n Ba	y Drive	Bridge Re			SE	130			R-15-005
			. Deix	e Bridge	over t	ha Car	Diag	. Dive				STAF			1	<del>ън</del> 31/2015		SHEET NO.
DRILLI	NG COM	PANY	יוט /	e briage	overu	ne Sar	Diego			ETHOD		112	26/2015	LOG	GED I			1 of 7 CKED BY
Caso									ary W					TS		<b>.</b>	MA	
	NG EQUI	PMEN <sup>3</sup>	Г						NG DIA		TOTAL DE	PTH (ft)	GROUNI			DEPTH/		ROUND WATER
CME	85							8		` ,	194.5		0		` '	▼ 0.0		
	ING MET	HOD					NOTE										,	
Ham	mer: 14	0 lbs	, Dro	p: 30 in.	(Auton	natic)	ETF	₹ = 84	%, N <sub>e</sub>	<sub>so</sub> = 84/6	60 * N =1.4	0Nspt						
				<b>7</b>														
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"		l m	DRY DENSITY (pcf)	~	eet)	၂ ပ							
Ξ	(ATI	Щ	빌	STA VS/		zº	STU (%)	H &	OTHER TESTS	<del>"</del>	풀8		DESC	CRIPT	ION A	ND CLAS	SIFICAT	ΓΙΟΝ
EPT		MP	AMF.		6	-	MOISTURE (%)	\rac{1}{2} \text{\$\pi}	타	DEPTH (feet)	GRAPHIC LOG							
	ш	SAI	Ŋ	H ~ @	<u> </u>		≥	E E		□								
											<u> </u>							
										_			/IUM: Sil					
												dense;	gray; we	et; mo	stly fi	ne to me	dium g	rained SAND;
										-		some t	ines; nor	ıpıast	IC.			
										-		NOTE:	The bor	ring w	as dr	illed from	n the ex	isting West
										_		Mission	n Bay Dri	ive Br	idge (	deck. Th	ne bridg	e deck was The boring
_5										5 _		was ca	sed from	the b	oridge	deck do	wn to a	about 26 feet
_5	<u> </u>									' -			the mudli		A tota	l of abou	t 55 fee	et feet of
	_									-		casing	was use	a.				
	_									_								
•										_								
	_									-								
_10	10									10 —								
												PARAI	LIC EST	UARI	NE D	EPOSIT	S: SILT	with sand
•										_	1	(ML); ld	oose to n	nediu	m der	nse; dark	gray; v	vet; mostly
-	_									-	1		ew fine g ity; micac			ND; smal	ll shell f	ragments; low
	_									_	1	piastici	ity, micac	eous	•			
	Γ									l ¯	1							
_15										15 —	1							
	_									-	4							
_										_			AND (CN					
-	<u> </u>									-			ained SA					y; wet; mostly
	_									_		o g.c	aou 0, t			100, 11011	piaotio.	
_20	20									20 —								
-20										20 -								
	_	<b>\</b> 7		9						-								
	_	X	S-1	10	18	25			PA	_		0% Gra	avel; 85%	6 San	d; 15	% Fines		
		$\overline{}$		8														
										_								
	_									-								
_25	<u>25</u>									25 —	<del>                                      </del>							
												Poorly	graded S	SAND	with	silt (SP-	SM); de	nse; light
			S-2	13	22	15					]	gray; w	vet; most	ly fine				SAND; few
		$\triangle$	3-2	16	32	45				-		tines; r	nonplastic	С.				
	<u> </u>			16						-								
_										_								
										_								
<u> </u>	<u> </u>		<b>T</b>		C	T A A '	TC	1816	ТН	IS SUMI	MARY APPLI	ES ONL	Y AT THE	LOC	ATION	, T		
GK(	JUP	DE	LIA	CON	SUL	IAN	115,	INC	• OF	THIS B	ORING AND	AT THE	TIME OF	DRILI	_ING.		F	IGURE
	924	5 A	ctiv	ity Ro	oad.	Suit	e 10	)3			ACE CONDIT IS AND MAY							
				•	-			_	WI	TH THE	PASSAGE C	F TIME.	THE DA	TΑ				A-11 a
	5	an	Die	go, C	A92	1126	)				ED IS A SIMF NS ENCOUN		ION OF I	псА	CIUA	<u> </u>		

		INI			<u> </u>		PROJE	CT NA	ME					PROJEC	T NUMBI	ER	BORING
	DCATION		רו כ	RECC	טאנ		West I	Missic	on Bay	y Drive	Bridge Re	eplacem STAF		SD13	OD NISH		R-15-005 SHEET NO.
Wes	t Missic	n Bay	/ Driv	e Bridge	over tl	ne Sar	Diego	Rive	er				26/2015		7/31/20		2 of 7
DRILLI	NG COM	PANY							_in <b>g m</b> tary W	ETHOD				LOGGE TSL	D BY		ECKED BY
	NG EQUI	PMEN	Γ						NG DIA		TOTAL D	EPTH (ft)	GROUNE	1	t) DEP1		AF GROUND WATER (fi
CME								8			194.5		0			.0 / 0.0	
I '	ING MET mer: 14		. Dro	p: 30 in.	(Auton	natic)	NOTES		·%, N <sub>e</sub>	<sub>o</sub> = 84/6	0 * N =1.4	40Nspt					
					•												
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>o</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CL	ASSIFICA	ATION
-		X	S-3	9 7 7	14	20			PA			SAND mostly	LIC ESTU with silt ( fine grain avel; 92%	SP-SM); ned SAN	mediun D; few fi	n dense; nes; nor	orly graded light gray; wet; aplastic.
- 35 -	35 									35 — -					. <b>_</b>		
-										-			AY (CH); ained SAI				stly fines; few 4 TSF.
_40	40									40 —		0% Gra	avel; 5%	Sand; 95	5% Fines	3	
-										_		LL=62,	PL=25, I	PI=37			
-		X	S-4	7 12 10	22	31			PA PI	-		Silty S	AND (SM	 l); mediu	m dense	to dens	e; grayish
- 45	— —-45									- 45 —		plastici Thinly	ity; micac interbedd	eous.	sandy le		ttle fines; low
1/24/19	_									-		approx	imately ½	4-inch th	ck.		
LOG.GDT	_									-							
50 —50 –	50 									50 — -							
RING LOG		X	S-5	6 10 15	25	35				- -							
SD SD130D BORING LOGS.GPJ GDCLOG.GDT 1/22 	 55									- 55 —							
										- -	++++		vith sand ew fine g				y; wet; mostly ty.
GBC_LOG_BORING_MMX_SOIL				CON ity Ro			_		OF SU	THIS BO BSURFA	MARY APPL DRING AND CE CONDI S AND MAY	AT THE	TIME OF AY DIFFE	DRILLING R AT OTI	∋. HER		FIGURE
				go, C	-				WI <sup>*</sup>	TH THE ESENTE	PASSAGE ( D IS A SIM IS ENCOU	OF TIME. PLIFICAT	THE DAT	ГΑ			A-11 b

F	30R	INIC		RECC	)RD		PROJE			<u> </u>			,			NUMBER		BORING D 45 005
	CATION		۱ ر	<u></u>			West I	Missic	n Bay	/ Drive	Bridge F	Replacem STAF		SD	130I			R-15-005 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over tl	ne San	Diego						6/2015		7/3	31/2015		3 of 7
	NG COM	PANY								ETHOD				LOG	GED E	BY		CKED BY
Casc	iaue NG EQUI	PMENT	Г						ary W		TOTAL	DEPTH (ft)	GROUNI			DEPTH/E	MA LEV. G	ROUND WATER
СМЕ								8			194.5		0		\ \	<b>▼</b> 0.0 /		
	ING MET mer: 14		, Dro	p: 30 in.	(Auton	natic)	NOTES		%, N <sub>6</sub>	o= 84/6	0 * N =1	.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	z <sup>6</sup>	MOISTURE (%)	DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG	·	DESC	CRIPTI	ON AI	ND CLASS	SIFICAT	TION
	— —	SAI	<i>'</i> S S-6	3 10	21	29	2	DRY	PA	<u> </u>		(ML); n	nedium d	lense;	gray		stly fin	with sand es; few SAND; 5 Fines
-65	65 65			11						65 —		Poorly wet; m nonpla	ostly fine	SAND to me	with s	silt (SP-S grained	M); de SAND	nse; gray; ; few fines;
-70 -75	70 		S-7	7 13 14	27	38				70 —								
-80	80 		S-8	15 16 20	36	50			PA	80 —		0% Gra	avel; 91%	ն Sand	d; 9%	Fines		
-85	85 									85 — - - -								
				CON ity Ro					oF SU	THIS BO BSURFA	RING AN	PLIES ONLY D AT THE DITIONS MA Y CHANGI	TIME OF AY DIFFE	DRILL R AT (	.ING. OTHE	R		IGURE
				go, C					PR	<b>ESENTE</b>	D IS A SIM	OF TIME. MPLIFICAT JNTERED.	THE DAT	TA HE AC	CTUAL	_		A-11 c

F	ROR	INIC		RECC	)RD		PROJE						,			IUMBE	R	BORING
	CATION		<u>ر</u> ر				West I	Missic	on Bay	y Drive	Bridge Re	eplacem STAF			130E FINIS			R-15-005 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over t	ne Sar	Diego			ETHOD		7/2	6/2015	LOGO		1/201		4 of 7
Caso		PANT							ary W					TS		5 Y	M	
	IG EQUI	PMEN1	Γ						NG DIA	. (in)	TOTAL D	EPTH (ft)		D ELEV	/ (ft)		HELEV. (	GROUND WATER (ff
CME SAMPL	85 ING MET	HOD					NOTES	8 S			194.5		0			₹ 0.0	0 / 0.0	
Hami	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =1.4	40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTIO	ON AN	ND CLA	SSIFICA	TION
-		X	S-9	14 17 20	37	52				-		with sil	ARALIC t (SP-SM n graine	/I); very	/ dens	se; gra	ıy; wet; r	ed SAND mostly fine to stic.
- —95	— —-95									95 —		gray; w		lly fine	to me	ediúm (	grained	es; very dense; SAND; some
-	_									-		Poorly wet; monpla	ostly fine	SAND to me	with s	silt (SP graine	-SM); de ed SANE	ense; gray; ); few fines;
_ 100	 100									- 100—		cobble	s; very d	ense; g	gray;	wet; m	nostly GÌ	GW-SM) and RAVEL; some onplastic.
- -		X	S-10	39 37 42	79	111			PA	-		48% G	ravel; 45	5% Sar	nd; 7%	% Fine:	s	
105	 105									- 105— -								
5 – 5 – 5 – 110										<u>-</u>								
6 —110 5 -	110 									110 <u> </u>		mostly cobbles	fine grai s; low pla	ned SA asticity	AND;	some	fines; fe	own; wet; w gravel and
- - - - - - 115	_									_ _		boreho	fficult dri le for 1½ e slowly	≨ hours				re used to
	— —-115 —									- 115_ -								
  -  -	_									- -								. <b></b> .
-										_			n sand ( <b>i</b> SAND; lo				ray; wet	; mostly fines;
\!	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI	THIS BOBSURFACATIONS TH THE I	MARY APPL DRING AND ICE CONDI S AND MAY PASSAGE (	OAT THE TIONS MA CHANGI OF TIME.	TIME OF AY DIFFE E AT THIS THE DA	DRILLI ER AT C S LOCA TA	ING. OTHEI ATION	¹		FIGURE A-11 d
	S	san	Die	go, C	A 92	126	)				D IS A SIMI IS ENCOU		IUN UF 1	HE AC	IUAL	-		

E	BOR	INC	G R	RECC	RD		PROJE West I			v Drive	Bridae	Replacer	nent		JECT (	NUMBER D	₹	BORING R-15-005
	CATION	-								, 2		STA	RT		FINIS	SH	_	SHEET NO.
West	: Missic NG COM	n Bay PANY	y Driv	e Bridge	over th	ne San	Diego			ETHOD		7/	26/201		GED I	31/2015 BY		5 of 7 CKED BY
Caso								Rot	ary W	/ash				TS			MA	
	NG EQUI	PMEN	Т						NG DIA	l. (in)		L DEPTH (ft		ND ELE	V (ft)			GROUND WATER (ft
CME SAMPL	හිට ING MET	HOD					NOTES	8 3			194	5	0			<b>▼</b> 0.0	0.0	
Hami	mer: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	ETF	R = 84	%, N <sub>e</sub>	<sub>50</sub> = 84/6	) * N =	1.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	, N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	SCRIPT	ION A	ND CLAS	SSIFICA <sup>-</sup>	TION
- - - -125 - - - - -130			S-11	46 60	106	148				- - 125— - - - 130—		very c	PARALIO lense; gr m SANE	ay; we	t; mos	stly fines	with sa	nd (ML); fine to
.06.6DT 1/24/19	 135 		R-12	60 100	160	149	16.4	119	PA DS	135_ - - - -		some mode	y SILT (N fine to c rately ind	oarse ( durated	graine I.	ed SANE	); nonpl	t; mostly fines; astic;
140 — 140 — — — — — — — — — — — — — — — — — — —	140 									140— - - -		017				- — — —	· — — —	
CDC_LOG_BORING_MMX_SOIL_SD_SD130D_BORING_LOGS.GDT_GDC_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDT_GDC_GDC_GDT_GDC_GDC_GDT_GDC_GDC_GDT_GDC_GDC_GDC_GDC_GDC_GDC_GDC_GDC_GDC_GDC	145   	<b>&gt;</b>	S-13	60	120	168				145 - - -		fines;	with sand little fine nard drilli	grade				oist; mostly ty.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO IBSURFA ICATIONS TH THE F RESENTE	PRING A CE COI S AND M PASSAC D IS A S	PPLIES ONI AND AT THE NDITIONS IN MAY CHANG GE OF TIME BIMPLIFICA OUNTERED	E TIME OF MAY DIFF SE AT TH THE DA TION OF	F DRILL ER AT IIS LOC ATA	LING. OTHE ATIO	R N		FIGURE A-11 e

F	ROR	INIC		RECC	)RD	ı .	PROJE										NUMBER		BORING
	CATION		J 1 V	LOC			West I	Missio	on Bay	y Drive I	Bridg	e Repl	acem   STAF			1301 FINIS			R-15-005 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over t	he Sar	Diego			ETHOD			7/2	6/2015	1.000		31/2015		6 of 7
Caso		PANT							ary W						LOGO		<b>3 T</b>	MA	
	NG EQUI	PMEN	Г						NG DIA				TH (ft)	GROUNE				ELEV. G	ROUND WATER (f
CME SAMPL	85 ING MET	HOD					NOTES	8 S			19	94.5		0			▼ 0.0	/ 0.0	
Ham	mer: 14	0 lbs	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>60</sub> = 84/60	0 * N	=1.40	Vspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z 09	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC	2		DESC	CRIPTI	ON A	ND CLAS	SIFICAT	ΓΙΟΝ
- - - - -155 -										155			ery de	ARALIC ense; graș low plasi	y; moi	OSITS	S: SILT costly fine	with sa es; little	nd (ML); fine grained
_ 160 _ _ _	160 	X	S-14	24 24 43	67	94			PA	160		s	ome f	SILT (ML ne graine	ed SA	ŇD; I	ow plas	r; moist	; mostly fines;
- 165 - 1757 - 1757 - 1757 - 1757 - 1757 - 1757 - 1757 - 1757	165 									- 165 - -							. — — —		
00										170_				LAY (CL e SAND;				noist; n	nostly fines;
										'' 🚽	//	/		evel; 11%		•	•		
L069.1		X	S-15	24 25	61	85			PA PI					PL=21, F			/U I IIICS		
201200 BORING COESTS OF THE CO	 			36					1*1	175		) F	 Poorly Jray; w	. — — — - graded S	AND y fine	(SP-5	ediúm gi	rained S	es; very dense; SAND; some
GRO TOOS TOO TOO TOO TOO TOO TOO TOO TOO T	_									- - -				ith sand (					oist; mostly y.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BC BSURFA CATIONS TH THE F	PASSAD IS A	AND AT ONDITIC MAY CH AGE OF A SIMPLI	THE THE MANGE TIME.	AT THE TIME OF I AY DIFFEI E AT THIS THE DAT ION OF T	DRILL R AT ( S LOC/ TA	ING. OTHE ATION	R N		FIGURE A-11 f

	ROP	INIC		RECC	)BD	ı .	PROJE							PROJE		MBER		BORING
	CATION		יו כ	LUC			West I	Missio	on Bay	y Drive I	Bridge	Replacem STAF		SD1	30D INISH		:	R-15-005 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over t	he Sar	Diego					7/2	26/2015		7/31/	2015		7 of 7
Caso		PANY							∟ing m tary W	ETHOD /ash				LOGGI			MAI	KED BY
DRILLI	NG EQUI	PMEN	Г						NG DIA		l l	DEPTH (ft)			(ft) DE		<i>LEV.</i> GF	ROUND WATER (ft
CME SAMPL	85 ING MET	HOD					NOTES	8 3			194.	.5	0		Ţ	0.0 /	0.0	
Hamı	mer: 14	0 lbs	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 84	%, N <sub>6</sub>	<sub>50</sub> = 84/6	0 * N =	1.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTIO	N AND	CLASS	SIFICATI	ON
- - - - -185										- - - 185		very de SAND; Interbe	low plas	ay; moist sticity. th Lean	t; most	ly fines	s; some	e fine grained
- - - 190 - -	190 190		R-16	16 20 37 37 27	57 64	53			PA	190—		0% Gra	avel; 11%	% Sand;	89% F	Fines		
—195 ——195 ——200 ——200 ——200 ——205 ——205 ——205	195   200			37						195		Ground Boring This Bo the Ca		ncounte ted at place cord was oil & Roc	red at anned s prepa k Logo	0 ft. depth. ared in	accord	dance with tion, and
	205 									205_ - - - -								
GRO	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO WI PR	THIS BODIES THIS BODIES THE THE FREE THE THE FREE THE THE FREE THE THE FREE THE THE THE THE THE THE THE THE THE T	ORING AI CE CON S AND M PASSAG D IS A S	PLIES ONL' ND AT THE IDITIONS MA AY CHANGI E OF TIME. IMPLIFICAT DUNTERED.	TIME OF AY DIFFE E AT THIS THE DA	DRILLING ER AT O' S LOCA' TA	NG. THER TION			IGURE A-11 g

R	OR	INC		RECC	)RD		PROJE			. D: -	)					NUMBER		BORING S 15 006
SITE LOC			<u> </u>				vvest i	VIISSIC	on Bay	/ Drive E	Bridge R	epiacem STAF			130I FINIS			S-15-006 SHEET NO.
West I			Driv	e Bridge	over tl	ne Sar	Diego					2/1	1/2015	1.00		7/2015	10000	1 of 8
Casca		PANY							ING M nic Co	ETHOD re				TS	GED E	5Y	MA	KED BY
DRILLING		PMENT	7						NG DIA		1	EPTH (ft)	GROUNI				LEV. G	ROUND WATER (
SC500		HOD					NOTES	6			221		0			▼ 0.0 /	0.0	
			, Dro	p: 30 in.	(Auton	natic)	1		%, N <sub>6</sub>	<sub>o</sub> = 80/60	) * N =1.	33Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N <sub>0</sub>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTI	ON AI	ND CLASS	SIFICAT	TION
										-			fine to m			SM); loos ned SAN		k gray; wet; le fines;
_5	5  									5		soft; da	rk gray;	wet; n	nostly	fines; litt	tle fine	CLAY (CH); SAND; high nicaceous.
- —10 –	— —-10 —									10 —		mediur	AND (SM n grained agments.	MAS b	se; da D; so	ark gray; me fines	wet; me; nonpl	ostly fine to astic; some
			S-1	2 3 5	8	11				- - 15 — - -		SILT w mostly shells.	ith sand fines; fev	(ML); w fine	medii grain	um dense ed SANE	e; dark ); low p	gray; wet; lasticity; trace
20 	 20 									20		dark gr		mostly	y fine	to mediu		edium dense; ned SAND;
- 25 - 			S-2	5 12 	17	23			PA	25 —		0% Gra	avel; 94%	ն Sand	d; 6%	Fines		
				CON ity Ro			_		OF SU LO	THIS BO	ARY APPI RING ANI CE COND AND MA	AT THE	TIME OF AY DIFFE	DRILL R AT (	.ING. OTHE	R		IGURE A-12 a

E	3OR	INC	G R	RECC	RD	ı .	PROJE West I			y Drive	Bridge R	Replacem	ent		130I	NUMBER D	₹	BORING S-15-006
	OCATION t Missio		/ Driv	e Bridge	over t	he Sar	n Dieac	Rive	er			STAI	RT  1/2015		FINIS 2/1	SH 17/2015	5	SHEET NO. 2 of 8
DRILLI	NG COM	PANY		- Dago	0,00,0			DRILL Sor			TOTAL	DEPTH (ft)		LOG	GED E	ЗҮ	CHE:	CKED BY
SC5	00 ING MET	HOD					NOTES	6			221		0			<b>▼</b> 0.0	/ 0.0	
			., Dro	p: 30 in.	(Auton	natic)	1 '		%, N <sub>6</sub>	<sub>o</sub> = 80/6	0 * N =1	.33Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ION A	ND CLAS	SSIFICA <sup>-</sup>	TION
-										_		SAND	LIC EST with silt fine SAI	(SP-SI	M); m	edium d	dense; d	ly graded dark gray; wet;
-	_									-		Sandy fines; s	SILT (M some fine	IL); me e grain	edium ied S <i>i</i>	dense; AND; lo	dark gr w plasti	ay; wet; mostly city.
35 - -	35 	X	S-3	6 8	16	21			PA PI	35 — - -		fine SA	ND; hig	h plast	ticity;	PP<1/4 7	ΓSF.	ly fines; few
- - 40				8						- - 40 —			avel; 11 <sup>6</sup> PL=24,			/0 Filles		
-										-		Sandy fines; s	SILT (M	——— IL); me e grain	edium led S	dense; AND; lo	— — — dak gra w plasti	ay; wet; mostly city; few shells.
- 45	 45									- 45 —		Silty Sa fine SA	AND (SN ND; sor	M); me me fine	dium es; no	dense; nplastic	dark gra ; trace s	ay; wet; mostly shells.
	_	X	S-4	4 9 8	17	23			PA	-		fines; l	SILT (M ittle fine avel; 39°	graine	d SAI	ND; low	plastici	ay; wet; mostly ty.
50 —50	50									50 —		0,000	avoi, 00	, o Gan	<b>u,</b> 01.	70 T IIIGG		
- - - - - - - - - - - - - - - - - - -										- - 55 —			ostly fine					; dark gray; astic;
55 55 57 58 58 58 58 58 58 58 58 58 58	_	X	S-5	2 2 3	5	7			PA	- - -		0% Gra	avel; 86°	% San	d; 14 <sup>9</sup>	% Fines	i	
GR				CON ity Ro			_		OF SU	THIS BOBSURFA	ORING AN	LIES ONL' D AT THE DITIONS M. Y CHANG	TIME OF AY DIFFE	DRILL ER AT (	.ING. OTHE	R		IGURE
				go, C	-			-	WI PR	TH THE ESENTE	PASSAGE D IS A SIN	OF TIME.  MPLIFICAT  JNTERED.	THE DA	ΛTΑ				A-12 b

F	ROR	INI		RECC	)RD	1	PROJE									NUMBER		BORING
	CATION		יו כ	LOC			West I	Missic	n Bay	/ Drive	Bridge Re	eplacem STAF		SD	130    FINIS			S-15-006 SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over t	he San	Diego					2/1	1/2015			17/2015		3 of 8
DRILLIN	NG COM	PANY							.ING M nic Co	ETHOD				LOG	GED E	3Y	CHE	CKED BY
	IG EQUI	PMEN	Γ						NG DIA		TOTAL D	EPTH (ft)	GROUNI			DEPTH/E		ROUND WATER (
SC50	O ING MET	HOD					NOTES	6			221		0			▼ 0.0 /	0.0	
			, Dro	p: 30 in.	(Auton	natic)			%, N <sub>6</sub>	<sub>o</sub> = 80/6	0 * N =1.	33Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPT	ION A	ND CLASS	SIFICAT	rion .
- - - - 65			S-6	2.	8	11				- - - 65 —		(SM); r	nedium d	lense	; dark	EPOSITS gray; we micaceou	t; mos	SAND ttly fine
- - - 70 -				4 4	J					- - 70 —		mostly	graded S fine to m stic; mica	ediun	n grái	; medium ned SAN	dense D; trac	e; gray; wet; te fines;
- - - 75 -										- - 75 —		Sandy fines; li	SILT (ML ttle fine ç	_); me graine	edium ed SAI	dense; d ND; low p	ark gra lastici	ay; wet; mostly ty; micaceous.
- - - 80			S-7	3	14	19			PA	- - 80 —		fine SA		fines	; non	plastic; m		ay; wet; mostly ous.
- - - - 85			3.	6 8	1-7					- - - 85 —		Poorly	graded S fine to m	 SAND	(SP);			e; gray; wet; ce fines;
- - -	_									- -		fine to		graine	ed SA			y; wet; mostly el and cobble;
	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		• OF SU LO WI PR	THIS BO BSURFA CATION TH THE ESENTE	MARY APPL DRING AND ACE CONDI S AND MAY PASSAGE ( ED IS A SIM NS ENCOUI	O AT THE TIONS MA CHANGI OF TIME. PLIFICAT	TIME OF AY DIFFE E AT THIS THE DAT	DRILL R AT S LOC TA	LING. OTHE ATION	R N		IGURE A-12 c

		INI					PROJE	CT NA	ME						PRO.	IECT N	NUMBER		BORING
	DCATION		ר כ	RECC	RU		West I	Missic	n Bay	/ Drive	Brid	ge	Replacem		SD	130I			S-15-006 SHEET NO.
			/ Driv	e Bridge	over tl	ne Sar	Diego	Rive	r					1/2015			,,, 17/2015	;	4 of 8
DRILLII	NG COM							DRILL	ING M	ETHOD			•		1	GED E	3Y		CKED BY
Casc	ade <b>VG EQU</b> I	PMEN	Γ						nic Co NG DIA		то	TA	L DEPTH (ft)	GROUNI	TS DELE		DEPTH/	MA ELEV. G	NF ROUND WATER (fi
SC50	00							6				21		0		,	<b>▼</b> 0.0		•
	ING MET		Dro	p: 30 in.	(Auton	natio)	NOTES		0/_ NI	- 20/6	:n * N	J -	1.33Nspt						
Halli	1161. 14	o ibs.	, Dio		(Auton	latic)		- 00	70, 146	0- 00/0		<b>'</b>	1.0011801						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	"N" T=/WOJB	N <sub>0</sub>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC	907		DESC	CRIPT	ION AI	ND CLAS	SIFICAT	ΓΙΟΝ
- - -										- - -			grayish	ARALIC brown; ow plastic	moist;	OSITS ; most	<b>§:</b> Silty Stly fine g	SAND ( rained	SM); dense; SAND; some
95	95									95 —				/L); med ne graine					ostly fines;
										_			Sandy fines; s	SILT (MI ome fine	_); de grair	nse; c	orange b AND; lov	rown; n v plasti	noist; mostly city.
										_			PP>41/2	TSF					
_100										100_									
100	100									100-									
ļ										_									
-										_									
-	_									_		+							
- 105	— —-105									- 105_			Sand;	some fir	i); der ies; n	nse; d onpla	ark gray stic.	r; wet; n	nostly fine
										_									
2													Sandy	SILT (ML	_): de	nse: c	lark grav	/: moist	; mostly fines;
:										_			some fi	ne grain	ed SA	ND; I	ow plas	ticity.	,,
įΓ										_	$  \   \  $								
5 - 110 - 110 - 115	110									440	$ \  \  $								
110	110									110_	$ \  \  $								
<u> </u>										_	$ \  \  $								
2 -										-		$\frac{1}{1}$							
-  -										-	K	人	mostly	fine to co	oarse	grain	ed SANİ	D; some	e; brown; wet; e subrounded
}										_	ľČ	$\mathcal{L}$	gravel	and cobb	ole; lit	tle fine	es; nonp	lastic.	
_115	<u></u>									115_	$  \cdot  $	Т	<del></del>	. — — - ·					
	_									-				SILT (MI ne grain					nostly fines;
<u></u>										-	$  \   \  $			="			,	-	
- -										-	$  \   \  $								
2 -										_									
\!				CON ity Ro			_		OF SU	THIS BO BSURF <i>A</i>	ORINA ACE (	G A	PPLIES ONLY ND AT THE NDITIONS MA	TIME OF AY DIFFE	DRILL R AT	JNG. OTHE	R	F	IGURE
				go, C				, <b>,</b>	WI <sup>*</sup> PR	TH THE ESENTE	PASS ED IS	AG AS	GE OF TIME. SIMPLIFICAT DUNTERED.	THE DAT	ГΑ				A-12 d

E	3OR	INC	 3 R	RECC	)RD		PROJE			, Drive I	O mi el e		vala a a m				NUMBER	₹	BORING S-15-006
	CATION						vvesti	VIISSIC	лі Бау	/ Drive I	onug	je re	STAF		SD <sup>2</sup>	FINIS			SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over th	ne San	Diego			ETHOD			2/1	1/2015	LOGG		7/201		5 of 8
Caso		ANI							ic Co						TSI		,,	M	
	NG EQUI	PMEN	Γ					BORII	NG DIA	. (in)			EPTH (ft)	GROUNI	ELEV	(ft)		I/ELEV. (	GROUND WATER (f
SC50	)() ING MET	HOD					NOTES	6 			22	21		0			₹ 0.0	0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 80	%, N <sub>6</sub>	<sub>0</sub> = 80/60	) * N	=1.3	3Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>Z</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC	50		DESC	CRIPTIC	ON AI	ND CLA	SSIFICA	TION
- - - - - - - - - - - - - - - - - -	125 125 130 130 		C-8						PA PI	125			dense; low pla 0% Gra	ARALIC gray; we sticity; Pl avel; 23% PL=21, I	et; mos P>4½ 6 Sand	tly fir TSF.	nes; soi	me fine	and (ML); grained SAND;
81/42/1 														AND (SM					moist; mostly
9:50- - - - - 140	140									140		<u> </u>	Sandy some f	SILT (ML ine grain	_); den ed SAI – – –	se; g ND; I	ray; mo	oist; mo sticity.	stly fines;
- 140 - 140 - 140 - 145										145									i; moist; mostly y cemented.
S OS TOO TOO TOO TOO TOO TOO TOO TOO TOO	_									- - -				ained SAI					. — — — — — stly fines; little ately indurated;
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATIONS TH THE F	RING CE C S AND PASS D IS A	S AND ONDIT MAY AGE C A SIMF	AT THE FIONS MA CHANGI OF TIME. PLIFICAT	Y AT THE TIME OF AY DIFFE E AT THIS THE DAT	DRILLI R AT C S LOCA TA	NG. OTHE ATION	R 1		FIGURE A-12 e

			G F	RECC	RD		PROJE West I			y Drive	Bridg	e Repla	acem	ent		130		R	BORING S-15-006
	CATION		, Driv	e Bridge	over th	20 505	Diogr	Divo	\r				STAF			FINIS	<del>sн</del> 17/201	5	SHEET NO.
DRILLI	NG COM	PANY	יווט /	e bridge	overu	ie Sai	Diego			ETHOD			Z/	1/2015		GED I			6 of 8 CKED BY
Caso		D14E1							nic Co						TS			M	
SC50	NG EQUI NO	PMEN	•					BORII 6	NG DIA	. (in)	22	AL DEP	ΓH (ft)	GROUN 0	ID ELE	V (ft)		1 <i>IELEV.</i> 0 0 / <i>0.0</i>	GROUND WATER (fi
	ING MET	HOD					NOTES					- !					¥ 0.0	0 / 0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 80	%, N <sub>6</sub>	<sub>io</sub> = 80/6	0 * N	=1.331	Ispt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC			DES	CRIPT	ION A	ND CLA	SSIFICA	TION
- - - - -155										- - - 155_			rowni	ARALIC sh gray; low pla	moist;	OSITS mos	<b>S</b> : Sand	dy SILT s; some	(ML); dense; fine grained
- - - - -160										160		S	ilty S/nostly	AND (SM	M); ver	y den	se; bro	ownish g	ray; moist;
-	_									- -		fil m	nes; s nodera	ome finately ind	e grain lurated	ned S	AND; lo	ow plast	moist; mostly icity;
165 	165 		C-9						PA	165_		S	AND;	little fin	es; noi	nplas	tic.		. — — — — —
1/2									PI			g	rained	SAND;	; low p	lastici	ity; indu	urated.	o, muo mio
5 	170									170		L	L=36,	PL=20,	PI=16	<u> </u>			
20 201300 BOXING EOGS: GD   172   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   173   17	_									-				AND (SI some fi				ıy; moist	t; mostly fine
	 175 									- 175_ - -									
	_									-									
GR(				CON ity Ro			_		OF SU LO	IS SUMM THIS BC BSURFA CATIONS TH THE F	ORING CE CO S AND	AND AT ONDITIO MAY CH	THE NS MA	TIME OF AY DIFFI E AT THI	DRILLER AT	JNG. OTHE	R	F	FIGURE
	9	San	Die	go, C	A 92	126	•		PR	ESENTE NDITION	D IS A	SIMPLII	FICAT			CTUA	L		A-12 f

		INIC			חסו		PROJE	CT NA	ME						PROJE	ECT N	NUMBER	R	BORING
	DCATION		רו כ	RECC	טאנ		West I	Missic	n Bay	/ Drive I	Bridg	je F	Replacem STAF		SD1	1301 FINIS			S-15-006 SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over th	ne San	Diego							1/2015		2/1	7/2015		7 of 8
DRILLII	NG COM	PANY							ING M nic Co	ETHOD re					LOGG		BY .	CHE	CKED BY
DRILLII	NG EQUI	PMEN	Γ						NG DIA				DEPTH (ft)					IELEV. G	ROUND WATER (fi
SC50	OO ING MET	HOD					NOTES	6 3			2	21		0			▼ 0.0	/ 0.0	
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 80	%, N <sub>6</sub>	<sub>0</sub> = 80/60	0 * N	l =1	.33Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	og <b>Z</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC	507		DESC	CRIPTIO	ON AI	ND CLAS	SSIFICA	TION
-			C-10						PA PI	- - -			dense; nonpla	ARALIC gray; mo stic. 0% PL=23,	oist; mo Grave	ostly	fines; s	ome SA	ND;
185 	185 									185				SILT (MI come fine					moist; mostly city.
- 190 -	190 									190_							. — — —		
- - - 195	  195									- - 195—			Silty S/ SAND;	AND (SM some fir	1); very nes; no	den npla	se; gray stic.	r; moist;	; mostly fine
200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 -	200 									200									
	205 									205									———————stly fines; ghtly indurated.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BC BSURFA CATIONS TH THE F ESENTE	ORING CE C S AND PASS D IS /	AN ONI O MA AGE A SII	PLIES ONLY ID AT THE DITIONS MAY CHANGE OF TIME. MPLIFICAT JNTERED.	TIME OF AY DIFFE E AT THIS THE DA	DRILLI R AT C S LOCA TA	NG. THE	R N		FIGURE A-12 g

F	BOR	INC	3 R	RECC	)RD		PROJE			. Daile	Delalara	Davidada		PROJEC		ER	BORING S-15-006
	CATION						vvesti	VIISSIC	лі Бау	Drive	briage	Replacem STAF		SD13	IISH		SHEET NO.
West	Missic	n Bay	/ Driv	e Bridge	over th	ne San	Diego			ETHOD		2/1	1/2015	LOGGE	2/17/20		8 of 8 HECKED BY
Caso		ANI							nic Co					TSL	, 61		MAF
	NG EQUI	PMENT	Γ						NG DIA	. (in)		DEPTH (ft)		ELEV (fi	<b>'</b>	TH/ELE\	V. GROUND WATER (ff
SC50	00 ING MET	HOD					NOTES	6 			221		0		₹ 0	.0 / 0.	0
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 80	%, N <sub>6</sub>	<sub>o</sub> = 80/6	0 * N =	1.33Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>O</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CL	ASSIFIO	CATION
- - - - - -215										- - - 215_		dense;	ARALIC gray; mo nonplastic	oist; most	TS: Silt	y SANI grained	D (SM); very SAND; some
- - 220	220		C-11						PA PI	- - 220_ -		some f 0% Gra		ed SAND Sand; 8	; low pl	asticity	st; mostly fines; ; lightly indurated.
- - - 225										- - - 225		Ground Boring This Bo	of boreh dwater er terminate oring Rec	ncountere ed at plar cord was	ed at 0 f nned de prepare	pth. ed in ac	ccordance with
- - -										- - -			itation Ma			y, Olas	Siliation, and
230 — 230 — 235 — 235 — 235	230 									- 230_ - -							
.1	235 									- <b>235</b> _ - -							
NE PER PER PER PER PER PER PER PER PER PE																	
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATIONS TH THE I ESENTE	DRING AI CE CON S AND M PASSAG D IS A S	PLIES ONL' ND AT THE DITIONS MAY CHANGI E OF TIME. IMPLIFICAT	TIME OF AY DIFFE E AT THIS THE DAT	DRILLING R AT OTH LOCATI TA	B. HER ON		FIGURE A-12 h

Р	3OR	INC	3 F	RECC	)RD	i 1	PROJE				D-2.1	D'				NUMBER		BORING
	CATION		۱ ر	,	/I \U		west I	Missic	on Bay	/ Drive	Bridge	Replacem		SD	130			R-15-00'
			/ Driv	e Bridge	over fl	he Sar	n Diego	Rive	er				29/2015			2/2015		1 of 9
	IG COM		,	90	- , - , ti		<u></u>			ETHOD		1 0/2			GED E		CHEC	KED BY
Casc									ary W					TS			MA	F
	IG EQUI	PMEN	Г						NG DIA	. (in)	1			D ELE	V (ft)			ROUND WATER
CME	85 NG MET	HOD					NOTES	8			240.	5	19			<b>¥</b> 19.0	/ 0.0	
			, Dro	p: 30 in.	(Auton	natic)			%, N <sub>6</sub>	<sub>0</sub> = 84/6	60 * N =	1.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N <sub>50</sub>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON A	ND CLASS	IFICAT	TION
_5			B-1						PA CR EI R	- - - - 5 —		brown; some f 2% Gra Poorly light ye	moist; m ines; trad avel; 56% graded s	nostly ce gra 6 San sand v prown;	fine to vel ar d; 42° vith si mois	o medium nd cobble % Fines It (SP-SM st; mostly	graine low p	ght orangish ed SAND; lasticity. lium dense; ained SAND;
		X	R-2	5 11 13	23	21	17.1	106	PA PI	-		fines; s	ome SA	ND; Ìo	w to	medium p	rown; ı lasticit	moist; mostly ty.
				"					С	_		0% Gr	avel; 31%	6 San	d; 69°	% Fines		
	— —10									_	Y//	LL=36,	PL=15,	PI=21				
-10										10 — - - -								
-15	<u> </u>	X	S-3	2 3 4	7	10			PA	15 — - -		CLAY some f	(CL); me	dium : ed SA	stiff; c	medium p	moist;	y lean mostly fines; y; micaceous.
	_									_		,						
-20										20 — -		Lean C mostly micace	fines; fev	 n sand w fine	 I (CL) grain	– – <b>– –</b> ); medium ed SAND	stiff; d ; medi	dark gray; wet; um plasticity;
-25	5 5 	X	R-4	17 6 5	11	10	58.1	65	PA PI C	- 25 — - - -			avel; 25% , PL=21,			% Fines		
GRC	OUP	DF	└── LTΔ	CON	SUI	TAN	ITS.	INC	TH			PLIES ONL'					F	IGURE
							_		SU	BSURFA	ACE CON	DITIONS M.	AY DIFFE	RAT	OTHE		•	
				ity Ro go, C	-			13	WI PR	TH THE ESENTE	PASSAG ED IS A S	AY CHANG E OF TIME. IMPLIFICAT UNTERED.	THE DA	TΑ			,	A-13 a

R	CR	INC	3 R	RECC	)RD		PROJE			. D=	D-4-4	Daw!-	1			NUMBER		BORING D 15 00
SITE LO							vvest i	VIISSIC	on Bay	y Drive	Briage i	Replacer ∫st <i>i</i>		รบ	130			R-15-00 SHEET NO.
West	Missio	n Bay	y Driv	e Bridge	over t	he Sar	n Diego	Rive	r				29/2015			2/2015		2 of 9
RILLIN	G COMI	PANY						DRILL	ING M	ETHOD		, 2,			GED E			CKED BY
Casca	ade <b>G EQU</b> II	DALENI	_						ary W		I		V 0501111	TS		DEDT!!	M/	
CME		PIVIEIN	•					8 8	NG DIA	L. (IN)	240.	DEPTH (fi	gROUN 19	D ELE	ν (π)	¥ 19.0		GROUND WATE
	NG MET	HOD					NOTES				240.	<u> </u>	1 19			± 13.0	77 0.0	<u> </u>
Hamm	ner: 14	0 lbs.	., Dro	p: 30 in.	(Auton	natic)	ETF	R = 84	%, N <sub>6</sub>	<sub>50</sub> = 84/6	0 * N =	1.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	<b>N</b>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ON A	ND CLASS	SIFICA	TION
-	_									- - -		CLAY	ALIC EST (CL); stiffed SAND;	f; gray	; wet;	mostly fi	3: Sandines; s	dy Lean some fine
-35	15  		R-5	3 13	39	55	20.5	104	PA	35 —		wet; r	graded Snostly fine shells.	SAND grain	with :	silt (SP-S AND; few	SM); de fines;	ense; gray; nonplastic;
				26					DS	_			ravel; 89%	√ San	d: 8%	Fines		
_	_									_		0,00			u, u,			
	20																	
40	20									40								
-40	_									40 —								
F	_									-								
+	-									-								
-	-									_								
-	25									_								
-45	_			_						45 —								
-	_	$\times$	S-6	9 13	28	39				_								
	_			15						_								
	30																	
-50	_									50 —								
-	-		SH-7				31.3	92	PA C	-		0% G	ravel; 92%	6 San	d; 8%	Fines		
}	_									_								
-	_									_								
-	35									_			LAY (CH) trace SAI				gray; v	vet; mostly
-55	_									55 —		·			•	-		
-	_		SH-8				68.0	61	PA	_			ravel; 8%			riil <del>e</del> s		
-	_								PI C	_		LL=62	2, PL=28,	PI=34				
	_									_								et; mostly
L	<b>40</b>									_	$ \  \  \  \  $	fines;	some fine	grain	ed S	and; low	plasti	icity.
$\Box$																<del></del>		
GRC	UP	DE	LTA	CON	SUL	TAN	ITS,	INC	• OF	THIS BO	DRING AN	ND AT THE	Y AT THE	DRILL	.ING.		F	FIGURE
(	924!	5 A	ctiv	ity Ro	oad.	Suit	e 10	3	LO	CATION	S AND M	AY CHANG	MAY DIFFE SE AT THIS	S LOC				
				/				_					. THE DA			- 1		A-13 b

	3OR		G R	RECC	RD		PROJE West I			y Drive	Bridge Re	<u> </u>			130		R	BORING R-15-007 SHEET NO.
Wesi DRILLII Caso DRILLII CME SAMPL	t Missio NG COM Cade NG EQUI 85 ING MET	PANY PMENT	Γ	e Bridge			NOTES	DRILL Rot BORII 8	ING Mary W	A. (in)	TOTAL DI 240.5	EPTH (ft)	29/2015	LOG	4/2 GED I	2/2015 BY DEPTH	CHE M/	3 of 9 CKED BY AF GROUND WATER (F
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION C RESISTANCE C (BLOWS / 6 IN)	BLOW/FT "N"	z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG LOG	σινσμι	DES	SCRIPT	ION A	ND CLA	SSIFICA	TION
- - - - - -										- - - 65 —		(ML); r	d SAND;	dense; ; low p	; gray lastici	; wet; n ity; few	nostly fir shells.	dy SILT nes; some fine Interbedded nts, micaceous.
- - - -70 - - - -	50		S-9	3 4 5	9	13			PA	70 —		graine		; some	fines	; nonpl	astic; fe	ret; mostly fine w shells.
- 3 - 3 - 3 - 80	60 	X	S-10	7 5 6	11	15			PA	80 —		grained Thinly dark gr 0% Gra ———— Sandy	d SAND; interbed ray; mos avel; 61 <sup>o</sup> 	; some ded w stly fine % San ——— IL); me	fines ith Fa es; tra d; 39° - — — edium	s; low pl tt CLAY ce fine % Fines - — — — dense	lasticity; ′ (CH); n SAND; s - – – – ; gray; w	ret; mostly fine trace shells. nedium stiff; high plasticity.
80 85  85	65 		S-11	5 7 14	21	29			PA	85 — - - -		Thinly dense; low pla	interbed gray; w	et; mo	stly fi	ne graii	neḋ SÁN	medium ND; some fines;
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS BO IBSURFA ICATION: TH THE I RESENTE	MARY APPL DRING AND ACE CONDIT S AND MAY PASSAGE C ED IS A SIMINS S ENCOUN	AT THE FIONS M. CHANG OF TIME. PLIFICAT	TIME OF AY DIFFI E AT THI THE DA	F DRILL ER AT IS LOC ATA	.ING. OTHE ATIO	R N	F	FIGURE A-13 c

R∩	RIN	GF	RECC	)RD	· I	PROJE			<b>.</b> .	<b>.</b>					NUMBER	BORING
ITE LOCAT		O I	LCC	טווע		West I	Missic	on Bay	/ Drive	Bridge	Replacem		SD	130		R-15-0 SHEET NO.
		av Dei-	o Bridas	- 0,10= <del>1</del> 1	ho Sa-	Dicas	, Div.	\r			STAI				sн 2/2015	
West Mis	OMPAN	ay D∏\ Y	e briage	overt	ie oar	ו טiego			ETHOD		3/2	9/2015	LOG	GED E		4 of 9 CHECKED BY
Cascade		-						ary W					TS			MAF
RILLING EC	UIPME	NT						NG DIA		TOTAL	DEPTH (ft)	GROUNI			DEPTH/E	LEV. GROUND WA
CME 85							8			240.	5	19			<b>▼</b> 19.0	/ 0.0
AMPLING N						NOTES										
Hammer:	140 lb	s., Dro	p: 30 in.	(Auton	natic)	ETR	k = 84	%, N <sub>6</sub>	<sub>0</sub> = 84/6	0 * N =	1.40Nspt					
DEPTH (feet) ELEVATION	(feet) SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON A	ND CLASS	SIFICATION
		S-12	3 7 11	18	25			PA	- - - 95 — - -		(SM); r SAND; Thinly mostly 0% Gr:	nedium c some fir nterbedo fines; tra avel; 71%	dense; nes; no ded wi ice fin 6 Sand	gray onpla th Fa e gra d; 29°	r; wet; mo stic; mica t CLAY (C ined SAN % Fines ———— dense; gr	CH); stiff; gray; we D; high plasticity.
-100	5								100— - - - 105—		SILT w	· — — — ith sand ttle fine ç	— — – (ML); graine	- — — medi d SAI	- — — — um dense ND; low p	tic; micaceous.
9	0	R-13	6 8 13	21	20	34.2	87	PA PI DS	- - - 110 -			avel; 18% PL=32,		u, 62	% FINES	
9 115 		S-14	75	150	210				- 115_ - - -		(SP) w mostly	ith grave fine to m	l and o	cobbl n grai	es; very d	graded SAND lense; gray; wet; D; some subround astic.
GROU	 P DE	- ELT∆	CON	SUL	└── TAN	TS.	INC	TH OF			PLIES ONL'					FIGURE
						_		SU	BSURFA	CE CON	DITIONS M.	AY DIFFE	R AT	OTHE		
92	40 <i>F</i>	1CLIV	ity Ro	Jau,	Juit	G TO	<b>'</b>				AY CHANGI E OF TIME.			AHON	۱ ۱	A-13 d
					<b>126</b>				ESENTE							

		INIZ			<u> </u>		PROJE	CT NA	ME					PROJ	JECT N	NUMBER	₹	BORING
	SUK SCATION		א כ	RECC	スレ	1	West I	Missic	n Bay	y Drive	Bridge F	Replacem		SD	130I FINIS			R-15-007 SHEET NO.
			/ Driv	e Bridge	over tl	he Sar	Diego	Rive	r				29/2015			2/2015		5 of 9
DRILLII	NG COM							DRILL	ING M	ETHOD		,		1	GED E			CKED BY
Caso	ade IG EQUI	PMEN	Γ						ary W		TOTAL	DEPTH (ft)	GROUNI	TS D ELE		DEPTH	MA IELEV. G	\F GROUND WATER (1
CME	85							8		. ,	240.		19				0 / 0.0	
	ING MET mer: 14		, Dro	p: 30 in.	(Auton	natic)	NOTES		%, N <sub>6</sub>	<sub>:0</sub> = 84/6	0 * N =1	.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	200	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC		DESC	CRIPT	ION A	ND CLAS	SSIFICA	TION
														l and rediun	cobbl n grai	es; very	dense; ND; son	ed SAND gray; wet; ne subrounded
- -	  110									-		gray; w		ly fine				ery dense; fines; few
130 - - -	_									130 _ _		dense;	gray; we subround	et; mo	stly fir	ne to me	edium g	I cobbles; very rained SAND; v fines;
- 135 -	115 									- 135_ -								
- - - 140	 120 									- - 140_								
- - - -140 - - - - - -145										_ _ _								
	_									145 _ _						. <b></b>		
GRO	— —-130									_		Lean C few find	CLAY (CL e grained	.); ver I SAN	y hard ID; lov	d; gray; w plastic	moist; r city; stro	nostly fines; ongly indurated.
GRO				CON ity Ro					OF SU LO	THIS BO BSURFA CATION	ORING AN ACE CONI S AND MA	PLIES ONL' ND AT THE DITIONS MAY AY CHANGI E OF TIME.	TIME OF AY DIFFE E AT THIS	DRILL R AT S LOC	ING. OTHE	R		FIGURE A-13 e
	5	San	Die	go, C	A 92	2126	)		PR	ESENTE	D IS A SI	MPLIFICAT UNTERED.			CTUAI	L		<i>i</i> (-10 <del>C</del>

P	()R	INI	3 R	ECC	)BU	ı	PROJE							1		NUMBER		BORING
	CATION		<u> </u>		/ I \ D		West	Missic	on Bay	y Drive	Bridge	Replac	ement TART	SE	130			R-15-00'
			, Driv	e Bridge	over t	he Sar	Diego	Rive	r				3/29/2	015	1	2/2015		6 of 9
DRILLIN	G COM	PANY	י אווע	o Diluge	OVEI L	ic Gai	י טו <del>ט</del> ער			ETHOD			JI Z JI Z		GED		CHE	CKED BY
Casca	ade							Rot	ary W	/ash				TS			M	<b>AF</b>
	G EQUII	PMEN <sup>-</sup>	Т					BORII	NG DIA	. (in)		_ DEPTH	(ft) GR	OUND ELE	V (ft)		LEV.	GROUND WATER
CME	85 <b>NG MET</b>	HOD					NOTES	8			240	.5	1	9		<b>▼</b> 19.0	0.0	)
			., Dro	p: 30 in.	(Auton	natic)			%, N <sub>6</sub>	<sub>io</sub> = 84/6	0 * N =	1.40Ns	pt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z°	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG			DESCRIPT	ION A	ND CLASS	SIFICA	TION
		<u>"</u>	S-15	60	120	168		<u> </u>	PA									
_155 -			5-12	60	120	100						hrad low 0%	d; gray; plastici Gravel;	ALIC DEP moist; mo ty; strongl 9% Sand =22, PI=17	stly fi y indu ; 91%	nes; few ırated.	CLAY fine g	(CL); very rained SAND;
_160	140 	$\geq$	S-16	75	150	210			PA	160 <u></u>		San som	- — - ndy SIL⊺ ne fine ເ	- – – – - Γ (ML); ve grained SA	- – - ry dei ND;	- – – – - nse; gray; low plasti	 ; mois icity; s	t; mostly fines;
-	_ _ _									- - -		Thir gray	y; wet; r	bedded w nostly fine weakly ce	grair	ned SAND	(SM); D; little	very dense; e fines;
_165	145  									- 165_ - -		0%	Gravel;	40% San	d; 60	% Fines		
-170	150 	$\geq$	S-17	75	150	210			PA	- 170_		0%	Gravel;	45% San	d; 55	% Fines		
- -	_ _ _									- - -		som	າe fine (	gràined S	۸ND;	trace sub	 ; mois round	t; mostly fines;
-175	155  									- 175_ -		plas	sticity; s	trongly ind	durate	ed.		
-	— — —-160									- - -								
GRC	UP	DE	LTA	CON	SUL	TAN	ITS,	INC	. OF	THIS BO	RING A	ND AT TI	HE TIME	THE LOCA	_ING.		F	FIGURE
				ity Ro go, C	-			3	LO Wi	CATIONS TH THE F	S AND M PASSAG	IAY CHAI E OF TIN	NGE AT //E. THE	IFFER AT THIS LOC DATA OF THE A	ATIO	N		A-13 f

F	ROR	INI		RECC	)RD		PROJE			<u> </u>			,			NUMBE	R	BORING D 45 007
SITE LC			J 1 V				West I	Missic	on Bay	/ Drive	Bridge	Replacem		SL	130    FINIS			R-15-007 SHEET NO.
			/ Driv	e Bridge	over tl	ne San	Diego					3/2	29/2015			2/2015		7 of 9
DRILLIN	NG COM	PANY							.ing m ary W	ETHOD				LOG	GED E	3Y		CKED BY
	iG EQUI	PMEN	г						NG DIA		ТОТА	L DEPTH (ft)	GROUN			DEPTI	MA HIELEV. G	AF GROUND WATER (
CME								8			240		19			<b>▼</b> 19	9.0 / 0.0	
	ng met ner: 14		, Dro	p: 30 in.	(Auton	natic)	NOTES		%, N <sub>6</sub>	<sub>o</sub> = 84/6	0 * N =	1.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"		MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION A	ND CLA	SSIFICA	TION
- - -			S-18	100	200	280			PA	- - -		dense; SAND		oist; n sticity;	nostly weak	fines; s	some fin ented.	(ML); very e grained
185  _ _ _ _ 190	165   170			75	450	240				185						. — — –		
- - - - -195			S-19	, 6	150	210				- - - 195— - -		Silty S graine cemen	d SAND;	1); ver some	ry den	se; gra ; nonpl	ay; wet; r lastic; we	nostly fine eakly
200  _ _	180  	<b>&gt;</b>	S-20	50	100	140			PA PI	200_		trace for cements	ne gràine	ed SA Sand	ND; I	ow plas		mostly fines; oderately
- - - - - - - -205	185   190									205								
4	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATIONS TH THE F ESENTE	ORING A CE CON S AND M PASSAG D IS A S	PPLIES ONL IND AT THE INDITIONS M MAY CHANG BE OF TIME. BIMPLIFICAT DUNTERED.	TIME OF AY DIFFE E AT THIS THE DA	DRILI R AT S LOC TA	LING. OTHE ATION	R N		FIGURE A-13 g

R	OR	INI	G R	RECC	)RN		PROJE			Б.	D	Б .				NUMBER		BORING D 45 00
	CATION		<u>۱</u> ۲		/ I \ D		west I	Missic	on Bay	y Drive	Bridge	Replace	nent ART	SD	130			R-15-00'
			v Driv	e Bridge	over ti	ne Sar	n Dieac	Rive	er				(29/2015			2/2015		8 of 9
RILLIN	IG COMI	PANY	,	<u>g-</u>						ETHOD			20,2010		GED I		CHE	CKED BY
Casca			_						ary W		_		_	TS			M	
	G EQUI	PMEN <sup>-</sup>	Т						NG DIA	l. (in)	l l	. DEPTH (f	-1	D ELE	V (ft)			GROUND WATER
CME	၀၁ NG MET	HOD					NOTES	8 S			240	.5	19			<b>▼</b> 19.0	7 0.0	<u> </u>
Hamn	ner: 14	0 lbs.	., Dro	p: 30 in.	(Auton	natic)	ETF	R = 84	%, N <sub>6</sub>	<sub>so</sub> = 84/6	0 * N =	1.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N 09	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPT	ION A	ND CLASS	SIFICA	TION
-		<b>&gt;</b>	S-21	60	120	168			PA	-		very o SANI	PARALIC dense; gra D; low plas ravel; 26%	ay; mo sticity;	ist; m weak	ostly fine dy cemer	s; little	and (ML); e fine grained
-215 - -	195  									215— - -								
	— —-200									-		SILT fine g	— — — — (ML); very rained SA	– – – / dens ND; k	e; gra	ay; moist; asticity; s	mostl trongly	y fines; trace y cemented.
-220	_	X	S-22	25 50	75	70				220— - -								
-225 -	— —-205 —									225_								
	_									-		some	fine grain	ed SA	ND;	nonplasti	c; stro	t; mostly fines;
-230	210 			60	400		04.5	100		230_		gray;	/ interbede moist; mo astic; wea	stly fir	ne gra	ained SAI		very dense; tle fines;
	_		S-23		120	112	21.5	109	PA PI			0% G	ravel; 449	% San	d; 56'	% Fines		
												LL=N	P, PL=NF	P, PI=N	ΝP			
	_											- /-		•				
ļ																		
	215									_								
-235	_									235_								
}	_									-								
}	_									-								
	_																	
-	220									-								
 GRC	)UP	DE	└── LTA	CON	SUL.	TAN	ITS.	INC	TH OF			PLIES ON ND AT THI				ı	F	FIGURE
				ity Ro			-		SU	BSURFA	CE COV	DITIONS I	AY DIFFE	R AT	OTHE		-	· - <del>-</del>
•				go, C	-				WI <sup>*</sup> PR	TH THE I ESENTE	PASSAG D IS A S	E OF TIME IMPLIFICA OUNTERED	THE DA	TA				A-13 h

		INI			<u> </u>		PROJE	CT NA	ME					PRO	JECT N	NUMBER	₹	BORING
	DCATION		J	RECC	שאנ		West I	Missic	n Ba	y Drive	Bridge	Replacem		SE	2130			R-15-007
			v Driv	e Bridge	over ti	ho San	Diego	. Rive	r			STAI	RT 29/2015		FINIS	sн 2/2015		<b>SHEET NO.</b> 9 of 9
DRILLII	NG COM	PANY	y Dilv	e bridge	OVELL	ie Gai	Diego			ETHOD		J/2	3/2013		GED E		CHE	CKED BY
Caso									ary W						SL		MA	
	NG EQUI	PMEN	Т						NG DIA	l. (in)	1	DEPTH (ft)		D ELE	EV (ft)			GROUND WATER (ft)
CME SAMPL	ଅପ ING MET	HOD					NOTES	8 S			240.	5	19			¥ 19.	0.0	
Hami	mer: 14	0 lbs	., Dro	p: 30 in.	(Auton	natic)	ETF	R = 84	%, N <sub>6</sub>	<sub>so</sub> = 84/6	0 * N =	1.40Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIP	ΓΙΟΝ ΑΙ	ND CLAS	SSIFICA	TION
		>	S-24	75	150	210						OLD P	ARALIC mostly S	DEF	OSITS	S: Silty e fines:	SAND (	(SM); very
										_			of bore				попріс	<u></u>
-										_		Ground	dwater er terminat	ncou	ntered	at 19 ft.		
_ 245	225 									245 <u> </u>		the Ca	oring Red Itrans So Itation Ma	il & F	Rock L	ogging,	in acco Classif	rdance with iation, and
_										_					(	- 7-		
L	_									_								
L																		
	230																	
7	230									050								
250										250_								
<b> </b>	_									-								
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-	_									-								
-	<u></u>									_								
255	_									255_								
<u>,</u>  -	_									_								
! !										_								
<u> </u>  -										_								
	240									_								
_260										260_								
										_								
-										_								
	245									_								
265	_									265_								
<u>}</u>	_									-								
<u></u>	_									_								
-	_									_								
-										-								
GRO				CON			_		• OF	THIS BO	DRING AI	PLIES ONL' ND AT THE DITIONS M	TIME OF	DRIL	LING.		F	FIGURE
;	924	5 A	ctiv	ity Ro	oad,	Suit	e 10	13	LO	CATION	S AND M	AY CHANG	E AT THIS	S LO				۸ 12 :
	9	San	Die	go, C	:A 92	126	ı		PR	ESENTE	DISAS	E OF TIME. IMPLIFICAT JUNTERED.			CTUAI	_		A-13 i

E	BOR	INC	 G R	RECC	RD		PROJE			, Drive	Bridge I	Replacem		PROJECT		2	BORING <b>R-13-001</b>
SITE LO	CATION	1										STA		FIN	ISH		SHEET NO.
	section		est M	ission Ba	ay Drive	e and	Interst			Diego,	CA	7/	18/2013	7.	/19/2013		1 of 6 CKED BY
	ic Drilli								ary W					MSL/1		MA	
	NG EQUI		Т						NG DIA		TOTAL	DEPTH (ft)	GROUNE				ROUND WATER (ft
Unim	nog ING MET	THOD					NOTES	8			160.	8	19		<b>▼</b> 18.	0 / 1.0	
	(2.4"),		1.4")				1		%, N <sub>6</sub>	<sub>o</sub> = 87/6	0 * N =	1.45*Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>O</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTION	AND CLAS	SSIFICAT	TION .
- - -		X	S-1	8 6 6	12	17			PA	- - -		brown; 69% S	moist; m	ND (SM); ostly fine % Fines; 7	SAND; li	ttle fines	o dense; s; nonplastic.
5 - -		X	R-2	12 20 24	44	43	9.4	106.8	DS	5 — - -		Dense					
_ 10 _ _ _ _	10   5	X	S-3	8 14 16	30	44			PA	- 10 — - - -		66% S	AND; 349	% Fines; (	0% GRAV	/EL	
N GDCLOG.GDT 1/24/19			R-4	7 10 17	27	26	22.2	95.8	DS	15 — - - -		(SM); i SAND	medium d ; some fin	JARINE [ lense; dar les; low pl ary Wash	rk gray; n lasticity; ı	noist; mo	ostly fine
SD SD130C BORING LOGS 2013.GPJ GDCLOG.GDT C C C C C C C C C C C C C C C C C C C		X	S-5	  	1	1			PA	20 — - - -		mostly micace 99% F	fines; tra eous; PP= ines; 1%	ce fine SA =3/4 to 1 TS SAND; 09	AND; me SF. % GRAVI	dium pla EL	gray; moist; sticity; it of the rod.
25 TOS TOS TOS TOS TOS TOS TOS TOS TOS TOS			R-6	2 3 4	7	7	35.4	87.0	С	25 — - - -			ine SAND	 _);			———————stly fines; s;
GR(	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LO WI PR	THIS BO BSURFA CATION: TH THE I ESENTE	DRING AN ACE CON S AND MA PASSAGI ED IS A SI	PLIES ONL ND AT THE DITIONS M AY CHANG E OF TIME. IMPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THIS THE DAT TON OF T	DRILLING R AT OTH S LOCATION FA	ER DN		GURE A-14 a

			G F	RECC	)RD	)	PROJE West			/ Drive	Bridge	e Replacen		SD	1300		R	BORING R-13-001
Inter	NG COM	of W	est M	lission Ba	ay Driv	e and	Interst	DRILL	ING M	ETHOD	, CA	7/°	RT 18/2013	LOG	GED E	19/201 <b>3Y</b>	CHE	SHEET NO. 2 of 6 ECKED BY
DRILLII	fic Drilli NG EQUI NOG NG MEN	PMEN	т				NOTE	BORII 8	ary W NG DIA			<b>AL DEPTH (ft)</b> 0.8	GROUN 19		SL/TS V (ft)	DEPTI	M. H <i>IELEV.</i> ( 3.0 / 1.0	AF GROUND WATER (ft )
	(2.4"),		(1.4")						%, N <sub>6</sub>	<sub>o</sub> = 87/6	0 * N	=1.45*Nspt	t					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON AI	ND CLA	ASSIFICA	ATION
-		X	S-7	2 3 3	6	9				- -		(ML); I	LIC EST oose; da ; low plas	rk gray	/; wet	t; mostl	<b>TS</b> : San ly fines;	dy SILT some fine
35 	15		R-8-0	5	11	11				35 — -		No rec		Sandca	itcher	· insert	ed into r	modified Cal
-		X	R-8-1	6  	1	1	31.2	93.0	С	-		Silty S SAND	AND (SM; some fir	— — — И); very nes; fe	y loos w she	se; darl ells; lov	k gray; v w plastic	vet; mostly fine city.
40 _ -		X	S-9	2 3 4	7	10			PA	40 — - -			m dense. SAND; 27		es; 0%	% GRA	VEL	
- - -45 - -	25 		R-10	2 3 3	6	6	36.5	83.4	С	- 45 — -		Loose	; PP=1¼	TSF.				
50 - 50 - 50 - 50 -	30 	X	S-11	5 5 3	8	12			PA	- 50 — -			m dense; AND; 29					PP=1 TSF.
55	35 	X	R-12	9 14 22	36	35	23.6	102.8		- 55 — - -		Silty S little fir	 AND (SM nes; nonp	— — — И); den olastic.	- — — ise; g	- — — - ray; we	 et; most	- — — — — — — — — — — — — — — — — — — —
	<u>40</u>								 	-	AARY A	DDI IES ON	V AT TUE	- 1 004	TION			
GRO	924	5 A	ctiv	ty Ro go, C	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATION TH THE ESENTE	ORING ACE CO S AND PASSA ED IS A	APPLIES ONL AND AT THE INDITIONS M MAY CHANG GE OF TIME. SIMPLIFICAT COUNTERED.	TIME OF AY DIFFE E AT THIS THE DA TION OF T	DRILL ER AT ( S LOCA TA	ING. OTHE ATION	R N		FIGURE A-14 b

	3OR		G F	RECC	RD	)	PROJE West			y Drive	Brid	ge Re			1	JECT N		R	BORING R-13-001
Inters DRILLII Pacif DRILLII	section NG COM Tic Drilli NG EQUI	of Wo		ission Ba	ay Drive	e and	Interst	DRILL Rot		ETHOD /ash	то	TAL DE	•	8/2013 GROUN	LOG M	7/1 GED E SL/TS	19/201 BY SL DEPT	CHE M. H <i>IELEV.</i> (	SHEET NO.  3 of 6 CKED BY  AF GROUND WATER (1)
Unim SAMPL	IOG ING ME	ГНОD					NOTE					60.8		19			<b>¥</b> 18	3.0 / 1.0	)
CAL	(2.4"), 	SPT (	(1.4") 				ETF	R = 87	%, N <sub>∈</sub>	<sub>30</sub> = 87/6	1 * 06	\ =1.4	5*Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC	POOT		DES	CRIPT	ION AI	ND CLA	ASSIFICA	TION
- - -		X	R-13	3 2 4	6	6	47.8	73.2		- -			mediur		ark gra	ay; sti	ff; wet;	mostly	n CLAY (CL); fines; trace fine
- 65 - -		X	S-14	1 3	4	6			PA	65 —				ines; 13 <sup>9</sup> to 1 TSF		ND; 09	% GRA	AVEL	
- 70 - -	50  		R-15	4 8 8	16	16	30.6	93.0		70 — -			fine SA		e fines	; trace			ray; wet; mostly astic to low
	55  	X	S-16	9 10 12	22	32			PA	- 75 — - -			gray-bı fines; r	graded s rown; we nonplasti AND; 12	et; mos ic; mic	stly fin aceou	ne to m us.	edium S	- — — — — — ense; 6AND; few
5 – 80 - 80 	60 	X	S-17	7 5 4	9	13			PA	80 — - - -			fines; s micace		e ŜAN '=1½ ⊺	ID; no ΓSF.	nplasti	ic to low	ray; wet; mostly plasticity;
- 85 	65   70		S-18	11 13 15	28	41				85 — - - -									t; mostly fine to caceous.
GRO	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI PR	THIS B BSURFA CATION TH THE	ORIN ACE O IS AN PASS ED IS	G AND A CONDIT D MAY SAGE O A SIMP	AT THE TONS MA CHANGI OF TIME. PLIFICAT	Y AT THE TIME OF AY DIFFE E AT THI THE DA	DRILLER AT S LOC	LING. OTHE ATION	R N	l	FIGURE A-14 c

В	ORI	N(	 3 R	RECC	RD		PROJE			. Drive I	Oridaa l	Donlagon	ont.	PROJECT		R	BORING R-13-001
SITE LOCA							west	VIISSIC	л Бау	/ Drive i	onage i	Replacem STAF		SD13	ISH		SHEET NO.
Intersed	ction o	of We	est M	ission Ba	y Drive	e and	Interst	ate I-8	3, San	Diego,	CA	7/1	8/2013		/19/201	3	4 of 6
DRILLING										ETHOD				LOGGED			CKED BY
Pacific DRILLING			-						ary W		TOTAL	DEDTIL (ft)	CROUN	MSL/		M/E/ EV (	
Unimog		INICIAI	•					8 8	NG DIA	. (IN)	160.	DEPTH (ft)	19	ID ELEV (π	7	3.0 / <i>1.0</i>	GROUND WATER (ft
SAMPLING		HOD					NOTES				100.	0	19		<del>*</del> 10	3.0 / 1.0	<u>'</u>
CAL (2.	.4"), S	PT (	1.4")				ETF	R = 87	%, N <sub>6</sub>	<sub>o</sub> = 87/6	) * N =	1.45*Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	200	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION	AND CLA	ASSIFICA	TION
	-	X	S-19	11 12 13	25	36			PA	-		(SM); c	lense; g	TUARINE I ray-brown	; wet; so	me fines	SAND s; nonplastic.
95 	- 75 - -	X	S-20	8 16 23	39	57				95 —		Very d	ense; tra	ace shells.			
100	- - 80 - - - -		S-21	12 19 18	37	54			РА	100		gray-bı fines; r 1½-inc	own; we onplasti h in diar	et; mostly fic; micace	fine to mous; trac	edium S e GRAV	ery dense; AND; few EL up to
G.GDT 1/24/19 - 102 — — — — — — — — — — — — — — — — — — —	85 - - -									105— -			- — — — AND (SN	————	— — — -		. — — — — — — — — — — — — — — — — — — —
20130C BORING FOGS 2013:GPJ GDCFOG:GD	- 90 - - - -	X	S-22	9 16 19	35	51			РА	110_		mediur	n SAÌ\D	y, terise, ; little fine; )% Fines;	s; nonpla	astic; mic	
115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115   115	- 95 - - - - - -									115		SILT a mostly	nd GRA fine to c		SM); vei ND; little	y dense GRAVE	
GROU 9	245	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		OF SU LOO WI PR	THIS BC BSURFA CATIONS TH THE F ESENTE	RING AN CE CON S AND M. PASSAGI D IS A SI	PLIES ONL' ND AT THE DITIONS MAY CHANGI E OF TIME. MPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THI THE DA	F DRILLING ER AT OTH IS LOCATION TA	i. IER DN		FIGURE A-14 d

	ROR	INIC		RECC	)BD		PROJE							PROJECT		R	BORING
	CATION		יו כ	LUC	טאוע		West I	Missic	n Bay	/ Drive	Bridge	Replacem		SD130			R-13-001 SHEET NO.
Inter	section	of We	est M	ission Ba	ay Drive	e and I	nterst	ate I-8	3, San	Diego,	CA		 18/2013	7/	19/201		5 of 6
	NG COM Tic Drilli								.ing m ary W	ETHOD				LOGGED I			CKED BY
	NG EQUI		Γ						NG DIA		TOTAL	DEPTH (ft)	GROUN	D ELEV (ft)		MA NELEV. G	AIT GROUND WATER (fi
Unim	og ING MET	HOD					NOTE	8			160.	.8	19		<b>▼</b> 18	.0 / 1.0	
	(2.4"), 3		1.4")				NOTES		%, N <sub>6</sub>	<sub>o</sub> = 87/6	0 * N =	1.45*Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	N N	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTION A	ND CLA	SSIFICA <sup>-</sup>	TION
- - -			S-23	43 100	143	207				-		SILT a mostly	nd GRA\ fine to c	DEPOSIT VEL (SW-S oarse SAN neter; few fi	M); ver D; little	y dense; GRAVE	L up to
	110 115 115 120		S-24	14 15 30	45	65			PA	125				% GRAVEI		Fines	
- - - - - - - - - - - - - - - - - - -	125 		S-25	22 60	82	119				- - - 145			vet; most				dense; dark nonplastic to
GRO	924	5 A	ctiv	CON ity Ro	ad,	Suit	e 10		• OF SU LO	THIS BO BSURFA CATIONS TH THE F	ORING A CE CON S AND M PASSAG	ND AT THE IDITIONS M IAY CHANG E OF TIME.	TIME OF AY DIFFE E AT THIS THE DA	ER AT OTHE S LOCATIO	ER N		FIGURE A-14 e

E	BOR	INC	3 R	RECC	RD		PROJE West I			y Drive	Bridge I	Replacem	ent	1	ECT N	NUMBEI C	R	BORING R-13-001
Inters	DCATION Section NG COM	of We	est M	ission Ba	ay Drive	•		ate I-8	3, San			STA			FINIS	<b>вн</b> 19/201		SHEET NO. 6 of 6
Pacif	ic Drilli NG EQUI	ng	r					Rot	ary W	/ash	TOTAL	. DEPTH (ft)	CROUN	MS	GED E	SL	M	CKED BY AF GROUND WATER (ff)
Unim							NOTES	8		(111)	160.		19		<b>v</b> (it)		.0 / 1.0	•
	(2.4"), S		1.4")				1 '		%, N <sub>6</sub>	<sub>so</sub> = 87/6	0 * N =	1.45*Nspt						
DEPTH (feet)	ELEVATION (feet)	Zwa .					MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ION AI	ND CLA	SSIFICA	TION
MX SOIL SD SD130C BORING LOGS 2013.GPJ GDCLOG.GDT 1/24/19	135 140 145 150 155 155		S-26		105	152			PA	165— 165— 175— 175— 175— 175—		dense; nonpla  Hard d  Sandy little fin  Bottom Ground Boring This Betthe Ca	dark grastic. 66% rilling, slanding, slanding for sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for the sanding for	E); hai t); hai t; low p hole at ncounted at p cord woil & Ro	t; mos D; 34 gress rd; da olastic t 161 tered plann vas pr	rk graycity; PP  ft. at 18 ffed dep	; wet; m >4½ TS	iostly fines:
GRC 1005 BORING MMX SOIL	924	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		OF SU LO WI' PR	THIS BO BSURFA CATION: TH THE I ESENTE	DRING AN ACE CON S AND M. PASSAGI ED IS A SI	PLIES ONL' ND AT THE DITIONS M. AY CHANGI EN TIME. IMPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THI THE DA	DRILLER AT ( S LOCATA	.ING. OTHE ATION	R N	i	FIGURE A-14 f

BORING RECORD	PROJ			<b>D</b>		<b>.</b>			NUMBER	BORING
SITE LOCATION	vvest	MISSI	on Bay	y Drive i	Briage	Replacement		SD130		R-09-00 SHEET NO.
West Mission Bay Drive Bridge over the	San Died	o Rive	er			12/1/2	2009		/1/2009	1 of 5
PRILLING COMPANY	J = Z 10 E			ETHOD		1 1 1 1 1 2		OGGED		CHECKED BY
C & L Drilling		_	tary W					JCS		MAF
PRILLING EQUIPMENT			NG DIA	l. (in)		DEPTH (ft) GR		ELEV (ft)		LEV. GROUND WATE
Mayhew 1000  AMPLING METHOD	NOTI	<u>  5</u>			136	1	6.5		<b>¥</b> 16.0	/ 0.5
Hammer: 140 lbs., Drop: 30 in. (Automa			۱%, N <sub>ه</sub>	<sub>so</sub> = 74/60	) * N =	1.23Nspt				
						•				
ELEVATION (feet) SAMPLE TYPE SAMPLE TYPE SAMPLE NO. PENETRATION RESISTANCE (BLOWS/6 IN) BLOW/FT "N"	W	DRY DENSITY (pcf)	~ ~	eet)	ပ					
ELEVATION (feet) (feet) AMPLE TYPE SAMPLE NO. FENETRATIO RESISTANCI BLOWS / 6 III BLOWS / 6 III	No MOISTURE		OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESCR	RIPTION A	ND CLASS	IFICATION
MMPI (1)	Į Š	\\ \\ \\ \	0 =	년	GR.					
	-	5								
						EU 1 0'''	04110	(014)	- 1' 1-	
15				-		FILL: Silty grayish-bro	OWN; M	oist; mos	eaium aer tly fine to	nse; medium grained
						SAND; sor	me fine	s; nonpla	istic.	J
				-						
_5				5 _						
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	14	97	DS							
10				7						
				∹						
				- :						
-10				10 🚽						
S-2 7 24	30		PA	].		77% SANI	D; 23%	Fines; 0	% GRAVE	L
5 13						Dense.				
<u> </u>				].						
				-		Wood frag	ments i	in cutting	s at 13 ft.	
				-						
_15				15 —		GRAVEL I	ayer at	15 ft.		
					1 1	<u> </u>				
										: Sandy SILT
						(ML); loose SAND: few	e; gray; v GRA\	wet; mo /EL laver	stly fines; s: small sl	some fine grained nell fragments;
$\vdash$ $\mid$ $\mid$ $\mid$ $\mid$						nonplastic				
-20				20 —						
5										
SH-3				-						
_25				25						
SH-4	33	90	PA			68% Fines	s: 32% s	SAND		
10			PI			LL=37; PL	=26; PI			
			UC			Su=390 PS	5F			
			SG	-						
				-						
									. 1	
GROUP DELTA CONSULT	ANTS,	INC	TH OF			PLIES ONLY AT ND AT THE TIM				<b>FIGURE</b>
9245 Activity Road, S	_		SU	BSURFA	CE CON	DITIONS MAY D AY CHANGE AT	DIFFER	AT OTHE		
				_,			L			A-15 a

Notes   ETR = 74%, Neo = 74/60 * N = 1.23Nspt	UND ELEV  STUARIN  gray; wet; GRAVEL Ia b low plasti	ON AND CL  NE DEPOS  it mostly fir layers; smaticity; mica ; trace she	THELEV. 16.0 / 0.5  LASSIFICA  SITS: Sames; some accous. I accous. I all fragme	ATION ndy SILT e fine grained
DRILLING COMPANY   C & L Drilling   DRILLING METHOD   Rotary Wash   DRILLING EQUIPMENT   Mayhew 1000   SAMPLING METHOD   Hammer: 140 lbs., Drop: 30 in. (Automatic)   ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt	LOGG JCS UND ELEV .5  ESCRIPTION STUARIN gray; wet; GRAVEL Is to low plasti	GED BY S V (fft) DEPT  ON AND CL  NE DEPOS ticity; mica ; trace she	THELEV. 16.0 / 0.5  LASSIFICA  SITS: Sames; some accous. I accous. I all fragme	ATION  ATION  The grained fragments; nterbedded
C & L Drilling	JCS UND ELEV5  DESCRIPTION  STUARIN  gray; wet; GRAVEL label of low plastic ND (SM);	S V (ft) DEPT  1 ON AND CL  NE DEPOS t; mostly fir layers; smaticity; mica t; trace she	MTHIELEV. 16.0 / 0.5  LASSIFICATION  BITS: Sammes; some aceous. I all shell faceous. I all fragme	ATION  andy SILT e fine grained fragments; nterbedded
DRILLING EQUIPMENT   Mayhew 1000   5	STUARIN gray; wet; gRAVEL lab lo low plasti	ON AND CL  NE DEPOS  it mostly fir layers; smaticity; mica ; trace she	THIELEV. 16.0 / 0.5 16.0 / 0.5 LASSIFICA SITS: Sarnes; some	ATION  andy SILT e fine grained fragments; nterbedded
Mayhew 1000   SAMPLING METHOD   Hammer: 140 lbs., Drop: 30 in. (Automatic)   ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt	STUARIN gray; wet; gRAVEL la b low plasti	ON AND CL  NE DEPOS  t; mostly fir layers; smst ticity; mica ; trace she	LASSIFICA BITS: Sar nes; som raall shell f accous. I ell fragme	ATION  Indy SILT  e fine grained fragments;  nterbedded
Hammer: 140 lbs., Drop: 30 in. (Automatic)  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.23Nspt  ETR = 74%, N <sub>80</sub> = 74/60 * N = 1.2	STUARIN gray; wet; GRAVEL la low plasti	NE DEPOS t; mostly fir layers; sma ticity; mica ; trace she	SITS: Sar nes; som all shell f aceous. I	ndy SILT e fine grained fragments; nterbedded
S-5 2 5 6 PA PA PA PA PA PA PA PA PA PA PA PA PA	STUARIN gray; wet; GRAVEL la low plasti	NE DEPOS t; mostly fir layers; sma ticity; mica ; trace she	SITS: Sar nes; som all shell f aceous. I	ndy SILT e fine grained fragments; nterbedded
	gray; wet; GRAVEL la low plasti ND (SM);	t; mostly fir layers; sma ticity; mica ; trace she	nes; some all shell faceous. I all fragme	e fine grained ragments; nterbedded
S-7 2 3 4 7 9				
3   10   10   10   10   10   10   10   1	35% SANI 36% SANI = 	ID; 1% GR	RAVEL	; trace SAND;
_   <b>I</b> SH-10   28   97   PA   _\:\  Poorly-Grae	98% Fines;	s; 2% SAN 	ID; 0% G	RAVEL 
wet; mostly	SAND; few 11% Fine	w fines; no	onplastic.	); dense; gray;
35 SH-1135 SH-1135 SH-11				
S-12 6 16 16 32 39 PA 55 — 90% SAND	10% Fine	es; 0% GR	RAVEL	
SH-13  48 71 PA PI UC SAND; high 96% Fines; LL=62; PL=	plasticity.	D; 0% GRA	AVEL	stly fines; trace
GROUP DELTA CONSULTANTS, INC.  9245 Activity Road, Suite 103  THIS SUMMARY APPLIES ONLY AT OF THIS BORING AND AT THE TIME SUBSURFACE CONDITIONS MAY DELOCATIONS AND MAY CHANGE AT WITH THE PASSAGE OF TIME. THE		.ING.		FIGURE A-15 b

	ROR	INIC		RECC	)RD	ı .	PROJE						_				NUMBER	₹	BORING
	CATION		J 1 V	LOC			West I	Missic	on Bay	y Drive	Bridg	e Rep	olacem STAF			130 FINIS			R-09-001 SHEET NO.
Wes	Missic	n Bay	/ Driv	e Bridge	over th	he Sar	Diego			ETUOD			12/	1/2009	1.000		/1/2009		3 of 5
	L Drillin								ary W	ETHOD /ash					LOG(		<b>3 Y</b>	M	CKED BY AF
	NG EQUI		Г					_	NG DIA	l. (in)			PTH (ft)	GROUNE	ELE	/ (ft)		IELEV. C	GROUND WATER (f
Mayl SAMPL	new 10	00 THOD					NOTES	5 <b>3</b>			13	6		16.5			<b>¥</b> 16	.0 / 0.5	i
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 74	%, N <sub>6</sub>	<sub>50</sub> = 74/6	80 * N	=1.23	3Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC	)		DESC	CRIPTI	ON A	ND CLAS	SSIFICA	TION
-	45 		SH-14							- - -			stiff; da plastici	rk gray; v ty. Interb	wet; m	ostly d with	fines; to Silty S	race SA SAND (S	CLAY (CH); AND; high 6M). Trace mple recovery.
65 - - -	50 	X	S-15	7 7 10	17	21			PA	65 —		1.1	grained	AND (SM I SAND; AND: 299	some	fines	; nonpla	astic.	et; mostly fine
	55 55	X	S-16	10 16 20	36	44			PA	70 —			wet; mo	ostly fine	to me	dium	graine	d SANÉ	; dense; gray; ); few fines;
06.GDT 1/24/19	60		R-17	11 23	34		30	91	DS	75 — - -			fines; s		grain	ed S	AND; lo	w plasti	vet; mostly icity; contains
SD SD130C BORING LOGS 2009.GPJ GDCLOG.GDT		X	S-18	11 12 17	29	36				- 80 — - -	- - - -	1 1	Dense. No san	nple reco	very.				
	70									85 — -	-								
GRC GRC GRC GRC GRC GRC GRC GRC GRC GRC	_									-				AND (SM n grained					mostly fine to lastic.
GRO				CON ity Ro			_		OF SU LO	THIS BOURFA	ORING ACE CO IS AND	AND A ONDITI MAY (	AT THE ' ONS MA CHANGE	AT THE TIME OF AY DIFFE AT THIS	DRILL R AT C S LOCA	ING. OTHE	R		FIGURE
	9	San	Die	go, C	A 92	126	i		PR	TH THE ESENTE NDITIO	ED IS A	SIMPL	LIFICAT	THE DAT ION OF T	HE AC	TUA	L		A-15 c

В	OR	IN	G R	ECC	RD	1	PROJE			, Drive	Bridge Re	nlacom			JECT N 01300	NUMBER		BORING R-09-00
	CATION						vvest i	viiosic	л Бау	y Diive	bridge Ne	STAR		OL.	FINIS			SHEET NO.
West	Missio	n Bay	/ Driv	e Bridge	over t	he San	Diego	Rive	r			12/	1/2009		12	/1/2009		4 of 5
RILLIN	G COMI	PANY						DRILL	ING M	ETHOD					GED E	ЗҮ		CKED BY
	Drilling G EQUI		_						ary W		T			JC			MA	
	ew 100		'					5 5	NG DIA	(IN)	TOTAL DI	EPIH (ft)	16.5	) ELE	·V (ft)	¥ 16.0		ROUND WATE
	NG MET						NOTES				130		10.5			¥ 10.0	7 0.5	
Hamm	ner: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETR	R = 74	%, N <sub>6</sub>	<sub>0</sub> = 74/6	0 * N =1.2	23Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPT	'ION AI	ND CLASS	BIFICAT	TION
	— —-75 —	X	S-19	15 23 24	47	58			PA	-		(SM); v grained	ery dens I SAND;	se; gra some	ay; we e fines	EPOSITS ot; mostly t; nonplas	fine to tic.	medium
	_									_		(SP-SM	1).					
-95	_									95 —		86% SA	AND; 14	% Fin	es; 0%	6 GRAVE	:L	
	<u></u>									_								
	_									_								
-100	_		R-20	20 40	60		22	100	DS	100—								
	—-85 —									_								
-	_									_		GRAVE	EL layer a	about	2 fee	t thick at	103 ft.	
-105	— — —-90									105— - -								
-110	- - -									- - 110_								
-110	— —-95	X	S-21	23 28 28	56	69			PA	- IIU		91% S/	AND; 9%	Fine	s; 0%	GRAVEI	-	
145	- - -									-								
-115  -  -  -	— —-100 —									115— - - - -		with silt mediun nonplas	: (SP-SM n grained	I); vei d SAN erbede	ry den ND; litt ded w	le gravel; th Silty S	wet; n	nostly fine to nes;
				CON					<ul> <li>OF</li> </ul>	THIS BO	MARY APPLI DRING AND CE CONDIT	AT THE	TIME OF	DRIL	LING.		F	IGURE
				ity Ro go, C	-			3	LO WI	CATION: TH THE I	S AND MAY PASSAGE C D IS A SIMF	CHANGE OF TIME.	AT THIS	S LOC	OITA	1		A-15 d

		INIC		ECC	<u> </u>		PROJE	CT NAI	ME					PRO	JECT I	NUMBER		BORING
			ח כ	ECC	טאנ		West I	Missic	n Bay	/ Drive	Bridge l	Replacem		SE	130			R-09-001
	CATION			- D-i-l		- C	D:	D:	_			STAF			FINIS			SHEET NO.
VVEST	MISSIO IG COMI	n Bay	/ Uriv	e Bridge	over th	ne San	ו טego			ETHOD		12/	1/2009	LOG	12   GED	/1/2009	CHE	5 of 5 CKED BY
	. Drillin								ary W					JC		<b>-</b> .	MA	
	IG EQUI		Г						NG DIA		TOTAL	DEPTH (ft)	GROUNI			DEPTH/E		ROUND WATER (
Mayh	ew 100	00						5			136		16.5			<b>¥</b> 16.0	/ 0.5	
	NG MET		_				NOTES		0/ 1	740	0 * 1.1							
Hamn	ner: 14	U IDS.	, Dro	p: 30 in.	(Auton	natic)	EIR	= /4	%, N <sub>6</sub>	<sub>0</sub> = /4/6	U * N =	I.23Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPT	ION A	ND CLASS	SIFICAT	ΠΟΝ
-	105 · 		S-22	15 27 33	60	74			PA	-		dense; some fi SAND	gray; we nes; nor with SIL	et; mo iplast Γ (SP	stly fir ic. In: -SM).	ne to med	dium g d with l	SM); very rained SAND; Poorly-Graded
- —125 -	— — —-110									125 <u> </u>		cemen	graded g ted; very oples rec	diffic	ult dri	cobble; gi lling (abo	ray; ve ut 10 f	ry dense; eet per hour).
- - —130	— —									- - 130-								
-	— —-115 —									- - -								
_135										135 <u> </u>								
- -	— —									- -		Ground Boring		ncoun ed at	tered plann	at 16 ft. ed depth		
_140	— — —-125									140 <u> </u>		the Cal	oring Red trans So tation Ma	il & R	ock L	ogging, C	n accor Classifia	dance with ation, and
										7								
										7								
										4								
_145										145_								
	_									_								
	130																	
}	_									٦								
·										-								
										-								
	924!	5 A	ctiv	CON ity Ro	oad,	Suit	e 10		• OF SU LO WI PR	THIS BO BSURFA CATIONS TH THE I ESENTE	DRING AN CE CON S AND M. PASSAGI D IS A SI	PLIES ONLY ND AT THE DITIONS MA AY CHANGE OF TIME. MPLIFICAT UNTERED.	TIME OF AY DIFFE E AT THIS THE DA	DRILI R AT S LOC TA	LING. OTHE ATIO	R N		FIGURE A-15 e

BOR	INI		RECC	NRD	) I	PROJE									NUMBER	l l	
SITE LOCATION						West I	Missio	ın Bay	/ Drive I	Bridg	e Rep	lacem STAF		SD130		SHEET	09-002 NO.
West Missic	on Bay	y Driv	e Bridge	over th	he San	ı Diego						12/	2/2009		2/3/2009		
DRILLING COM C & L Drillin								LING MI ary W						LOGGED JCS	BY	CHECKED B	Y
DRILLING EQUI		T						NG DIA		тот	AL DE	PTH (ft)	GROUNI	ELEV (ft)	DEPTH/	MAF ELEV. GROUND	WATER (
Mayhew 10							5			11	3		1		▼ 0.0	/ 1.0	
SAMPLING MET Hammer: 14		., Dro	p: 30 in.	(Auton	natic)	NOTES		%, N <sub>60</sub>	= 74/60	* N	=1.23	Nspt					
DEPTH (feet) ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	z <sup>©</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC			DESC	CRIPTION	AND CLAS	SIFICATION	
0									-			(Mudlin ALLUV fines.	•	_T (ML); l	oose; darl	k gray; wet; m	ostly
									5 —			Missior located was ca below t casing	Bay Dri about 29 sed from he mudli was use	ve Bridge 9 feet abo the bridg ne. A tota d. The Sa	deck. The mude the mude the deck do all of approan Inches	n the existing was bridge deckudline. The bound 10 was to about 10 wind the last substance of drill the time of drill the time of drill the bridge was the time of drill the bridge was the time was the	was oring 3 feet eet of rface
									10 —			Bottom	of Casin	g (Elevati	on -13 Fe	eet MSL)	
	X	S-1	2 2 2	4	5			РА	15 —			thinly ir SILT (N grained (SM); lo grained	nterbddeo IL); looso I SAND; bose; we I SAND; nts, mica	d with 1 to e; dark gra nonplastion t; dark gra some fine	2 ft beds ay; wet; m c, saturate ay; mostly s; nonpla	S: Sandy SILT of Silty SANE nostly fines; so d, loose. SAN fine to mediun stic. Contains b; 33% Fines;	O (SM); ome fine ND m s shell
		SH-2				27	94	PA PI CR UC SG	20 —				astic (NP		)% GRAV	EL	
	X	S-3	3 6 10	16	20			PA				Poorly- 93% Sa	Graded 9 and; 7%	SAND wit Fines; 0%	n SILT (SI GRAVEL	P-SM) at 27 ft. -	
<b>GROUP</b> 924			CON ity Ro			_		OF SUI LO	THIS BC BSURFA	RING CE CO S AND	AND A ONDITI MAY (	AT THE ' ONS MA CHANGE	TIME OF AY DIFFE E AT THIS	LOCATIO DRILLING R AT OTH LOCATIO	ER	FIGUI A-16	

F	NOP	INIC		RECC	)BD	,	PROJE										NUMBER		BORING
	CATION		ר כ	LUC			West I	Missic	n Bay	/ Drive	Bridge		eme TART		SD	1300			R-09-002 SHEET NO.
			/ Driv	e Bridge	over ti	he Sar	n Dieac	Rive	ır					/2009			/3/2009		2 of 4
RILLIN	IG COM	PANY	, 5,,,,	o Briago	0101 1	io oui	Diog	DRILL	ING M	ETHOD			12/2	12000	LOG	GED E		CHE	CKED BY
	. Drillin								ary W						JC			MA	√F
	IG EQUI		Γ						NG DIA	. (in)		. DEPTH	(ft) (	ROUNE	) ELE	V (ft)			ROUND WATER
Mayn AMPLI	ew 100	HOD					NOTES	5 S			113			1			▼ 0.0 /	1.0	
Hamr	ner: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETF	R= 749	%, N <sub>60</sub>	= 74/60	) * N =1	.23Nsp	t						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG			DESC	CRIPTI	ON A	ND CLASS	SIFICAT	FION
	30 		SH-4							-		inte frag	men <sup>:</sup>	C ESTU dded wi ts; mica ble reco	th Sili	ty SA	EPOSITS ND (SM).	: Sand Trace	iy SILT (ML) shell
-35	35 35 		S-5	2 1 4	5	6			PA	35 — - - - 40 —		59%	ő SΑI	ND; 41%	% Fin∉	es; 09	% grave	≣L	
45	40 		SH-6				55	69	PA PI UC	- - - 45 —		fine: 98% LL=	s; tra ն Fin	ce SAN es; 2% PL=31. I	ID; hi	gh pla 0; 0%	. — — — - tiff; dark t asticity. GRAVEI		wet; mostly
	45  	X	S-7	4 4 8	12	15			PA	-		SAN med (ML	ND (S dium .); me	SM); me grained	dium SAN ense;	dens D; so gray	e; gray; v me fines;	vet; mo	SILT (ML); ostly fine to astic; SILT es; some fine
.50	50 		SH-8				23	95	PA PI UC	50 —		70% Non		, ND; 30% tic.		ŕ	% GRAVE		
55	55 		S-9	5 5 11	16	20			PA	55 — - - -		58%	ώ SΑΙ	ND; 42%	% Fin	es; 0°	% grave	ΞL	
SP(	) I I D	DEI	ΤΛ	CON	CIII.	TAN	TC	ואור	TH		MARY AP								IGURE
							-				ORING AI CE CON						R		IGURE
				ity Ro go, C	-			13	LO WI PR	CATIONS TH THE I ESENTE	S AND M PASSAG D IS A S IS ENCO	AY CHAI E OF TIN IMPLIFIC	NGE . ME. T CATIC	AT THIS HE DAT	S LOC. FA	OITA	۱	,	A-16 b

F	ROR	IN		RECC	)RD	ı .	PROJE				D.1 E					NUMBER		BORING
	CATION						westi	VIISSIC	on Bay	y Drive	Briage F	Replacem STAF		SD	130 FINIS			R-09-002 SHEET NO.
Wes	Missic	n Ba	y Driv	e Bridge	over t	he Sar	Diego					12	2/2009	1		/3/2009	T	3 of 4
	NG COM L Drillin								∟ing m ary W	ETHOD /ach				JC	GED E	ЗҮ	CHEC	CKED BY
	NG EQUI		Т						NG DIA		TOTAL	DEPTH (ft)	GROUNI			DEPTH/E		ROUND WATER
Mayl	new 10	00						5			113		1			▼ 0.0 /	1.0	
	ING MET mer: 14		., Dro	p: 30 in.	(Auton	natic)	NOTES		%, N <sub>60</sub>	= 74/60	) * N =1.	.23Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	09 Z	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DESC	CRIPTI	ION A	ND CLASS	SIFICAT	TION
	60 		SH-10							-		PARAI interbe	_IC ESTI dded witl	<b>UARII</b> h San	NE DI dy SI	EPOSITS LT (ML).	: Silty	SAND (SM)
- 65 - - -	65 	X	S-11	6 9 14	23	28			РА	65 — - - -			nes; 42% nple reco		ID; 09	% GRAVE	ΞL	
_70 - - -	70 70	X	S-12	14 21 23	44	54			PA	70 — - -		gray; w fines; r	et; mostl onplastic	ly fine c.	to m	SILT (SP edium gra	ained S	very dense; SAND; few
- —75 - -	75 75			20						75 — - -								
- —80 - -	80 80		S-13	19	45	55			PA	80 — - -		89% S	AND: 7%	Fine	s: 4%	GRAVEI		
- <b>85</b> - -	85 			20 25						85 — - -			GRAVEL		, -/*			
GRO				CON					OF SU	THIS BOBSURFA	ORING AN	PLIES ONLY ID AT THE DITIONS MA	TIME OF AY DIFFE	DRILL R AT	.ING. OTHE	:R	F	IGURE
				ity Ro go, C				, ,	WI <sup>-</sup> PR	TH THE ESENTE	PASSAGE D IS A SI	AY CHANGI E OF TIME. MPLIFICAT JNTERED.	THE DAT	TΑ				А-16 с

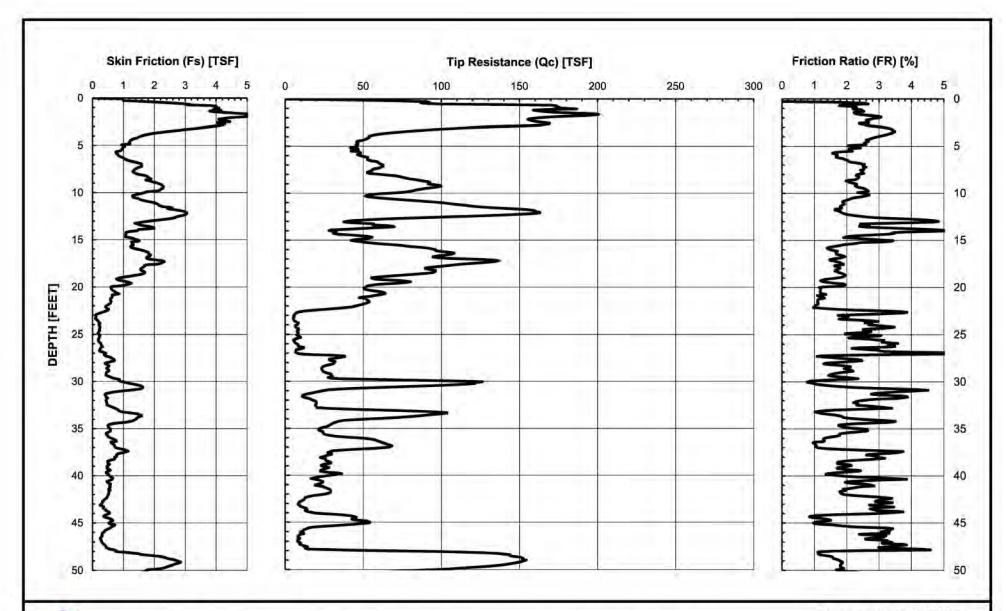
В	OR	IN	G R	RECC	)RD	۱ ا	PROJE			. Deb.e	Duidee	Danlasa	4			NUMBER		BORING D 00 00
SITE LOG			<u> </u>		·		vvest l	VIISSIC	on Bay	y Drive	Bridge	Replacer ∫st <i>i</i>			130 FINI:			R-09-002
			v Driv	e Bridge	over t	he Sar	) Dieac	Rive	er				2/2/2009			2/3/2009		4 of 4
PRILLING	G COMI	PANY	,		J. U					ETHOD			_, _, _ 000	LOG			CHE	CKED BY
C & L								Rot	ary W	/ash				JC	S		M	<b>AF</b>
RILLING			Т						NG DIA	l. (in)		DEPTH (f	) GROUN	D ELEV	/ (ft)	I		GROUND WATE
Mayhe AMPLIN							NOTES	5			113		1			▼ 0.0 /	1.0	
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DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	zº	MOISTURE (%)	Y DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON A	ND CLASS	SIFICA	TION
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	95									_								
r	_									-								
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-	-									-						SP-SM): ve		ed SAND ense; gray; wet;
-100	_									100_		mostl	y fine to co	oarse :	grain	ed SAND	; little	subangular
	100											GRAV	/EL up to	1½" in	diar	neter; few	fines	; nonplastic.
	_ 100																	
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			/ Driv	e Bridge	over tl	he Sar	Diego						1/30/200			/30/20		1 of 4
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DRILLIN	IG EQUI	PMEN <sup>-</sup>	Г						NG DIA			DEPTH (ft					H/ELEV. (	GROUND WATER (
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DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	CRIPTI	ON AI	ND CLA	ASSIFICA	TION
- - -	15  	X	S-1	24 25 17	42	52				- - -		brown	Silty SAI ; moist; n fines; tra	nostly :	fine to	medi	um grair	ied SAND;
5 - -	 10 	X	S-2	4 6 6	12	15			PA	5 — - -			SAND; 30 im dense		es; 0%	% GRA	VEL	
- - -10 - - - - - -15	5	_	S-3	2 2 3	5	6				- 10 — - - - 15 —		Sand mosti	/ SILT (M / fines; so	— — — IL); loo ome fir	se; m	oist; da	ark gray AND; lo	ish brown; w plasticity.
- - - - 20 -	0		SH-4				29	92	PA PIRCUC SG	- - - 20 —		interb SILT fine g dense some micad 57% I Non-F	edded wit (ML); med rained SA e; gray; we fines; tra	th 1 to dium d ND; n et; mo: ce she % SAN	2-ft thense; onpla stly fir all frag	nick be gray; stic; Sane to m ments	eds of Sil wet; mos AND (Sinedium g r; nonpla	dy SILT (ML) ty SAND (SM); stly fines; some d); medium grained SAND; stic;
- 25 - - -	10 		SH-6	4 5 6	11	14			PA	- 25 — - - -		at 24				-		ty SAND (SM)
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E	BOR	IN	G R	RECC	RD		PROJE West I			/ Drive I	Bridge	Replacem	ent	1	130	NUMBER C	₹	BORING R-09-003
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DRILLI	t Missic	n Bay	y Driv	e Bridge	over th	ne Sar	Diego	Rive	r ING MI	ETHOD		11,	/30/200		11. GED 6	/30/200		2 of 4 CKED BY
	_ Drillin								ary W					JC			M	
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Mayl	new 100	00 HOD					NOTES	5 S			118		16			<b>¥</b> 16	.0 / 0.0	)
			., Dro	p: 30 in.	(Auton	natic)			%, N <sub>60</sub>	= 74/60	* N =1	.23Nspt						
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	z	MOISTURE (%)	, DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	SCRIPTI	ION A	ND CLAS	SSIFICA	TION
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_ _ 35	_								С	35 —		Poorly- gray; w	- — — — -Graded	SAND	with	SILT (S edium g	 SP-SM)	; dense; light SAND; few
	20 	X	S-9	13 15 16	31	38			PA	33 —		89% S	AND; 10	0% Fine	es; 19	% GRA\	VEL	
- - -40 -			R-10	17 46	63		20	106	DS	40 —								
- 45 - 45		X	S-11	19 21 25	46	57			РА	- 45 — -		90% S Very d	AND; 10 ense.	0% Fine	es; 09	% GRA\	VEL	
- 50 - 50 			R-12	6 9	15		32	88	DS	50 —		SAŃD mediur	(SM); m n graine nedium	nedium ed SAN	dens ID; so	e; gray; me fine	; wet; m es; nonp	y SILT (ML); lostly fine to plastic; SILT nes; some fine
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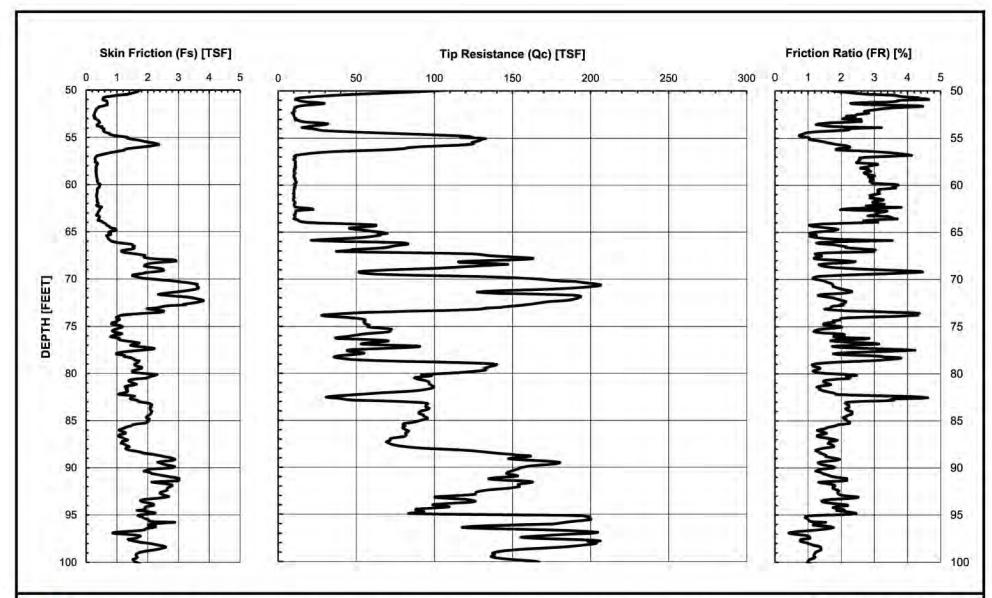
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			y Driv	e Bridge	over th	ne Sar	Diego							30/2009			/30/200		3 of 4
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DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	ž	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG			DESC	CRIPT	ION A	ND CLAS	SSIFICA	ΓΙΟΝ
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- - 70 - -			SH-16				30	92	PA PI UC	- - 70 — - -		LL=	44,	nes; 32% PL=25, ) PSF			% GRA\	/EL	
75 75			R-17	8 24	32		31	94	DS	- 75 — -		SAI	ND ( dium _); m	SM); me grained	edium d SAN	dens	e; gray; me fine	wet; m	y SILT (ML); ostly fine to lastic; SILT les; some fine
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85 GRO	70 70		S-19	9 10 11	21	26			PA	85 — -		Sar SAI wet	dium ndy ( ND ( ;; mc	SM); SII stly fine	L) inte LT (M es; sor	erbedo IL); me me fin	ded w/ 1 edium d e graine	-3 ft be lense to ed SANI	ds of Silty ———— dense; gray; D; nonplastic; y; wet; mostly
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E	BOR	INC	3 F	RECC	RD	ı .	PROJE West I			y Drive	Bridge R	eplacem	ent	PROJE	CT NU		BORING R-09-003
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DRILLI	NG COM	on Bay PANY	/ Driv	e Bridge	over tr	ne Sar	Diego			ETHOD		11	/30/200	logg		0/2009 ′	4 of 4 CHECKED BY
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	NG EQUI		Γ						NG DIA	l. (in)	l l	DEPTH (ft)		ID ELEV	` '		LEV. GROUND WATER (ft
SAMPL	new 100	HOD					NOTES	5 <b>S</b>			118		16			<b>¥</b> 16.0	7 0.0
Ham	mer: 14	0 lbs.	, Dro	p: 30 in.	(Auton	natic)	ETF	R= 749	%, N <sub>60</sub>	= 74/60	) * N =1.2	23Nspt					
DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	Z <sup>0</sup>	MOISTURE (%)	DRY DENSITY (pcf)	OTHER TESTS	DEPTH (feet)	GRAPHIC LOG		DES	SCRIPTIC	ON AND	O CLASS	SIFICATION
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D SD130C BORING LOGS 2009.GPJ GDCLOG.GDJ	95 									110		cobble	; gray; v	ery dens	se; ce	mented;	graded gravel and ; very difficult drilling s recovered.
GRC_LOG_BORING_MMX_SOIL_SD										-		Ground	of bore dwater e termina	encounte	ered at	t 16 ft.	
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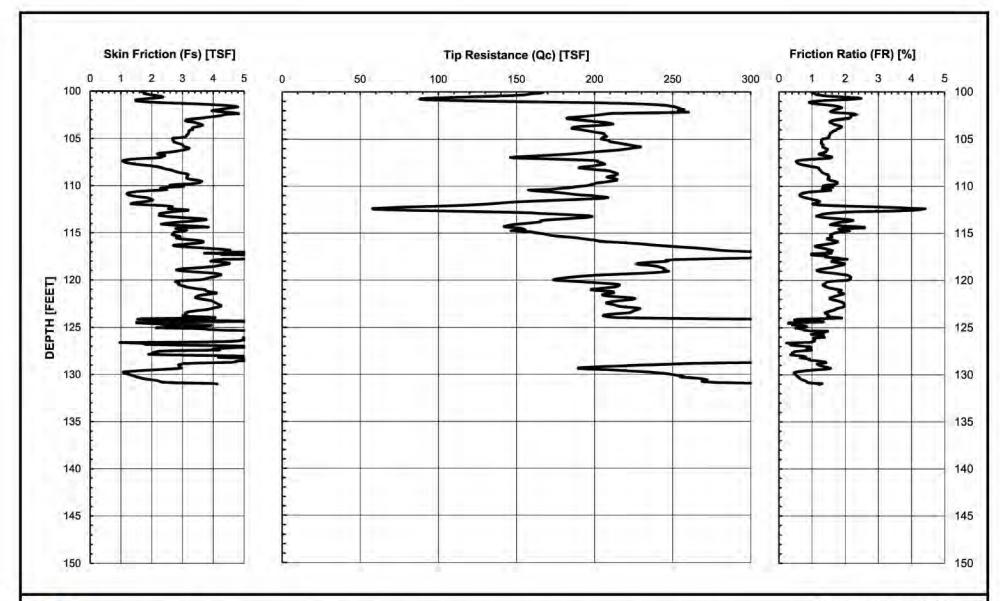


Document No. 15-0014 Project No. SD130E FIGURE A-18.1a



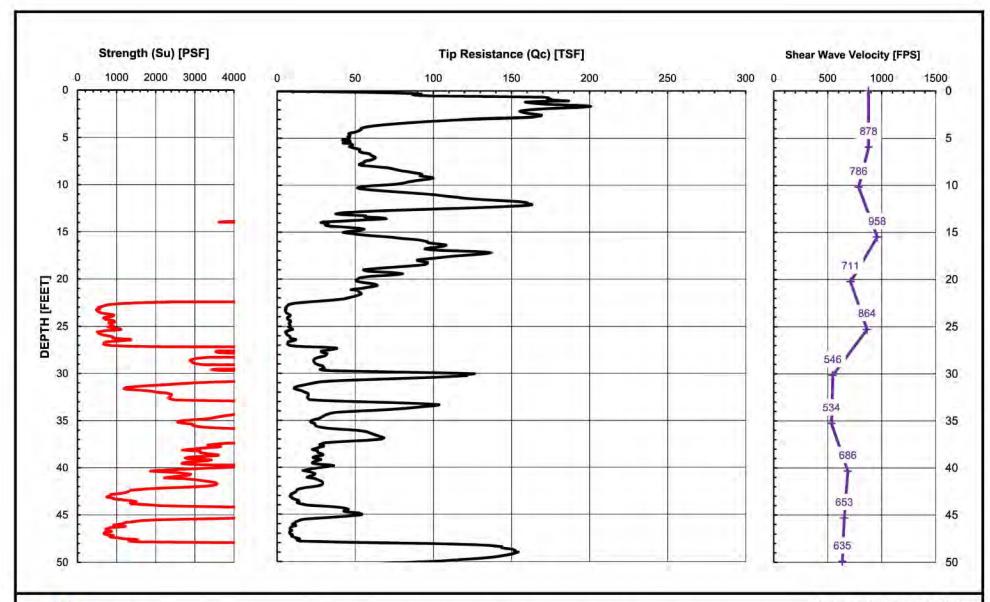


Document No. 15-0014 Project No. SD130E FIGURE A-18.1b



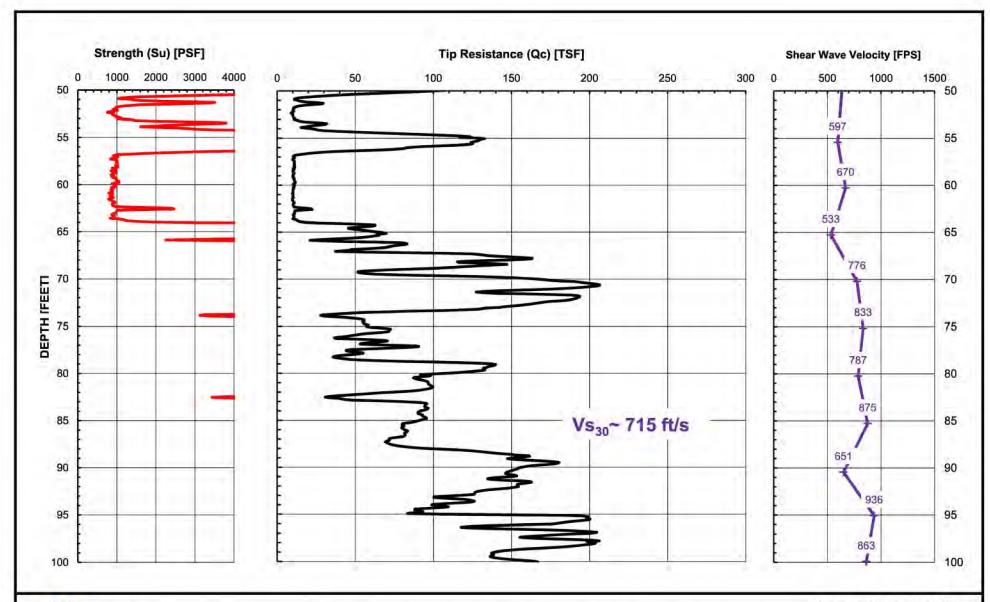


Document No. 15-0014 Project No. SD130E FIGURE A-18.1c



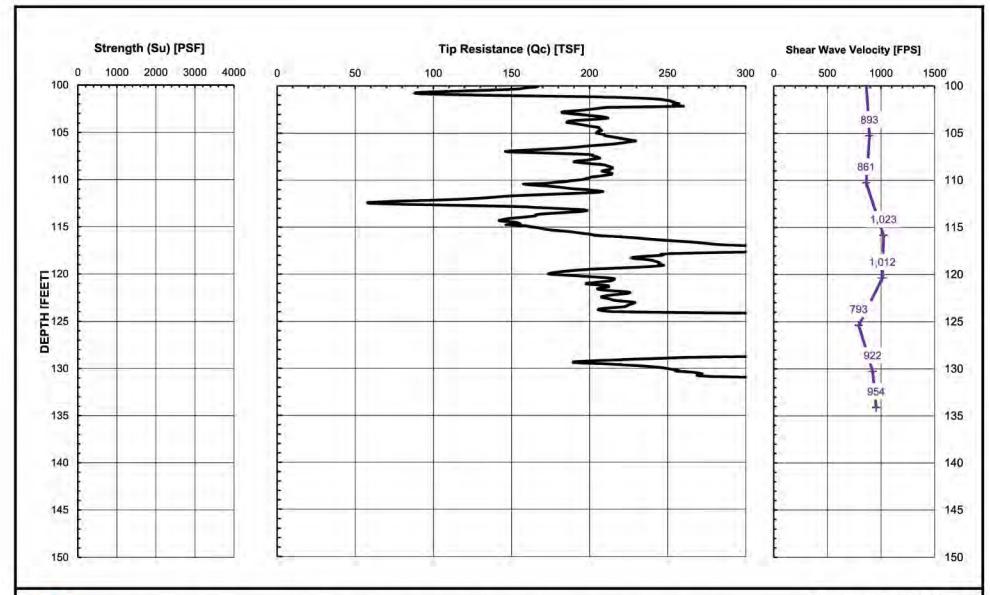


Document No. 15-0014 Project No. SD130E FIGURE A-18.3a





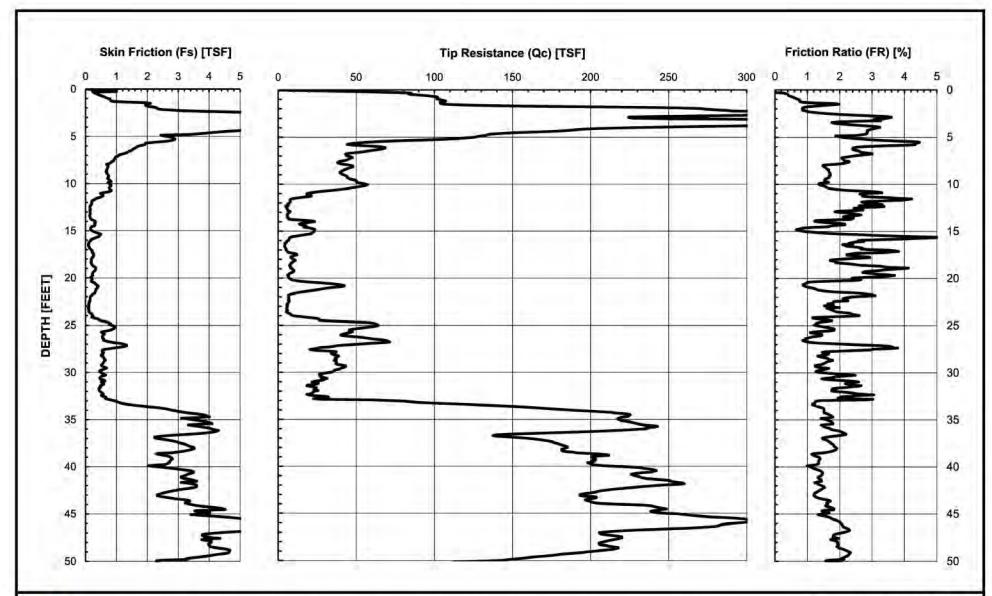
Document No. 15-0014 Project No. SD130E FIGURE A-18.3b





GROUP DELTA SHEAR WAVE VELOCITY DATA (CPT-09-001)

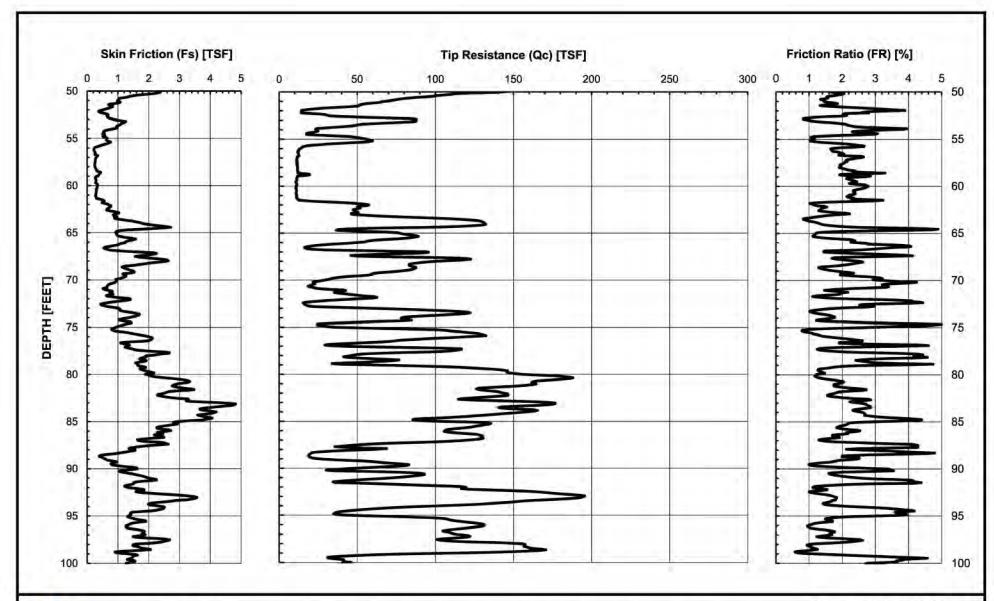
Document No. 15-0014 Project No. SD130E FIGURE A-18.3c





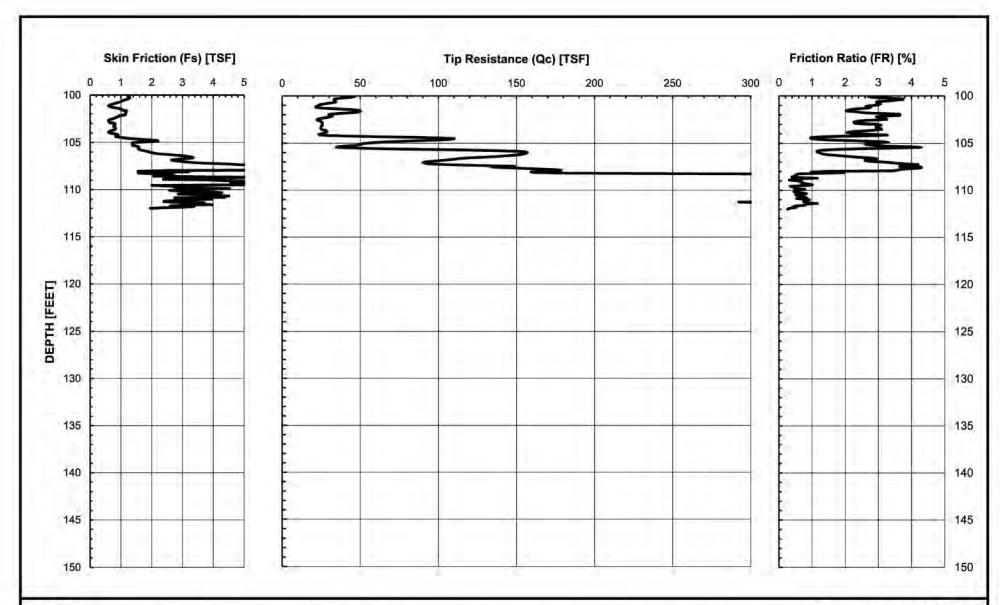
CONE PENETOMETER DATA (CPT-09-002)

Document No. 15-0014 Project No. SD130E FIGURE A-19.1a





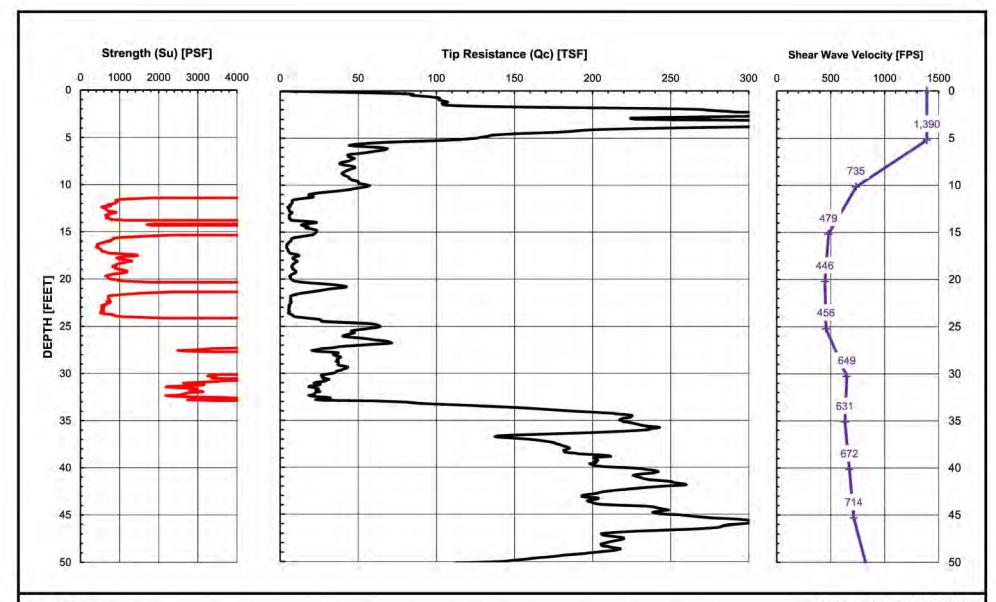
Document No. 15-0014 Project No. SD130E FIGURE A-19.1b





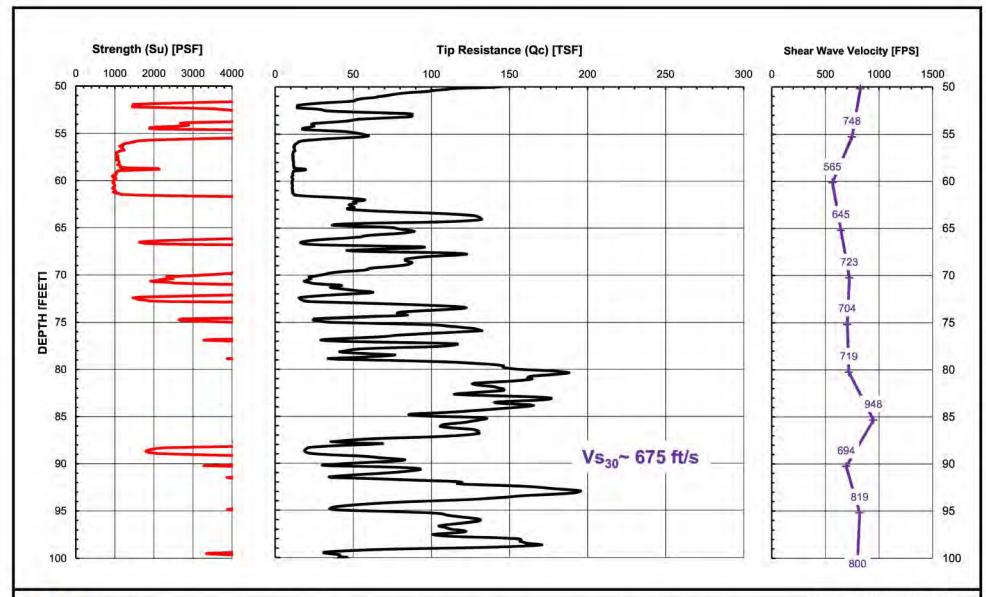
CONE PENETOMETER DATA (CPT-09-002)

Project No. SD130E FIGURE A-19.1c





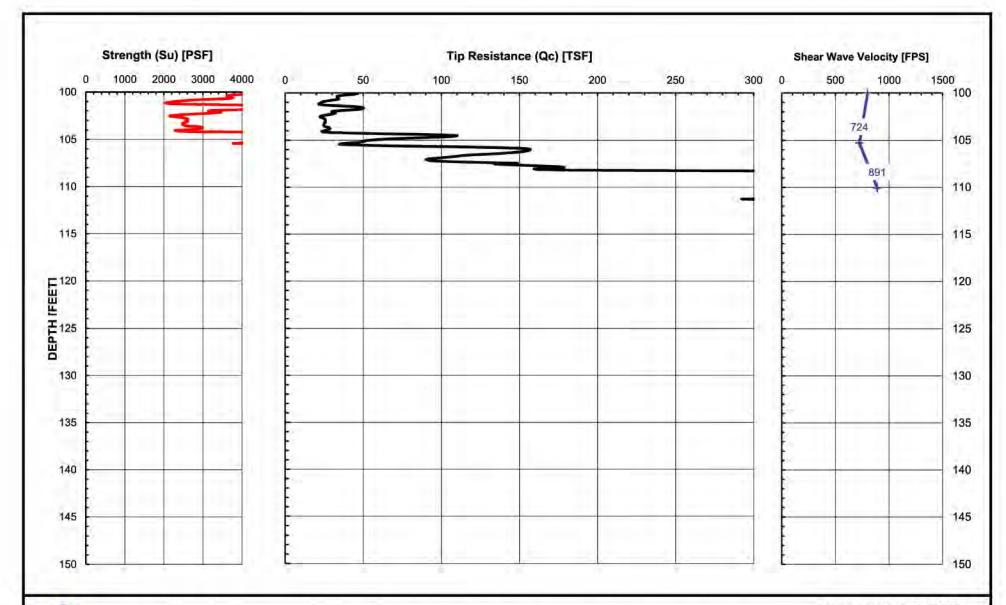
Document No. 15-0014 Project No. SD130E FIGURE A-19.3a





GROUP DELTA SHEAR WAVE VELOCITY DATA (CPT-09-002)

Project No. 35-0014 Project No. SD130E FIGURE A-19.3b

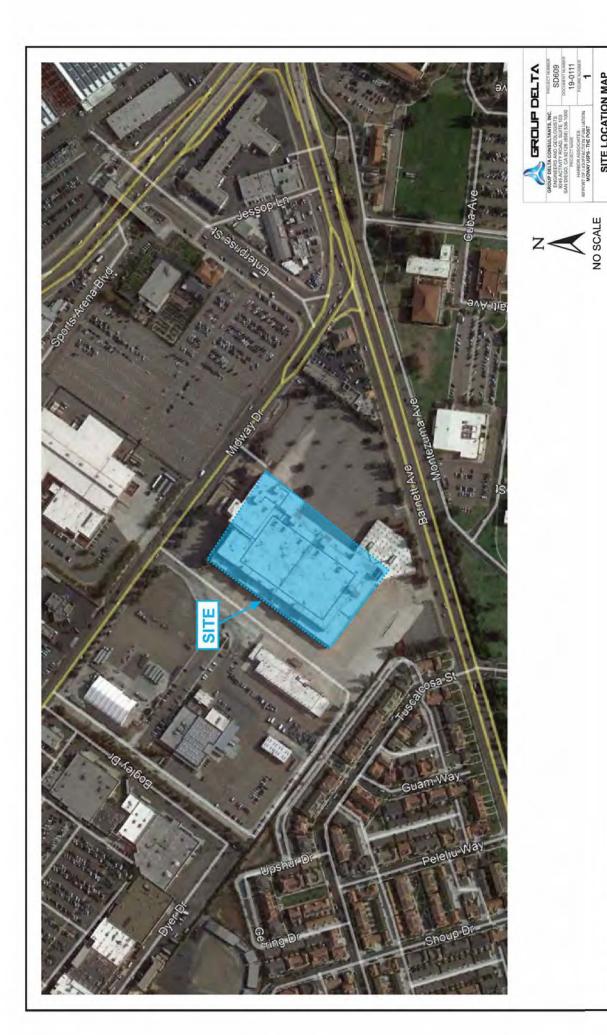




Document No. 15-0014 Project No. SD130E FIGURE A-19.3c

**GROUP DELTA 2019 - USPS 'THE POST'** 





REFERENCE: Google Earth (2019).

SITE LOCATION MAP



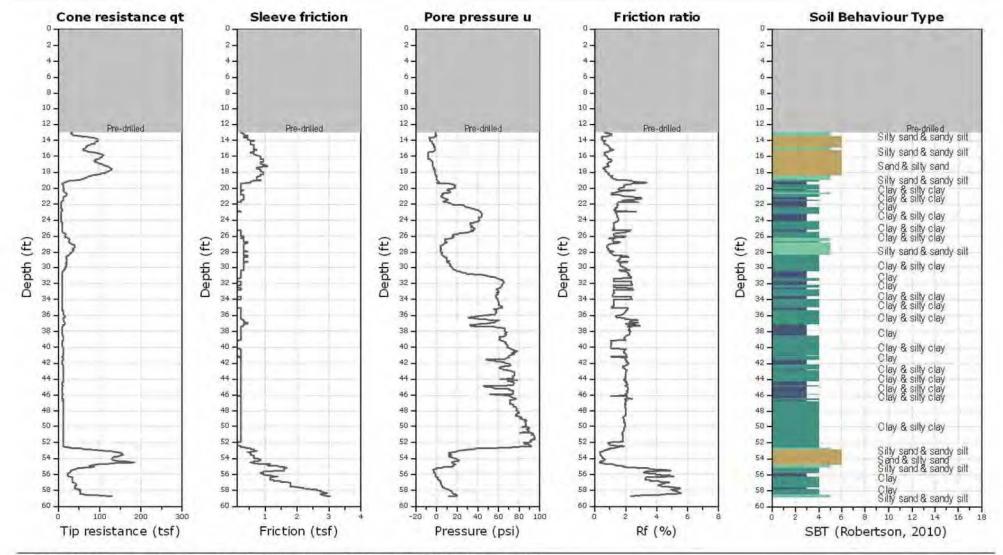


Kehoe Testing and Engineering 714-901-7270 rich@kehoetesting.com www.kehoetesting.com

Project: CTE (Construction Testing & Eng.)/Midway Post Office Renovations

Location: 2535 Midway Dr San Diego, CA

Total depth: 58.71 ft, Date: 1/20/2017 Cone Type: Vertek



CPeT-IT v.2.0.1.50 - CPTU data presentation & interpretation software - Report created on: 1/23/2017, 11:27:19 AM Project file: C:\CTESanDiego1-17\Plot Data\Plots w-ha.cpt



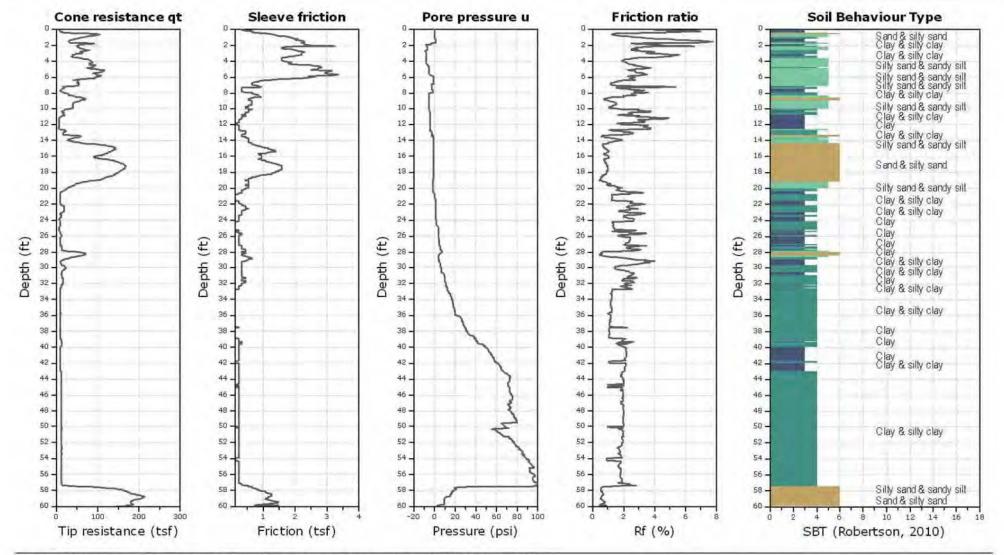


Kehoe Testing and Engineering 714-901-7270 rich@kehoetesting.com www.kehoetesting.com

Project: CTE (Construction Testing & Eng.)/Midway Post Office Renovations

Location: 2535 Midway Dr San Diego, CA

Total depth: 60.26 ft, Date: 1/20/2017 Cone Type: Vertek



CPeT-IT v.2.0.1.50 - CPTU data presentation & interpretation software - Report created on: 1/23/2017, 11:26:46 AM Project file: C:\CTESanDiego1-17\Plot Data\Plots w-ha.cpt



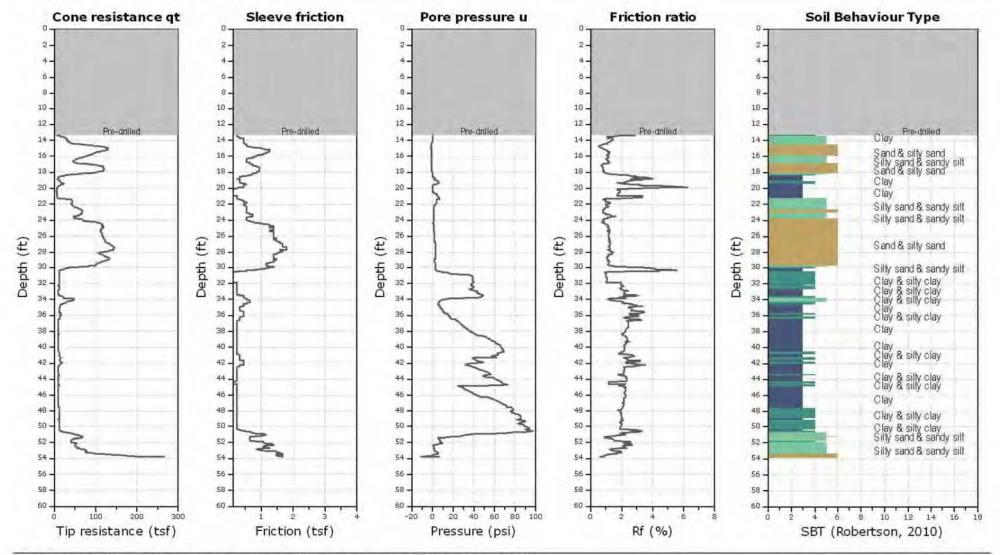


Kehoe Testing and Engineering 714-901-7270 rich@kehoetesting.com www.kehoetesting.com

Project: CTE (Construction Testing & Eng.)/Midway Post Office Renovations

Location: 2535 Midway Dr San Diego, CA

Total depth: 53.78 ft, Date: 1/20/2017 Cone Type: Vertek



CPeT-IT v.2.0.1.50 - CPTU data presentation & interpretation software - Report created on: 1/23/2017, 11:26:18 AM Project file: C:\CTESanDiego1-17\Plot Data\Plots w-ha.cpt



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-01

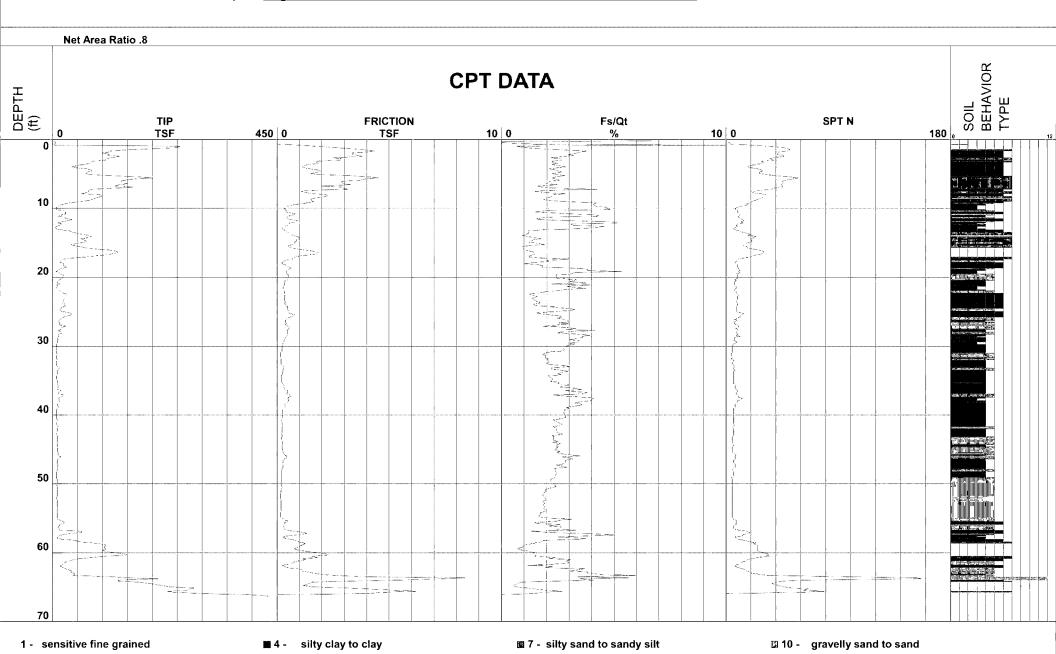
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.00 ft RC-DG DDG1333 3/16/2016 9:21:56 AM Filename GPS Maximum Depth

# 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(235).cpt 66.27 ft



organic material

clay

■3-

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post
er G1970-52-01
per CPT-02

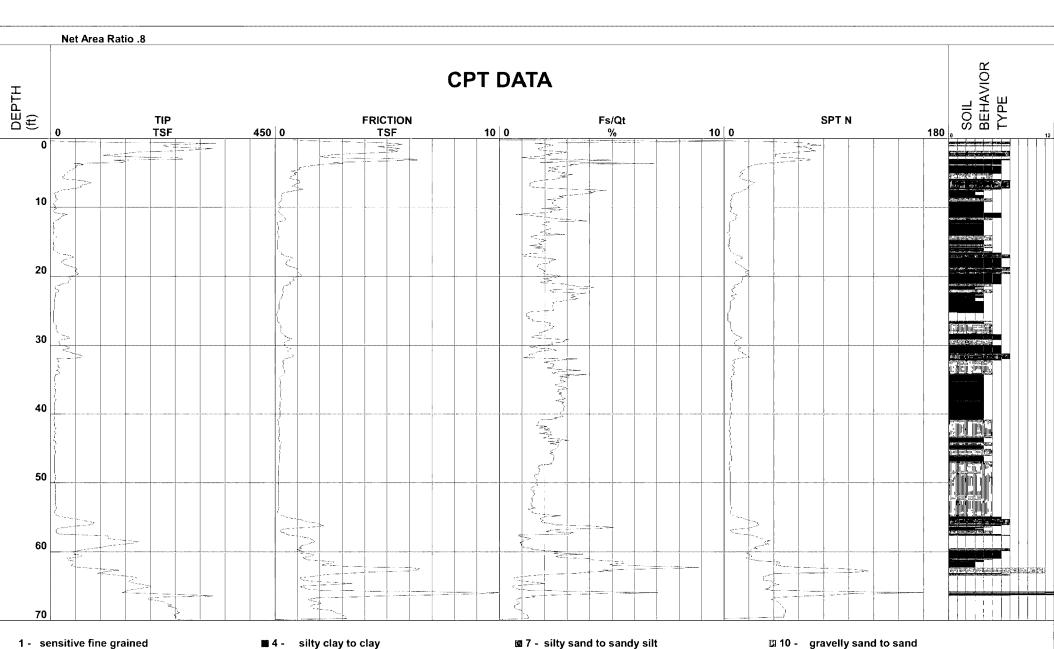
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.00 ft RC-DG DDG1333 3/16/2016 8:14:05 AM Filename GPS Maximum Depth

# 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(234)C.cpt 70.05 ft



organic material

clay

■3-

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-03

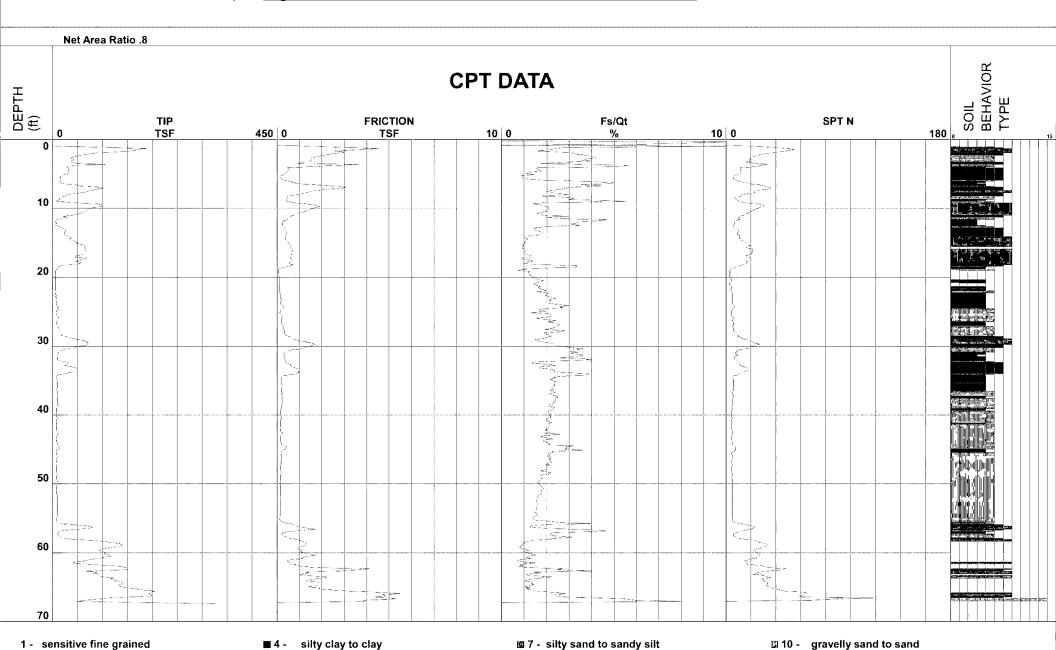
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 14.00 ft RC-DG DDG1333 3/16/2016 11:20:43 AM Filename GPS Maximum Depth

# 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(237).cpt 67.42 ft



Cone Size 10cm squared

organic material

clay

■ 3 -

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

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-04

₩ 5 - clayey silt to silty clay

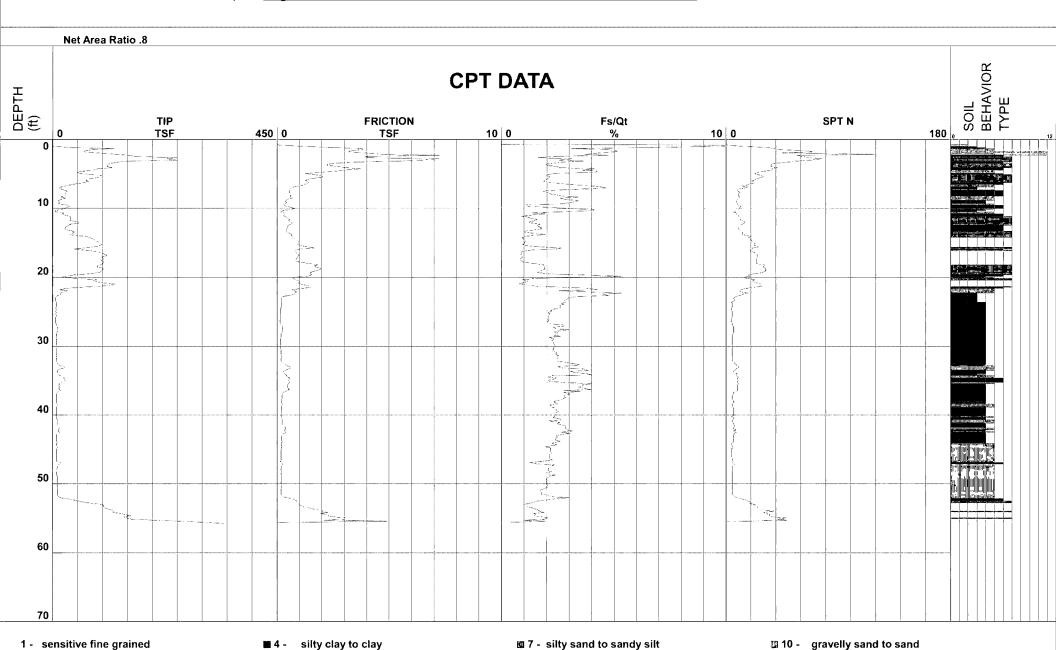
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.00 ft RC-DG DDG1333 3/16/2016 1:43:36 PM Filename
GPS
Maximum Depth

₱ 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(239).cpt 55.77 ft



organic material

clay

■ 3 -

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-05

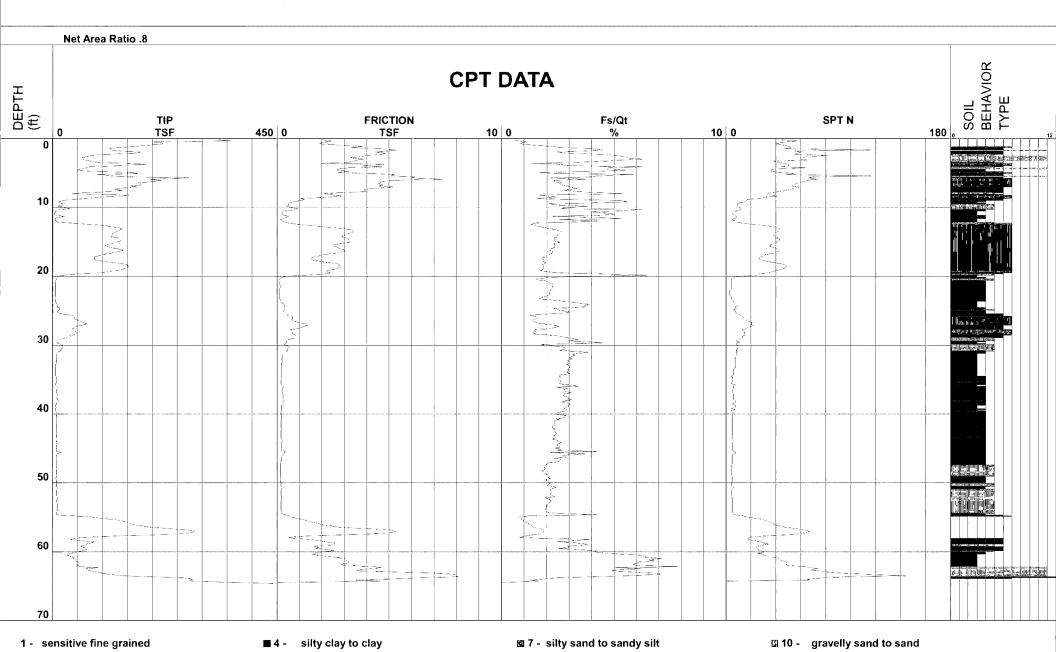
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.00 ft RC-DG DDG1333 3/16/2016 4:12:54 PM Filename GPS Maximum Depth

■ 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(242).cpt 64.63 ft



organic material

clay

■ 3 -

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-06

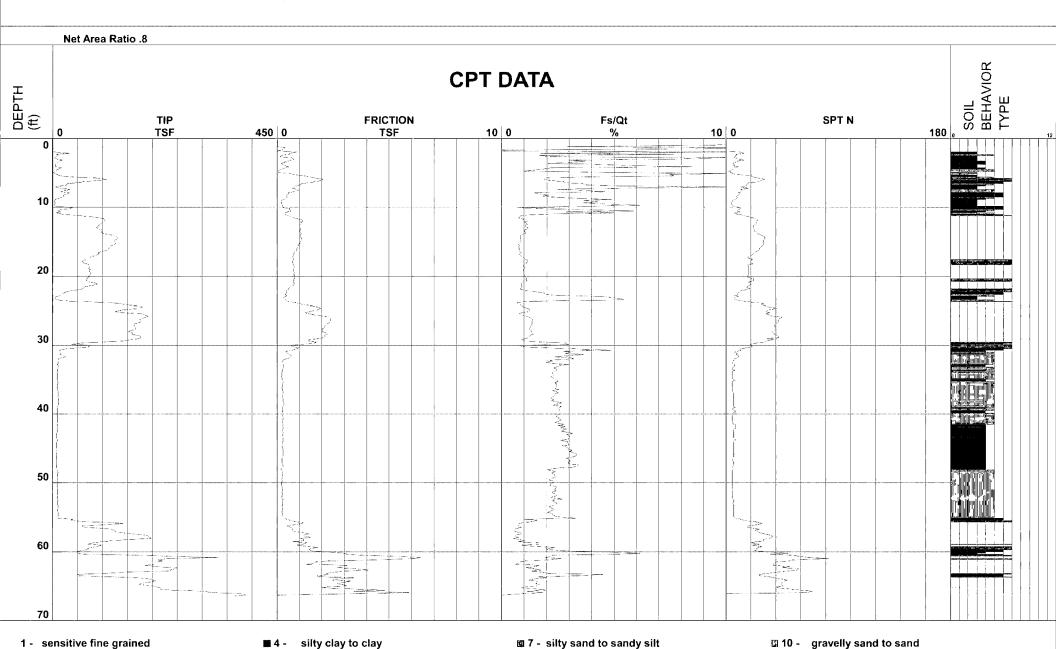
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.00 ft BH-AH DDG1268 3/19/2016 3:40:18 PM Filename GPS Maximum Depth

■ 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(260).cpt 66.44 ft



organic material

clay

**■**3-

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-07

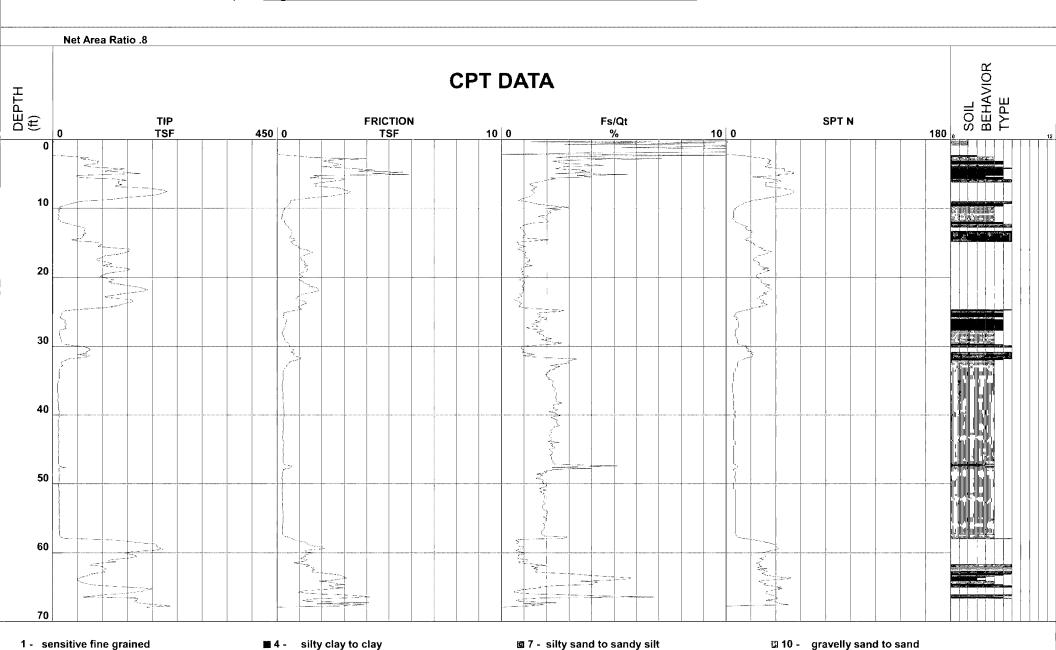
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.80 ft BH-AH DDG1268 3/19/2016 2:07:13 PM Filename GPS Maximum Depth

# 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(259).cpt 68.08 ft



Cone Size 10cm squared

organic material

clay

**■**3-

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

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-08

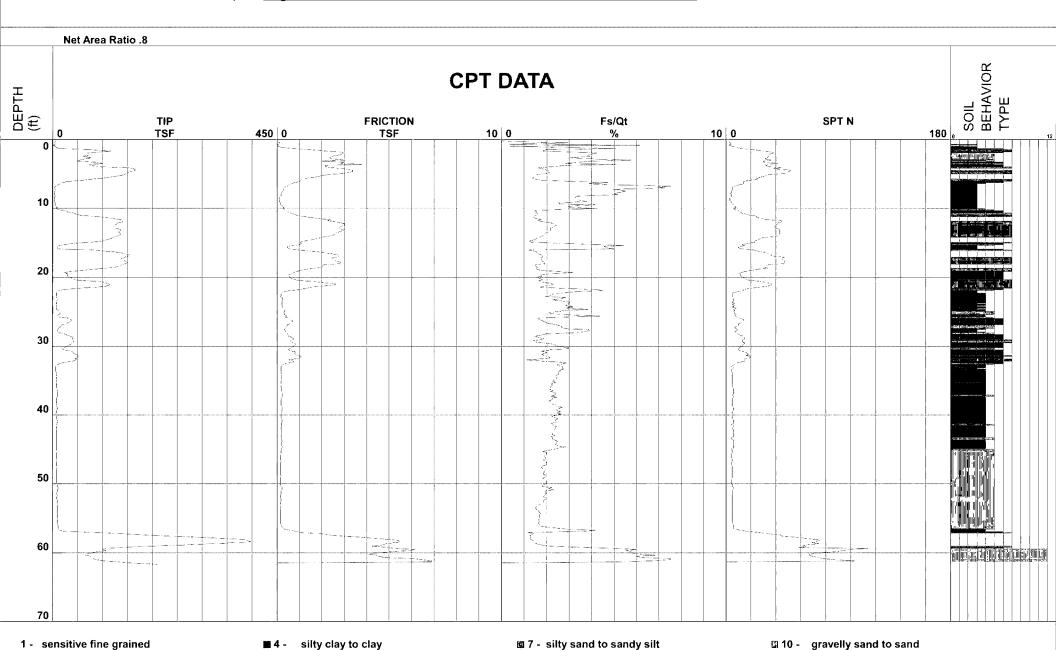
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.00 ft RC-DG DDG1333 3/16/2016 2:54:26 PM Filename SE GPS Maximum Depth

■ 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(240).cpt 61.68 ft



organic material

clay

**■**3-

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

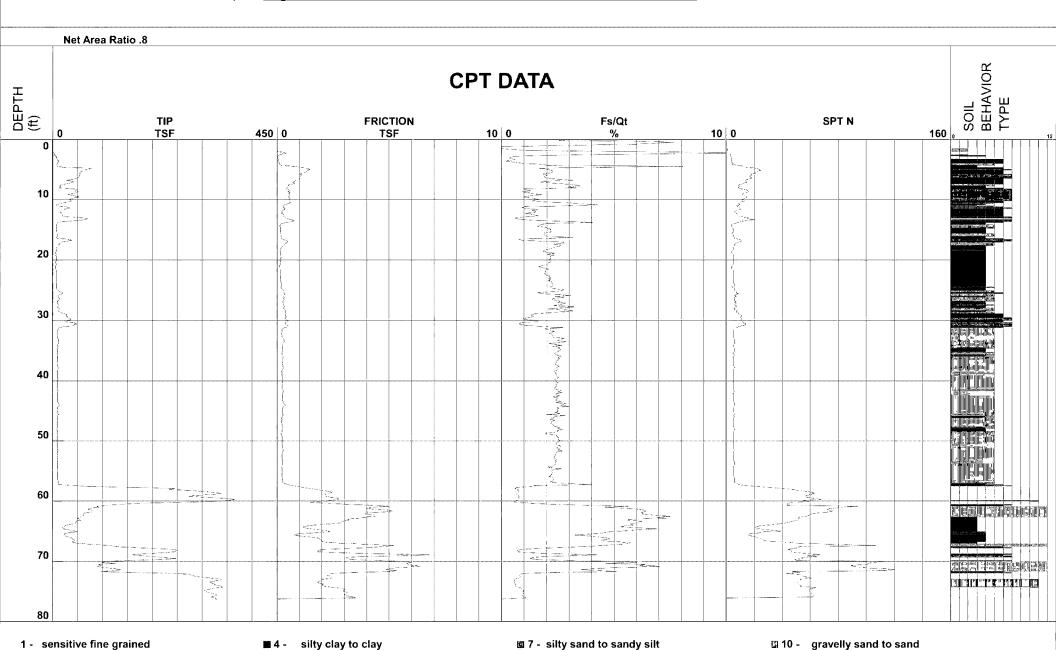
The Post G1970-52-01 CPT-09

■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 6.40 ft BH-AH DDG1268 3/19/2016 12:43:20 PM Filename GPS Maximum Depth

■ 12 - sand to clayey sand (\*)

SDF(258).cpt 76.44 ft



organic material

clay

■ 3 -

sand to silty sand

sand



Project
Job Number
Hole Number
EST GW Depth During Test

The Post G1970-52-01 CPT-10

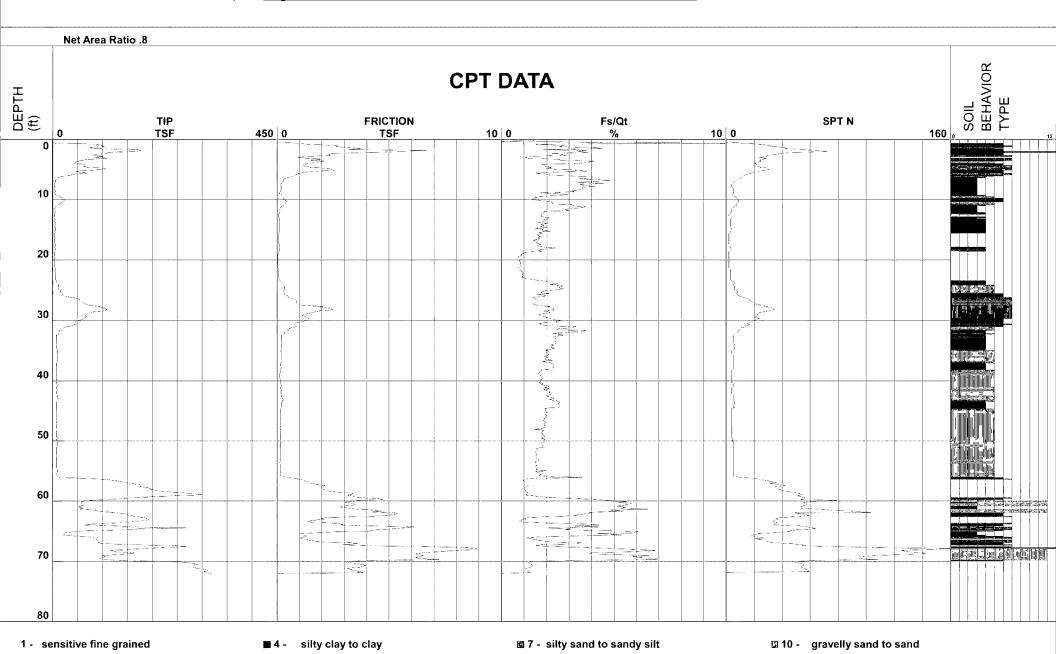
■ 6 - sandy silt to clayey silt

Operator Cone Number Date and Time 7.00 ft RC-DG DDG1333 3/16/2016 10:19:21 AM Filename GPS Maximum Depth

# 11 - very stiff fine grained (\*)

■ 12 - sand to clayey sand (\*)

SDF(236).cpt 72.18 ft



organic material

clay

**■**3-

sand to silty sand

sand



# Construction Testing & Engineering, Inc.

1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

DEF	INITION	OF	<b>TERMS</b>
	SYMBOLS		SEC

PRIM	MARY DIVISIONS		SYMBOLS	SECONDARY DIVISIONS
z	GRAVELS MORE THAN HALF OF	CLEAN GRAVELS < 5% FINES	GP Se	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES  LITTLE OR NO FINES  POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES,  LITTLE OF NO FINES
RAINED SOILS IAN HALF OF SLARGER THA SIEVE SIZE	COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	GRAVELS WITH FINES	GM GC	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES
COARSE GRA MORE THAI MATERIAL IS L NO. 200 SI	SANDS MORE THAN HALF OF	CLEAN SANDS < 5% FINES	SW :	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
CO, MAT	COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	SANDS WITH FINES	SM SC	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES
VED SOILS N HALF OF S SMALLER 0 SIEVE SIZE	= ₹ ∃ I LIQUID LIMIT IS		ML CL	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SLIGHTLY PLASTIC CLAYEY SILTS INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY, SANDY, SILTS OR LEAN CLAYS ORGANIC SILTS AND ORGANIC CLAYS OF LOW PLASTICITY
			CH OH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS  ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTY CLAYS
HIGH	HIGHLY ORGANIC SOILS		PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

### **GRAIN SIZES**

BOULDERS	CORRIEC	GRAVEL		SAND			SILTS AND CLAYS	
BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILTS AND CLATS	
1	2"	4" 4	1	0 40	200	)		
CLEAR SQUARE SIEVE OPENING				U.S. STAN	DARD SIEV	E SIZE		

### **ADDITIONAL TESTS**

(OTHER THAN TEST PIT AND BORING LOG COLUMN HEADINGS)

MAX- Maximum Dry Density	PM- Permeability	PP- Pocket Penetrometer
GS- Grain Size Distribution	SG- Specific Gravity	WA- Wash Analysis
SE- Sand Equivalent	HA- Hydrometer Analysis	DS- Direct Shear
EI- Expansion Index	AL- Atterberg Limits	UC- Unconfined Compression
CHM- Sulfate and Chloride	RV- R-Value	MD- Moisture/Density
Content, pH, Resistivity	CN- Consolidation	M- Moisture
COR - Corrosivity	CP- Collapse Potential	SC- Swell Compression
SD- Sample Disturbed	HC- Hydrocollapse	OI- Organic Impurities
	REM- Remolded	



# Construction Testing & Engineering, Inc.

PROJECT: CTE JOB NO:	DRILLER: SHEET DRILL METHOD: DRILL	: of ING DATE:
LOGGED BY:	SAMPLE METHOD: DRIEL SAMPLE METHOD: ELEVA	
Depth (Feet)  Bulk Sample Driven Type Blows/Foot  Dry Density (pcf)  Moisture (%)  U.S.C.S. Symbol  Graphic Log	BORING LEGEND	Laboratory Tests
	DESCRIPTION	
	Block or Chunk Sample	
<del> </del>	— Bulk Sample	
	Standard Penetration Test	
-10- <b>Z</b>	Modified Split-Barrel Drive Sampler (Cal Sampler)	
<b>II</b> 15-	Thin Walled Army Corp. of Engineers Sample	
<del>                    </del>	— Groundwater Table	
	— Soil Type or Classification Change	
-20-  -	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?	
	Ouotes are placed around classifications where the soils exist in situ as bedrock	
	FI	GURE: BL2



PROJECT:		MIDWA	Y POS	ST OFFIC	Έ	DRILLER;	BAJA EXPLORATION	SHEET:	1	of l
CTE JOB N		10-12790	0G			DRILL METHOD:	HOLLOW-STEM AUGER		NG DATE:	11/22/2016
LOGGED E	3Y;	DK				SAMPLE METHOD:	RING, SPT and BULK	ELEVA	TION:	~ 12'
Depth (Feet)  Bulk Sample Driven Type		Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log		NG: B-1		Laborat	ory Tests
-0-						O to 28. Apphalt				
				SC		0 to 3": Asphalt.  QUATERNARY ARTIFICIAL  moist, light brown, clayey SAND	FILL: Medium dense, sligh with gravel.	tly		
 				SC/CL					-	
-5- 	6 11 12					Gravel, Mix Fill: Medium dense, s Medium dense, slightly moist, red mottled, clayey SAND with silt.	brown to gray brown,			
				SC		QUATERNARY BAY DEPOSIT moist to moist, clayey fine SAND	with silt		-	
-16 <del>-</del>	1 2 2			MH/CH		Soft, slightly moist to moist, dark a clay, trace organics, micaceous	gray, highly plastic SILT wi	th	I	ΕI
 - 15- FT			_	SM		Madium danga was dagle array sile	to Figo SANID with along			
<u> </u> 	6 10					Medium dense, wet, dark gray, silt micaceous	ty fine SAND wit clay,			
 -20-	4									
┞╶┤┃	6 8									
25						Total Depth: 21.5'. Groundwater: 12.5' Backfilled with Bentonite chips.				
		I	<u> </u>	<u> </u>					<u> </u>	B-1

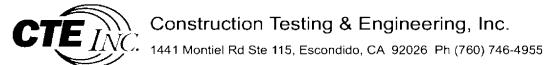


CTE JOB NO:				DRILLER:	BAJA EXPLORATION	SHEET:	: 1	of l
	10-12790G			ORILL METHOD:	HOLLOW-STEM AUGER	DRILLI	NG DATE:	11/22/2016
LOGGED BY:	DK		5	SAMPLE METHOD;	RING, SPT and BULK	ELEVA	TION:	~ 12'
Depth (Feet)  Bulk Sample Driven Type Blows/6"	Dry Density (pcf) Moisture (%)	U.S.C.S. Symbol Graphic Log			NG: B-2		Laborat	ory Tests
-0		C34/CC3	OHATERNAL	DV ADTICIAL	EILL Madium dance aliebt	1		
	124.0 11.6	MB/CH	Gravel, Mix Fi Medium dense mottled, clayey QUATERNAI	ill: Medium dense s	FILL: Medium dense, slight to clayey SAND.  slightly moist, red brown to brown to gray brown,  TS:	ly		DS, CHM
			micaceous.  Total Depth: 2 Groundwater:	1.5'.	ty fine SAND with clay,			B-2



# Construction Testing & Engineering, Inc. 1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	MIDWAY POST OFFICE	DRILLER: BAJA EXPLORATION SHI	EET: 1 of 3
CTE JOB NO:	10-12790G	DRILL METHOD: HOLLOW-STEM AUGER DR	ILLING DATE: 11/22/2016
LOGGED BY:	DK	SAMPLE METHOD: RING, SPT and BULK ELI	EVATION: ~ 13'
Depth (Feet)  Bulk Sample Driven Type  Blows/6"	Dry Density (pcf)  Moisture (%)  U.S.C.S. Symbol  Graphic Log	BORING: B-3  DESCRIPTION	Laboratory Tests
-0			
   		": Concrete. 2": Gravel. TERNARY ARTIFICIAL FILL: Medium dense, slightly, orange brown to red brown, clayey fine SAND with l.	
5	SM	·	MD, CS
18 50/4"	Dense SANI	e, slightly moist, light brown to gray brown, silty fine O.	WA
 - 15-   10	_	TERNARY BAY DEPOSITS: moist, dark gray, fine sandy SILT.	MD, WA, CS
10 12 	SM Medii	moist, dark gray, fine sandy SILT. um dense, moist, dark gray, silty fine SAND, miceccous.	
2 2 2 3		mes loose, moist to wet.	WA
-2 <del>5</del>	СН		
			B-3

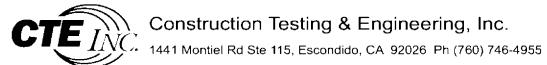


PROJECT:	MIDWAY POST OFFICE	DRILLER: BAJA EXPLORATION SHEET	: 2 of 3
CTE JOB NO:	10-12790G		NG DATE: 11/22/2016
LOGGED BY:	DK	SAMPLE METHOD: RING, SPT and BULK ELEVA	TION: ~ 13'
Depth (Feet) Bulk Sample Driven Type Blows/6"	Dry Density (pcf)  Moisture (%)  U.S.C.S. Symbol  Graphic Log	BORING: B-3  DESCRIPTION	Laboratory Tests
-25	CH Si	stiff to very stiff, moist, dark gray, highly plastic CLAY with	WA
2 4 8 8	SM M	Acdium dense, moist, dark gray, silty fine SAND, micaceous.	WA WA
2 3 3	SM/ML	oose, moist to wet, dark gray, silty fine SAND to fine sandy	WA
2 3	S:	ELT, micaceous.	
2 2 4 5 <del>0</del>	F) W	Firm to stiff, moist, dark gray, CLAY to highly plastic CLAY with silt, trace shell fragments.	WA, AL

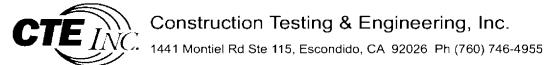


# Construction Testing & Engineering, Inc.

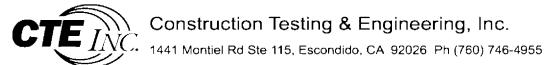
Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part	PROJECT: CTE JOB NO: LOGGED BY:	MIDWAY POST OFFICE 10-12790G DK	DRILLER: BAJA EXPLORATION SHEET DRILL METHOD: HOLLOW-STEM AUGER DRILLI SAMPLE METHOD: RING, SPT and BULK ELEVA	NG DATE: 11/22/2016
Becomes stiff.  Total Depth: 51.5'. Groundwater: 14.5' Back filled with Bentonite chips.	Depth (Feet) Bulk Sample Driven Type Blows/6"	Dry Density (pcf)  Moisture (%)  U.S.C.S. Symbol  Graphic Log		Laboratory Tests
Total Depth: \$1,5'. Groundwater: 14,5' Backfilled with Bentonite chips.			DESCRIPTION	
Backfilled with Bentonite chips.  Backfilled with Bentonite chips.  Backfilled with Bentonite chips.		Becomes s	stiff.	WA
		Total Dep Groundwa Backfilled	th: 51.5'. ater: 14.5' I with Bentonite chips.	



PROJECT:	MIDWAY POST OFFICE	DRILLER: BAJA EXPLORATION	SHEET: 1 of 3
CTE JOB NO:	10-12790G	DRILL METHOD: HOLLOW-STEM AUGER	
LOGGED BY:	DK	SAMPLE METHOD: RING, SPT and BULK	ELEVATION: ~ 12'
Depth (Feet) Bulk Sample Driven Type Blows/6"	Dry Density (pcf)  Moisture (%)  U.S.C.S. Symbol  Graphic Log	BORING: B-4  DESCRIPTION	Laboratory Tests
0	SC <b>OUATE</b>	RNARY ARTIFICIAL FILL: Medium dense	slightly
\\ \\ \\	sc/cl	RNARY ARTIFICIAL FILL: Medium dense, d brown to gray brown, clayey SAND.	n.v.
12 14 16	Gravel a Dense, s sandy CI	nd cobble. lightly moist, dark gray, mottled, clayey SAND t LAY.	о
10 38 28 30 30 30 30 30 30 30 30 30 30 30 30 30	CL Becomes  QUATE	RNARY BAY DEPOSITS:	MD, AL
-15- 	CH Firm, mo micaccoo	oist, dark gray, CLAY to highly plastic CLAY wius.	ith silt, MD, AL
-20 18 20 24	Medium	dense, moist to wet, dark gray, silty fine SAND.	WA
	Cfl		B-4



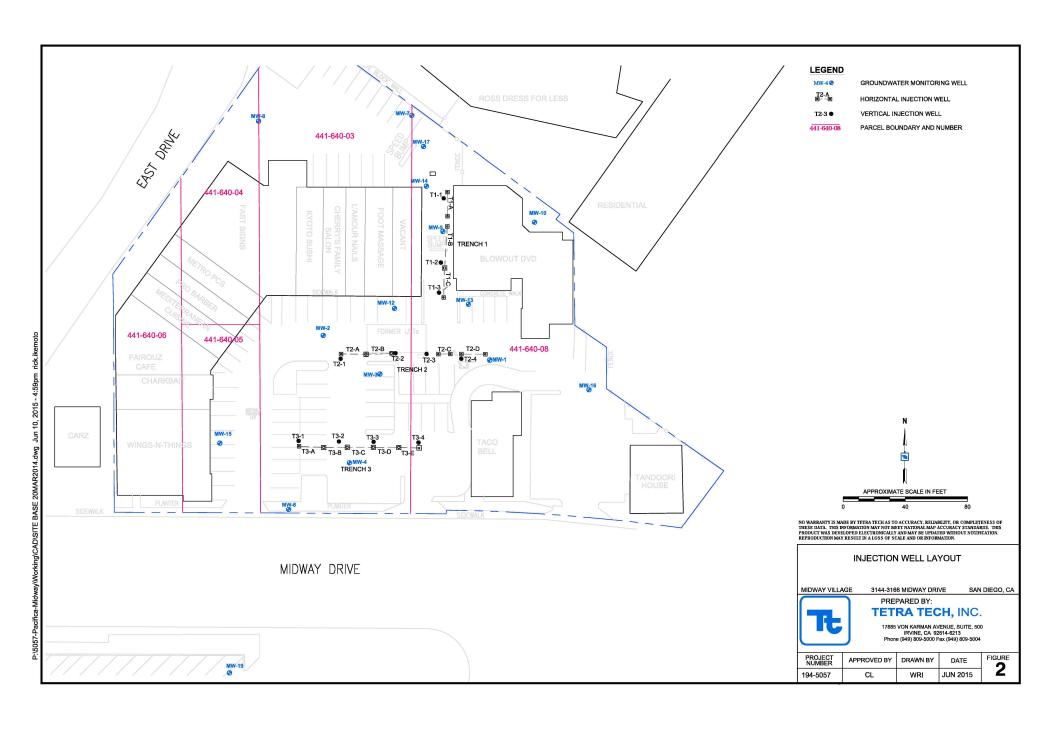
DOCOMPONY   DIR   PROJECT:	MIDWAY POST OFFICE	DRILLER:	BAJA EXPLORATION	SHEET:	2 of 3	
DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION   DESCRIPTION	CTE JOB NO:	10-12790G	DRILL METHOD:			
DESCRIPTION  CIT Firm, moist, dark gray, highly plastic CLAY with organic odor, micaccous.  CL Stiff, moist, dark gray, CLAY with silt, micaccous.  MD, AL  Stiff, moist, dark gray, CLAY with silt, micaccous.  MD, AL  CUCH  Firm, moist, dark gray, CLAY to highly plastic CLAY, micaccous.  CUCH  Firm, moist, dark gray, CLAY to highly plastic CLAY, micaccous.  CH Stiff, moist, dark gray, CLAY to highly plastic CLAY, micaccous.  MD, AL  CH MD, AL  CH MD, AL	LOGGED BY:	DK	SAMPLE METHOD:	RING, SPT and BULK	ELEVATION:	~ 12'
Stiff, moist, dark gray, CLAY with silt, micaccous.  MD, AL  Stiff, moist, dark gray, CLAY with silt, micaccous.  MD, AL  Stiff, moist, dark gray, CLAY to highly plastic CLAY, micaccous.  CUCH  Firm, moist, dark gray, CLAY to highly plastic CLAY, micaccous.  CH  MD, AL  CUCH  MD, AL  CUCH  Firm, moist, dark gray, CLAY to highly plastic CLAY, micaccous.	Depth (Feet) Bulk Sample Driven Type Blows/6"	Dry Density (pcf)  Moisture (%)  U.S.C.S. Symbol  Graphic Log			La	boratory Tests
micaceous.  Stiff, moist, dark gray, CLAY with silt, micaceous.  MD, AL  Stiff, moist, dark gray, CLAY with silt, micaceous.  MD, AL  CLCH  Becomes silty.  MD, AL  CLCH  Firm, moist, dark gray, CLAY to highly plastic CLAY, micaceous.  MD, AL  CLCH  MD, AL  MD, AL	-25	Cll Firm moiet	dark grav, highly plact	tic CLAV with organic odor		MD AI
Becomes silty.  MD, AL  CUCH  Firm, moist, dark gray, CLAY to highly plastic CLAY, micaccous.  CH  MD, AL  MD, AL	3 3 30	micaccous.				
6 8	5	Becomes si	ltv.			MD. AL
	6 8   8					,
CH   CH   CH   CH   CH   CH   CH		Firm, moist micaccous.	, dark gray, CLAY to hi	ighly plastic CLAY,		
I BY		СН				MD, AL



CTE JOB NO: 10-12790G DRILL METHOD: HOLLOW-STEM AUGER DRILLING LOGGED BY: DK SAMPLE METHOD: RING, SPT and BULK ELEVATI		11/22/2016 ~ 13'
	ION:	~ 13'
l log l log l		
Depth (Feet)  Bulk Sample Driven Type Blows/6"  BORING: B-4  Oraphic Log Oraphic Log  DESCRIPTION	Laborate	ory Tests
	MD	, AL
- 1 2 3 CH	MID	, AL
Total Depth: 51,5'. Groundwater: 19' Backfilled with Bentonite chips.		
		B-4

# **TETRA TECH 2015 - MIDWAY VILLAGE**





			SITE NAME: PAG	CIFICA MIE	WA'	Y				IO.: 194-		BORING
$\mathbf{T}_{\mathbf{a}}$	tra	Tech, Inc.	ADDRESS: 3144-31	SE MIDWA	V DE	DI\/E				23, 2015 BC LION	IN DRILLING INC.	T4 4
1.0	ua	1 ccn, inc.	ADDINESS. 5144-51	OO WILDVVA	1 01	NVL	낸	1 1-1				
			SAN DIEGO,	CALIFORN	IIA					PTH (ft.)		
		ORILLING/SAMPLIN								R DEPT	H MEASUREMEN	NTS
		ETHOD: HOLLOW STEM ZE: 8.0 INCHES	AUGER		_	ATE: FE ME: N/A		, 2015				
SAM	PLING N	METHOD: SPLIT SPOON						).5' (FI	RST)	- 7.92' (S1	ATIC)	
	PLER TY	/PE: SPLIT SPOON										
(ft.)					7	l	ERY.	<u>.</u> _	٤	نم		
Ŧ	ģ				_	I⊒	[ō	LOWS	l dd)	L IST		
DЕРТН (ft.)	nscs	DESC	RIPTION		SOIL IYPE	SAMPLE NO.	RECOVERY (%)	BLOWS 6 inches	PID (ppm)	WELL CONSTR.	NOTES	3
0 -									_	A A I A	<u> </u>	
_		3" asphalt. Hand auger to 8	5' to clear for utilities.							$\bowtie \bowtie$	Concrete 0.0'-3.0'.	
_										$\bowtie$	$\otimes$	
-										$\bowtie$		
_											Hydrated bentonite 3.0'-9.75'.	cnips
5 —		SILTY SAND, brown (10 YR 4	1/3) modium doneo moiet eo	mo fino 🖵	د بيد	T1-1-5	100%	7/7/0	0.2			
_		gravel, subangular, very fine	sand, from 5.5'-6.0' trace clay.	ee		11-1-0	100 /6	111119	0.2			
-	CM		YR 4/3), moist, medium dense	e, trace								
	SM	clay, trace gravel, very fine to	fine grained sand.	į.								
-				<u> </u>								
10-		Sandy SILT, very dark gray	(5 Y 3/1), very moist to wet	<del> </del>	<u></u>	T1-1-10	  100%	7/9/12	43		 ∴  #3 sand 9.75'-16'.	
= -		10.5', medium dense, trace	clay, some clay from 11.0'-1						'		윙	
-		low plasticity, very fine grain Hydrocarbon odor.	ied sand, abundant mica.	Γ–						:::: <b>:</b>	3	
-	ML			E-							甾	
-				[-							꿞	
15 —		Same as above, saturated,	traco graval	<u> </u>		T1-1-15	25%	7/7/9	22.6			
-		Borehole terminated @	<u> </u>		_						끡	
-		Doronoio tominatoa (d	,									
-												
-												
20 —												
-												
-												
-												
-												
25 —												
-												
_												
_												
30 — <b>SITE</b>	MAD			WELLO	ONIC	STRUC	TION				•	
SIIE	IVIAP			WELL C DEPTH (f			HUN			CEAL	10" TDAEELO DATED	WELL BOY
	1			DEPTH (I							: 12" TRAFFIC RATED UDE: 32.7510571	VVELL BUX
_	т	0== =:0:	IDE 0	SLOT SIZ				10 15			ITUDE: -117.2084009	
	N	SEE FIGU	IKE 2	SCREEN CASING					′C	1001	ELEVATION (FT ASML	.). 10.51

▼ STATIC GROUNDWATER LEVEL
▼ FIRST ENCOUNTERED GROUNDWATER

			SITE NAME: PAG	CIFICA I	'AWDIN	Y				<u>10.: 1</u>		057		BORING
ТД	tra	Tech, Inc.	ADDRESS: 3144-31	66 MID\	WAY DE	RIVE				23, 20		N DRILLING I	NC.	T4 2
10	ua	reen, me.										WS, H. ZHAN		T1-2
			SAN DIEGO,	CALIFO	RNIA		В	ORIN	G DE	PTH (	(ft.):	16		
		ORILLING/SAMPLIN								R DE	PTH	MEASURE	MEN	ITS
		THOD: HOLLOW STEMZE: 8.0 INCHES	AUGER		_	ATE: FE ME: N/A		2015	1					
SAME	PLING M	IETHOD: SPLIT SPOON				PTH (ft		o' (FIF	RST) -	8.67' (	STAT	IC)		
SAME	PLER T	PE: SPLIT SPOON		-					ı —					
[£]					Ж		<u>~</u>							
DЕРТН (ft.)	<b>,</b>				TYPE	SAMPLE NO.	RECOVER!	BLOWS / 6 inches	PID (ppm)		CONSTR			
ᇤ	nscs				SOIL	M O	% %	BLOWS 6 inches		WELL				
	Ď	DESC	RIPTION		Š	δž	ন হ	<u>m</u> 0	┎	<b>S</b>	ပ	N	OTES	
0 +		3" asphalt. Hand auger to 5	5' to clear for utilities.	f	\\\\\					<del></del>	<del> </del>	Concrete 0.0	-3.0'.	
. 1										$\bowtie$	$\bowtie$			
										$\bowtie$	$\bowtie$			
											$\gg$	Hydrated ben	tonite	chips
												3.0'-9.75'.		
5		SILTY SAND 5.0'-5.83', dar	k gravish brown (10 VR 4/2)	moist	- <del>194</del> 19	T1-2-5	90%	  7/9/10	245					
4		medium dense, very fine gra		ngular		20	0070	,,,,,,						
4	SM	gravel.		ļ	بر نیر در نیر اب									
		SILTY SAND 5.83'-6.5', ver	y dark gray (10 YR 3/1),	ļ										
₹ -		hydrocarbon odor. —— —— ——												
10 -		SANDY SILT 9.0'-10.5', black wet, very stiff, very fine sand										#0 d O 7FI	4.01	
'° ]		odor, trace fine sub-angular				T1-2-10	53%	11/13/14	356			#3 sand 9.75	-16'.	
1		SANDY SILT with gravel, bl	ack (2.5 Y 2.5/1), saturated.	verv										
1	ML	stiff, no plastic to low plastic												
1		to coarse sand.								∷∷: <u> </u>				
15 —						T1-2-15	33%	9/17/21	631					
+		Borehole terminated @	) 16'.											
			,											
20 —														
4														
4														
4														
25 –														
_ ]														
1														
1														
30 -				10										
SITE I	MAP					STRUC	TION			J				
<b>A</b>					1 (ft.): 1 TER (ir							2" TRAFFIC RA DE: 32.7509438		WELL BOX
ΙT	<b>'</b>					i.): 4.0 i.): 0.03	0			_		UDE: -117.208		
N	J	SEE FIGU	IRE 2	SCRE	EN INTE	RVAL (	(ft.): 1					EVATION (FT /		: 11.29
<u>+</u> [	J SEET IGORE 2			CASING MATERIAL: SCH 40 PVC										
<b> </b>				▼ ST	ATIC G	ROUND	WATE	R LE	VEL					
<b>  ※</b>	N .			¥ FIF	ST EN	COUNT	ERED	GRO	UND	WATEF	₹		PAC	SE 1 OF 1

			CITE NAME, DACI	TICA MI	D\A/A\	.,	PF	ROJE	CT N	NO.: 1	194-50	057	BORING			
<b>T</b>	4	T1- T	SITE NAME: PACIF				_ D/	ATE:	FEB	23, 2	015					
1 e	tra	Tech, Inc.	ADDRESS: 3144-3166	MIDW	AY DF	RIVE						N DRILLING IN WS, H. ZHANO				
			SAN DIEGO, CA	D, CALIFORNIA BORING DEPTH												
551		PRILLING/SAMPLIN			ļ_,					R DE	EPTH	MEASURE	MENTS			
		ETHOD: HOLLOW STEM ZE: 8.0 INCHES	IAUGER		_	ATE: FE ME: N/A		2015	1							
		IETHOD: SPLIT SPOON 'PE: SPLIT SPOON			DE	EPTH (ff	.): 9.0	O' (FIF	RST) -	8.08'	(STAT	IC)				
DEPTH (ft.)	- LLIN I	FL. SPLIT SPOON			YPE	4	RECOVERY (%)	S.	(mo		TR.					
EPTI	nscs				SOIL TYPE	SAMPLE NO.	O E C	BLOWS 6 inches	PID (ppm)	WELL	CONSTR					
	Ď	DESC	CRIPTION		Š	δž	≅ ഉ	<u> </u>	颪	3	Ö	NO	TES			
0 ]		2" asphalt. Hand auger to \$	5' to clear for utilities.		A A A A					$\boxtimes$	$\bowtie$	Concrete 0.0'-3	.0'.			
										$\bowtie$	$\otimes$					
_											$\bigotimes$					
_												Hydrated bento 3.0'-9.75'.	onite chips			
5		CILTY CAND FOLESI have	vn (10 YR 4/3), moist, medium		ن بين	T1-3-5	1000/	7/7/0	5.7							
-			nd, trace sub-angular gravel.			11-5-5	100%	11119	] 5.7							
-	SM		gray (10 YR 4/1), no gravel, s	and												
<u>▼</u> -	Sivi	contents decrease with dep	otn.	F.												
│¥┤																
10			YR 4/1), very stiff, very low			T1-3-10	100%	10/10/12	446		<b>=</b> ::::::	#3 sand 9.75'-1	6'.			
_		plasticity, very fine grained	sand, abundant mica, trace cla	ıy.   _												
1	ML		dark gray (10 YR 3/1), saturate sand, low plasticity, abundant r								<b>∄</b> ∷∷∷					
	IVIL	trace clay, trace subangular		-							<b>*</b> ***********************************					
15 —	01															
	CT_MT	fine sand, wet.	nedium plasticity, soft, trace ve	<u>"</u> _/=		T1-3-15	NA	7/11/13	22.3							
-		SANDY SILT, same as abore Borehole terminated @		-/												
-			,													
-																
20 —																
_																
1																
25 —																
4																
4																
-																
30 —																
SITE	MAP					TRUC	TION			<u> </u>						
	1			EPTH (								2" TRAFFIC RA DE: 32.7508905	TED WELL BOX			
	т		s	LOT SI	ZE (in	.): 0.03		0.45		LC	ONGIT	UDE: -117.2084				
	N	SEE FIGU				RVAL ( ERIAL:			'C	10	JU EL	EVATION (FT A	SIVIL): 10./1			
	<u> </u>					ROUND										
<b>**</b>										WATER PAGE 1 OF 1						

PROJECT NO.: 194-5057 **BORING** SITE NAME: PACIFICA MIDWAY DATE: FEB 24, 2015 Tetra Tech, Inc. DRILLER: ABC LIOVIN DRILLING INC. ADDRESS: 3144-3166 MIDWAY DRIVE LOGGED BY: M. CREWS, H. ZHANG SAN DIEGO, CALIFORNIA BORING DEPTH (ft.): 16 **DRILLING/SAMPLING EQUIPMENT GROUNDWATER DEPTH MEASUREMENTS** DATE: FEB 24, 2015 DRILLING METHOD: HOLLOW STEM AUGER DRILL BIT SIZE: 8.0 INCHES TIME: N/A SAMPLING METHOD: SPLIT SPOON SAMPLER TYPE: SPLIT SPOON DEPTH (ft.): 9.0' (FIRST) - 7.66' (STATIC) RECOVERY (%) Ħ SOIL TYPE WELL CONSTR. (mdd) SAMPLE NO. BLOWS / DEPTH **USCS DESCRIPTION NOTES** 0 2" asphalt. Hand auger to 5' to clear for utilities. Concrete 0.0'-3.0'. 2.5 Hydrated bentonite chips 3.0'-9.75'. 5 T2-1-5 100% SILTY SAND, very dark grayish brown (2.5 Y 3/2), medium 7/9/11 45.8 dense, moist, very fine to fine grained sand, some mica, slight hydrocarbon odor. SM 7.₹  $\nabla$ SANDY SILT 9.0'-10', very dark gray (10 YR 3/1) wet, very stiff, non plastic, very fine to fine grained sand, trace clay, ML trace fine sub-angular gravel, strong hydrocarbon odor, some #3 sand 9.75'-16'. 10 T2-1-10 100%10/11/13 16.1 CL CLAYEY SILT 10'-10.4', brown (10 YR 4/3), wet, soft, medium plasticity, trace very fine sand. SANDY SILT 10.4'-10.5', same as 9', brown (10 YR 4/3). ML 12.5-SILTY CLAY 14'-14.5', dark gray (2.5 Y 4/1), wet, very stiff, medium plasticity, some mica. SILT with clay 14.5'-14.83', very dark grayish brown (2.5 Y 3/2), wet, very ML stiff, non-to-low plasticity, some very fine grained sand. SITE MAP **WELL CONSTRUCTION** 



### **SEE FIGURE 2**

DEPTH (ft.): 15.5

DIAMETER (in.): 4.0

SLOT SIZE (in.): 0.030

SCREEN INTERVAL (ft.): 10-15

CASING MATERIAL: SCH 40 PVC

SEAL: 12" TRAFFIC RATED WELL BOX

LATITUDE: 32.7507709

LONGITUDE: -117.2086134

TOC ELEVATION (FT ASML): 10.27

▼ STATIC GROUNDWATER LEVEL

☑ FIRST ENCOUNTERED GROUNDWATER

			SITE NAME: PAG	CIFICA MID	WAY	,				O.: 194-50	)57	BORING					
$\mathbf{T}_{\mathbf{A}}$	tra	Took Inc	ADDDECC, 2444 24	ee MIDMA	V DD	N/C				24, 2015	I DOULING INC	TO 4					
16	ua	Tech, Inc.	ADDRESS: 3144-31	OO MIDWA	י אט ז	IVE					N DRILLING INC. WS, H. ZHANG	T2-1					
			SAN DIEGO,	CALIFORN	IΙΑ					PTH (ft.):							
		DRILLING/SAMPLIN								R DEPTH	MEASUREMEN	NTS					
		<u>ETHOD: HOLLOW STEM</u> ZE: 8.0 INCHES	I AUGER			TE: FE 1E: N/A		, 2015									
SAM	PLING N	METHOD: SPLIT SPOON						0' (FIR	ST) -	7.66' (STAT	IC)						
	PLER T	YPE: SPLIT SPOON			щ		ı -										
(ft.)					보		监		<u>_</u>	نہ							
ĮĮ	S				<u>-</u>	7	õ	WS	(ppr	.L ISTI							
DEPTH (ft.)	nscs	nesc	CRIPTION		SOIL LYPE	SAMPLE NO.	RECOVERY (%)	BLOWS 6 inches	PID (ppm)	WELL Constr.	NOTES	•					
15 —											NOTES	•					
'Ŭ	CL	very stiff.	e as 14'-14.5', black (2.5 Y 2.5/1	/  -		T2-1-15	100% 	7/11/13	6.3								
	ML	plastic, very fine to fine grained	dark gray (2.5 Y 3/1, wet, very st sand, abundant mica, trace clay.	tiff, non	_												
		Borehole terminated @	<b>0</b> 16'.														
17.5—																	
-																	
-																	
20 —																	
-																	
-																	
-																	
-																	
22.5																	
-																	
-																	
-																	
-																	
25 —																	
-																	
27.5																	
30 -		1		MEL 1 6		TDI IC											
SITE	<u>MAP</u>			WELL CO			HON			0541 1	OU TD 4 FFI	WELL BOY					
				DEPTH (ft DIAMETE							2" TRAFFIC RATED DE: 32.7507709	MELL ROX					
	т			SLOT SIZ	E (in.)	): 0.030				LONGIT	UDE: -117.2086134	10.07					
		SEE FIGU	JRE 2	SCREEN CASING N					<del></del>	TOCEL	EVATION (FT ASML	): 10.2/					

▼ STATIC GROUNDWATER LEVEL
▼ FIRST ENCOUNTERED GROUNDWATER
▼

PAGE 2 OF 2

			0.77				Трг	ROJE	CT N	IO.: 194-5	5057		BORING
_	,		SITE NAME: PAC	CIFICA MI	IDWA	Υ	_ D/	ATE:	FEB	24, 2015			
T e	etra	Tech, Inc.	ADDRESS: 3144-316	66 MIDW	AY DF	RIVE				ABC LIOVI Y: M. CRE	T2-2		
			SAN DIEGO, (	CALIFOR	NIA					PTH (ft.):			
		ORILLING/SAMPLIN			   D/	GF ATE: FE				R DEPT	H MEASUR	EMEN	ITS
DRIL	L BIT SI	ETHOD: HOLLOW STEM ZE: 8.0 INCHES			TII	ME: N/A							
		IETHOD: SPLIT SPOON PE: SPLIT SPOON			DE	EPTH (ft	:.): 9.0	O' (FIR	(ST) -	7.0' (STAT	IC)		
DEPTH (ft.)		TE. SI EN SI GON			SOIL TYPE	SAMPLE NO.	RECOVERY (%)	WS / hes	PID (ppm)	WELL CONSTR.			
DEP	nscs	DESC	CRIPTION		SOIL	SAM NO.	REC %	BLOWS / 6 inches	PID (	WEL	,	NOTES	ì
0 –				L	~~~						1		
-		3" aspnatt. Pea gravet mat Hand auger to 5' to clear fo	erial with SILTY SAND to 5'. or utilities.								Concrete 0.  Hydrated be 3.0'-9.75'.		chips
5 — <u>▼</u> - <u>↓</u> -	SM-SP		dark gray (2.5 Y 3/1), wet @ 5. ed sand, trace sub-angular grav r.	,, o,		T2-2-5	90%	11/13/19	963				
= 10 — - -	SW-SM	saturated, medium dense,	very dark gray (2.5 Y 3/1), w very fine to fine grained sand ice fine sub-angular gravel, s ica. Gravelly sand @ 9.0'.	i, trace 🙀		T2-2-10	NA	7/8/10	990		#3 sand 9.7	5'-16'.	
-	CL-CH	SILT with clay 14'-14.3', black		· /							.}		
15 —	ML		7 2.5/1), wet, very stiff, mediu			T2-2-15	NA	10/13/15	86.1	<b></b>			
-		depth. SILT 15'-15.5', black (2.5 Y	me mica, silt contents increas 2.5/1), wet, very stiff, non pla clay, abundant mica, hydroca	astic,									
-		Borehole terminated @	<b>0</b> 16'.										
20 — - - -													
25 — - - -													
30 —	MAD		I	\A/E' ! 4	20112	TDUC	TION			<u> </u>	•		
SITE	<u>MAP</u>	err riou		DEPTH DIAMET SLOT SI SCREEN	(ft.): 1 ER (in ZE (in	5.5 i.): 4.0 i.): 0.03	0			LATITU LONGI	12" TRAFFIC JDE: 32.75078 TUDE: -117.20 LEVATION (F	325 384986	
	1	SEE FIGU	RE 2	CASING					C	1.001	v//11014 (I	. / WIVIL	j. 5.16
				¥ STAT ¥ FIRS						WATER	R PAGE 1 OF 1		

			SITE NAME: PAG	CIFICA MI	'AWC	Y				IO.: 194			BORING
Te	tra	Tech, Inc.	ADDRESS: 3144-31	66 MIDWA	Y DF	RIVE				24, 201 ABC LIO	o VIN DRILLING	INC.	T2-3
		Teen, me.	SAN DIEGO,	CALIEORN	JΙΔ		LOGGED BY: M. CREWS, H. ZHANG						12-5
		 DRILLING/SAMPLIN	<u> </u>	CALIFORI	T	G	BORING DEPTH (ft.): 16  ROUNDWATER DEPTH MEASUREMENTS						
DRIL		ETHOD: HOLLOW STEM			D/	ATE: FE				.K DEF	III WILAGON		113
DRIL	L BIT SI	ZE: 8.0 INCHES				ME: N/A							
		METHOD: SPLIT SPOON YPE: SPLIT SPOON			DE	:PIH (ft	): 9.0	0, (FIP	KST)-	6.99' (ST	ATIC)		
		THE CHENT OF CONT					_						
(#)					/PE	ш	RECOVERY (%)	- s	E	يم			
ΙĔΙ	S				Ĺ	Æ	Š	OWS	[ 호	⊐z			
DEPTH (ft.)	nscs	DESC	CRIPTION		SOIL TYPE	SAMPLE NO.	₩ ₩ %	BLOWS 6 inches	PID (ppm)	WELL CONSTR.		NOTES	<b>3</b>
					· · · · · · · · · · · · · · · · · · ·					I			
ľ		4" asphalt. Hand auger to 5	5' to clear for utilities.	Ť	XXX					$\bowtie$	Concrete 0.	0'-3.0'.	
										$\bowtie$	$\boxtimes$		
										$\boxtimes$	$\boxtimes$		
			rown (10 YR 4/2), moist, mediu	ım	:				762		Hydrated b	entonite	chips
٦ [		dense, very fine.		14.4 14.4							3.0'-9.75'.		
5 -			ark grayish brown (10 YR 3/2). ne sand, trace sub-round grave		7.	T2-3-5	NA	5/7/9	395				
l ູ ¹	SM	mica.		<u> </u>	1:1								
₹ -													
					1. 4.								
₩		SANDY SILT 9.0'-10', black											
10			y fine grained sand, hydroca vel, abundant mica, some cl			T2-3-10	NA	8/8/10	679		#3 sand 9.7	5'-16'.	
-	N.A.I	SILT with sand 10'-10.5', ve	ery dark gray (10 YR 3/1), we	et, very L						:::: <b>:</b>   ::	<b>XX</b>		
-	ML		rained sand, hydrocarbon o & sub-angular fine gravel, ab							:::: <b>:</b>   ::			
-		mica.	ery dark gray (10 YR 3/1), w	et verv						::::: <b> </b>			
-		stiff, very low plasticity, trac	e very fine grained sand,	et, very _						:::: <b>:</b>			
15 —	CL	hydrocarbon odor, abundan CLAY some silt 14.5'-15', ve	nt mica. ery dark gray (2.5 Y 3/1), we	et, very		T2-3-15	NA	B/11/13	81 2				
-	ML		ity, hydrocarbon odor, some	mica. /						······	<del>===</del>		
-		stiff, non plastic, abundant r	mica, very fine to fine sand.	t, very									
-		Borehole terminated @	<b>9</b> 16'.										
-													
20 -													
_													
_													
25 —													
30													
SITE	МАР			WELL C	ONS	TRUC	TION	<u> </u>					
<del>     </del>	1417- <b>4</b> 1			DEPTH (1				<u> </u>		QEA!	: 12" TRAFFIC	RATED	WELL BOY
	١			DIAMETE							TUDE: 32.75078		WELL DOX
	т			SLOT SIZ				0.45			GITUDE: -117.2		), O 60
	N	SEE FIG	URE 2	SCREEN CASING					<u>C</u>	100	ELEVATION (F	I ASML	.): 9.62
				▼ STAT						1			
				=						A/A TED			<b></b> :
"	`			⊈ FIRST	ΕINC	CONT	-KEU	GKU	עמיט\	WAIEK		PA	GE 1 OF 1

			SITE NAME: PACIF	ICA MID	OWAY	/				IO.: 194-50	057	BORING
Te	tra	Tech, Inc.	ADDRESS: 3144-3166	MIDWA	Y DR	NVF				24, 2015 ABC LIOVIN	N DRILLING IN	T2 /
10	ua	i cen, inc.									WS, H. ZHAN	
			SAN DIEGO, CA	ALIFORN	IIA			DRIN				
		ORILLING/SAMPLIN			<u> </u>					R DEPTH	MEASURE	MENTS
		ETHOD: HOLLOW STEM ZE: 8.0 INCHES	AUGER			TE: FE		2015				
SAM	PLING M	IETHOD: SPLIT SPOON			_			)' (FIF	RST) -	6.52' (STAT	IC)	
	PLER TY	PE: SPLIT SPOON		<u> </u>	<u> </u>			l		Ι		
DEРТН (ft.)					IYPE	Ä	VERY	/S/ les	(md	. F2		
DEPT	uscs	DESC	CRIPTION		SOIL TYPE	SAMPLE NO.	RECOVER' (%)	BLOWS 6 inches	PID (ppm)	WELL CONSTR.	NC	OTES
0		4" asphalt. Hand auger to	5' to clear for utilities.								Concrete 0.0'-	3 0'
- - - 5 —		SII TY SAND 5 0'-6 5' verv	dark gray (2.5 Y 3/1), moist,		ಹಾಣ	T2-4-5	100%	7/9/10	292		Hydrated bent 3.0'-9.75'.	
<u>¥</u> - - ¥ -	SM	medium dense, very fine to sub-angular fine gravel, son	fine grained sand, trace me mica, very moist @ 6.5'.									
10 —	ML	hydrocarbon odor. SILT some clay 9.75'-10.25 hydrocarbon odor, trace to gravel, sub-angular become SILT with clay 14'-14.5', ver very stiff, non plastic, trace some fine to coarse sub-an with nodules of clay.	ne grained sand, trace fine stic to slightly plastic, slight ', black (10 YR 2/1), strong some fine gravel-some coarse	ted,		T2-4-10		9/9/16 9/9/12			#3 sand 9.75'-	16'.
20 —			fine grained sand, abundant m									
25 — - - - 30 —												
SITE	MAP		T v	VELL C	ONS	TRUC	TION					
I	J	SEE FIGU	RE 2	DEPTH (F DIAMETE SLOT SIZ SCREEN CASING I	t.): 1 :R (in 'E (in INTE	5.5 .): 4.0 .): 0.03 RVAL (	0 ft.): 1	0-15	/C	LATITUI LONGIT	2" TRAFFIC RA DE: 32.7507737 'UDE: -117.208 EVATION (FT A	3605
SEE FIGURE 2				Z STATI Z FIRST	C GF	ROUND	WATE	RLE	VEL	WATER		PAGE 1 OF 1

PROJECT NO.: 194-5057 **BORING** SITE NAME: PACIFICA MIDWAY DATE: FEB 25, 2015 Tetra Tech, Inc. DRILLER: ABC LIOVIN DRILLING INC. ADDRESS: 3144-3166 MIDWAY DRIVE LOGGED BY: M. CREWS, H. ZHANG SAN DIEGO, CALIFORNIA BORING DEPTH (ft.): 16 **DRILLING/SAMPLING EQUIPMENT GROUNDWATER DEPTH MEASUREMENTS** DRILLING METHOD: HOLLOW STEM AUGER DATE: FEB 25, 2015 DRILL BIT SIZE: 8.0 INCHES TIME: N/A DEPTH (ft.): 9.0' (FIRST) - 7.46' (STATIC) SAMPLING METHOD: SPLIT SPOON SAMPLER TYPE: SPLIT SPOON RECOVERY (%) Ħ SOIL TYPE PID (ppm) WELL CONSTR. SAMPLE NO. BLOWS DEPTH **USCS DESCRIPTION NOTES** 0 3.5" asphalt. Hand auger to 5' to clear for utilities. Concrete 0.0'-3.0'. Hydrated bentonite chips 3.0'-9.75'. 5 T3-1-5 100% 6/9/11 151 SILTY SAND, dark gravish brown (10 YR 4/2), moist, medium dense, very fine grained sand, some mica, slight hydrocarbon odor, silt contents increase @ 6.25'. SM ₹ SANDY SILT 9.0'-9.7', very dark gray (10 YR 3/1), saturated, ML very stiff, non-plastic, very fine grained sand, trace clay, 10 #3 sand 9.75'-16'. T3-1-10 100% 9/9/12 421 hydrocarbon, some mica, trace fine sub-angular gravel, ML sub-rounded trace-coarse grained sand. SILTY CLAY 9.7'-10.2', very dark gray (10 YR 3/1), wet, very stiff, medium plasticity, trace very fine grained sand, some 100% 7/11/12 62 mica, slight hydrocarbon odor.
SANDY SILT 10.2'-11.75', very dark grayish brown, (10 YR CL 3/2), wet, very stiff, slight plasticity, very fine grained sand, trace clay, siliter than above, abundant mica 15 SILTY CLAY 11.75'-12', very dark gray (2.5 Y 3/1), wet, very T3-1-15 100% 9/15/13 14 ML stiff, medium plasticity, some mica. CLAY with silt 14'-15', dark gray (10 YR 4/1), wet, very stiff, medium plasticity, trace very fine grained sand, some mica. SANDY SILT 15'-15.5', very dark gray (10 YR 3/1), wet, very stiff, non-plastic, trace clay, very fine grained sand, abundant Borehole terminated @ 16'. 20 25

SITE MAP

**SEE FIGURE 2** 

 WELL CONSTRUCTION

 DEPTH (ft.): 15.5
 SEAL: 12" TRAFFIC RATED WELL BOX

 DIAMETER (in.): 4.0
 LATITUDE: 32.7506262

 SLOT SIZE (in.): 0.030
 LONGITUDE: -117.2087003

 SCREEN INTERVAL (ft.): 10-15
 TOC ELEVATION (FT ASML): 9.76

 CASING MATERIAL: SCH 40 PVC

			SITE NAME: PAG	CIFICA MID	OWAY	<b>Y</b>				10.: 194-5	057	BORING	
T	tra	Tech, Inc.	ADDRESS: 3144-31	66 MIDWA	V DE	21\/E				25, 2015 ABC LIOVII	N DRILLING INC	∃ <b>⊤</b> າ າ	
1,	ua	recii, inc.									WS, H. ZHANG	⊣T3-2	
			SAN DIEGO,	CALIFORN	IIA.					PTH (ft.):			
		ORILLING/SAMPLIN			L.					R DEPTH	I MEASUREME	NTS	
		ETHOD: HOLLOW STEM ZE: 8.0 INCHES	AUGER		_	ATE: FE ME: N/A		2015	1				
SAM	PLING M	IETHOD: SPLIT SPOON			_			o' (FIF	RST) -	7.97' (STAT	TC)		
	PLER T	PE: SPLIT SPOON						l	l	Ī			
DEPTH (ft.)					<b>. .</b>		ΞRΥ	  -	ᅙ	نہ			
Ŧ	y,				È	PLI	Ŏ.	WS.	dd	L IST			
ЭEР	nscs	DESC	CRIPTION		SOIL TYPE	SAMPLE NO.	RECOVER' (%)	BLOWS 6 inches	PID (ppm)	WELL CONSTR.	NOTE	-8	
0 -				I	~~	0, 2		ш Ф					
_		3.0" asphalt. Hand auger to	o 5' to clear for utilities.		~~~					$\bowtie \bowtie$	Concrete 0.0'-3.0	<b>'</b> .	
_										$\bowtie \bowtie$			
_										$\bowtie \bowtie$			
_											Hydrated bentoni 3.0'-9.75'.	te chips	
5 —											0.0 0.70		
_			dark grayish brown (10 YR fine to fine grained sand, so			T3-2-5	NA	7/7/9	192				
_	SM	mica, slight hydrocarbon oc		 									
▼_				<u> </u>									
¥ - ¥ -					<u>.</u> +								
= 10 —	ML CL		<sup>,</sup> dark gray (10 YR 3/1), wet, sub-angular gravel, trace cla		==						#2 cond 0 75! 16!		
_	CL	very fine grained sand, hyd		~ / <b>⊱</b> -2	<u> </u>	T3-2-10	NA	10/14/16	782	:::: <b> </b>  ::::	#3 sand 9.75'-16'		
_		medium plasticity, trace ver	y fine grained sand, some m		<u> </u>					╠┉╂┈			
_	ML-CL	\silt and sand contents incre SANDY SILT 10.4'-10.5', sa	ease with depth. ame as 9.0'-9.9', except grav	[									
		SANDY SILT with clay nod 10.4'-10.5', very dark gray (	ules 14'-14.75', same as	<u> </u>									
15 —	CL	medium to high plasticity.	, , , , ,										
_	ML		very dark gray (10 YR 3/1), lasticity, very fine grained sa			T3-2-15	NA	9/14/18	10.4				
_		clay nodules.	ery dark gray (2.5 Y 3/1), we	t very									
_		stiff, non-plastic, very fine g	rained sand, abundant mica										
_		hydrocarbon odor.  Borehole terminated @	g 16'.	/									
20 —													
_													
_													
_													
25 —													
_													
_													
_													
30 —													
SITE	MAP			WELL C	ONS	TRUC	TION	l					
				DEPTH (ft.): 15.5						SEAL: 1	2" TRAFFIC RATE	D WELL BOX	
4	١			DIAMETE	R (in	ı.): 4.0				LATITU	DE: 32.7506256		
	J	SEE FIGU	SLOT SIZ				0-15		LONGITUDE: -117.2086156 TOC ELEVATION (FT ASML): 9.68				
	1	SEE FIGU	CASING MATERIAL: SCH 40 PVC							TOG ELEVATION (FT ASML): 9.08			
			▼ STATIC GROUNDWATER LEVEL										
										AGE 1 OF 1			
				<b>–</b>									

# Tetra Tech, Inc.

SITE NAME: PACIFICA MIDWAY

PROJECT NO.: 194-5057 DATE: FEB 25, 2015

BORING

ADDRESS: 3144-3166 MIDWAY DRIVE

DRILLER: ABC LIOVIN DRILLING INC.

LOGGED BY: M. CREWS, H. ZHANG SAN DIEGO, CALIFORNIA BORING DEPTH (ft.): 16

GROUNDWATER DEPTH MEASUREMENTS

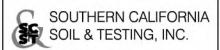
		ADILLING/OATED TO	C FOLLIDATAIT	O' (EII O')	T						(ft.): ´		EMENTO
וופח		DRILLING/SAMPLING ETHOD: HOLLOW STEM			   D/	GF ATE: FE				א טו	=P   H	MEASUR	EMEN 12
		ZE: 8.0 INCHES	AUULIN			ME: N/A		2010					
SAMF	LING M	METHOD: SPLIT SPOON			DE	EPTH (ft	.): 9.0	)' (FIR	RST) -	9.35'	(STAT	IC-UNDER P	RESSURE)
SAME	LER T	PE: SPLIT SPOON		<del></del>	Щ,		ı				- 1		
DEPTH (ft.)	nscs	DESC	RIPTION		SOIL TYPE	SAMPLE NO.	RECOVERY (%)	BLOWS / 6 inches	PID (ppm)	WELL	CONSTR.	1	NOTES
0		3" asphalt. Hand auger to 5	to clear for utilities.	×	$\times\!\!\times\!\!\times$					<del>XX</del>	<del>IXX</del>	Concrete 0.0	0'-3.0'.
2.5 —		SILTY SAND, very dark grayish (			in the second				618				entonite chips
5 —	SM	strong hydrocarbon odor, some f SILTY SAND 5.0'-5.6', very dark y very fine to fine grained sand, sor sub-angular gravel, hydrocarbon	gray (10 YR 3/1), moist, medium ne medium grained sand, some	dense,		T3-3-5	100%	6/7/11	650			3.0'-9.75'.	
7.5 — - - - - - -	ML	SILT with clay 5.6'-6.25', very dar plastic, very fine grained sand, hy depth, moist, some mica. SILT 6.25'-6.5', same as above, v some clay, very siff, non-plastic, a odor.  SANDY SILT 9.0'-9.75, dark gray to slightly plastic, race clay, very for sightly plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay, very fine plastic, race clay,	rery moist, some very fine graine abundant mica, strong hydrocard	ed sand,					564				
<u>¥</u> - 10 −	CL	trace fine sub-angular gravel.  SILTY CLAY 9.75'-10.2', very darl medium plasticity, trace very fine			11	T3-3-10	100%	8/10/14	228			#3 sand 9.7	5'-16'.
-		odor. SANDY SILT 10.2'-10.5', very dar non-plastic, very fine grained sand sub-angular gravel, hydrocarbon o	/ -			. 55 /0	.0/14	220					
12.5 <del></del>	ML CL	SILT with clay 14'-14.6', very dark stiff, low plasticity, trace very fine (hydrocarbon odor.  (Description on next page)		very -									
15 —											<b></b>		
SITE	MAP	SEE FIGU	DIAMETER (in.): 4.0         L.           SLOT SIZE (in.): 0.030         L.						L/ L(	SEAL: 12" TRAFFIC RATED WELL BOX LATITUDE: 32.7506260 LONGITUDE: -117.2085431 TOC ELEVATION (FT ASML): 9.43			
			FIRST ENCOUNTERED GROUNDWATER							PAGE 1 OF 2			

			SITE NAME: PAC	IFICA MID	WAY	1				O.: 194-50	057		BORING
Te	tra	Tech, Inc.	ADDRESS: 3144-316	66 MIDWA	Y DR	RIVE				25, 2015 BC LIOVIN	N DRILLING	INC.	T3-3
	<b>01 00</b>		SAN DIEGO, C	PALIEO DA	ПΔ		LC	OGGE	D BY	: M. CRE	WS, H. ZHA		10-0
		 DRILLING/SAMPLIN		DALII OITI		GE				PTH (ft.):	16 I MEASUR	EMEN	ITS
DRILI		ETHOD: HOLLOW STEM			DA	TE: FE				IX DEI III	MLAGGIN		110
		ZE: 8.0 INCHES				ME: N/A		N /EID	OT)	0.051/0747	IO LINIDED D	DE0011	DE)
		METHOD: SPLIT SPOON YPE: SPLIT SPOON			DE	:РІН (π	.): 9.0	) (FIR	(51)-	9.35 (STAT	IC-UNDER P	RESSU	KE)
							>						
DEPTH (ft.)					SOIL TYPE	щ	RECOVERY (%)	S (	E E	쮼			
IĖ∣	nscs			!	-	₩.	ုင္ပ	BLOWS / 6 inches	PID (ppm)	WELL Constr.			
ᆸ	ns	DESC	CRIPTION		SO	SAMPLE NO.	₩ 8	BL 6 ir	딥	S ⊗	ı	NOTES	i
15 —		CLAY with silt 14.6'-15', dark gra	ay (10 YR 4/1), wet, very stiff, med	dium to /	- 1	T3-3-15	100%	11/14/16	13.8				
-	ML		very fine grained sand, hydrocark			10 0 10	10070	11/14/10	13.0				
			2.5 Y 2.5/1), wet, very stiff, non-pl	astic									
		Borehole terminated @											
17.5—													
-													
20 -													
22.5													
25 —													
l ↓													
27.5													
_													
30 —													
SITE	MAP		Ī	WELL C	ONS	TRUC	TION						
<b>A</b>			DEPTH (ft.): 15.5						SEAL: 1	2" TRAFFIC I	RATED	WELL BOX	
₩			DIAMETE	Ř (in.	.): 4.0				LATITUI	DE: 32.75062	60		
	J	SEE FIGU	SLOT SIZE (in.): 0.030 SCREEN INTERVAL (ft.): 10-15							<u>UDE: -117.20</u> EVATION (F1		: 9.43	
1	١	SEE FIGU	CASING MATERIAL: SCH 40 PVC						1.55 EE				
	<b>\</b>		:	▼ STATI	C GR	ROUND	NATE	R LEV	√EL				
			]:	Ţ FIRST	ENC	OUNTE	RED	GRO	UNDV	VATER	SE 2 OF 2		
				_								l	

			SITE NAME: PAC	IFICA MID	OWAY	Y				NO.: 194-5 25, 2015	057		BORING
Te	tra	Tech, Inc.	ADDRESS: 3144-316	66 MIDWA	Y DR	RIVE					N DRILLING	INC.	T3-4
- •	J_ <del>J</del>		SAN DIEGO, (		JIA		L	OGGE	ED B	Y: M. CRE	WS, H. ZHA		1 5-4
	-	 	<u> </u>	JALII-UKI	<u> </u>	C				PTH (ft.):	16 I MEASUR	EMEN	ITS
DRILI		THOD: HOLLOW STEM			DA	TE: FE				K DEF II	TWEASUR	CIVICIN	113
		ZE: 8.0 INCHES				ME: N/A		טי /בוב	OCT)	A BOLIND	) 0' (STATIC II	INDED	DDESCLIDE)
		<u>IETHOD: SPLIT SPOON</u> 'PE: SPLIT SPOON			DE	:P1H (II	). 9.t	J (FIF	(31)-	AROUND	9.0' (STATIC-U	INDER	PRESSURE)
t.)					ш		۲¥						
) Н Н					<u>₩</u>	빌	VEF	/S/	E G	I.Y.			
DEPTH (ft.)	nscs				SOIL TYPE	SAMPLE NO.	RECOVERY (%)	BLOWS / 6 inches	PID (ppm)	WELL CONSTR.			
	<b>)</b>	DESC	CRIPTION		σ	ΰŽ	<u> </u>	<u>m</u> 0	┎	≤ ∪	<u> </u>	OTES	
		3.5" asphalt. Hand auger to	5' to clear for utilities.	~	$\sim$					$\boxtimes\!\!\!\boxtimes$	Concrete 0.0	0'-3.0'.	
										$\boxtimes\!\!\!\!\boxtimes$	3		
			y dark gray (10 YR 3/1), moist,		_				831	$\bowtie \bowtie$	3		
_		hydrocarbon odor.	grained sand, fine sub-angular	gravei,							Hydrated be 3.0'-9.75'.	entonite	chips
5 -		SILTY SAND 5.0'-5.5', very da	ark gray (10 YR 3/1), moist, me	edium		T3-4-5	NA NA	6/9/13	737				
-	SM		, trace fine to coarse sub-angu			10 4 0	'\``	0,0,10	' ' '		1		
-		SILTY SAND 5.5'-6.0', black (	10 YR 2/1), very moist, mediun		]								
1		some mica.		``` [-	]						1		
₩			10 YR 2/1), wet, very stiff, non-	plastic,									
10 -			(10 YR 2/1), wet, very soft, sat			T3-4-10	NA	9/15/17			#3 sand 9.7	5'-16'.	
-	ML	SANDY SILT 10'-10.5', black (	rocarbon odor, trace clay nodu (10 YR 2/1), saturated (free pro						548				
٦	IVIL	very stiff, non-plastic, very fine hydrocarbon odor, abundant n	nica.	 							:		
1			dark grayish brown (10 YR 3/2) very fine grained sand, abunda										
4.5	CL	mica, hydrocarbon odor. CLAY with silt 14.6'-15', dark o	gray (10 YR 4/1), wet, very stiff	┊┼	<del>,  </del>						:		
15	ML		ne mica, trace very fine grained			T3-4-15	NA	11/14/10	246				
		SILT with sand 15'-15.5', black		—/ <u> </u>									
		hydrocarbon odor.  Borehole terminated @	0.16'	/									
		Doronolo torrimatou (d	,										
20 -													
-													
-													
-													
-													
25 —													
1													
٦													
1													
30													
SITE	MAP			WELL C	ONS	STRUC	TION	1					
<u> </u>			ļ	WELL CONSTRUCTION DEPTH (ft.): 15.5						SEAL:	12" TRAFFIC F	RATED	WELL BOX
▎▐	ı		DIAMETE	EŔ (in	ı.): 4.0	0			LATITU	IDE: 32.75062	56		
	J	SEE FIGU	SLOT SIZ				0-15		LONGITUDE: -117.2084482 TOC ELEVATION (FT ASML): 9.32				
<u>+</u>	•	JLL 1 130	CASING MATERIAL: SCH 40 PVC							. 33 ELEVITION (1 1 MOINE). 3.32			
<b>                                     </b>			▼ STATIC GROUNDWATER LEVEL										
	<b>E</b>			¥ FIRST	ΓENC	COUNTI	ERED	GRO	UND	WATER	SE 1 OF 1		







SITE VICINITY NEW GRAIN SILO Bay City Brewing Company San Diego, California Date: December 2014 By: JGA

Job No.: 140546N-1 Scale: Not To Scale Figure:

1



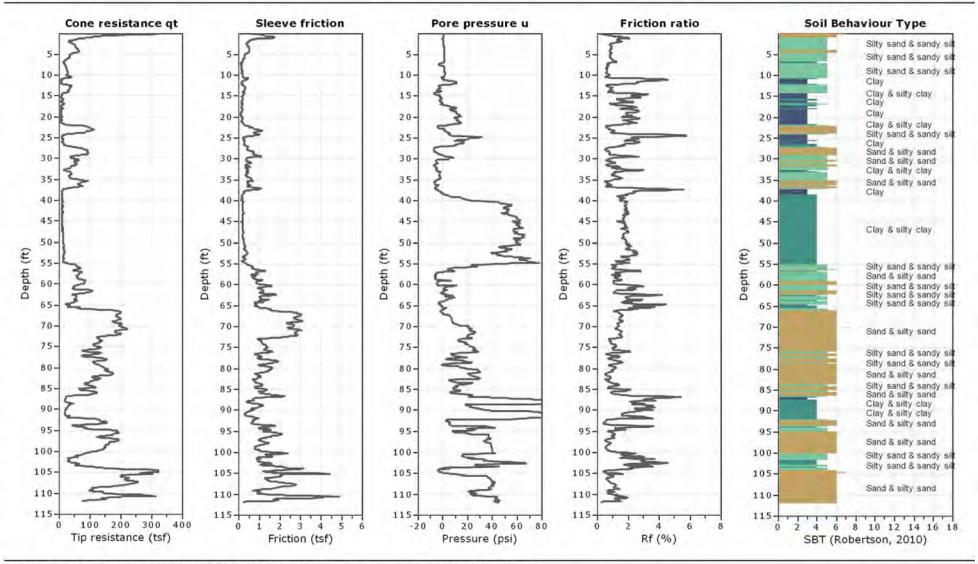


Kehoe Testing and Engineering 714-901-7270 rich@kehoetesting.com www.kehoetesting.com

Project: Southern California Soil & Testing, Inc. Location: 3760 Hancock St. San Diego, CA CPT: CPT-1

Total depth: 111.94 ft, Date: 11/17/2014

Cone Type: Vertek



	CPT-1	In situ	data								Basic	output	data							
Depth (ft)	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	106.7	1.75	0.3	-81.45	106.704	1.6401	5	2.05159	125.7563	0.06288	0	0.0629	1696	-	0.0002	6	0.4925	4.0159	1.6745	404.7394
2	30.6	0.45	0.3	-81.45			5		112.7728	0.11926		0.1193		1.4762			0.6162		1.991	110.5987
3 4	51.5	0.44	0.79	-81.45			5		113.8782	0.1762		0.1762					0.5401	2.6332		127.75
5	61.2 38.2	0.48 0.29	0.91 0.91	-81.45 -81.45			6 5		114.9358 110.0994	0.23367		0.2337						2.2339		128.7376 77.90911
6	28	0.24	0.99	-81.45			5			0.3427		0.3427						2.0999		54.91208
7	13.3	0.12	0.28	-81.45	13.3034	0.902	4	2.64589	101.0696	0.39323	0	0.3932	32.831	0.9295	0.0016	5	0.7713	2.1457	2.3712	26.17958
8	21.8	0.14	1.29	-81.45			5		103.4039	0.44494		0.4449		0.6551				1.8273		36.90693
9 10	25.3 20.6	0.16 0.18	1.52	-81.44 -81.44		0.632 0.8732	5	2.3269	104.7441 105.1045	0.49731 0.54986		0.4973 0.5499	49.911	0.6446		5	0.6877	1.6808	2.1382	39.42756 31.02199
11	8.8	0.18	0.26	-81.43			3		103.1043	0.60411		0.6041				3		1.7515		13.57217
12	7.2	0.17	11.09	-81.43			3		102.1663	0.65519	0	0.6552	10.196	2.5447	0.1195	3	1		2.9499	10.19632
13	33.7	0.32	-2.16	-81.43	33.6736	0.9503	5	2.30324	110.5114	0.71045	0	0.7105	46.398	0.9708	-0.005		0.7255	1.3351		41.59128
14	30.7	0.18	-2.56	-81.43			5		106.0735	0.76348		0.7635			-0.006			1.2608		35.63379
15 16	7.5 10.9	0.16 0.15	-2.61 -2.74		7.46805 10.8665		3		101.7663 102.2088	0.81437 0.86547		0.8144 0.8655			-0.028 -0.02	3	0.9525	1.2993	3.0175 2.7863	8.17037 11.4458
17	15.5	0.15	-1.85	-81.43			4		103.0715	0.91701	0		15.878		-0.009			1.1342		15.60734
18	10.5	0.16	8.36	-81.43			4	2.83778	102.621	0.96832		0.9683				4		1.0914		9.93691
19	6.2	0.13	11.36	-81.42	6.33905	2.0508	3	3.0978	99.84724	1.01824	0	1.0182	5.2255	2.4432	0.1537	3	1	1.0392	3.1872	5.22548
20	9.1	0.15		-81.43		1.6213	4		101.8165	1.06915		1.0692				3		0.9897		7.6535
21 22	6.2 41.8	0.13 0.32	11.51 2.14		6.34088 41.8262		3 5	3.09763	99.84795 111.0402	1.11907 1.17459	-	1.1191 1.1746				3	0.7515	0.9455		4.66618 35.51889
23	110.5	0.32	0.23		110.503		6	1.83075	120.728	1.23496	0		88.479				0.6213	0.9084		93.81232
24	51.9	0.83	4.71		51.9577		5		118.5431	1.29423		1.2942					0.8063	0.8501		40.70308
25	9.1	0.19	26.97	-81.41	9.43011	2.0148	3	2.94513	103.5927	1.34603	0	1.346	6.0059	2.3503	0.2402	3	1	0.7861	3.1266	6.00589
26	9.9	0.28	16.74				3		106.5985	1.39933		1.3993				3		0.7562		6.22126
27	30	0.44	-0.82			1.4672	5		112.5589	1.45561		1.4556		1.542	-0.002		0.9027	0.7498	2.582	20.22105
28 29	91.7 88.8	0.51 0.72	-7.2 -1.64		91.6119 88.7799		6		116.3628 118.8094	1.51379 1.57319		1.5138 1.5732			-0.006 -0.001		0.6483	0.7928	2.0233	67.50766 62.55484
30	45.5	0.34	5.03	-81.41			5		111.6924	1.62904	0				0.0082		0.7988	0.7085	2.288	29.41503
31	51.2	0.53	-4.54	-81.41	51.1444	1.0363	5	2.17146	115.2226	1.68665	0	1.6867	29.323	1.0716	-0.007	5	0.8173	0.6831	2.3296	31.9302
32	36.6	0.5	-5.22		36.5361		5		113.9759	1.74364		1.7436			-0.011		0.9055		2.553	20.91834
33	24.3	0.35	-4.05		24.2504		5		110.3664	1.79882		1.7988			-0.013			0.5925		12.5709
34 35	34 63.5	0.34 0.63	-3.07 -4.89	-81.41 -81.41			5		110.9758 117.0127	1.85431		1.8543 1.9128			-0.007 -0.006	5	0.904	0.6022		18.27354 36.05875
36	63.1	0.4	-6.23	-81.41			6		113.6729	1.96965		1.9697			-0.007			0.6183		35.67742
37	32.9	1.08	-6.06	-81.41	32.8258	3.2901	4	2.6328	119.3496	2.02933	0	2.0293	15.176	3.5069	-0.014	3	1	0.5214	2.8903	15.17573
38	10.1	0.24	-1.28	-81.41			3		105.4656	2.08206		2.0821			-0.012	3		0.5082		3.84344
39	9.4	0.12	6.2		9.47589		4		100.2421 101.9809	2.13218		2.1322				3		0.4963		3.44423
40 41	9.6 8.9	0.15 0.18	24.28 55.29	-81.41 -81.41	9.89719 9.57675		4	2.86474	101.9809	2.18317 2.23479		2.1832 2.2348				3	1	0.4847		3.5334 3.28531
42	9.5	0.19			10.1507		4		103.7723	2.28667		2.2867				3		0.4627		3.43906
43	10.1	0.21			10.6749		4		104.6274	2.33899	0	2.339	3.5639	2.5192	0.4057	3		0.4524		3.5639
44	8.9	0.16			9.62791		4		102.3859	2.39018		2.3902				3		0.4427		3.02811
45 46	9.5	0.14			10.1983		4		101.5492 103.3782	2.44095		2.441				3		0.4335		3.17799
46 47	9.4 9.6	0.18 0.18			10.1572 10.2968		4		103.3/82	2.49264 2.54435		2.4926 2.5444				3		0.4245		3.07486 3.04694
48	10	0.18			10.7443		4		103.5153	2.59611		2.5961				3		0.4076		3.13863
49	11.8	0.2			12.5223	1.5972	4	2.78761	104.6597	2.64844	0	2.6484	3.7282	2.0256	0.4303	3	1	0.3995	3.2759	3.72818
50	11.8	0.23		-81.41		1.8341	4		105.6858	2.70128		2.7013				3		0.3917		3.64226
51	14.1	0.3			14.6509		4		108.0094			2.7553				3		0.384		4.31739
52 53	13.7 12.7	0.37 0.31			14.3362 13.2586		4	2.8512	109.491 108.0058	2.81003 2.86403	0		4.1018 3.6294			3		0.3766		4.10181 3.62936
54	12.3	0.26			13.0447		4		106.6791	2.91737		2.9174				3		0.3627		3.47138
55	23	0.36	48.2	-81.41	23.59	1.5261	4	2.54403	110.5052	2.97262	0	2.9726	6.9357	1.7461	0.1683	3	1	0.356	3.0081	6.93574
56	63	0.6			63.1098		5	2.0752	116.643	3.03095	0									21.25132
57 50	66.5	0.79			66.4837		5	2.11465	118.783	3.09034		3.0903								21.57905
58 59	53.9 81.2	0.81	-6.1 0.08		53.8253 81.201	1.2315	5		118.4507 120.9955	3.14956 3.21006		3.1496 3.2101		1.5984		4	0.9346	0.3544		16.08978 26.1252
60	69	1.27			68.9488		5		122.3454	3.27123		3.2712				4				20.07732
61	41.4	1.08			41.4047		4		119.9158	3.33119		3.3312				3				11.42938
62	88.9	1.04			88.8737		6		121.5026	3.39194	0	3.3919								27.25463
63	55.4	1	6.09		55.4745		5		120.0662	3.45198	0			1.9222		4				15.07037
64 65	56.8 33.7	0.99 0.76		-81.41 -81.41	56.79 33.6853	1.7433	5 4		120.0498 116.8414	3.512 3.57042		3.512 3.5704				4				15.17026 8.43455
UJ	33./	0.70	-1.2	31.71	33.0033	2.2302	7	2.31032	110.0717	3.37072	U	3.3704	U.TJTU	2.323/	0.003	3	1	0.2301	3.01/1	U.TJ-1JJ

66	103.6	1.49	-0.08	-81.41	103.599	1.4382	6		124.5074	3.63268				1.4905		5	0.9531	0.3086	2.4418	29.15688
67	196.9	2.99	0.46		196.906		6	1.84516	131.17	3.69826				1.5476		5	0.8595			62.28387
68	192	2.66	7.04	-81.41	192.086	1.3848	6		130.2539	3.76339	0	3.7634	50.041	1.4125	0.0027	5		0.3367		59.92411
69	173.8	2.57	7.96		173.897		6		129.7594	3.82827				1.5112		5		0.3192		51.30982
70	195.3	2.65	20.59	-81.41	195.552	1.3551	6	1.80989	130.2699	3.8934	0	3.8934	49.227	1.3827	0.0077	5	0.8645	0.3242	2.1784	58.73119
71	203	2.87	22.1		203.271		6	1.81219	130.9479	3.95888		3.9589		1.44	0.008	5		0.3175		59.80955
72	199.6	2.86	20.48	-81.41	199.851	1.4311	6	1.82144	130.881	4.02432	0	4.0243	48.661	1.4605	0.0075	5	0.8799	0.3087	2.2027	57.12993
73	125.6	0.93	16.02	-81.41	125.796	0.7393	6	1.76951	121.5321	4.08508	0	4.0851	29.794	0.7641	0.0095	5	0.8914	0.3	2.2249	34.50337
74	127.9	1.14	17.94	-81.4	128.12	0.8898	6	1.81405	123.0665	4.14662	0	4.1466	29.897	0.9196	0.0104	5	0.9132	0.2873	2.275	33.65872
75	127.1	1.27	24.59	-81.41	127.401	0.9969	6	1.84807	123.8429	4.20854	0	4.2085	29.272	1.0309	0.0144	5	0.9326	0.276	2.3183	32.12897
76	75.6	1.59	27.64	-81.4	75.9383	2.0938	5	2.23152	124.2252	4.27065	0	4.2707	16.781	2.2186	0.0278	4	1	0.2478	2.7374	16.78144
77	80	1.04	9.31	-81.39	80.114	1.2982	5	2.07569	121.2496	4.33127	0	4.3313	17.497	1.3724	0.0089	4	1	0.2443	2.6082	17.49662
78	153.2	1.65	15.71	-81.39	153.392	1.0757	6	1.81093	126.211	4.39438	0	4.3944	33.906	1.1074	0.0076	5	0.9256	0.2677	2.277	37.69316
79	116.6	1.13	0.59	-81.39	116.607	0.9691	6	1.8692	122.7724	4.45577	0	4.4558	25.17	1.0076	0.0004	5	0.9715	0.2474	2.3884	26.22215
80	144.7	1.6	18.45	-81.39	144.926	1.104	6	1.83658	125.8474	4.51869	0	4.5187	31.073	1.1395	0.0095	5	0.9524	0.2509	2.3288	33.2958
81	162.5	1.08	28.46	-81.39	162.848	0.6632	6	1.65241	123.2559	4.58032	0	4.5803	34.554	0.6824	0.013	5	0.8803	0.2753	2.1339	41.17648
82	125.8	1.03	26.92	-81.39	126.13	0.8166	6	1.79552	122.2858	4.64146	0	4.6415	26.175	0.8478	0.016	5	0.9579	0.2426	2.328	27.85703
83	118.3	0.75	6.2	-81.39	118.376	0.6336	6	1.75045	119.8098	4.70137	0	4.7014	24.179	0.6598	0.0039	5	0.9516	0.2419	2.3031	25.99052
84	84.7	1.11	11.53	-81.39	84.8411	1.3083	5	2.05887	121.866	4.7623	0	4.7623	16.815	1.3861	0.0104	4	1	0.2222	2.6252	16.81516
85	65.7	1.35	9.3	-81.39	65.8138	2.0512	5	2.27085	122.6789	4.82364	0	4.8236	12.644	2.2135	0.011	4	1	0.2194	2.8386	12.64402
86	121.1	1.29	13.15	-81.39	121.261	1.0638	6	1.88283	123.8368	4.88556	0	4.8856	23.82	1.1085	0.0081	5	1	0.2166	2.4455	23.8203
87	21.7	1.02	40.66	-81.39	22.1977	4.5951	3	2.8562	117.9771	4.94454	0	4.9445	3.4893	5.912	0.1697	3	1	0.214	3.5406	3.48933
88	16.9	0.35	118.84	-81.39	18.3546	1.9069	4	2.68838	109.687	4.99939	0	4.9994	2.6714	2.6207	0.6407	3	1	0.2117	3.4563	2.67137
89	31.7	1.1	22.19	-81.39	31.9716	3.4406	4	2.65422	119.4195	5.0591	0	5.0591	5.3196	4.0873	0.0594	3	1	0.2092	3.2991	5.31963
90	20.5	0.62	37.74	-81.39	20.9619	2.9577	4	2.75349	114.1947	5.1162	0	5.1162	3.0972	3.9127	0.1715	3	1	0.2068	3.4871	3.09717
91	17.5	0.29	101.85	-81.39	18.7466	1.5469	4	2.631	108.3626	5.17038	0	5.1704	2.6258	2.1361	0.5402	3	1	0.2047	3.4218	2.62578
92	50.2	0.82	63.88	-81.39	50.9819	1.6084	5	2.28657	118.4081	5.22958	0	5.2296	8.7488	1.7923	0.1005	4	1	0.2023	2.9261	8.74875
93	153.9	0.61	5.59	-81.39	153.968	0.3962	6	1.5419	118.9392	5.28905	0	5.2891	28.111	0.4103	0.0027	5	0.9123	0.2304	2.1295	32.37279
94	45.7	1.26	37	-81.39	46.1529		4		121.3085	5.3497				3.088		3	1	0.1978		7.62718
95	173.4	1.16	7.59	-81.4	173.493	0.6686	6	1.63341	123.9332	5.41167	0	5.4117	31.059	0.6901	0.0033	5	0.9511	0.2118	2.213	33.64012
96	173.6	1.73	36.87	-81.39	174.051	0.994	6	1.74761	126.8656	5.4751	0	5.4751	30.79	1.0262	0.0158	5	0.9976	0.194	2.3315	30.91236
97	174.9	0.99	34.38	-81.39	175.321	0.5647	6		122.7992	5.5365				0.5831		5	0.9419			33.76179
98	161	1.34	38.15	-81.39	161.467		6		124.8134	5.59891	0			0.8597		5	1		2.3312	27.839
99	149.3	0.78	39.48	-81.4	149.783		6		120.6708	5.65925				0.5412	0.0197	5			2.26	26.35616
100	111.8	1.96	40.01	-81.39	112.29	1.7455	5	2.05497	126.71	5.7226	0	5.7226	18.622		0.027	4		0.1849		18.62215
101	56.1	1.72	16	-81.39	56.2958	3.0553	4	2.43904	124.0702	5.78464	0	5.7846	8.732	3.4052	0.0228	3	1	0.1829	3.0766	8.73196
102	32.7	0.96	33.82	-81.39	33.114	2.8991	4	2.59398	118.509	5.84389				3.5203		3		0.1811		4.66642
103	61.7	1.01	25.04	-81.39	62.0065	1.6289	5	2.22428	120.4105	5.9041	0	5.9041	9.5023	1.8003	0.0321	4	1	0.1792	2.8961	9.50228
104	156.2	2.75	-1.2	-81.39	156.185	1.7607	6	1.95974	129.9927	5.96909	0	5.9691	25.166	1.8307	-6E-04	4	1	0.1773	2.5455	25.16567
105	296.2	4.01	4.4	-81.39	296.254		6	1.69492	134.314	6.03625	-			1.3817		-	0.9913		2.2415	48.81763
106	200.4	1.43	36.93	-81.39	200.852	0.712	6	1.60319	125.8214	6.09916	0	6.0992	31.931	0.7343	0.0137	5	0.9938	0.1754	2.2417	32.27744
107	237.1	1.85	41.5	-81.39	237.608		6		128.1155	6.16322				0.7993	0.0129	5		0.1792		39.19682
108	208.4	2.46	39.29	-81.39	208.881		6		129.8864	6.22816			32.538		0.014	5		0.1699		32.53814
109	108.2	0.78	29.49	-81.39	108.561		6		119.8857	6.2881				0.7627		5		0.1683		16.2645
110	145.1	1.35	22.16	-81.39	145.371	0.9287	6	1.78476	124.6117	6.35041	0	6.3504	21.892	0.9711	0.0115	5	1	0.1666	2.4481	21.89163
111	175	2.23	41.7	24.85	175.51	1.2706	6	1.821	128.7436	6.41478	0	6.4148	26.36	1.3188	0.0178	5	1	0.165	2.4484	26.36031

### 3760 Hancock St San Diego, CA

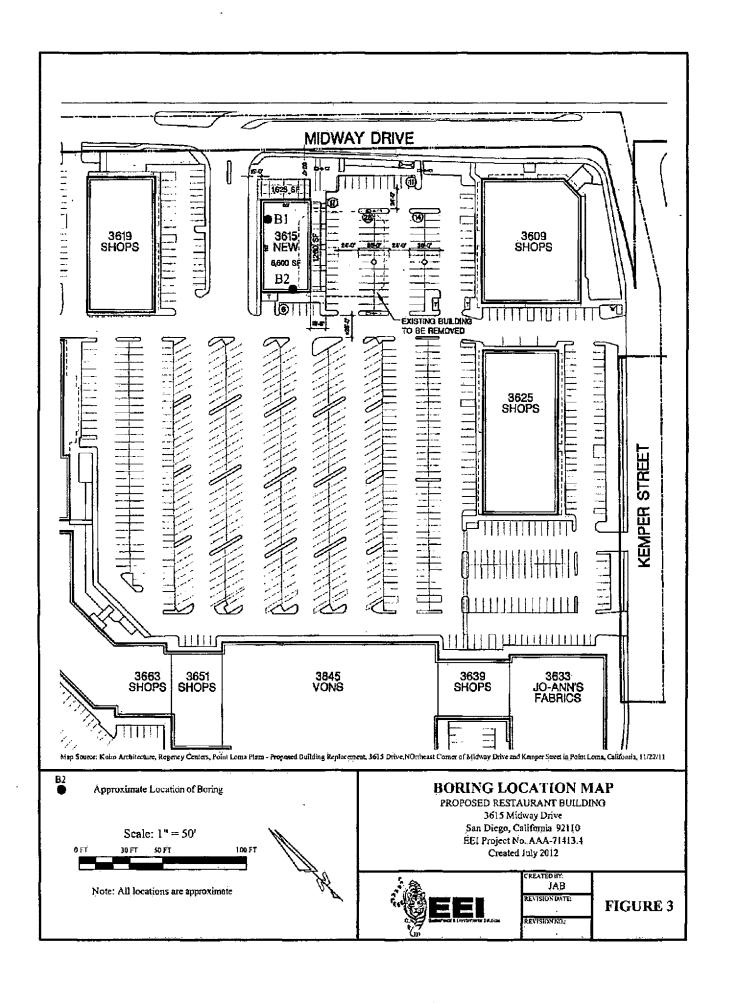
#### **CPT Shear Wave Measurements**

					S-Wave	Interval
	Tip	Geophone	Travel	S-Wave	Velocity	S-Wave
	Depth	Depth	Distance	Arrival	from Surface	Velocity
CPT-1	(ft)	(ft)	(ft)	(msec)	(ft/sec)	(ft/sec)
_	10.02	9.02	10.31	15.77	653.97	
	20.11	19.11	19.75	39.11	505.07	404.46
	30.16	29.16	29.59	57.41	515.34	537.28
	40.14	39.14	39.46	73.81	534.59	601.98
	50.12	49.12	49.37	91.90	537.26	548.13
	60.14	59.14	59.35	106.62	556.66	677.80
	70.52	69.52	69.70	120.50	578.42	745.58
	80.16	79.16	79.32	133.12	595.84	762.14
	90.12	89.12	89.26	146.16	610.70	762.45
	101.24	100.24	100.36	159.83	627.95	812.32
	110.38	109.38	109.49	171.00	640.32	817.33
	111.94	110.94	111.05	172.49	643.82	1045.90

Shear Wave Source Offset = 5 ft

S-Wave Velocity from Surface = Travel Distance/S-Wave Arrival Interval S-Wave Velocity = (Travel Dist2-Travel Dist1)/(Time2-Time1)





		á									В	C	REHOLE LOG	Number:
		'(		Geotecha	nicel & Environmen	tal Solutions		Client	t:				Regency Centers	Sheet:
	Date EEI R		ed: 5/201	(1) 12	Date Fir	/26/2012		Locat			nline	~ N	3615 Midway Drive San Diego, California 92110 Wethod:	Borehole Diameter:
ľ	EEI N	-	EL		-	A-71413.	4	וווועם	_	-			em Auger	8"
ŀ					J.	LE LOG		<u> </u>		TIOI	IOW .	T	BOREHOLE LOC	<del></del>
-	Bulk	Sam Typ	ple e	Blows Per 6"	Dry Unit Wt. (pcf)	Moisture (%)	Depth In Feet	Symbol		Graph Log		1	Geologic Description (SoilType, Color, Grain, Minor Soil Component, Mo	
	1						1 2 3 4	Asphalt ML				┨	ASPHALT CONCRETE 2.5", BASE 6"  HYDRAULIC FILL  © 0-5' SANDY-SILT, dark gray-brown, some clay, mo	pist, medium stiff
		MC	X	5 6 7	92	18	5 6 7	SM				1	@ 5' SILTY-SAND, dark gray, fine grained, moist, loc	se
		МС	X	1 2 3	76	40	8 9	ML	-  -  -			1	@ 7.5' CLAYEY-SILT, dark gray, with fine grained sa	nd, moist, medium stiff
		MC	X	2 2 2 3	75	47	10	SM					@ 10' SILTY-SAND, dark gray, fine grained with day	moist to very moist, very loose
SDT 8/7/12		SPT	X	1 1 1		41	15   16   17   18   19   19   19   19   19   19   19	ML			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<u> </u>	@ 15' CLAYEY-SILT, dark gray, trace fine grained sa	nd, wet, soft
E		SPT	M	1 1 3		41	20	SM				1	@ 20' SILTY-SAND, dark gray, fine grained, wet, loos	
BOREHOLE LOG AAA-71413.4-MIDWAYSANDIEGO-BORINGLOGS.GPJ EEI.GDT				3			22					$\frac{1}{2}$	Total boring depth = 21.5' Groundwater encountered at 16' MC=Modified California Sampler SPT=Standard Penetration Test Hole backfilled with 7.5 cf of bentonite chips and grouconcrete coldpatch. Drummed cuttings. 6/26/12	t, patched with asphalt



## BOREHOLE LOG

Number:

B2

1 of 2

Client:

Regency Centers

Sheet:

Location: Date Started: Date Finished:

6/26/2012

6/26/2012

3615 Midway Drive San Diego, California 92110

EEI Rep: Project No.: Drill Rig/Sampling Method:

Borehole Diameter:

EEI R	(ep:		Project	NO.:		Drill H	tig/Sai	mpiin	Method:	Borehole Diameter:
	EL		AA	A-71413.	4		8" H	ollow	Stem Auger	8"
			SAMPI	LE LOG					BOREHOLE	LOG
Bulk	Sample Type	Blows Per 6"	Dry Unit Wt. (pcf)	Moisture (%)	Depth In Feet	USCS Symbol	Gri L	aphic .og	Geologic Desc (SoilType, Color, Grain, Minor Soil Compon	
2					1 2 3 4	Asphait ML			ASPHALT CONCRETE 5", BASE 6"  HYDRAULIC FILL @ 0-5' SANDY-SILT, gray-brown, damp, media	um stiff
<b>***</b>	мс	3 7 9	101	16	5				@ 5' SILTY-SAND, dark gray, fine grained, dar	mp, loose
	мс 🛚	3 7 9	85	25	8	SM			@ 7.5' SILTY-SAND, dark gray-brown, fine gra	
	MC 🔽	1 2 2	73	44	10	<u> </u>			@ 10' SILTY-SAND, dark gray-brown, fine graine @ 10.5' SILT, dark gray-brown, with fine graine	
	SPT	1 1 2		48	11	ML			@ 15' CLAYEY-SILT, dark gray-brown, with fin	ne grained sand, wet, soft
	SPT	1 1 1		47	20				@ 20' CLAYEY-SILT, dark gray-brown, with fin	e grained sand, wet, soft
	SPT	3 5 6		38	25		- -		@ 25' SILTY-SAND, dark gray, fine grained, ve	ery moist, medium dense
	SPT X	2 3 3		33	30 31 32 33 34 34	SM			@ 30' SILTY-SAND, dark gray, fine grained, ve	ery moist, loose

BOREHOLE LOG AAA-71413,4-MIDWAYSANDIEGO-BORINGLOGS.GPJ EEI.GDT 8/7/12



## BOREHOLE LOG

Number:

B2

2 of 2

Client:

Location:

Regency Centers

Sheet:

Date Started: Date Finished:

6/26/2012

6/26/2012

3615 Midway Drive San Diego, California 92110

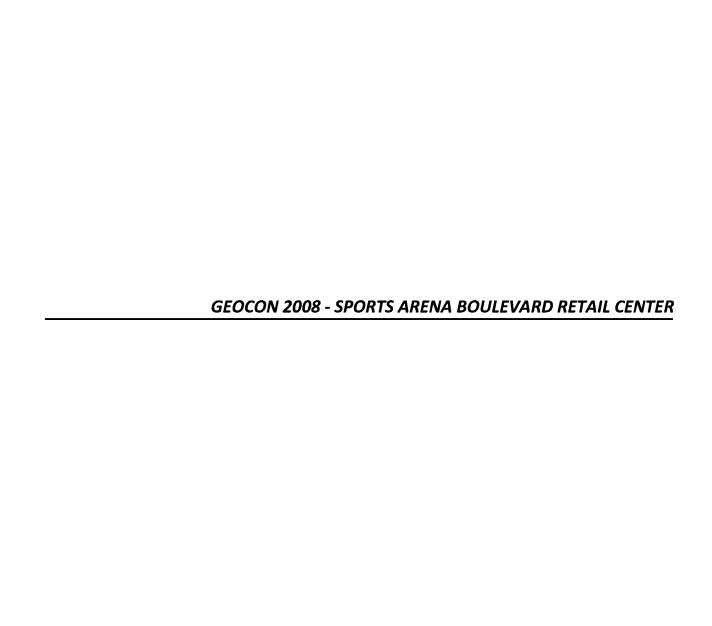
EEI Rep:

Project No.:

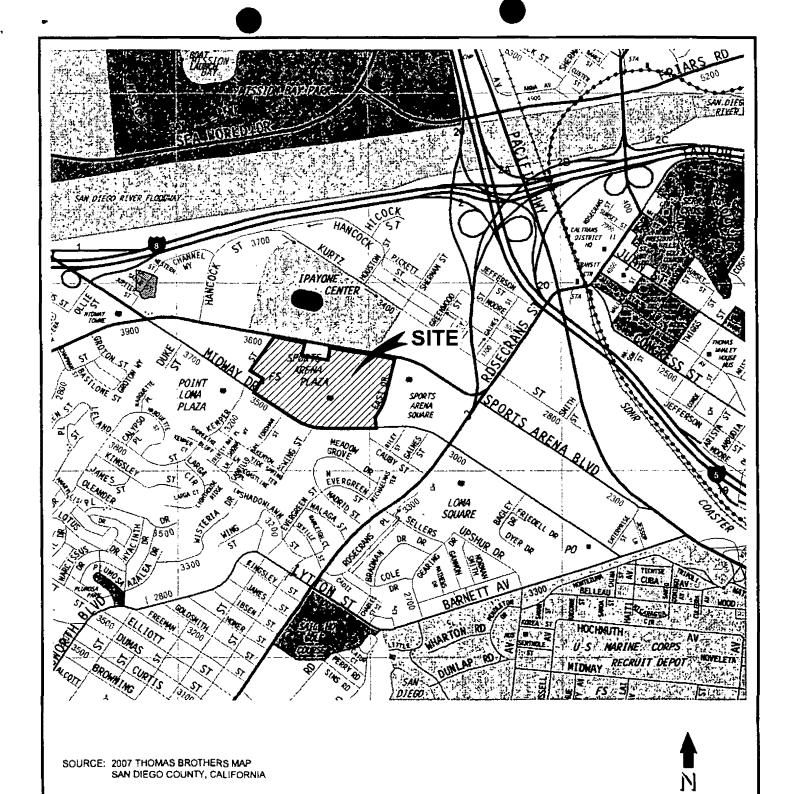
Drill Rig/Sampling Method:

Borehole Diameter:

EL EL	AAA-71413.4	Driii Rig/Sampiing		8"
		8" Hollow S	I	
	SAMPLE LOG		BOREHOLE LOG	
Type Per 6"	Dry Unit Woisture Unit In Feet	USCS Graphic Symbol Log	Geologic Description (SoilType, Color, Grain, Minor Soil Component, Moi	sture, Density, Odor, Etc.)
	Wt. (pcf) (%) Feet  39 36 37 38 39 40 41 41 42 43 44 45 45 46 47 48			st, medium dense . d, occasional shell fragments,
BOREHOLE LOG AAA-71413.4-MIDWAYSANDIEGO-BORINGLOGS.GPJ EELGDT B/7/12  S  C  C  C  C  C  C  C  C  C  C  C  C	49 — 50 — 51 — 52 — 53 — 54 — 55 — 56 — 57 — 58 — 59 — 60 — 61 — 62 — 63 — 64 — 65 — 66 — 67 — 68 — 68 — 68 — 68 — 68 — 68	ML _	@ 50' SANDY-SILT, dark gray, with clay, trace clay, in  Total boring depth = 51.5' Groundwater encountered at 16.6' MC=Modified California Sampler SPT=Standard Penetration Test  Hole backfilled with 18.0 cf of bentonite chips and groconcrete coldpatch. Drummed cuttings. 6/26/12	







**GEOCON** 

INCORPORATED

GEOTECHNICAL CONSULTANTS 6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974 PHONE 858 558-6900 - FAX 858 558-6159

\*Map @ Rand McNally, R.L.08-S-100, reproduced with permission. It is unlawful to copy

or reproduce, whether for personal use or reaste, without permission"

CL / RA

DSK/GTYPD

### VICINITY MAP

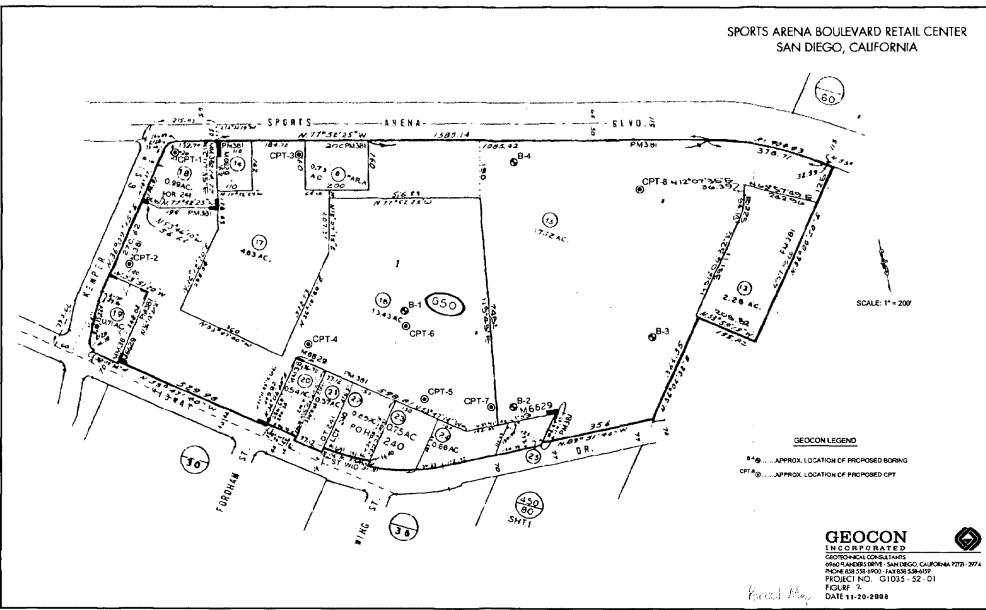
SPORTS ARENA BOULEVARD RETAIL CENTER SAN DIEGO, CALIFORNIA

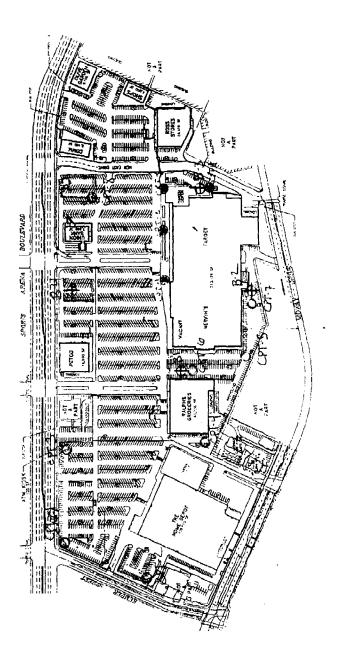
DATE 11-20-2008

PROJECT NO. G1035 - 52 - 01

FIG. 1

NO SCALE





Site Plan

MATERIAL DESCRIPTION  ASPHALT 5 inches  BASE 6 inches  UNDOCUMENTED FILL (Qudf) Stiff, moist, brown, Sandy to Silty CLAY; trace gravel		WOISTURE CONTENT (%)
ASPHALT 5 inches  BASE 6 inches  UNDOCUMENTED FILL (Qudf)  Stiff, moist, brown, Sandy to Silty CLAY; trace gravel	103.3	18.7
ASPHALT 5 inches  BASE 6 inches  UNDOCUMENTED FILL (Qudf)  Stiff, moist, brown, Sandy to Silty CLAY; trace gravel	103.3	18.7
B1-1 CL BASE 6 inches UNDOCUMENTED FILL (Qudf) Stiff, moist, brown, Sandy to Silty CLAY; trace gravel	103.3	18.7
UNDOCUMENTED FILL (Qudf) Stiff, moist, brown, Sandy to Silty CLAY; trace gravel	103.3	18.7
Stiff, moist, brown, Sandy to Silty CLAY; trace gravel	103.3	18.7
	103.3	18.7
	l	
B1-3 ML Medium dense, moist, light brown to brown, fine Sandy SILT; trace gravel 14		11.4
lacksquare		
L 8	1_	
B1-4 CL Very stiff, damp, reddish brown, Silty CLAY; trace gravel 30	106.3	20.0
B1-5 B1-5 ML Medium dense, moist, brown, fine Sandy SILT; micaceous, brick fragments 18		
B1-5 ML Medium dense, moist, brown, fine Sandy SILT; micaceous, brick fragments 18		29.0
- 12 -		
ML ALLUVIUM (Qal)		
Loose, saturated, brown, fine Sandy SILT; micaceous		
-Started using mud		
- 16 - BI-6 - BI-6 - 5		
┣╴ <del>╡</del> ┃┃╣┧┪┃ ┃		
B1-7		41.4
SM Medium dense, saturated, gray, Silty, fine to medium SAND		
- 24 -		
- 26 - B1-8 - Becomes micaceous - 20	88.2	32.8
	-	
F 4 【除玩】		
	1	

Figure A-1, Log of Boring B 1, Page 1 of 2

G1035-32-01.GP3

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)		
SAMIFEE STAIDOES	S DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE		

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

1110000	1 NO. G10.	00-02-0	<del>, ,</del>			,		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B 1  ELEV. (MSL.) 13' DATE COMPLETED 10-27-2008  EQUIPMENT CME 75 WITH 8" HALLOW STEM BY: T. MALLEY	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
- 30 -	B1-9	11 7.1.	11			13		35.2
-	<i>D</i> 1 /							33.2
- 32 -						L		1
32								- 1
<b>-</b>				!				- 1
- 34 -						-		
L _	1	1 1	1			L		
	B1-10					_ 19	97.5	29.1
- 36 -		14.1			-Shells	Γ ''	77.5	27.1
F -	}					<b> </b>		
- 38 -						L I		1
1	1							
_	1 l				·	Γ	-	
- 40 -	B1-11					14		30.7
<u> </u>		- - - -	1			ļ_ ``		30.7
42 -	<u> </u>	111						
- 42	]		1	CL	Soft, saturated, dark gray, Silty CLAY	T		
<b>-</b>	1		1			-		
- 44 -			1			<u> </u>		
			1					- 1.041 - 1.041
	B1-12		1	SM+ML	Very loose, saturated, dark gray, Silty, fine SAND to Sandy SILT; trace shells		90.8	33.1
- 46 -	D1-12	1:1		SIMITIVIL	very loose, saturated, dark gray, silvy, time SAIND to saidly SILT, trace shells	├ "	90.8	33.1
	1		1	į		-		Ì
- 48 -	1			i		_		. 4
	i i	1111						
Γ -	1 1							
- 50 -	B1-13	<b>-</b>			-Becomes medium dense to stiff	11		36.9
<u> </u> -				]	Second Average to Sim	<b>-</b> "		50.5
	<b>├──</b> ─ <b></b>	1	T		BORING TERMINATED AT 51½ FEET	<del> </del>		i
		1			Groundwater encountered at 12½ feet			17.
l					Backfilled with 4.5 ft <sup>3</sup> bentonite grout	1		1
								1
1								, i
1								
								}
						i		
								\$
1				]				
i	1 1		1			Ì		
<u> </u>	<del></del>	<u> </u>		<u> </u>	<u> </u>		L	<u> </u>

Figure A-1, Log of Boring B 1, Page 2 of 2

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBEO)
SAMPLE SYMBULS	DISTURBED OR 8AG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE

PROJEC	I NO. G10	35-52-0	)1					
DEPTH IN FEET	SAMPLE NO.	ПТНОГОСУ	GROUNDWATER	SOIL CLASS (USCS)	BORING B 2  ELEV. (MSL.) 13' DATE COMPLETED 10-27-2008  EQUIPMENT CME 75 WITH 8" HALLOW STEM BY: T. MALLEY	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
F 0 -					ASPHALT 5 inches			
<b>†</b> -	B2-1			CL+SC	BASE 6 inches	-		
- 2 -	B2-2				UNDOCUMENTED FILL (Qudf) Soft to loose, moist, brown, Sandy CLAY to Clayey, fine to coarse SAND	- - 4		13.7
4 ~						-		
- 6 <del>-</del>	B2-3			SM	ALLUVIUM (Qal) Loose, moist, brown, Silty, fine SAND; micaceous	_ 10	91.0	20.7
- 8 -	B2-4				-No recovery	_ PUSH _		
- 10 - 	B2-5		Ţ		-Becomes very moist, dark grayish brown	- PUSH	74.0	50.3
- 12 -  - 14						-  -  -	!	
- 16 -	B2-6				-Becomes saturated; started using mud	- 6 -		36.1
- 18 -						-		P. Ziewenski i Stewartski
- 20 - 22 -	B2-7				-Becomes medium dense, gray	- - 14	,	të dë mës appakin p i skrapa
- 24 -					·	-		polygidi (Misprix e de elit
- 26 - 	B2-8				-Becomes loose	6		32.0
<b>- 28 -</b> 						-		
Figure	Δ-2							E EO DI OD I

Figure A-2, Log of Boring B 2, Page 1 of 2

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)
	DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

G1035-52-01.GPJ

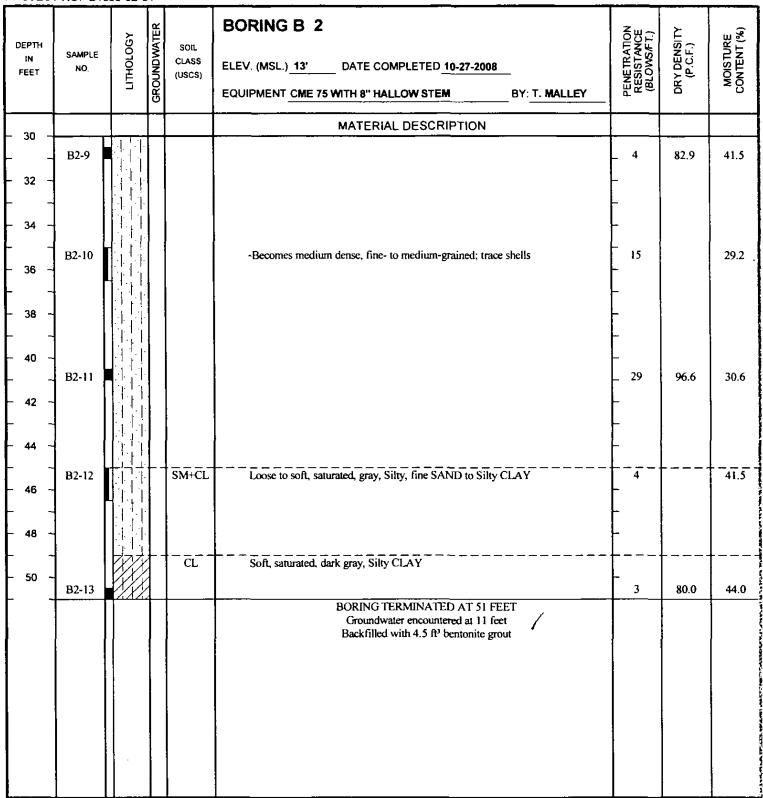


Figure A-2, Log of Boring B 2, Page 2 of 2

DRIVE SAMPLE (U	NOIST IDDEN
DIVITE SAME CE (O	NUIS FORBED)

SAMPLE SYMBOLS	SAMPLING UNSUCCESSFUL	STANDARD PENETRATION TEST	DRIVE SAMPLE (UNDISTURBED)
SAMPLE STMBOLO	🔯 DISTURBED OR BAG SAMPLE	CHUNK SAMPLE	▼ WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

G1035-52-01.GPJ

MATERIAL DESCRIPTION    BASE 20 inches	DEPTH I <b>N</b> FEET	SAMPLE NO.	ПТНОСОБУ	GROUNDWATER	SOIL CLASS (USCS)	BORING B 3  ELEV. (MSL.) 13' DATE COMPLETED 10-28-2008  EQUIPMENT CME 75 WITH 8" HALLOW STEM BY: T. MALLEY	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
B3-1   B3-2   SC   UNDOCUMENTED FILL (Quidf)   Medium dense, moist, brown, Clayey, fine to medium SAND   - 25   112.2   12.4						MATERIAL DESCRIPTION			
B3-1   B3-2   SC   UNDOCUMENTED FILL (Quidf)   Medium dense, moist, brown, Clayey, fine to medium SAND   - 25   112.2   12.4	- 0 -		NA CH	Ħ		ASPHALT 5 inches			
B3-1   B3-2   SC						BASE 20 inches	<b> </b>		1
B3-3 B3-4 B3-3 B3-4 B3-4 B3-4 B3-6 B3-6 B3-7 B3-6 B3-7 B3-7 B3-7 B3-7 B3-7 B3-7 B3-7 B3-7	- 2 -	l 🗵			SC	UNDOCUMENTED FILL (Qudf) Medium dense, moist, brown, Clayey, fine to medium SAND	25	112.2	12.4
B3-4 B3-4 SM ALLUVIUM (Qal) Medium dense, moist, Silty, fine SAND; micaceous 23 94.3 26.8 19.3 19.3 19.3 19.3 19.3 19.3 19.3 19.3	- 4 -			+-	- ĒL	Stiff, moist, brown, Silty to Sandy CLAY; trace gravel			
B3-4   SM   ALLUVIUM (Oat)   Medium dense, moist, Silty, fine SAND; micaceous   23   94.3   26.8		B3-3		1			10		14.9
B3-4	- 6 -			1			- -	i	
B3-5   B3-5   B3-6   B3-6   B3-6   B3-7   Becomes saturated at 13 feet   B3-6   B3-7   B3-7   B3-7   B3-7   B3-7   B3-7   B3-8	- 8 -	B3-4			SM		23	94.3	26.8
- 14	- 10 -	B3-5					5		19.3
- 14	- 12 -			_			<u> </u>  -		
18	- 1 <b>4</b> -				'	-Becomes saturated at 13 feet	-		
B3-6 ML Very soft, saturated, gray, Clayey SILT; trace fine sand; micaceous  PUSH 44.9  SM Loose, saturated, dark gray, Silty, fine SAND; micaceous  8 95.2 32.2  Figure A-3,	- 16 -					-No recovery at 15 feet	3		
B3-7	- 18 -	B3-6					6	77.8	47.0
22 - 24 - 24 - 3M Loose, saturated, dark gray, Silty, fine SAND; micaceous - 8 95.2 32.2 - 28 - 28 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 - 31.2 -	20 -			-	ML -	Very soft, saturated, gray, Clayey SILT; trace fine sand; micaceous	<u>-</u>		
B3-8 B3-8 B3-8 B3-8 B3-8 B3-8 B3-8 B3-8	- 22 -	В3-7					PUSH		44.9
Figure A-3,	 - <b>24</b> -				- <u>s</u>	Loose, saturated, dark gray, Silty, fine SAND; micaceous	<u> </u>	_ <b></b> -	
Figure A-3,	26 -	B3-8					8	95.2	32.2
Figure A-3, G1005-52-01.GP;	 - 28 -						-		
Figure A-3, G1005-52-01.GP3							-		
Log of Boring B 3, Page 1 of 2	Figure Log o	Figure A-3, G1005-52-01.GPJ Log of Boring B 3, Page 1 of 2							

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

... SAMPLING UNSUCCESSFUL

SAMPLE SYMBOLS

... STANDARD PENETRATION TEST

... CHUNK SAMPLE

... DRIVE SAMPLE (UNDISTURBED)

▼ ... WATER TABLE OR SEEPAGE

TROJEC	I NO. G10:	33-52-0	/					
DEPTH IN FEET	SAMPLE NO.	птнособу	GROUNDWATER	SOIL CLASS (USCS)	BORING B 3  ELEV. (MSL.) 13' DATE COMPLETED 10-28-2008  EQUIPMENT CME 75 WITH 8" HALLOW STEM BY: T. MALLEY	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
	_				MATERIAL DESCRIPTION			
- 30 -	B3-9	11:1				_ 5		33.6
32 -	B3-9					_ ,		33.0
34						-		
- 36 -	B3-10				-Becomes medium dense, fine- to medium-grained, abundant shells	20	104.4	25.1
- 38 -						  -  -		
- 40 - 	B3-11				-Becomes fine- to coarse-grained, fewer shells	- 12 -		22.1
- 42 -						-  -		
- 44 - 46 -	B3-12				-Becomes fine- to medium-grained; trace shells	_ 10	84.2	40.1
- 48 -						-  -		
- 50 -	B3-13				-Becomes fine-grained	- 4		40.6
<b>-</b>		7-1-1	<u> </u>		Soft, saturated, dark gray, Clayey, fine SAND; micaceous	<u> </u>		
					BORING TERMINATED AT 51½ FEET  Groundwater encountered at 13 feet  Backfilled with 4.5 ft³ bentonite grout			

Figure A-3, Log of Boring B 3, Page 2 of 2

SAMPLE SYMBOLS

	. DRIVE SAMPLE (UNDISTURBED)
糞	WATER TABLÉ OR SEEPAGE

NOTE: THE LOG DF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

... STANDARD PENETRATION TEST

... CHUNK SAMPLE

... SAMPLING UNSUCCESSFUL

igotimes ... DISTURBED OR BAG SAMPLE

G1035-52-01.GPJ

PROJEC	T NO. G10	35-52-0	1		<del></del>	<del>, ,</del>		
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B 4  ELEV. (MSL.) 13' DATE COMPLETED 10-28-2008  EQUIPMENT CME 75 WITH 8" HALLOW STEM BY: T. MALLEY	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
			П		MATERIAL DESCRIPTION			
<b> </b> 0		YA-04	H		ASPHALT 5 inches			
<b>├</b> -	B4-1	22.00	H	SM	BASE 6 inches			
- 2 -	) " 8			5111	ALLUVIUM (Qai)	L		
L	B4-2				Loose, moist, Silty, fine SAND; micaceous	L 4		19.4
4 -	<b>1</b>					┢		•
<b>-</b>	1					<b>├</b>		1
- 6 -	B4-3					_ 5	82.1	43.4
L _	]	11				_	ļ	
8 -	1 🖫	11:1						
<b>-</b>	B4-4	11:11				├ ¹		16.8
- 10 -	i I					-		i
L -	B4-5		-		-Becomes very moist	_ 6	102.6	25.8
- 12 -	]							
<b> </b>   ''	] ]		] ]			Г		]
r -	1 1					<b>†</b>		
- 14 -	1 1					-	:	1
<b>-</b>	}				No construct 15 Cont	├ , │		,
16 -	]		1		-No recovery at 15 feet			
"		1						1
	1							1
18 -	1 L		┢┪	ML -	Very soft, saturated, dark gray, Clayey SILT; micaceous	<u> </u>		
<b>-</b>	B4-6		1			_ PUSH		36.4
- 20 -	{	1111				-		
	B4-7					_ PUSH	82.6	41.5
		NY	1					
- 22 -	]	rni				Γ		Í
<b>-</b>	1 1	17/1	1			<b>†</b>		
- 24 -	-	KH4	<del> -</del> -	SC+SM	Loose, saturated, dark gray, Clayey to Silty, fine SAND; micaceous	<b>+</b>	<b></b> -	├ <del>-</del> -
L -	ļ _, _ <b>L</b>	1///		SCESIM	12005c, Salutated, Gark, Clayey to Shiy, Tine SA(VI), Inicateous	L		
- 26 -	B4-8		1			PUSH		39.9
[ <sup>20</sup> ]	] <b>P</b>	$\Psi / i /$				Γ		
<b>†</b> -	1 1	XX	1			<b> </b>		
- 28 -	1 1	17/				-		
-	4 1	1/1				<b>-</b>		
		<u> 1</u> 12x	$\mathbb{L}$					<u> </u>

Figure A-4, Log of Boring B 4, Page 1 of 2

SAMPLE SYMBOLS

	DRIVE SAMPLE (UNDISTURBED)	
_	WATER TARLE OR SEERAGE	

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

... STANDARD PENETRATION TEST

... CHUNK SAMPLE

... SAMPLING UNSUCCESSFUL

፟ ... DISTURBED OR BAG SAMPLE

G1035-52-01.GPJ

Log of Boring B 4, Page 2 of 2

SAMPLE SYMBOLS

TROJEC	INO. GIO.	<u> </u>	' '								
DEPTH IN FEET	SAMPLE NO.	гітногося	GROUNDWATER	SOIL CLASS (USCS)	BORING B 4  ELEV. (MSL.) 13' DATE COMPLETED 10-28-2008  EQUIPMENT CME 75 WITH B" HALLOW STEM BY: T. MALLEY	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)			
20					MATERIAL DESCRIPTION						
– 30 –	B4-9	111		SM	Medium dense, saturated, brown, Silty, fine to medium SAND; micaceous	_ 16	99.3	29.3			
- 32 -							,,,,	~>.5			
- 34 <i>-</i>			Ļ↓			Ll					
	D4 10			ML	Very soft, saturated, dark gray, Clayey SILT; micaceous, abundant shells	  -  -		24.5			
- 36 -	B4-10	17	1			PUSH   -		36.6			
-	<b> </b>					-					
- 38 -	ĺ		1			- 1					
┞╶┤			╁┤	- <u></u> -	Medium dense, saturated, grayish brown, Silty, fine to medium SAND;	<b></b>					
- 40 -				5.71	micaceous	-					
<u> </u>	B4-11	i li				_ 25	93.3	30.7			
- 42 -		1944				<u> </u>					
- 44 -						-					
_	B4-12		<del> </del>	- CL	Very soft, saturated, gray, Silty CLAY; trace shells	PUSH		46.0			
- 46 -			1								
- 7						<u> </u>					
- 48 -			1								
- 50 -											
	B4-13		1		-Becomes dark gray	4	69.3	57.2			
					BORING TERMINATED AT 51 FEET Groundwater encountered at 10½ feet						
					Backfilled with 4.5 ft³ bentonite grout /						
								!			
				<u> </u>		<u> </u>		L			
Figure	Figure A-4,										

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATEO. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

... SAMPLING UNSUCCESSFUL

🔯 ... OISTURBED OR BAG SAMPLE

... STANDARD PENETRATION TEST

... CHUNK SAMPLE

... DRIVE SAMPLE (UNDISTURBED)

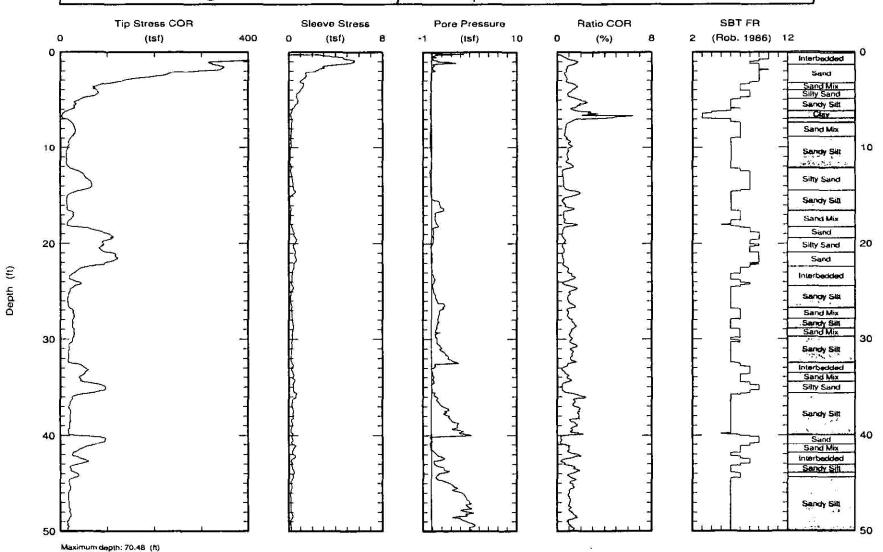
▼ ... WATER TABLE OR SEEPAGE

K<sub>T</sub>E

Page 1 of 2

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-1 Project: SanDiego

Client: Geocon Consultants Inc.



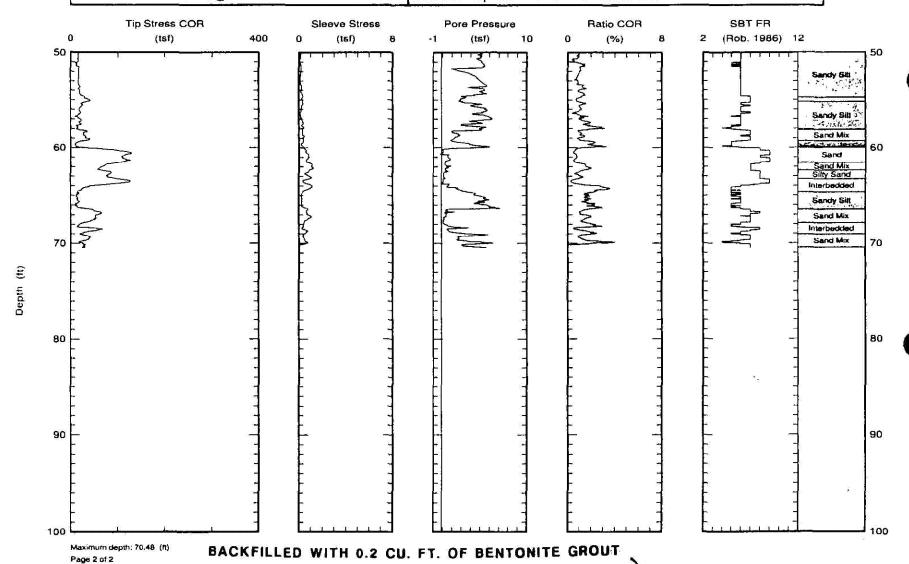
KTE

Kehoe Testing & Engineering

Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-1 Project: SanDiego

i Fiojeci,

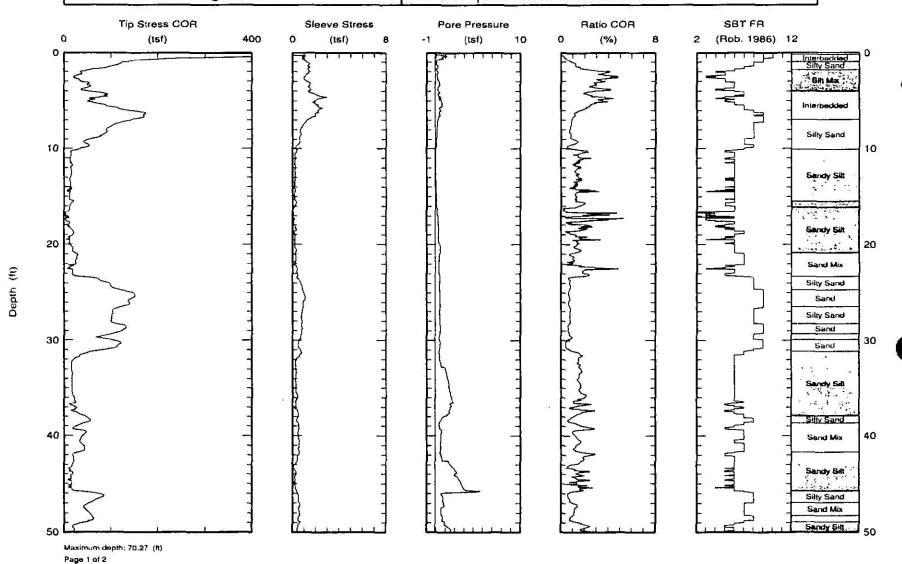
Client: Geocon Consultants Inc. Job Site: Sports Arena Blvd Retail Site



KTE

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-2 Project: SanDiego

Client: Geocon Consultants Inc. Job Site: Sports Arena Blvd Retail Site

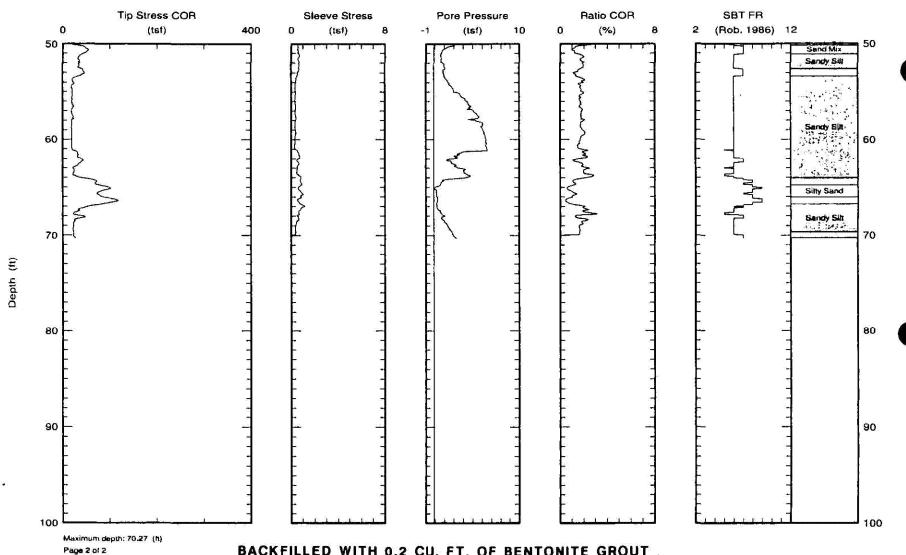


Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com

**CPT Data** 30 ton rig

Date: 28/Oct/2008 Test ID: CPT-2 Project: SanDiego

Client: Geocon Consultants Inc.



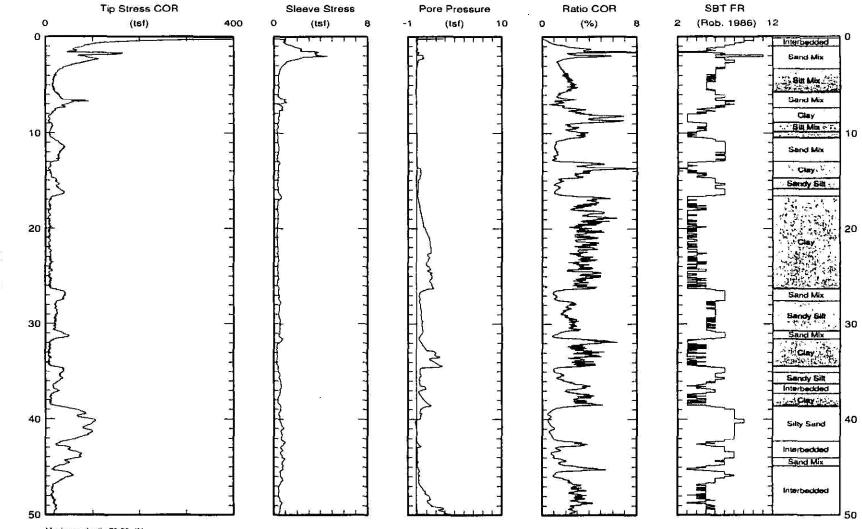
K<sub>T</sub>E

Kehoe Testing & Engineering Office: (714) 901-7270

Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com

CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-3 Project: SanDiego

Client: Geocon Consultants Inc. Job Site: Sports Arena Blvd Retail Site



Maximum depth: 70,20 (ft) Page 1 of 2

TE

Page 2 of 2

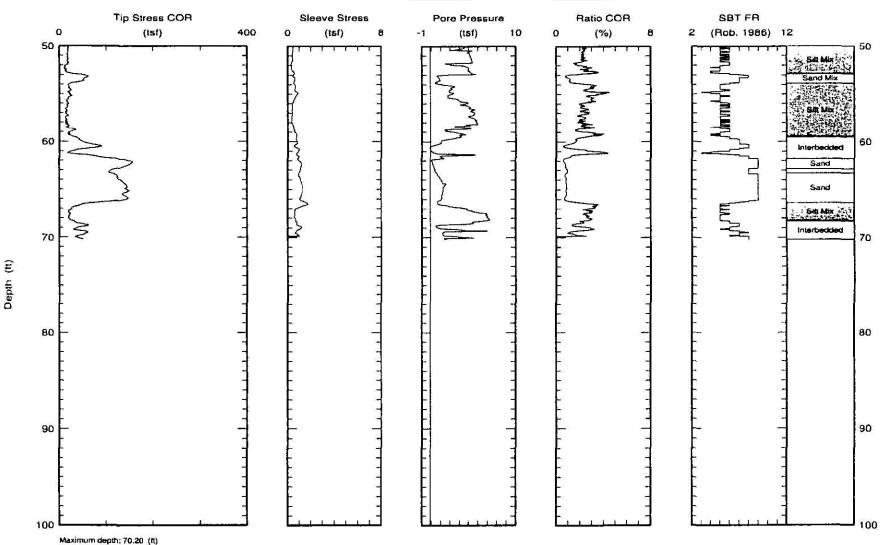
Kehoe Testing & Engineering

Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig

Date: 28/Oct/2008 Test ID: CPT-3

Project: SanDiego

Client: Geocon Consultants Inc.



BACKFILLED WITH O.1 CU. FT. OF BENTONITE GROUT

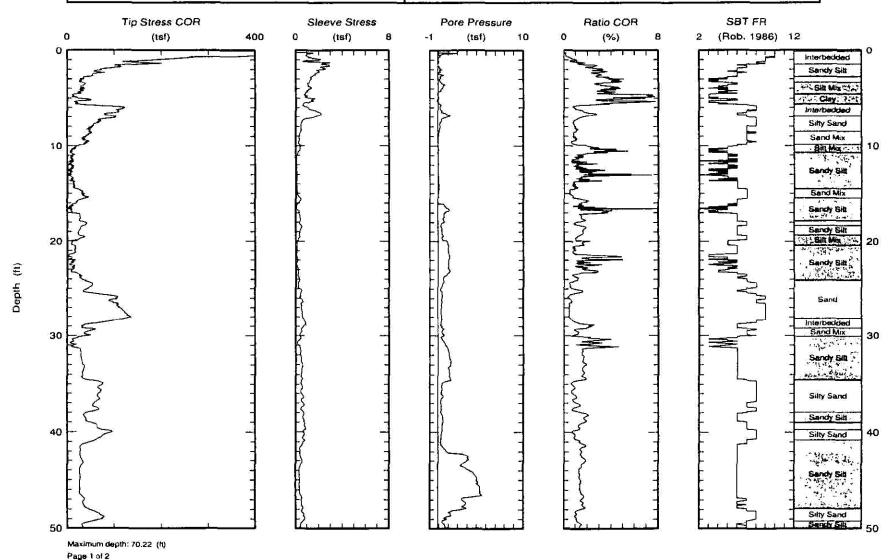
K<sub>T</sub>E

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289

rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig

Date: 28/Oct/2008 Test ID: CPT-4 Project: SanDiego

Client: Geocon Consultants Inc.



K T Ket Offi Fax

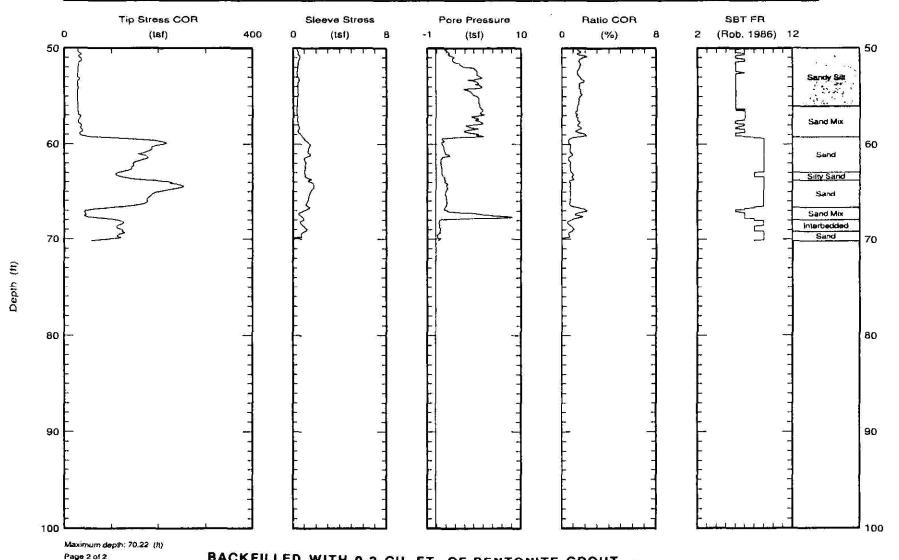
Kehoe Testing & Engineering Office: (714) 901-7270

Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com

CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-4

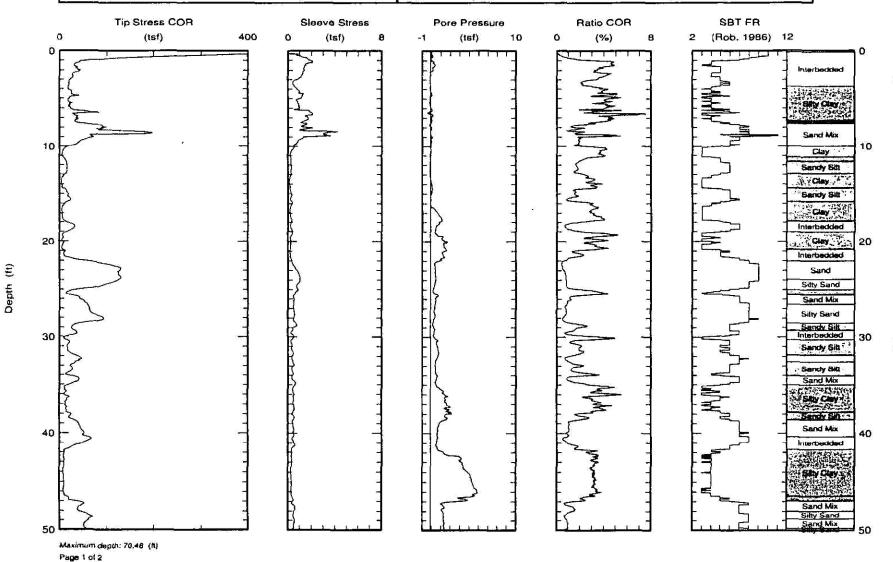
Project: SanDiego

Client: Geocon Consultants Inc.



K<sub>T</sub>

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-5 Project: SanDiego



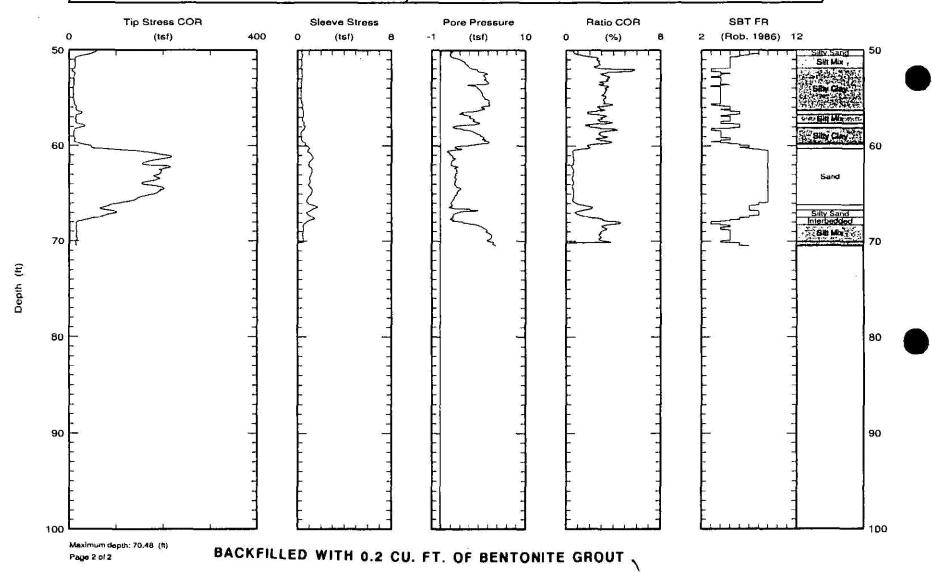
KTE

Kehoe Testing & Engineering Office: (714) 901-7270

Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com

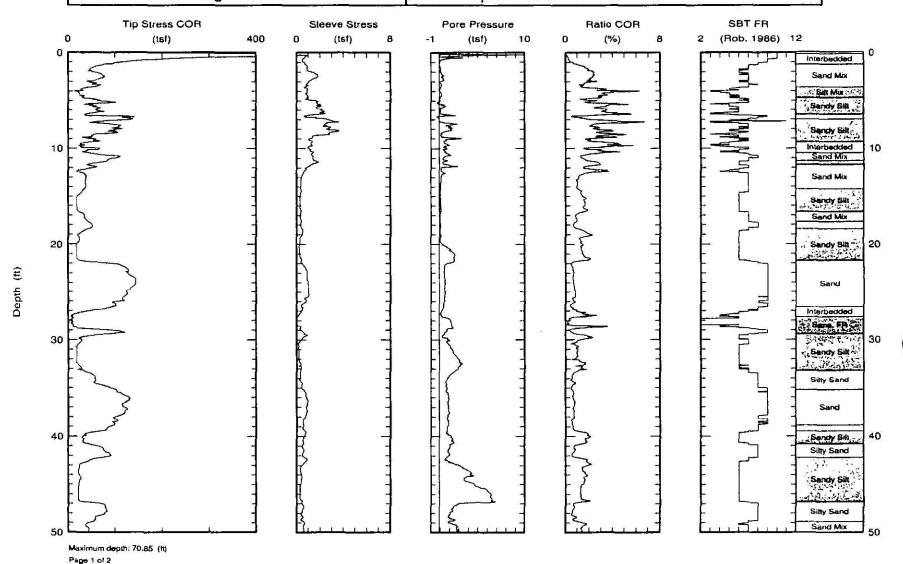
CPT Data 30 ton rig

Date: 28/Oct/2008 Test ID: CPT-5 Project: SanDiego



K<sub>T</sub>E

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-6 Project: SanDiego



K<sub>T</sub>E

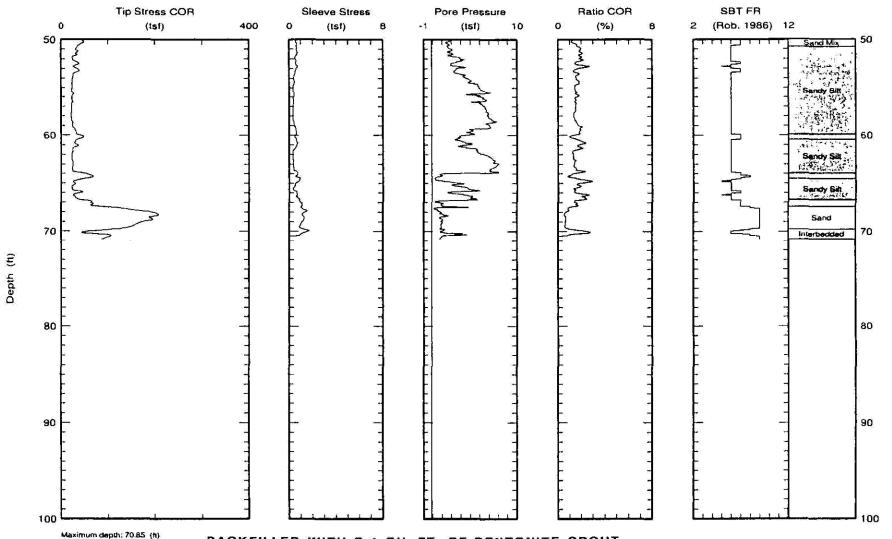
Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com

skehoe@msn.com

CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-6 Project: SanDiego

Client: Geocon Consultants Inc.

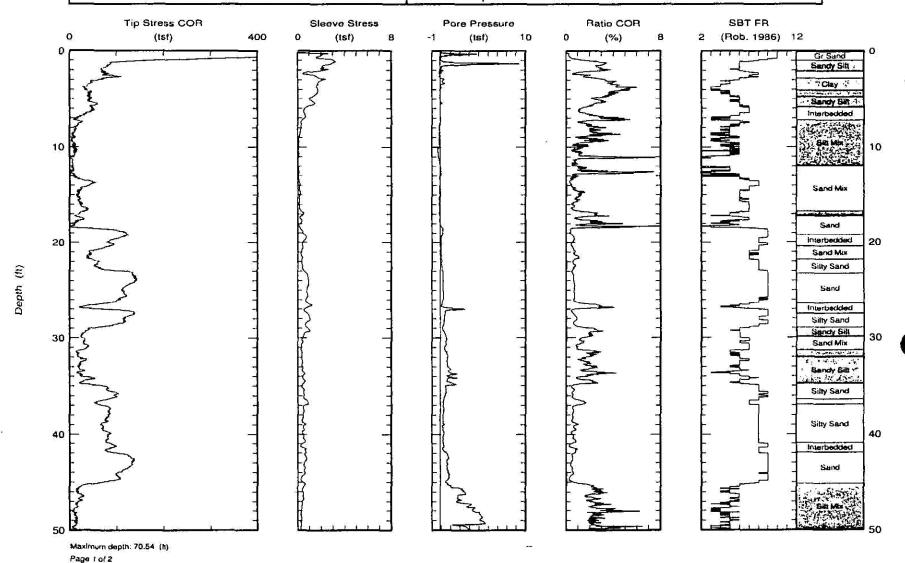
Job Site: Sports Arena Blvd Retail Site



Maximum depth: 70.85 (h) Page 2 of 2 BACKFILLED WITH O.1 CU. FT. OF BENTONITE GROUT

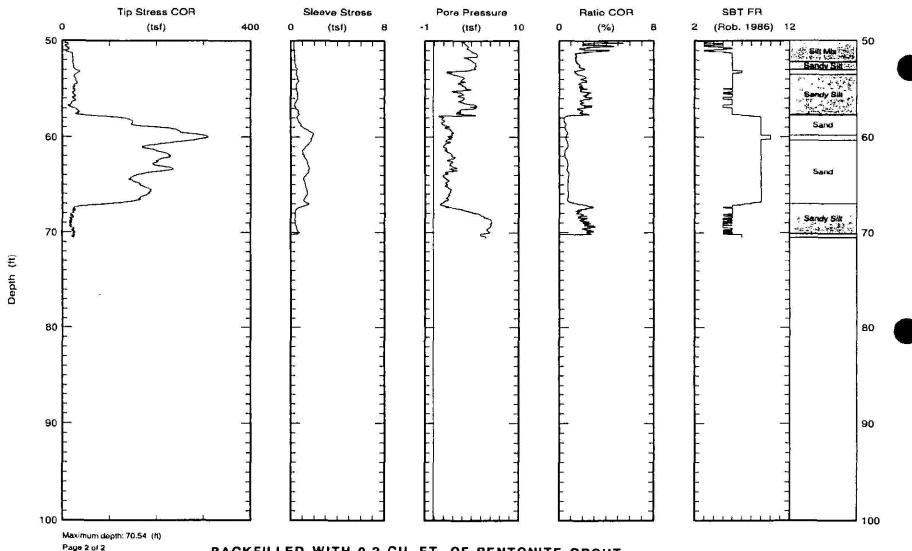
KTE

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-7 Project: SanDiego



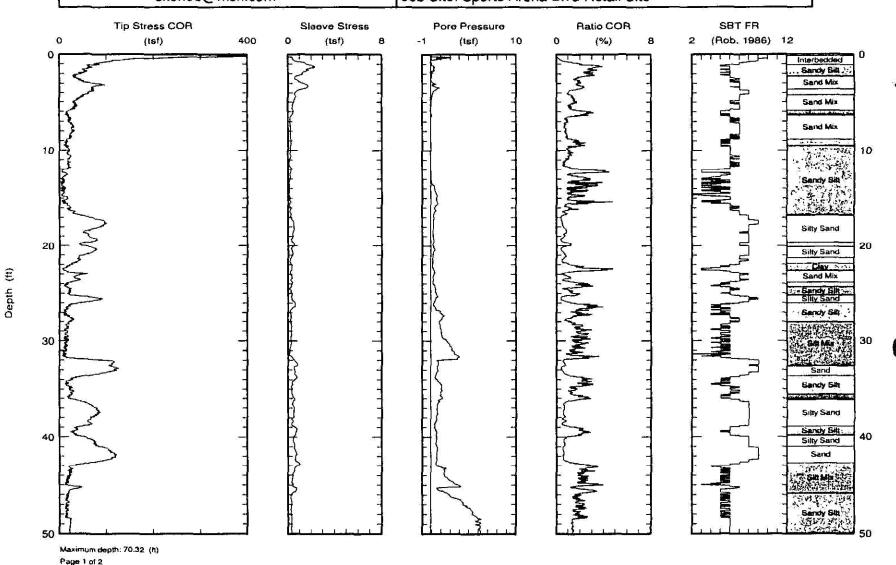
KTE

Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-7 Project: SanDiego





Kehoe Testing & Engineering Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com CPT Data 30 ton rig Date: 28/Oct/2008 Test ID: CPT-8 Project: SanDiego



Kehoe Testing & Engineering

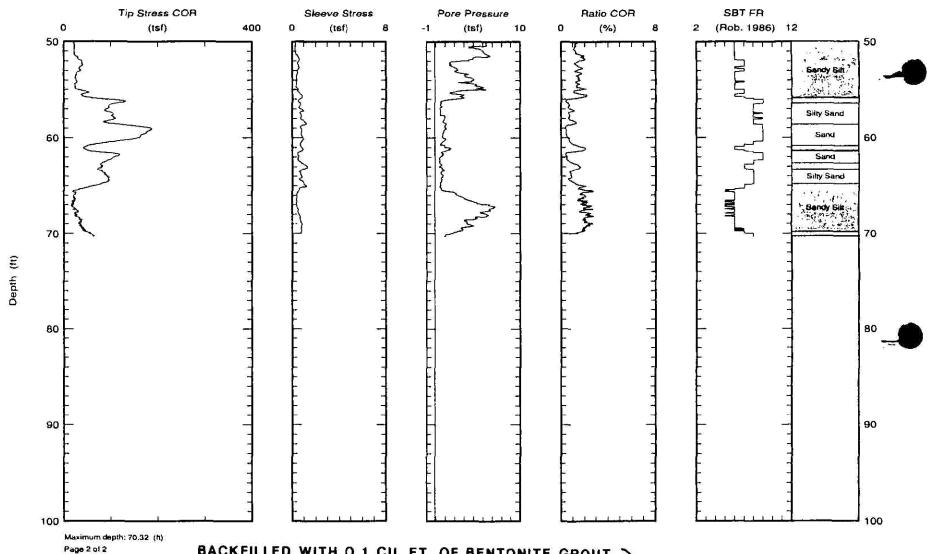
Office: (714) 901-7270 Fax: (714) 901-7289 rich@kehoetesting.com skehoe@msn.com

**CPT Data** 30 ton rig

Date: 28/Oct/2008 Test ID: CPT-8 Project: SanDiego

Client: Geocon Consultants Inc.

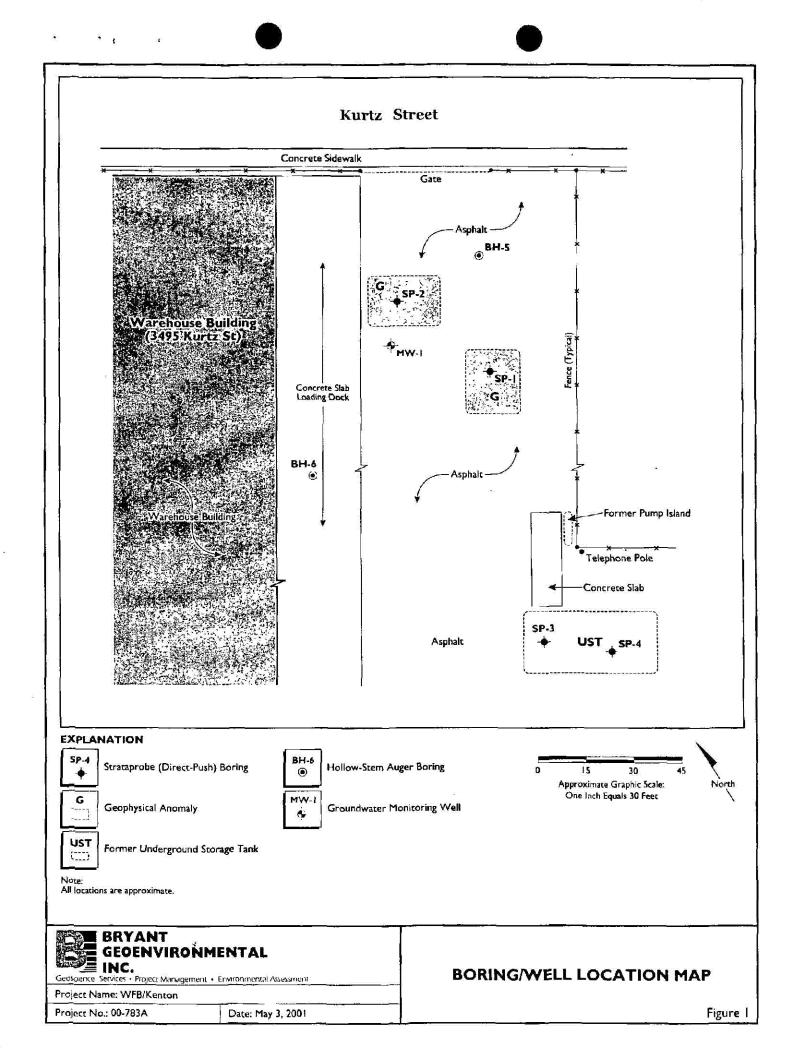
Job Site: Sports Arena Blvd Retail Site



BACKFILLED WITH 0.1 CU. FT. OF BENTONITE GROUT







Geoscience	BRYAI GEOEN INC. Services • Proj	<b>IVIR</b>				sessment	BORING/WELL COMPLETION LOG IDENTIFICATION: BH-5	
Client: Ke	enton						Date: May 3, 2001	
Project Na	ame: Kurtz	Street					Location: Near Entrance, North End	
Project No	umber: 00-	783A		-			Logged By: Mark Bryant	
Drilled By:	West Haz	zmat					Method: Hollow-Stem Auger	
Surface Ele	evation: 10	Feet ±					Total Depth: 15.0 Feet	
Sample Number	PID/FID Reading (ppm)	Test Data	Blow Count	Depth (Feet)	Graphic Log	Soil Type	Geologic Description: Formation, grain size, texture, color, moisture, sorting/grading, density, other lithologic features, staining odor, etc.	8;
·					TTT		3 Inches Asphalt	$\vdash$
BH5-5		ND		5-		ML	HYDRAULIC FILL: Sand, very fine- to medium-grained, trace silt, very micaceous, medium dense, moist to 5 feet, well sorted, no stains or odors, olive brown (2,5Y 4/3).	
BH-5-₩		ND		10-	<u>\</u>	MU SP	Silty Sand, some silt, fine sand interbedded with fine- to medium- grained sand, wet at 10 feet, dark grayish brown (2.SY 3/2-4/2).	
				20—	i		TOTAL DEPTH 15 FEET Installed 2-inch PVC, 0.020 slot, screened 5-15 feet into auger, used disposable bailer to collect groundwater samples. Groundwater level at about 10 feet below grade; backfilled borehole with bentonite/grout (Grout Well) to near surface, finished upper 4 inches with concrete.	
					ı			
				25—				
				30—				
SYMBO							Drafted By: Harvey Lee	
	Groundwater	First Enc	ountered				Reviewed By: Mark Bryant	
	tatic Ground						Date: May 8, 2001	

Geoscience	BRYAI GEOEN INC. Services • Proj	IVIR				essment	BORING/WELL COMPLETION LOG IDENTIFICATION: BH-6	
Client: Ke	nton						Date: May 3, 2001	
Project Na	me: Kurtz	Street					Location: Southwest of MW-I (UST Area)	
	mber: 00-						Logged By: Mark Bryant	
	West Haz						Method: Hollow-Stem Auger	
	evation: 10.						Total Depth: 15.0 Feet	
Surface Cle		) reet 1		T		4)		
Sample Number	PID/FID Reading (ppm)	Test Data	Blow Count	Depth (Feet)	Graphic Log	Soil Type	Geologic Description: Formation, grain size, texture, color, moisture, sorting/grading, density, other lithologic features, staining odor, etc.	Backfill
BH-6-5		ND		5		ML	4 Inches Concrete  HYDRAULIC FILL: Sand, fine- to medium-grained, mostly fine sand, very micaceous, well sorted, medium dense, no odors or stains, occasional thin layers of sandy silt with coarse sand, dark gray brown to dark yellow brown (10YR 4/2-4/3), wet a 8 feet.	
BH¦-6-W		ND		- - - 15-	**	SM	Silty Sand, smostly fine sand and silt, moderately well sorted, no odors or stains.	
				20			TOTAL DEPTH 15 FEET Installed 2-inch PVC, 0.020 slot, screened 5-15 feet into auger, used disposable bailer to collect groundwater samples. Groundwater level at about 12 feet below grade; backfilled borehole with bentonite/grout (Grout Well) to near surface, finished upper 6 inches with concrete.	
	[			30-				
				-			•	
	L <b>S</b> Groundwater tatic Ground			<u> </u>			Drafted By: Harvey Lee Reviewed By: Mark Bryant Date: May 8, 2001	<b>1</b>
ND= Not D	etected (TPH	or 8TEX)					Sheet	l of I

Geoscience	BRYA GEOEN INC. Services • Proj	1VIR				essment	BORING/WELL COMPLETION LOG IDENTIFICATION: MW-I	
Client: Ke	enton						Date: May 3, 2001	
	me: Kurtz	Street					Location: UST Anomaly (Southwest Side)	<del></del>
	ımber: 00-						Logged By: Mark Bryant	
							Method: Hollow-Stem Auger	
	West Ha		·					
Surface Ele	evation: 10	reet ±	1		T		Total Depth: 15.0 Feet	
Sample Number	PID/FID Reading (ppm)	Test Data	Blow Count	Depth (Feet)	Graphic Log	Soil Type	Geologic Description: Formation, grain size, texture, color, moisture, sorting/grading, density, other lithologic features, staining odor, etc.	Backfill
							4 Inches Asphalt	
MW-1-5		ND		5— 5—	7	ML	HYDRAULIC FILL: Sand, very fine- to fine-grained, very micaceous, well sorted, occasional layers of silty sand with coarse sand, no odors or stains, medium dense, dark grayish brown (10YR 4/2) to grayish brown (10YR 5/2).	
				10		SM	Silty Sand, silt >30%, very fine sand, very micaceous, well sorted, medium dense, no odors or stains, dark olive gray (5Y 3/2).	
				15			TOTAL DEPTH 15 FEET Groundwater first encountered at approximately 4 feet (wet), Dryer at 5-6 feet, wet again below 6-7 feet. 4-inch diameter PVC well screen installed to 15 feet, 0.020 slot screen from 5-15 feet, Monterey No.3 sand filter to 4 feet, surged and bailed for 15 minutes. Groundwater 7.9 feet before bailing well. Grout to 1 foot, concrete around well cover.	
				30-				
				30.				}
		L	<u> </u>		<u></u>	<u> </u>	<u> </u>	
SYMBO	LS						Drafted By: Harvey Lee	
<b>I</b>	Groundwater	First Enc	ountered				Reviewed By: Mark Bryant	
لِسِا								
Note:	tatic Ground						Date: May 8, 2001	
ND= Not [	Petected (TPH	or BTEX)	ı					
							Sheet	I of I

Geoscience	BRYA GEOEN INC. Services • Proj	(VIR				essment	BORING/WELL COMPLETION LOG IDENTIFICATION: SP-I	
Client: W	/ells Fargo						Date: February 6, 2001	,,,
Project N	ame: WFB/	Kenton					Location: Southeast Geophysical Anomaly	
Project N	umber: 00-	783A					Logged By: Mark Bryant	
Drilled By	: TEG				-		Method: Strataprobe (Direct-Push)	
Surface El	evation: 10	.0± Feet					Total Depth: 16.0 Feet	
Sample Number	PID/FID Reading (ppm)	Test Data	Blow Count	Depth (Feet)	Graphic Log	Soil Type	Geologic Description: Formation, grain size, texture, color, moisture, sorting/grading, density, other lithologic features, staining odor, etc.	Backfill
SP-1-5		ND		5		ML	3 Inches Asphalt  HYDRAULIC FILL: Sand, very fine- to medium-grained sand, trace silt, very micaceous, medium dense, moist, no stains or odors, olive brown (2.5Y 4/3)	
SP-1-10		D D		10-		ML/ SP	Fine- to medium-grained, micaceous sand at 10 feet, wet, medium dense, well sorted, dark grayish brown (2.5Y 3/2-4/2)	
				20			TOTAL DEPTH 16 FEET Pushed probe screen to 16 feet; Pulled up to 14 feet, collected groundwater sample with 1/2 inch diameter stainless steel bailer. Groundwater measured at 8.6 feet below grade. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.	
SYMBO	LS						Drafted By: Harvey Lee	
	Groundwater F	irst Encou	intered				Reviewed By: Mark Bryant	
		-						
🗷   9	Static Groundw	ater Leve	1				Date: February 10, 2001	
Note:	_							
ND= Not (	Detected (TPH	as Gasolii	ne or Diese	의)			Sheet	1 of 1

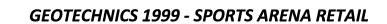
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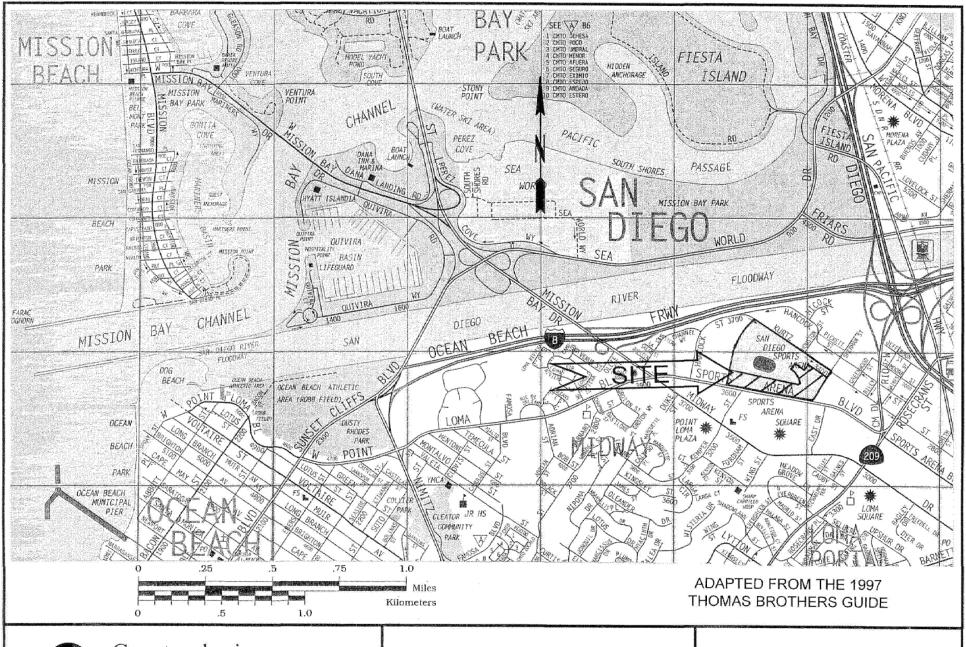
Geoscience	INC. Services • Proj	ject Manag	jement • l	Епитопти	AL ental Asse	essment	IDENTIFICATION: SP-2		
Client: W	ells Fargo						Date: February 6, 2001		_
Project Na	ame: WFB/	/Kenton					Location: Northwest Geophysical Anomaly		_
Project Nu	umber: 00-	783A					Logged By: Mark Bryant		_
Drilled By:	: TEG						Method: Strataprobe (Direct-Push)		_
Surface Ele	evation: 10	).0± Feet					Total Depth: 10.5 Feet		_
Sample Number	PID/FID Reading (ppm)	Test Data	Blow Count	Depth (Feet)	Graphic Log	Soil Type	Geologic Description: Formation, grain size, texture, color, moisture, sorting/grading, density, other lithologic features, staining odor, etc.	Bac	ıcl
		,		<u> </u>			3 Inches Asphalt		
SP-2-5		ND		5-		SP/ SW	HYDRAULIC FILL: Sand, fine- to coarse-grained sand, medium dense, moderately well sorted, wet at 5 feet, moderate to strong hydrocarbon odor (diesel?, degraded), dark gray (2.5Y 3/1-4/1) (tank backfill?), dark gray (2.5Y 3/1-4/1), moderate hydrocarbon odor at 10 feet, hard object encountered at ~10.5 feet.		
SP-2-W		5,200		-					
SP-2-10	1	ND		10-		Ĺ			L
				15—			TOTAL DEPTH 10.5 FEET  Refusal at 10.5 feet. Installed 1-inch temporary PVC well screen (0.10 slot) to 10.5 feet, sampled with bailer. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.		-
SYMBO	LS	<del></del>		_	<del></del>		Drafted By: Harvey Lee		_
<u></u>	Groundwater F	First Encour	ntered	5,200			centration Expressed s Per Liter (µg/t)  Reviewed By: Mark Bryant		
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Static Groundw	anter Loue	,	_	-		Date: February 10, 2001		

DENTIFICATION: SP-3	BRY	YANT					DODING/MELL COMPLETION:	
Location: Wate End of Former Diesel UST   Logacian: Wate End of Former Diesel UST   Logacian: Use   Location: Wate End of Former Diesel UST	GEO	ENVIR				essment		
Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Distribution   Dist	Client: Wells Fa	rgo	<u> </u>				Date: February 6, 2001	
Logged By: Mark Bryant   Method: Strategrobe (Direct-Publi)   Method: Strategrobe (				-				
TOTAL DEPTH 15 FEET  TOTAL DEPTH 15 FEET  Groundwater first biscovered  TOTAL DEPTH 15 FEET  Groundwater first biscovered  25 State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  State Groundwater first biscovered  Drafted By: Harvey Lee  Reviewed By: Mark Bryant  Date: February 10, 2001	<del></del>							
Trotal Depth: 15 Feet  Total Depth: 15 Feet  Geologic Description:  Geologic Description:  Formation, grain size, seature, color, molitaire, sentingly ading, density, other lishologic features, staining odor, etc.  SP  A Inches Asphalt  TANK BACKFILL: Sand, fine- to medium-grained sand, mostly fine sand, well sorted, glarify molitaire and said, mostly fine sand, well sorted, (2.5Y 512-513), no odors or stains  ND  ND  ND  ND  ND  TOTAL DEPTH 15 FEET  Groundwater encountered at 11.5 feet, installed temporary Linch diameter PVC well screen (0.10 daily to 15 feet, amplied groundwater at 13-15 feet with stainless speed before  TOTAL DEPTH 15 FEET  Groundwater encountered at 11.5 feet, installed temporary Linch diameter PVC well screen (0.10 daily to 15 feet, sampled groundwater at 13-15 feet with stainless speed before  Total Depth 15 FEET  Groundwater first Encountered  25 —  Groundwater First Encountered  25 —  Groundwater First Encountered  25 —  Groundwater First Encountered  26 —  Drafted By: Harvey Lee  Reviewed By: Mark Bryant  Date: February (0.2001)								
Imple Reading Data Count (Feet) # Sp	<del></del> _		<del></del>					
3 Inches Asphalt TANK BACKFILL: Sand, fine- to medium-grained sand, mostly fine sand, well sorted, slightly moist at 3 feet, medium dense, gray brown to olive brown (2.5Y 5/2-5/3), no odors or stains  P-3-5  ND  SP Fine- to medium-grained sand, very micaceous, wet at 10 feet, no odors, or staining, dark grayish brown (2.5Y 3/2).  TOTAL DEPTH 15 FEET Groundwater encountered at 11.5 feet, installed temporary 1-inch diameter PVC well screen (0.10 slot) to 15 feet, simpled groundwater at 13-15 feet with stainless steel baller. Backfilled with bemonite palets, finished upper 3 inches with sphalt patch.  TOTAL DEPTH 15 FEET Groundwater encountered at 11.5 feet, installed temporary 1-inch diameter PVC well screen (0.10 slot) to 15 feet, simpled groundwater at 13-15 feet with stainless steel baller. Backfilled with bemonite palets, finished upper 3 inches with sphalt patch.  TOTAL DEPTH 15 FEET Groundwater First Encountered  25  Seasc Groundwater First Encountered  Seasc Groundwater Level  Date: February 10, 2001  Date: February 10, 2001			<del>-</del>			φ.		т
P-3-5  ND  SP  TANK BACKFILL: Sand, fine- to medium-grained sand, mostly fine sand, well sorted, slightly moist at 5 feet, medium dense, gray brown to olive brown (2.5Y 5/2-5/3), no odors or stains  ND  ND  10  SP  Fine- to medium-grained sand, very micaceous, wet at 10 feet, no odors, or staining, dark grayish brown (2.5Y 3/2).  ND  TOTAL DEPTH 15 FEET Groundwater encountered at 11.5 feet, installed temporary 1-inch diameter PVC well screen (101 slot) to 15 feet, sampled groundwater at 13-15 feet with stainless steel bailer. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.  TOTAL DEPTH 15 FEET Groundwater first finished upper 3 inches with stainless steel bailer. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.  TOTAL DEPTH 15 FEET Groundwater first finished upper 3 inches with stainless steel bailer. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.  Drafted By: Harvey Lee Reviewed By: Mark Bryant Date: February 10, 2001  Date: February 10, 2001	Number Read	ing Data	Blow Count	Depth (Feet)	Graphic Log	Soil Typ	Formation, grain size, texture, color, moisture, sorting/grading, density, other lithologic	Backfill
Sand, fine- to medium-grained sand, mostly fine sand, well sorted, slightly medium dense, gray brown to olive brown (2.5Y 5/2-5/3), no odors or stains  ND  ND  ND  ND  ND  ND  ND  ND  ND  N							3 Inches Asphalt	
TOTAL DEPTH 15 FEET Groundwater encountered at 11.5 feet, installed temporary 1-inch diameter PVC well screen (0.10 solt) to 15 feet, sampled groundwater at 13-15 feet with stainless steel bailer. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.  20  30  TOTAL DEPTH 15 FEET Groundwater encountered at 11.5 feet, installed temporary 1-inch diameter PVC well screen (0.10 solt) to 15 feet, sampled groundwater at 13-15 feet with stainless steel bailer. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.  30  TAREA By: Harvey Lee Reviewed By: Mark Bryant Date: February 10, 2001	SP-3-5	ND		5-		SP	Sand, fine- to medium-grained sand, mostly fine sand, well sorted, slightly moist at 5 feet, medium dense, gray brown to olive brown	
TOTAL DEPTH 15 FEET Groundwater encountered at 11.5 feet, installed temporary 1-inch diameter PVC well screen (0.10 slot) to 15 feet, sampled groundwater at 13-15 feet with stainless steel baller. Backfilled with bentonite pellets, finished upper 3 inches with asphalt patch.  20  25  Groundwater First Encountered  Groundwater First Encountered  Reviewed By: Mark Bryant Date: February 10, 2001	SP-3-10	ND		10—	*************************************	SP	Fine- to medium-grained sand, very micaceous, wet at 10 feet, no odors, or staining, dark grayish brown (2.5Y 3/2).	
YMBOLS  ☐ Groundwater First Encountered ☐ Static Groundwater Level ☐ Date: February 10, 2001 ☐ Date: February 10, 2001	SP-3-W	ND		-		-	Groundwater encountered at 11.5 feet, installed temporary 1-inch diameter PVC well screen (0.10 slot) to 15 feet, sampled groundwater at 13-15 feet with stainless steel bailer. Backfilled with bentonite pellets, finished upper 3 inches	
TYMBOLS  ☐ Groundwater First Encountered ☐ Reviewed By: Mark Bryant ☐ Date: February 10, 2001 ☐ Not Detected (TPH as Gasoline or Diesel)				25—				
Groundwater First Encountered  Reviewed By: Mark Bryant  Date: February 10, 2001  Note: ID= Not Detected (TPH as Gasoline or Diesel)				30-				
Groundwater First Encountered  Reviewed By: Mark Bryant  Date: February 10, 2001  Note: ID= Not Detected (TPH as Gasoline or Diesel)	SYMBOLS			<u> </u>	ــــــــــــــــــــــــــــــــــــــ		Drafted By Hangey Lee	
Static Groundwater Level  Date: February 10, 2001  Note: ID= Not Desected (TPH as Gasoline or Diesel)		. <b>.</b>						
State Groundwater Level  Note: ID= Not Detected (TPH as Gasoline or Diesel)	Groundw	vater First Enco	untered				Reviewed By: Mark Bryant	
ID= Not Detected (TPH as Gasoline or Diesel)		oundwater Leve	Ħ				Date: February 10, 2001	
	Note: ND= Not Detected	(TPH as Gasol	ine or Dies	el)				
				•			Shoot	l of l

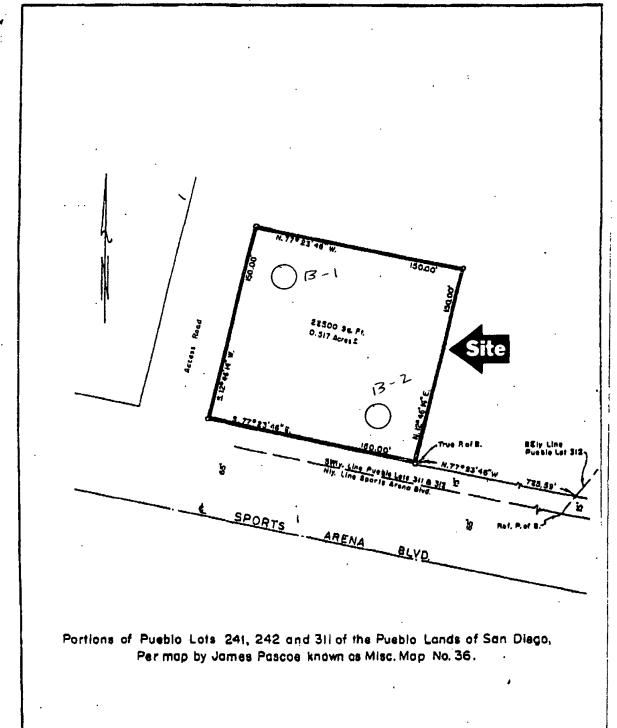
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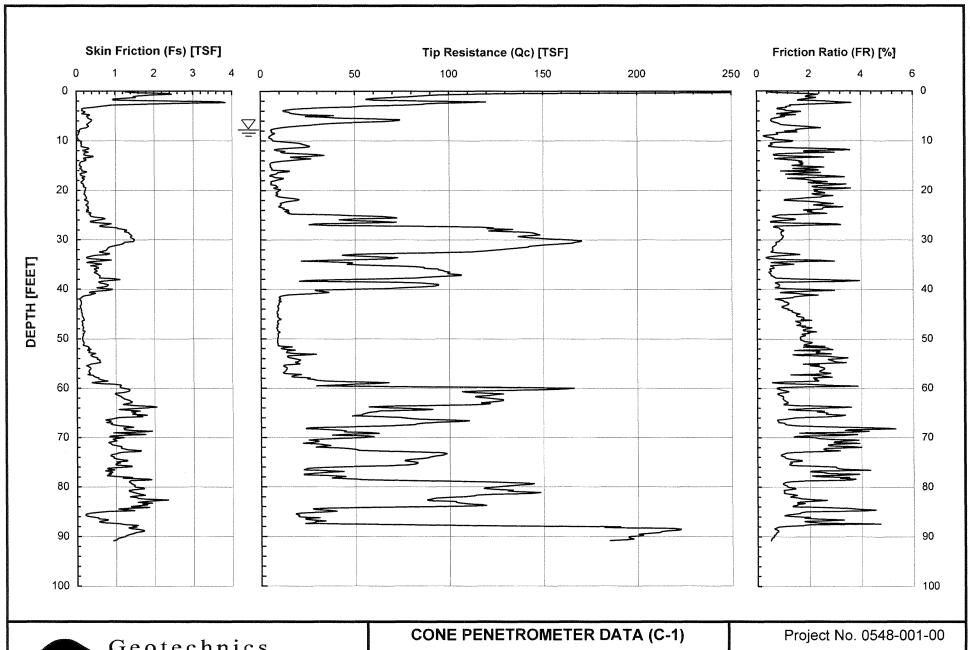


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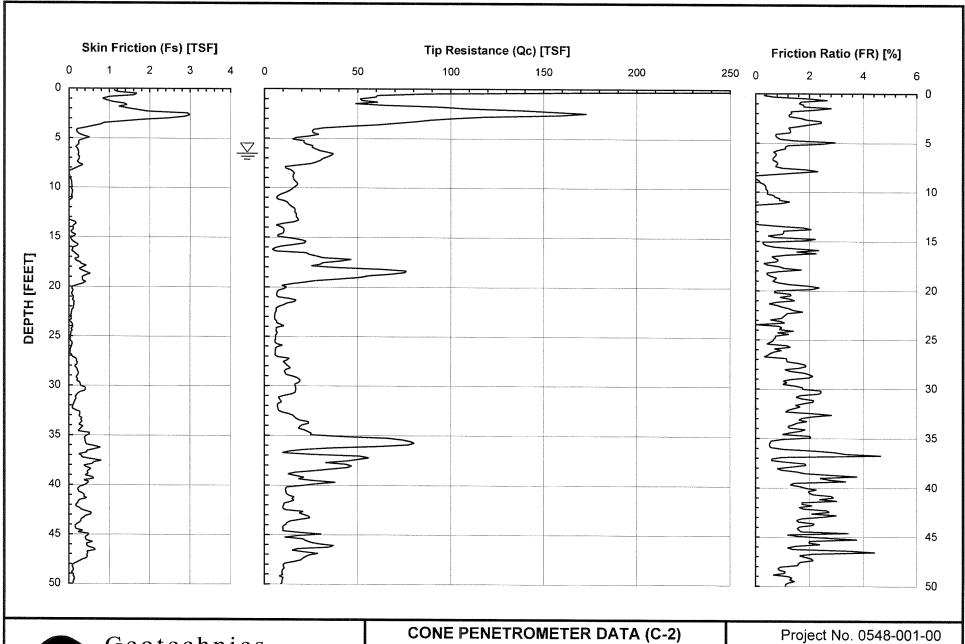


NOTE: This is not a survey map it is a map sampled from data found in U. Q. Co. fitee. EXHIBIT 'g

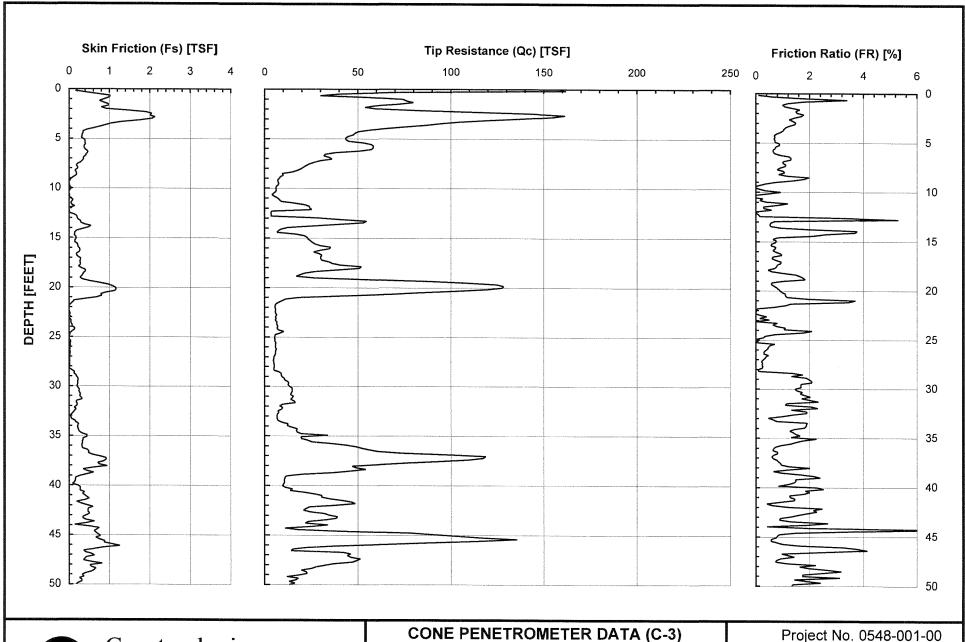
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	Union Oli Company of California Los Angeles, California	25-490-6
	union	AMERICA INNET



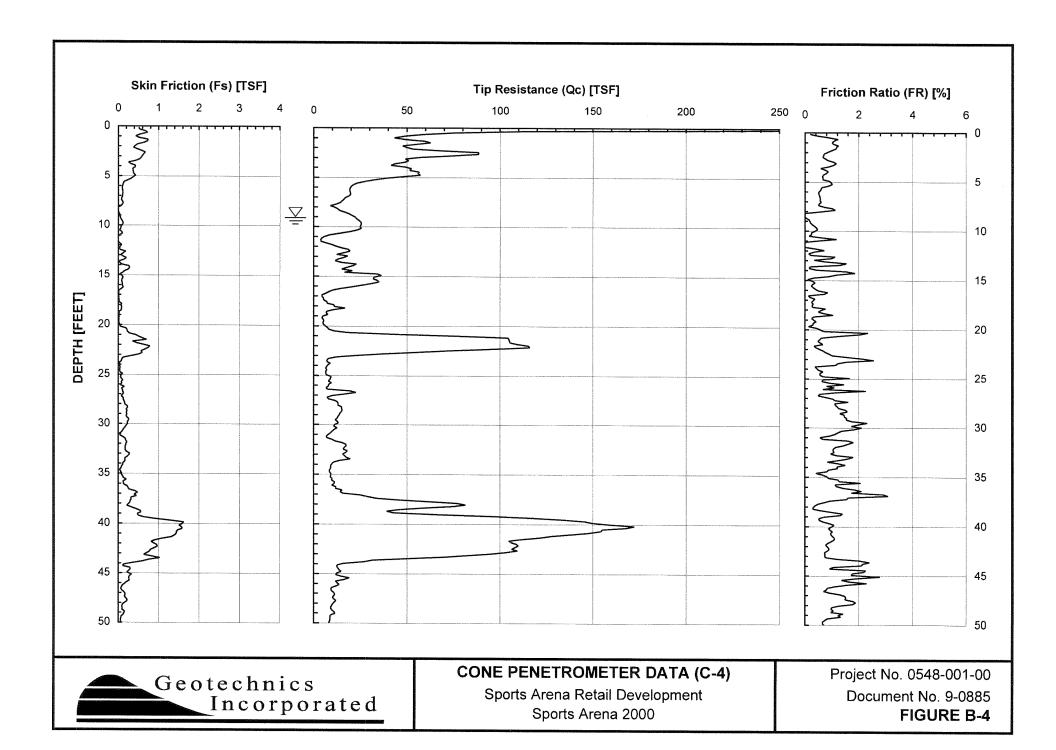
Sports Arena Retail Development Sports Arena 2000

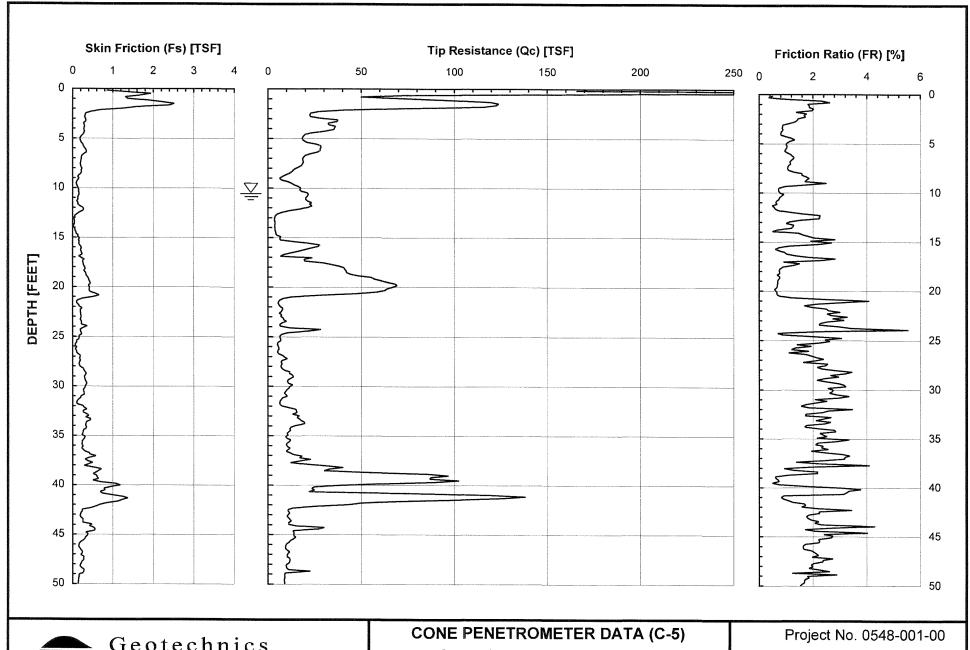


Sports Arena Retail Development Sports Arena 2000

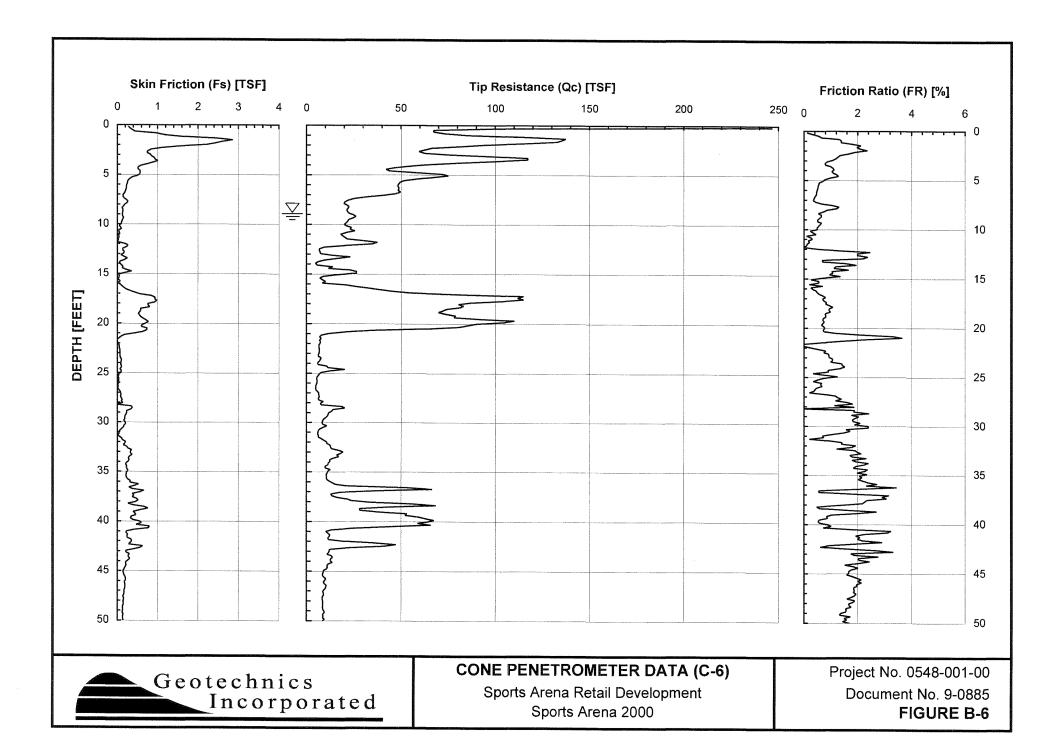


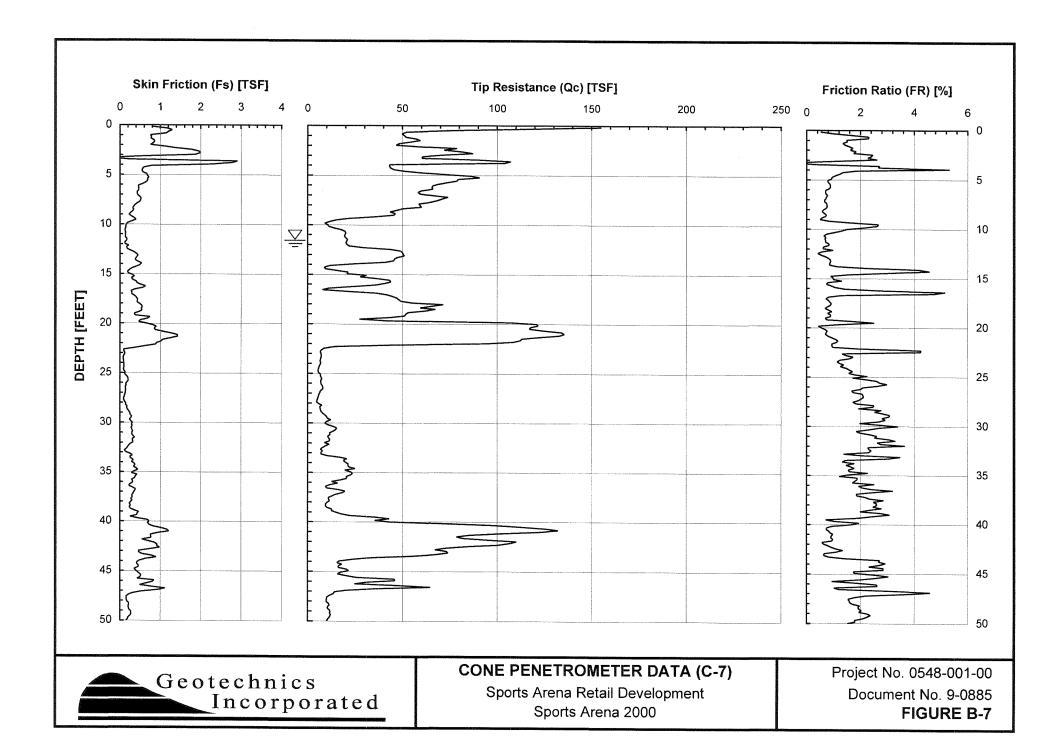
Sports Arena Retail Development Sports Arena 2000

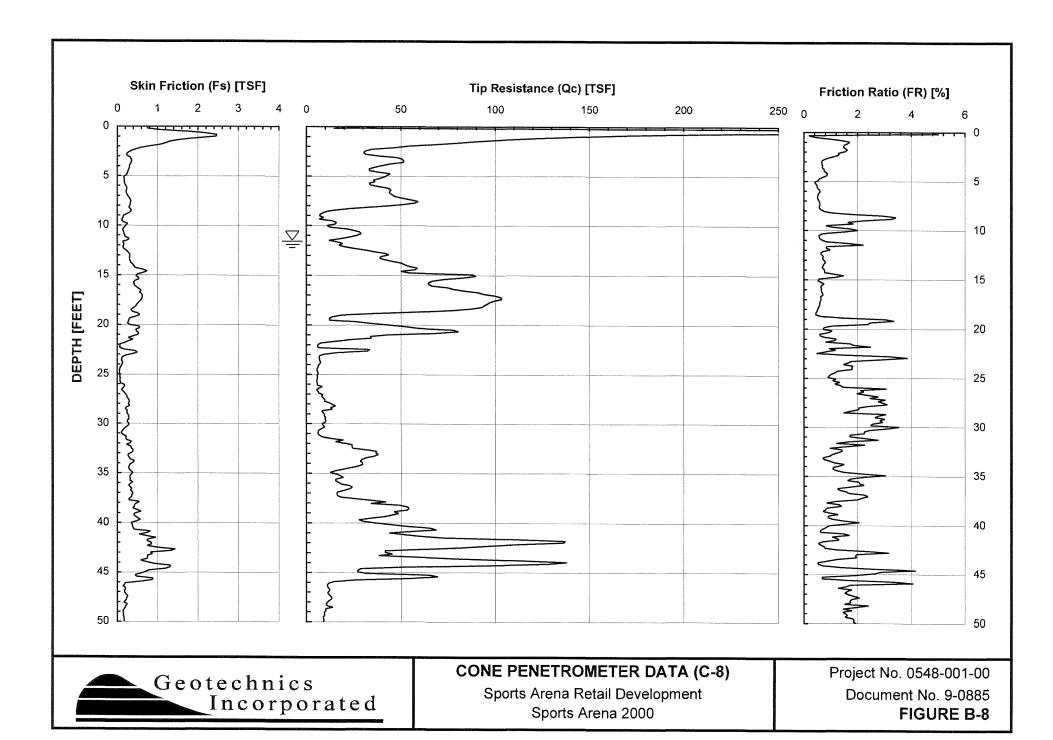


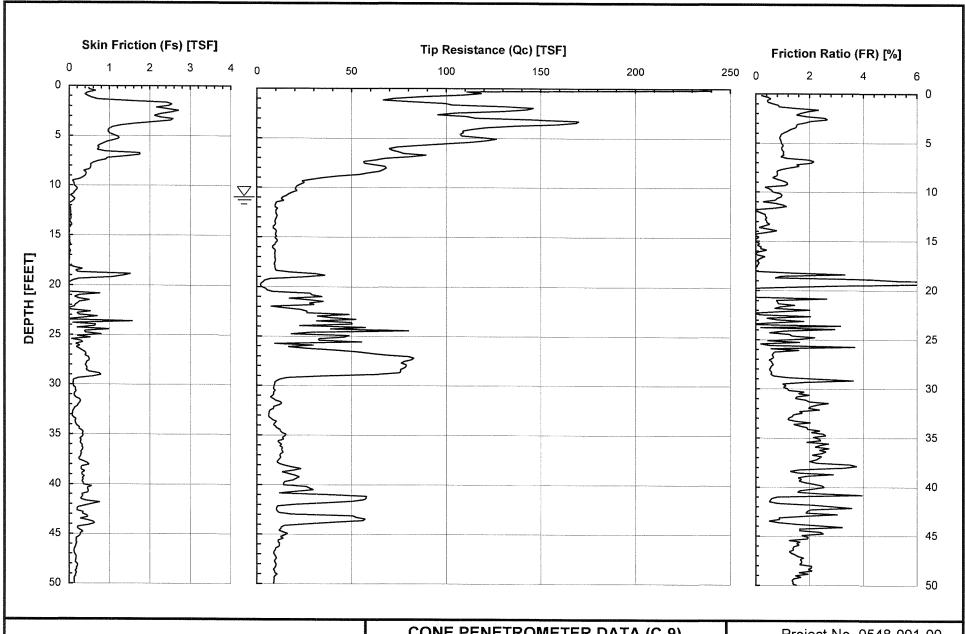


Sports Arena Retail Development Sports Arena 2000









**CONE PENETROMETER DATA (C-9)** 

Sports Arena Retail Development Sports Arena 2000

## **BORING LOG NO. 1** Date: 8/24/99 5 Inch Rotary Wash Logged: MAF Equipment: Elevation: F.S.G. Safety Hammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Hammer Type: BLOWS PER FT. DRIVE SAMPLE BULK SAMPLE DENSITY (PCF) DEPTH (FEET) MOISTURE LAB TESTS DESCRIPTION PAVEMENT: Asphalt Concrete, 2½ Inches. No Aggregate Base. FILL: Mixture of clayey and silty sand (SC and SM), fine to medium grained, nonplastic and low plasticity, light red brown and olive gray, moist, loose to medium dense. 2 10 Gradation pH & Resistivity 3 Clayey sand (SC), fine to medium grained, low plasticity, dark brown, moist, loose. Sulfate Contains glass and ceramic fragments. Historic dump site (circa 1900). 4 5 6 ESTUARINE DEPOSITS: Poorly graded sand with silt (SP-SM), fine grained, Unit Weight Moisture Content 7 nonplastic, dark gray, moist, very loose, micaceous. 8 9 Same. Saturated. SPT 10 No. 200 Wash 3 (15% Fines) 11 12 13 14 Clayey sand (SC), fine grained, low plasticity, dark gray, saturated, very loose. SPT Highly micaceous. 15 2 No. 200 Wash (33% Fines) 16 17 18 19 20 SHE Gradation 45 Hydrometer 21 Same. Atterberg 22 Consolidation 23 Silty sand (SM), fine to medium grained, low plasticity, gray, saturated, medium dense. 24 25 No. 200 Wash 20 (14% Fines) 26 27 28 29 30 **GEOTECHNICS INCORPORATED** FIGURE: B-10 PROJECT NO. 0548-001-00

## **BORING LOG NO. 1** Date: 8/24/99 Logged: MAF Equipment: 5 Inch Rotary Wash Elevation: F.S.G. Safety Hammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Hammer Type: DRIVE SAMPLE BLOWS PER FT. BULK SAMPLE DENSITY (PCF) DEPTH (FEET) MOISTURE LAB TESTS DESCRIPTION ESTUARINE DEPOSITS: Silty sand (SM), fine grained, low plasticity, gray, saturated, No. 200 Wash (16% Fines) 31 medium dense. 32 Silty sand (SM), fine grained, low plasticity, dark gray, saturated, very loose to loose, 33 micaceous. Contains numerous small shells. Slightly odoriferous. 34 35 No. 200 Wash Same. (26% Fines) 36 37 38 Clayey sand (SC), fine grained, low plasticity, dark gray, saturated, very loose to loose, 39 micaceous. Contains numerous small shells. Slightly odoriferous. 40 SPT No. 200 Wash (21% Fines) 41 42 Sandy clay (CL), low to medium plasticity, dark gray, saturated, very soft. Contains numerous small shells. Slightly odoriferous. 43 44 45 No. 200 Wash 1 Same. (61% Fines) 46 47 Lean clay (CL), medium plasticity, dark gray, saturated, very soft. Contains many 49 shell fragments. Slightly odoriferous. SPT 50 No. 200 Wash 2 (95% Fines) 51 52 53 54 55 56 57

Interbedded silty sand (SM) and sandy silt (ML), fine to medium grained, low plasticity,

dark gray, saturated, medium dense or hard. Contains no shells. No odor.

58 59

60

						BORING LOG NO. 1 Date:	8/24/99
	ipme					otary Wash Logged:	
		Typ		T	ty H	ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation:	r.s.g.
DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
61	16					ESTUARINE DEPOSITS: Interbedded silty sand (SM) and sandy silt (ML), fine to medium grained, low plasticity, dark gray, saturated, medium dense. Contains no shells.	No. 200 Wash (22% Fines)
62						No odor.	
63							
l							
64							
65							
66							
67							
68							
69		op=					
70	16	SPT				Same.	No. 200 Wash (46% Fines)
71							(40% rines)
72							
73							
74							
75							
76							
77						Silty sand (SM), fine to medium grained, nonplastic, medium gray, saturated, dense.	
78						Micaceous.	
79							
80	34	SPT					No. 200 Wash
81							(22% Fines)
82							
83							
84							
85							
86						Poorly graded sand with silt (SP-SM), fine to medium grained, nonplastic, medium gray,	
87						saturated, dense. Micaceous.	
88							
89							
90							
PRO	)JE(	CTN	O. 0	548-	001-0	GEOTECHNICS INCORPORATED	FIGURE: B-12

						BORING LOG NO. 1 Date:	8/24/99
1	ipme					Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged: Logged	
	nmei			T	ety H	Tammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation:	r.s.g.
DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %		
TH (F	VS PI	E SA	K SA	SITY	srui	DESCRIPTION	LAB TESTS
DEP	BLO\	DRIV	BULI	DEN	MOI		
91	42					ESTUARINE DEPOSITS: Poorly graded sand with silt (SP-SM), fine to medium grained, nonplastic, medium gray, saturated, dense, micaceous.	No. 200 Wash (10% Fines)
92							
93						TOTAL DEPTH = 91½ FEET GROUNDWATER @ 8½ FEET	
94						CAVING BELOW GROUNDWATER BACKFILLED 8/25/99	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
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119							
120							
PRO	)JE(	CT N	O. 0	548-(	001-0	GEOTECHNICS INCORPORATED	FIGURE: B-13

							8/24/99
	ipme nmer	ent: · Typ				otary Wash  Ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod  Elevation:	
DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
I						PAVEMENT: Asphalt Concrete, 3 Inches, No Aggregate Base.  FILL: Clayey sand (SC), fine grained, low plasticity, red brown, moist, loose to	
2	8	CAL		94	11	medium dense.	Gradation Atterberg Expansion
3						ESTUARINE DEPOSITS: Poorly graded sand with silt (SP-SM), fine to medium grained, nonplastic, gray brown, moist, loose, micaceous.	R-Value Unit Weight Moisture Content
5	9	SPT				Same. Dry to moist.	
7							
8							
9		SPT			abla		
11	5				=	Same. Saturated.	
12							
14						Sandy silt (ML), low plasticity, dark olive gray, saturated, very soft.	
15 16	2	SPT				Contains some mica.	
17							
18							
20	1	SPT				Same.	
21 22							
23							
24 25		SPT					
26	4					Silty sand (SM), fine to medium grained, low plasticity, dark gray, saturated, medium dense.	
27		-				Micaceous. Some odor.	
29							
30							
PRO	)JE	CT N	O. 0	548-0	001-0	GEOTECHNICS INCORPORATED	FIGURE: B-14

## Logged: MAF 5 Inch Rotary Wash Equipment: Elevation: F.S.G. Safety Hammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Hammer Type: DRIVE SAMPLE BLOWS PER FT. BULK SAMPLE DENSITY (PCF) DEPTH (FEET) MOISTURE LAB TESTS DESCRIPTION Unit Weight ESTUARINE DEPOSITS: Silty sand (SM), fine to medium grained, low plasticity, Moisture Content 31 dark gray, saturated, medium dense. Sandy clay (CL), medium plasticity, dark gray, saturated, soft. Contains many shells 32 and shell fragments, few reeds. Odoriferous. 33 34 35 3 36 37 38 39 Silty sand (SM), fine to medium grained, low plasticity, dark gray, saturated, medium dense. Contains shells and fragments of shells. 40 15 41 42 43 44 Fat clay (CH), high plasticity, dark gray, saturated, firm. Contains many shells and shell fragments. Odoriferous. 45 5 46 47 48 49 SHE 50 Gradation 67 58 Same. Hydrometer 51 Atterberg Consolidation 52 TOTAL DEPTH = 52 FEET 53 GROUNDWATER @ 10 FEET CAVING BELOW GROUNDWATER 54 BACKFILLED 8/25/99 55 56 57 58 59 60 **GEOTECHNICS INCORPORATED** FIGURE: B-15

PROJECT NO. 0548-001-00

**BORING LOG NO. 2** 

Date: 8/24/99

							8/25/99
Equ Han	_	ent: r Typ	ne.			otary Wash Logged: ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation:	
рертн (геет)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
						PAVEMENT: Asphalt Concrete, 3 Inches, No Aggregate Base.	Gradation Expansion
1						FILL: Silty sand (SM), fine grained, low plasticity, red brown, moist, medium dense.	Expansion
2	5	CAL		89	14	ESTUARINE DEPOSITS: Poorly graded sand with silt (SP-SM), fine grained,	Direct Shear
3						nonplastic, gray brown, moist, loose.	
4							
5		SPT					
6	4						
7							
8						Sandy silt (ML), low plasticity, brown, moist, very soft.	
9							
10	1	SPT			¥	Samc. Saturated.	
11							
12		1					
13							
14							
15		SPT					
16	6					Same. Firm.	
17							
18							
						Poorly graded sand with silt (SP-SM), fine grained, nonplastic, dark gray, saturated, loose.	
19						saturated, 100se.	
20	6	SPT					
21							
22		111111111					
23		<u></u>				Sandy silt (ML), low plasticity, dark gray, saturated, very soft. Contains few shells.	
24						Salty 3nt (NIL), low plasticity, dark gray, saturated, very sort. Contains to a shells.	
25		SPT					
26	2						
27							
28							
29							
30							
PRO	)JE(	CT N	O. 0	548-	001-0	GEOTECHNICS INCORPORATED	FIGURE: B-16

							8/25/99
, -	ipm	ent: r Typ	٠.٠			otary Wash Logged: ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation:	
						animer/Catheau, 140 Ebs, 50 Hell Brop, 71 V Roa Ebevaelon	
DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %		
TH (	WS P	VE SA	K SA	(SITY	ISTU	DESCRIPTION	LAB TESTS
DEF	BLO	DRI	BOL	DEN	МО		
31	2				2.004.00.00V	ESTUARINE DEPOSITS: Sandy silt (ML), fine grained, low plasticity, dark gray, saturated, loose to medium dense. Contains shells.	
32		SHE					
33				83	40		Gradation Hydrometer
34							Atterberg Consolidation
35		SPT					
36	11					Same.	
37							:
38							
39							
40		SPT					
41	3					Same.	
42							
43						Sandy clay (CL), low plasticity, dark gray, saturated, soft, micaceous.  Contains some shell fragments.	,
45		SPT				Contains some sign fragments.	
46	4						
47							
48							
49	a a server de montre e montre e montre e					Silty sand (SM), fine grained, low plasticity, brown, saturated, medium dense.	
50		SHE					
		SITE		89	29		Unit Weight Moisture Content
51							1.1015tare Content
53						TOTAL DEPTH = 52 FEET	
54						GROUNDWATER @ 10 FEET CAVING BELOW GROUNDWATER	
						BACKFILLED 8/26/99	
55							
56							
57							
58							
59							
60							
PRO	)JE(	CT N	O. 0	548-0	)01-(	GEOTECHNICS INCORPORATED	FIGURE: B-17

	BORING LOG NO. 4 Date: 8/25/99								
Equip Hami	_					otary Wash  Ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod  Elevation:			
	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS		
1 2 3 4	14	SPT		82	25	PAVEMENT: Asphalt Concrete, 3 Inches, No Aggregate Base. FILL: Silty sand (SM), fine grained, low plasticity, red brown, moist, medium dense.  ESTUARINE DEPOSITS: Sandy silt (ML), low plasticity, dark gray, moist, very soft.	Gradation Hydrometer Atterberg pH & Resistivity Sulfate Expansion Direct Shear		
6 7 8 9	4	SPT		82	25		Direct siteal		
11 12 13 14					$\stackrel{\checkmark}{=}$	Same.  Clayey sand (SC), fine grained, low plasticity, dark gray, saturated, loose.	No. 200 Wash (67% Fines)		
15 16 17 18 19	9	SPT				Same.	No. 200 Wash (27% Fines)		
20 21 22 23 24	5	SPT				Same.  Poorly graded sand with silt (SP-SM), fine grained, nonplastic, dark gray, saturated, loose.	No. 200 Wash (27% Fines)		
25 26 27 28 29 30		SHE					No Sample		
29	JEC	CT N	O. 0	548-	001-0	00 GEOTECHNICS INCORPORATED	FIG		

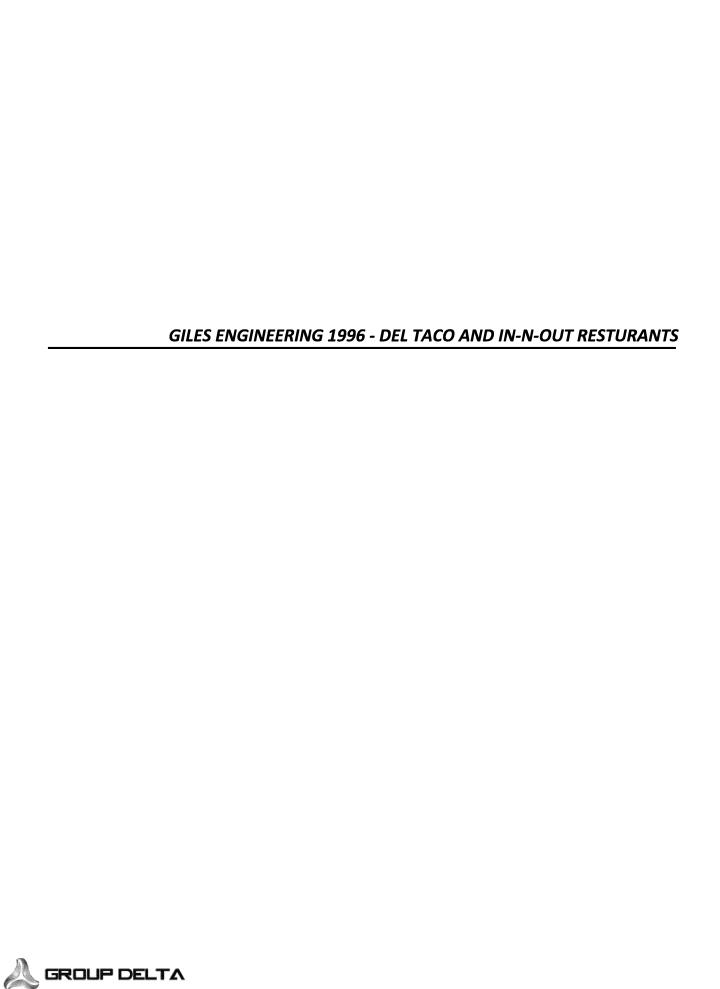
							: 8/25/99
Equ Han			e:			otary Wash  Logged ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod  Elevation	
	FT.						
DEPTH (FEET)	BLOWS PER 1	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
31 32 33	2					ESTUARINE DEPOSITS: Poorly graded sand with silt (SP-SM), fine grained, nonplastic, dark gray, saturated, very loose.	No. 200 Wash (7% Fines)
34 35 36		SHE		94	30		Unit Weight Moisture Content
37 38 39 40		SPT				Grades to poorly graded sand (SP).	No. 200 Week
41 42 43 44	9					Clayey sand (SC), fine grained, low plasticity, dark gray, saturated, loose. Contains some shells.	No. 200 Wash (3% Fines)
45 46 47 48	2	SPT				Contains some sheris.	No. 200 Wash (21% Fines)
49 50 51 52 53	1	SPT				Same.	No. 200 Wash (21% Fines)
54 55 56 57 58						Poorly graded sand (SP), fine grained, nonplastic, dark gray, saturated, loose.	
59 60 <b>PRO</b>	) JE(	CT N	O. 0	548-	001-0	00 GEOTECHNICS INCORPORATED	FIGURE: B-19

BORING LOG NO. 4 Date: 8/25/99							
	ipme					otary Wash Logged:	
Han		r Typ		T	ety H	ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation:	F.S.G.
DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
61 62 63 64 65 66	7					ESTUARINE DEPOSITS: Poorly graded sand (SP), fine grained, nonplastic, dark gray, saturated, loose.	No. 200 Wash (2% Fines)
67 68 69 70	9	SPT				Interbedded sandy silt (ML) and silty sand (SM), low plasticity, dark gray, saturated, firm or medium dense.  Same.	No. 200 Wash
71 72 73 74 75							(52% Fines)
76 77 78 79		CDT				Poorly graded sand with silt (SP-SM), fine to medium grained, nonplastic, dark gray, saturated, dense. Contains no shells.	
80 81 82 83 84 85	45	SPT					No. 200 Wash (12% Fines)
86 87 88 89 90						Grades to poorly graded sand (SP).	
PRO	) JE(	CTN	<b>O</b> . 0	548-	001-	GEOTECHNICS INCORPORATED	FIGURE: B-20

	BORING LOG NO. 4 Date: 8/25/99							
Equ	-					otary Wash  Logged ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod  Elevation		
Han					ty H	ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation	: F.S.G.	
рертн (ғеет)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS	
91	49					ESTUARINE DEPOSITS: Poorly graded sand (SP), fine grained, nonplastic, dark gray, saturated, dense.	No. 200 Wash (1% Fines)	
92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110						TOTAL DEPTH = 91½ FEET GROUNDWATER CAVING BELOW GROUNDWATER BACKFILLED 8/26/99		
111								
112								
114								
115								
116								
117								
119								
120								
PRO	)JE(	CT N	O. 0	548-	001-0	GEOTECHNICS INCORPORATED	FIGURE: B-21	

							8/24/99
Equ Han	-	ent: · Typ				otary Wash Logged: ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation:	
DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
1						PAVEMENT: Asphalt Concrete, 3 Inches, No Aggregate Base.  FILL: Silty sand (SM), fine grained, low plasticity, red brown, moist, medium dense.	
2 3	7	CAL		104	15		Gradation Hydrometer Atterberg Expansion Unit Weight Moisture Content
$\vdash$		ana				ESTUARINE DEPOSITS: Poorly graded sand (SP), fine to medium grained,	
5 6 7	7	SPT				nonplastic, dark gray, moist, loose.	
8 9							
10	11	SPT			$\subseteq$	Same. Saturated.	
12 13			n 1 was 2 gas 2 gas 2 gas 3			Silty sand (SM), fine to medium grained, low plasticity, dark gray, saturated,	
14 15	7	SPT				loose to medium dense. Micaeous.	
16 17 18	,						
19 20		SPT					
21 22	15					Same.	
23						Sandy clay (CL), medium plasticity, dark gray, saturated, very soft, micaceous.	
24						Contains some shells and shell fragments.	
25 26	1	SPT					
27 28		1111111111					
29							
30							
PRO	)JE(	CT N	O. 0	548-(	01-0	GEOTECHNICS INCORPORATED	FIGURE: B-22

						BORING LOG NO. 5 Date:	8/24/99
1 ^	ipmo	ent: r Typ	ıe.			otary Wash Logged: ammer/Cathead, 140 Lbs, 30 Inch Drop, AW Rod Elevation:	
				T		ammer, eutreau, 110 220,000 men 210p, 121 200	
рертн (бест)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
РТН	OWS	IVES	LK S.	LISN:	OIST	DESCRIPTION	LABTESTS
DE	BE	Z Z	BE	DE	Σ	ESTUARINE DEPOSITS: Sandy clay (CL), fine grained, medium plasticity, dark gray,	
31	1					saturated, very soft, micaceous. Contains few shells.	
32							
33			graph 40 11 1100 1 2 201 2 2 2 2 2 2			Sandy silt (ML), fine sands, nonplastic, dark gray, saturated, very soft to soft, micaceous.	
34						Contains many shells.	
35		SPT					
36	4						
37							
38							
39							
40		SHE		0.6	2.4		Gradation
41				86	34	Same.	Hydrometer
42							Atterberg Consolidated
43							
44						Sandy clay (CH), high plasticity, dark gray, saturated, soft to very soft, micaceous.  Contains few shells.	
45		SPT					
46	3						
47							
48							
49							
50		SPT					
51	2					Same.	
52						TOTAL DEPTH = 51½ FEET	
53						GROUNDWATER @ 10½ FEET CAVING BELOW GROUNDWATER	
54						BACKFILLED 8/25/99	
55							
56							
57							
58							
59							
60							
PRO	L )JE(	CT N	O. 0	1 548-(	D01-(	GEOTECHNICS INCORPORATED	FIGURE: B-23



Dimensions indicate approximate method of locating test borings in the field with respect to existing site features and curbs of adjacent roadways. Boring plan adapted from site plan provided by client.

- Benchmark: Top of Curb; assumed E1. 100.0

Scale:

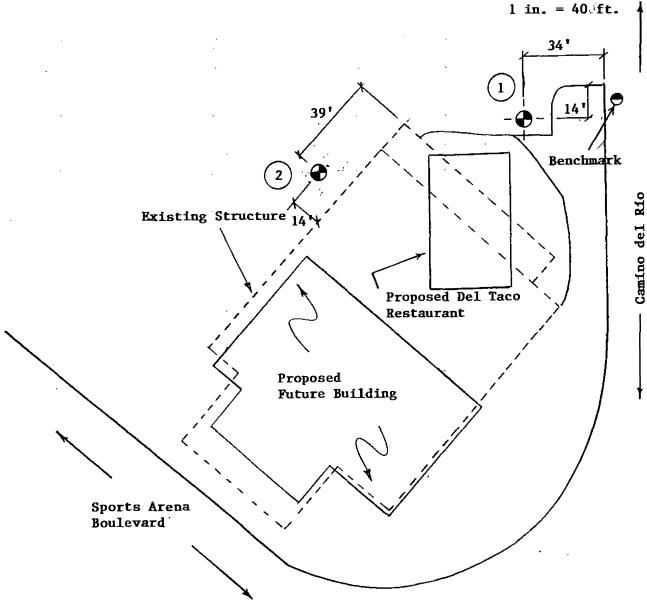


Figure 1 BORING LOCATION PLAN Proposed Del Taco Restaurant San Diego, California Project No. 2G-9606001

GILES ENGINEERING F

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

#### RECORD OSUBSURFACE EXPLORATION

BORING NO. & LOCATION: 1 (North of Proposed Building) SURFACE ELEVATION:

PROJECT:

Proposed Del Taco Restaurant

ATION: PROJECT LOCATION:

3106 Sports Arena Boulevard

COMPLETION DATE: 7/2/96

San Diego, California

GILES ENGINEERING ASSOCIATES, INC.

Dallas
Milwaukee Los Angeles
Washington, D.C.

FIELD REPRESENTATIVE:

99.5

Rich Koester	T NUM	IBER: 2G-9606001			01	Washington, D.C.				
MATERIAL DESCRIP	MATERIAL DESCRIPTION				q <sub>u</sub> (tsf)	q <sub>p</sub> (tsf)	q <sub>s</sub> (tsf)	w (%)	PID	NOTES
								10	BDL	Dd = 94
Light Grayish Brown fine San		1 -	_3-CS	10				12	BDL	Dd = 104
Brown to Grayish Brown Silty some Silt - Damp	/ fine Sano, /	5-	4-CS	4		0.6	0.4	48	20	P200 12% Dd=74
<ul> <li>Dark Grayish Brown Silty Cla</li> <li>Sand - Very Moist (Moderate</li> </ul>	y, trace fine	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	5-CS	7				37	110	Dd = 78
LL=46 -PL=28 (CL)	1	10-	6-CS	5				31	300	Dd = 90
Dark Gray fine Sand, trace to Mica - Very Moist (Strong Vo	little Silt, little latile Odor at									P200 13%
10 feet)		15	7-CS	WH + 1				50	140	P200 6%
E		15								
		-	0.00		j	0.0		40	_	P200 8%
Dark Gray Clayey Silt, some f	ine Sand - Wet	20	8-CS	4		0.6	0.2	40 37	5	Dd = 83 Dd = 74
-		-								·
Dark Grayish Brown to Black Very Moist	Silty Clay -	25	9-CS	wh		0.4	0.2	55	5	
		25-								
_ Dark Gray fine Sandy Silt, tra	ce to little Clay		10-CS	12	,		1	33	BDL	Dd=90
- Very Moist to Wet	•	30	10-63	'2				33	BDL	P200 50%
		35	11-SS	4				39	BDL	P200 56%
		33					J			
		7	10.00	7				20		P200 45%
Shells at 40 feet		40	12-SS					36	BDL	P200 45 %
<ul> <li>Dark Grayish Brown to Black :</li> <li>Very Moist</li> </ul>	Silty Clay -	- 7		1	ĺ			•		
A CIÀ IAIDIST		45	13-SS	wh		0.3	0.4	47	BDL	
		45		}	ļ					
_ Dark Gray Clayey Silt, little fin	e Sand, trace	].	14-SS	4	1	Ì		20	BO!	,
Shell fragments - Wet Boring Terminated a	_Shell fragments - Wet							36	BDL	
WATER OBSERVAT			REMARKS							
WATER OBSERVAT	ION DATA					n E	IVIAK	\ <u>S</u>		

	WATER OBSERVATION DATA		REMARKS			
互	WATER ENCOUNTERED DURING DRILLING:	8	WH - Weight of Hammer: Hammer weight for 12- or 18-inch drive.			
Ā	WATER LEVEL AFTER REMOVAL:					
5555555	CAVE DEPTH AFTER REMOVAL:		Borehole backfilled with grout during auger withdrawal.			
Ţ	WATER LEVEL AFTER HOURS:		P200. Parama maraina Na. 200 aina			
£48712	CAVE DEPTH AFTER HOURS:	P200: Percent passing No. 200 sieve.				

# RECORD O SUBSURFACE EXPLORATION

GILES ENGINEERING ASSOCIATES, INC.

Dallas Milwaukee Los Angeles Washington, D.C.

BORING NO. & LOCATION:

2 (West of Proposed Building)

SURFACE ELEVATION:

99.9

3106 Sports Arena Boulevard

COMPLETION DATE:

7/3/96

San Diego, California

FIELD REPRESENTATIVE:

Rich Koester

PROJECT NUMBER: 2G-9606001

							-		
MATERIAL DESCRIPTION	Feet Below Surface	1 7 50	N (per 12"	q <sub>u</sub> (tsf)	q <sub>p</sub> (tsf)	q <sub>s</sub> (tsf)	w (%)	PID	NOTES
5 inches Asphaltic Concrete 2 inches Base Course: Brown Silty fine to medium Sand, little coarse sand, trace Clay		1-AU 2-SS	7				23	BDL	
Gray, slightly Orangish Brown mottled fine	5-	3-SS	7				12	6	
Sandy Silt - Damp Grayish Brown fine Sand, little Silt, trace Mica - Damp		4-CS 5-SS	8			:	32 29	BDL 50	Dd = 77 P200 25%
Grayish Brown and Black laminated Silty fine Sand, little Mica - Moist	<sub>∑</sub> 10-	6-CS	7				31	1	Dd = 95
- trace Organic Material (Roots) at 10 feet; slight volatile odor Dark Grayish Brown Silty fine Sand, little			WH + 1		<0.2		40	BDL	P200 19% Dd=82
Mica, trace Clay seams - Very Moist Dark Brown Clayey Silt, little fine Sand,	15-								
Litrace Mica - Very Moist Dark Grayish Brown Silty Clay, little fine Sand and Mica - Very Moist LL = 55	20	8-SS	2		< 0.2	0.2	42	BDL	
PL = 25 (CH)	25	9-CS	WH+3		0.2 0.6	0.3	51 55	BDL	Dd = 71 Dd = 67
Dark Gray Silty fine Sand, little Mica - Very Moist	30-	10-SS	7				32	BDL	P200 28%
Dark Gray and Black Silty fine Sand, little to some Mica - Wet	35	11-CS	14				33	BDL	Dd = 90 P200 18%
_ few Dark Gray Silt lenses - Wet _	40	12-SS	5				28	BDL	P200 31%
_ Dark Grayish Brown to Black Clayey Silt, _ little Mica - Very Moist 	45	13-SS	WH	0.4	0.5		43	BDL	
Dark Grayish Brown to Black Silty Clay - Very Moist		14-SS	5	0.5		***************************************	47	BDL	
Boring Terminated at 50'	<del>- 50-l</del>								
WATER OBSERVATION DATA	REMARKS								

WATER CBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING:

WATER LEVEL AFTER REMOVAL:

CAVE DEPTH AFTER HOURS:

Dimensions indicate approximate method of locating test borings in the field with respect to curbs of adjacent roadways and existing structure. Boring plan adapted from site plan provided by client.



1 in. = 40 ft.

Approximate Location and Extent of Existing Building 681 Proposed Camino del Rio Del Taco Restaurant Proposed In N Out Restaurant

<u>40'</u>

Ground Surface at Street Light; Benchmark: Assumed El. 100.0

Figure 1 BORING LOCATION PLAN

416.

BONJES ATENS

Proposed In N Out Restaurant San Diego, California Project No. 2G-9608014

GILES ENGINEERING F

GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

# RECORD SUBSURFACE EXPLORATION

BORING NO. & LOCATION:
1 (NW Parking Area) SURFACE ELEVATION:

PROJECT:

Proposed In N Out Burger PROJECT LOCATION:

NWC Sports Arena Blvd. & El Camino Rio

PROJECT NUMBER:

100.0 COMPLETION DATE:

9/10/96 FIELD REPRESENTATIVE:

Rich Koester

San Diego, California

2G-9608014



**GILES ENGINEERING** 

ASSOCIATES, INC.
Dallas Madison Seattle
Milwaukee Los Angeles Washington, D.C.

MATERIAL DESCRIPTION	Feet Below	Sample No. &	N (per 12")	q <sub>0</sub>	q <sub>p</sub> (tsf)	q <sub>s</sub> (tsf)	w (%)	PID	NOTES
6 inches Asphaltic Concrete; 6 inches Base	Surface	Type 1-AU	per 12	(tsf)	(131)	((31)	1 701	<u> </u>	
- Course; 4 inches Portland Cement	_	2-SS	10				19	10	
Light Grayish Brown Silty fine Sand to fine Sandy Silt, little Clay - Damp (Slight Volatile	_	·							
Odor)  Interbedded layers of Grayish Brown Silty	_	3-SS	8				12	10	
fine Sand, Brown fine Sand and Dark Brown Silt with Clay, trace Mica - Damp to Very	5-		]					,	
Moist at 7 feet (Slight to Moderate Volatile Odor)	-	4-SS	5			i	24	7	
	_			ļ		}			
	_	5-SS	9				22	40	
_	<del>♀</del> 10−								
Dark Grayish Brown Silty fine Sand, few Silty Clay lenses, trace Mica - Very Moist	_ _	6-CS	11	:			26	70	Dd = 92 P200 27%
(Moderate Volatile Odor)  Dark Grayish Brown Silty Clay to Clayey	-				1				
- Silt, little fine Sand, trace Mica - Very Moist	-	7-CS	WH + 3			ļ	49	3	Dd = 77 LL = 44, Pl = 11
[ · · · · · · · · · · · · · · · · · · ·	15-					. ]			(ML)
-	_								
Dark Grayish Brown to Black Silty Clay,	-			1					
<ul> <li>trace Organic Material (Roots) at 20 feet;</li> <li>trace Shell fragments - Very Moist</li> </ul>	-	8-SS	WH + 1				63	BDL	
	20								
	]								
	4	j							
	-	9-CS	3				- 51 .	BDL	Dd = 71
- little fine Sand at 25 feet	25								
			· [						
Dark Grayish Brown Clayey Silt, some fine Sand, little Mica - Very Moist					1				
	-	10-SS	WH + 3				38	BDL	P200: 59%
WATER OBSERVATION DATA	L	<del></del> !			— RE	MARK	S		
₹ WATER ENCOUNTERED DURING DRILLING		ight of l		r: Weig	ht of H	ammer	resultin	g in 6-	
WATER LEVEL AFTER REMOVAL: N/A			nch drive						
CAVE DEPTH AFTER REMOVAL: N/A	1	elayed g e backfil			_			nce withdrawal.	
WATER LEVEL AFTER HOURS:  CAVE DEPTH AFTER HOURS:	P200: Percent passing No. 200 sieve.								
Changes in strate indicated by the lines are approximate boundaries beginns. I coggion of Test Boring is shown on the Boring Location Plan	tween soil	types. Th	e actual t	rensition	may be	gradual	and may	/ Vary co	onsiderably between

# RECORD SUBSURFACE EXPLORATION

BOBING NO. & LOCATION:
1 (NW Parking Area)
PROJECT:
Proposed In N Out Burger
SURFACE ELEVATION:
100.0
NWC Sports Arena Blvd. & El Camino Rio
COMPLETION DATE:



GILES ENGINEERING ASSOCIATES, INC.

Dallas Madison Seattle Milwaukee Los Angeles Washington, D.C.

BDL

**BDL** 

34

43

9/10/96	San Diego, Cal	ifornia	
ESENTATIVE:			
		00.000011	

Rich Koester PROJECT NUMBER: 2G-9608014 Feet Sample q (tsf)  $\mathbf{q}_{\mathbf{u}}$ q (tsf) N PID MATERIAL DESCRIPTION **NOTES** Below No. & (tsf) (%) (per 12" Surface Type Dark Gray Silty fine Sand, little Mica - Very Moist 11-CS 14 28 BDL Dd ≈ 90 P200: 22% 35 Dark Grayish Brown to Black Silty Clay to Clavey Silt - Very Moist 12-SS 4 **BDL** 43 40 occasional seams of Clavey Silt with fine 50 **BDL** Sand, trace medium to coarse Sand and

13-SS

14-SS WH+1

45

50

8

Boring Terminated at 50'

Dark Grayish Brown to Black Silty Clay, little Mica and Shell fragments - Moist

Shell fragments - Very Moist

FIELD REPRESENTA

	WATER OBSERVATION DATA	REMARKS
Δ	WATER ENCOUNTERED DURING DRILLING: 10	WH-Weight of Hammer: Weight of Hammer resulting in 6-
Ā	WATER LEVEL AFTER REMOVAL: N/A	or 12-inch drive.
20000	CAVE DEPTH AFTER REMOVAL: N/A	N/A - Delayed groundwater readings not possible since borehole backfilled with cement grout during auger withdrawal.
Ť	WATER LEVEL AFTER HOURS:	
26650	CAVE DEPTH AFTER HOURS:	P200: Percent passing No. 200 sieve.

### RECORD OSUBSURFACE EXPLORATION

BORING NO. & LOCATION: 2 (SE Drive-Thru Lane) PROJECT: SURFACE ELEVATION: PROJECT LOCATION: 100.9

Proposed In N Out Burger

NWC Sports Arena Blvd. & El Camino Rio

9/10/96 FIELD REPRESENTATIVE:

Rich Koester

**CAVE DEPTH AFTER** 

**HOURS:** 

COMPLETION DATE:

PROJECT NUMBER:

San Diego, California

2G-9608014



#### GILES ENGINEERING ASSOCIATES, INC.

illas Madison Seattle Milwaukee Los Angeles Dallas Washington, D.C.

nich Koester	PROJEC	I MOIN	BCN:	20-9	0000	14				,
MATERIAL DESCRIP	TION	Feet Below Surface	Sample No. & Type	N (per 12"	q <sub>u</sub> (tsf)	q <sub>p</sub> (tsf)	q <sub>s</sub> (tsf)	w (%)	PID	NOTES
6 inches Brown fine to mediu Clay, trace coarse Sand and ( Material (Roots) - Moist (Tops	Organic soil)		1-AU 2-CS	12				19	BDL	Dd=108
Light Brown fine to coarse Sand, little Clay, trace fine Gravel - Moist (Fill) Grayish Brown Clayey fine Sand, little medium to coarse Sand - Moist (Possible Fill) Grayish Brown fine Sandy Silt, little Clay, trace coarse Sand and Mica - Damp			3-CS	18				19	BDL	Dd = 10 <sub>.</sub> 9
		5-	4-CS	18				15	BDL	Dd = 104
Interbedded Grayish Brown fir to little Silt and Dark Brown S trace mica - Damp to Wet at	ne Sand, trace ilt with Clay,	<u>-</u>	5-CS	13				20	BDL	P200: 17% Dd=92
		- ⊻ 10 <b>-</b>	6-CS	7				36	BDL	P200: 6% Dd=85
-		_	7-SS	7				36	BDL	P200: 7%
Grayish Brown Silty Clay to C little fine Sand, trace Mica - V	layey Silt, ery Moist	15 <del>-</del>	8-SS	2				44	BDL	
Dark Grayish Brown to Black I - Clayey Silt to Silty fine Sand, Very Moist		20-	9-CS	3+10				38	BDL (	Dd=85 LL=39, Pl=14 (ML)
Dark Grayish Brown Silty fine - Mica - Very Moist -	Sand, little	25	10-SS	8				- 35	BDL	P200: 23%
- - -		7	11-CS	5				35	BDL	P200: 23% Dd=86
WATER OBSERVATION DATA			REMARKS							
✓ WATER ENCOUNTERED DURING DRILLING: 10 ✓ WATER LEVEL AFTER REMOVAL: N/A			WH-Weight of Hammer: Weight of Hammer resulting in 6- to 12-inch drive.							
CAVE DEPTH AFTER REMOVAL: N/A  WATER LEVEL AFTER HOURS:			N/A - Delayed groundwater readings not possible since borehole backfilled with cement grout during auger withdrawal.							

P200: Percent passing No. 200 sieve.

#### SUBSURFACE EXPLERATION RECORD O

BORING NO. & LOCATION: 2 (SE Drive-Thru Lane) SURFACE ELEVATION:

COMPLETION DATE:

100.9

9/10/96

PROJECT:

Proposed In N Out Burger

PROJECT LOCATION:

NWC Sports Arena Blvd. & El Camino Rio

San Diego, California

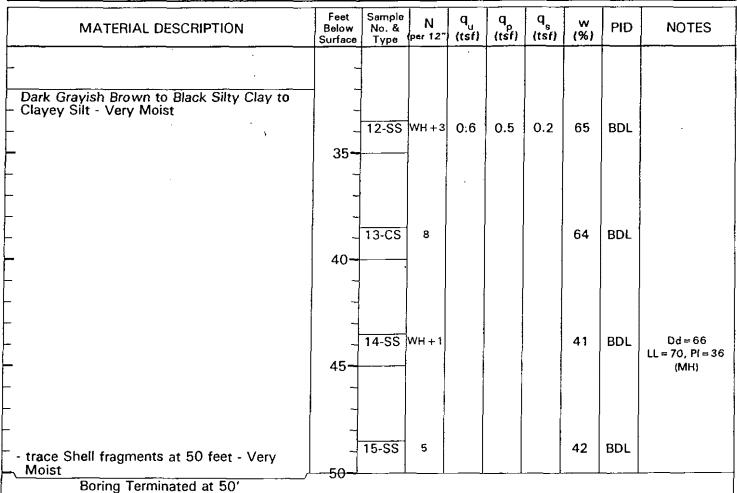
FIELD REPRESENTATIVE: Rich Koester

2G-9608014 PROJECT NUMBER:



**GILES ENGINEERING** 

ASSOCIATES, INC. Seattle Dallas Milwaukee Los Angeles Washington, D.C.



	WATER OBSERVATION DATA	REMARKS					
Σ̈	WATER ENCOUNTERED DURING DRILLING: 10	WH-Weight of Hammer: Weight of Hammer resulting in 6-					
Ā	WATER LEVEL AFTER REMOVAL: N/A	to 12-inch drive.					
20000000	CAVE DEPTH AFTER REMOVAL: N/A	N/A - Delayed groundwater readings not possible since borehole backfilled with cement grout during euger withdrawal					
Ţ	WATER LEVEL AFTER HOURS:						
PHYSICS	CAVE DEPTH AFTER HOURS:	P200: Percent passing No. 200 sieve.					





CLIENT NAME BUSCH/SEA WORLD

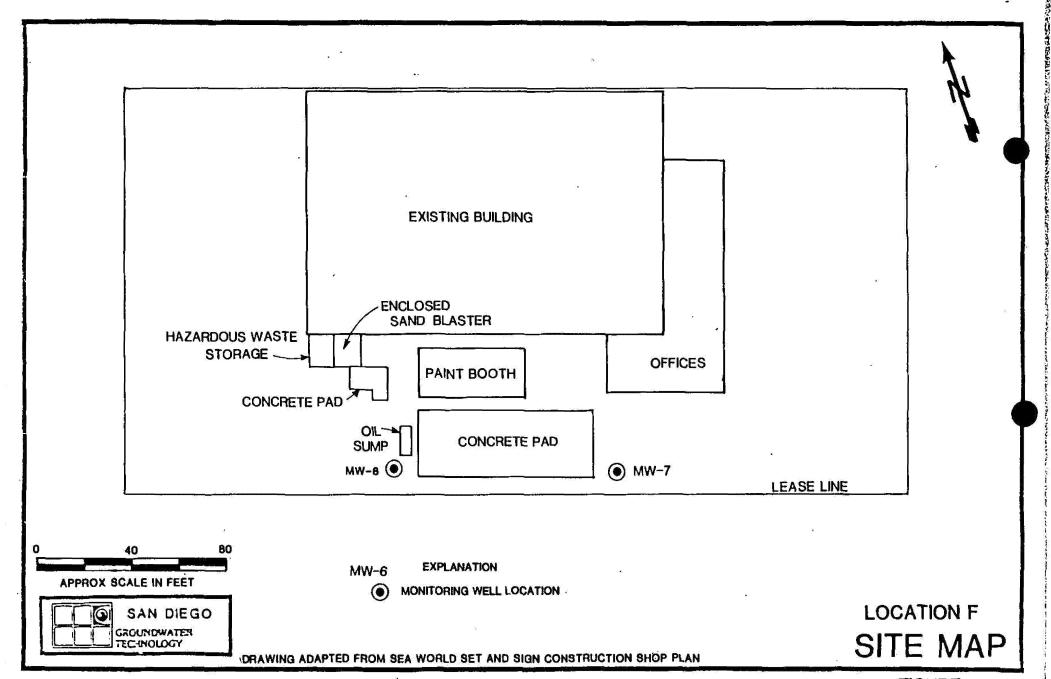
REPORT DATE

DRAWN BY MARTY

DATE 10-23-89

SITE LOCATION SEA WORLD DR. SAN DIESO, CA

APPROVED BY DATE



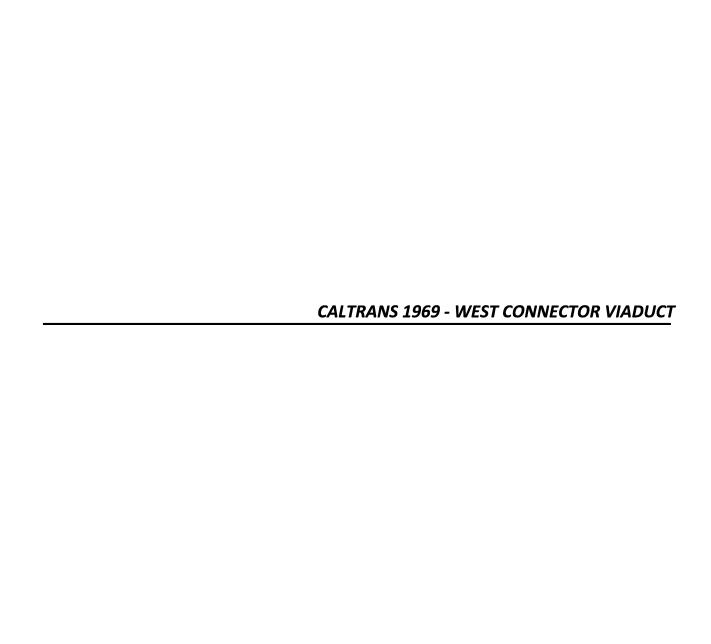
Busch/Sea World

PROJECT NAME

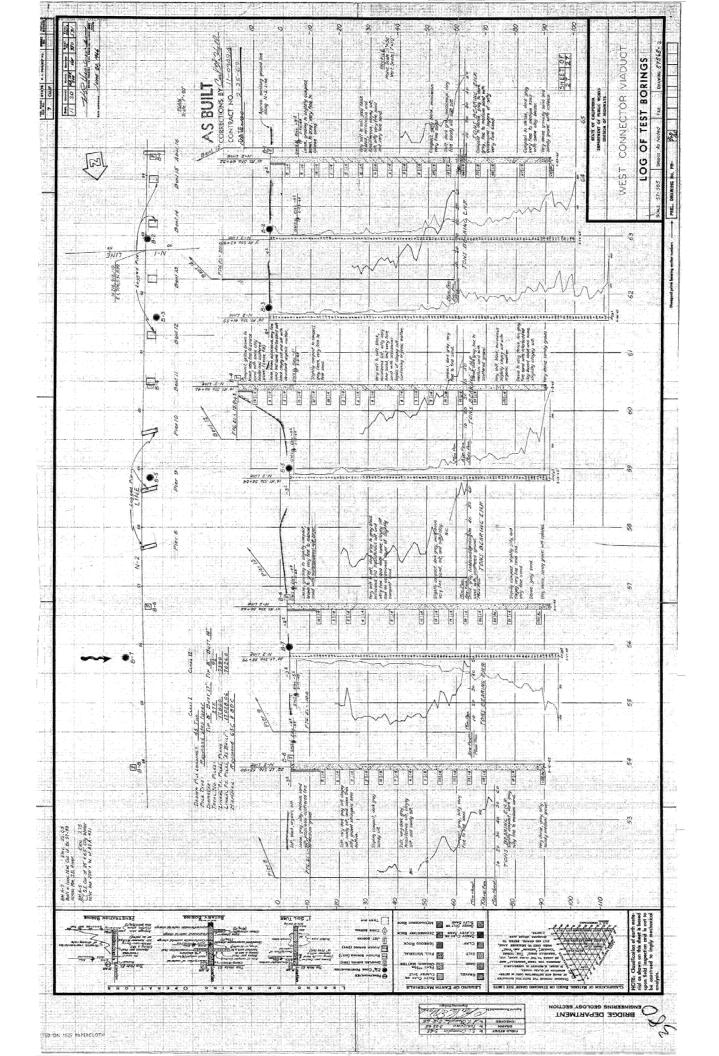
Busch/Sea World

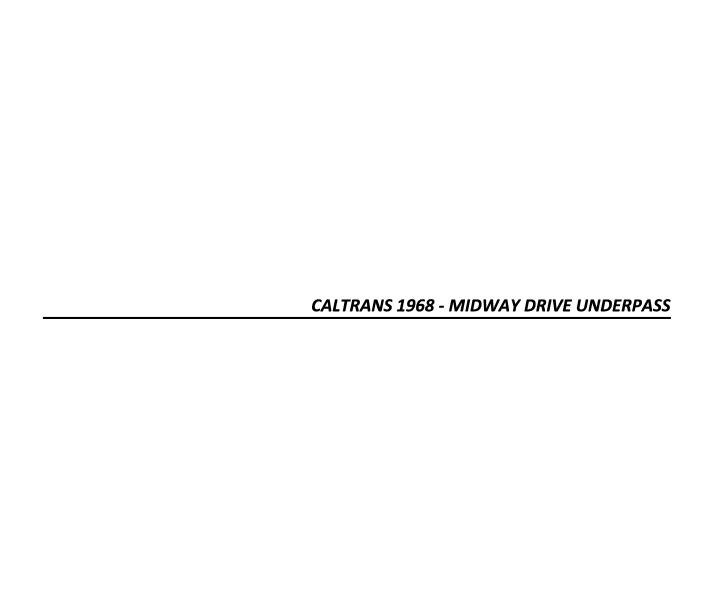
PROJECT NAME\_

**FIGURE** 

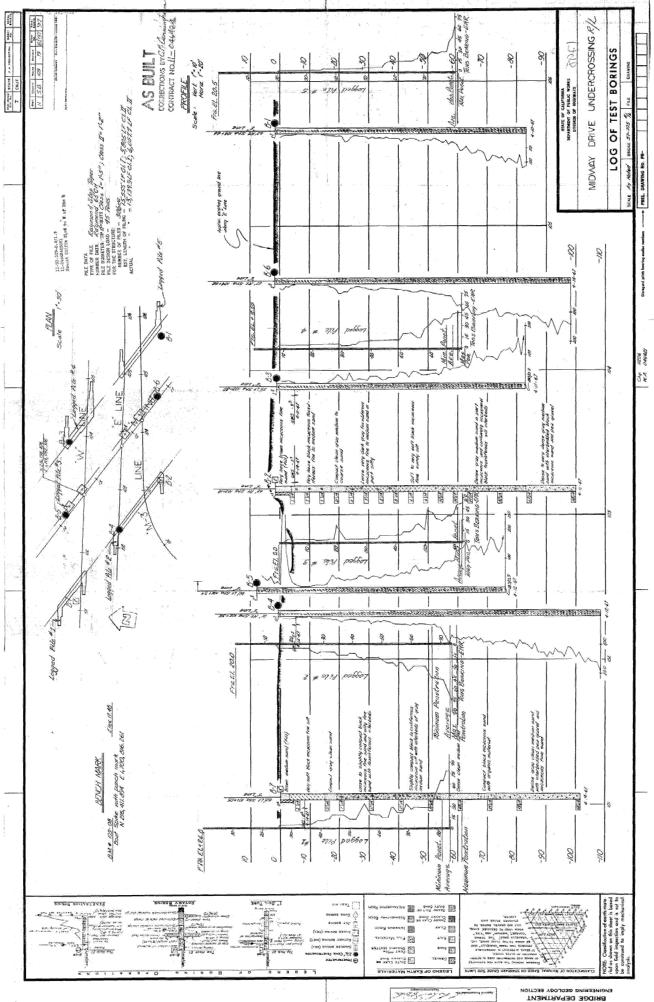












19-51-6-01-03-4 19-51-6-01-03-4 19-51-6-01-03-4 19-61-6-01-03-4

BRIDGE DEPARTMENT